

## INTRODUCTION TO KING COUNTY COMMENT RESPONSES TO THE WATERSHED COMPANY (TWC) ENVIRONMENTAL PEER REVIEW REPORT, DATED MARCH 2017

Pursuant to the City's requirements, King County is providing specific responses to the March 2017 TWC report. The County's responses track TWC's field observations and recommendations, starting at page 5 of the report. King County's responses explain the basis for retaining prior designations or indicate where changes are being made. In addition to those specific responses, King County would like to provide some overview context that inform the discrepancies noted by TWC in its review.

TWC's field visits occurred in February 2017 and, as noted by TWC, this was a period of near-record high precipitation. Precipitation at SeaTac International Airport in February 2017 was 8.85 inches, which is 5.35 inches (253%) more than the long-term monthly average of 3.50 inches (NOAA National Climate Center). In fact, 7.84 inches of rain from Feb. 1 -16, and 2.13 inches were recorded at SeaTac on February 15 and 16. These dates correspond to the TWC review period. Given the record rainfall, observations that reflect abnormal surface water flow or expanded wetland boundaries are not surprising. The timing, rationale and methodology used by Parametrix for wetland delineation were described in the CAS and is reiterated in the accompanying responses where necessary to address specific TWC comments.

Also, TWC made several comments regarding wetlands identified and flagged in trailside ditches. TWC questions whether some wetlands (15D, 15E, 21D, 22B, 22CD, 22AB, 24C, 28A, 28D) should be identified as jurisdictional ditches and not wetlands. With respect to these specific wetlands, if the ditches were vegetated with hydrophytes, water was present, and saturated or inundated soils were present, then it was delineated as a wetland. Hydric soils that were present in the bottom of the trailside ditches often extended upslope into adjacent wetlands. In some cases hydric soils occurred on both sides of the ditches. In other cases soils were confined to the bottom of ditches where sediment accumulated over time. These soils were saturated for long periods of time and supported wetland plants. Thus, they were delineated as wetlands.

In response to TWC's comments, Jeff Meyer, Parametrix senior wetland biologist, reviewed the wetlands and ditches in question on May 12, 2017. On May 11, 0.47 inches of rain was recorded at SEATAC. In general, most of the ditches still contained water. However, in several cases water was stagnate and now flowing. Designated streams were still flowing strongly.

Some of the ditches observed by TWC had been maintained by King County in late summer 2016. In general, maintenance activities removed some, and in other cases all, of the hydric soils in the trailside ditches, and in some wetlands. During the TWC review some wetland ditch bottoms were gravels and did not exhibit dark soils in the bottoms. Because it was still winter in an abnormally cold winter, little vegetation growth was likely evident in the ditches. In addition, with the heavy rainfall, ditches and wetlands were conveying or discharging water, and acting as streams in January and in February. At the time of Jeff Meyer's review, many of the maintained ditches had begun to revegetate with wetland plants. By the end of the 2017 growing season, it is expected that the previously delineated wetlands should have dense vegetation in the ditch bottoms. Sediment will accumulate over time if not disturbed.

Changes in designations deemed appropriate by Parametrix are indicated in the attached response matrix, and are included in a Revised Critical Areas Study, dated July 2017.

FINAL

**ENVIRONMENTAL PEER REVIEW REPORT**

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East Lake Sammamish Trail Segment B

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**Exhibit 54  
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# **ENVIRONMENTAL PEER REVIEW REPORT**

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## **EAST LAKE SAMMAMISH TRAIL SEGMENT B**

# **1 EXECUTIVE SUMMARY**

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The Watershed Company conducted an environmental peer review of King County's East Lake Sammamish Trail Segment B project to inform City planning staff as they process the County's permit application. Some documentation gaps and discrepancies in the submitted reports were identified in our review. A few discrepancies in critical area boundaries and classifications were also identified.

The main elements to be addressed are project concurrence with the FEIS conclusions, critical area designation discrepancies, and compliance with the City's Critical Areas Ordinance and shoreline regulations -in place at the time of adoption of the 2011 SMP O2011-308. Specific recommendations are provided in Section 5 of this report.

The information contained in this letter or report is based on the application of technical guidelines currently accepted as the best available science. All discussions, conclusions and recommendations reflect the best professional judgment of the author(s) and are based upon information available to us at the time the study was conducted. All work was completed within the constraints of budget, scope, and timing.

# **2 PROJECT OVERVIEW**

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The Watershed Company was contracted by the City of Sammamish Department of Community Development to conduct an environmental peer review of the King County East Lake Sammamish Trail Segment B shoreline substantial development permit application. This review scope is limited to stream, wetland, and wildlife habitat critical areas within the 3.5 mile length of Trail Segment B (see Figure 1). The provided reports were reviewed for completeness and accuracy. Proposed impacts and mitigation were reviewed for consistency with the Final Environmental Impact Statement (FEIS) conclusions and compliance with the City's critical area and shoreline regulations. The FEIS was issued in 2010 and the project is vested to the City's Critical Areas Ordinance and shoreline regulations in place at the time of adoption of the 2011 SMP O2011-308, which are the most recent regulations at the time the project was deemed

complete by the City of Sammamish. The Critical Areas Study was updated and issued in 2016.

King County’s Segment B of the East Lake Sammamish Trail project proposes to convert the existing eight to ten-foot wide interim trail (former railroad bed) to a paved 12-foot wide trail with two-foot shoulders and one-foot clear zones, for a total width of 18-ft. The proposed trail improvements will incur permanent and temporary impacts to wetlands, streams, associated buffers, and shoreline setbacks. On-site mitigation is proposed to compensate for critical area impacts. Additionally, the project will replace eight existing culverts on six Type F streams with box culverts to comply with State and Federal requirements to provide adequate fish passage. Per King County, Trail Segment B is scheduled for construction in 2018.

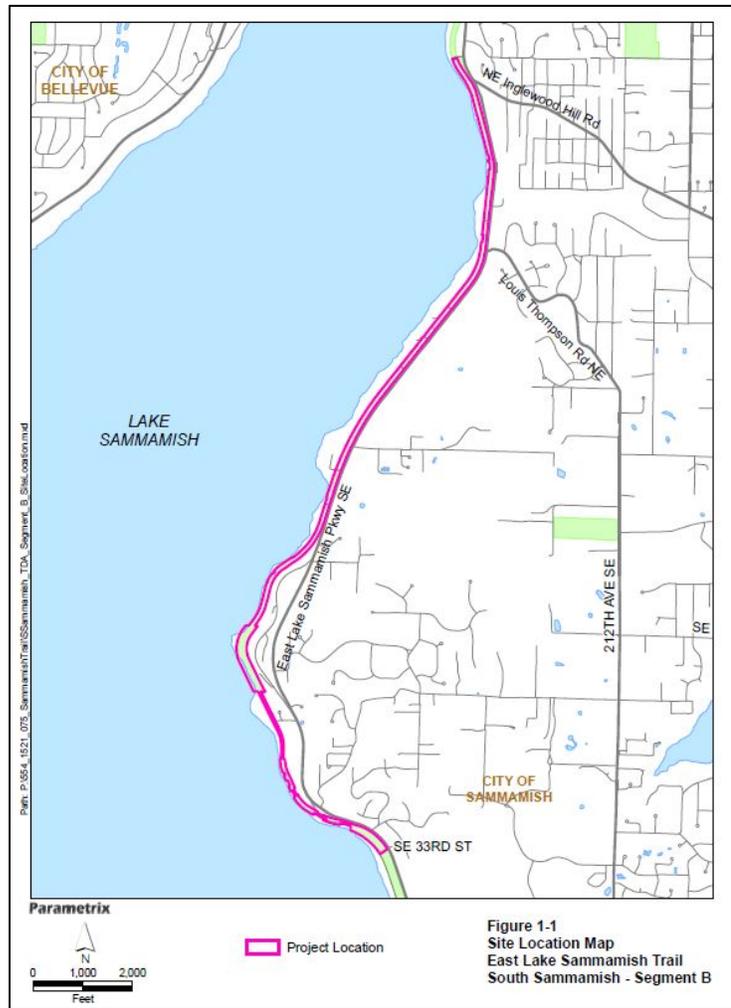


Figure 1. Excerpt from the submitted Critical Areas Study (Parametrix 2016). Trail Segment B (project location) extends from SE 33<sup>rd</sup> Street north to Kokomo Drive, approximately 3.5 miles in length.

**Exhibit 54**  
**SSDP2016-00415**  
**005519**

# 3 METHODS

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## 3.1 Reports Reviewed

The following reports were submitted by the applicant for this review.

- *Critical Areas Study, East Lake Sammamish Master Plan Trail, South Sammamish Segment B.* (Parametrix October 2016)
- *East Lake Sammamish Master Plan Trail, South Sammamish Segment B, SE 33<sup>rd</sup> Street to Inglewood Hill Road, King County, Washington. Plan Set - Preliminary 60% Review Submittal, Not for Construction. 135 Sheets. (60% ELST Plan Set)*(Parametrix, September 2016)
- *NEPA/SEPA Final Environmental Impact Statement Volumes I, II and III, East Lake Sammamish Master Plan Trail.* (Parametrix, Environ Corp., Paragon Research Associates, ESA Adolfson, HWA GeoSciences, Inc. April 2010)

## 3.2 Wetlands

Ecologists from The Watershed Company walked the interim trail on several dates in February 2017 to review marked boundaries and wetland classifications reported by Parametrix. Privately used portions of the study area were reviewed to the extent feasible from the interim trail or through on-site investigation in cases where access permission was granted by property owners along the trail.

The study area was evaluated for wetlands using methodology from the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0* (Regional Supplement) (US Army Corps of Engineers [Corps] May 2010). Wetland boundaries were reviewed on the basis of an examination of vegetation, soils, and hydrology, as feasible given access restrictions. Areas exhibiting wetland characteristics, and documented as meeting the criteria set forth in the Regional Supplement were determined to be wetland.

The field review was conducted in February 2017 during a period of near-record high precipitation. Due to the fieldwork timing, some of the inundation observed was characterized as occasional and may not be indicative of wetland hydrology.

Identified wetlands within the study area were classified using the *Washington State Wetland Rating System for Western Washington, Version 2* (Publication #04-06-025) (Rating System). Wetland rating reviews are based on the wetland area that could be visually observed in the field along with reviews of aerial imagery.

### **3.3 Streams**

Mapped streams were reviewed by Ecologists and a Senior Fisheries Biologist from The Watershed Company on multiple dates in February 2017.

The ordinary high water mark (OHWM) of surveyed streams were reviewed based on the definitions provided in City code (SMC 21A.15.825), the Washington Department of Fish and Wildlife, and Washington Administrative Code (WAC) 20-16-031 and Revised Code of Washington (RCW) 90.58.030. The OHWM is located by examining the bed and bank physical characteristics and vegetation to ascertain the water elevation for mean annual floods. Areas meeting the definition were determined to be the OHWM. Field observations were used to review provided stream classifications according to City of Sammamish Code.

### **3.4 Wildlife Habitat**

Publicly available sensitive areas and habitat documentation for the study area were reviewed for this report. Sources include aerial photographs and publicly-available online data including Priority Habitat and Species (PHS) data from WDFW.

Staff Ecologists and a Wildlife Biologist screened the study area on multiple dates in February 2017. Vegetative structure and composition, special habitat features, presence of wildlife species and sign, and human disturbance were assessed.

## **4 FINDINGS**

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### **4.1 Existing Conditions**

The provided Critical Areas Study (CAS) (Parametrix 2016) is a generally accurate portrayal of existing conditions within the project area. 37 wetlands and 18 streams were identified in the vicinity of Trail Segment B. A summary of field observations that warrant further review by the applicant is provided in Table 1 below. Field observations are organized by station number.

Table 1. Field observations that warrant further review by the applicant and recommendations.

Feature	Approximate Station	Field observations that differ from reported conditions
Potential wetland, not mapped*	291	Wet area at toe of slope under western red cedar, shallow sheet flow observed in private park to west on 2/17/17, above average precipitation. <b>Recommendation: Review and, if necessary delineate, flag and classify the area meeting wetland parameters.</b>
Stream 5	317	Stream 5 flows observed entering site via culvert near Station 324, north of extent mapped by Parametrix. Scour and sediment sorting in ditch. <b>Recommendation: Review and update Stream 5 mapping.</b>
Jurisdictional Ditch 11A	319-321	Observed flow direction differs from map (sheets EX5, EX6), flow splits directions near Station 324, waddle present. <b>Recommendation: Review and relabel Jurisdictional Ditch 11A relative to extent of Stream 5. Correct flow direction arrows on EX sheets.</b>
Wetland 15D	321-325	Mapped wetland overlaps with observed extent of Stream 5; wetland confined to ditch. <b>Recommendation: Review Wetland 15D relative to jurisdictional ditch criteria; update extent relative to Stream 5 comments above. Update maps accordingly.</b>
Wetland 15E	312-325	Wetland confined to ditch with no indications ditch was cut in historic feature. <b>Recommendation: Review Wetland 15E relative to jurisdictional ditch criteria; update maps accordingly.</b>
Wetland 18C	331	Inundation observed between Stations 329 and 333 -beyond and continuous with the surveyed wetland area. No access to neighboring properties. <b>Recommendation: Screen properties north and south of Wetland 18C within the project area for wetland conditions. Provide additional data, update maps accordingly.</b>
Wetland 21D	359-358	Steady flow observed in open pipe that empties to ditch, scour and sediment sorting observed in ditch (within Wetland 21D) parallel to trail. <b>Recommendation: Review ditched portion of Wetland 21D for stream characteristics.</b>
Wetland 22AB	361-367	Southern end of flagged Wetland 22B confined to ditch. <b>Recommendation: Review and update the boundary of Wetland 22B to distinguish jurisdictional ditch from wetland area.</b>
Wetland 22CD	368-370	South end of wetland confined to ditch. <b>Recommendation: Review and update the boundary of Wetland 22CD to distinguish jurisdictional ditch from wetland area.</b>

Feature	Approximate Station	Field observations that differ from reported conditions
Wetland 22E	365-366	Wetland conditions confined to ditch; however, likely historic wetland given proximity to Wetland 22AB. <b>Recommendations: Review and document jurisdictional ditch analysis.</b>
Wetland 24C	386-390	North end of wetland confined to ditch. <b>Recommendation: Review and update the boundary of Wetland 24C to distinguish jurisdictional ditch from wetland area.</b>
Potential wetland, not mapped*	409	Shallow inundation observed in lawn area, adjacent to southeast corner of parcel 3225069265. <b>Recommendation: Screen area, record a data point, update mapping as warranted.</b>
Jurisdictional ditch, not mapped*	438-439	Culvert on south side of driveway #22 drains to a ditch with wetland characteristics (see DP-1), drains to Jurisdictional Ditch 17. <b>Recommendation: Review ditch, update mapping accordingly.</b>
Wetland 28A	449-450	North end of wetland mapped within ditch, gravel/soil mix observed in that area. <b>Recommendations: Check north end of wetland delineation relative to King County ditch maintenance activities. Update documentation accordingly.</b>
Wetland 28D	453	Wetland confined to ditch. <b>Recommendation: Review Wetland 28D relative to jurisdictional ditch criteria; update maps accordingly.</b>

\* Feature not mapped or addressed in the submitted CAR.

## 4.1.1 Critical Area Designations

### Wetlands

#### Wetland Boundaries

Wetland boundaries were marked by Parametrix in most locations with orange survey flags and match observed wetland conditions. Inundation observed at three locations may be indicative of wetland area not captured by the wetland delineation survey. Potential wetlands areas were observed near Stations 291, 331 (Wetland 18C), and 409; these areas are described in Table X above.

The report does not include a discussion outlining the methodology used to differentiate between jurisdictional ditches versus jurisdictional wetlands. In some cases, jurisdictional ditches are indistinguishable from delineated wetlands.

Wetlands 15D, 15E, and 28D are confined exclusively to excavated ditches with no indication of historic wetland conditions. Additionally, the delineated

boundary of some wetlands, such as Wetlands 22AB, 22CD and 24C, include ditched areas that are not continuous with broader wetland area. A rationale for

Comment 5 | the reported and mapped determinations, wetland or jurisdictional ditch, should be provided for consistent and accurate application of regulations.

Comment 6 | As depicted on the existing conditions plan set, several wetland boundaries include constructed stairs. The stair areas do not meet wetland criteria and should be excluded from the wetland areas on the drawings and in impact calculations.

### **Streams**

Comment 7 | We generally concur with mapped stream presence, location, and, extent in the project area. Some stream channel sections are only marginally distinguishable from stormwater conveyance channels. In general, the CAS does not provide a rationale for categorization of ditch versus stream. We have applied our best professional judgment in most of these cases, but ask that further investigation be undertaken to provide confirmation for Streams 5 and 6, as itemized

Comment 8 | immediately below.

Comment 9 | Stream 5 is mapped as extending upstream, northward along the east side of the trail within JD Ditch 11A from a trail crossing near Station 317+00 to end near Station 318+70. However, based on our field observations, Stream 5 should be shown extending considerably farther northward, upstream along the east side of the trail to near Station 324+00. Flow in the ditch is continuous with Stream 5 along the east side of the trail to that location, where flow enters the trail corridor from the east via a 12-18-inch corrugated metal pipe (CMP) perched 3 or 4 feet up a steep bank. The east side ditch at that location (Station 324+00) is at a high point along the ditch profile, so, without intervention, water could flow either to the north or to the south. However, water has been largely prevented from flowing northward by the recent placement of an obstruction in the ditch consisting of wooden stakes, gravel, and two lifts of straw wattle, though a minor amount of seepage still does flow to the north. This diversion structure may have been placed because the ditch to the north eventually is constricted by a small-diameter pipe (less than one-foot diameter) with little flow capacity.

Comment 10 | Water in a defined channel flows to the southwest along the east side of the trail from approx. Sta 359+00 towards the mapped Stream 6 crossing at approximately Station 357+00. However, no stream is shown as mapped along that alignment. Scour and sorting of channel substrate was observed in the channel parallel to the trail. We recommend that this area be further investigated to determine if a stream channel segment should be mapped there. If not found to be a stream, the rationale used should be provided.

### **Shoreline**

#### Shoreline Setback

Comment 11 | As detailed in the Critical Areas Study (Parametrix 2016), the OHWM of Lake Sammamish is outside of the trail corridor and was therefore, approximated. Trail Segment B passes through portions of the Shoreline Residential environment designation and this approximation shows that the majority of the trail is outside of the required 50-foot lakeshore setback. Shoreline setback impacts, which are proposed toward the south end of the project area, are calculated from this approximation.

### Shoreline Regulations

Comment 12 | The existing conditions plan (EX- sheets) and the landscape plan (LA sheets) included in the Critical Areas Study both indicate the approximate extent of the 200-foot shoreline jurisdiction line (however, this line is incorrectly labeled as a buffer). Streams and wetlands within 200-feet of the shoreline are regulated under the Shoreline Master Program (SMC Title 25), including its 'no net loss' provisions. These shoreline features are not fully addressed in the provided Critical Areas Study. See further discussion in Section 4.2.3 below.

### Wildlife Habitat

Wildlife habitat and species use of the study area appears to be consistent with the Critical Areas Study and FEIS conditions reported. The bald eagle nest located east of Station 383+00 was visible and intact. No bald eagles were observed at the nest or nest tree, however adults were observed in the general vicinity of the nest on two occasions in February 2017.

Comment 13 | Pileated woodpeckers are discussed in the FEIS and not in the Critical Areas Study; the presumption being that they do not have a known "primary association" with habitat in the study area. Three individuals were observed foraging in the northern half of the trail segment on February 20, 2017. In addition, snags in and adjacent to the study area showed evidence of use by pileated woodpeckers. WDFW recommends management within use areas (home ranges) of pileated woodpeckers. Based on field observations, we conclude that the project area should be managed for pileated woodpecker habitat. Management recommendations include snag, large woody debris, and forest patch retention.

Comment 14 | The study area corridor provides habitat for many other resident and migratory birds protected under the Migratory Bird Treaty Act. Those protections typically include timing restrictions and noise limitations.

## 4.1.2 Stream & Wetland Classifications

### Stream Typing

The qualitative stream assessment Parametrix applied to classify streams in the project area is appropriate for the trail project and we generally concur with the reported classifications.

Comment 15

The stream summary table in the Critical Areas Study (Table 3-3) confuses stream classification with fish use, which are related, but not the same. There are separate columns for stream classification and fish use; however, fish use is also given under the classification column. The entire stream classification column needs to be reviewed and revised so that it is consistent with the stream typing criteria in the Sammamish SMC.

### Wetland Ratings

Parametrix used the 2004 Ecology rating system, which is acceptable in Sammamish per the Code to which this project is vested. Some scoring inconsistencies were identified in our review of the wetland rating forms. For example, the hydrologic functions multiplier was applied to some wetlands and not others despite the common landscape context. A few wetlands were under-scored given proximity to priority habitats, most commonly “riparian” and “instream.” Some of the contributing basin estimates appeared to be high or inconsistent; no figures were provided with the rating forms to clarify the basin estimates. However, only five out of the 37 wetland ratings require further review to resolve substantive scoring differences. Wetland rating forms for Wetlands 18C, 22E, 25F, 26C and 28E need to be reviewed and revised as noted in the table below.

Comment 16

Table 2. Summary of wetland ratings that require applicant review.

Wetland Name	Parametrix wetland rating (Category)	The Watershed Co. wetland rating (Category)
18C	III	II
22E	IV	III
25F	IV	III
26C	IV	III
28E	IV	III

Comment 17

Additionally, Wetlands 22E and 28D are less than 1/10<sup>th</sup> of an acre in size. Since the wetland rating system was calibrated using larger wetlands, the very small wetlands discussion in the guidance (Ecology Publication 04-06-025) should be reviewed for applicability to those two wetland ratings.

## 4.2 Mitigation Approach

### 4.2.1 Avoidance

The provided Critical Areas Study details critical area impacts the proposed trail improvements will incur, and characterizes those impacts as unavoidable. A brief summary of proposed impacts is provided in Table 3 below.

Table 3. Critical Areas Impact Summary (source: Parametrix 2016).

Critical Area	Impact Type	Impact Area
Wetlands	permanent	0.22 acre
	temporary	0.59 acre
Wetland buffers	permanent	1.48 acres
	temporary	2.37 acres
Streams	net gain of 60 lineal feet	24 lineal feet
Stream buffers	permanent	0.20 acre
	temporary	0.35 acre
Shoreline setback	permanent	0.09 acre
	temporary	0.17 acre
FWHCA	temporary	not quantified*
CARA	none	n/a

\* Trail within 660 feet of bald eagle nest near Pine Lake Creek, located southeast of the intersection of SE 8th Street and East Lake Sammamish Pkwy SE.

Comment 18

The proposed trail alignment shifts east and west of the existing interim trail to avoid critical area impacts where feasible when applying the designed 18-foot trail width. However, the proposed trail design does not consider other avoidance measures, such as alternate trail designs that incorporate boardwalks, narrowing or “necking down” the trail where it crosses the critical area. Past regional trail projects have employed those avoidance measures. Further avoidance analysis is needed to demonstrate why additional avoidance measures, such as boardwalk and narrower trail segments, are not utilized in the proposed design.

### 4.2.2 Minimization

Comment 19

The 18-foot wide trail design King County chose for Segment B is the narrowest of the options considered through their master plan and FEIS process. The proposed plan utilizes retaining walls to minimize impacts. In total, retaining walls are proposed along approximately 1.5 miles of the 3.5 mile trail segment. Fencing, both chain link and split-rail, and signage are proposed. Timing restrictions and commonly employed best management practices (BMPs) are also listed minimization measures for the project. As noted above, narrowing or “necking down” the trail where it crosses critical areas is another way to

Comment 19 minimize impacts to critical areas and their buffers. This potential minimization (continued) tactic is not addressed in the submitted CAR.

### 4.2.3 Mitigation Planning

Comment 20 | The proposed mitigation plan is detailed in the CAR and the 60% ELST Plan Set. It is comprised of the existing conditions plan (60% ELST Plan Set, sheets EX1-EX21), critical area impacts (CAR Appendix D, Figures 1-22), and the landscape plan (CAR Appendix E, sheets LA1-LA23), and eight proposed fish passage culvert replacements (60% ELST Plan Set, sheets FP1-FP8). The critical area impacts figures hatch each impact type, with one notable exception. All wetland impacts are hatched as, 'Temp. Wetland Impact.' Permanent wetland impacts are summarized in the Critical Areas Study report (Section 4.1.1), but are not identified or labeled on the impact figures.

The proposed mitigation plan seeks to off-set all critical area impacts summarized in Table 3 above with on-site mitigation, within the linear trail corridor. Content-based comments on the proposed mitigation plan are tied to City Code requirements and FEIS findings and recommendations. Therefore, those comments are provided in the corresponding subsections below.

#### Review for concurrence with FEIS recommendations

Comment 21 | The submitted Critical Areas Study does not include a section that specifically addresses FEIS recommendations, including mitigation commitments and potential additional measures.

The proposed mitigation approach presented in the Critical Areas Study does not adequately address all of the FEIS statements and conclusions. For example:

Comment 22 |

- Section 3.3.3 – Wetlands, Affected Environment of the FEIS describes wetland buffers in the project area as, "...too narrow to effectively protect the wetland from adjacent high-impacts land uses." No discussion of how the proposed mitigation, within a long linear corridor, addresses this issue is provided. For example, wetland creation area near Station 368 (Wetland 22CD) would have little or no buffer between its new boundaries and the new trail or East Lake Sammamish Parkway.

Comment 23a |

- Section 3.3.7 – Wetlands, Mitigation Measures
  - Stated strategies to avoid and minimize wetland impacts include, "evaluating options to bridge sensitive areas to reduce fill." No discussion of alternative design options, such as boardwalks, is provided.

Comment 23b |

- Reducing trail widths is recommended to avoid and minimize critical area impacts. The proposed mitigation utilizes retaining walls in place of fill slopes to reduce impacts, but no discussion of alternate trail width designs is provided.

- Comment 23c
  - Mitigation banking is discussed in detail in the FEIS, but is not mentioned or considered in the Critical Areas Study. Specifically, the trail project is reported to be within the service area of the King County Mitigation Reserves Program (MRP), an in-lieu fee (ILF) mitigation program, with an ILF site near the headwaters of Laughing Jacobs Creek. Other MRP sites have been developed since the FEIS was issued. Listed benefits of the ILF include higher success rate, higher ecological functions relative to onsite mitigation, and landscape-scale benefits. Another banking alternative, the Keller Farm, is anticipated to be approved soon and should have a service area that covers this segment of Lake Sammamish.
- Comment 24
  - Section 3.4 – Vegetation and Wildlife, states that bald eagle nests in the project vicinity will be screened by planting native conifers between nest sites and the trail. This detail needs to be more clearly addressed in the provided Landscape Plan.

The FEIS, Appendix A: Environmental Commitments, states mitigation commitments and potential additional measures. Fisheries mitigation commitments and additional measures include mitigating for riparian buffer impacts, onsite and offsite potentially. Wetland mitigation commitments include continuing avoidance and minimization design analysis. Potential additional measures to help minimize wetland and vegetation impacts includes exploring mitigation banking options for unavoidable wetland and buffer impacts. Again, mitigation banking is not mentioned in the Critical Areas Study. Mitigation commitments for wildlife include consultation with the U.S. Fish and Wildlife Service regarding bald eagle protection measures. The Critical Areas Study references bald eagle guidelines, but does not document the required consultation. Mitigation commitments and potential additional measures for fisheries, wetlands and vegetation, and wildlife, are not clearly addressed in the Critical Areas Study.

## Review for City Code Compliance

### Critical Areas Ordinance

Comment 28 | When impacts to critical areas are proposed, applicants must first demonstrate impact avoidance pursuant to SMC 21A.50.135. The trail design is presented as the narrowest option, but further analysis or supporting justifications are not provided. Impact avoidance must be demonstrated.

Mitigation plans are required to include a supporting review of best available science and an analysis of the likelihood of success (SMC 21A.50.145). In our experience, small disjointed mitigation sites are less successful than larger

Comment 29 | connected areas because they are difficult to irrigate, weed/maintain and track during monitoring. The mitigation sequencing section of the CAS does not provide an adequate discussion of how the proposed mitigation will maintain critical area functions and values.

Comment 30 | Mitigation for unavoidable impacts must be in-kind and in the same sub-basin pursuant to SMC 21A.50.150 and SMC 21A.50.310. SMC 21A.50.310, states that off-site mitigation may be used if it has a “greater likelihood of providing equal or improved wetland functions than the impacted wetland.” The code does allow for mitigation banking pursuant to SMC 21A.50.315.

Comment 31 | Pursuant to SMC 21A.50.290(4), enhanced or replaced wetland area is required to have an adequate buffer. Adequate buffers are not proposed for wetland creation and enhancement areas in this constrained linear corridor.

Comment 32 | Consistent with best available science practices, as included in the wetland buffer averaging criteria, buffer addition areas should be continuous with the wetland being buffered. Some of the proposed buffer addition areas, such as those in the vicinity of Wetland 18C, are not continuous with the wetland itself.

Comment 33 | Further documentation is necessary to demonstrate compliance with the stream mitigation standards in SMC 21A.50.350, which requires a demonstration that equivalent or greater functions be realized by the project.

### Shoreline Regulations

A concept central to the City of Sammamish Shoreline Master Program (SMP) (2011) is “no net loss.” The City’s SMP elaborates on the concept of no net loss in SMC 25.02.010(58):

(58) No Net Loss. The concept of “no net loss” as used herein, recognizes that any development has potential or actual, short-term or long-term impacts and that through application of appropriate development standards and employment of mitigation measures in accordance with the mitigation sequence, those impacts will be addressed in a manner necessary to assure that the end result will not diminish the shoreline resources and values as they currently exist. Where uses or development that impact ecological functions are necessary to achieve other objectives of RCW 90.58.020, master program provisions shall, to the greatest extent feasible, protect existing ecological functions and avoid new impacts to habitat and ecological functions before implementing other measures designed to achieve no net loss of ecological functions.

The Critical Areas Study acknowledges the applicability of the no net loss concept in Section 5.3.3. In this context, the CAS indicates that a 1:1 mitigation

Comment 34

ratio for impacts to the shoreline setback is proposed by applying enhancement at a 1:1 ratio. However, overall the CAS lacks detail concerning how the project would result in no net loss of shoreline ecological functions. The CAS should include an assessment of the impact that the project will have on existing ecological functions present within shoreline jurisdiction, as well as justification for how proposed mitigation can result in no net loss of those functions.

Comment 35

The above definition of no net loss states that “uses and development ... shall, to the greatest extent feasible, protect existing ecological functions and avoid new impacts to habitat and ecological functions before implementing other measures designed to achieve no net loss of ecological functions.” Similarly, SMC 25.06.020(1) provides the required sequencing of mitigation measures, with avoidance and minimization of impacts the first two measures in the sequence, respectively. Although the CAS generally discusses impact avoidance and minimization measures for the project as a whole in Section 5.1 (page 5-1), the document provides limited detail concerning how the project avoids and minimizes impacts on shoreline ecological functions. For example, in Section 4.3 (page 4-8), the CAS states that “some permanent and temporary impacts on the outermost portion of the 50-foot shoreline setback are unavoidable (see Appendix D)”; however, no evidence has been provided for why these impacts are unavoidable, or what specific minimization measures were employed. Absent this information, the project’s compliance with SMC 25.06.020(1) cannot be verified.

Comment 36

Additionally, the CAS does not articulate how no net loss of shoreline ecological functions is achieved for other areas within shoreline jurisdiction, but outside of the shoreline setback, that provide shoreline ecological functions. Such areas include shoreline critical areas including streams and wetlands located outside of the shoreline setback. Such areas also include several shoreline-associated wetlands that extend beyond the typical shoreline jurisdiction of 200 feet from the OHWM. In the CAS, impacts to such shoreline areas are addressed together with critical areas of the same type located outside of shoreline jurisdiction. While the CAS identifies how impacts to streams and wetlands will be mitigated for the project as a whole, the CAS does not demonstrate how the proposed mitigation for such features located in shoreline jurisdiction would result in no net loss of shoreline ecological functions.

Comment 37

### **Culvert Replacements / Fish Passage**

The eight proposed culvert replacements appear to be compliant with fish passage design requirements. One discrepancy was noted in the description of Pine Lake Creek (CAS Section 4.2.1). The proposed post-construction length of the Pine Lake Creek open channel is described in text as increasing 9-feet in length, but the footnote for summary Table 4-2 states an additional 15-feet. This discrepancy needs to be clarified or corrected.

#### 4.2.4 Wildlife Habitat and Corridor Connections

The proposed trail improvements are located in an urban residential environment near the eastern shore of Lake Sammamish. Habitat corridor connections are truncated by the existing interim trail (former railway) in addition to numerous arterial roads, access driveways, parking, ornamental landscaping, fences, residences and other buildings, and private lakeshore amenities. Still, vegetated patches provide valued habitat for wildlife.

The proposed mitigation seeks to “increase fish and wildlife habitat and improve biological diversity by planting with a variety of native wetland and buffer plant species and installing habitat features (habitat logs and brush piles)” (Parametrix 2016). Habitat logs, brush piles, and habitat rock piles are included in the mitigation planting details (sheet LA22). However, it is not clear where these habitat features will be placed or what quantities will be installed. Additionally, snag creation is not incorporated into the landscape plan and is recommended to provide additional wildlife habitat features.

Comment 38

Comment 39

Comment 40

Regarding bald eagle protections, the provided landscape plan does not clearly indicate that conifers will be concentrated in the adjacent enhancement areas located near Stations 367 – 379. Additional in-fill conifer planting may also be warranted in Wetland 24A (Stations 379-385) to adequately screen the nest near SE 8<sup>th</sup> Street.

Comment 41

Many common local birds are federally protected under the Migratory Bird Treaty Act (MBTA) which prohibits the take of any migratory bird, nest, and/or egg without a permit. Minimization and mitigation measures, such as construction timing restrictions, to reduce impacts to migratory birds should be considered in the mitigation plan.

## 5 RECOMMENDATIONS

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As submitted, the CAS does not address all the required criteria. The following study elements require revision to comply with City Code and align with FEIS conclusions.

### 5.1 Critical Area Designations & Classifications

- Review and address the field observations and associated recommendations in Table 1.
- Update the CAS to include jurisdictional ditch methodology and findings.
- Review and report on the wetland rating category discrepancies identified in Table 2.

- Review the ratings of Wetlands 22E and 28D with respect to the very small wetlands guidance (Ecology Publication 04-06-025).
- Review Stream 12 for potential typing (currently piped).
- Add pileated woodpecker to the Fish and Wildlife Habitat Conservation Areas sections of the CAS.

## 5.2 FEIS Review

- Update the CAS to include a summary of mitigation commitments and potential additional measures for fisheries, wetlands and vegetation, and wildlife.
- Provide a response to each mitigation commitment and potential additional measure to show how it is addressed in the proposed impacts and mitigation planning.

## 5.3 Mitigation Approach

- Update the CAS for consistency with FEIS conclusions.
- Update the mitigation sequencing section of the CAS with a more thorough avoidance, minimization, and compensatory mitigation analysis that is reflective of FEIS conclusions.
  - Avoidance: The submittal needs to address design strategies not covered in the CAR, specifically the use of boardwalk and narrower trail segments.
  - Minimization: Additional minimization should be considered, such as “necking-down” or narrowing trail segments.
  - Compensatory Mitigation: The submittal needs to address offsite compensatory mitigation options, such as the King County Mitigation Reserves Program, in the CAR. As concluded in the FEIS (Volume I, Section 3.3.7), mitigation banking would yield greater ecological value for this linear project. Mitigation is proposed at 21 sites along the 3.5 mile trail segment. Review and revise or support the proposed mitigation design. Include rationale for why mitigation banking or use of the King County MRP are not appropriate. Provide a detailed assessment documenting how the proposed mitigation will maintain critical area functions and values.
- Review and revise proposed buffer addition areas for consistency with City Code. Buffer addition areas must be continuous with a wetland or stream.
- Permanent wetland impacts need to be distinguished from temporary wetland impacts on the critical area impact figures plan set. Currently, this is unclear.

- Bald eagle nest protections require USFWS consultation and more detailed mitigation planning.
- The mitigation plan notes (sheet LA23) do not match the CAS report text. This must be updated accordingly.
- Performance Standard recommendations (Section 5.4.2):
  - Wetlands: 1) A plant species diversity standard for trees, shrubs, and groundcover is recommended. 2) The survival, (diversity), and cover standards should indicate whether native volunteers are counted.
  - Streams: 1) Habitat elements need to be quantified and mapped on the landscape plan or as-built to facilitate quantitative monitoring. 2) Provide an explanation for limiting performance monitoring for this standard to only three years as written.
  - Buffers/Setbacks: A plant species diversity standard for trees, shrubs, and groundcover is recommended.
  - Invasive Species: 1) Provide a justification for the proposed 20 percent invasive plant cover standard; typically a 10 percent standard is applied on most City projects. 2) Recommend making an allowance for higher cover in existing reed canarygrass monocultures as long as plant driplines are maintained.
  - Wildlife Habitat: 1) Issue a standard to ensure conifer trees are established between the trail and the bald eagle nest near SE 8<sup>th</sup> Street. 2) Set a quantifiable standard for habitat features.
- Provide a more detailed description of the contingency measures the County will implement if wetland creation and/or other proposed mitigation areas are unsuccessful.

## 5.4 Shoreline Regulations

- To better demonstrate consistency with the City's SMP, the CAS should include more specific information about how impacts on shoreline ecological functions are avoided and minimized.
- The CAS should articulate how no net loss of shoreline ecological functions is achieved for other areas within shoreline jurisdiction, but outside of the shoreline setback, that provide shoreline ecological functions. To assist with this, all features contributing to shoreline ecological functions in the project area should be identified. Depictions of project critical area impacts should include a line indicating the landward extent of shoreline jurisdiction. Project impacts to features that may affect shoreline ecological functions should be identified on impact maps.
- The CAS should address how the proposed mitigation for impacts to shoreline features will ensure no net loss of shoreline ecological functions.

East Lake Sammamish Trail Segment 2B SSDP2016-00415

Responses to Comments in letter from TWC to the City of Sammamish, dated March 22, 2017

Comment Number	Watershed Comment text or summary	King County Response
Table 1	Field observations that warrant further review by applicant and recommendations	Table 1 has been annotated to include a response column. It is attached to this section for review.
Comment 1:	Potential wetlands areas were observed near Stations 291, 331 (Wetland 18C), and 409; these areas are described in Table [1] above. <u>These areas may be indicative of wetlands not captured by the wetland delineation study.</u>	On May 12, 2017, a Parametrix biologist field reviewed the findings of TWC and there was no water and no wetland signatures. Accordingly, no boundary changes will be made to the 2014 delineations in these areas. Ponding observed by TWC was likely from the intensive rainfall recorded in first 16 days of February (7.84 inches). Moreover, 2.13" of rain fell the two days before this TWC observation.
Comment 2:	In some cases, jurisdictional ditches are indistinguishable from delineated wetlands.	"Jurisdictional ditches" are not regulated by the City CAO or the SMA. Hence they were not specifically described in the Critical Areas Study (CAS). The ditches shown in the plan set were included so that plan sets would be consistent for other regulatory agencies. For the purpose of CAS review, the important determination is whether or not the resource is a regulated critical area, such as a stream. Conveyance channels and flow arrows are shown on the plan set attached to the Revised CAS, but for clarity, jurisdictional ditch labels have been removed from the plan set. Also see specific responses below.
Comment 3:	Wetlands 15D, 15E, and 28D are confined exclusively to excavated ditches with no indication of historic wetland conditions.	Although Wetlands 15D, 15E, and 28D received maintenance activities in 2016, they have revegetated with facultative-wetland and/or obligate wetland plants and are inundated or saturated throughout the spring at least. Their wetland designation has been retained.
Comment 4:	The delineated boundary of some wetlands, such as Wetlands 22AB, 22CD and 24C, include ditched areas that are not continuous with broader wetland area.	These wetlands developed in a channelized setting. They have been maintained from time to time, most recently in 2016. They have revegetated with wetlands plants in 2017. No change is proposed to their status.
Comment 5:	A rationale for the reported and mapped determinations, wetland or jurisdictional ditch, should be provided for consistent and accurate application of regulations	The rationale and methods used for wetland delineation were described in the CAS. In many cases if the ditches were vegetated with hydrophytes, water was present, and saturated or inundated soils were present, then it was delineated as a wetland. "Jurisdictional ditches" are not regulated by the City CAO or SMA.
Comment 6:	As depicted on the existing conditions plan set, several wetland boundaries include constructed stairs. The stair areas do not meet wetland criteria and should be excluded from the wetland areas on the drawings and in impact calculations.	In the Existing Conditions design drawings stairs are shown over wetland hatching. The stairs were not included in wetland area calculations. Impact figures (1-22) which were presented in Appendix D, CAS do show individual stairs, but they are not included in the wetland boundaries. Stairs were excluded from the impact calculations.
Comment 7:	In general, the CAS does not provide a rationale for categorization of ditch versus stream.	The methodology for identifying streams was described on p. 2-4 of the CAS. Streams meeting the definition of streams under City of Sammamish Code were reported in the Critical Areas Study but conveyance channels or ditches were not, because they are not regulated by the City CAO or SMA. For clarity, jurisdictional ditch labels have been removed from the plan set attached to the Revised CAS.
Comment 8:	We have applied our best professional judgment in most of these cases, but ask that further investigation be undertaken to provide confirmation for Streams 5 and 6, as itemized below.	A Parametrix biologist reviewed the mapping of Streams 5 and 6. See responses 9 and 10 below.
Comment 9:	Stream 5 is mapped as extending upstream, northward along the east side of the trail within JD Ditch 11A from a trail crossing near Station 317+00 to end near Station 318+70. However, based on our field observations, Stream 5 should be shown extending considerably farther northward, upstream along the east side of the trail to near Station 324+00. Flow in the ditch is continuous with Stream 5 along the east side of the trail to that location, where flow enters the trail corridor from the east via a 12-18-inch corrugated metal pipe (CMP) perched 3 or 4 feet up a steep bank. The east side ditch at that location (Station 324+00) is at a high point along the ditch profile, so, without intervention, water could flow either to the north or to the south. However, water has been largely prevented from flowing northward by the recent placement of an obstruction in the ditch consisting of wooden stakes, gravel, and two lifts of straw wattle, though a minor amount of seepage still does flow to the north. This diversion structure may have been placed because the ditch to the north eventually is constricted by a small-diameter pipe (less than one-foot diameter) with little flow capacity.	The area in question is fairly flat. Culverts at Stations 320+30 (47.55'), 320+60 (47.59'), and 324+90 (47.54') indicate this profile. Maintenance activities in the area could have changed the flow direction in this area. In general, the Parametrix biologist agrees with the TWC assessment about water flow in this area. The flow direction arrows in these areas will be changed on the plan set.  This flow passes through Wetlands 15D and 15BC. Both of which were disturbed during 2016 maintenance activities. However, observations in May 12, 2017 noted extensive revegetation in these wetlands. These areas will remain designated as wetlands. No change to the extent of Stream 5 is proposed.
Comment 10:	Water in a defined channel flows to the southwest along the east side of the trail from approx. STA 359+00 towards the mapped Stream 6 crossing at approximately Station 357+00. However, no stream is shown as mapped along that alignment. Scour and sorting of channel substrate was observed in the channel parallel to the trail. We recommend that this area be further investigated to determine if a stream channel segment should be mapped there. If not found to be a stream, the rationale used should be provided.	Details for the water flow patterns between STA 357+00 – 360+00 are shown on Figures 10-11, Appendix D of the CAS. The water is conveyed through a series of PVC culverts and an open maintained channel in Wetland 21D (a wetland lawn) before comingling with Stream #6 on the downhill side of the trail. Here the stream discharges through Wetland 21AC before flowing to the lake. A small reach of this stream was not labeled on Figure 10. The labeling will be added.
Comment 11:	[T]he OHWM of Lake Sammamish is outside of the trail corridor and was therefore, approximated. ... Shoreline setback impacts, which are proposed toward the south end of the project area, are calculated from this approximation.	The King County 2010 open water geographic information system (GIS) data were used to determine OHWM and the shoreline setback area (P.2-7, CAS).
Comment 12:	The existing conditions plan (EX- sheets) and the landscape plan (LA sheets) included in the Critical Areas Study both indicate the approximate extent of the 200-foot shoreline jurisdiction line (however, this line is incorrectly labeled as a buffer). These shoreline features are not fully addressed in the provided Critical Areas Study. See further discussion in Section 4.2.3 below.	"Shoreline Buffer" was changed to "Shoreline Zone" on the maps. Please refer to Responses 34 and 35 below regarding shoreline features.

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005535

Comment Number	Watershed Comment text or summary	King County Response
Comment 13:	Pileated woodpeckers are discussed in the FEIS and not in the Critical Areas Study; the presumption being that they do not have a known "primary association" with habitat in the study area. Three individuals were observed foraging in the northern half of the trail segment on February 20, 2017. In addition, snags in and adjacent to the study area showed evidence of use by pileated woodpeckers. WDFW recommends management within use areas (home ranges) of pileated woodpeckers. Based on field observations, we conclude that the project area should be managed for pileated woodpecker habitat. Management recommendations include snag, large woody debris, and forest patch retention.	The CAS did not address pileated woodpeckers because the City of Sammamish does not establish Fish and Wildlife Habitat Conservation Areas (FWHCAs) for that species. According to SMC 21A.15.468, FWHCAs are established for state- or federally designated endangered, threatened, or sensitive species; the pileated woodpecker has no federal listing status and is a candidate for listing at the state level. Although the City code (SMC 21A.15.468) does not establish FWHCAs for pileated woodpeckers, the City has directed the County to add pileated woodpecker to the FWCA sections of the CAS and to protect pileated woodpecker habitat. These changes have been included in the Revised CAS.
Comment 14:	The study area corridor provides habitat for many other resident and migratory birds protected under the Migratory Bird Treaty Act. Those protections typically include timing restrictions and noise limitations.	The CAS did not address migratory birds because the City of Sammamish does not establish FWHCAs for migratory birds. However, the County will develop measures to comply with applicable federal regulations, including MBTA (which is administered by USFWS), and these will be incorporated in the 90-percent plans or specifications.
	The qualitative stream assessment Parametrix applied to classify streams in the project area is appropriate for the trail project and we generally concur with the reported classifications.	Comment noted.
Comment 15:	The stream summary table in the Critical Areas Study (Table 3-3) confuses stream classification with fish use, which are related, but not the same. There are separate columns for stream classification and fish use; however, fish use is also given under the classification column. The entire stream classification column needs to be reviewed and revised so that it is consistent with the stream typing criteria in the Sammamish SMC.	The presentation of stream classifications in Table 3-3 have been revised to provide the requested clarification.
	Parametrix used the 2004 Ecology rating system, which is acceptable in Sammamish per the Code to which this project is vested.	Comment noted.
Comment 16:	Some scoring inconsistencies were identified in our review of the wetland rating forms. For example, the hydrologic functions multiplier was applied to some wetlands and not others despite the common landscape context. A few wetlands were underscored given proximity to priority habitats, most commonly "riparian" and "instream." Some of the contributing basin estimates appeared to be high or inconsistent; no figures were provided with the rating forms to clarify the basin estimates. However, only five out of the 37 wetland ratings require further review to resolve substantive scoring differences. Wetland rating forms for Wetlands 18C, 22E, 25F, 26C and 28E need to be reviewed and revised as noted in the table below.	Wetland rating forms for Wetlands 18C, 22E, 25F, 26C and 28E were reviewed. The ratings for Wetlands 25F and 28E were changed from Category IV to Category III, while the categories for the other wetlands were not changed.
Comment 17:	Wetlands 22E and 28D are less than 1/10th of an acre in size. Since the wetland rating system was calibrated using larger wetlands, the very small wetlands discussion in the guidance (Ecology Publication 04-06-025) should be reviewed for applicability to those two wetland ratings.	The very small wetland discussion presented on pp 21-22 in Hruby 2004 applies to wetlands less than 0.10 acre. In the project area 22 wetlands are less than 0.10 acre. Wetlands 22E and 28D are less than 0.01 acre. In the referenced discussion, it states that the rating method was not tested for wetlands below 0.10 acre. It further states that water quality and hydrologic functions are independent of size, because the potential is rated on a per unit area or volume basis. For wildlife functions, the method was accurate to 0.10 acre and Ecology did not produce specific questions less than this area. Thus, the rating of Wetlands 22E and 28D using Hruby 2004 would not change just because of their small size.
Comment 18:	The proposed trail alignment shifts east and west of the existing interim trail to avoid critical area impacts where feasible when applying the designed 18-foot trail width. However, the proposed trail design does not consider other avoidance measures, such as alternate trail designs that incorporate boardwalks, narrowing or "necking down" the trail where it crosses the critical area. Past regional trail projects have employed those avoidance measures. Further avoidance analysis is needed to demonstrate why additional avoidance measures, such as boardwalk and narrower trail segments, are not utilized in the proposed design.	Please refer to the response provided for City of Sammamish Department of Community Development comments in Tab 1, the Mitigation Sequencing Compliance Narrative in Tab 6, the Trail Demand Analyses in Tab 7, and the Trail Width Analysis in Tab 8.
Comment 19:	The 18-foot wide trail design King County chose for Segment B is the narrowest of the options considered through their master plan and FEIS process. The proposed plan utilizes retaining walls to minimize impacts. In total, retaining walls are proposed along approximately 1.5 miles of the 3.5 mile trail segment. Fencing, both chain link and split-rail, and signage are proposed. Timing restrictions and commonly employed best management practices (BMPs) are also listed minimization measures for the project. As noted above, narrowing or "necking down" the trail where it crosses critical areas is another way to minimize impacts to critical areas and their buffers. This potential minimization tactic is not addressed in the submitted CAR.	Please refer to the response provided for City of Sammamish Department of Community Development comments in Tab 1, the Mitigation Sequencing Compliance Narrative in Tab 6, the Trail Demand Analyses in Tab 7, and the Trail Width Analysis in Tab 8.

Comment Number	Watershed Comment text or summary	King County Response
Comment 20:	The proposed mitigation plan is detailed in the CAR and the 60-percent ELST Plan Set. It is comprised of the existing conditions plan (60-percent ELST Plan Set, sheets EX1-EX21), critical area impacts (CAR Appendix D, Figures 1-22), and the landscape plan (CAR Appendix E, sheets LA1-LA23), and eight proposed fish passage culvert replacements (60-percent ELST Plan Set, sheets FP1-FP8). The critical area impacts figures hatch each impact type, with one notable exception. All wetland impacts are hatched as, 'Temp. Wetland Impact.' Permanent wetland impacts are summarized in the Critical Areas Study report (Section 4.1.1), but are not identified or labeled on the impact figures.	Permanent wetland impacts are shown on the impact figures, but the legend box for "Perm. Wetland Impact" was missing. The legend has been corrected in the map set attached to the Revised CAS.
Comment 21:	The submitted Critical Areas Study does not include a section that specifically addresses FEIS recommendations, including mitigation commitments and potential additional measures.	The CAS addresses environmentally critical areas, as required in Sammamish Municipal Code (SMC) 21A.50.120, as well as the mitigation requirements for environmentally critical areas.
Comment 22:	Section 3.3.3 – Wetlands, Affected Environment of the FEIS describes wetland buffers in the project area as, "...too narrow to effectively protect the wetland from adjacent high-impacts land uses." No discussion of how the proposed mitigation, within a long linear corridor, addresses this issue is provided.	Please refer to the Mitigation Sequencing Compliance Narrative in Tab 6 for a discussion of how the proposed approach has evolved through project development.
Comment 23a:	o Stated strategies to avoid and minimize wetland impacts include, "evaluating options to bridge sensitive areas to reduce fill." No discussion of alternative design options, such as boardwalks, is provided.	Please refer to the Mitigation Sequencing Compliance Narrative in Tab 6.
Comment 23b:	o Reducing trail widths is recommended to avoid and minimize critical area impacts. The proposed mitigation utilizes retaining walls in place of fill slopes to reduce impacts, but no discussion of alternate trail width designs is provided.	Please refer to the Mitigation Sequencing Compliance Narrative in Tab 6.
Comment 23c:	o Mitigation banking is discussed in detail in the FEIS, but is not mentioned or considered in the Critical Areas Study. Specifically, the trail project is reported to be within the service area of the King County Mitigation Reserves Program (MRP), an in-lieu fee (ILF) mitigation program, with an ILF site near the headwaters of Laughing Jacobs Creek. Other MRP sites have been developed since the FEIS was issued. Listed benefits of the ILF include higher success rate, higher ecological functions relative to onsite mitigation, and landscape-scale benefits. Another banking alternative, the Keller Farm, is anticipated to be approved soon and should have a service area that covers this segment of Lake Sammamish.	Please refer to the Mitigation Sequencing Compliance Narrative in Tab 6 for a discussion of how the proposed approach has evolved through project development.
Comment 24:	Section 3.4 – Vegetation and Wildlife, states that bald eagle nests in the project vicinity will be screened by planting native conifers between nest sites and the trail. This detail needs to be more clearly addressed in the provided Landscape Plan.	Conifers will be added to nearby wetland mitigation and buffer enhancement areas. The number and mitigation unit to be planted with conifers with emphasis on Station areas 367-385 will be included in the 90-percent design landscape plans. Please note that, since the submittal of the CAS, in December 2016, the Washington Fish and Wildlife Commission removed the bald eagle from the list of state sensitive species (WAC 232-12-011). As a result, bald eagles are no longer among the species for which FWHCAs are established in the City of Sammamish, per SMC 21A.15.468. However, the discussion of bald eagle has been retained in the Revised CAS.
Comment 25:	mitigation banking is not mentioned in the Critical Areas Study.	Please refer to the Mitigation Sequencing Compliance Narrative in Tab 6 for the history of compensatory mitigation and proposed changes based on City comments. The Revised CAS also reflects these changes.
Comment 26:	The Critical Areas Study references bald eagle guidelines, but does not document the required consultation.	In December 2016, after the Draft CAS was completed, the USFWS established new rules and procedures for obtaining permits for the incidental take of bald eagles due to disturbance near nest sites. The County will review the permit requirements and apply for a permit and consult with USFWS if necessary. Also in December 2016, the Washington Fish and Wildlife Commission removed the bald eagle from the list of state sensitive species (WAC 232-12-011). As a result, bald eagles are no longer among the species for which FWHCAs are established in the City of Sammamish, per SMC 21A.15.468.
Comment 27:	Mitigation commitments and potential additional measures for fisheries, wetlands and vegetation, and wildlife, are not clearly addressed in the Critical Areas Study.	The Draft and Revised CAS provide discussion of mitigation, including avoidance and minimization, as well as compensatory mitigation, in compliance with the requirements of the City's critical areas ordinance. No "additional" measures are proposed.
Comment 28:	The trail design is presented as the narrowest option, but further analysis or supporting justifications are not provided.	Please refer to the documents provided in Tab 6, Tab 7, and Tab 8.

Comment Number	Watershed Comment text or summary	King County Response
Comment 28a:	Mitigation plans are required to include a supporting review of best available science and an analysis of the likelihood of success (SMC 21A.50.145). In our experience, small disjointed mitigation sites are less successful than larger connected areas because they are difficult to irrigate, weed/maintain and track during monitoring.	<p><b>Compliance with BAS review requirements</b></p> <p>The City's current Environmental Critical Areas regulations are based on best available science (BAS). By complying with those regulations, the proposed mitigation plan in the CAS for the ELST project is consistent with BAS.</p> <p>Ordinance O2016-410 (ECA Amendments to SMP, Amendments to SMC Title 21A.50), approved by the Sammamish City Council on June 7, 2016, determined that the City's Environmental Critical Areas regulations, as amended, "were developed through a review of the BAS literature" and "provide protection for critical areas consistent with BAS," and that the City had followed requirements established in the Growth Management Act for "including and considering BAS in modification of the regulations for critical areas." The mitigation requirements incorporated into the City's Environmental Critical Areas regulations are thus supported by best available science, as required under SMC 21A.50.145(4). By complying with those requirements, the CAS is consistent with BAS.</p> <p>The CAS complies with the impact avoidance, minimization, and mitigation requirements in the City's Environmental Critical Areas regulations by following the mitigation sequencing approach established in SMC 21A.50.135 and SMC 25.06.020. King County employed a rigorous approach to avoiding and minimizing impacts to critical areas in a manner consistent with the purpose, effectiveness, engineering feasibility, safety, and cost of the project. A detailed description and history of avoidance and minimization measures is provided in a separate section of the King County Shoreline Comment Response notebook (Mitigation Sequencing Compliance Narrative – Tab 6).</p> <p>Consistent with the requirements of SMC 21A.50.135 and SMC 21A.50.310, King County is proposing to complete compensatory mitigation for critical areas impacts at a total of 18 sites in the South Sammamish Segment B corridor (Revised CAS Table 5-1; Appendix E). The proposed mitigation will include a minimum of 0.22 acre of wetland creation/restoration credits at an off-site mitigation bank, 0.65 acre of wetland enhancement, 1.53 acres of wetland buffer addition, 0.75 acre of wetland buffer enhancement, and 0.24 acre of stream buffer enhancement. An additional 0.09 acre of shoreline setback enhancement will occur at four separate sites. The proposed mitigation equals or exceeds City critical areas mitigation requirements. A detailed description of the proposed mitigation is presented in Section 5.3 of Revised CAS, dated July 2017. By meeting or exceeding the impact mitigation ratios in SMC 21A.50.310, the project is consistent with the BAS approach for ensuring no net loss of ecological functions and values.</p> <p><b>Likelihood of success</b></p> <p>King County Parks has a formal maintenance program for all its trail projects. The program is directed at maintaining the trail corridors for recreational and aesthetic uses but it also includes many mitigation projects. The County understands that regular maintenance is necessary to achieve its mitigation commitments in public trail corridors. In conjunction with the 90-percent trail design, the County will develop a segment-specific update to the ELST Vegetation Management Plan and submit the document with the design plans to the City as part of the grading permit application package.</p> <p>King County has successfully managed a number of sites, including Redmond segment of the ELST, Marymoor Connector, and Snoqualmie Valley Trail (SVT)—Tolt River Bridge mitigation sites to achieve mitigation goals and standards.</p>
Comment 29:	The mitigation sequencing section of the CAS does not provide an adequate discussion of how the proposed mitigation will maintain critical area functions and values.	The CAS describes mitigation for project impacts in compliance with critical areas regulations. Avoidance and minimization was described - and is further explained in response 18 above. In addition, mitigation ratios established by the City are being met or exceeded for critical areas impacts. For example, proposed wetland enhancement ratios and acreage are twice that required by the City. Please refer to attached Avoidance and Minimization Narrative.
Comment 30:	SMC 21A.50.310, states that off-site mitigation may be used if it has a "greater likelihood of providing equal or improved wetland functions than the impacted wetland." The code does allow for mitigation banking pursuant to SMC 21A.50.315.	Please see the Mitigation Sequencing Compliance Narrative in Tab 6 for a discussion of how the proposed approach has evolved through project development.
Comment 31:	Adequate buffers are not proposed for wetland creation and enhancement areas in this constrained linear corridor.	The existing buffers are below the minimum standard buffers for Category III and IV wetlands. Accordingly, wetland creation credits will be obtained from an approved mitigation bank. However, wetlands can only be enhanced in their current location. To achieve the goal of providing mitigation in the trail corridor (on-site) the wetlands will be enhanced in situ to to mitigate for loss of wetland function on site.
Comment 32:	Buffer addition areas should be continuous with the wetland being buffered. Some of the proposed buffer addition areas, such as those in the vicinity of Wetland 18C, are not continuous with the wetland itself.	Designated buffer addition areas (WBA) (including near wetlands 18C and 25B) are proposed to achieve no net loss of regulated buffer area. Two areas north and south of 18C provide buffer habitat not available around the wetland buffer of 18C. Buffer addition area 18C is only 10 feet from the buffer of 18C. They are separated by a elevated wooden bridge, but habitat is continuous at ground level. Another block of WBA further north of WL 18 C will be removed as mitigation and from the landscape plans since it is currently landscaping and lawn. WBA on Sheet LA14 at Sta. 399 will be continuous to the buffer of wetland 25B after the driveway #6 is removed. WBA at Sta. 391 (LA14) has been removed. In order to achieve a 1:1 ratio of buffer mitigation, an additional 9518 SF of high quality forested buffer would be added between STA 465+70 to 468+00. These changes are shown on the revised landscape plans of the Revised CAS, Appendix E.

Comment Number	Watershed Comment text or summary	King County Response
Comment 33:	Further documentation is necessary to demonstrate compliance with the stream mitigation standards in SMC 21A.50.350, which requires a demonstration that equivalent or greater functions be realized by the project.	<p>Mitigation of impacts to streams will comply with the standards established in SMC 21A.50.350 in the following ways.</p> <p>As required by SMC 21A.50.350(1), mitigation for alterations to stream channels will achieve equivalent or greater ecological functions. As described in Sections 4.2.1 and 5.3.2 of the CAS, the replacement of culverts on six Type F streams will result in a gain of 93 linear feet (681 square feet) of stream channel, offsetting the loss of 24 linear feet (114 square feet) of stream channel habitat due to culvert extensions. The existing long, narrow culverts will be replaced with shorter, wider culverts that meet fish passage standards, improving connectivity as well as hydrologic functions within the affected streams. In addition to daylighting the stream channel (i.e., removing it from the confines of a culvert) at the locations of the culvert replacements, the project will improve habitat complexity by placing gravel and rounded cobble substrates in the newly exposed channels and within the replacement culverts.</p> <p>Mitigation for alterations to stream buffers will also achieve equivalent or greater ecological functions. As described in Section 4.2.2 of the CAS, most of the stream buffer area affected by the project consists of narrow swathes immediately adjacent to the Interim Use Trail and dominated by invasive species and landscape plantings. Minimal effects on stream buffer functions are anticipated. As described in Section 5.3.1 of the CAS, mitigation for alterations to stream buffers will include removing invasive vegetation, lawn, landscaped yard, and structures; tilling and amending soil; adding mulch; planting native vegetation, including trees and shrubs; and adding habitat features such as logs and brush piles. As such, the ecological functions of the mitigation areas are expected to exceed those of the affected areas.</p> <p>As required by SMC 21A.50.350(2) mitigation actions will be in-kind and, where reasonable opportunities exist, conducted within the same sub-basin and on the same site as the alteration. The previous two paragraphs demonstrate that mitigation for alterations to streams and stream buffers will be in-kind. In all cases, reasonable opportunities for on-site buffer mitigation were not available. However, consistent with SMC 21A.50.350(2)(c), all mitigation for alterations to streams and stream buffers will take place within the City limits and within the same drainage sub-basins as the affected areas. Two of the affected streams (Unnamed Stream 7 and Unnamed Stream 8[SF]) are in the Monohon sub-basin, as are two of the culvert replacement sites (Stream 0155 and Zackuse Creek). The third affected stream (Unnamed Stream 13) is in the same sub-basin (Panhandle) as another culvert replacement site. Similarly, mitigation for alterations to stream buffers will take place at the same location (e.g., Unnamed Stream 7), in the same sub-basin (e.g., Monohon), or in a neighboring sub-basin.</p>
Comment 34:	The CAS should include an assessment of the impact that the project will have on existing ecological functions present within shoreline jurisdiction, as well as justification for how proposed mitigation can result in no net loss of those functions.	<p>The CAS demonstrates the project's compliance with the requirements of the City's Environmental Critical Areas regulations. It is neither required nor intended to address all ecological functions of the shoreline environment; rather, the focus of the CAS is on critical areas. As stated in Sammamish Municipal Code (SMC) Section 21A.25.01, "The SMA [Shoreline Management Act] guidelines require that an SMP [Shoreline Master Program] result in "no net loss" of shoreline ecological functions. This SMP accomplishes that requirement through its goals, policies, and regulations noted above providing restoration program and enhancement incentives to offset the cumulative impacts of new shoreline uses and developments over time." " By complying with the City's development regulations, the East Lake Sammamish Trail will result in no net loss of shoreline ecological functions.</p> <p>To further demonstrate the project's compliance with the no-net-loss provisions of the City's SMP, we have completed additional analysis of shoreline ecological functions. In brief, the project will avoid impacts to most ecological functions in the shoreline jurisdiction, and will mitigate for unavoidable impacts. See the accompanying narrative (Tab 9) demonstrating the project has No Net Loss Of Shoreline Ecological Functions.</p>
Comment 35:	[N]o evidence has been provided for why these impacts [in the shoreline jurisdiction] are unavoidable, or what specific minimization measures were employed.	The CAS complies with City critical areas regulations. It is not intended to address all specific shoreline functions only critical areas. Please refer to the attached Avoidance and Minimization Narrative.
Comment 36:	While the CAS identifies how impacts to streams and wetlands will be mitigated for the project as a whole, the CAS does not demonstrate how the proposed mitigation for such features located in shoreline jurisdiction would result in no net loss of shoreline ecological functions.	The CAS complies with City critical areas regulations. It is not intended to address all specific shoreline functions only critical areas. See response to Comment 34. Figures depicting impacts to critical areas have been more clearly marked to show the line indicating the landward extent of the 200 foot shoreline jurisdiction zone.
Comment 37:	The proposed post-construction length of the Pine Lake Creek open channel is described in text as increasing 9-feet in length, but the footnote for summary Table 4-2 states an additional 15-feet. This discrepancy needs to be clarified or corrected.	There are two culverts that will be replaced at this location. The net gain of open channel will be 22 linear feet or 202 square feet. The text and Table 4-2 have been revised.
Comment 38:	Habitat logs, brush piles, and habitat rock piles are included in the mitigation planting details (sheet LA22). However, it is not clear where these habitat features will be placed or what quantities will be installed	The number and location of habitat features will be included in the 90-percent design landscape plans.
Comment 39:	Additionally, snag creation is not incorporated into the landscape plan and is recommended to provide additional wildlife habitat features.	Snags may be included but only in areas that may not cause a hazard in the future. If snags can be created in the project area without endangering trail users, the locations of snag creation areas will be added to the landscape plans.
Comment 40:	[T]he provided landscape plan does not clearly indicate that conifers will be concentrated in the adjacent enhancement areas located near Stations 367 – 379. Additional in-fill conifer planting may also be warranted in Wetland 24A (Stations 379-385) to adequately screen the nest near SE 8th Street.	Conifers will be added to the nearby wetland and buffer enhancement areas. The number and mitigation unit to be planted with conifers with emphasis on Station areas 367-385 will included in the 90-percent design landscape plans.
Comment 41:	Minimization and mitigation measures, such as construction timing restrictions, to reduce impacts to migratory birds should be considered in the mitigation plan.	The County will develop measures to comply with applicable federal regulations, including MBTA (which is administered by USFWS), during later design stages.

Table 1. Field observations that warrant further review by the applicant and recommendations.

Feature	Approximate Station	Watershed Field Observations that Differ from Reported Conditions	King County Responses
Potential wetland, not mapped*	291	<p>Wet area at toe of slope under western red cedar, shallow sheet flow observed in private park to west on 2/17/17, above average precipitation.</p> <p><b>Recommendation: Review and, if necessary delineate, flag and classify the area meeting wetland parameters.</b></p>	<p>2.13" of rain fell the two days before this TWC observation. Ponding observed was likely from the intensive rainfall recorded in first 16 days of February (7.84 inches).</p> <p>On May 12, 2017 no water, no wetland signs. No wetland delineated.</p>
Stream 5	317	<p>Stream 5 flows observed entering site via culvert near Station 324, north of extent mapped by Parametrix. Scour and sediment sorting in ditch.</p> <p><b>Recommendation: Review and update Stream 5 mapping.</b></p>	<p>At Station 324, a hanging culvert discharges into WL 15D. Wattles have been placed into the wetlands ditch, after maintenance. The wattle has caused a break in the flow of water. On May 12 water was flowing primarily to the south towards Stream 5. During persistent heavy rains, flows could move both north and south because the ground is fairly flat.</p> <p>In addition, the previously disturbed area of Wetland 15D is revegetating with wetland plants. We agree that in general the flow of water moves from north to south from Station 524. Flow areas will be corrected on the EX and impact sheets.</p> <p>This flow passes through Wetlands 15D and 15BC. Both of which were disturbed during 2016 maintenance activities. However, observations in May 12, 2017 noted extensive revegetation in these wetlands. We will maintain the mapping of wetlands in these areas. No change to the extent of Stream 5 is proposed.</p>
Jurisdiction al Ditch 11A	319-321	<p>Observed flow direction differs from map (sheets EX5, EX6), flow splits directions near Station 324, waddle present.</p> <p><b>Recommendation: Review and relabel Jurisdictional Ditch 11A relative to extent of Stream 5. Correct flow direction arrows on EX sheets.</b></p>	<p>Agree waddle splits flow directions. Since ditches are not regulated by the City</p> <p>Flow direction of the ditch will be reversed on impact figures, which are more detailed. JD#11 has been removed from the plan set, because jurisdictional ditches are not regulated by the City.</p>

Table 1. Field observations that warrant further review by the applicant and recommendations (continued)

Feature	Approximate Station	Watershed Field Observations that Differ from Reported Conditions	King County Responses
Wetland 15D	321-325	Mapped wetland overlaps with observed extent of Stream 5; wetland confined to ditch. <b>Recommendation: Review Wetland 15D relative to jurisdictional ditch criteria; update extent relative to Stream 5 comments above. Update maps accordingly.</b>	Wetland 15 D has revegetated for most of its length with wetland plants since being disturbed by maintenance in 2016 prior to TWC observations. We have retained the wetland status and boundary of WL 15D.
Wetland 15E	312-325	Wetland confined to ditch with no indications ditch was cut in historic feature. <b>Recommendation: Review Wetland 15E relative to jurisdictional ditch criteria; update maps accordingly.</b>	Wetland 15E has revegetated with cattails, small-fruited bulrush, and scouring rush since maintenance activities. Inundated. We have retained the wetland status and boundary of WL 15E.
Wetland 18C	331	Inundation observed between Stations 329 and 333 - beyond and continuous with the surveyed wetland area. No access to neighboring properties. <b>Recommendation: Screen properties north and south of Wetland 18C within the project area for wetland conditions. Provide additional data, update maps accordingly.</b>	The area in question is a low lying area adjacent to residences. Ponding observed was likely from the intensive rainfall recorded in first 16 days of February (7.84 inches). No surface water was observed on May 12, 2017 beyond wetland 18C.
Wetland 21D	359-358	Steady flow observed in open pipe that empties to ditch, scour and sediment sorting observed in ditch (within Wetland 21D) parallel to trail. <b>Recommendation: Review ditched portion of Wetland 21D for stream characteristics.</b>	This area was delineated as wetland based on field indicators in March 19, 2014 (see data form SP W21D-SP1 (rev)). The wetland occurs in a maintained lawn. A narrow maintained drainage channel lies within the wetland and discharges to Stream #6 via a series of culverts.
Wetland 22AB	361-367	Southern end of flagged Wetland 22B confined to ditch. <b>Recommendation: Review and update the boundary of Wetland 22B to distinguish jurisdictional ditch from wetland area.</b>	A portion of the south end has saturated ditch side slopes seeping into ditch. Maintenance was more intensive in this area. Brown fill in bottom. Bottom of ditch is revegetating with creeping buttercup, speedwell, scouring rush, and lady fern. No change to mapped wetland is proposed.

Table 1. Field observations that warrant further review by the applicant and recommendations (continued)

Feature	Approximate Station	Watershed Field Observations that Differ from Reported Conditions	King County Responses
Wetland 22CD	368-370	South end of wetland confined to ditch. <b>Recommendation: Review and update the boundary of Wetland 22CD to distinguish jurisdictional ditch from wetland area.</b>	Portions of Wetland 22CD were cleaned out exposing gravelly subsoil. On May 12 standing water was present. Sides of ditch were saturated and black soils indicating that hydric soils were previously present. The wetland is revegetating with duckweed, reed canarygrass, and speedwell. No change to wetland status is proposed.
Wetland 22E	365-366	Wetland conditions confined to ditch; however, likely historic wetland given proximity to Wetland 22AB. <b>Recommendations: Review and document jurisdictional ditch analysis.</b>	Wetland 22E is currently supporting cattails and small-fruited bulrush. The area had been recently mowed.
Wetland 24C	386-390	North end of wetland confined to ditch. <b>Recommendation: Review and update the boundary of Wetland 24C to distinguish jurisdictional ditch from wetland area.</b>	Wetland 24C is narrow in the north end. Maintenance has changed the ditch bottom. No change to mapping is proposed.
Potential wetland, not mapped*	409	Shallow inundation observed in lawn area, adjacent to southeast corner of parcel 3225069265. <b>Recommendation: Screen area, record a data point, update mapping as warranted.</b>	This area was not delineated as wetland in 2014, because it did not meet any of the 3 criteria.
Jurisdictional ditch, not mapped*	438-439	Culvert on south side of driveway #22 drains to a ditch with wetland characteristics (see DP-1), drains to Jurisdictional Ditch 17. <b>Recommendation: Review ditch, update mapping accordingly.</b>	This culvert drains to the continuation of JD #17 thru Wetland 28B, into JD#16 and into culvert under trail and E. Lake Sammamish Shore LN. Jurisdictional ditches are not regulated by the City and have been removed from the CAS plan set.
Wetland 28A	449-450	North end of wetland mapped within ditch, gravel/soil mix observed in that area. <b>Recommendations: Check north end of wetland delineation relative to King County ditch maintenance activities. Update documentation accordingly.</b>	Agree this area north of wooden bridge has been filled with gravel by some party. Mapping will be changed.
Wetland 28D	453	Wetland confined to ditch. <b>Recommendation: Review Wetland 28D relative to jurisdictional ditch criteria; update maps accordingly.</b>	Although maintenance occurred to this wetland, it has since revegetated. On May 12 area was full of standing water and vegetated with reed canarygrass. Wetland status retained.

\* Feature not mapped or addressed in the submitted CAR.

Table 2. Summary of wetland ratings that require applicant review

Wetland Name	Parametrix Wetland Rating (Category)	The Watershed Co. Wetland Rating (Category)	King County Responses
18C	III	II	Isolated wetland. Added 2 habitat points for riparian and instream, because Stream 7 is within 100 feet of wetland. New total points 46, or Cat III wetland. No rating change.
22E	IV	III	Small, isolated, shallow wetland. Next to trail. No sources of incoming pollutants. No hydrologic connections and negligible storage capacity. No rating change.
25F	IV	III	Corrected multiplier for D4 to 2X. Rating score increased to 30, or a Category III wetland.
26C	IV	III	Corrected multiplier for D4 to 2X. Rating score increased to 27; remained a Category IV wetland.
28E	IV	III	Adjusted multiplier for D2 and D4 to 2X. Rating score increased to 42, or a Category III wetland.

Table 3. Critical Areas Impact Summary (source: Parametrix 2017)

<b>Critical Area</b>	<b>Impact Type</b>	<b>Impact Area</b>	<b>Responses</b>
Wetlands	permanent	0.22 acre	No change.
	temporary	0.59 acre	No change.
Wetland buffers	permanent	1.51 acres	Increase of 0.03 acre.
	temporary	2.46 acres	Increase of 0.09 acre.
Streams	net gain of 69 lineal feet	24 lineal feet	Net gain increased 9 LF.
Stream buffers	permanent	0.21 acre	Increase of 0.01 acre.
	temporary	0.41 acre	Increase of 0.06 acre.
Shoreline setback	permanent	0.09 acre	No change.
	temporary	0.17 acre	No change.
FWHCA	temporary	not quantified*	No change.
CARA	none	n/a	No change.

\* Trail within 660 feet of bald eagle nest near Pine Lake Creek, located southeast of the intersection of SE 8th Street and East Lake Sammamish Pkwy SE.

Table 3 accurately summarizes the impacts report in the Revised CAS, July 2017.