



## PUBLIC WORKS

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Jennifer D. Walker, Director

### MEMORANDUM

DATE: August 2, 2023  
TO: Arthur Saint, P.E., Development Review  
FROM: Zach Severs, P.E., Water Resources  
SUBJECT: Civil Engineering Drainage Scoping Review Response – Aurora Oaks Plat,  
Thurston County Project #2023102411, Parcel(s) 11701220100, 11701220300, &  
11701230700

Thurston County Public Works personnel have reviewed the Drainage Scoping Report & Plans prepared/provided by KPFF, Inc. (Mark Steepy, P.E.) dated May 12, 2023 for the above referenced project. The plan of action outlined in the scoping report is generally acceptable subject to addressing the following comments; however, please be aware additional comments may need to be addressed if changes are made to the plans and/or reports or, if other information is discovered during the review of the Final Drainage Report, Supplemental Reports, and Plans.

#### Findings:

#### Submittal Requirements & General Information

1. Applicant shall conduct a thorough review of their submitted materials to ensure they are accurate.
2. Applicant shall complete an Engineered Drainage & Erosion Control Plan (DECP) addressing Core Requirements #1-11 of the 2022 Drainage Design and Erosion Control Manual (DDECM) prepared by a civil engineer licensed in the state of Washington.
3. Applicant shall submit an electronic copy of the WWHM2012 model with their DECP. Applicant shall also use the most current version of WWHM. The most recent version can be found at: <https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Stormwater-permittee-guidance-resources/Stormwater-manuals/Western-Washington-Hydrology-Model>.
4. All projects using infiltration facilities (other than single family residential drywells) shall submit a verification testing plan and contingency plan for under performance. The plan shall include a reasonable "worst-case" projection of long-term infiltration performance and describe methods and costs for improving/restoring performance and/or expanding facility size. See Sections 3.1.5 & 3.1.6, Volume V of the DDECM.

5. Thurston County has been collecting data on rainfall and water levels at various locations within the county. This information may be used for planning purposes only and can be found at the following link: <https://www.thurstoncountywa.gov/sw/Pages/monitoring-dashboard.aspx>.
6. Thurston County has adopted an Interim Stormwater Vesting Policy. This policy can be found at the following link: <https://s3.us-west-2.amazonaws.com/thurstoncountywa.gov.if-us-west-2/s3fs-public/2023-01/cped-storm-docs-2022DDECM-Interim-Vesting-Memorandum.pdf>.
7. Applicant shall submit completed Drainage Report Checklists including, but not limited to:
  - a. Project Elements Submission Completeness
  - b. Drainage Report Required Elements
  - c. Construction Plan Required Elements
  - d. Any checklists relevant to planned Best Management Practices (BMP's)
  - e. LID.02 Soil Preservation and Amendment Checklist

Checklists are available on the Thurston County Website at:

<https://www.thurstoncountywa.gov/sw/Pages/dm-2022-docs.aspx>

8. The applicant shall meet all of Washington State Department of Ecology's (DOE) UIC requirements for proposed underground infiltration facilities. The facilities shall be registered and Rule Authorized/permitted.
9. Landscape & Irrigation Plans shall be submitted for review.
10. No trees or shrubs shall be planted within 25-feet of catch basins, manholes, inlet/outlet of pipes, spillways, or level spreaders. The Landscaping Plans shall reflect this.
11. If proprietary device(s) are proposed for runoff treatment, Administrator approval will be required. Please submit a separate request for Administrator approval. See Volume V, Chapter 9 of the DDECM. The request shall include (but not limited to) the following:
  - a. Technical memo outlining why traditional treatment BMP's are not feasible and why the treatment device is suitable for the proposed project.
  - b. Support documentation the device has received DOE's General Use Level Designation (GULD) for the required treatment. Devices having a CULD and PULD designation are not acceptable.
  - c. Plans showing where the device will be installed, and the device will be installed per the manufacturer's written recommendations.
  - d. Cut sheet(s) of the manufacturer's device shall be included in the plans.

12. The project is located within the Woodland Creek Basin which has a developed basin plan. The applicant will need to meet all additional requirements in said Basin Plan available on the Thurston County Website at: <https://www.thurstoncountywa.gov/departments/community-planning-and-economic-development-cped/community-planning/basin-plans>

#### Civil Engineering Plans

13. For bioretention facility cross sections, please show the design high groundwater elevation on the Final Construction Documents.
14. From the plans, it shows a drainage easement on the parcel south of the subject parcel. Please include information about said easement in the final Drainage Report.

#### Core Requirement (CR) #1: Stormwater Site Planning

15. A complete Engineered Drainage & Erosion Control Plan (DECP) and Construction Stormwater Pollution Prevention Plan (SWPPP) is required to meet Core Requirement #1.

#### Core Requirement #2: Construction Stormwater Pollution Prevention Plan

16. A Construction SWPPP is required to meet Core Requirement #2. The Construction SWPPP shall be submitted and accepted prior to permit issuance.

#### Core Requirement #3: Source Control of Pollution

17. Applicant shall submit a completed Source Control Plan with their Drainage and Erosion Control Plan. A template Source Control Plan is available on the Thurston County website at: <https://www.thurstoncountywa.gov/sw/Pages/dm-2022-docs.aspx>.

#### Core Requirement #4: Source Control of Pollution

18. Existing drainage patterns shall be shown on the plans and preserved to the maximum extent practicable.

#### Core Requirement #5: On-site Stormwater Management

19. Per Table 2-1 in Section 2.4.6, Volume I of the DDECM, the project is located inside the City of Lacey Urban Growth Area (UGA) on a parcel of any size. Therefore, the project shall meet LID Performance Standards and BMP LID.02 or, List #2 located in Section 2.4.6.2, Volume I of the DDECM. From the submitted Drainage Scoping Report, the project is proposing to meet LID performance standards which could satisfy this Core Requirement.
20. BMP LID.02 is required for lawn and landscaped areas. The extent of BMP LID.02 Post Construction Soil Quality and Depth must be shown on the plans. Note, all lawn/landscape areas subject to BMP LID.02 may be modeled as pasture in WWHM.



21. Applicant shall submit a site-specific Soil Management Plan with their application. Refer to the Design Guide for Post-Construction Soils Quality and Depth for the submittal requirements. Please see link for additional information:  
<https://www.thurstoncountywa.gov/sw/swdocuments/DG-4%20POST-CONSTR%20SOILS.pdf>.

#### Core Requirement #6: Runoff Treatment

22. Pollution generating hard surfaces exceed 5,000-square feet within a single threshold discharge area and the proposed project will be classified as single family residential. Therefore, basic runoff treatment is required. As of now, the Drainage Scoping Report Plans indicate Bioretention Cells/Swales will be constructed which could provide basic runoff treatment when constructed per LID.08, Volume V of the DDECM.
23. Verify horizontal setbacks to property lines, buildings, septic systems, drinking water wells and other on-site (and off-site) features are met. See Appendix V-E, Volume V for setback requirements.
24. Drainage patterns shall be shown on the plans and preserved to the maximum extent practicable.
25. The project will need to provide runoff treatment for any frontage improvements constructed for this project.

#### Core Requirement #7: Flow Control

26. The project is proposing more than 10,000-SF of impervious surface(s). Therefore, flow control shall be provided for this project. From the report, it indicates bioretention facilities and downspout infiltration drywells will be constructed which could satisfy this Core Requirement.
27. Applicant must submit WWHM2012 modeling which shows the proposed BMP'S meeting the flow control requirements.
28. Verify horizontal setbacks to property lines, buildings, septic systems, drinking water wells and other on-site (and off-site) features are met. See Appendix V-E, Volume V for setback requirements.
29. The project will need to provide flow control for any frontage improvements constructed for this project.
30. From the submitted documents, downspout infiltration drywells are proposed to mitigate roof runoff from individual lots. Schematically, the drywells do not meet the minimum setback requirements. A variance will need to be submitted to reduce the minimum setback requirements.

31. The applicant can utilize the County's Laserfiche system to find existing well and septic information on adjacent lots. Please see the following link to search for said information:  
<https://weblink.co.thurston.wa.us/dspublic/customsearch.aspx?searchname=search&cr=1>

Core Requirement #8: Wetland Protection

32. Per Thurston County Geodata, wetlands and/or associated buffers are not mapped on-site. From this, wetland protection is not anticipated at this time. Note, other Thurston County departments may have additional requirements on wetlands to be addressed.

Core Requirement #9: Operations and Maintenance

33. Applicant must develop and record with the Thurston County Auditor an agreement to maintain stormwater facilities and implement a pollution source control plan for all those facilities to be maintained by the property owner. The Operations Plan and Source Control Plan shall be included as attachments to any recorded document(s).

Core Requirement #10: Financial Liability

34. The applicant shall provide a financial guarantee to the DDECM Administrator to ensure satisfactory maintenance of drainage facilities (i.e., infiltration facilities) for a minimum of 2 years from final acceptance of the project.

Core Requirement #11: Operations and Maintenance

35. A qualitative downstream analysis shall be performed for any potential runoff from the site, even if 100-percent infiltration is proposed. The downstream analysis will include the flow path from the site to the receiving water or up to one mile, whichever is less, even if all runoff will be fully dispersed on site. See section 2.4.12, Volume I of the DDECM for requirements.