

CES ♦ NW
INCORPORATED
CIVIL ENGINEERING & SURVEYING

October 26, 2020

City of Puyallup
Development Services Center
333 South Meridian
Puyallup, WA 98371

RE: Sunset Pointe Preliminary Major Plat – Response to Preliminary Plat Comments
P-18-0040 (CES #04148.7)

Dear City of Puyallup,

On behalf of our client, we are resubmitting revised plans and documents to address the City's comments. Below are comments as written, with responses on how each comment has been addressed. Thank you for the opportunity to respond to the City's comments for the Sunset Pointe Preliminary Major Plat application. The following are our response to comments.

Planning – Chris Beale

1. Please delineate on the face of the plat drawing the areas meeting the 40% slope standard, apply the buffer (as stipulated in the report, page 5) and set these areas aside as protective 'no-disturbance' areas (in accordance with PMC 21.06.830) in accordance with the Geotech report recommendations..

Response: *The areas meeting the 40% slope standard have been delineated on the plat drawing. A note has been added to the protective 'no-disturbance', according to the Geotechnical report.*

2. Please review pages 5-7 of the Earth Solutions NW for your project Geotech designation of those critical areas, and complete the following:
 - On the plat map, show the set aside steep slope areas by delineating them on the plat map
 - For areas over 40% slope, PMC 21.06.1240 (1)(a)(ii) states that buffer for those slope areas are:
 - Equal to the height of the slope, or 25 feet, whichever is greater.
 - The buffer may be reduced by 25 percent when a qualified professional demonstrates to the director's satisfaction that the reduction will adequately protect the proposed development, adjacent areas, developments, uses, and the subject critical area, except:
 - The buffer shall never be less than 25 feet.
 - The minimum buffer area shall be undisturbed natural vegetation consisting of trees and/or dense woody vegetation and have adequate drainage.
 - To improve the functional attributes of the buffer, the director may require that the buffer be enhanced through planting to achieve a dense covering of woody vegetation such as trees and shrubs.
 - The updated Geotech report makes reference to buffer areas, but they aren't shown.

Response: *The steep slope area has been added to the plans.*

3. Areas of Tract A also appear to contain the 40% slope areas, consistent with these requirements, a buffer from those areas need to be shown. That buffer area can overlay onto properties with a 'Native Growth Protection Area' designation over them (as opposed to carving them out into a tract).

Response: *The 40% slopes areas have been added to the plan set.*

4. A 35' Native Growth Protection Area (NGPA) buffer will be required on the rear of lots 9-13 and lot #8 to protect downslope neighbors from land modifications that could exacerbate:

- downslope drainage
- erosion
- risk of slope/wall failure and,
- loss of solar access as a result of the development of these lots.
 - ▪ If the slope area and buffer related to the 40%+ steep slopes lots 9, 10 is larger than the 35' NGPA buffer, the larger shall be shown on lots 9.,10 and shall govern.

Response: *A 35' NGPA buffer has been added to the rear of Lots XXX*

5. In a separate memo from your Geotech, please address the site development and the standards of PMC 21.06.1230 (2)(A)-(F).

Response: *Please review the comments below.*

6. **PMC 21.06.1230.a** The proposed development shall not decrease the factor of safety for landslide occurrences below the limits of 1.5 for static conditions and 1.2 for dynamic conditions. Analysis of dynamic conditions shall be based on a minimum horizontal acceleration as established by the current version of the International Building Code.

Response: *We understand that grading plans for the proposed roadway have been developed; however, mass/lot grading plans will not be completed until the time of construction. ESNW can provide stability analyses once plans have been developed. However, as stated above in our landslide hazard evaluation, the proposed development provides an opportunity for general improvements to soil stability and the site hydrologic regime through removal or unsuitable soils, engineered fills, and drainage improvements. In general, these are considered advantageous for soil stability*

PMC 21.06.1230.b The alteration will not increase the threat of the geological hazard to the project site or adjacent properties beyond predevelopment conditions, nor shall it result in the need for increased buffers on neighboring properties.

Response: *As with similar residential developments, the proposed construction will include drainage improvements, stormwater management systems, and earthwork activities, will likely include engineered slope and structural fill placement and compaction. As such, it is our opinion that site stability characteristics will not be adversely affected by the proposed project. Additionally, it is our opinion the proposed project will not result in the need for increased buffers on adjacent properties.*

PMC 21.06.1230.c The development will not increase or concentrate surface water discharge or sedimentation to adjacent sites beyond predevelopment conditions.

Response: *Temporary erosion control measures and best management practices (BMPs) will be used during construction. Provided they are adequately maintained, they should provide sufficient mitigation for control of surface water flows and potential sediment migration. Post construction, the stormwater management system will provide surface water flow control while permanent landscaping will help prevent sediment migration.*

PMC 21.06.1230.d Structures and improvements shall be located to minimize alterations to the natural contour of the slope and foundations shall be tiered where possible to conform to existing topography.

Response: *Where feasible, foundations should be stepped to follow existing contours to minimize alteration to the existing topography. It is also our opinion that the use of engineered retaining walls and fill slopes (constructed in accordance with our referenced report) are also a feasible means of establishing design grades.*

PMC 21.06.1230.e The use of engineered retaining walls that allow the maintenance of existing natural slope area is preferred over graded artificial slopes. Engineered retaining walls shall not exceed 15 feet in height and preferably should be less than eight feet in height. Riprap retaining walls should not exceed eight feet in height. Wherever possible, retaining walls should be designed as structural elements of the building foundation.

Response: *The use of mechanically stabilized earth (MSE) walls are considered feasible for the project. ESNW can provide MSE wall designs and supporting calculations, upon request.*

PMC 21.06.1230.f Development shall be designed to minimize impervious lot coverage. Use of common access drives and utility corridors is encouraged.

Response: *Geotechnical response not applicable*

7. Lot #4 needs to share vehicular access with lot #1 via a shared private road tract. Sharing private driveway on the panhandle of lot #4 and 15' pedestrian access to tract A will cause confusion about use by the public as it will look and function like a private driveway.

Response: *The plans have been revised so the shared access driveway is separate from the pedestrian access.*

8. The project applicant needs to submit a preliminary landscape plan. Plan shall address street trees, landscaping as required by PMC 19.12.070 (1) and landscaping near any buffers impacted by development, and critical area slopes, as described above. Updated notes, November, 2019: Still needed.

Response: *A preliminary Landscape Plan has been included in the plan set a sheet LSI of the plan set.*

Engineering – Alicia Floyd

Stormwater Report

9. Provide narrative description of existing site hydrology. The pre-developed basin map does not appropriately depict the direction that all the surface water drains in the existing conditions. Depict basins that are currently draining to adjacent properties.

Response: *The stormwater report has been revised to address the existing site hydrology and basin maps.*

10. Based on the preliminary plans, it appears that lots 1, 4, 5, 6, 7, and 8 all intend to be dispersed to the wetlands however the report states that only lots 1, 4, 5, and 8 will be dispersed to the wetlands. Please clarify/ensure that the report, plans, and exhibits are coordinated with each other.

Response: *The stormwater report and plans have been revised.*

11. Clarify how the roof runoff for lots 2 and 3 will be mitigated.

Response: *The roof runoff for Lots 2 and 3 will be collected dispersed on the northern side of 19th Avenue SE.*

12. Please note the following manual requirements for full dispersion:

- Any areas used to meet the “65/10” rule for full dispersion must be in a dedicated tract or recorded easement.
- Wetland areas and their buffers cannot be counted towards the 65% forest or native condition area.
- Dispersion practices are not allowed in critical area buffers.
- Dispersion practices are not permitted on slopes greater than 20%. Further, the slope of the flowpath must be no steeper than 15% for any 20-foot reach of the flowpath.

Response: Full Dispersion (BMP T5.30) is proposed for the area tributary to 19th Ave SE improvements (State Highway Basin). These areas are fully dispersed to parcel 0420353009 using Roadway Dispersion BMPs – specifically three flow dispersal trenches. A native vegetation easement is to be placed over entirety of the parcel. It should be noted BMP T 5.30 only excludes wetlands, lakes and streams, page 5-33 of Volume V of SWMM, 2014. Critical areas buffers are not excluded from the 65% native vegetation area. The trenches (i.e. dispersion devices) are placed outside of wetland and buffers as required by BMP T5.20, page 5-35 of Volume V of SWMM, 2014. Each trench has a 100-foot flow path that is sloped less than 15% for any 20-foot reach.

13. Applicant must demonstrate compliance with Puyallup Municipal Code 21.06.940(1)(c)(i-vi) regarding permitted use of the wetland buffer. Further, applicant cannot encroach into the inner 75% of the wetland buffer. See planning requirements for further details.

Response: The only portion of the project that encroaches within a wetland buffer is where the existing gravel pathway is being reconstructed as requested by the City. This reconstruction is placed outside the inner 75% of the wetland buffers.

COMMENTS 02/2019

14. It is unclear how increasing the slope of the landslide hazard area on lots 6 and 7 with 25 vertical feet of engineered fill “eliminates” the landslide hazard area. Further, the City’s critical area code clearly states that alteration of slopes greater than 40% is prohibited [PMC21.06.1230]. Based on the information provided, the landslide hazard area near lots 6 and 7 is nearly 60%.

- Applicant must demonstrate feasible grading scheme for lots that are impacted by the landslide hazard area in accordance with PMC 21.06.1230(8)(a) (copied below for your reference). Further, the limits of the landslide hazard area must be appropriately depicted on the plat.

PMC 21.06.1230(8) Subdivisions. The division of land in landslide and erosion hazard areas and associated buffers is subject to the following:

Land that is located wholly within an erosion or landslide hazard area or its buffer may not be subdivided. Land that is located partially within an erosion or landslide hazard area or its buffer may be divided; provided, that each resulting lot has sufficient buildable area outside of, and will not affect, the erosion or landslide hazard or its buffer.

Response: The plans have been revised to depict an NGPA along the rear of the Lots.

15. The City will require the applicant to depict the toe of the slope on the Kodiak estates. If site access cannot be gained, Lidar contours may be used to supplement survey information. The critical area report must individually address performance standards from PMC 21.06.1230. As part of this, the geotechnical engineer must specifically address impacts to adjacent properties. Further, SEPA item B.10.b will be reviewed with regards to the total slope of 28ft +/- and its impact to the adjacent properties’ line of site from their backyard.
- Please provide additional contour information to clearly demonstrate that the toe of the slope is actually captured on the plans.

Response: We have provided a response to the comment (PMC 21.06.1230.2) in the above section. The response was prepared using information and site design available to us.

16. It is unclear why the SEPA checklist was revised to call the existing wetlands “manmade ornamental ponds”, however it has been clearly established that these “ponds” are considered wetlands and shall be regulated as

such. Please remove all references to “manmade ornamental ponds” and replace with description for wetlands.

- There are still places in the SEPA document where the wetlands are called ponds. For clarity, revise the names of the wetlands from “ponds” A-C to “wetlands” A-C.

Response: *The SEPA has been revised to remove reference to “man-made ornamental ponds”.*

17. There doesn't appear to be any analysis in the stormwater report or critical area report that addresses the analysis required for MR #8. Further, the stormwater report is still referring to these waterbodies as “manmade ponds” and not wetlands. Applicant must provide an analysis in accordance with Appendix I-D of the 2014 DOE manual.

- An analysis in accordance with Appendix I-D of the manual was not provided in the 06/2019 submittal. See related comment below.

Response: *The stormwater report has been revised to provide an analysis for wetlands located in Tract 'A'.*

18. Small-scale PIT tests and continuous seasonal high groundwater monitoring in accordance with the 2014 DOE manual will be required prior to approval of the preliminary plat. Please ensure that the tests are performed during the appropriate wet-weather season and that the number of tests complies with the DOE manual requirements. (The wet-weather season for PIT tests is December 1st – April 1st and the wet-weather season for groundwater monitoring is December 21st – March 21st.) This geotechnical testing is required by the State and the requirement cannot be waived by City staff.

- Multiple PIT test locations and multiple continuous high groundwater monitoring locations performed during the appropriate wet-weather season will be required prior to preliminary plat approval.

Response: *ESNW performed two small-scale PIT tests on January 22, 2020. The locations of the PITs are depicted on the attached Plate 2 and are denoted as TP-201 and TP-202. The testing was intended to provide a general determination of site infiltration feasibility given that our previous recommendation that the site not pursue infiltration. The PITs were performed at a depth of about four feet bgs within undisturbed native soils. At this depth silt (USCS: ML) was encountered at each testing location. At the time of our testing, a measured rate of zero (0) inches per hour (iph) was recorded during the soak.*

In accordance with our previous evaluations, infiltration is not considered feasible for the proposed project. Although areas of sand were locally encountered, they are not prevalent enough to be considered a feasible targeted media that would facilitate infiltration. In addition, the measured rate of 0 iph from our January 2020 testing further suggests the infeasibility of site soils to be used for infiltration purposes. As such, infiltration is not considered feasible from a geotechnical standpoint.

19. Any dead-end road (public or private) over 150' in length must have provisions for a fire truck turnaround.

- Not provided in 06/2019 submittal.

Response: *The private access roads are less than 150' in length.*

COMMENTS 08/2018

20. The geotechnical report prepared by Earth Solutions NW must be updated to reflect the current project design. Applicant will not be permitted to redirect surface water to neighboring adjacent properties at the Southern boundaries of lots 13, 14, 15, 16, 17, 7, and 8 as currently designed. The stormwater report must specifically address PMC 21.10.050 (3) with regards to surface water drainage from the proposed

development posing "no significant adverse impact to the downhill property". This condition does not appear to be currently met for lots 13, 14, 15, 16, 17, 7, and 8.

The 06/2019 geotechnical report appears to have a different lot numbering than the civil plans. Please update so that both the plans and the report have the same lot numbering. Further, the body of the geotechnical report appears to be referencing a different lot numbering than the report exhibit (plate 2). Specifically, the updated geotechnical report states that lots 9, 10, and 15 (based on plate 2 in the report) meet the landslide hazard criteria of having slopes greater than 40% with at least 10 feet of vertical relief, yet these lots do not appear to meet the criteria. Please verify.

Further, the applicant had not yet adequately demonstrated that surface water drainage from the eastern lots will not be increased with the proposed development. Demonstrating that the project as a whole meets MR #7 does not demonstrate that the site flows to the adjacent properties on the East side of the site will not increase.

Response: *The attached Plate 2 reflects the current site layout designs and lot numbering. The reference slope schematic provided to us had been generated to display slopes of 40 percent or greater located on site. In general, slopes of 40 percent or greater are confined within wetland or tract areas and will largely not be disturbed as part of site development activities. However, minor areas of 40 percent or greater slopes that extend 10 or more vertical feet have been shown to be partially within or extend onto Lots 10 and 15. However, given the limited extent and isolated occurrence, it is our opinion these areas may pursue an exemption in accordance with PMC 21.06.1240.1a.iii.*

21. The geotechnical study does not include any infiltration testing to support its claim that infiltration is infeasible. In addition, other than the heavy perched groundwater seepage observed in TP-4, the report offers little discussion on the expected groundwater conditions. Evidence of iron oxide staining in many of the test pits along with Habitat Technologies' observation of "numerous groundwater seeps" and "fully saturated conditions" in their site reconnaissance suggests that there is more to elaborate on with regards to groundwater. Prior to preliminary plat approval, wet-weather infiltration and groundwater testing in accordance with the 2012 SWMMWW will be required to support stormwater feasibility/infeasibility.

As previously stated, multiple PIT test locations and multiple continuous high groundwater monitoring locations performed during the appropriate wet-weather season will be required prior to preliminary plat approval.

Response: *ESNW Response – ESNW performed two small PIT tests on January 22, 2020. The locations of the PITs are depicted on the attached Plate 2 and are denoted as TP-201 and TP-202. Because infiltration has not been proposed and no designs were produced, the testing was intended to provide a general determination of site infiltration feasibility. The PITs were performed at a depth of about four feet bgs within undisturbed native soil. Silt (USCS: ML) was encountered at the testing depth at each location. At the time of our testing, a measured rate of zero (0) inches per hour (iph) was recorded during the soak. At that time the testing was terminated, given the measured rate of 0 iph.*

In accordance with our previous evaluations, infiltration is not considered feasible for the proposed project. Although areas of sand were locally encountered, they are not prevalent enough to be considered representative of the overall site conditions or a feasible targeted media that would facilitate infiltration. In addition, the measured rate of 0 iph from our January 2020 testing further indicates the infeasibility of site soils to be used for infiltration purposes. As such, infiltration is not considered feasible from a geotechnical standpoint.

Groundwater seepage was only encountered at TP-4 during our October 2017 exploration. Perched groundwater seepage is common within glacially deposited sediments. The

presence and flow rate of a perched seepage zone can depend precipitation duration and amounts, the time of year, and soil types present within the substratum. In this respect, it can be difficult to determine when and where a perched seepage may develop. Although iron oxide staining was encountered at various test pit locations, the presence is not a clear and accurate indication of current site groundwater conditions.

22. The geotechnical study does not address the presence of wetlands and perennial streams on-site. Please include a brief description of these features and their impact on the site soils if applicable.

Please include description of these features in the geotechnical report. Currently the report does not include a description of the ravine and perennial stream and still refers to the wetlands as ponds.

Response: *Three wetland areas have been identified on site (by others) and largely occupy the entire central site area within a local depression. Because these areas are largely outside the proposed development envelope, we do not anticipate they will have an impact on site soils within the proposed development envelope.*

23. The landslide hazard discussion for lots 12 and 13 appears to be commenting on the existing slope and not the proposed 2:1 20+ foot slope at the southern sides of lots 13, 14, 15, 16, 17, 7, and 8. Further, the discussion does not address the heavy perched groundwater found in TP-4 near proposed lot 14 or the presence of loose to medium dense soils on top of dense silts and the impact of the development on these soils. Applicant will not be permitted to increase the height and slope of the landslide hazard area as currently depicted.

See related comment about requirement to demonstrate feasible grading scheme for lots impacted by landslide hazard area and its buffer. Additionally, please elaborate on why the lots along the Eastern side of the site (lots 8-14, per the geotechnical report) do not meet the landslide hazard criteria of 21.06.1210(b)(ii).

Response: *The above comment appears to be in reference to a different site layout than what has been currently provided to ESNW. In any respect, 2H:1V engineered slopes are considered feasible if constructed in accordance with the recommendations provided in the referenced report and as recommended by ESNW at the time of construction. Where significant groundwater seepage is encountered during slopes construction, additional drainage measures may be recommended at that time. Areas of existing fill may require reworking (e.g. removal and replacement) to establish competent conditions for foundation or fill slope construction.*

24. According to SCJ's 3rd party review the "ornamental ponds" must be regulated as wetlands. As such, the discharge from the proposed storm facility and lot 17 must be assessed against Minimum Requirement #8.

Minimum Requirement #8 has not been adequately addressed with the 06/2019 submittal. See related comments below.

Response: *The stormwater report has been revised to provide an analysis of MR #8.*

25. Compliance with MR #8 is not met by providing the critical area assessment alone. Applicant must provide an analysis of MR #8 in accordance with Appendix 1-D of the 2012 SWMMWW. Class IV wetlands are not required to strictly meet MR #8, but the analysis must still be presented to the City for

review. The City will require a signed letter from a wetland biologist or hydrogeologist stating that the development poses no adverse impact to the wetlands' hydroperiods or ecosystems.

As previously stated, applicant must prepare an analysis in accordance with Appendix I-D of the 2012 SWMMWW. This requires an analysis of the wetland's flow volume on both a monthly and daily basis. The provided analysis of the 2, 5, 10, 25, 50, and 100-year storm events is not appropriate for assessing the impact of the development to the wetlands' hydroperiods. Further, the project's biologist will have to specifically address the project's impact to the wetlands' ecosystems.

Response: *The stormwater report has provided an analysis for compliance of MR #8.*

26. Please depict and describe the downstream drainage path for the water that is discharged to the "ponds". Provide a downstream summary/analysis for all outfall points.

Provide a survey of the features described in the downstream drainage paths (the French drain and 12" storm drainage system in 21st Ave for the Northern basin and the 12" storm drainage system leaving Pond C towards Kodiak Estates).

Response: *The stormwater report has been revised to depict the downstream drainage paths.*

27. Flow rates for the North and South basin do not match the WWHM output provided. Please reconcile.

The stormwater report details, including the WWHM model, will not be re-reviewed until the comments related to the infiltration/groundwater testing have been resolved as these comments directly impact the stormwater analysis.

Response: *The Geotechnical Report has been revised to indicate infiltration is not feasible. The stormwater report has been revised with corresponding flowrates for the North and South basins.*

28. The percent exceedance column provided is confusing/misleading because it is a positive percentage whether post development conditions exceeded or was less than pre-developed conditions. Additionally, it appears that several of the percentages are incorrect.

The stormwater report details will not be re-reviewed until the comments related to the infiltration/groundwater testing have been resolved as these comments directly impact the stormwater analysis.

Response: *The stormwater report has been revised to address this comment.*

SEPA

29. Item B.1.d must include a description of the landslide hazard areas present on-site.

Please ensure that the lot numbers are coordinated appropriately between the geotechnical report, stormwater report, plan sheets, and SEPA checklist.

Response: *The geotechnical report, stormwater report, plans sheets and the SEPA Checklist have been revised to coordinate the lot numbers.*

30. Item B.3.1. must include a description of the perennial stream observed by Habitat Technologies. Also, please provide a brief description of the site wetlands as opposed to solely referring to the critical areas report.

Please ensure that all references to ponds are removed.

Response: *All pond references have been removed from the SEPA.*

31. Item B.3.2 provides no description or attached plans for the proposed work within the wetland buffer area. Include a description for proposed dispersion BMPs in wetland buffers.

Response: *The SEPA has been revised to indicate dispersion in the wetland buffer.*

32. The height provided for item B.10.b. does not include the height of the slope for proposed lots 13, 14, 15, 16, 17, 7, and 8. Please include a description of the entire height of obstruction from the toe of the existing slope on the Kodiak estates properties to the assumed roof line of the proposed properties listed above. A simple sight diagram may be useful in illustrating this project's impact to the neighboring properties.

Include narrative/diagram of how lots at Kodiak Estates will be impacted with regards to SEPA item B.10.b. The SEPA checklist does not specify that this item is only relevant if the lots are considered to be in a prime view corridor. The impact of light blockage/increase to the slope should be considered in the response to this SEPA item.

Response: *The view of the site, of course will be altered, to single-family housing development. The rear of the proposed Lots 8 through 13 contain a thirty-five (35) foot NAGPA buffer which will set the proposed homes further west of the boundary line.*

Preliminary Plat Comments (all comments apply to Sheet P2)

33. Provide contours a minimum of 20' beyond the property lines. Will be required to show the toe of the steep slope ending at Kodiak Estates.

Please provide additional contour information to clearly demonstrate that the toe of the slope is actually captured on the plans.

Response: *The plans have been revised to provide contours on the adjacent property.*

34. Label existing culverts that are crossing from Pond A to Pond B.

Please include size of existing culverts connecting the wetlands.

Response: *The size of the culverts has been added to the plan sheets.*

35. Minimum easement width for a utility is 40 feet.

The proposed storm easement must be 40'.

Response: *We will request an AMR for the reduction of the width of the 40-foot storm easement as part of the final engineering plans.*

Fees:

36. Please note that system development fees increase annually on February 1st.

Response: *Thank you, noted.*

Traffic – Bryvan Roberts

37. The Cul-de-sac on 19th Ave SE must meet minimum radius requirement per Fire requirements.

Response: *The plans have been revised to depict a cul-de-sac per the City of Puyallup standards.*

Fire Prevention – David Drake

38. Driveways 150' and over will require a fire truck turn around. Lots 1,3,7, and 8 may require a turn around. This does not meet fire department access. This will need to be demonstrated.

Response: *The revised plans indicate the shared access tract to be less than 150' in length.*

39. Maximum grade shall not exceed 10% for fire access roads. Lot 8 will require a fire truck turn around, this driveway will be over 10%. How will this be addressed?

Response: *The driveway length for Lot 8 is less than 150' in length and the slope is approximately 5%.*

40. Does not meet city standards. Review is not complete. "Knuckle" does not meet fire truck turning radiuses.

Response: *The "Knuckle" has been revised to be a cul-de-sac.*

Building – Eric Belin

41. Earth moving during the grading process will require a Geo Engineers report as part of the Final Plat Approval for Building Envelope soils compaction and bearing capacity.

Response: *A geoengineers report will be prepared for the grading process for the Final Plat Approval.*

We believe all of the comments have been addressed. Please review and approved the resubmittal documents at your earliest convenience. Please call should you have any questions.

Regards,



Fred Brown, P.E.
Senior Project Manager

Prepared by JC/DM