



5309 Shilshole Avenue, NW
Suite 200
Seattle, WA 98107
206.789.9658 phone
206.789.9684 fax

www.esassoc.com

memorandum

date July 26, 2017

to Debbie Bent, City of Kenmore

from Adam Merrill, ESA

subject St. Edward State Park Field Improvements: Critical Areas Variance Documentation

The City of Kenmore proposes improvements to the existing grass ballfield area (approximately 3.5 acres) in St. Edward State Park. Project elements include installation of a synthetic turf field, a subsurface stormwater system, and other related structures (such as a perimeter walking path, dugouts, and backstops). As documented in the Critical Areas Study for the project (ESA, 2017), the existing ballfield area includes a Class 2 wetland to the east and south. The wetland serves as the headwaters of a seasonal stream (identified as Stream #0226) that originates south of the ballfield and flows through the park into Lake Washington. WDFW indicates that the stream potentially provides habitat for resident salmonids (e.g., trout) starting at a point approximately 400 feet south (downstream) of the existing ballfield (C. Costello, May 8, 2017, personal communication). Use of the stream by anadromous fish appears to be precluded by the steep gradient (over 16 percent) between the lake shore and the ballfield area (The Watershed Company, 2016).

Pursuant to Kenmore Municipal Code (KMC) Section 18.55.330, Class 2 wetlands receive a standard buffer of 100 feet. A portion of both the Class 2 wetland and its buffer extend into the existing mowed grass ballfield area; the eastern edge of the existing mowed ballfield is classified as emergent wetland. The proposed ballfield improvements have been moved outside of the delineated wetland area; there will be no direct wetland impacts. However, installation of the synthetic turf fields would cover 37,932 square feet of wetland buffer, which currently consists of mowed grasses and herbs. To mitigate for the loss of the mowed buffer habitat, the City proposes to enhance approximately 30,000 square feet of wetland and 25,000 square feet of buffer, for a total enhancement area of approximately 1.3 acres (ESA, 2017).

The standard 100-foot wetland buffer would be narrowed by approximately 90 percent, which is not allowed outright in the KMC. Therefore, a variance would be required to construct the project. KMC 18.55.170 states that variances from buffer width and building setback standards may be authorized, provided that the applicant demonstrates compliance with the six criteria listed in KMC Section 18.55.170(C). The criteria and responses are detailed in this memorandum. Responses to the criteria have been prepared by ESA with assistance from City staff.

- 1) *There are special circumstances applicable to the subject property or to the intended use such as shape, topography, location or surroundings that do not apply generally to other properties and which support the granting of a variance from the buffer width requirements.*

Response: The special circumstance applicable to the subject property and ballfield use is the requirement that the historic cultural landscape in St. Edward State Park be preserved. This type of historic preservation requirement does not generally apply to other properties within the City of Kenmore. The St. Edward Seminary building is listed on both the *National Register for Historic Places* and the *State of Washington Historic Register*. The ballfield is identified as a contributing historic feature in a Cultural Landscape Inventory prepared by the National Park Service (2006), and continued use of the ballfield for active recreation is identified as a specific treatment recommendation. Relocating the ballfield to another area within St. Edward State Park would be inconsistent with the requirement to preserve the historic cultural landscape of the park; therefore, the ballfield must generally be kept in its current location.

The Cultural Landscape Inventory (NPS, 2006) states that contemporary improvements may be allowed in a historic landscape, provided that the improvements do not diminish the integrity of significant cultural or natural features. The City proposes several measures to maintain the integrity of the St. Edward State Park cultural landscape, including:

- Planting a mixture of native conifer trees and shrubs along the north side of the field to screen the ballfields, while preserving views of the seminary building from the entrance driveway.
- Using an artificial turf color (dark green) that blends in with the surrounding forest.
- Preserving all existing trees surrounding the ballfield.
- In coordination with Washington State Parks, conducting restoration actions activities at three of the other historic resource areas within the park: Nun's Garden, The Orchard, and The Grotto.

The proposed ballfield improvements will also maintain the integrity of the Park's natural features. The proposed improvement project avoids direct wetland impacts by shifting the renovated field outside of the wetland and as far to the west as possible, while still remaining within the existing ballfield footprint. Wetland buffer impacts will be limited to existing mowed grass areas. After construction, the wetland and remaining buffer areas within the ballfield vicinity will be enhanced with native plantings.

- 2) *Such variance is necessary for the preservation and enjoyment of a substantial property right or use possessed by other similarly situated property but which because of special circumstances is denied to the property in question.*

Response: Preservation and enjoyment of recreational use would be diminished on the ballfield with strict adherence to the buffer requirements. Specific treatment recommendations for the ballfield in the historic Cultural Landscape Inventory (NPS, 2006) include "continue use of historic sports field for active recreation." The St. Edward State Park Management Plan (WSPRC, 2008) supports continuing ballfield use.

The existing ballfield has fallen into disrepair and needs improvement for continued and expanded use by organized sports teams and informal recreational users. In particular, the existing natural turf is in poor condition and portions of the field are saturated with water during the rainy season. Synthetic turf is proposed as it expands the playing season to year-round, addresses drainage issues, requires less maintenance compared to an improved

grass field, and does not require a “rest period” between games to ensure field quality. Many other sports fields throughout the region have recently been converted from natural to synthetic turf for these reasons. Strict application of the wetland buffer requirements of KMC Section 18.55.330 would deny the proposal to convert the St. Edward State Park ballfield to an artificial turf field of sufficient size for use by youth sports teams. As the existing ballfield already is located in the wetland buffer, any improvements to the field to keep it viable for active recreation necessitate continued buffer encroachment.

- 3) *The granting of such buffer width variance will not be materially detrimental to the public welfare or injurious to the property or improvement.*

Response: A variance from the wetland buffer width requirement will not be materially detrimental to the public welfare or injurious to the property as the proposal retains and improves the ballfield for public recreational use, shifts the ballfield outside of the wetland, and provides mitigation that will improve the ecological condition of the wetland and its buffer. All of these actions simultaneously preserve the integrity of the ballfield’s place in the historic cultural landscape while maintaining environmental quality and continuing recreational use. The City of Kenmore has entered into a Memorandum of Understanding (MOU) agreement with State Parks to prepare a long term solution for the ballfield (likely a 20-year lease) whereby the City improves the ballfields and manages and maintains them for continued public use. A recital in the MOU reads “State Parks recognizes that improvements to the ballfields, especially to the drainage system, will make them more useful for visitors”.

- 4) *The granting of the buffer width variance will not significantly impact the subject critical area.*

Response: The wetland will not be directly impacted by the proposed field improvements; the project will shift the ballfield outside of the wetland. The area of wetland buffer that will be impacted is mowed field and highly degraded, and provides minimal ecological functions or protection to the wetland (see discussion below). No trees or shrubs within the wetland buffer will be removed as a result of the project. As mitigation for the wetland buffer impacts, the City proposes to enhance approximately 1.3 acres of existing, wetland and buffer habitat. Invasive species, such as Himalayan blackberry and English ivy would be removed from wetland buffer areas south of the existing ballfield, and the area replanted with native plants. Existing wetland areas will be enhanced with emergent, shrub, and/or conifer tree species. The plantings will be monitored by the City for 10 years, and the mitigation area will be protected in perpetuity. Overall, the proposed mitigation will provide a greater diversity and density of native plants and increase the habitat value for native wildlife species within the wetland, as compared to existing conditions.

The stormwater system for the proposed synthetic turf field was designed according to the King County Surface Water Design Manual (2009). Overall, the system is designed to mimic pre-development conditions, in order to maintain surface and groundwater flows to the surrounding wetland and seasonal stream. Stormwater in the eastern portion of the field will continue to drain eastward towards the emergent portion of the wetland, similar to existing conditions. Stormwater from the remainder of the field will flow to a detention facility under the southwest corner of the field and will be discharged directly to the south, outside of Wetland A and its buffer.

Water quality within the wetland and adjacent stream will be maintained, as the synthetic turf infill will be an inert, non-toxic material. Crumb rubber infill (i.e. ground rubber from truck and automobile tires) will not be used. No chemicals will be used to clean the synthetic turf, only water.

- 5) *The decision to grant the variance includes the best available science and gives special consideration to conservation or protection measures necessary to preserve or enhance anadromous fish habitat.*

Response: Wetland buffers typically function to reduce impacts to wetlands from adjacent land uses, while providing some terrestrial habitat necessary for wetland-dependent species that require both aquatic and terrestrial habitats (Hruby, 2013). A review of the best available science indicates that the ability of a buffer to provide these functions is directly related to its condition. For example, buffer habitat with high plant structural diversity provides habitat niches for cover, foraging, and nesting, which results in higher wildlife species richness (Hruby, 1999; Knops, et al., 1999). Densely-vegetated or forested buffers also help to screen wetland habitat from the disturbances of adjacent human development and activities (Hruby, 2013). Conversely, buffer habitats with low plant structural diversity, such as grazed or mowed grass, provide few habitat niches, have much lower species richness, and have little to no potential to screen a wetland from adjacent human development and activities.

Along with providing habitat for wetland-dependent species, wetland buffers act to protect and maintain water quality in wetlands by removing sediments, nutrients, and toxicants (Hruby, 2013). The effectiveness of a buffer to trap sediments (and attached pollutants) greatly decreases if vegetation is lacking or degraded (Adamus, et al., 1991). The ability of a wetland buffer to trap and biologically treat nutrients and toxicants is dependent on several factors, including slope, buffer width, and soil composition (Hruby, 2013). All buffer areas, including mowed grass, have the potential to improve water quality to some degree. However, as compared to forest habitat, mowed grass has up to 65% less water infiltration capacity (Kelling and Peterson, 1975). This decrease in water infiltration leads to excess runoff into a wetland during storm events, which allows runoff containing nutrients and toxicants to drain directly into a wetland (Sheldon, et al., 2005).

Installation of the synthetic turf field will narrow a portion of the adjacent 100-foot Class 2 wetland buffer down to a minimum width of approximately 10 feet; however, this buffer area currently provides limited buffer functions as it consists of mowed grass and herbs. Converting this mowed grass buffer to synthetic turf will not result in an increase of sediments, nutrients, and toxicants, nor will it significantly alter stormwater flows as compared to existing conditions. The proposed buffer enhancement plan, which involves enhancing approximately 1.3 acres of mowed wetland and buffer areas with native shrub and emergent species, will provide a greater diversity and density of native plants and increase the habitat value for native wildlife species. Therefore, even though the width of the existing buffer will significantly decrease in some locations, the buffer enhancement plan is expected to enhance wetland wildlife habitat functions compared to existing conditions.

The proposed ballfield renovation does not affect anadromous fish habitat. The project is located over 4,000 feet upstream from the nearest identified anadromous fish habitat (Lake Washington) (WDFW, 2016). While the existing data and studies indicate that Stream #0226 does not provide habitat for anadromous fish, resident salmonids may occur within approximately 400 feet of the existing ballfield. The project will not directly impact the onsite wetland, which is the headwaters for Stream #0226. The stream's hydrology and water quality will be maintained during ballfield renovation. The stormwater system for the proposed field is designed to mimic pre-development conditions, in order to maintain surface and groundwater flows to the surrounding wetland and stream. As described above, the synthetic turf infill will be an insert, non-toxic material, and no chemicals will be used to clean the field.

- 6) *The granting of the variance is consistent with the general purpose and intent of the City's comprehensive plan and adopted development regulations.*

Response: Objective 3.2 of the Land Use Element in the City’s Comprehensive Plan is to “promote the preservation of significant historic and archaeological sites and structures.” This proposal recognizes the place of the ballfield in the historic cultural landscape at St. Edward State Park, and supports its continued use.

The City’s Comprehensive Plan Policy LU-15.1.9 states that, “Alterations to wetlands may be allowed, only after all wetland functions are evaluated, the least harmful and reasonable alternatives are identified, and affected significant functions are appropriately mitigated, in order to...accomplish a public agency or utility development.” With this proposal, the ballfield is shifted out of the wetland itself. As described above, the proposed mitigation will result in an overall ecological improvement to the wetland, including offsite forested wetland areas.

The Parks, Recreation and Open Space Plan discusses as an “Opportunity” providing and developing more land for active recreation activities, and notes that a big challenge for Kenmore is land sufficient in size to accommodate a variety of active recreational pursuits, including athletic fields. Objective P-4.1 states that the City should, “identify and prioritize...underdeveloped properties for consideration of public acquisition for active recreation including athletic fields.” A lease agreement with State Parks for improvement and use of the ballfield would provide an improved athletic field for community use while retaining it in its historic location. This approach is supported by Policy P-5.1.3 which states that the City should “consider providing new facilities and facility upgrades to existing park lands to support new or existing recreation opportunities where appropriate” and Policy P.6.4.1 which states, “Develop and execute joint facility use and maintenance agreements when appropriate with...State of Washington...and others to maximize public use of existing public and or similar facilities.”

Capital recommendations in the Parks, Recreation and Open Space Plan specifically support development of athletic fields.

References

- Adamus, P. R., Stockwell, L. T., Clarain, E. J., Morrow, M. E., Rozas, L. P., & Smith, R. D. 1991. Wetland Evaluation Technique (WET) Volume 1: Literature review and evaluation rationale. (Technical Report WRP-DE-2). Vicksburg, MS: U.S. Army Corps of Engineers Waterways Experiment Station.
- Costello, C. 2017. Field meeting with WDFW biologist Casey Costello. May 8, 2017.
- ESA (Environmental Science Associates). 2017. St. Edward State Park Ballfield Improvements Critical Areas Report. Prepared for: City of Kenmore.
- Hruby, T. 1999. Assessments of wetland functions: What they are and what they are not. *Environmental Management*, 23(1), 75-85.
- Hruby, T. 2013. Update on Wetland Buffers: The State of the Science (Publication # 13-06-11). Olympia, W: Washington Department of Ecology.
- Kelling, K. A., & Peterson, A. E. 1975. Urban lawn infiltration rates and fertilizer runoff losses under simulated rainfall. *Soil Science Society of America Journal*, 39(2), 348-352.

- Knops, J. M. H., Tilman, D., Haddad, N. M., Naeem, S., Mitchell, C. E., Haarstad, J., & Groth, J. 1999. Effects of plant species richness on invasion dynamics, disease outbreaks, insect abundances and diversity. *Ecology Letters*, 2(5), 286-293.
- NPS (National Park Service). 2006. St. Edward Seminary Cultural Landscape Inventory (Draft) Parts 1 and 2.
- Sheldon, D., Hruby, T., Johnson, P., Harper, K., McMillan, A., Stanley, S., & Stockdale, E. (2005). *Freshwater Wetlands in Washington State. Volume 1: A Synthesis of the Science.* (Publication # 05-06-006). Olympia, WA: Washington Department of Ecology.
- Watershed Company, The. 2016. *Stream & Wetland Delineation Report: Saint Edward State Park Seminary.* Prepared for Trevina Wang, Daniels Real Estate.
- WDFW (Washington Department of Fish and Wildlife). 2016. *SalmonScape web application.* Available: <https://fortress.wa.gov/dfw/salmonscaperun/MapFrame.htm>. Accessed April 15, 2016.
- WSPRC (Washington State Parks and Recreation Commission). 2008. *Saint Edward State Park Management Plan.*