

Response to Comments from Washington State Parks on July 2017 SEPA Checklist

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1	1	JL: Are we phasing this review? If so we need to use appropriate language and specify what exactly is being phased.	This is not a phased review. The potential shoreline restoration is a separate future project, not mitigation for this project, and is not a component of this review. References to the future shoreline restoration has been removed from the project description. The City is willing to partner with State Parks on a future shoreline restoration project on Lake Washington (subject to available funding) that includes removal of remnants of a former bulkhead and shoreline enhancement.
2	2	JL: In light of the discovery of four different species of light sensitive bats within the proposed lease area, Parks will not entertain a staff recommendation that includes lighting.	<p>The draft ballfield lease language (April 2017), developed by the City and Washington State Parks, includes a provision stating that the City may install ballfield lighting at its option, provided that the City uses "the newer lighting technology that minimizes light spillage" (Exhibit C, Section 2.4). However, a 10/17/17 letter from Washington State Parks and Recreation Commission Director, Don Hoch stated, " With specific regard to lighting, it remains my understanding that significant impacts associated with ballfield lighting, including those to light-sensitive bats and the underlying ecosystem supporting them cannot be mitigated sufficiently within the park. It is the Commission's policy that any impacts to wildlife arising from development activities must be avoided, mitigated on site, or in rare circumstances, mitigated off-site. Because ballfield lighting is not critical to the mission and purpose of Saint Edward State Park, State Parks staff will not be able to recommend to the Commission an action that would likely cause unmitigated harm to the park's wildlife or its supporting habitat". The City Manager, Rob Karlinsey provided a response (letter dated 11/2/17) outlining the City's position on lighting and offering additional mitigation measures as outlined below.</p> <p>A variety of mitigation measures will be implemented to minimize lighting impacts to light-sensitive species. Proposed lighting mitigation measures include:</p> <ul style="list-style-type: none"> • installing lighting as close to the field as possible; • using lighting only during scheduled gameplay; • using the latest LED lighting technology to reduce the impact of glare and spill light; and • installing native conifer and shrub species to buffer field lighting from the rest of the park. <p>Additional mitigation measures proposed following State Parks review of the SEPA checklist include:</p> <ul style="list-style-type: none"> • reducing the LED color temperature from 5,700K, typical for outdoor athletic field lighting systems, to 4,000K; • limiting lighting to no earlier than 4:45 p.m. and no later than 9 p.m.; • limiting the use of lighting to the months of March, April, October, and November, which avoids the

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			<p>summer months when bats are most active;</p> <ul style="list-style-type: none"> • retrofitting the forest trail lights running parallel to Seminary Drive with updated, nocturnal-friendly fixtures; and • working with State Parks and the seminary tenant to remove the bright, old-style horizontal lights on the Seminary and Gymnasium that partially illuminate the field 24 hours a day, year-round. <p>The City acknowledges that the proposed field lighting may affect light-sensitive bat populations, none of which have any special federal or state status, within the study area. However, based upon a review of the relevant scientific literature, a review of a survey of bat use in the park, consideration of the proposed lighting impact mitigation measures, and the presence of existing dusk-to-dawn lighting in the seminary building which partially illuminates the ballfield and forest edge year-round, the City concludes that the proposed field lighting would not result in a significant impact to bat populations within the lease area (see the bat study review memo from ESA to the City, dated August 31, 2017, for further details).</p> <p>One of the primary purposes of SEPA is to identify and evaluate probable environmental impacts of a proposal (WAC 197-11-030[2][b] and [g]), but there is no requirement that all probable impacts be completely avoided. SEPA rules do state that a "probable significant adverse impact on the environment" may require an EIS (WAC 197-11-315). However, the term "significant" as used in SEPA means "a reasonable likelihood of more than a moderate adverse impact on environmental quality" (WAC 197-11-794). While the proposed field lighting may impact bats, the City maintains that that impact will not be "significant," as defined by SEPA.</p>
3	2	<p>JL: If the intention here was to incorporate the EIS by reference this is not how to do that. Please see WAC 197-11-635</p>	<p>Revised to better introduce and incorporate the Lodge EIS (Refer to SEPA checklist Sections A.7, B.14.c, and B.14.f</p>
4	2	<p>JL: This should also include the Sound Engineering Report, the EIS the Cultural Landscape Inventory prepared by the National Park Service, the St Edwards Management Plan and if the shoreline part of the proposal will be phased, the additional SEPA review and whatever environmental documentation will be associated with that part of the proposal.</p>	<p>Agreed. The Sound Engineering parking study, Owl Ridge bat survey report, ESA bat study review memo, nocturnal bird survey memo and any other recently-produced project documents have been referenced within the checklist (See Section A.8 and reference section) The NPS Cultural Landscape Inventory and WSP St Edwards Management Plan will not be included under this question as they were prepared prior to, and are not directly related, to this proposal. These documents will continue to be included in the reference list of the checklist.</p> <p>The shoreline restoration project is not mitigation for or otherwise part of this project. Environmental information relating online to the shoreline project will not be included. References to the future shoreline project have been removed from the checklist.</p>

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5	2	LK: Include whatever permits/approvals will be required for the shoreline restoration	The shoreline restoration project is not mitigation for or otherwise part of this project. Potential permits/approvals for the shoreline project will not be added. References to the future shoreline project have been removed from the checklist.
6	3	LK: Should information be included on the location of the website where the plans are located?	A link to the City's project website was added (See Section A.11). The website contains links to download the plan sheets, along with the other project plans and documents.
7	3	LK: This does not seem like adequate mitigation for the impacts of the project. It only addresses the physical area impacted not the water quality, water quantity and habitat values that are impacted. Further the values of the Biodiversity Area and Corridor are not addressed nor the potential impacts to the larger ecosystem.	<p>A review of the applicable scientific literature indicates that mowed grass is poor-quality wildlife habitat, and provides minimal water quality and water quantity wetland buffer functions (see the Wetland Buffer Width Variance section of the Draft Revised Critical Areas Report (January 2018), and variance criteria memo (January 2018), as cited in the SEPA checklist, for a summary and references of the relevant literature). The City maintains that converting approximately 131,000 square feet (3 acres) of existing mowed grass (approximately 42,700 square feet [0.98 acre] of which is located within a wetland buffer) to synthetic turf would not result in "significant" (as defined by under WAC 197-11-794) impacts to habitat, water quality, or water quantity functions within the larger Park ecosystem.</p> <p>In order to mitigate impacts to habitat and wetland buffer functions, the City proposes to enhance approximately 61,600 square feet (1.4 acres, increased by over 6,000 square feet since State Parks review of the SEPA checklist) of existing, degraded wetland and buffer habitat. The wetland and buffer enhancement areas currently consist of mowed grass. Proposed enhancement includes removing non-native invasive species and planting with native shrubs, and emergent species. In addition, a mix of native conifers and shrubs will be planted along the north side of the ballfield, for an additional approximately 5,000 square feet (0.1 acre) of habitat enhancement. Overall, the ballfield improvement project will increase the amount of native, un-mowed herbaceous, shrub, and tree habitat within the Park ecosystem.</p> <p>The undeveloped areas within the Park are mapped by WDFW as a Biodiversity Area and Corridor. Developed areas within the Park, such as the ballfield, seminary building and surrounding lawn areas, Park roadways, and Bastyr University and its adjacent ballfields are not located within the Biodiversity Area and Corridor polygon (see "PHS on the Web" mapping at: http://apps.wdfw.wa.gov/phsontheweb/). With the exception of the wetland and buffer mitigation enhancement described above, the footprint of the ballfield improvement project does not extend into the mapped Biodiversity Area and Corridor. However, eleven trees within the forested area on the south side of the field will be removed as part of this project; one big leaf maple and ten black cottonwood trees along the southern boundary of the field are recommended for removal. City Tree Protection standards require a minimum number of</p>

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			<p>tree units per acre of net buildable area. No trees within the net buildable area are proposed for removal. The City also requires that mitigation for hazard tree removals in critical areas be in-kind and onsite, and sufficient to maintain the functions and values of the critical area. The City proposes an onsite replacement ratio of 3 to 1 for the four removed trees removed from the wetland and wetland buffer, exceeding code requirements. In addition, it is recommended that some hazardous trees are cut and left as snags to provide wildlife habitat.</p> <p>The City acknowledges that that the project would increase human use of a relatively small area adjacent to the mapped Biodiversity Area and Corridor and would remove 11 hazard trees from the Corridor, but the overall potential impacts to the Area are not "significant" (as defined by under WAC 197-11-794). Additionally, the wetland and buffer enhancement measures will enhance wildlife habitat in and immediately adjacent to the forested portion of the buffer. By situating the footprint of the proposed ballfield improvement project within an already-disturbed area (in current use as a ballfield) devoid of native shrubs and trees, the proposed project is consistent with WDFW PHS guidance for managing development within identified Biodiversity Areas and Corridors.</p>
8	3	<p>LK: The composition of the materials and an analysis of leachate and the potential ecological impacts to the surrounding wetland and wetland buffers are needed. There are studies on the heavy metals in the grass fibers and potential ecological available in the literature. Meeting drinking water standards may not be sufficient for aquatic ecosystems</p>	<p>Literature on the potential ecological impacts of artificial turf was reviewed. The vast majority of studies on artificial turf and environmental impacts are focused on athletic fields with crumb rubber infill, a material that will not be used for this project. At least one study did find that artificial turf fibers themselves can be a source of lead, depending on their composition, and recommended the use of certified lead-free turf materials. Literature reviewed included:</p> <p>EPA. 2016. <i>Federal Research Action Plan on Recycled Tire Crumb Used on Playing Fields and Playgrounds – Status Report</i>. EPA/600/R-16/364. December 2016. 169 pp. Available: https://www.epa.gov/chemical-research/december-2016-status-report-federal-research-action-plan-recycled-tire-crumb-0</p> <p>Johns, M. & Goodline, T. n.d. <i>Evaluation of Potential Environmental Risks Associated with Installing Synthetic Turf Fields on Bainbridge Island</i>. Available: http://waste.ky.gov/RLA/grants/Documents/BainbridgeIslandenvlanalysis.pdf. Accessed January 2018.</p> <p>Cheng, H., Hu, Y., and Reinhard, M. 2014. <i>Environmental and Health Impacts of Artificial Turf: A Review</i>. Environmental Science and Technology. 16 pp.</p> <p>Pavilonis, B., Weisel, C., Buckley, B., & Liyo, P. 2014. <i>Bioaccessibility and Risk of Exposure to Metals and SVOCs in Artificial Turf Field Fill Materials and Fibers</i>. Risk Analysis. January 2014. Vol.34(1), pp.44-55.</p>

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			<p>Jim, C.Y. 2017. <i>Intense summer heat fluxes in artificial turf harm people and environment</i>. Landscape and Urban Planning. Vol. 157, pp. 561-576. January 2017.</p> <p>Pochron, S., Fiorenza, A., Sperl, C., Ledda, B., Lawrence, P., Tucker, C.,Panico, N. <i>The response of earthworms (Eisenia fetida) and soil microbes to the crumb rubber material used in artificial turf fields</i>. Chemosphere. Vol. 173, pp. 557-562. April 2017.</p> <p>Connecticut Department of Environmental Protection. 2010. <i>Artificial Turf Study – Leachate and Stormwater Characteristics</i>. July 2010. 24 pp.</p> <p>New York State Department of Environmental Conservation. 2009. <i>An Assessment of Chemical Leaching, Releases to Air and Temperature at Crumb-rubber Infilled Synthetic Turf Fields</i>. May 2009. 140 pp.</p> <p>The project will use synthetic turf products that are specified to be lead-free. No studies were found that suggest that lead-free artificial turf with sand/silica infill have the potential to introduce heavy metals or other toxic compounds into the surrounding environment. In addition, runoff from the artificial turf will be directed to the stormwater system which includes water quality treatment and removal of contaminants. The potential impacts, if any, of the artificial turf materials on downstream waters are not considered significant (under WAC 197-11-794).</p>
9	3	<p>LK: Details on the storm water detention and dispersal system are needed including data on the natural hydrology and how the engineered system will mimic it. Separate information on the engineered systems is needed for the east and west sides of the field.</p>	<p>The plans and Draft Stormwater Technical Information Report (December 2017) have been updated to meet the 2016 King County Stormwater Design Manual requirements. Please see the <i>Draft Stormwater Technical Information Report, December 2017</i> (as referenced in the SEPA checklist) for details on the proposed stormwater system, including information on how stormwater will be managed. The stormwater system was designed to approximate pre-development conditions, as required by the King County Surface Water Design Manual (2016).</p> <p>The proposed ballfield improvements will use permeable synthetic turf, directly below which will be a plastic collection grid system with 95% void space for stormwater runoff. Stormwater from the entire field will flow to detention facilities under the southwest corner of the field and will be discharged directly to the south, outside of Wetland A and its buffer. The plastic collection system will be six inches deep, providing enough depth to keep the turf from accumulating water at the surface. The addition of pathways from the parking area to the ballfield will prevent runoff from the fill slopes and existing vegetated areas between the parking and ballfield from draining as it does in the existing condition. The southern pathway will trap runoff. Additionally, an impermeable plastic liner will be placed between the gravel borrow and free draining rock to ensure that runoff from the turf does not seep into the wetland and flows from the wetland do not seep into the proposed underdrain and detention facility. The area</p>

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			<p>to the north of the ballfield will be collected by trench drains and directed to the existing wetland as a way to ensure proper amounts of runoff are still being directed to the wetland. The area to the west of the ballfield will naturally drain to the south along the bottom of the fill slope and a 12-inch diameter culvert will be installed beneath the walkway to provide discharge for this area.</p> <p>Any new conveyance systems necessary will be designed for a minimum of the 25-year design storm, and all existing conveyance systems that will have additional flow contributing to them will be analyzed for the 10-year design storm to ensure that adequate capacity is still being provided. Additionally, all new or altered conveyance systems will be checked to ensure that no significant flooding or impacts will occur during the 100-year design storm.</p>
10	3	LK: The composition of the materials and an analysis of leachate and impacts to the surrounding wetland and wetland buffers are needed.	<i>See response to Comment 8.</i> Studies show that porous concrete can trap suspended solids and filters pollutants from the water. Concrete generally does not leach once cured. All portions of the concrete which will contact surface water will be fully cured and will therefore not increase PH in the surrounding environment, provided that the contractor covers the concrete for a short period after the initial pour (this BMP was added to the SEPA checklist B.3.d). The City will conduct water quality monitoring during construction to ensure that pH increases do not occur in the downstream waters during concrete pouring and curing.
11	3	JL: We discussed on site the need to connect the ball fields to the trail from Bastyr. This should probably be described here. People use that trail extensively. I don't think I saw that in the plans either. Also we discussed fencing people out of the planted areas. Your variance justification mentions protecting the plantings in perpetuity, which I assume includes using fencing. So that should be incorporated into your description too.	<p>Formalizing a trail between the ballfields and the trail from Bastyr would create additional wetland and buffer impacts. Any need for a constructed trail between the ball fields and the Bastyr campus is not related to the project and will not be included as part of the ballfield renovation project. Instead, the unofficial cut through trail should either be decommissioned so it does not disrupt the mitigation area, or kept informal as determined by State Parks.</p> <p>The existing and enhanced wetland and buffer areas will be fenced and marked with sensitive area signage. This language was added to the checklist (SEPA checklist B.4.d)</p>
12	3	LK: Seed mixes must be approved by State Parks Stewardship staff	Understood; a specification was added to clarify this requirement (Refer to SEPA Checklist Section A.11)
13	4	JL: Our arborist was out at the park last week and has provided us with the language I have inserted here.	The project has been designed to avoid removal of trees to the greatest extent possible. However, the latest tree retention and protection plan (Tree Solutions, 2018), recommends the removal of eleven trees and pruning of four that may pose a future safety hazard to field users. This latest arborist report incorporates State Park standards in determining tree impacts and protection. Recommendations from the report were incorporated into the SEPA

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			<p>checklist (See Section B.4.b) The City understands that the Parks arborist has determined that four trees have hazardous conditions and will require emergency treatment (i.e., pruning or removal) in the near future, regardless of the proposed project. The provided language also describes several other trees in the vicinity at risk of falling or sudden branch drop that may require removal or pruning before the ballfield project is constructed. The language includes a description of an additional two trees that pose no imminent risk, but should be monitored over time.</p> <p>Most of these trees identified by State Parks are also recommended for pruning, removal, or monitoring by the latest arborist report. Three trees, one recommended for monitoring, one for potential removal, and one for pruning, are not given a tree number in the August 8 tree assessment summary email from David Cass (State Parks), and therefore cannot be compared to the list of trees recommended for treatment by the arborist report. However, the checklist already states that “State Parks staff may remove retained trees in the future if they are determined to be hazard trees...”; this language was amended to state that State Parks may also conduct tree pruning to minimize potential branch drop hazards (Refer to Section A.11). The project was designed to avoid removal of trees; however, the City acknowledges that tree removal or pruning may be required in the future to minimize potential risks to park visitors and field users, as is the case under existing conditions.</p> <p>The City acknowledges that some portions of the project footprint (along the west and south sides of the field) will occur within the root zones of several trees. However, International Society of Arboriculture [ISA] certified arborists (Scott Baker and Katherine Taylor with Tree Solutions, Inc.) conducted a tree survey and detailed analysis of the project plans and have concluded that the project would necessitate tree removal only along the southern edge of the field. Furthermore, construction impacts to the trees recommended for removal are expected to be minimal, but due to existing conditions, they may be hazardous to future users of the renovated ballfield. All of the applicable tree impact mitigation measures recommended by Tree Solutions, Inc., as documented in the project’s tree protection plan, will be implemented by the City. A summary of these mitigation measures (such as installation of tree protection fencing and the use of pneumatic excavators within critical root zones), along with an acknowledgement that some project activities will occur within tree root zones, was added to the checklist (Refer to SEPA Checklist B.4.d.).</p> <p>The pervious pathway that was planned to connect the disabled parking stalls to the west side of the ballfield has been removed in order to reduce potential impacts to the critical root zones of the trees within the grove west of the field. In addition, the proposal has been revised to remove the pervious pathway between the parking area and the grove of trees, and to instead use gravel, to minimize impacts to roots. This information is addressed in the</p>

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			Plants section of the SEPA checklist (Section B.4.b).
14	5	AM: If this future shoreline project is not a part of the project, and at such a distance from the proposed work, why is it discussed? Doesn't seem to fit, especially because it is not mitigation for the current project. But maybe I'm just not aware of the reason it is included.	The future shoreline project is not considered mitigation for the proposed ballfield project. References to the future shoreline project have been removed from the checklist.
15	6	LK: Data on the composition of these materials and the plastic grating system are needed with an analysis of their potential ecological impacts to the downstream wetland.	<i>See response to question 8</i>
16	6	LK: What is the capacity of the detention system? Is this sufficient to hold all of the storm water from a winter storm? Data are needed on the natural hydrology of the wetland system and how the engineered system will mimic/support it. The different systems for the east and west sides of the field need to be address separately with details on how detention and discharge will work.	<i>See response to question 9.</i> As described in the report, an analysis of existing flow patterns was performed prior to development of the proposed stormwater system, and natural discharge locations will be maintained (per King County Stormwater Manual requirements). The City acknowledges that post-project stormwater and groundwater flows through the site will not be identical to existing conditions. However, according to the Stormwater Technical Information Report, the system was specifically designed to maintain stormwater flows to the surrounding wetland according to King County and Washington State Department of Ecology standards, including providing adequate flow to the wetland. The City maintains that the proposed project would not result in "significant" (as defined by under WAC 197-11-794) impacts to wetland hydrology.
17	6	LK: The composition of the materials and an analysis of leachate and impacts to the surrounding wetland and wetland buffers including pH are needed.	<i>See response to comment 10</i>
18	6	LK: Fill material will need to be free of all weed seeds.	Understood; a specification was added to clarify this requirement (SEPA Checklist B.1.e.)
19	7	JK: We have construction standards for CRZ protection that we will require be followed. Those standards are attached.	Understood; the updated Tree Retention and Protection Plan (Tree Solutions Inc.; 2018) has incorporated the appropriate CRZ standards into the plan set.
20	7	LK: Seed mixes need to be approved by State Parks Stewardship staff	<i>See response to comment 12</i>

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21	7	ST: Add language stating that any need for staging outside of the ballfield area needs to be coordinated as to location and time with the Park or Area Manager.	Understood; a specification was added to clarify this requirement (SEPA Checklist B.1.h).
22	7	LK: Need to prevent all sediment from reaching the drainage systems along the eastern and western sides of the ball field and directly into the wetland on the southern side. Silt fences are unlikely to be sufficient. All materials used to prevent movement of sediment into these areas need to be completely weed free.	In accordance with the required Construction Stormwater General Permit, a Stormwater Pollution Prevention Plan (SWPPP) will be developed prior to the commencement of construction activities. The plan will describe all the BMPs needed to effectively control site erosion and sediment runoff to downstream resources; this plan will not be limited to the use of silt fences. A specification was added that states that all sediment control devices must be weed free (SEPA Checklist B.1.h). Additionally, as the site is mostly flat and minimal grading will occur near the existing drainage ditches, there is a relatively low likelihood of significant erosion events.
23	7	ST: This should also mention coordinating with park staff to take into account pre-scheduled events, etc.	Agreed. A notation to this effect was added to the Recreation section to clarify this requirement (SEPA Checklist B.12.c).
24	7	LK: Seed mixes need to be approved by State Parks Stewardship staff	<i>See response to comment 12</i>
25	8	ST: This number seems high to me. Is it from official attendance figures?	The CAMP report states a yearly attendance figure of 674,578 people in the Year 2000, and 865,000 in the Year 2007. The 1 million visitors per year current attendance figure was estimated based upon these known attendance figures; a cursory internet search did not locate more up-to-date park attendance information.
26	8	LK: Air quality within the park is the issue since this is within a Biodiversity Area and Corridor. Air quality should only be compared with conditions within the park, not in the surrounding urban area.	The checklist was updated to comment on impacts in the park plus a separate comment on impacts to the surrounding area (SEPA Checklist B.2.a).
27	9	LK: A water quality monitoring plan needs to be developed as part of the check list as well as performance measures and measures to be taken in the event that the performance measures are not met. Ecological standards must be adopted that insure the continued ecological functions, values of the downgradient systems.	The City maintains that the project will not result in a significant impact on water quality (<i>see response to comments 8 and 10</i>). The project has been designed to avoid direct impacts and minimize indirect impacts to the surrounding wetland and nearby stream and is in full compliance with Washington State Department of Ecology standards. However, to ensure that downstream water quality is being protected during construction, the City has agreed to do water quality monitoring. The checklist and supporting Critical Areas Report have been updated to include water quality monitoring during ballfield construction. Samples will be taken in the emergent portion of the wetland, the

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			non-fish bearing portion of the stream, and the adjacent forested wetland. Monitoring will include testing for pH, turbidity, and temperature to ensure that project construction does not affect the water quality of the wetland, stream, or the adjacent forested wetland. A detailed water quality monitoring plan with performance standards and contingency actions will be developed during final project design and prior to construction (SEPA checklist B.3.a.2).
28	12	LK: A detailed explanation is needed of how the design t will successfully maintain wetland conditions in the wetland mitigation area and wetland south of the ball field. Water storage in the reservoirs must be adequate to contain winter rain storms, prevent extreme flooding events and allow future slower release. If water discharge quantity and timing do not mimic pre-project conditions the wetland mitigation may fail and the forested wetland south of the field could be affected.	<i>See response to comment 16.</i> The stormwater system has been designed to mimic pre-project conditions and meet the requirements of local, state and federal law.
29	12	LK: The following need to be address in the interest of full disclosure: The proposed project could potentially cause discharge of waste materials to surface waters. Studies show that toxic materials in the grass fibers of artificial turf may contain lead, aluminum, iron, zinc, titanium, tin, copper, cobalt, nickle, chromium, magnesium and manganese depending on the specific product. Often the quantities of discharged materials meet drinking water standards but not always, particularly as the materials degrade with use. Standards in this case need to be higher since the discharge is into a wetland system with organisms that may be negatively impacted at	1 st paragraph: <i>see response to question 8;</i> 2 nd paragraph: <i>See response to Comment 8 and comment 10 for response regarding pervious concrete and pH; a literature review did not find evidence to suggest that an artificial turf field without crumb rubber infill will affect pH in downstream waters; the project will not have a significant impact on pH of water discharging to the wetland/stream. However, the City will conduct water quality monitoring during construction to ensure that pH increases do not occur in the downstream waters during concrete pouring and curing.</i> 3 rd paragraph: The City acknowledges that artificial turf can heat to temperatures exceeding ambient temperatures and exceeding temperatures of natural turf in similar conditions. However, the temperature extreme noted in the comment is possible on a hot, sunny summer day when the field is in direct sunlight. Reviewed studies conclude that only artificial turf with crumb-rubber infill can heat to temperatures much higher than natural turf fields (See references above response to Comment #8). However, in the climate where the project is located, rain events on hot sunny days are unusual and, water will not be used to cool the field. Additionally, because the field is surrounded by forest habitat, the hours of the day that

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		<p>drinking water standard concentrations. Care must be taken to select products that are non-toxic to ecological systems. It might be possible to design a filtration system to capture metals before discharge.</p> <p>The pH of water discharging from the field and water filtering through the pervious concrete surrounding the field need to be a pH equivalent to the forested wetland system.</p> <p>Additionally, artificial turf ball fields can heat to temperatures that exceed ambient temperatures by 60 degrees Fahrenheit. If water coming off of the field and discharged into the wetlands is warmed it could have detrimental effects on organisms in the wetlands.</p> <p>Any products used to maintain or clean the field need to be non-toxic to ecological systems and captured so they do not enter the wetlands. Bacteria, <i>Staphylococcus aureus</i>, is frequently found living in artificial turf fields. Additionally fecal material from wildlife and pets may need to be cleaned from the field. Sanitizing and cleaning materials should not be discharged into the wetlands.</p> <p>Run off from the paved parking lot to the west of the field is designed to sheet flow down the forested slope between the parking area and west side of the ball field. Sheet flow is likely to</p>	<p>the field would be exposed to direct sunlight are limited. Runoff that comes into contact with the turf will be detained in an underground storage facility, which will slow the flow down and give it a chance to cool before being released. Therefore, water temperature of runoff is not expected to be an issue.</p> <p>4th: No chemicals will be used in cleaning or removing items from the field. The field will be swept with a mechanical sweeper dragged behind a small “gator” utility vehicle. Water will be used to wash off anything not caught in the sweeper (added to SEPA Checklist B.3.c.2). Water will not be used to clean the field during hot sunny days.</p> <p>5th: In its existing condition, the parking lot is compacted gravel, an impervious surface (effectively and as defined by KMC 13.32.340) across which stormwater flows into the forested slope to the east. The project proposes to pave this area, restripe, and extend to the north to add seven total additional parking stalls. The minor expansion of the parking area can be expected to minimally increase runoff entering the forested slope, however, not at a level that will significantly increase erosion of tree roots over existing conditions, or negatively impact tree health through excess of water or waste materials. Any water entering the detention facility will undergo water quality treatment prior to discharge. The permeable pathways will be regularly swept or vacuumed to keep them free of leaves, debris, and sediment. Pressure washing may be necessary to remove moss in some areas. The pathways will be inspected after one major storm each year to make sure they are working properly.</p> <p>6th: <i>see response to comment 27</i> (City agrees to conduct water quality monitoring during construction but not following completion of the project (added to SEPA Checklist B.3.a.2)).</p>

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		<p>cause erosion of the soils on the slope and further expose tree roots. It also will increase water to trees that are adjusted to lower moisture which could impact their health. Waste materials, including hydrocarbons, will move with the flow through the grove of trees potentially affecting the trees. Waste materials from the parking lot, eroded soil from the slope and detritus will be washed into the permeable pathway along the west side of the ball field likely clogging the drainage system. Some materials will likely flow to the detention facility where they will be discharged to the forested wetland to the south of the ball field.</p> <p>A detailed monitoring plan needs to be developed to address the water quality, temperature, pH, quantity and timing potential impacts. Performance measures for ecological systems need to be established and contingency planning if measures are not met.</p>	
30	13	LK: Detailed plans are needed for the storage and discharge of water from the field into the wetlands. How will the water be stored and discharged to mimic natural conditions?	<i>See response to comment 16</i>
31	13	LK: What is the capacity of the detention facility? Does it have the capacity to manage the quantities of water typical of our winters?	<i>See response to comment 16</i>
32	13	LK: Sheet flow from the parking lot through the grove of trees and down to the path along the west side of the ball field is problematic. Sheet flow will erode the ground in the grove of trees,	<i>See response to comment 29</i>

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		further exposing the tree roots and delivering quantities of water that could threaten the health of the trees. Further, without filtration the run off will contain contaminants that could harm the trees. Once run off reaches the permeable path it will carry hydrocarbons, soil, tree needles and debris that will likely clog the drainage system and could be discharged into the forested wetland south of the ball field.	
33	13	LK: A detailed monitoring plan needs to be developed as well as performance measures and contingency plans if measures are not met.	<i>See response to comment 27</i>
34	13	LK: The potential discharge into the downgradient wetland, stream and riparian system from the artificial turf needs to be addressed as do the pH from the porous concrete. The proposed sheet flow from the parking area through the grove of trees and onto the walk way on the west side of the field needs to be address. Additionally sanitizing and cleaning the field need to be addressed. All of these could cause significant waste discharge in the stream and riparian system downgradient of the ball field.	<i>See response to comments 8, 10 and 29</i>
35	13	LK: The proposal could impact water quantity and timing of flow into the downgradient wetland, stream and riparian system s and need to be adequately addressed in the checklist.	<i>See response to comment 16</i>
36	14	LK: Specific information is needed.	<i>See response to comment 22</i>
37	14	LK: Need to address the potential impacts to the down gradient wetland, stream and riparian wetlands of altered water quality, quantity and	<i>See responses to comments 8, 10, 16 and 29: Water quality and quantity</i>

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		<p>timing resulting from the proposed ball field. This includes effects of the artificial turf, porous concrete, sanitizing and cleaning materials, run-off from the parking area.</p> <p>Studies indicate that lighting of the field will affect surrounding upland and wetland vegetation. These need to be addressed in the checklist.</p> <p>Some impacts to trees from the project, including the expanded parking have been identified and need to be addressed in the check list.</p>	<p>Artificial lighting can induce a physiological response in plants and impact their growth. According to the Purdue University Extension Service, night lighting can affect the annual cycles of growth and reproduction of some trees by extending the day length. The effect depends on the type of light source used and the type of tree, among other factors. Incandescent lights and high pressure sodium lights have a high potential to affect the growth of trees because they emit light in the high red and infrared spectrum. Continuous lighting has more effect on tree growth than lights that are turned off late in the evening.</p> <p>It is unlikely that the proposed athletic field lights will affect tree growth in the area. The proposed field lighting will be LED and has been designed to minimize light spill outside of the area of intended illumination, so little light will spill off onto the trees. Additionally, lighting will only be used during the months of March, April, October, and November, only during scheduled game play, and will be turned off by 9 PM at the latest. Security lights on the seminary building illuminate most of the existing ballfield and the forest edge throughout the night, year-round. Therefore, the addition of lighting is expected to have only negligible, if any, impact on surrounding vegetation. This information was added to Section B.4.b.</p> <p><i>See response to comment 13 trees</i></p>
38	15	JL: Suggested language	<i>See response to comment 13</i>
39	15	LK: Tree removal and potential long-term impacts of the project to trees needs to addressed as part of this proposal and not left to Park staff to address later. Our analysis of trees differs from the City's. One tree has been identified as needing to be removed and likely a second. Two trees have been identified as needing monitoring and 3-6 need pruning due to the project. Additionally 8 trees between the parking area and ball field will have their root zones infringed upon to a degree that may require their removal.	<i>See response to comment 13</i>
40	17	LK: Need to address the importance of the area as a Biodiversity Area and Corridor.	<i>See response to question 7.</i> Language addressing the Biodiversity Area and Corridor was added to SEPA Checklist B.5.c.
41	17	LK: Potential impacts of the project on birds needs to be addressed	The City conducted a survey of crepuscular and nocturnal birds in the park and completed a report in August

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			2017 (ESA, 2017). Based on survey observations, the ballfield and surrounding forest edge provide habitat that is used by nocturnal bird species (owls). The majority of the existing ballfield and surrounding forest edge is illuminated 24 hours a day, year-round by security lighting on the seminary building. The project, specifically the lighting, has been designed to minimize potential impacts to nocturnal birds and will not have a significant impact on birds in the park (<i>see response to Comment 2</i>). Added to SEPA checklist B.5.a.
42	17	LK: Potential impacts of the project on mammals needs to be addressed.	The project has been designed to minimize lighting impacts by using lights that reduce spill outside of the ballfield area and by limiting the lighting to during scheduled games only and only during the months of March, April, October, and November, and until 9 PM at the latest (<i>see response to Comment 2</i>). In addition, most of the existing field is illuminated by security lighting from the seminary building, which is on 24 hours a day, year-round. The <i>Review of St. Edward State Park Bat Study Memo</i> concluded that the study will not have significant impacts on bats, including those that are light-intolerant. The project will not have significant impacts on other mammals in the park. Added to SEPA checklist B.5.a.
43	17	LK: Potential impacts to fish within the stream and along the shore of L. Washington need to be addressed.	There is no fish habitat in the project area. Erosion control measures, water quality treatment of stormwater, and maintaining the natural hydrology of the site will minimize impacts to surface waters in the site vicinity. No impacts on fish downstream of the project area are anticipated to occur (added to SEPA checklist B.5.a). The shoreline project is not mitigation for or otherwise part of this project and potential impacts of that project will be assessed separately.
44	17	LK: Need a more complete section on fish use along the Park shoreline of L. Washington	The shoreline restoration is not part of this project and the project will not impact fish in Lake Washington. A section on fish use along the park shoreline of Lake Washington will not be added to this checklist.
45	17	LK: Need to address the potential impacts to amphibians of toxic materials that might be present in the outflow from the ball field.	<i>See response to comment 29.</i> Erosion control measures, water quality monitoring during construction, water quality treatment of stormwater, and maintaining the natural hydrology of the site will minimize impacts to surface waters in the site vicinity. No significant impacts on amphibians are anticipated to occur (added to SEPA checklist B.5.a).
46	18	LK: I would drop this part.	This was included in response to public comments and will be included.
47	18	LK: Need to address the designation of the area as part of a Biodiversity Area and Corridor and how this project might impact its functions and values. Need to address the regional significance and impacts of the potential project. Also need to address the ball field area as a potential corridor between the southern and northern drainages.	A brief description of the WDFW-mapped Biodiversity and Corridor was added to SEPA Checklist 5.c.. However, the City maintains that the proposed project will not significantly impact the mapped Biodiversity Area and Corridor, and that conversion of the existing mowed grass ballfield (which a review of scientific literature indicates is poor-quality wildlife habitat) will not result in significant impacts to wildlife habitat (<i>see response to comment 7</i>). Additionally, the proposed project would not significantly impede wildlife passage through the area. Construction of the project will not impact the WDFW-identified wildlife corridor adjacent to the existing ballfield (added to SEPA Checklist B.5.c).

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48	18	LK: I didn't observe any nest or feeding boxes in the area. Could you please document their locations, species that use them and the amount of use?	Nest/feeding boxes were observed in the ballfield vicinity in 2007. Since that time, they may have been rotted away and/or been removed. References to nest/feeding boxes in the checklist were removed.
49	19	LK: The wetland was logged in the past, primarily removing cedars.	A reference to historic logging activities was added (SEPA Checklist B.5.d).
50	19	LK: Need to document the habitat values of the field and how they might be impacted by the project. That needs to then be used to address potential impacts to the park and region as a whole.	<i>See response to comment 7.</i>
51	19	LK: This is an unsubstantiated statement. Need to give data on the habitat values of the grass turf and compare those with the artificial turf.	Deleted this statement from the checklist.
52	20	ST: Organisms similar to those at this site?	This study only researched fields with a crumb rubber infill. Since crumb rubber infill is not proposed, the reference to this study was removed.
53	20	ST: This seems like an area that needs elaboration. No toxicity at all? Or below certain thresholds, etc.? If minute traces were found of anything, has there been any study of the cumulative effects over time?	This study only researched fields with a crumb rubber infill. Since crumb rubber infill is not proposed, the reference to this study was removed.
54	23	LK: The area is designated a Biodiversity Area and Corridor in the Washington State Department of Fish and Wildlife PHS.	Biodiversity Areas and Corridors are not designated critical areas within the City (see Kenmore Municipal Code Section 18.55.500).
55	24	LK: Need to address how this proposal fits with the designation of a Biodiversity Area and Corridor.	<i>See response to comment 7.</i>
56	26	LK: Need to address the potential impacts of artificial lighting on ecological systems and their component species. This includes detailing the potential impacts.	This question refers to human impacts (safety hazards/views) of light and glare, not ecological impacts.

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57	27	LK: This is subjective, I would recommend you consider rewording. The proposal will alter how the area is being currently used and intentionally managed by state parks.	Sentence will be re-worded to state that scheduled use of the field will increase, but that the project will not necessarily preclude existing recreational uses.
58	27	LK: This impact needs to be addressed under question 14 as well	This point was moved to question 14.
59	27	ST: Maybe this should be changed to "minimal" impact? It will certainly have an impact (games played at times when that area of the park is traditionally not used in an organized way. Impact to the recreational events listed above that may not have an alternative parking area and be unable to continue etc.	Revised sentence to say that significant impacts are not anticipated.
60	28	JL: This needs to be discussed and clarified in the lease. It was not my understanding that it would be Parks' responsibility to mitigate this impact.	This statement was revised (SEPA checklist B.12.c) and specifics will be clarified in the lease.
61	28	AM: This section needs revision. The ballfields are within a National Register listed historic district, and there are a number of contributing elements to the district. It is definitely worth mentioning the two other historic properties in the area that are not part of the district.	The checklist was revised to clarify that the ballfields are within a listed historic district and to note the other two historic properties in the vicinity (SEPA checklist B.13)
62	29	ST: This reference to the proposed storm water detention facility needs some additional detail to make it clear.	Updated checklist for clarity (SEPA Checklist B.13.a)
63	29	AM: The shift to synthetic turf will change the character of physical features on the site, this needs to be acknowledged. The proposal will also introduce elements that diminish the integrity of the overall site.	Revised to acknowledge that the synthetic turf will change the character of the field, but a variety of measures are proposed to minimize and mitigate this impact and to ensure that it does not diminish the integrity of the field as a cultural feature (SEPA Checklist B.13.a).
64	29	AM: Still not sure why an unrelated shoreline project is in here.	Deleted this section on the shoreline project.

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65	31	JL: I think you're having some page numbering issues.	Corrected page numbering issues.
66	32	ST: Did the tree study or an arborist comment on what effect paving this area might have on those trees?	Yes, the arborist report (Tree Solutions, 2018) states that construction of the previous paths falls within or very near to the critical root zones of several trees. The report describes a variety of mitigation measures to minimize impacts to individual trees, and states that work within and near tree protection zones should be done in the presence of qualified arborist.
67	33	ST: Adding parking "as needed" seems problematic in many ways: overall design, ability to actually do construction, cumulative impacts etc.	Deleted "as needed" language.
68	33	JL: To avoid piecemealing this review we need to understand where these stalls will be constructed in the park and any potential impacts that will result from their construction. There also needs to be acknowledgement of the potential loss of overflow parking as no overflow parking alternative has been identified. I also think we should include Sound Engineering's projected parking need for the parking resulting from population growth within the park during the length of the lease (44 stalls), even though these stalls are not being proposed to be constructed.	Sound Engineering's project parking need was added to the checklist (SEPA Checklist B.14.c). The location of the 19 parking stalls recommended as part of the project is included in the checklist. 19 additional parking stalls are recommended to be installed in the future when an increase in general visitors to the park exceeds parking availability; these are not part of this project. The City will agree (refer to the City Manager's 11/2/17 letter) to a lease condition (to be written) that the City would construct 19 additional stalls at a future date.
69	34	JL: See above comment, we need more than a reference to a future solution for this impact if we do intend to mitigate it.	This statement was revised (SEPA Checklist B.14.h). The City of Kenmore will provide alternative parking for City events needing overflow parking (such as shuttling from a Park and Ride), and will work with State Parks to develop a plan for any other event needing overflow parking, as proposed in the lease language.