



2907 Harborview Drive, Suite D
Gig Harbor, WA 98335

Technical Memorandum

Date: December 21, 2016

Project Number: 1322.0002

To: Cari Hornbein
Senior Planner
City of Olympia
Community Planning & Development

From: Don Babineau, Soundview Consultants LLC

Re: Green Cove Park / 16-9025 - City Review Letter & Landau Tech Memo dated 11/9/2016

Dear Ms. Hornbein,

This Technical Memorandum is prepared in response to recent review comments by the City of Olympia third-party consultant, Landau Associates (Landau), regarding Soundview Consultants, LLC's (SVC) Wetland and Fish and Wildlife Habitat Assessment Report and Buffer Mitigation Plan. While Landau found SVC's wetland boundary delineation to be consistent with their own, Landau made hydrological observations within the delineated wetlands and across other areas of the site where areas of ponded water were seen based on extreme precipitation conditions preceding the date of their site visit sometime in late October/early November, 2016 (site visit date was not provided in Landau's review). Landau's review stated the site visit was conducted following heavy rain the previous week; however, their assessment did not quantify the level of precipitation the site received prior to their site visit, nor did they evaluate the challenges associated with making hydrological observations during or following such an event.

Based on meteorological data, Landau's site visit followed a rainfall regime approximately 300 percent of normal during a record-breaking month for precipitation. It is not known why Landau's review does not account for this extreme condition in their assessment, but their observations regarding ponding water outside of the wetlands and seasonal ponding within the wetlands under such conditions would not result in an accurate measure of hydrology within the wetlands or across the rest of the site. SVC made site visits on three occasions to accurately assess hydrology across the site and within the wetlands. Based on multiple site visits by SVC staff, no occurrence of streams exists onsite or within 300 feet of the site. In their technical memorandum dated November 9, 2016, Landau made general comments for each of the three wetlands, Wetlands A, B, and C, where their observations were different than SVC's documentation regarding those conditions. The following are Landau's comments and SVC's a response in bold to those differences:

Wetland A

1. We observed two on-site seasonal surface water drainage features flowing within and discharging from the northwest corner of Wetland A.
During the time of Landau's site visit, hydrologic conditions would not be typical of the wetland due to the extreme rainfall to the area prior to their visit. The wetland would have been flooded beyond normal circumstances and outfall discharge

observations could very well differ from the norm. SVC made its observations of Wetland A hydrology during January of 2015. Discharge observed by SVC consisted of water discharging at one point from the wetland, and flowing to the roadside ditch which is consistent with the SVC's documentation and wetland rating. No stream exists on or near the project site.

2. The non-jurisdictional swale shown on the Soundview Report Appendix E, Figure 1 could not be located in the field.
The non-jurisdictional swale could not be located because the swale is shown on Landau's map revisions as being in an inundated area, and thus not visible during their visit. This observation would be consistent with the extreme hydrologic conditions following the record rainfall amounts prior to Landau's visit.
3. We observed seasonal ponding in Wetland A that was greater than 25 percent of the total area.
Observing ponding during extreme flooded wetland conditions would not be indicative of true seasonal ponding characteristics as defined by Washington State Department of Ecology (WSDOE) methodology in which the ponded level is required to persist for two months under normal conditions to be considered seasonally ponded. We, therefore, do not agree with Landau's conclusion regarding seasonal ponding and stand by our original assessment.
4. We observed more ungrazed vegetation in Wetland A than what Soundview reported.
Ungrazed vegetation as it relates to water quality function will be addressed later in the differences of specific rating questions are addressed.

Wetland B

1. Wetland B has an offsite surface water drainage feature that conveys flow from Wetland B, offsite to the south. The drainage feature is likely intermittently flowing.
SVC made hydrologic observations during more normal rainfall regimes and did not directly observe water discharging from Wetland B or observe any secondary indicators of water leaving the wetlands. Under extreme conditions, as was the case during Landau's site visit, it is possible Wetland B could discharge to the south; however, determining local drainage patterns within neighboring property is limited by legal access constraints.
2. We observed seasonal ponding in Wetland B that was greater than 50 percent of the total area.
Observing ponding during extreme flooded wetland conditions would not be indicative of true seasonal ponding characteristics as defined by Washington State Department of Ecology (WSDOE) methodology in which the ponded level is required to persist for two months under normal conditions to be considered seasonally ponded. We, therefore, do not agree with Landau's conclusion regarding seasonal ponding and stand by our original assessment.
3. We observed the presence of standing snags and downed logs within Wetland B, which were not recorded by Soundview.



In rating question H 1.5, SVC recorded both logs and standing snags in Wetland B. SVC did not record snags and logs in the priority habitat section as size requirements for Priority Habitat Species (PHS) snags and logs designation is much more significant than what was observed within or near the wetland to meet the definition of priority habitat.

4. We observed more ungrazed vegetation in Wetland B than what Soundview reported. **Ungrazed vegetation as it relates to water quality function will be addressed later where the differences of specific rating questions are addressed.**

Wetland C

1. We observed several on-site seasonal surface water drainage features flowing within and discharging downstream from Wetland C.
The discharge for Wetland C is offsite within the adjacent property to the south at the bottom of a pasture to a roadside ditch running along the north side of 20th Avenue NW. This area is heavily overgrown with Himalayan blackberry and other dense vegetation making observations from the roadway problematic without clearing brush on the neighboring property. From Landau's memorandum, it is not clear where discharge observations were made. The wetland is predominantly a slope wetland with depressional components. It would be expected to see surface drainage across a slope/depressional wetland during extreme rainfall regimes as was the case during Landau's site visit. Minor onsite surface flow was observed by SVC's staff dissipating into the pasture area of the offsite portion of Wetland C where slope decreases.
2. We observed seasonal on-site and offsite ponding in Wetland C that was greater than 25 percent of the total area.
Observing ponding during extreme flooded wetland conditions would not be indicative of true seasonal ponding characteristics as defined by Washington State Department of Ecology (WSDOE) methodology in which the ponded level is required to persist for two months under normal conditions to be considered seasonally ponded. We, therefore, do not agree with Landau's conclusion regarding seasonal ponding and stand by our original assessment.

Wetland Rating Results

To further facilitate the review of this memorandum, the following discrepancies in Landau's rating assessment and correct analysis is provided below:

2014 Rating Questions for Wetland A:

D1.3 Characteristics and distribution of persistent plants:

Landau Response: Greater than 95% of Wetland A contains ungrazed plants.....points = 5

SVC Response: Greater than 50% of Wetland A contains ungrazed plants.....points = 3

Justification for SVC’s response: based on direct observation, Wetland A contains well over 5 percent bare soil which would be consistent with SVC’s response of greater than 50 percent of Wetland A contains ungrazed plants, but less than 95 percent ungrazed plants. Per Hruby’s annotated version of the Washington State Wetland Rating System for Western Washington (2006), the intent of this question is to identify the potential water quality function of the wetland as effected by the density of plants to act as a filter for runoff by trapping sedimentation and pollutants and that the effectiveness is reduced by the loss of vegetation through grazing. Accounting for the forested Cowardin class, an occasional tree trunk at ground level would not provide the water quality filtering function the question intends to rate. More relevant to the influence on water quality function is the fact that Wetland A contains more than 5% bare soil but less than 50% bare soil. Bare soil is less able to perform the filtering function of even grazed areas much less that of ungrazed vegetated wetland areas. Based on the moderate ability of Wetland A to perform the water quality function associated with persistent plants, SVC stands on its original assessment.

D 1.4 Characteristics of seasonal ponding

Landau Response: *Greater than one quarter (1/4) of Wetland A should be considered seasonally ponded.....points = 2*

SVC Response: *Less than one quarter (1/4) of Wetland A is seasonally ponded.....points = 0*

Justification for SVC’s response: SVC made three site visits to assess and confirm seasonal ponding extent within the onsite wetlands. Seasonally ponded areas must persist for two months under normal conditions. Landau has incorrectly made a determination of the extent of seasonal ponding based on a record-breaking amount of rainfall prior to their site visit (approximately 300 percent of normal for the month preceding the site visit). Under these conditions, the limits of the seasonally ponded area of Wetland A would be underwater, making the limits of ponding impossible to observe during the time of the site visit, as both primary and secondary indicators of ponding would be obscured by standing water above ponding levels. We, therefore, do not agree with Landau’s conclusion regarding seasonal ponding and stand by our original assessment.

D 2.2 Is > 10% of the site within 150 feet of the wetland in land uses that generate pollutants:

Landau Response: *Yes.....points = 2*

SVC Response: *No.....points = 0*

Justification for SVC’s response: Landau states Cooper Point Road as being within 150 feet of the wetland and should be considered as having more than 10 percent of the area as pollution-generating; however, Wetland A is uphill from the roadway and ditch. The intent of this question in this case is to determine if the wetland has the potential to increase water quality function by filtering pollutants generated by the road. Being uphill from the road, Wetland A does not receive water from the roadside ditch, and therefore, cannot provide such water quality function. As such, SVC stands by its original assessment.

D 3.1 Does the wetland directly discharge (within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?

Landau Response: *Yes.....points = 1*

SVC Response: **Revised to Yes**.....points = 1

D 3.2 *Is the wetland in a basin or sub-basin where an aquatic resource is on the on the 303(d) list?*

Landau Response: *Yes*.....points = 1

SVC Response: **Revised to Yes**.....points = 1

D 3.3 *Has the site been identified on a watershed or local plan as important for maintaining water quality?*

Landau Response: *Yes*.....points = 2

SVC Response: *No*.....points = 0

Justification for SVC’s response: Wetland A does not drain to the Deschutes basin which does have a TMDL. The basin plan correctly shows the area where Wetland A is located as out of the Deschutes basin because Wetland A flows north to Green Cove Creek and Eld Inlet; however, Wetland A does discharge within a mile of a body of water listed on the 303d list, Green Cove Creek, revising SVC’s response to questions D 3.1 and D 3.2.

H 1.2 *Hydroperiods*

Landau Response:

- Seasonally flooded or inundated*
 - Saturated only*
 - Seasonally flowing stream in, or adjacent to, the wetland*
- 2 points

SVC Response:

- Seasonally flooded or inundated*
 - Saturated only*
- 1 point

Justification for SVC’s response: there are no streams on or within proximity of the site; therefore, no selection of “seasonally flowing stream in, or adjacent to, the wetland” should be made.

H 1.4 *Interspersion of Habitat*

Landau Response: *Moderate*.....points = 2

SVC Response: *Low*.....points = 0

Justification for SVC’s correction: Landau asserts that an increase in the number of hydro periods (refuted by SVC) in H1.2 would increase interspersion of habitat which is not true. Interspersion of habitat is affected by the response from question H1.1 only.

H 3.1 Does the site provide habitat for species valued in laws, regulations, or policies?

Landau Response: *Site has 1 or 2 priority habitats within 100 m.....points = 1*

SVC Response: *Site does not meet any of the criteria.....points = 0*

Justification for SVCs correction: Landau incorrectly considers the small diameter snags and downed woody debris as priority habitat. Observed snags and logs within the onsite wetlands did not meet the greater than 20-inch diameter at breast height criterion required for snags and the 12-inch diameter by 20-foot length minimum criterion for logs to be considered priority habitat per Washington State Department of Fish and Wildlife standards.

For the rating of Wetland A, SVC has adjusted its rating for improving water quality function from 3 points to 5 points due to value function questions. SVC stands on its rating for habitat function at 3 points. The SVC revised total score for Wetland A has been increased by 2points from 11 points to 13 points retaining a Category IV rating.

2014 Rating questions for Wetland B:

D 1.1 Characteristics of surface water outflows from the wetland:

Landau Response: *Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.....points = 2*

SVC Response: *Wetland is a depression or flat depression with no surface water leaving it (no outlet).....point = 3*

Justification for SVC’s response: the outflow Landau observed is not a typical condition for Wetland B due to the extreme amount of rainfall recorded prior to their site visit. SVC made its observations under normal conditions. Wetland B typically has no outlet under normal conditions as is evidenced by the watermark levels observed by SVC staff.

D 1.3 Characteristics and distribution of persistent plants:

Landau Response: *Greater than 95% of Wetland A contains ungrazed plants..... points = 5*

SVC Response: *Greater than 50% of wetland A contains ungrazed plants..... points = 3*

Justification for SVC’s response: based on direct observation, Wetland A contains well over 5 percent bare soil which would be consistent with SVC’s response of greater than 50 percent of Wetland A contains ungrazed plants, but less than 95 percent ungrazed plants. Per Hruby’s annotated version of the Washington State Wetland Rating System for Western Washington (2006), the intent of this question is to identify the potential water quality function of the wetland as effected by the density of plants to act as a filter for runoff by trapping sedimentation and pollutants and that the effectiveness is reduced by the loss of vegetation through grazing. Accounting for the forested Cowardin class, an occasional tree trunk at ground level would not provide the water quality filtering function the question

intends to rate. More relevant to the influence on water quality function is the fact that Wetland A contains more than 5% bare soil but less than 50% bare soil. Bare soil is less able to perform the filtering function of even grazed areas much less that of ungrazed vegetated wetland areas.

D 2.3 Are there septic systems within 250ft of the wetland?

Landau Response: Yes.....points =1

SVC Response: No.....points =0

Justification for SVC’s response: the septic system to which Landau refers is downhill from Wetland B, and therefore, Wetland B does not have the potential to support water quality function associated with impacts from the septic system. SVC, therefore, stands by our assessment with respect to question D2.3.

D 3.1 Does the wetland directly discharge (within 1mi) to a stream, river, lake or marine water that is on the 303(d) list?

Landau Response: Yes.....points =1

SVC Response: No.....Points =0

D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?

Landau Response: Yes.....points =1

SVC Response: No.....points =0

D 3.3 Has the site been identified on a watershed or local plan as important for maintaining water quality?

Landau Response: Yes.....points =1

SVC Response: No.....points =0

Justification for SVC’s response: Wetland B is isolated and does not discharge to a 303(d) listed or otherwise impaired body of water, and thus cannot provide water quality to those waterbodies.

D 4.1 Characteristics of surface water outflows from the wetland:

Landau Response: Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.....points =2

SVC Response: Wetland is a depression or flat depression with no surface water leaving it (no outlet).....points = 4

Justification for SVC’s response: the outflow Landau observed is not a typical condition for Wetland B due to the extreme of rainfall recorded prior to their site visit. SVC made its observations under normal conditions. Wetland B typically has no outlet under normal conditions as is evidenced by the watermark levels observed by SVC staff.

D 6.1 *The unit is in a landscape that has flooding problems.*

Landau Response: *Surface flooding problems are in sub-basin farther down-gradient.....points =1*

SVC Response: *Surface flooding problems are in a sub-basin farther don-gradient.....points =1*

Justification for SVC’s response: upon further investigation, SVC concurs with Landau’s response and has adjusted the score to 1.

H 1.4 *Interspersion of Habitat*

Landau Response: *Moderate.....points =2*

SVC Response: *Low.....points =1*

Justification for SVC’s response: Landau gives their interpretation of Wetland B’s interspersion of habitat, yet gives no reason for that interpretation. SVC rated interspersion of habitat conservatively for homogenous stand of red alder containing no horizontal structural diversity whatsoever. Instead of giving a score of 0 for Wetland B, which would be reasonable, SVC chose to be conservative in rating Wetland B with a score of 1 for containing 3 of the 5 possible strata which accounts for an increased level of vertical structure. SVC stands with its already conservative ration for question H 1.4.

H 3.1 *Does the site provide habitat for species valued in laws, regulations, or policies?*

Landau Response: *site as 1 or 2 priority habitats within 100mpoints =1*

SVC Response: *site does not meet any of the criteriapoints =0*

Justification for SVC’s response: Landau incorrectly considers the small diameter snags and downed woody debris as priority habitat. Observed snags and logs within the onsite wetlands does not meet the greater than 20-inch diameter at breast height PHS criterion required for snags and the 12-inch diameter by 20-foot length minimum PHS criterion for logs to be considered priority habitat per Washington State Department of Fish and Wildlife standards.

For the rating of Wetland B, SVC has adjusted it’s rating for improving hydrologic function from 5 points to 6 points due to the value function question regarding flooding. SVC stand on its rating for habitat function at 4 points and its rating for water quality function at 4 points. The revised total score for Wetland B has been increased by 2 points from 13 to 14 points retaining a Category IV rating.

2014 Rating Questions for Wetland C:

D 1.1 *Characteristics of surface water outflows from the wetland:*

Landau Response: *Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet..... points =2*

SVC Response: *Wetland has an unconstructed or slightly constricted, surface outlet that is permanently flowing.....points =1*

Justification for SVC’s response: the outflow for Wetland C is offsite within the property to the south to a roadside ditch running along the north side of 20th Avenue NW. According to the WSDOE rating systems manual annotated by Hruba (2006), wetland that are slightly constricted include depression wetlands where ditches are the outlet and water level fluctuations are less than three feet, which is the case for Wetland C. According to Hruba, to be considered highly constricted, the wetlands would need to have marks of flooding or inundation of more than three feet above the bottom of the outlet, which Wetland C does not show these signs of flooding.

D 1.4 Characteristics of seasonal ponding

Landau Response: *Greater than one-quarter (1/4) of Wetland A should be considered seasonally ponded... points =2*

SVC Response: *Less than one-quarter (1/4) of Wetland A is seasonally ponded.....points =0*

Justification for SVC’s response: SVC made three site visits to assess and confirm seasonal ponding extent within the onsite wetlands and direct observation and extensive historic aerial photo review of the offsite portion of Wetland C. Seasonally ponded areas must persist for two months and SVC determined less than ¼ of the total wetland area of Wetland C to show signs of seasonal flooding. This lack of ponding is consistent with the fact that Wetland C is really a combination of a slope and depression wetland with approximately 40 feet of fall from the top to bottom of the wetland according to WSDOE topographic mapping. When rating significant amount of ponded water but may have small depressions with ponding. Landau has incorrectly made a determination of the extent of seasonal ponding based on a record-breaking amount of rainfall prior to their site visit (approximately 300 percent of the normal for the month preceding the site visit) and stating the “potential for seasonal ponding” which is not what the rating questions is asking or what the wetland could contain regarding seasonal ponding.

D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1 – D2.3?

Landau Response: *Yes.....points =1*

SVC Response: *No.....points =1*

Landau and SVC already concur regarding the score for this question.

D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?

Landau Response: *Yes.....points =1*

SVC Response: **Changed to Yes.....points =1**

Upon further investigation, SVC agrees with Landau’s response.

D 3.3 *Has the site been identified on a watershed or local plan as important for maintaining water quality?*

Landau Response: *Yes.....points =2*

SVC Response: **Changed to Yes.....points =2**

Upon further investigation, SVC agrees with Landau’s response.

D 4.1 *Characteristics of surface water outflows form the wetland:*

Landau Response: *Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.....2 points*

SVC Response: *Wetland has an unconstructed, or slightly constricted surface outlet that is permanently flowing0 points*

Justification for SVC’s response: the outflow for Wetland C is offsite within the property to the south to a roadside ditch running along the north side of 20th Avenue NW. According to the WSDOE rating systems manual annotated by Hruby (2006), wetlands that are slightly constricted includes depressional wetlands where ditches are the outlet and water level fluctuations are less than three feet, which is the case for Wetland C. According to Hruby, to be considered highly constricted, the wetlands would need to have marks of flooding or inundation of more than three feet above the bottom of the outlet, which Wetland C does not show these signs of flooding; therefore, SVC stands by its assessment regarding question D 4.1.

D 4.2 *Depth of storage during wet periods:*

Landau Response: *The wetland is a “headwater” wetland.....2 points*

SVC Response: *Marks of ponding less than 0.5ft (6 in)0 points*

Justification for SVC’s response: to be considered a headwater wetland, the top of the wetland would have no defined channel and the bottom of the wetland would need to discharge directly to a stream with a defined bed and bank. There are no streams directly in, or within proximity of Wetland C. Wetland C discharges from a dissipated flow from a pasture within the neighboring property to the south to a roadside ditch with no defined bed or bank. SVC field observations determined standing water to be less than 6 inches.

H 1.1 *Structure of plant community:*

Landau Response: *Scrub-shrub (areas where shrubs have >30% cover)*

Frosted (areas where trees have > 30% cover)

The frosted class has 3 out of 5 strata (canopy, shrubs, herbaceous, moss/ground cover) that each cover 20% within the Frosted polygon.

Three structures = 2 points

SVC Response: *Emergent*

Scrub-shrub (areas where shrubs have >30% cover)

Two structures = 1 point

Justification for SVC's response: in order for the forested component to be counted as a Cowardin class, the trees must be rooted in the wetland. The only area where trees are present is adjacent to the onsite portion of Wetland C. While the canopy of the trees may extend over the wetland boundary, the majority of trees are rooted uphill and outside Wetland C. There is a minor components within the onsite wetland where western red cedar trees are actually rooted in the wetland, but when combined with much larger offsite portion of Wetland C where no trees are found, the forested component makes up less than 10% of the overall wetland area, thus not meeting the minimum threshold. SVC, therefore stands by its response to question H 1.1 for Wetland C as an emergent shrub/scrub wetland.

H 1.2 *Hydro periods*

Landau Response: *Seasonally flooded or inundated*

Saturated only

Seasonally flowing in, or adjacent to, the wetland

3 types present = 2 points

SVC Response: *Saturated only*

Occasionally flooded or inundated

2 types present = 1 point

Justification for SVC's response: the surface drainage features SVC observed within Wetland C would be considered wetland drainage features, and not a stream. Flooding within the wetland at a 10 percent threshold would only occur occasionally and not persist for two months out of the year.

For the rating of Wetland C, SVC has adjusted its rating for improving water quality function from 3 points to 5 points due to value function questions. SVC stand on its fating for habitat function at 3 points and 5 points for the rating of hydrologic function. The revised total score for Wetland C has been increased by 2 points from 12 points to 14 points retaining a Category IV rating.

Olympia Code Requirements

Landau Associates has stated SVC's Report contains deficiencies per Olympia Municipal Code Sections 18.32.500 through 18.32.595 to include the following:

- 1) "The wetland boundary, wetland buffer, and any critical area tract shall be identified on all grading, landscaping, site utility or other development plans submitted on the project."
 - a. Wetlands B and C are not accurately identified where they extend offsite on Soundview's site plans. On-site drainage features are also not accurately identified on Soundview's site plans. We recommend that Soundview revise the plans after review this technical memorandum and completing the additional research of baseline conditions.

SVC response: the site plan has been revised to show the offsite Wetland C as estimated by field observations and aerial photo interpretation (see attached exhibit), and the onsite culvert is shown. As Landau concurs with SVC's delineation, Wetland B does not extend offsite and is depicted as surveyed and originally submitted.

- 2) "Proposed conditions expected from the proposed actions on site including future hydrogeomorphic types, vegetation community types, and hydrology be provided after completing additional research of baseline conditions.

SVC response: the proposed development actions are being mitigated by the proposed buffers as outlined by WSDOE guidelines meeting the City of Olympia Municipal Code requirements, as well as stormwater design mitigation provided by the project engineer. Along with total avoidance of direct impacts to the onsite wetlands, these mitigation measures are being implemented to maintain existing hydrogeomorphic types, vegetation community types, and hydrology of Wetlands A, B, and C.

Conclusion:

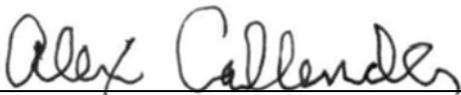
SVC stands by its observations which were made over the course of three site visits. As a result of careful assessment of Wetland A, B, and C using the annotated 2006 manual for supporting background information and rating intent and as updated by the 2014 methodology and based on the data and direct observation made over multiple site visits, Wetlands A, B, and C accurately score as Category IV wetlands and no changes to the buffer or proposed site layout are required.

Please contact me with questions or concerns regarding this matter.

Sincerely,



Don Babineau
Senior Environmental Planner/Project Manager
Office 253.514.8952x017
Fax: 253.514.8954
don@soundviewconsultants.com



Alex Callender
Senior Scientist
Soundview Consultants LLC
2907 Harborview Drive, Suite D
Gig Harbor, WA 98335
(253) 514-8952 Office
(253) 514-8954 Fax
alex@soundviewconsultants.com

