CITY OF
BAINBRIDGE ISLAND

Planning Commission
Regularly Scheduled Meeting
Thursday, October 26, 2017
7:00 – 9:00 PM
Council Chamber
280 Madison Ave N
Bainbridge Island, WA 98110

AGENDA

7:00 PM CALL TO ORDER
Call to Order, Agenda Review, Conflict Disclosure

7:05 PM PUBLIC COMMENT
Accept public comment on off agenda items.

7:15 PM SHORELINE MASTER PROGRAM GENERAL AMENDMENT
Christy Carr, Senior City Planner

8:15 PM BLAKELY ELEMENTARY SCHOOL (PLN50767 CUP/SPR)
Habitat Management Plan
Review and Recommendation
Heather Wright, Planning Manager

8:55 PM NEW/OLD BUSINESS

9:00 PM ADJOURN

*****TIMES ARE ESTIMATES*****

Public comment at meeting may be limited to allow time for Commissioners to deliberate. To provide additional comment to the City outside of this meeting, e-mail us at pcd@bainbridgewa.gov or write us at Planning and Community Development, 280 Madison Avenue, Bainbridge Island, WA 98110

For special accommodations, please contact Jane Rasely, Planning & Community Development 206-780-3758 or at jrasely@bainbridgewa.gov

CITY OF BAINBRIDGE ISLAND

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

MEMORANDUM

Date: October 26, 2017

To: Planning Commission

From: Christy Carr, AICP
Senior Planner

Subject: Shoreline Master Program Amendment

Staff will continue to review proposed revisions focusing on **vegetation management** provisions. Please review the following sections of the **existing** shoreline master program (SMP):

- Section 4.1.2
- Section 4.1.3

The existing SMP is available online at: http://www.bainbridgewa.gov/DocumentCenter/View/3741.

The attached document is intended as **a starting point for discussion about proposed revisions**. It may be most helpful to review this document side-by-side with corresponding sections of the existing SMP to understand proposed reorganization and revisions.

Staff will also provide a revised Section 4.1.5, Critical Areas, based discussion at the October 18, 2017 Planning Commission meeting.

4.1.2 Environmental Impacts

4.1.2.1 Applicability

All shoreline development and activity shall be located, designed, constructed, and managed in a manner that avoids, minimizes and/or mitigates adverse impacts to the shoreline environment. The preferred mitigation sequence (avoid, minimize, rectify, reduce, or compensate for the environmental impact) shall follow that listed in WAC 173-26-201(2)(e). See definition of "Mitigation" listed in this Master Program, in Section 8.0, Definitions.

In approving shoreline development, the City shall ensure that shoreline development, use, and/or activities will result in no net loss of ecological functions and ecosystem-wide processes necessary to sustain shoreline resources, including loss that may result from the cumulative impacts of similar developments over time consistent with constitutional and statutory limitations on the regulation of private property. To this end, the City may require modifications to the site plan and/or adjustments to proposed project dimensions, intensity of use, and screening, as deemed appropriate. If impacts cannot be avoided through design modifications, the City shall require compensatory mitigation commensurate with the project's adverse impacts.

4.1.2.2 Goal

Minimize impacts of shoreline development, uses and activities on the environment during all phases of development (e.g. design, construction, and management).

4.1.2.3 Policies

1. Ensure all shoreline uses, activities and developments are designed and located in a manner that prevents or mitigates adverse impacts to shoreline ecological functions and ecosystem-wide processes, including the use of the mitigation sequence (avoid, minimize, rectify, reduce, compensate); and make available flexible alternatives to accommodate preferred shoreline uses.
2. Ensure, through appropriate monitoring and enforcement measures that all required conditions are met, and improvements are installed and properly maintained.
3. Promote shoreline uses and activities within critical areas which do not cause significant adverse impacts to ecological functions and ecosystem-wide processes, such as public access on publicly owned lands.
4. In assessing the potential for new uses, activities and developments to cause adverse impacts, take into account all of the following:

    a. Effects on ecological functions and ecosystem-wide processes, including temporal loss of functions; and

    b. Effects that occur on-site and effects that may occur off-site; and

    c. Direct and indirect effects and long-term effects of the project; and

    d. Effects of the project and the incremental or cumulative effects resulting from the project added to other past, present, and reasonably foreseeable future actions; and

e. Compensatory mitigation actions that offset adverse impacts of the development action and/or use.

5. To provide for comprehensive management strategies for shoreline areas, integrate planning and regulatory measures, such as those within the comprehensive plan, regional watershed plans, or state and federal regulations.

4.1.2.4 Regulations-Impact Analysis and No Net Loss Standard

1. All shoreline development, use and activities, including preferred uses, and uses that are exempt from a shoreline substantial permit, shall be located, designed, constructed, and maintained in a manner that protects ecological functions and ecosystem-wide processes. All proposed shoreline development, uses and activities shall:
    a. Utilize the required mitigation sequence of Section 4.1.2.6, Regulations – Mitigation; and
    b. Utilize effective erosion and scour control methods during project construction and operation; and
    c. Minimize adverse impacts to critical salt water habitat, fish and wildlife conservation areas, and/or other ecological functions and ecosystem-wide processes, such as those provided by shoreline vegetation; and
    d. Minimize interference with beneficial natural shoreline processes, such as water circulation, sand and gravel transport movement, erosion, and accretion; and
    e. Avoid hazards to public health and safety; and
    f. Minimize the need for shoreline stabilization measures and flood protection in the future; and may require a geotechnical analysis to ensure that the proposed activity meets this regulation (See Section 6.2, Shoreline Stabilization); and
    g. Result in no net loss of ecological functions and processes necessary to sustain shoreline resources, including loss that may result from the cumulative impacts of similar developments over time.
2. In reviewing and approving shoreline development, use or activity, regardless of whether a permit is required the following shall apply:
    a. The Administrator shall condition the shoreline development, use, and/or activities such that it will:
        i. Meet provisions in subsection 1 above; and
        ii. Employ measures to mitigate adverse impacts on shoreline functions and, processes, if necessary; and
        iii. Modify the site plan and/or adjust the project dimensions, intensity of use, or screening as deemed appropriate to address impacts. If impacts cannot be avoided through design modification, the Administrator shall require compensatory mitigation, pursuant to regulations in Sections 4.1.2.5, Regulations – Revegetation Standards, and 4.1.2.6, Regulations – Mitigation; and

b. If a proposed shoreline development, use or activity is determined by the Administrator to result in significant short-term, long-term, or cumulative adverse environmental impacts lacking appropriate compensatory mitigation, it shall be sufficient reason for the Administrator to deny a permit.

3. To assure that development activities contribute to meeting the no net loss provisions pursuant to subsection 1 and 2 above, an applicant is required to submit a site-specific analysis of potential impacts and a mitigation plan that includes compensatory mitigation measures when determined necessary as a result of the analysis. The site-specific analysis shall be prepared in accordance with Section 4.1.2.9, Submittal Requirements – Site-Specific Impact Analysis and Mitigation Plan.

4. To mitigate anticipated impacts and meet the no net loss standards in subsection 1 and 2 above, an applicant for a single family residential development or accessory structures may choose to use the Standard Residential Mitigation Manual in Appendix D in lieu of a site-specific impact analysis and mitigation plan. If an applicant uses the Single Family Residential Mitigation Manual, compensatory mitigation requirements provided in the manual shall be included in the project submittal.

4.1.2.5 Regulations – Mitigation

1. Mitigation Sequence: Mitigation shall include the following actions in order of priority (a-e), and (f) is required for all mitigation activities:

    a. Avoiding the impact altogether by not taking a certain action or parts of an action;

    b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts;

    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;

    e. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and

    f. Monitoring the impact and the compensation projects and taking appropriate corrective measures.

2. When compensatory mitigation is necessary to offset impacts, mitigation measures in the immediate vicinity of the impact shall be the preferred mitigation option. Property owners may be required to perform the balance of compensatory mitigation off-site if the property cannot support required mitigation or when off-site mitigation can be demonstrated to the satisfaction of the Administrator to be more beneficial to shoreline ecological functions and processes. For example, off-site mitigation may be the better choice if large, cohesive areas are available off-site while only small fragmented areas are available on-site for mitigation.

3. Mitigation actions shall not have a significant adverse impact on other preferred shoreline uses promoted by the policies of the Shoreline Management Act.
4. When compensatory mitigation measures are required, all of the following shall apply:
    a. The quality and quantity of the replaced, enhanced, or substituted resources shall be the same or better than the affected resources; and
    b. The mitigation site and associated vegetative planting shall be nurtured and maintained such that healthy native plant communities can grow and mature over time; and
    c. Unless the Single-family Residential Mitigation Manual is being used for single-family residential development and accessory structures pursuant to Section 4.1.2.4(4), the mitigation shall be informed by pertinent scientific and technical studies, including but not limited to the Shoreline Inventory and Characterization Report, the Shoreline Restoration Plan and other background studies prepared in support of this Program; and
    d. The mitigation activity shall be monitored and maintained to ensure that it achieves its intended functions and values, pursuant to Section 4.1.2.7, Surety Regulations.
5. To encourage shoreline property owners to remove bulkheads and perform other beneficial shoreline restoration actions in advance of shoreline development or redevelopment, the City may give mitigation credit to any beneficial restoration action that occurred within 10 years of the proposed development/redevelopment activity provided that:
    a. The applicant/property owner declares the intent of the restoration or enhancement project as mitigation credit at the time of the restoration permit application; and
    b. The City can confirm via site inspection, photographs, or other evidence that the restoration actions have improved shoreline conditions.
6. Where feasible, replacement compensatory mitigation should be required prior to impact and, if applicable, prior to final inspection and approval of building occupancy; and to ensure no net loss, the mitigation shall replace the functions as quickly as possible following the impact.

4.1.2.6 Regulations – Surety

1. The applicant/property owner shall provide assurance to the satisfaction of the Administrator, that the restoration area (including off-site mitigation) will be maintained in perpetuity. The assurance can be in the form of notice on title, conservation easement, or similar mechanism as approved by the City Attorney.
2. Except for projects undertaken by public entities, performance and/or maintenance bonds or other security shall be required by the City to assure that work is completed, monitored, and maintained. The bond/surety shall be refunded to the depositor upon completion of the mitigation activity and any required monitoring.

4.1.2.7 Regulations – Monitoring and Maintenance

1. When mitigation is required, a periodic monitoring program shall be included as a component of the required mitigation plan. To ensure the success of the required mitigation, monitoring shall occur for a minimum duration of five years from the date of the completed development. The monitoring plan may also require that periodic maintenance measures be included as recommended by a qualified professional. The duration of monitoring may be extended if the project performance standards set forth in the approved mitigation plan fail to be accomplished, or, due to project complexity, the approved mitigation plan requires a longer period of monitoring.
2. Monitoring programs may be forwarded for review and comment to state and/or federal resource agencies and affected tribes with jurisdiction.
3. Monitoring programs shall meet the requirements established in Monitoring Requirements, Appendix B, B-6(C)(2)(e).
4. All new and replacement shoreline stabilization projects shall complete and submit a minimum five-year monitoring and maintenance program that addresses the shoreline stabilization mitigation measures, and shall at a minimum include:
    a. An annual site visit by a qualified professional for each of the five (5) years to assess the effectiveness of the mitigation; and
    b. A progress report submitted to the Administrator annually, which includes any monitoring or maintenance recommendations of the qualified professional.

4.1.3 Vegetation Management

4.1.3.1 Applicability

The Vegetation Management provisions apply to all shoreline development, and regulated uses and activities, including those that do not require a shoreline permit. Similar to other master program provisions, vegetation standards do not apply retroactively to existing uses and structures unless changes or alterations are proposed. Standards for vegetation management are established using current scientific and technical information pursuant to WAC 173-26-221(5)(b) and173-26-201(2)(a), and are based on the use category, shoreline characterization and the designation.

4.1.3.2 Goal

Protect and restore shoreline vegetation to maintain and enhance ecological functions and processes, shoreline views and vistas, human safety, and personal property.

4.1.3.3 Policies

1. Maintain existing shoreline vegetation to protect ecological functions and/or processes from adverse impacts of uses, activities and developments within the shoreline jurisdiction.
2. Emphasize the use of native vegetation species to maintain the ecological functions and/or processes and mitigate the direct, indirect, and/or cumulative impacts of shoreline development, uses and activities.

3. Provide flexible dimensional standards for buffers and setbacks that are based on performance standards designed to protect ecological functions and ecosystem-wide processes, including considering alternatives to planting native vegetation species if it can be demonstrated that the equivalent ecological functions can be provided.
4. Use monitoring programs to ensure the protection of shoreline ecological functions and ecosystem-wide processes, particularly when non-native vegetation species are used as an alternative to native vegetation.
5. Encourage the restoration or enhancement of shoreline vegetation through incentive programs.
6. Establish buffers immediately upland of OHWM for each shoreline designation, recognizing the pattern of development, shoreline ecological functions and ecosystem-wide processes, and using current science and technical information, as described in WAC 173-26-201(2)(a). In establishing buffers, consideration should be given to the land use patterns to minimize the number of existing structures that would not conform to buffer dimensional standards.
7. At the time of a proposal, allow site-specific dimensional standards for vegetation management areas for shoreline development, use or activity. Dimensional standards must protect shoreline ecological functions and ecosystem-wide processes.
8. Implement a public education program emphasizing the importance of shoreline vegetation management.
9. Allow selective vegetation clearing for views for new development and to maintain views from existing residences when slope stability and ecological functions and ecosystem-wide processes are not compromised. Trimming and pruning are generally preferred over removal of native shoreline vegetation.
10. Develop specific regulations for Point Monroe, based on vegetation and management practices appropriate for dune communities, sand spits, barrier beaches, barrier estuaries or barrier lagoons.

4.1.3.4 Regulations – Establishment of Shoreline Buffer and Site Specific Shoreline Vegetation Area

1. Existing buffers and setbacks that have been established through previously approved subdivisions and indicated on the face of an approved plat shall be recognized and adhered to.
2. Two alternative methods may be used to meet the goals and policies of the Vegetation Management Section, as provided below, except the Point Monroe District shall meet the special provisions provided in subsection 2:
    a. Alternative 1: A Shoreline Buffer shall be maintained immediately landward of the OHWM and managed according to provisions of this Program and shall meet the location and design standards of Section 4.1.3.8, Regulations – Shoreline Buffer – Location and Design Standard.
    b. Alternative 2: As an alternative to the Shoreline Buffer dimensions provided in subsection a, above, an applicant may propose specific dimensional standards for a Site-

Specific Vegetation Management Area that meets the Vegetation Management goals, policies and applicable regulations as determined through a Habitat Management Plan prescribed in Appendix B, Section B-4, provided that the plan demonstrates the following:

A. The proposed development is for a residential use.

B The site-specific proposal assures there is no net loss of the property's specific shoreline ecological functions and associated ecosystem-wide processes pursuant to Section 4.1.2, Impact Analysis and No Net Loss; and

C. The site-specific proposal uses the scientific and technical information* compiled to support the Shoreline Buffer standards of Section 4.1.3.5(3)(b), and/or other appropriate technical information which, as determined by a qualified professional, demonstrates how the proposal protects ecological functions and processes and how it meets the goals and policies of this Section.

ii. The Habitat Management Plan shall be reviewed by the Administrator in accordance with provisions in Appendix B. The Administrator may approve, approve with conditions, or deny the request. The Administrator shall have the Habitat Management Plan reviewed by an independent third party, the cost of which will be borne by the applicant.

iii. If the Site-specific Vegetation Management Area is approved, prior to permit issuance, the applicant shall record with the County Auditor a notice on title, or other similar document subject to the approval of the Administrator.

*Footnote: Scientific and technical information supporting the Shoreline Buffer standards is provided in the following documents available at the City of Bainbridge Island's Department of Planning and Community Development: *Documentation of Marine Shoreline Buffer Recommendation Discussions*, Memorandum, 2011, Herrera Environmental; *Addendum to Summary of Science,* 2011, Herrera Environmental; *Bainbridge Island Current and Historic Coastal Geomorphic/Feeder Bluff Mapping*, 2010, Coastal Geologic Services, Inc.; *Best Available Science*, 2003, Battelle; *Bainbridge Island Nearshore Habitat Characterization and Assessment*, 2004 Battelle.

3. **Special Provisions for Point Monroe District**. Shoreline Buffers or Site-specific Vegetation management Areas are not required for properties located in the Point Monroe District;-the following specific vegetation provisions shall apply:
   a. All properties in the Point Monroe District shall retain existing native vegetation and shall be subject to a Point Monroe vegetation management area (PVMA).
   b. The PVMA shall include areas that are:
      i. Within thirty (30) feet of the OHWM and within the required side yard and the salt marsh fringe; and

ii. Outside any designated development area as approved pursuant to Section 5.9.6(2).

c. The PVMA shall be managed and maintained in vegetation communities appropriate to dune, sand spit, barrier beach, barrier estuary, or barrier lagoon, including salt marsh.

d. Developed properties shall retain existing native vegetation (including dune grass and salt marsh plant communities) in those areas that are not developed with legally established impervious surfaces.

e. Any new development or alterations and expansion of existing development shall assess impacts to existing vegetation and meet the no net loss standard pursuant to Section 4.1.2, Environmental Impacts.

4.1.3.5 Regulations – Shoreline Buffer – Location and Design Standard

1. The total depth of the Shoreline Buffer is based on the shoreline designation and the physical and most predominant geomorphic characteristics of the property. The depth of the Shoreline Buffer will be determined by the Administrator according to criteria below.

    a. Property-specific physical and geomorphic characteristics of the particular lot will determine the maximum width (Category A) or minimum width (Category B) of the Shoreline Buffer, as follows:

        i. Shoreline Buffer Category A: The property contains or abuts a spit/barrier/backshore, or marsh, or lagoon; or

        The property contains or abuts a low bank and the existing native tree and shrub vegetation cover is at least 65% of the area of Shoreline Buffer Zone 1.

        ii. Shoreline Buffer Category B: The property is shallow (200 feet in depth or less, as measured landward), or located on a high bluff, or does not meet any of the characteristics of Category A.

    b. Shoreline Buffer standard depth in Table 4-3

    c. As determined by the Administrator, buffers do not extend beyond an existing public paved street or an area which is determined by the Administrator to be functionally isolated from the shoreline or critical area. In these limited instances the no net loss of shoreline ecological function and processes still apply to properties within the shoreline jurisdiction.

2. The total area of the Shoreline Buffer shall be the equivalent of the length of the property along the shoreline, multiplied by the required buffer depth as prescribed for the specific shoreline designation in which the property is located. See Figure 4-1.

3. The Shoreline Buffer consists of two zones. The depth of each of the two zones within the Shoreline Buffer is determined as follows:

    a. Zone 1 shall extend from the ordinary high water mark (OHWM) a minimum of 30 feet, or to the limit of existing native vegetation whichever is greater. The native vegetation limit is determined through a site-specific analysis of existing

conditions, and in no case shall Zone 1 be greater than the depth of the Shoreline Buffer.

b. Zone 2 shall be established immediately landward of the Zone 1 and extend no further than the depth of the Shoreline Buffer.

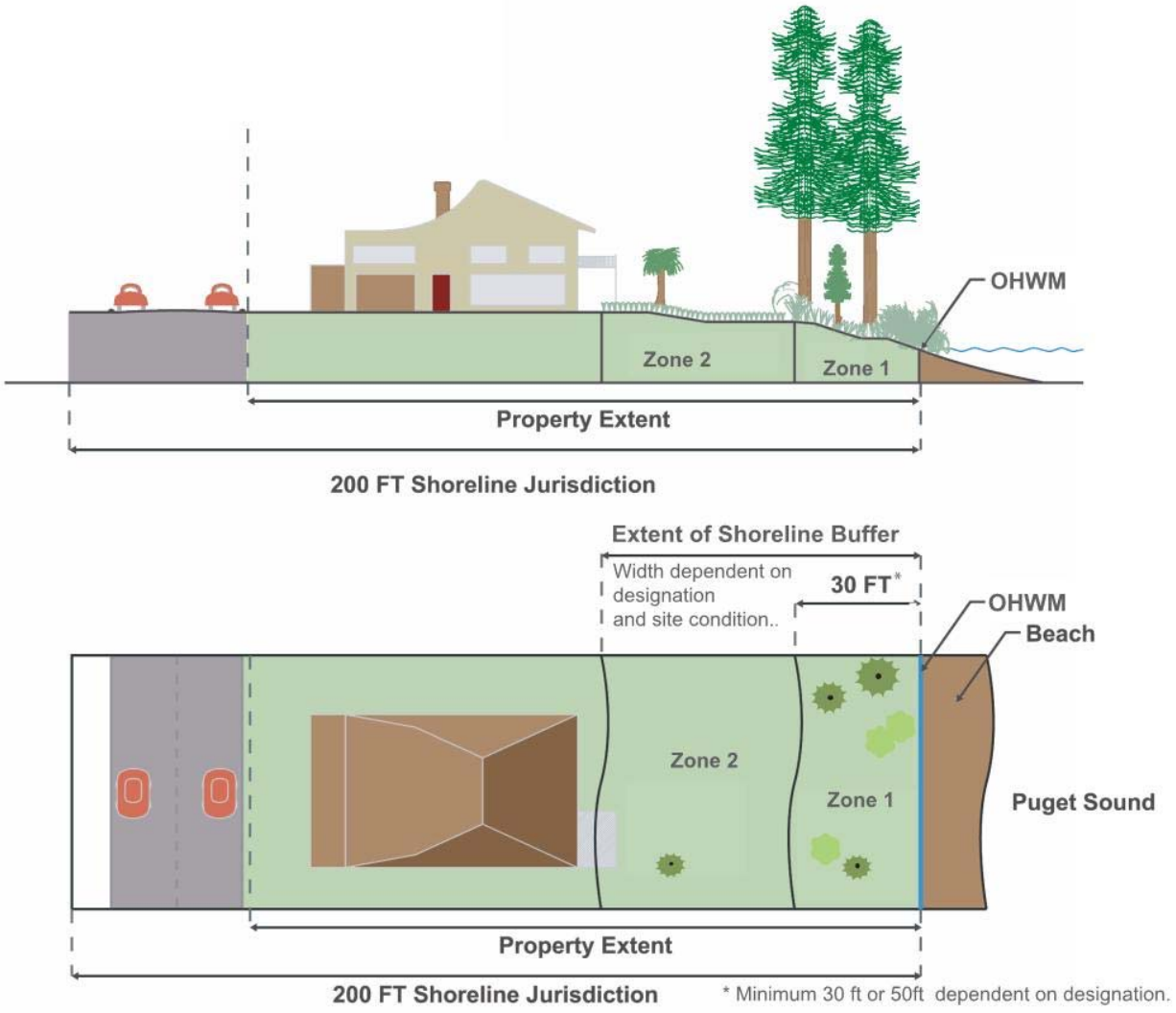

Figure 4-1 Dual Shoreline Buffer

4.1.3.6 Regulations – Shoreline Buffer Reductions

1. When the prescriptive buffer depth provided in Table 4-3 is reduced or dimensions altered through provisions of this Program, the applicant shall record a notice on title, or other similar document with the County Auditor prior to permit issuance, subject to the approval of the Administrator.

2. Any shoreline buffer reduction must be approved by the Administrator prior to any development, use or activity and must demonstrate compliance with the no net loss standard pursuant to Section 4.1.2.4 either through a site-specific impact analysis or use of the Single Family Residence Shoreline Mitigation Manual.

3. The total area of Zone 2 of the Shoreline Buffer may be reduced to accommodate shoreline views in accordance with Section 4.1.3.14 for a new single family primary residential structure or addition to a primary residential structure provided that:

    a. There is an existing primary structure located within 100 feet of the property line of the subject property;

    b. Where there is no existing primary structure, up to one-third (1/3) of the area of Zone 2 may be comprised of an approved primary structure. The remaining two-thirds (2/3) of Zone 2 must be established and/or maintained in native vegetation;

    c. If less than one-third (1/3) of the area of Zone 2 is reduced to accommodate views, the Administrator may reduce the required area of native vegetation to less than two-thirds (2/3);

    d. Significant trees shall not removed to allow for the buffer reduction.

4. If the prescriptive buffer depth for a single-family residential property pursuant to Table 4-3 is reduced in accordance with this section or a shoreline variance, the following shall occur in Zone 1:

    a. Retain existing native vegetation; and

    b. Plant the entire area with native vegetation. Obtain 65% vegetation canopy coverage within 10 years.

5. Zone 1 and Zone 2 of the Shoreline Buffer may be reduced in overall size to allow for the minor development permitted in Section 4.1.3.10 through Section 4.1.3.13.

6. The area of Zone 2 shall not be reduced over one-third (1/3) of its total area without a shoreline variance.

4.1.3.7 Regulations – General Standards

1. Development within the shoreline jurisdiction shall be located and designed to protect existing native vegetation from disturbance and mitigate impacts to existing vegetation to the fullest extent possible.

2. Vegetation alteration or removal is not allowed within the shoreline jurisdiction without prior review and approval by the Administrator, unless allowed under Section 4.1.3.4.

3. Vegetation replanting is required for all development, uses or activities within the 200-foot shoreline jurisdiction, whether a permit is required or not, that either:

    a. Alters existing native vegetation; or

    b. Alters any vegetation in a required Shoreline Buffer or Site-Specific Vegetation Management Area.

6. Significant tree removal shall only be permitted to allow for locating a single-family residence and normal appurtenances. The Administrator may require alterations of a site plan in order to retain significant trees. This may include adjustments to the location of building footprints, the location of driveways and access ways, or the location of walkways, easements or utilities.
7. The Shoreline Buffer or Site-specific Vegetation Management Area shall be maintained in a predominantly natural, undisturbed and vegetated condition. Unless specifically allowed by this program, the following standards shall apply:
    a. All existing native groundcover, shrubs and significant trees located within the Shoreline Buffer or Site-specific Vegetation Management Area shall be retained;
    b. All activities shall be performed in compliance with the applicable standards contained in the Vegetation Management Section, unless the applicant demonstrates that alternate measures or procedures are equal or superior in accomplishing the purpose and intent of the Vegetation Management Section, including no net loss of ecological functions and ecosystem-wide processes.
    c. The use of pesticides are prohibited unless specifically allowed in Section 4.1.6, Water Quality and Stormwater Management.
8. New vegetation planted in the Shoreline Buffer or Site-specific Vegetation Management Area, unless otherwise provided for in zone-specific requirements Section 4.1.3.6 (6), shall be:
    a. Native species using a native plant-community approach of multi-storied, diverse plant species that are native to the Central Puget Lowland marine riparian zone.
    b. Other plant species may be approved that are similar to the associated native species in diversity, type, density, wildlife habitat value, water quality characteristics, and slope stabilizing qualities, excluding noxious/invasive species provided that, as submitted by a qualified professional, it is demonstrated to the satisfaction of the Administrator that the selected ornamental plants can serve the same ecological function as native plant species.

4.1.2.8 Regulations – Vegetation Management

1. The following activities do not require city review or pre-approval.

    a. Normal and routine yard and garden activities including, but not limited to, cutting and mowing lawns, weeding, removal of noxious and invasive species, harvesting and replanting of garden plants and crops, incidental vegetable gardening, pruning and planting of noninvasive ornamental vegetation, intended to maintain the general condition and extent of such areas; provided, that such activities are limited to legally existing yard and garden areas, do not further expand into shoreline buffers, do not include earthwork greater than fifty cubic yards, and do not diminish water quality or quantity. Normal and routine activities cannot result in a change to the location, size at the ground level or configuration of existing yard

and garden areas. Normal and routine activities do not include tree and vegetation activities pursuant to BIMC 16.20.090.B that require a clearing permit and city pre-approval.

b. Tree and vegetation activities not requiring review or approval pursuant to BIMC 16.20.090.A.

c. Class I, II III and non-conversion Class IV forest practices regulated pursuant to Chapter 76.09 RCW. For the purposes of this Program, preparatory work associated with the conversion of land to non-forestry uses and/or developments shall not be considered a forest practice and shall be reviewed in accordance with the provisions for the proposed non-forestry use.

2. The following activities may be allowed with an approved clearing permit.

a. Tree and vegetation activities requiring review and pre-approval pursuant to BIMC 16.20.090.B in accordance with the submittal requirements and review procedures in BIMC 16.20.090.F.
~~b.~~ Non-native vegetation alteration or removal outside the shoreline buffer or site-specific vegetation management area pursuant to applicable standards in BIMC 16.18, provided no significant tree are removed and any area of bare ground is planted with native species within the first appropriate growing season or otherwise protected by acceptable temporary erosion and sedimentation control strategies.
c. Underground utilities and potable water wells may be allowed within the Shoreline Buffer or Site-specific Vegetation Management Area, provided that disturbance is minimized and the disturbed area is revegetated after installation.
d. Vegetation Removal Related to Public Facility Maintenance. Tree or vegetation removal within the Shoreline Buffer or Site-specific Vegetation Management Area that is associated with maintenance of existing public facilities (including: roads, paths, bicycle ways, trails, bridges, sewer infrastructure facilities, storm drainage facilities, fire hydrants, water meters, pumping stations, street furniture, potable water facilities, and other similar public infrastructure), may be approved by the Administrator if no significant trees are removed and the maintenance meets the goals and policies of Section 4.1.3, Vegetation Management.
e. Removal of vegetative obstructions required for sight distance and visual clearance at street intersections provided in the Public Works Design and Construction Standards and Specifications.

3. View Maintenance – Single-family Residential Only.

Shoreline residential use and development shall use all feasible techniques to maximize retention of existing native shoreline vegetation within the Shoreline Buffer and the Site-specific Vegetation Management Area.

a. Limited removal of existing trees or vegetation located on the same property as a single-family residence may be allowed for maintenance of a pre-existing view from the primary structure, or to establish a view for a new primary structure provided the following are met:

i. The applicant demonstrates to the satisfaction of the Administrator that the vegetation removal is the minimum necessary to re-establish or establish a view of the water similar to that enjoyed by other residences in the area and that pruning methods are not sufficient to provide an adequate view of the water similar to that enjoyed by other residences in the area; and

ii. Existing significant native trees are not removed within the Shoreline Jurisdiction, unless exempt; and

iii. In no instance, including accounting for other approved alterations as provided in Section 4.1.3, shall vegetation removal exceed twenty (20) percent of the required Shoreline Buffer area or Site-specific Vegetation Management Area or reduce the vegetation canopy coverage to less than 65% in the Shoreline Buffer or Vegetation Management Area.

A. Vegetation removal occurring adjacent to the shoreline shall also be limited to fifteen (15) linear feet of the water frontage; and

iv. The applicant shall obtain an approved Bluff Management Plan pursuant to Section 4.1.5, Critical Areas for any vegetation alteration in a geologically hazardous area. The cost and preparation of the plan is the responsibility of the applicant; and

v. All vegetation removal complies with other applicable requirements of this Program (such as clearing and grading, forest practices, and protection standards for fish and wildlife habitat), including the no net loss and/or revegetation standards in Section 4.1.2.

b. The Administrator my deny a request or condition approval for vegetation alteration proposals for view maintenance if it is determined that the action will result in an adverse effect to any of the following:

i. Slope stability;

ii. Habitat value;

iii. Health of surrounding vegetation;

iv. Risk of wind damage to surrounding vegetation;

v. Nearby surface or ground water; or

vi. Water quality of a nearby water body.

4.1.2.8 Regulations – Revegetation Standards

1. For revegetation in the Shoreline Buffer or Site-specific Vegetation Management Areas, all new plantings shall meet the provisions in Section 4.1.3.5(5), except for the Point Monroe District which shall meet special provisions in subsection 6.
2. Vegetation replanting is required for invasive species removal in accordance with Section 4.1.3.4.3.a.
3. When vegetation replanting is required, the following information shall be submitted for approval prior to vegetation disturbance as part of a project proposal or clearing permit:

a. Residential, Industrial and Commercial Development.

i. Vegetation disturbance of 200 square feet or less requires submittal of an annotated list of proposed plants and their spacing specifications and location.

ii. Vegetation disturbance greater than 200 square feet requires a planting plan completed by a qualified professional. Alternatively, the applicant may use the Single Family Residence Shoreline Mitigation Manual.

b. Public Park and City Maintained Areas.

i. Vegetation disturbance of 2,500 square feet or less requires submittal of an annotated list of proposed plants and their spacing specifications and location.

ii. Vegetation disturbance greater than 2,500 square feet requires a planting plan completed by a qualified professional.

4. When revegetation is required for new upland development, uses, or activities the mitigation plan shall include new plantings that are protective of views from the primary structure of the subject property and in proportion to the identified impact.

5. Revegetation shall be located in the following sequence, except for the Point Monroe District which shall meet special provisions in subsection 6,

a. Within Zone 1, plant vegetation to obtain a minimum of 65% native vegetation canopy coverage;

b. In Zone 2, plant to increase canopy coverage, in a manner that promotes contiguous native vegetation or in areas nearest the shoreline;

c. In the Shoreline Buffer, plant in a manner that promotes a contiguous native vegetated corridor that connects to the shoreline;

d. Outside of the Shoreline Buffer, plant in a manner that promotes a contiguous native vegetated corridor to the shoreline;

e. Outside of the Shoreline Buffer; or

f. At an off-site location approved by the Administrator.

6. When revegetation is required for shoreline stabilization projects due to site disturbance, the required planting plan shall also include the following, unless an alternative planting plan is approved by the Administrator:

a. Replant 75% of the shoreline area located along the upland edge of the shoreline stabilization structure to a minimum depth of ten (10) feet, unless demonstrated to be infeasible to the Administrator;

i. The depth may be reduced to five (5) feet to allow for landscape design variation, provided that the total square footage of the area planted equals the required 75% of the shoreline;

b. Planting plans shall meet provisions in Section 4.1.3.5(5), and shade bearing plants shall be provided at suitable-fish spawning sites; and

c. Include plantings equivalent to one tree per ever 20 linear feet of shoreline and one shrub per ever five linear feet, which may be planted with due consideration of views from the primary structure of the subject property.

7. Special Mitigation Provisions for Point Monroe District. When revegetation is required for new development, uses, or activities in the Point Monroe District, the mitigation plan shall include new vegetation communities appropriate for dune, sand spit, barrier beach, barrier estuary, or barrier lagoon, including salt marsh that shall be installed within the spit-specific vegetation management area (SVMA) as defined in Section 4.1.3.5(9), thirty (30) foot setback between the OHWM and the primary structure, or where area is available on the site.

4.1.3.9 Vegetation Alterations Standards – Residential Development

The following activities associated with residential development may be allowed within a Shoreline Buffer or Site-specific Vegetation Management Area only with an approved shoreline exemption, if required, or an approved clearing permit.

1. One (1) hand installed pervious trail to the shoreline not more than four (4) feet in width, which may include hand installed steps, provided:
   a. No significant trees shall be removed;
   b. The trail may be wider when required for handicapped or public access; and
   c. Vegetation removal or pruning is limited to two (2) feet on either side of the trail.
2. Non-habitable structures appurtenant to a single-family use, such as a boat house, deck/patio and/or stairway may be allowed consistent with the following standards, except that all structures are prohibited in Zone 1 when upland of a Priority Aquatic – Category A designation.
   a. For Site-specific Vegetation Management Areas, the total square footage of all buildings or structures must not exceed 300 square feet in area.
   b. For Shoreline Buffer areas, the total square footage of all buildings or structures must not exceed 400 square feet or 10% of the Shoreline Buffer area, whichever is less.
   c. For Shoreline Buffer areas, only 10% of the total allowed square footage or 300 square feet, whichever is less, can be located in Zone 1, except when upland of Priority Aquatic B, the total allowable square footage is 5% of Zone 1 or 150 square feet, whichever is less.
   d. All structures must be designed to not significantly impact views from adjoining property primary buildings.
   e. All structures must meet the following standards:
      i. Only water-related structures are allowed within 30 feet of the OHWM or in Zone 1.
      ii. Shall not exceed 12 feet in height above existing grade.

iii. Decks and/or patios shall be permeable and shall not exceed 30 inches in height above existing grade.

3. Stairways to the shoreline shall not exceed 300 square feet for private use, the minimum necessary for public use and are not included in the total square footage allocations prescribed in subsections 4.1.3.8(3) of this Program.

   a Larger stairway~~s~~ serving a single-family residence may only be allowed through approval of a shoreline variance. As an alternative to a stairway larger than 300 square feet and to reduce environmental impacts, a tram may be allowed without a variance.

   b. Stairway design shall meet minimum criteria in the International Building Code.

   c. Stairways shall not end waterward of the ordinary high water mark (OWHM) unless allowed pursuant to Section 6.3, Overwater Structures.

   d. Landings are required, unless demonstrated not to be necessary, and shall be determined by:

      A. Existing site topography;

      B. Personal safety; and

      C. Slope stability.

Raedeke Associates, Inc.

Wetland & Aquatic Sciences
Wildlife Ecology
Landscape Architecture

TECHNICAL MEMORANDUM

October 25, 2017

To:	Ms. Tamela Van Winkle, Bainbridge Island School District
From:	Will K. Hohman, PWS, Wetland Scientist Richard W. Lundquist, M.S., Wildlife Biologist Raedeke Associates, Inc.
RE:	Blakely Elementary School – Addendum to Critical Areas and Habitat Management Report dated July 19, 2017 (R.A.I. No. 2017-014-002)

The purpose of this memo is to provide an addendum and update to the July 19, 2017 Critical Areas and Habitat Management Report (Raedeke Associates Inc. 2017) prepared for the Blakely Elementary School Project in the City of Bainbridge Island, Washington. This addendum is intended to review the updated site plans and proposed impacts to the buffers of the off-site wetland with respect to requirements for a Habitat Management Plan (HMP) under the City of Bainbridge Island Municipal Code (BIMC) Title 16 Environment, Chapter 16.20 Critical Areas (BIMC16.20). Since the July 19, 2017 report, the proposed site plan has been revised to further minimize the footprint of the proposed building and associated facilities and increase the area of proposed buffer restoration and enhancement, based on review comments from City staff, the technical advisory committee, and Washington Department of Fish and Wildlife (WDFW), as well as subsequent discussions and meetings with City staff. The following presents an analysis of the latest proposed site plan and design information provided by Mithun Inc. and LPD Engineering PLLC to date, with respect to BIMC Criteria (BIMC 16.20.060) for Habitat Management Plans. The impacts and mitigation measures discussed herein shall serve to replace those discussed in the July 19, 2017 report (Raedeke Associates, Inc. 2017) based on additional avoidance and further minimization of impacts (reduced fire lane, reduced classroom/building sizes, re-orienting pathways, etc. specifically to minimize impervious surfaces) within the critical areas buffer, as well as an expanded buffer restoration/enhancement area.

Discussion of the habitat buffer and/or water quality buffer from this point forward shall mean the entire respective prescriptive buffer area as measured on a horizontal plane from the regulated wetland edge associated with the off-site Wetland 18, rated as Category I/II (Raedeke Associates, Inc. 2017). The entire prescriptive buffer, interchangeably discussed as the “standard” buffer in BIMC and herein, as measured from the wetland edge is made up of both the water quality and habitat buffer areas per BIMC. Refer to the updated Figure 5 (Attachment A) to this addendum depicting the location and extent of the buffer areas on site. In addition, from this

point forward, the project site, or property shall mean the entirety and extent of the Blakely School property parcel boundaries.

EXISTING CONDITIONS

The City of Bainbridge Island (2017) requires a 300-foot standard buffer (consisting of a 100-foot inner water quality buffer and a 200-foot habitat buffer) on the off-site Wetland 18. A portion of the buffer extends onto the eastern and northeastern portions of the site (see Figure 5, attached). This section summarizes existing site conditions within the prescriptive wetland buffer. As outlined in our July 19, 2017 report (Raedeke Associates, Inc. 2017), the portion of the 300-foot wetland buffer that occurs on the project site consists of existing forest/shrub cover, lawn play areas, and impervious surfaces (building and associated hardscapes). This review includes area calcuations provided by Mithun Inc. on October 11, 2017.

Here we discuss the type, area, and functions associated with the existing conditions in the buffer areas, to provide an initial baseline with which to compare the proposed condition. To our knowledge, there is no buffer functional assessment methodology available to evaluate the current and future functioning of the on-site buffer areas. Consequently, we will reference relevant information on buffer functioning found in several state publications, including Castell et al. 1992, Sheldon et al. 2005, Granger et al. 2005, Washington Department of Ecology 2006, Hruby 2013, among others, in our discussion of existing and proposed conditions, as have been used in other HMP documents approved by the City. It should be noted that the width of buffer necessary to protect the functions of a critical area such as Wetland 18 is related to the functions of the critical area and the buffer itself (Castelle, et al. 1992) and may vary depending on buffer characteristics, such as soils, topography, unique physical features, width, slope, geology, surface water movements, vegetation, and other habitat features, as well as the watershed context.

The following list summarizes the current conditions, functions, and values of the existing 300-foot standard wetland buffer on site. Further discussion of the existing conditions is found in our July 19, 2017 report (Raedeke Associates, Inc. 2017), and Appendix D includes photos of representative areas.

1. Contiguous forested areas in the buffer total 73,508 square feet (SF) (approximately 65,088 SF in the habitat buffer and 8,420 SF within the on site water quality buffer area) and provide well-developed forest/shrub habitat that provides vegetative screening of the off-site Wetland 18 from existing play areas in the on-site buffer.
2. Degraded play areas within the buffer total approximately 66,122 SF (3,595 SF of the water quality buffer and 62,527 SF in the habitat buffer) and consist of regularly mowed lawns with some areas of bare ground that are heavily used by students and school staff. These areas have compacted soils of fill material and provide little functional habitat for wildlife, especially with the regular use by people. This degraded buffer extends closest to the off-site wetland within a portion of the water quality buffer (see Figure 5, attached).

3. Soils in the lawn areas are compacted from existing uses and past historical use of the site and thus provide limited mobility of stormwater by infiltration. The compacted soil conditions also provide poor soil medium for natural propagation of native plant species from nearby sources,
4. Impervious surfaces within the habitat buffer total approximately 20,746 SF, and consist of portions of the existing school building and a portable classroom (approximately 3,232 SF) and other hardscapes (approximately 17,514 SF), including paved paths paved play areas, raised play areas with playground equipment, and an outdoor propane storage area.
5. Stormwater runoff from existing buildings and hardscape within the habitat buffer currently run off site without any stormwater management or little ability to be pre-treated or infiltrate due to regularly accessed and compacted surrounding soil areas,
6. With respect to the watershed context, all of the water quality buffer drains toward the wetland, whereas only a portion of the habitat buffer does (Figure 5, attached). The portion of the on-site prescriptive buffer that drains to the wetland represents a very small fraction of its overall drainage basin. Notably, the existing site sits on top of several drainage divides draining the entire site in several directions. The four existing stormwater discharge points are described in more detail in the Preliminary Stormwater Site Plan Report dated October 9, 2017 (LPD Engineering PLLC 2017). Regardless of the distance from the wetland, areas which drain toward the wetland pass through degraded portions of the buffer (lawn/play areas) with only limited ability to effectively filter and remove pollutants prior to entering Wetland 18.

A detailed breakdown of the project site's existing buffer land uses is depicted on the 10/24/2017 revised Figure 5 (Attachment A).

PROPOSED SITE PLAN

SITE DESIGN CONSTRAINTS

The proposed site plan reflects a number of design constraints, requirements, and project needs that result in unavoidable impacts in the prescriptive buffer. First, the existing school needs to remain in operation while the proposed school is being built. Other general site constraints that have driven the overall site design include the following:

- Size of school buildings needed to accommodate educational programs, student population, teachers, and staff
- Seismic/geologic constraints (pushes buildings north)
- Site access limitations (Blakely Avenue only)
- Location of site drive way access to and from Blakely Ave (opposite NE Baker Hill Rd.)
- Vehicle parking area needed to serve facilities

- Fire lane and other safety and access requirements
- Stormwater management requirements
- General topography and amount of available land outside the buffer, with required setbacks
- General design parameters that make the proposed facilities useable, accessible

Additional information regarding design constraints can be found in associated project architectural and engineering reports and plans.

PROPOSED BUFFER CONDITIONS AND IMPACTS

The proposed site plan has been revised to minimize impacts within the prescriptive buffer and provide an expanded area of buffer restoration and enhancement. Attached 10/25/17 revised Figure 6 (Attachment B) presents an overview of the proposed project and the HMP Restoration Planting Plan dated 10/25/2017 (Attachment C) presents the area proposed for restoration and enhancement within the prescriptive buffer areas. Generally speaking, the following elements of the project are proposed in the prescriptive buffer:

1. The proposed school buildings and associated walkways will be limited to approximately 26,126 SF within the outer portions of the buffer (24,323 SF of building and 1,803 SF of paths, impervious play area, and walkways);
2. The fire lane to access the back (north side) of the school buildings, encompassing 5,579 SF, would be constructed of Grasspave (or equivalent) material and planted with an "eco-lawn" grass mix, to provide a pervious surface that can accommodate heavy vehicles;
3. The buffer restoration/enhancement area will now encompass approximately 29,968 SF within the overall buffer area per the HMP Restoration Planting Plan prepared by Mithun dated 10/25/17, Attachment C. This will involve plantings to establish a full native forest/shrub community within the currently degraded portions of the habitat and water quality buffers that now consist of the lawn and play areas (hardscape, playgroud equipment, and lawn play fields). In addition, this buffer enhancement area would extend into the edges of the existing forest/shrub cover on the norwestern portions of the restoration area. In these locations where the restoration overlaps into existing caclucated forest area to remain, thickets of invasive Himalayan blackberry and installation of infill plantings may occur where needed. The lawn portions of the restoration/enhancement area that correspond to the existing water line easement would be planted with shallow-rooted native shrubs so as not to endanger the water line.
4. Areas around the proposed buildings, pathway, and fire lane within the buffer, outside of the proposed buffer restoration/enhancement area, would be planted with an "eco-lawn" mixture of grasses.
5. Existing contiguous forested areas (high value habitat) of the buffer will remain preserved in the proposed build out. Furthermore, portions of the existing dripline (forest edge) will

be enhanced with a combination of invasive species removal and native vegetation in-fill plantings. This will more naturally transition and integrated existing forest areas with the proposed restoration area,

6. The existing building and hardscapes will be removed from buffer areas upon constructing the new proposed school,
7. The desigated play field north and west of the westernmost segment of the new building would be limited to the outermost portion of the buffer, at the base of a southwest-facing forested slope outside of the drainage basin of the wetland (greater than 10 foot elevation difference between the base and top of slope). In this way, the noise and activity of children at play will be shifted to this field and away from the existing lawn areas that currently extend closer to the wetland

ANALYSIS OF IMPACTS WITH REFERENCE TO HMP REQUIREMENTS

Considering Bainbridge Island Municipal Code Criteria (BIMC 16.20.060) for Habitat Management Plans and discussions to date with the City of Bainbridge Island, the HMP requires comparison of the proposed plan to "providing the prescribed habitat buffers" with respect to protection of wetland functions and values. Specifically, a habitat management plan shall clearly demonstrate that greater protection of the functions and values of critical areas can be achieved through the HMP than could be achieved through providing the prescribed habitat buffers.

In theory, if this project could be built on site entirely outside the standard habitat buffer, the buffer would be set aside and left fallow (unmanaged). However, the code (BIMC 18.30.020, 16.20.040 does not appear to require the applicant to remove existing facilities (except the existing building, depending on the proposal) or provide any enhancements within the buffer, and it would likely remain largely in its existing condition. In addition, in such a case, the code (BIMC 16.20.040.C) does not preclude normal and routine maintenance of existing landscaping and vegetation that will not further impact or alter the critical area or buffers, nor does it (BIMC 18.30.020) necessarily preclude continued non-conforming use (i.e., children use of play area) within buffers, provided use is not enlarged, increased, or extended to occupy greater area. It does not presume a fully forested condition that does not currently exist there. Therefore, in the following analysis, we focus largely on comparison of the proposed project to existing conditions within the prescriptive buffer.

We do recognize, however, that if the existing degraded buffer were to be left to grow in naturally some native plant species may establish themselves naturally in the degraded areas (specifically the mowed lawn areas). However, because of the compacted soils, soil makeup as a medium for establishing plants, and past history of the site, it is likely that the degraded buffer will remain as a weedy field with patches of blackberry and other invasive species for the foreseeable future. Therefore, for comparison with the proposed site plan and HMP, we assume that for this site "providing the prescribed habitat buffers" means that most of the existing degraded buffer area would remain in a relatively low-functioning, degraded state.

The proposed project design will result in reduction of some of the habitat buffer area on site to accommodate the proposed school, keep the existing school facilities operational during construction, and to demolish the existing school upon constructing the new school. Although this will result in reduction of a portion of the habitat buffer, it will avoid tree removal and retain the entirety of the existing forested areas in the buffer that are contiguous to Wetland 18. The proposed buffer impacts will be entirely in portions of the buffer that is already highly degraded by current uses (playground, compacted lawn, existing buildings, and paved areas).

HMP CRITERIA COMPLIANCE

Due to site constraints, design requirements, and project needs, the project has been designed to not only service the students and faculty who utilize the site but also balance these constraints in a manner that avoids and minimizes impacts to the prescriptive buffer. Therefore, as the following sections outline, the current HMP site plan has been prepared to allow the buffer to provide greater protection as well as enhanced function and value of habitat and the off-site Wetland 18 than would the degraded buffer if left to go fallow from its current state.

16.20.060 Habitat management plan.
A. General. *A habitat management plan shall comply with the requirements of this section, and shall clearly demonstrate that greater protection of the functions and values of critical areas can be achieved through the HMP than could be achieved through providing the prescribed habitat buffers. The director shall prepare performance standards and monitoring guidelines for habitat management plans, including a program for city oversight of such plans. Once the standards and guidelines are in place, an applicant may propose to implement an HMP as a means to protect habitat buffers associated with wetlands and/or fish and wildlife conservation areas.*

Consistent with BIMC 16.20.060.A, the site plan has been revised since the July 2017 submittal to reduce the building/hardscape area (to 26,126 sf) within the 300-foot prescriptive buffer and increase the area of proposed forest/shrub plantings within the buffer area (to 29,968 sf). The proposed fire lane (5,579 sf) is designed to function as an entirely permeable surface.

- The proposed (revised plan) achieves greater function by preserving existing high-functioning (forest/shrub) habitat, and enhancing currently low functioning habitat (lawn and areas dominated by invasive species) by planting native forest/shrub plantings. The area of enhancement (29,968 sf) exceeds the total area of proposed impervious surfaces within buffer (26,126 sf).
- Under existing conditions, the overall prescribed buffer consists of 45.8% relatively high-functioning buffer of forest/shrub cover; the rest (54.1%) is highly degraded, low functioning (building/hardscape and heavily used lawn).
- Under the proposed (revised) plan, implementation of the proposed forest/shrub plantings would increase the area of higher functioning buffer over time to a total of over

60% of the 300-foot buffer, and the rest would consist of lawn or other landscaping (including a vegetated, permeable fire lane and proposed buildings, paths, and trails).

B. Intent. *HMPs are primarily intended as a means to restore or improve buffers that have been degraded by past activity, and should preserve, and not reduce, existing high quality habitat buffers. While not primarily intended as a means to reduce buffers, the HMP may propose a reduction of the habitat buffer width where it is shown that the HMP will comply with the other requirements of this section. An HMP shall not reduce the prescribed water quality buffer width as listed in BIMC 16.20.130 and 16.20.160 under any circumstance.*

- The proposed plan preserves all the existing relatively high-functioning forest habitat within the buffer (73,508 sf, or 45.8% of the 300-foot buffer area on site) and would provide enhancement to the perimeter areas by removing invasive species and installing native plantings.
- The proposed plan does not reduce the existing water quality buffer, and the portion that is currently lowest functioning (including 3,595 sf that is currently lawn) would be enhanced with forest/shrub plantings thereby improving its wildlife habitat value, as well as its water quality functioning; additional areas within the water quality buffer would be enhanced by removal of invasive species (i.e., blackberry) and installation of native plantings.
- Additional currently low-functioning portion of the habitat buffer (heavily used lawn) would be enhanced via forest/shrub plantings, thus increasing the total area of forest/shrub cover within the overall prescribed buffer (to a total of more than 60% of the buffer area), compared with existing conditions (45.8% of the buffer).

C. Effect of Buffers. *An HMP shall provide habitat functions and values that are greater than would be provided by the prescribed habitat buffers. When habitat buffers are a component of an HMP, they shall be at least the minimum size necessary to accomplish the objectives of the HMP. The HMP may propose, but the city shall not require, a habitat buffer containing a greater area than is required by the prescribed habitat buffer.*

- With proposed enhancements, the total area of forest/shrub habitat within the buffer would increase, compared with existing condition (over 60% of the on-site buffer area, compared with less than 46% under existing conditions), even if for comparison the existing buffer were left to go fallow and most of the existing hardscape areas were to remain.
- With habitat improvements via forest/shrub plantings on existing degraded lawn and play areas, as well as removal of invasive species, the habitat functions of the prescribed buffer under the proposed HMP site plan would provide (over time) greater screening between the school facilities and the wetland and more native cover, nesting, and foraging opportunity for wildlife, than is the case under existing conditions or if the existing degraded areas were left to go fallow.

- Proposed building/hardscape would be located only on currently degraded portions of the buffer (existing paved play areas & heavily used lawns); the total buffer enhancement area (29,968 sf, which would convert existing lawn and play area to native forest/shrub plantings) will exceed the total area of proposed building and associated hardscape (26,126 sf).
- The proposed new school building would be located closer to the off-site wetland than the existing building, which has the potential for greater impacts to the functions of the buffer than under existing conditions. However, the proposed building would be located in the outer portions of the buffer, outside of the wetland drainage basin, so would not adversely impact the hydrologic functions of the off-site wetland. Existing hardscape play areas and walkways within the buffer, including those within the wetland drainage basin, would be removed, and the net increase in impervious under the proposed plan over existing conditions would be minimized (approximately 5,380 sf). Human activity within the buffer will be more limited than under existing conditions, with play activities shifted primarily to the new playfield north and west of the new building, most of which is outside the buffer. Primary access to and from the larger building area would be located on the south and west sides, outside the buffer. Exterior lighting of the buildings within the buffer would be shielded and directed so as not to shine into the off-site wetland or buffer.
- The outer perimeter of the revised buffer line, encompassing existing forest habitat and the proposed buffer restoration within the prescribed buffer (see attached 10/25/17 revised HMP Figure 6 as Attachment B, and Mithun 10/25/17 HMP Restoration Planting Plan as Attachment C), where it borders the proposed school facilities, would be clearly marked with fencing and critical areas signage, per requirements of the City of Bainbridge Island (2017) code. This would serve to limit access to the designated buffer areas to minimize disturbance from human activity within the buffer, compared with existing conditions.

D. Impact Mitigation – General. *The HMP shall encompass an area large enough to provide mitigation for buffer reduction below the standard required buffers, and shall identify how the development impacts resulting from the proposed project will be mitigated. The developer of the plan shall use the best available science in all facets of the analyses. The Washington Department of Fish and Wildlife Priority Habitat and Species Management Recommendations, dated May 1991, and/or bald eagle protection rules outlined in WAC 232-12-292, as now or hereafter amended, may serve as guidance for this report. For habitat management plans addressing wetland buffers, Method for Assessing Wetland Functions, Ecology Publication No. 99-116 shall be used for guidance in determining function equivalency.*

As noted in the CAR/HMP submitted to the City, the WDFW PHS database does not indicate the presence of listed or other priority wildlife species as occurring on site or in the immediate vicinity, neither does it indicate the presence of bald eagle nest or communal roost sites in the vicinity of the project, so these management guidelines do not apply to the project. As noted above, there is no standard functional assessment tool for evaluating buffer functions. Consistent with the Code requirements for an HMP, the proposed site plan

includes the following mitigation measures to avoid, minimize, or compensate for buffer impacts, which would increase habitat and other functions of the buffers as recognized in the available literature:

- The proposed plan avoids direct adverse impacts to existing high functioning forest/shrub habitat in the buffer, including the inner water quality buffer.
- The proposed total area of impervious within the buffer (26,126 sf) would be mitigated in part by buffer restoration and enhancement planting approximately 29,968 sf, with native forest/shrub plantings, which consists of existing heavily used lawn area, in the inner portions of the buffer. This would greatly increase the total area of native forest/shrub cover over time, increasing the area of higher functioning wildlife, compared with existing conditions or with continued retention of degraded, fallow conditions.
- Enhancement via plantings of native forest/shrub cover is proposed within portions of the water quality and inner portions of the habitat buffer, contiguous with existing forest habitat, where they would have the most benefit in improving habitat functioning, consistent with best available science on wetland buffer functioning (e.g., Granger et al. 2005, Hruby 2013; Sheldon et al. 2005); with successful development of the proposed forest/shrub buffer restoration and enhancement plantings (totaling 29,968 sf), the minimum width of forest/shrub cover in the buffer would increase significantly compared with current conditions or if the existing degraded areas of the buffer were left to go fallow.
- Proposed buildings/hardscapes would be located in the outer portions of the prescriptive buffer, entirely outside the wetland drainage basin in areas that are currently low functioning; the proposed buildings and associated features would not impact any areas of currently high-functioning buffer; thus the proposed building and hardscape area would have no measureable impact on hydrologic or water quality conditions within the off-site wetland.
- Existing paved play areas within the wetland buffer (nearest edge approx. 120 feet from the wetland boundary) would be removed, portions of which currently occur within the drainage basin of the wetland, and soils decompacted and planted with either native forest/shrub within the buffer restoration area or with native “eco-lawn”, which would promote infiltration of stormwater runoff, thereby help to enhance water quality protection within the buffer and thus help to protect habitat functions of the off-site wetland. Under the proposal, the nearest hardscape edge to the wetland would increase from 120 feet under current conditions to approximately 190 feet for the nearest proposed building corner or walkway.
- The Proposed fire lane within the buffer (totaling 5,579 sf) is reduced in width from standard requirements (while still meeting fire access requirements) and proposed to consist of permeable surface (such as “Grasspave” or equivalent), to further promote infiltration of stormwater runoff and vegetation for habitat.
- Stormwater runoff from the proposed building directed away from wetland (mostly already outside wetland drainage basin) and routed through water quality treatment and detention facilities. The net on-site area that drains to the wetland would remain the

same as under current conditions, thereby avoiding adverse hydrologic impacts and maintaining hydrologic conditions within the wetland.

- The existing waterline easement that is currently compacted lawn will be planted with shallow rooting shrub and/or understory plantings within the restoration planting area. Adaptive management during maintenance activities associated with the easement could involve invasive species treatments (removal) and restoration with native species plantings consistent with this plan.
- The proposal includes demarcation of the boundary of the proposed modified buffer area, encompassing existing forest/shrub habitat as well as the proposed restoration/enhancement areas with fencing and signage in a manner consistent with BIMC code requirements, with specific details to be determined in coordination with City staff.
- To the extent feasible, the proposed project would employ mitigation measures similar to those outlined in Table 7 in BIMC 16.20.160.D(6) to further minimize potential impacts from light, noise, toxic runoff and human disturbance. Examples include:
    - Light – exterior building lighting within the buffer would be shielded and oriented to avoid light shining into the buffer areas or the off-site wetland
    - Noise and Human Disturbance – human activity within the designated buffer would be limited via proposed fencing and signage, and shifting of primary play areas into the proposed playfield located mostly outside the buffer or in the outermost portion at the base of a forested slope (more than a 10-foot separation at ground surface elevation between the toe and top of slope). Primary access to the portions of the buildings that extend into the buffer would be located on the south and west sides, outside the buffer
    - Toxic Runoff – no toxic runoff would be directed toward the wetland; stormwater runoff from impervious surfaces would be directed away from the wetland. Increased area of native forest/shrub cover, with decompacted and revegetated soils to promote better infiltration compared with current conditions
    - Change in Water Regime – the net area within the drainage basin of the wetland within the buffer would remain the same, compared with existing conditions, thus avoiding changes to hydrologic conditions within the wetland (LPD Engineering PLLC 2017).
- Details of the current buffer restoration and enhancement plans are shown on the plan sheet prepared by Mithun (Attachment C dated October 25, 2017). Refer also to Mithun's latest Permit Set submittals for more detailed landscaping plan information. The July 19, 2017 report and HMP (Raedeke Associates, Inc. 2017) outlines the proposed mitigation plan in terms of implementation and monitoring plans. Details regarding implementation of the mitigation plan, including site preparation, installation and placement of enhancement of native plantings, and monitoring, will be determined in coordination with the design team, City staff, landscape contractors, and the School District's hired consultants.

CONCLUSIONS

The revised site plan and HMP provides measures that clearly improve functions of the proposed buffer in protecting functions of the off-site wetland, compared with current conditions within the overall prescribed standard buffer or potential continuance of fallow, degraded conditions therein. In summary with respect to habitat functions, the proposed plan provides the following:

- Increased area within the buffer that provides nesting and foraging for wildlife via the proposed restoration/enhancement plantings to establish native forest/shrub cover, including removal of invasives. This would significantly improve habitat functions over current degraded areas of the buffer.
- Increasing screening of the wetland from noise, light, and intrusion by substantially increasing the width of native forest/shrub cover (where such cover is currently narrowest), by shielding and orienting exterior building lights away from the buffer and wetland, by shifting play activities to the north and west sides of the buildings, farther away from the wetland than under current conditions, and by marking the outer boundary of the designated buffer with fencing and signage and limiting human access within the buffer area.
- Protection of high value wildlife habitat by avoiding removal of existing well-developed forest cover within the buffer, and providing some enhancement by removing invasive species and installing of a variety of native shrubs and trees. Features protected include large trees within the existing forested cover that can provide potential habitat for cavity nesting wildlife. Selected large trees within the existing play areas would be retained during construction.
- Maintaining groundwater discharge to Wetland 18 – the net area of the buffer that drains to the wetland would remain essentially unchanged, and decompaction of existing soils and revegetation with buffer restoration or eco-lawn areas will promote better infiltration of runoff draining to the wetland, thereby maintaining hydrologic conditions and protecting habitat conditions (soils, vegetation) within the wetland

LIMITATIONS

We have prepared this document for the exclusive use of the Bainbridge Island School District and their consultants. No other person or agency may rely upon the information, analysis, or conclusions contained herein without permission from the Bainbridge Island School District.

The determination of ecological system classifications, functions, values, and boundaries is an inexact science, and different individuals and agencies may reach different conclusions. With regard to wetlands, the final determination of their boundaries for regulatory purposes is the responsibility of the various agencies that regulate development activities in wetlands. We cannot guarantee the outcome of such agency determinations. Therefore, the conclusions of this

document should be reviewed by the appropriate regulatory agencies prior to any detailed site planning or construction activities.

We warrant that the work performed conforms to standards generally accepted in our field, and has been prepared substantially in accordance with then-current technical guidelines and criteria. The conclusions of this report represent the results of our analysis of the information provided by the project proponent and their consultants, together with information gathered in the course of the study. No other warranty, expressed or implied, is made.

Thank you for the opportunity to provide this information. If you have any questions or need additional information, please do not hesitate to contact us at (206) 525-8122 or via email at rwlundquist@raedeke.com or whohman@raedeke.com.

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Attachments

Attachment A: Revised HMP Figure 5 – Existing Conditions (dated 10/24/17)

Attachment B: Revised HMP Figure 6 – Proposed Site Plan (dated 10/25/17)

Attachment C: Exhibit 1 - HMP Restoration Planting Plan (Mithun Inc. dated 10/25/17)

FIGURE 5

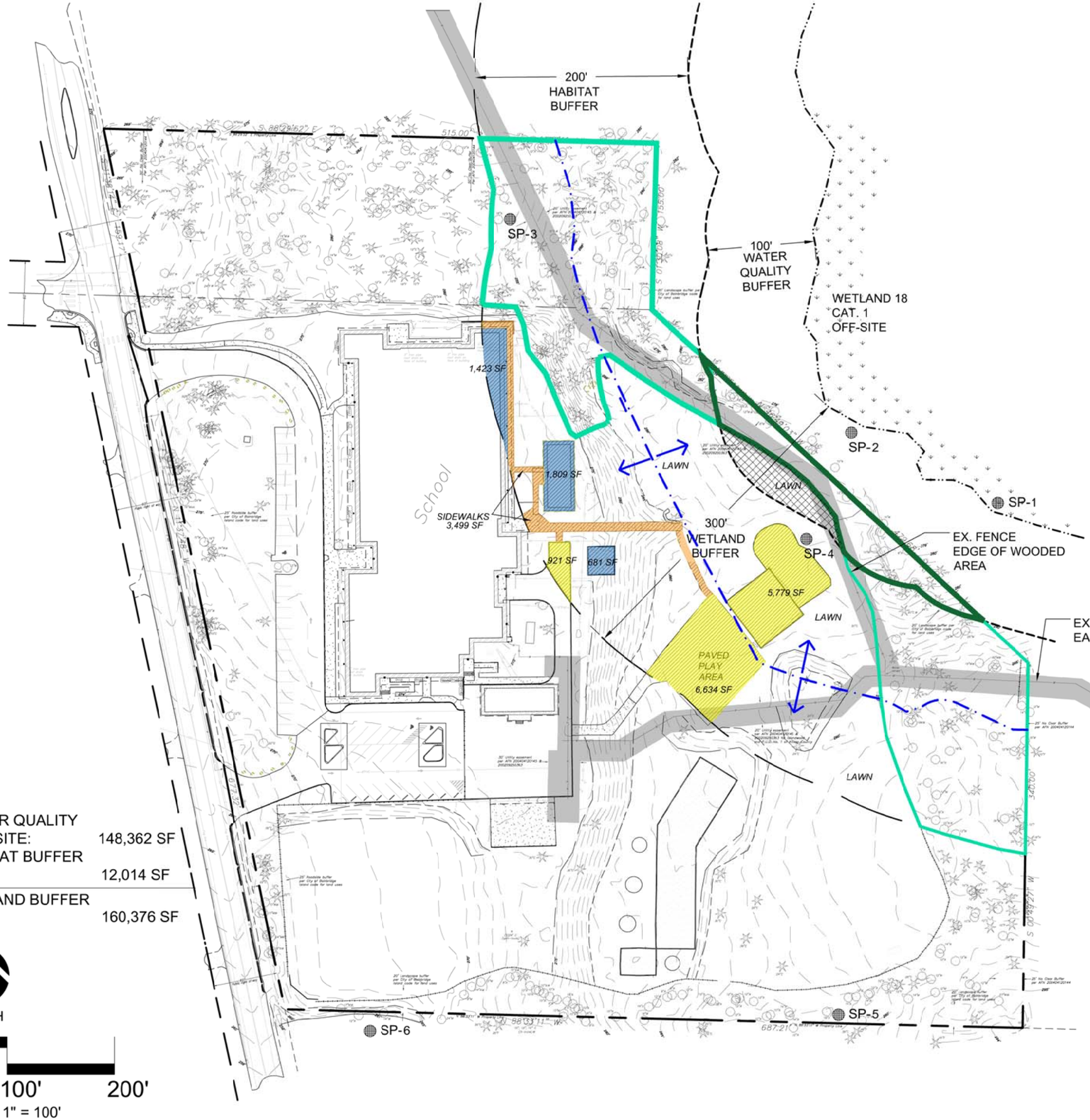
BAINBRIDGE ISLAND SCHOOL DISTRICT

BLAKELY ELEMENTARY SCHOOL

BAINBRIDGE ISLAND, WA

CRITICAL AREAS REPORT

EXISTING CONDITIONS



LEGEND

- PROJECT BOUNDARY
- EXISTING CONTOURS
- EXISTING WETLAND
- 100' WATER QUALITY BUFFER
- 300' WETLAND BUFFER
- DRAINAGE DIVIDE
- DIRECTION OF SURFACE WATER DRAINAGE
- SP-# SAMPLE PLOT LOCATIONS (APPROX.)
- EXISTING TREES

EXISTING USES WITHIN THE WATER QUALITY BUFFER ON PROPERTY

- FORESTED (EXISTING NATURAL GROWTH AREA) 8,420 SF
- LAWN 3,595 SF

EXISTING USES WITHIN THE HABITAT BUFFER ON PROPERTY

- FORESTED (EXISTING NATURAL GROWTH AREA) 65,088 SF
- BUILDINGS & HARDSCAPE 20,746 SF
- LAWN — LAWN & PLAY AREAS 65,528 SF

TOTAL WATER QUALITY BUFFER ON-SITE:	148,362 SF
TOTAL HABITAT BUFFER ON-SITE:	12,014 SF
TOTAL WETLAND BUFFER ON-SITE:	160,376 SF

NORTH

0 50' 100' 200'

SCALE: 1" = 100'

NOTE: AREA CALCULATIONS PROVIDED BY MITHUN INC. ON OCTOBER 11, 2017

Raedeke Associates, Inc.
2111 N. Northgate Way, Ste 219
Seattle, WA 98133

RAI PROJECT: 2017-014

DATE: 10/24/17

DRAWN BY:AC | PM:WH

BASE INFORMATION:

Mithun/Pier 56
1201 Alaskan Way #200
Seattle, WA 98101

LPD Engineering
1932 First Avenue, Suite 201
Seattle, WA 98101

FIGURE 6

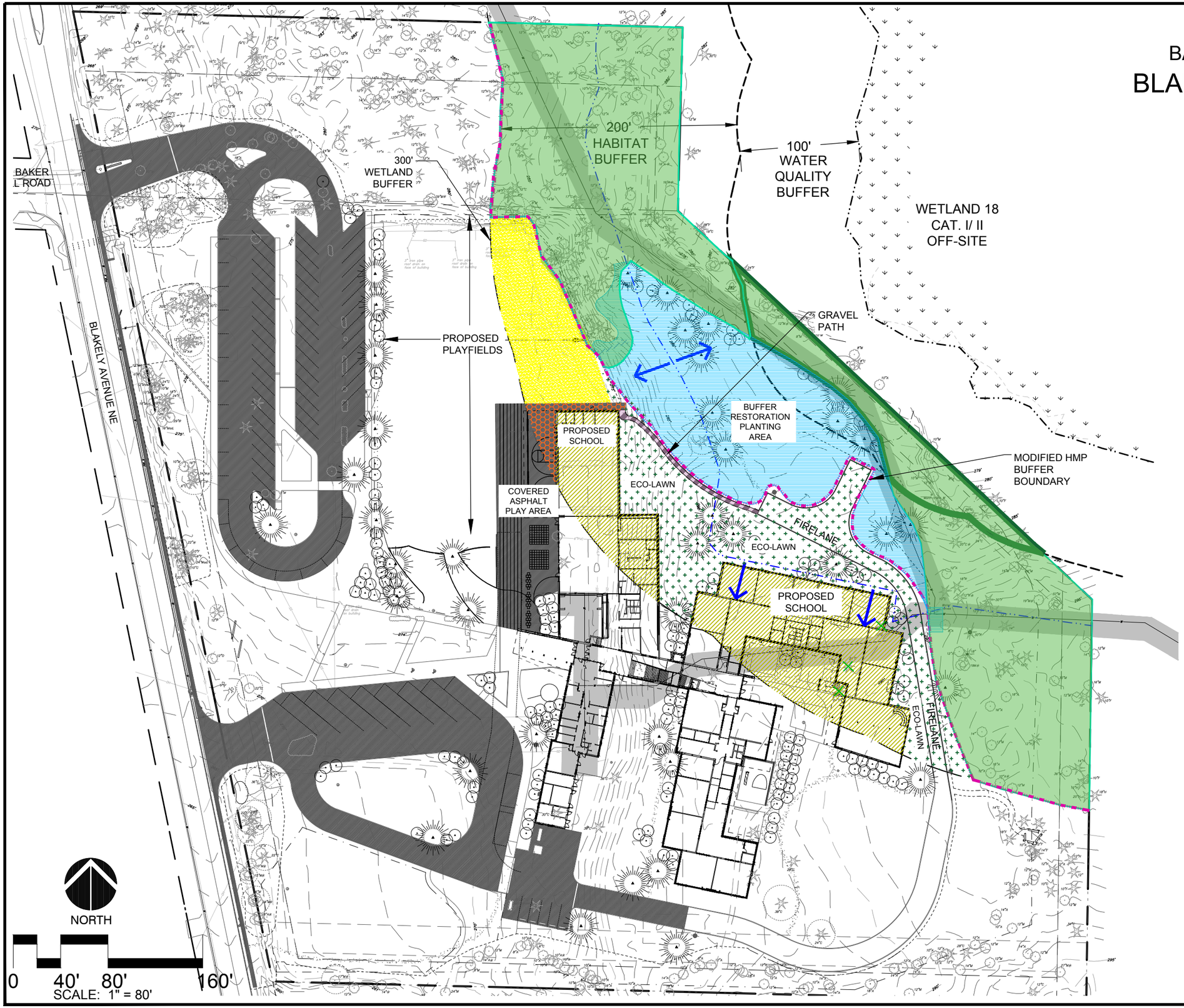
BAINBRIDGE ISLAND SCHOOL DISTRICT

BLAKELY ELEMENTARY SCHOOL

BAINBRIDGE ISLAND, WA

CRITICAL AREAS REPORT

PROPOSED SITE PLAN



LEGEND

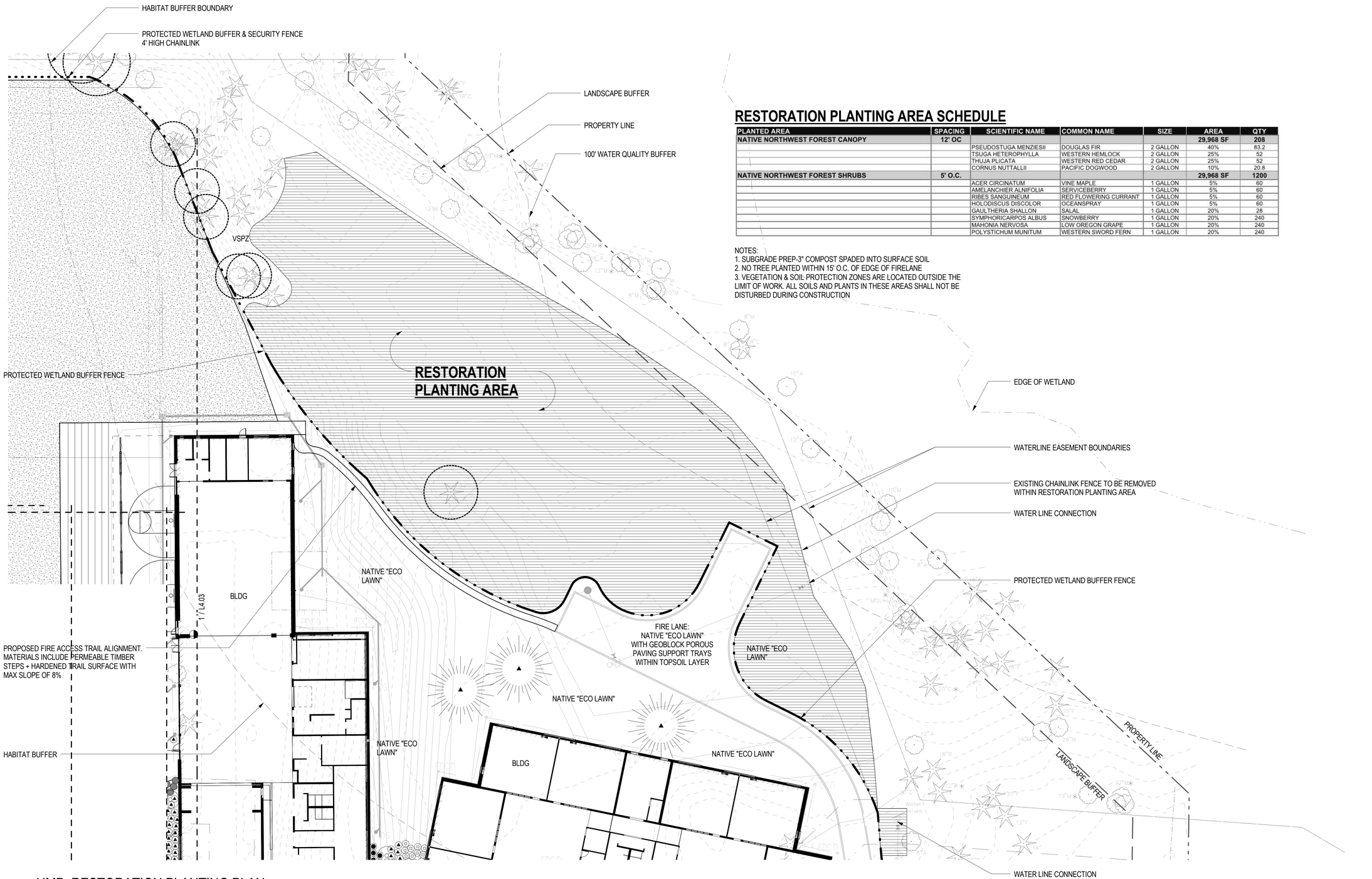
- PROJECT BOUNDARY
- EXISTING CONTOURS
- EXISTING WETLAND
- 100' WATER QUALITY BUFFER
- 300' WETLAND BUFFER
- WETLAND DRAINAGE DIVIDE (POST CONSTRUCTION)
- PROPOSED MODIFIED BUFFER BOUNDARY

RAI PROJECT: 2017-014	
DATE: 10/25/17	
DRAWN BY:AC	PM:WH

BASE INFORMATION:

Mithun/Pier 56
1201 Alaskan Way #200
Seattle, WA 98101

LPD Engineering
1932 First Avenue, Suite 201
Seattle, WA 98101



RESTORATION PLANTING AREA SCHEDULE

PLANTED AREA	SPACING	SCIENTIFIC NAME	COMMON NAME	SIZE	AREA	QTY
NATIVE NORTHWEST FOREST CANOPY	**12' OC**				**29,968 SF**	**208**
		PSEUDOSTUGA MENZIESII	DOUGLAS FIR	2 GALLON	40%	83.2
		TSUGA HETEROPHYLLA	WESTERN HEMLOCK	2 GALLON	25%	52
		THUJA PLICATA	WESTERN RED CEDAR	2 GALLON	25%	52
		CORNUS NUTTALLII	PACIFIC DOGWOOD	2 GALLON	10%	20.8
NATIVE NORTHWEST FOREST SHRUBS	**5' O.C.**				**29,968 SF**	**1200**
		ACER CIRCINATUM	VINE MAPLE	1 GALLON	5%	60
		AMELANCHIER ALNIFOLIA	SERVICEBERRY	1 GALLON	5%	60
		RIBES SANGUINEUM	RED FLOWERING CURRANT	1 GALLON	5%	60
		HOLODISCUS DISCOLOR	OCEANSPRAY	1 GALLON	5%	60
		GAULTHERIA SHALLON	SALAL	1 GALLON	20%	28
		SYMPHORICARPOS ALBUS	SNOWBERRY	1 GALLON	20%	240
		MAHONIA NERVOSA	LOW OREGON GRAPE	1 GALLON	20%	240
		POLYSTICHUM MUNITUM	WESTERN SWORD FERN	1 GALLON	20%	240

NOTES:
1. SUBGRADE PREP-3" COMPOST SPADED INTO SURFACE SOIL
2. NO TREE PLANTED WITHIN 15' O.C. OF EDGE OF FIRELANE
3. VEGETATION & SOIL PROTECTION ZONES ARE LOCATED OUTSIDE THE LIMIT OF WORK. ALL SOILS AND PLANTS IN THESE AREAS SHALL NOT BE DISTURBED DURING CONSTRUCTION

1 HMP_RESTORATION PLANTING PLAN

1" = 20'-0"

0' 5' 10' 20'

SEATTLE / Pier 56, 1201 Alaskan Way, #200 / Seattle, WA 98101 / 206.623.3344
SAN FRANCISCO / 660 Market Street, #300 / San Francisco, CA 94104 / 415.956.0688
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10/25/17

Blakely Elementary School | HABITAT MANAGEMENT PLAN
PLANTING PLAN & SCHEDULE

MITHUN