**Parametrix**
ENGINEERING . PLANNING . ENVIRONMENTAL SCIENCES

1019 39TH AVENUE SE, SUITE 100 | PUYALLUP, WA 98374 | P 253.604.6600

# TECHNICAL MEMORANDUM

| | |
|---|---|
| DATE: | June 30, 2022 |
| TO: | Greg Reed, Public Works Director |
| FROM: | Jeffrey Coop, PE, CFM |
| SUBJECT: | SMAP Phase 2 – Step 3 |
| CC: | JC Hungerford |
| PROJECT NUMBER: | 216-1711-024 |
| PROJECT NAME: | Stormwater Management Action Plan |


## INTRODUCTION

Section S5.C.1.d of the National Pollutant Discharge Elimination System (NPDES) Western Washington Phase 2 Municipal Stormwater Permit (NPDES Permit effective date August 2, 2019) (Ecology 2019a) issued by the Washington State Department of Ecology (Ecology) requires permittees to prepare a Stormwater Management Action Plan (SMAP). The first phase of the SMAP process required by Section S5.C.1.d.i of the NPDES Permit is to assess receiving waters and document the results. A technical memorandum (Parametrix 2022a) was prepared to support the City of Orting (City) with Section S5.C.1.d.i to address the Phase 1 receiving water assessment requirement.

The second phase of the SMAP is based on Section S5.C.1.d.ii of the NPDES Permit, which requires a prioritization process to be completed for the receiving waters identified in SMAP Phase 1. To facilitate the schedule for City review and public input, SMAP Phase 2 was completed based on the steps listed below. The following steps are based on Stormwater Management Action Planning Guidance (Ecology 2019b). SMAP Phase 2 will be completed based on input received in June 2022 from the City Public Works Committee and City Council meeting.

- Phase 2 Step 1 – This purpose of this step was to identify retrofits and land management actions for the receiving waters identified in SMAP Phase 1. The results of Phase 2 Step 1 are documented in the technical memorandum that was submitted to the City April 22, 2022 (Parametrix 2022b). Phase 2 Step 1 included considerations such as:
  - Conservation, protection, or restoration of receiving waters through stormwater and land management strategies that act as water quality management tools.
  - Reduction of pollutant loading.
  - Addressing hydrologic impacts from existing and proposed future development.
- Phase 2 Step 2 – The purpose of this step was to develop a ranking process for identifying the highest-priority catchment area. A technical memorandum summarizing the ranking process was submitted to the City May 4, 2022.

- Phase 2 Step 3 – Develop a draft technical memorandum that summarizes the results of Steps 1 and 2 and input received through public outreach. Phase 2 Step 3 will identify the selected receiving water that will be included in the SMAP document to be prepared under NPDES Permit Section S5.c.1.d.iii. The Phase 2 Step 3 technical memorandum was developed based on the following:
  - City comments on the ranking process identified in the May 4, 2022, technical memorandum (Parametrix 2022c).
  - Input received during the City Public Works Committee on June 1, 2022.
  - Draft submittal to the City Council for public comment on June 8, 2022.
  - City Council Study Session on June 15, 2022.

## OVERVIEW

The City is located between the Puyallup River and the Carbon River. The City has stormwater outfalls that discharge directly into these rivers on the water side of existing levees or into constructed drainage channels along the levees that subsequently discharge into these rivers through outfalls on the river side of the levees. Based on Appendix I-A of the Stormwater Management Manual for Western Washington (SWMMWW, Ecology 2019c), direct discharges from the City into both the Puyallup River and the Carbon River are exempt from flow control. Based on SWMMWW Appendix III-A, discharges from the City into both the Puyallup River and the Carbon River require enhanced treatment for the types of projects identified in SWMMWW Section III-1.2 Step 5. The Puyallup River is designated as a basic treatment receiving water downstream of the confluence with the Carbon River, which is to the north of the City.

Based on relative sizes, the City has little impact to the flow regime from stormwater discharges in either the Puyallup River or the Carbon River. Enhanced treatment is required for both rivers along the City for projects triggering enhanced treatment. However, basic treatment is required for the Puyallup River downstream of the confluence with the Carbon River. As documented in the SMAP Phase 1 technical memorandum, the City has a negligible area tributary to either the Puyallup River or the Carbon River.

As discussed in the previous technical memorandums (Parametrix 2022a; Parametrix 2022b; Parametrix 2022c), two drainage paths exist along the landward side of the Carbon River levee. These two drainage paths are referred to as Carbon River Unnamed Tributary North and Carbon River Unnamed Tributary South. These two drainage paths are informal flow paths that receive overland flow from areas within the City and discharge to the Carbon River through existing culverts, the conditions of which are unknown. These two drainage paths are generally through wooded areas and unmapped but potential wetlands. These two drainage paths are within the area subject to the Shoreline Master Program (Orting 2019) (SMP), which requires a 150-foot setback from the ordinary high water mark (OHWM) of the Carbon River. The OHWM is located on the river side of the levee. The SMP also requires a 150-foot buffer of native vegetation from the OHWM of the Carbon River.

The Carbon River Unnamed Tributary North is located within the Orting Central Subbasin. The Carbon River Unnamed Tributary South is located within the Orting East Subbasin. However, the surface area that is directly connected to these two tributaries is limited because much of the developed areas within the two subbasins have direct discharges into the Carbon River. Consequently, the areas that contribute surface flows directly to the two smaller tributaries are smaller subareas within the overall larger subbasins. The surface area that contributes surface flows to the Carbon River Unnamed Tributary North is referred to as Orting Central Future. The surface area that contributes surface flows to the Carbon River Unnamed Tributary South is referred to as Orting East Future. The subbasins and the associated smaller subareas are shown in the exhibits in Appendix A and summarized in Table 1.

**Table 1. Summary of Tributary Areas**

| Overall Subbasin Name | Carbon River Unnamed Tributary North | Carbon River Unnamed Tributary South |
|---|---|---|
| Overall subbasin area, acres | 83.47 | 399.67 |
| Contributing subbasins | Village Crest/Rivers Edge | Orting Central, Orting East, Rainier Meadows |
| Subarea of future development | None | Orting Central Future, Orting East Future |
| Future development area, acres | 0 | 199.64 |

As discussed above, discharges to the Carbon River are exempt from flow control. However, the City has an existing 36-inch-diameter outfall for the Orting Central subbasin and an existing 30-inch-diameter outfall for the Orting East subbasin. The Stormwater Comprehensive Plan (Parametrix 2010) includes improvements to both of these outfalls due to existing capacity constraints. The planned conveyance improvements for the Orting Central subbasin are in conjunction with providing on-site flow control for new impervious surfaces and a portion of existing impervious surfaces as sites develop or redevelop. The Stormwater Comprehensive Plan is based on flow control in conjunction with system improvements for the Orting Central subbasin rather than the Orting East subbasin because the area zoned as Mixed Use Town Center or Mixed Use Town Center-North is much greater for the Orting Central subbasin than for the Orting East subbasin.

Both the Orting Central subbasin and the Orting East subbasin have areas that are tributary to the existing outfalls as well as areas tributary to the Carbon River South Unnamed Tributary prior to discharging to the Carbon River. The SMAP ranking process discussed in the following section Ranking Methodology includes provisions to consider the areas tributary to the existing outfalls different from the areas that are not directly connected to the existing outfalls. This provides a way to consider existing development with or without existing stormwater facilities that discharge directly to the Carbon River differently than developable or redevelopable areas that have a surface flow discharge prior to entering the Carbon River.

## RANKING METHODOLOGY

The subbasins and smaller subareas discussed above have variations in size and potential for development or redevelopment as well as amount of existing development and number of existing stormwater facilities. The following summarizes the ranking methodology that was developed to select either the Carbon River Unnamed Tributary North or the Carbon River Unnamed Tributary South as the prioritized receiving water. The ranking methodology was developed based on the series of questions that were discussed in the Phase 2 Step 1 technical memorandum (Parametrix 2022b). Those questions and responses are included in Attachment B.

The ranking process was developed to calculate a numeric value associated with the questions in Attachment B. The receiving water with the highest score could then potentially become the prioritized receiving water. The focus of this technical memorandum is to summarize how the ranking process was developed. The actual ranking and selection will be performed in Phase 2 Step 3 and may include other factors that are identified during the public review process.

The factors considered for the ranking process and associated formulas are summarized in Table 2.

The ranking process generally includes ratios and calculations based on input data, such as:

- Number of existing or future stormwater management (SWM) facilities.
- Existing area routed to existing SWM facilities.
- Area that is inside or outside of the 150-foot native vegetation buffer.

- Area within existing developed area that is not routed to existing SWM facilities.
- Developable or redevelopable areas.
- Number of projects associated with local or regional stormwater or surface water plans.
- Number of factors associated with environmental health risk factors.

Factors that are input based on professional judgment relate to:

- Selection of a factor based on the ratio of developable or redevelopable area that is within the 150-foot native vegetation buffer to the area within the receiving water subarea. A factor of 1, 2, 3, or 4 is selected based on whether the ratio is 0 to 0.25, 0.26 to 0.50, 0.51 to 0.75, or 0.76 to 1.00. The higher the ratio of areas, the more important preserving the 150-foot native vegetation buffer is, so a higher factor is selected.
- For considering low impact development (LID) best management practices (BMPs), such as land use or infiltration type BMPs, the following factors are input:
  - 1, 5, or 10 depending on whether LID has a low, moderate, or high potential for implementation.
  - 1, 5, or 10 depending on whether infiltration has a low, moderate, or high potential for implementation.
  - 1, 5, or 10 depending on whether reduced footprints, preservation of native vegetation, and/or revegetation have a low, moderate, or high potential for implementation.
- For relative importance of preservation of an area as a high-quality receiving water, a factor of 1, 5, or 10 is input depending on whether there are other areas that could be considered. If an area is being considered for preservation as a high-quality area but there are several other areas that could be considered if preserving the area is determined to be infeasible in the future, then a factor of 1 is assigned. If an area is being considered for preservation as a high-quality area but there are some other areas, but not many, that could be considered if preserving the area is determined to be infeasible in the future, then a factor of 5 is assigned because it is becoming more important to preserve. If an area is being considered for preservation as a high-quality area but there are no other areas that could be considered if preserving the area is determined to be infeasible in the future, then a factor of 10 is assigned because there are no other areas available to consider preserving.
- For developable or redevelopable areas, a factor of 1 or 2 is applied depending on if the zoning would likely trigger basic treatment or enhanced treatment.

The ranking does not consider applying a higher level of treatment than what is already required if water quality treatment thresholds are exceeded for basic or enhanced treatment. The level of treatment is contingent on multiple factors, such as influent concentration. If influent concentrations are not high enough, then the removal efficiencies may decrease. Installing an enhanced treatment BMP if basic treatment is required may not provide enhanced treatment because the influent concentrations may be too low for the BMP to operate at its peak efficiency and because the pollutants of concern associated with enhanced treatment BMPs might not occur for the proposed land use that is triggering only basic treatment.

Ranking calculations for the Carbon River Unnamed Tributary North and Carbon River Unnamed Tributary South are included in Attachment C.

**Table 2. Summary of Ranking Methodology**

| Consideration | Units or Formula for Scoring | Example Receiving Water #1 |
|---|---|---|
| **Major subbasin overview**<br>**Receiving water subarea overview**<br>**Relative importance of how much existing area drains to existing stormwater facilities. This helps determine the relative importance of ongoing operations and maintenance (O&M) and inspections as well as identifies potential amounts of retrofit, which would then be considered further based on opportunities and costs.** | | Provide general description of relative size, relative amount that is developed, relative amount that is routed to existing stormwater management (SWM) facilities<br>Provide general description of remaining area, relative amount of developable and redevelopable land that is outside the 150-foot native vegetation buffer |
| Major subbasin name | | Major subbasin name |
| Total subbasin area; this is the total tributary area within overall subbasin, even if portions do not have direct surface flow contributions to the receiving water subarea (i.e., portions of the subbasin area may have direct discharges to major receiving water, such as a river or lake). | Acres | Input value |
| Number of existing public or private SWM facilities | Number | Input value |
| Area that is routed to existing SWM facility that provides treatment, flow control, or both, regardless of when constructed (does not account for changes in design standards over time) | Acres | Input value |
| Fraction of existing area that is routed to existing SWM facility | Fraction of area = area routed to existing SWM facilities ÷ total subbasin area | X.XX; calculated result |
| A higher score indicates a higher relative importance to maintain existing SWM facilities<br>**Relative importance of preserving the 150-foot native vegetation buffer from ordinary high water mark (OHWM) for developable + redevelopable area. Only the area with direct surface discharge to the receiving water is considered. This illustrates the importance of preserving the buffer during future development or redevelopment.** | **Score = number of existing SWM facilities * fraction of area** | **X.XX; calculated result** |
| Subarea name that has surface area flows | | Smaller subarea name |
| Amount of area that is already developed, is not routed to an existing SWM facility, and is outside of the receiving water subarea | Acres | Input area |

| Consideration | Units or Formula for Scoring | Example Receiving Water #1 |
|---|---|---|
| Receiving water subarea | Acres | Calculated value |
| Total developable + redevelopable area; excludes areas that are already developed | Acres | Input area |
| Developable + redevelopable area that is inside of 150-foot OHWM setback | Acres | Input area |
| Developable + redevelopable area that is outside of 150-foot OHWM setback | Acres | Calculated value |
| Developable + redevelopable area inside the 150-foot OHWM setback ÷ area within sub-area | Fraction of area | X.XX; calculated value |
| Factor from look-up table, 1 through 4. The higher the fraction of area within the 150-foot setback, the more important the area is | 1, 2, 3, or 4 | From look-up table |
| A higher score indicates a higher relative importance to retain the 150-foot native vegetation buffer<br>**Relative importance of future SWM facilities as development or redevelopment occurs. This is based on the total developable or redevelopable land, whether it is inside or outside the 150-foot setback, and the total area in the subbasin.** | **Score = factor * fraction of developable + redevelopable area within the 150-foot OHWM setback** | **X.XX; calculated value** |
| A higher score indicates a higher relative importance for future SWM facilities as development or redevelopment occurs<br>**Relative importance of new facilities to retrofit for existing conditions. Considers if there are there previous plans that identify facilities that can retrofit existing areas.** | **Score = 1 ÷ (total developable + redevelopable ÷ total subbasin area)** | **X.XX; calculated value** |
| Number of planned new facilities | Number | Input value |
| Area that is outside of the smaller receiving water subarea that is not routed to existing SWM facilities | Acres | Linked to value above |
| Number of planned new facilities ÷ acre of untreated | A = number of planned facilities * (existing area without SWM facilities ÷ total area outside of receiving water subarea) | X.XX; calculated value |
| Importance for considering future best management practices for development or redevelopment | B = total developable + redevelopable area ÷ receiving water subarea | X.XX; calculated value |

| Consideration | Units or Formula for Scoring | Example Receiving Water #1 |
|---|---|---|
| A higher score indicates a higher relative importance for retrofitting existing areas not routed to existing SWM facilities<br>**Relative importance of land management strategies, such as low impact development (LID), infiltration, other** | **Score = A + B** | **Sum of A + B** |
| Would LID help? 1 = low potential to implement; 5 = moderate potential; 10 = high potential | A: 1, 5, or 10 | Input value |
| Is infiltration feasible? 1 = low potential; 5 = moderate potential; 10 = high potential | B: 1, 5, or 10 | Input value |
| Are reduced footprints and/or native vegetation preservation or revegetation feasible? 1 = low potential; 5 = moderate potential; 10 = high potential | C: 1, 5, or 10 | Input value |
| A higher score indicates a higher relative importance of LID-type best management practices (BMPs)<br>**Relative importance of Stormwater Management Program (SWMP) actions** | **Score = (A + B + C) * (amount of developable + redevelopable area ÷ receiving water subarea)** | **X.XX; calculated value** |
| Maintain existing SWM facilities; O&M; inspection; monitor inspection reports | A = number of existing SWM facilities * (existing area routed to existing SWM facilities ÷ total subbasin area) | X.XX; calculated value |
| Public education and outreach re: SMP, wetlands, buffers, preserving native vegetation | B = (amount of developable + redevelopable area ÷ receiving water subarea) | X.XX; calculated value |
| A higher score indicates a higher relative importance of SWMP actions within the subbasin and receiving water subarea<br>**Relative importance of preservation** | **Score = A + B** | **Sum of A + B** |
| This helps determine how important is it to preserve a receiving water as a high-quality receiving water. Considers if there are other receiving waters the City has predominant influence over that could be an alternative. 1 = many other alternatives; 5 = some other alternatives; 10 = no other practicable alternative. | Factor = 1, 5, or 10 | Input value |
| A higher score indicates a higher relative importance for preserving a receiving water subarea over other receiving water subareas<br>**Relative importance of regional plans to help with improving water quality (WQ) or hydrology with future development or redevelopment** | **Score = factor * (amount of developable + redevelopable area ÷ receiving water subarea)** | **X.XX; calculated value** |

| Consideration | Units or Formula for Scoring | Example Receiving Water #1 |
|---|---|---|
| Number of projects planned | | Input value |
| A higher score indicates a higher relative importance of regional plans to preserve or restore water quality and/or hydrology<br>**Relative importance to address environmental health risk indicators** | **Score = number of projects * (total developable + redevelopable area ÷ receiving water subarea)** | **X.XX; calculated value** |
| Number of all health risk factors that discharge from developable or redevelopable areas via surface flow to the receiving subareas | Number of factors | Input value |
| A higher score indicates a higher relative importance of environmental health risk factors in considering stormwater management approaches<br>**Relative importance of providing a higher level of treatment for surfaces triggering enhanced treatment** | **Score = number of factors * (total developable + redevelopable area ÷ receiving water subarea)** | **X.XX; calculated value** |
| Would requiring enhanced treatment if not triggered be helpful? 0 = no because the loading concentrations are too low, rendering the treatment BMP ineffective; 10 = great benefit because the percent of pollutant reduction is high regardless of influent concentrations | | |
| Developable + redevelopable area | Acres | Input value |
| Zoning | | Input zoning designations that could trigger enhanced treatment |
| Fraction of developable + redevelopable | | X.XX; calculated value |
| Level of treatment | 1 = basic; 2 = enhanced | Input value |
| Developable + redevelopable area | Acres | Calculated value |
| Zoning | | Input zoning designations that could trigger basic treatment |
| Fraction of developable + redevelopable | | X.XX; calculated value |
| Level of treatment | 1 = basic; 2 = enhanced | Input value |
| A higher score indicates a higher relative importance of future WQ treatment BMPs as development or redevelopment occurs in the receiving water area | **Score = sum (treatment * area)** | **X.XX; calculated value** |
| **TOTAL SCORE** | **Sum of individual scores** | **X.XX; calculated value** |

**Table 3. Ranking Calculation Results**

| Consideration | Units or Formula for Scoring | Carbon River Unnamed Tributary North | Carbon River Unnamed Tributary South |
|---|---|---|---|
| Major subbasin overview | | Medium sized subbasin; half developed; all developed area is routed to existing stormwater management (SWM) facilities | Large major subbasin that is predominantly developed but has little existing stormwater facilities |
| Receiving water subarea overview | | All remaining area that is developable or redevelopable is outside of the 150-foot native vegetation buffer | Half the remaining area that is developable or redevelopable is within the 150-foot native vegetation buffer from OHWM; the other half is outside the buffer |
| Relative importance of how much existing area drains to existing stormwater facilities. This helps determine the relative importance of ongoing operations and maintenance (O&M) and inspections as well as identifies potential amounts of retrofit, which would then be considered further based on opportunities and costs. A higher score indicates a higher relative importance to maintain existing SWM facilities. | Score = number of existing SWM facilities * fraction of area | | |
| Relative importance of preserving the 150-foot native vegetation buffer from the ordinary high water mark (OHWM) for developable + redevelopable area. Only the area with direct surface discharge to the receiving water is considered. This illustrates the importance of preserving the buffer during future development or redevelopment. A higher score indicates a higher relative importance to retain the 150-foot native vegetation buffer. | Score = factor * fraction of developable + redevelopable area within the 150-foot OHWM setback | | |
| Relative importance of future SWM facilities as development or redevelopment occurs. This is based on the total developable or redevelopable land, whether it is inside or outside the 150-foot setback and the total area in the subbasin. A higher score indicates a higher relative importance for future SWM facilities as development or redevelopment occurs. | Score = 1 ÷ (total developable + redevelopable ÷ total subbasin area) | | |
| Relative importance of new facilities to retrofit for existing conditions. Considers if there are previous plans that identify facilities that can retrofit existing areas. A higher score indicates a higher relative importance for retrofitting existing areas not routed to existing SWM facilities. | Score = A + B | | |
| Relative importance of land management strategies, such as low impact development (LID), infiltration, other. A | Score = (A + B + C) * (amount of developable + redevelopable area ÷ receiving water subarea) | | |

| Consideration | Units or Formula for Scoring | Carbon River Unnamed Tributary North | Carbon River Unnamed Tributary South |
|---|---|---|---|
| higher score indicates a higher relative importance of LID-type best management practices (BMPs). | | | |
| Relative importance of Stormwater Management Program (SWMP) actions. A higher score indicates a higher relative importance of SWMP actions within the subbasin and receiving water subarea. | Score = A + B | | |
| Relative importance of preservation. A higher score indicates a higher relative importance for preserving a receiving water subarea over other receiving water subareas. | Score = factor * (amount of developable + redevelopable area ÷ receiving water subarea) | | |
| Relative importance of regional plans to help with improving water quality (WQ) or hydrology with future development or redevelopment. A higher score indicates a higher relative importance of regional plans to preserve or restore water quality and/or hydrology. | Score = number of projects * (total developable + redevelopable area ÷ receiving water subarea) | | |
| Relative importance to address environmental health risk indicators. A higher score indicates a higher relative importance of environmental health risk factors in considering stormwater management approaches. | Score = # of factors * (total developable + redevelopable area ÷ receiving water subarea) | | |
| Relative importance of providing a higher level of treatment for surfaces triggering enhanced treatment. A higher score indicates a higher relative importance of future WQ treatment BMPs as development or redevelopment occurs in the receiving water area. | Score = sum (treatment * area) | | |
| **TOTAL SCORE** | | | |

The draft of this technical memorandum was submitted to the City on June 8, 2022. The memorandum and the overall SMAP process was provided to the City Council and the public at the June 15, 2022 City Council Study Session. The City makes agendas and meeting packets available to the public through its website: https://www.cityoforting.org/government/city-council/council-packets-minutes/-folder-174

The agenda for the meeting is included in Attachment D. There were no comments from the City Council, City staff, or the public received at the Study Session or after.

Based on the results of the ranking methodology, Carbon River Unnamed Tributary South received a higher score than Carbon River Unnamed Tributary North. There is a larger amount of area that provides surface flows from developable/redevelopable land to Carbon River Unnamed Tributary South than to Carbon River Unnamed Tributary North. Based on the results of the ranking methodology, prioritizing the Carbon River Unnamed Tributary South for the next phase of the SMAP process is recommended.

## SMAP PHASE 3 – SMAP DOCUMENT

The final phase of the SMAP after completion of Phase 2 is to document identified actions for the prioritized receiving water. The SMAP document is to include the following based on NPDES Permit Section S5.C.1.d.iii:

A description of identified stormwater facility retrofits, the BMP types, and preferred locations:

- Land management, development strategies, and/or actions identified for water quality management.
- Targeted, enhanced, or customized implementation of stormwater management actions related to NPDES Permit sections within S5, including:
  - Illicit discharge detection elimination field screening.
  - Prioritization of source control inspections.
  - Operations and maintenance inspections or enhanced maintenance.
  - Public education and outreach behavior change programs.
- Identification of changes needed to local long-range plans, if applicable, to address SMAP priorities.
- Proposed implementation schedule and budget sources for:
  - Short-term actions to be accomplished within 6 years.
  - Long-term actions to be accomplished within 7 to 20 years.
- A process and schedule to provide future assessment and feedback to improve the planning process and implementation of procedures and/or projects.

SMAP Phase 3 is to be completed by March 31, 2023. SMAP Phase 3 will be completed under a future scope of work.

## REFERENCES

Ecology (Washington State Department of Ecology). 2019a. Western Washington Phase 2 Municipal Stormwater Permit. August 2019.

Ecology. 2019b. Stormwater Management Action Planning Guidance. August 2019.

Ecology. 2019c. Stormwater Management Manual for Western Washington.

Orting. 2019. Shoreline Master Program. Adopted by City of Orting February 2019.

Parametrix. 2010. Stormwater Comprehensive Plan.

Parametrix. 2022a. SMAP Phase 1 Technical Memorandum. Prepared March 16, 2022, by Parametrix, Puyallup, WA.

Parametrix. 2022b. SMAP Phase 2 Step 1 Technical Memorandum. Prepared April 22, 2022, by Parametrix, Puyallup, WA.

Parametrix. 2022c. SMAP Phase 2 Step 2 Technical Memorandum. Prepared May 4, 2022, by Parametrix, Puyallup, WA.

## ATTACHMENTS

A NPDES Permit – SMAP Excerpts

B Mapping

C Ranking Calculations

D Public Notification

# Attachment A

## NPDES Permit – SMAP Excerpts

EXCERPTS FROM NPDES PHASE II MUNICIPAL PERMIT
SECTION S5.C.1

STORMWATER MANAGEMENT ACTION PLANNING

d. Stormwater Management Action Planning[3] (SMAP). Permittees shall conduct a similar process and consider the range of issues outlined in the *Stormwater Management Action Planning Guidance* (Ecology, 2019; Publication 19-10-010). Permittees may rely on another jurisdiction to meet all or part of SMAP requirements at a watershed-scale, provided a SMAP is completed for at least one priority catchment located within the Permittee's jurisdiction.

   i. *Receiving Water Assessment*. Permittees shall document and assess existing information related to their local receiving waters and contributing area conditions to identify which receiving waters are most likely to benefit from stormwater management planning.

      By March 31, 2022, Permittees shall submit a watershed inventory and include a brief description of the relative conditions of the receiving waters and the contributing areas. The watershed inventory shall be submitted as a table with each receiving water name, its total watershed area, the percent of the total watershed area that is in the Permittee's jurisdiction, and the findings of the stormwater management influence assessment for each basin. Indicate which

[3] New Permittees are exempt from S5.C.1.d. for this permit term.

receiving waters will be included in the S5.C.1.d.ii prioritization process. Include a map of the delineated basins with references to the watershed inventory table.

(a) Identify which basins are expected to have a relatively low Stormwater Management Influence for SMAP. See the guidance document for definition and description of this assessment.

Basins having relatively low expected Stormwater Management Influence for SMAP do not need to be included in S5.C.1.d.ii-iii.

SMAP Phase 2

ii. *Receiving Water Prioritization*. Informed by the assessment of receiving water conditions in (i), above, and other local and regional information, Permittees shall develop and implement a prioritization method and process to determine which receiving waters will receive the most benefit from implementation of stormwater facility retrofits, tailored implementation of SWMP actions, and other land/development management actions (different than the existing new and redevelopment requirements). The retrofits and actions shall be designed to: 1) conserve, protect, or restore receiving waters through stormwater and land management strategies that act as water quality management tools, 2) reduce pollutant loading, and 3) address hydrologic impacts from existing development as well as planned for and expected future buildout conditions.

No later than June 30, 2022, document the prioritized and ranked list of receiving waters.

(a) The Permittee shall document the priority ranking process used to identify high priority receiving waters. The Permittee may reference existing local watershed management plan(s) as source(s) of information or rationale for the prioritization.

(b) The ranking process shall include the identification of high priority catchment area(s) for focus of the Stormwater Management Action Plan (SMAP) in (iii), below.

iii. Stormwater Management Action Plan (SMAP). No later than March 31, 2023, Permittees shall develop a SMAP for at least one high priority catchment area from (ii), above, that identifies all of the following:

(a) A description of the stormwater facility retrofits needed for the area, including the BMP types and preferred locations.

(b) Land management/development strategies and/or actions identified for water quality management.

(c) Targeted, enhanced, or customized implementation of stormwater management actions related to permit sections within S5, including:

- IDDE field screening,
- Prioritization of Source Control inspections,
- O&M inspections or enhanced maintenance, or
- Public Education and Outreach behavior change programs.

Identified actions shall support other specifically identified stormwater management strategies and actions for the basin overall, or for the catchment area in particular.

(d) If applicable, identification of changes needed to local long-range plans, to address SMAP priorities.

(e) A proposed implementation schedule and budget sources for:

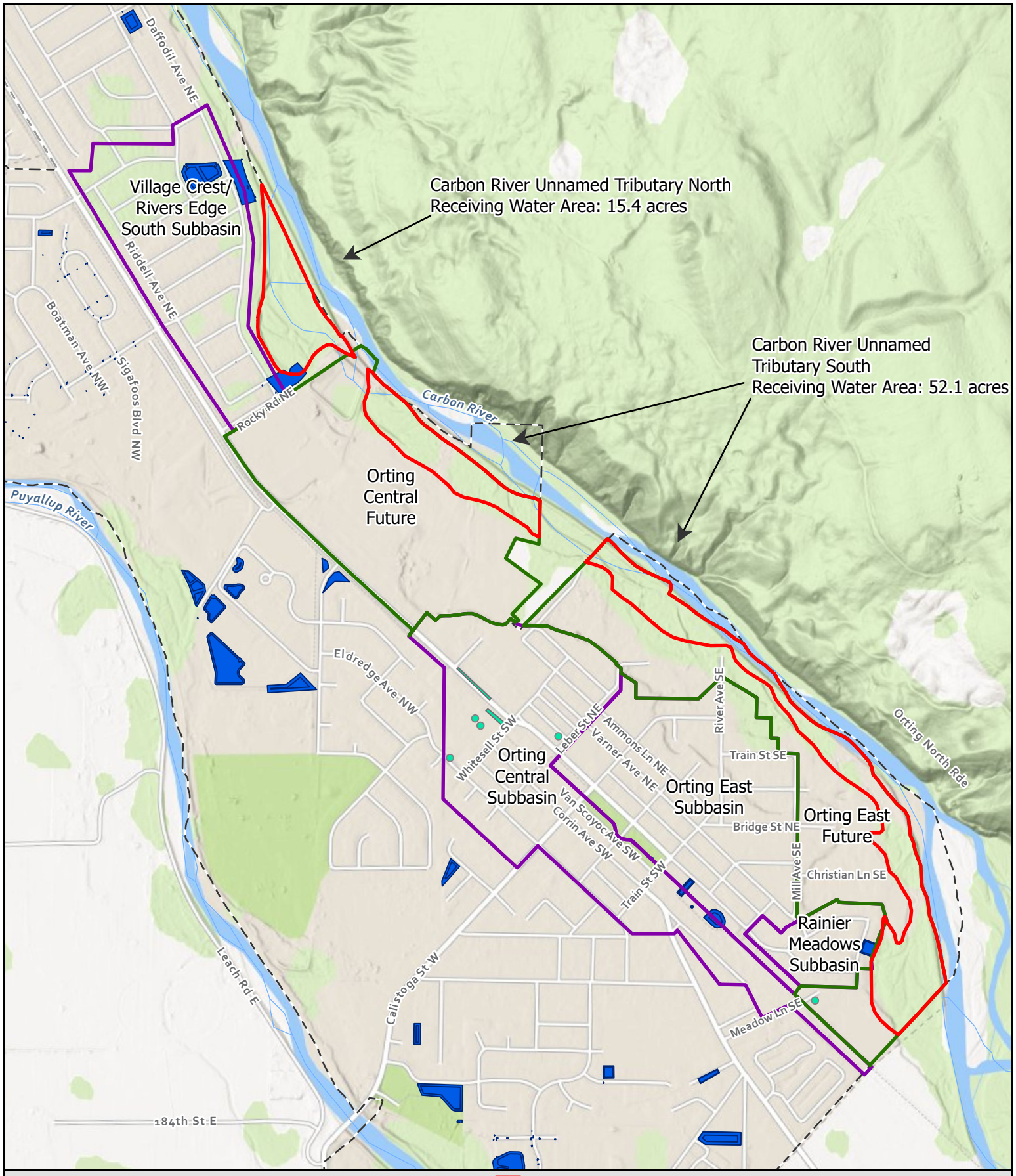
- Short-term actions (*i.e.*, actions to be accomplished within six years), and
- Long-term actions (*i.e.*, actions to be accomplished within seven to 20 years).

(f) A process and schedule to provide future assessment and feedback to improve the planning process and implementation of procedures or projects.

[4] New Permittees shall begin implementing the requirements of S5.C.2 no later than August 1, 2021.

# Attachment B

Mapping




Date: 5/27/2022
Sources: City of Orting, Pierce County, Esri, NASA, NGA, USGS, FEMA

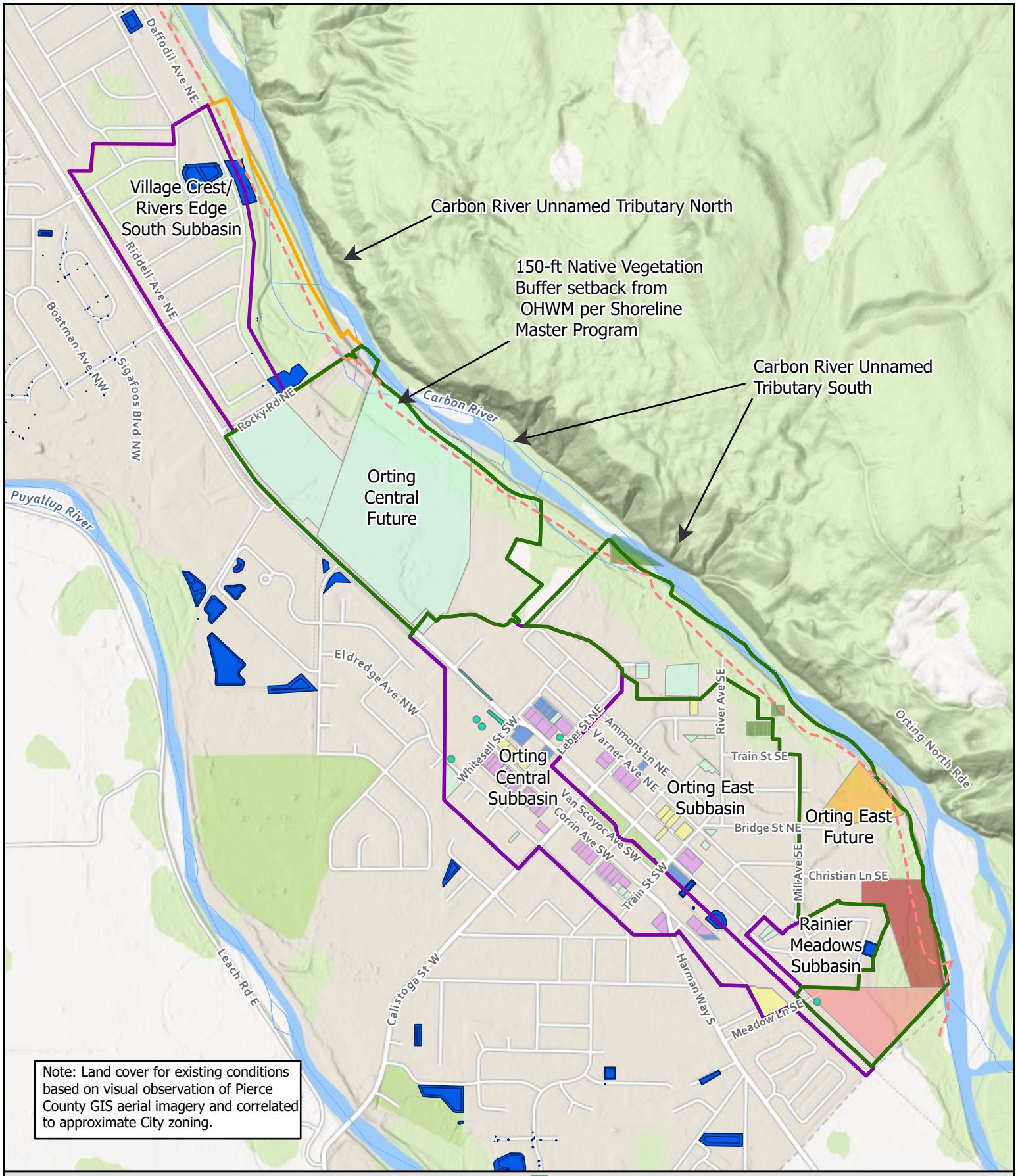
Receiving Waters Boundary
Developed Subbasins
Undeveloped Subbasins
Existing Private SWM Facilities
Existing Public SWM Facilities
City Boundary

Exhibit 1
Receiving Water Areas

Scale: 1 in: 1,200 ft

0 500 1,000 2,000 Feet

Orting, WA




Note: Land cover for existing conditions based on visual observation of Pierce County GIS aerial imagery and correlated to approximate City zoning.

Date: 5/2/2022
Sources: City of Orting, Pierce County, Esri, NASA, NGA, USGS, FEMA
Note: Source for parcel designations is Pierce County 2020 Buildable Lands layer (web server link https://services2.arcgis.com/1UvBaQ5y1ubjUPmd/ArcGIS/rest/services/2020_Buildable_Lands_Inventory_DRAFT_Review/FeatureServer)

Scale: 1 in: 1,200 ft

0 500 1,000 2,000 Feet

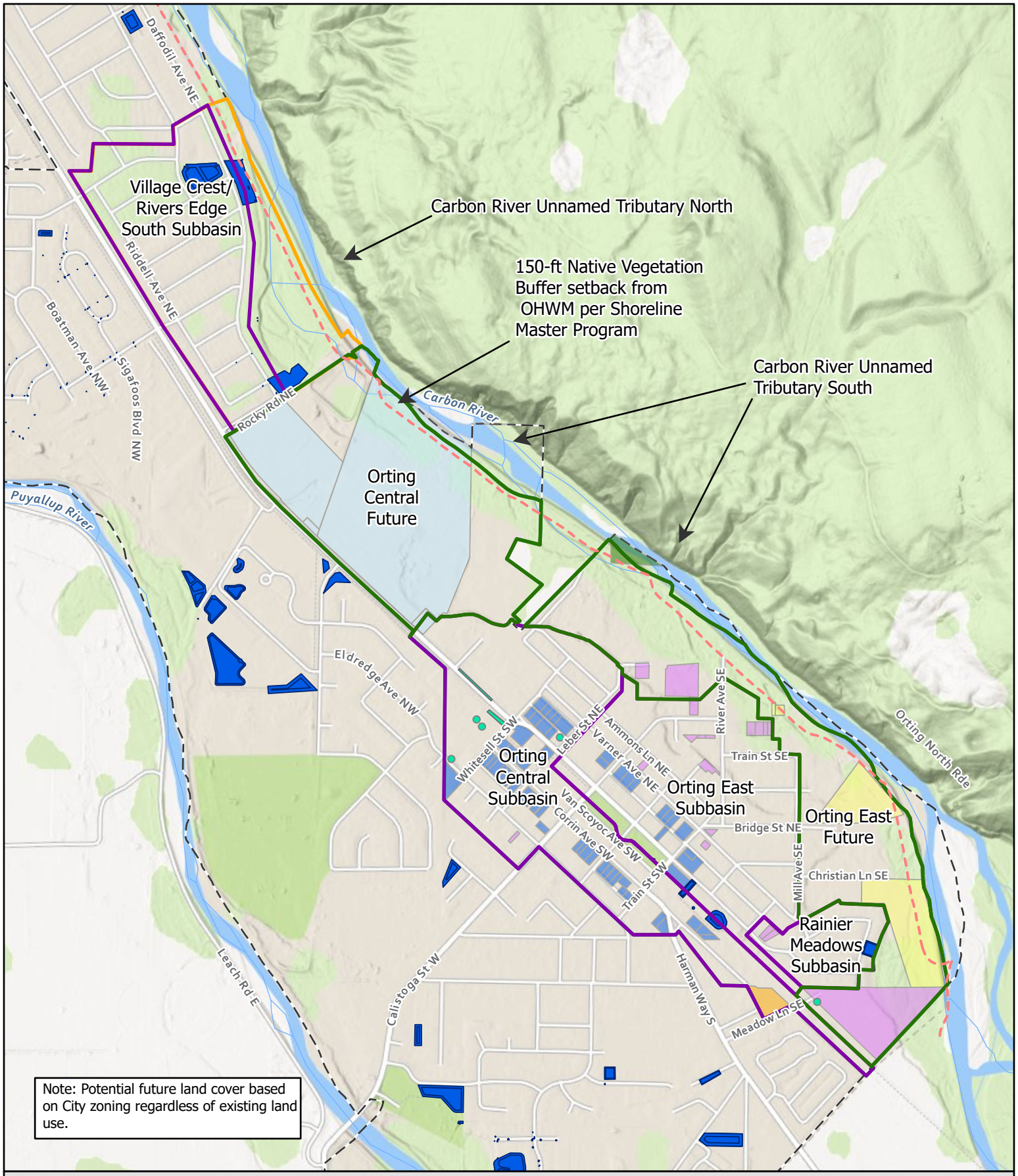
Underdeveloped Parcels
- Mixed Use - Town Center
- Residential Urban
- Residential Conservation
- Open Space/Recreation Pasture
- Open Space/Recreation Grass
- Open Space/Recreation Forest

Undeveloped Parcels
- Undeveloped Pasture
- Undeveloped Forested

- Carbon River Unnamed Tributary South Drainage Area
- Carbon River Unnamed Tributary North Drainage Area
- Developed Subbasins
- Undeveloped Subbasins
- Existing Public SWM Facilities
- Existing Private SWM Facilities
- Native Vegetation Buffer
- City Boundary

Exhibit 2
Developable and
Redevelopable Parcels
Existing Conditions

Orting, WA




Date: 5/2/2022
Sources: City of Orting, Pierce County, Esri, NASA, NGA, USGS, FEMA

Future Land Cover
- Mixed Use - Town Center
- Mixed Use - Town Center North
- Public Facilities
- Residential Conservation
- Residential Multi-Family
- Residential Urban

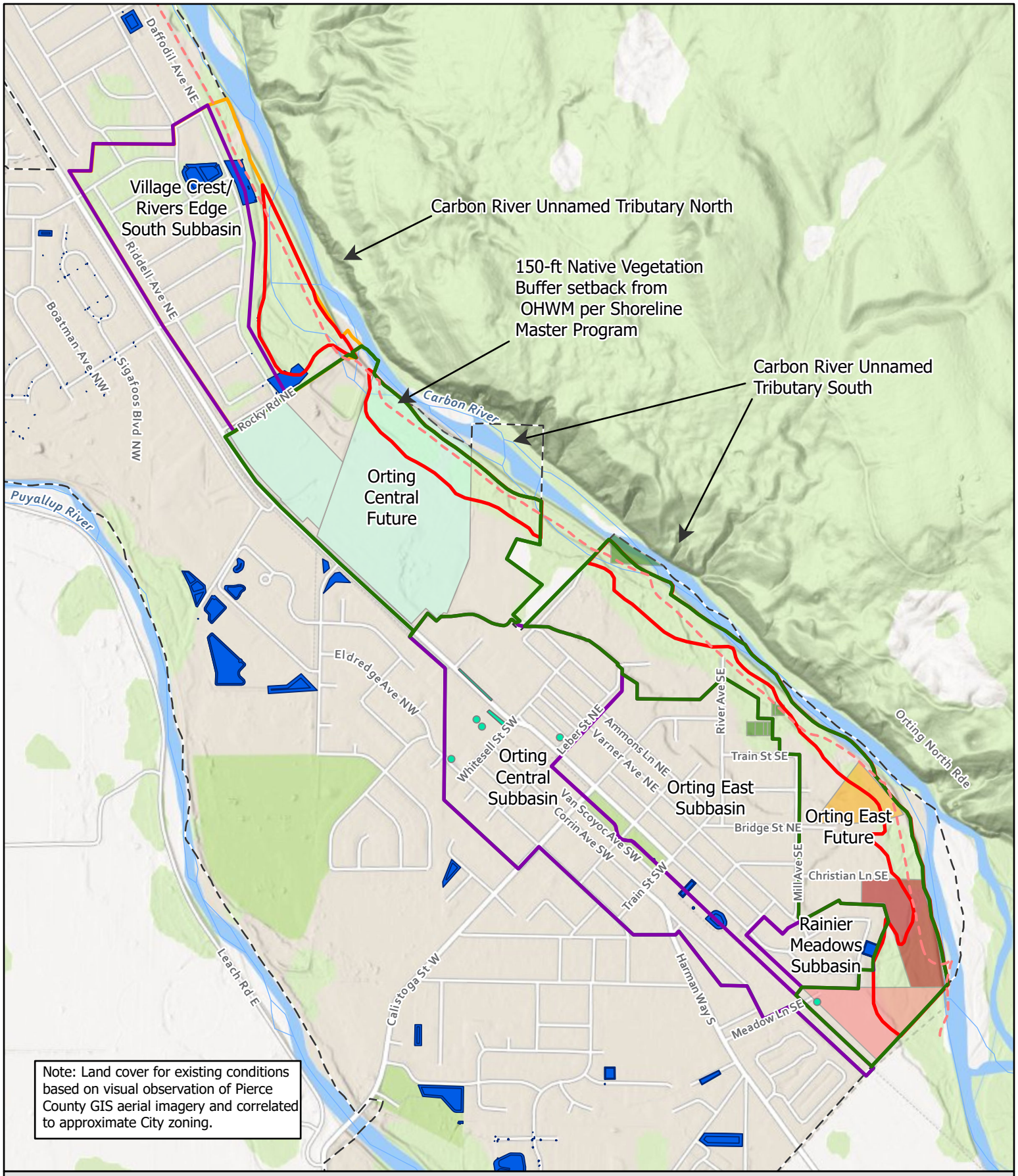
- Carbon River Unnamed Tributary South Drainage Area
- Carbon River Unnamed Tributary North Drainage Area
- Existing Public SWM Facilities
- Existing Private SWM Facilities
- Developed Subbasins
- Undeveloped Subbasins
- Native Vegetation Buffer
- City Boundary

Scale: 1 in: 1,200 ft

0 500 1,000 2,000 Feet

# Exhibit 3
## Developable and Redevelopable Parcels
## Potential Future Conditions

Orting, WA




Date: 5/2/2022
Sources: City of Orting, Pierce County, Esri, NASA, NGA, USGS, FEMA
Note: Source for parcel designations is Pierce County 2020 Buildable Lands layer (web server link https://services2.arcgis.com/1UvBaQ5y1ubjUPmd/ArcGIS/rest/services/2020_Buildable_Lands_Inventory_DRAFT_Review/FeatureServer)

Scale: 1 in: 1,200 ft

0 500 1,000 2,000 Feet

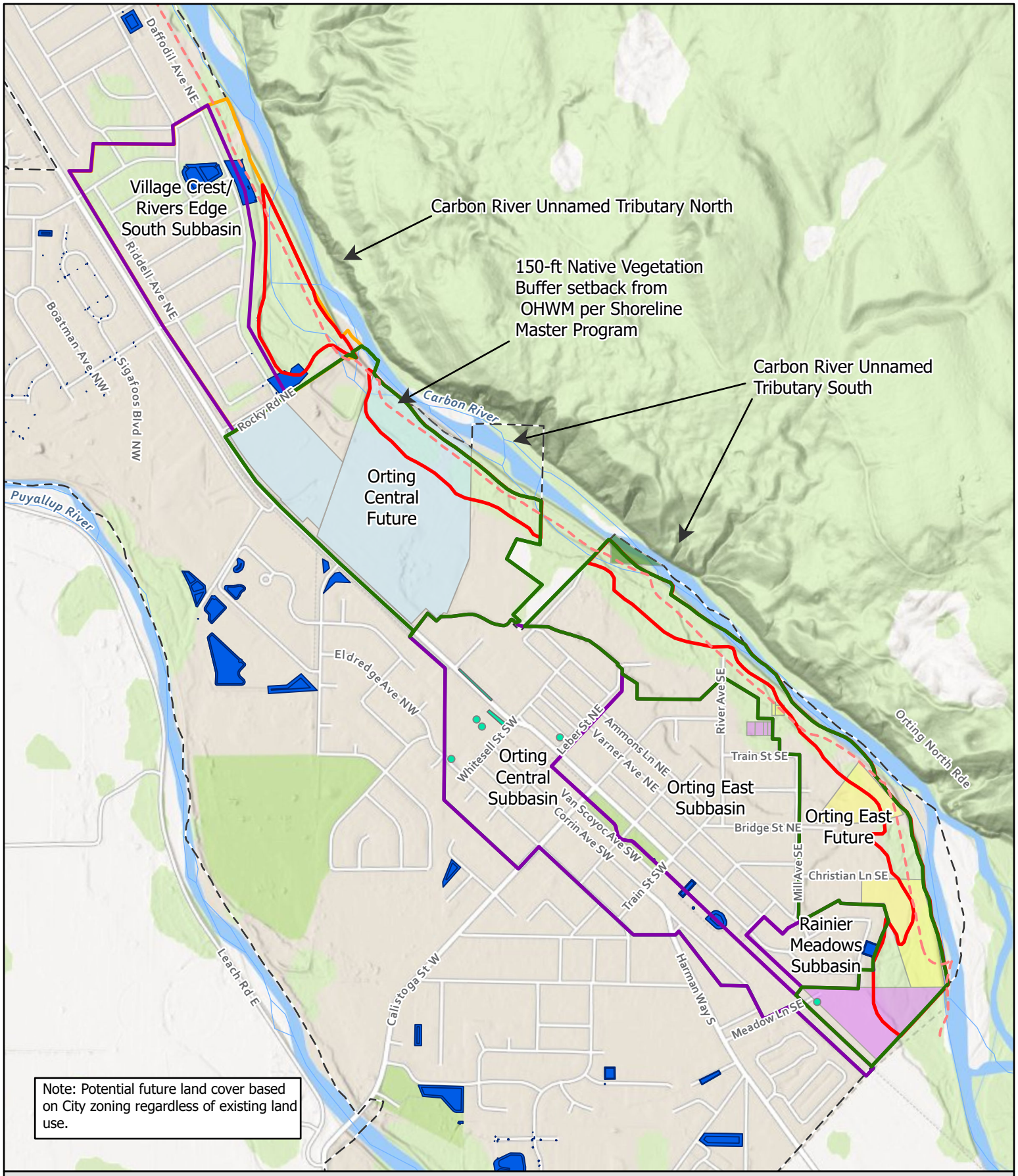
Underdeveloped Parcels
- Open Space/Recreation Pasture
- Open Space/Recreation Grass
- Open Space/Recreation Forest

Undeveloped Parcels
- Undeveloped Pasture
- Undeveloped Forested

- SMAP Study Area
- Carbon River Unnamed Tributary South Drainage Area
- Carbon River Unnamed Tributary North Drainage Area
- Developed Subbasins
- Undeveloped Subbasins
- Existing Private SWM Facilities
- Existing Public SWM Facilities
- Native Vegetation Buffer
- City Boundary

# Exhibit 4 - Developable and Redevelopable Parcels with Surface Water Discharge Prior to Carbon River Existing Conditions

Orting, WA




Date: 5/2/2022
Sources: City of Orting, Pierce County, Esri, NASA, NGA, USGS, FEMA

Future Land Cover
- Mixed Use - Town Center North
- Public Facilities
- Residential Conservation
- Residential Urban

- SMAP Study Area
- Carbon River Unnamed Tributary South Drainage Area
- Carbon River Unnamed Tributary North Drainage Area
- Developed Subbasins
- Undeveloped Subbasins
- Existing Private SWM Facilities
- Existing Public SWM Facilities
- Native Vegetation Buffer
- City Boundary

Scale: 1 in: 1,200 ft

0 500 1,000 2,000 Feet

# Exhibit 5 - Developable and Redevelopable Parcels with Surface Water Discharge Prior to Carbon River Potential Future Conditions

Orting, WA

# Attachment C

## Ranking Calculations

| | | | |
|---|---|---|---|
| **CITY OF ORTING** | | | |
| **SMAP Phase 2 Step 3** | | | |
| | | | |
| Ranking calculations for Receiving Water Prioritization | | | |
| | | | |
| **Consideration** | | **Carbon River Unnamed Tributary North** | **Carbon River Unnamed Tributary South** |
| **Major Sub-basin name** | | Village Crest/Rivers Edge South Subbasin | Orting Central Subbasin, Orting East Subbasin, Rainier Meadows Subbasin |
| **Major Sub-basin overview** | | Fully developed. Area routed to existing SWM facilities. | Rainier Meadows Subbasin is developed and routed to existing SWM facility. No future development or redevelopment anticipated in Rainier Meadows Subbasin. Some existing development and some existing SWM facilties in Orting Central Subbasin and Orting East Subbasin. Future development, redevelopment and SWM facilities anticipated in Orting Central Subbasin and Orting East Subbasin. |
| **Receiving water subarea overview** | | Existing SWM facilities discharge to the Carbon River Unnamed Tributary North. | Portions of the subbasins have direct discharge to Carbon River. Other portions of the subbasins discharge to Carbon River Unnamed Tributary South. This includes the Orting Central Future and Orting East Future subareas. |
| | | | |
| **Relative importance of how much existing area drains to existing stormwater facilities. This helps determine the relative importance of ongoing O&M and inspections as well as identifies potential amounts of retrofit, which would then be considered further based on opportunities and costs.** | | | |
| Major Subbasin name | | Carbon River Unnamed Tributary North | Carbon River Unnamed Tributary South |
| Total Subbasin area; this is the total tributary area within overall subbasin, even if portions do not have direct surface flow contributions to the Receiving Water subarea (i.e., portions of the Subbasin area may have direct discharges to major receiving water such as a river or lake) | ac | 83.47 | 399.67 |
| # of existing public or private SWM facilities | # | 3 | 7 |
| Area that is routed to existing SWM facility that provides treatment, flow control, or both, regardless of when constructed (does not account for changes in design standards over time) | ac | 68.03 | 29.4 |
| Fraction of existing area that is routed to existing SWM facility | Fraction of area = Area routed to existing SWM facilities / Total Subbasin Area | 0.82 | 0.07 |
| A higher score indicates a higher relative importance to maintain existing SWM facilities | **Score = # of existing SWM facilities * Fraction of area** | **2.45** | **0.51** |
| | | | |
| **Relative importance of preserving the 150-ft native vegetation buffer from OHWM for developable + redevelopable area. Only the area with direct surface discharge to the receiving water is considered. This illustrates the importance of preserving the buffer during future development or redevelopment.** | | | |
| Sub-area name that has surface area flows | | N/A | Orting Central Future, Orting East Future |
| Amount of area that is already developed, is not routed to an existing SWM facility, and is outside of the receiving water subarea | ac | 0 | 170.63 |
| Receiving Water subarea + future subareas | ac | 15.44 | 199.64 |
| Total developable + redevelopable area within the future subareas with surface flow to Receiving Water Area; excludes areas that are already developed | ac | 0 | 96.49 |

| | | | |
|---|---|---|---|
| **CITY OF ORTING** | | | |
| **SMAP Phase 2 Step 3** | | | |
| | | | |
| Ranking calculations for Receiving Water Prioritization | | | |
| | | | |
| **Consideration** | | **Carbon River Unnamed Tributary North** | **Carbon River Unnamed Tributary South** |
| **Major Sub-basin name** | | Village Crest/Rivers Edge South Subbasin | Orting Central Subbasin, Orting East Subbasin, Rainier Meadows Subbasin |
| Developable + redevelopable area that is inside of 150-ft OHWM setback | ac | 0 | 5.77 |
| Developable + redevelopable area that is outside of 150-ft OHWM setback | ac | 0 | 90.72 |
| Developable + redevelopable area inside the 150-ft OHW setback / Area within sub-area | Fraction of area | 0 | 0.0289 |
| Factor from look-up table below, 1 to 4. The higher the fraction of area within the 150-ft setback, the more important the area is | Factor from lookup table in Notes, below | 1 | 1 |
| A higher score indicates a higher relative importance to retain the 150-ft native vegetation buffer | **Score = factor * fraction of developable + redevelopable area within the 150-ft OHWM setback** | **0** | **0.0289** |
| **Relative importance of future SWM facilities as development or redevelopment occurs. This is based on the total developable or redevelopable land whether it is inside or outside the 150-ft setback and the total area in the Subbasin** | | | |
| A higher score indicates a higher relative importance for future SWM facilities as development or redevelopment occurs | **Score = 1 / (Total developable + redevelopable / Total Subbasin area)** | 0.00 | 4.14 |
| | | | |
| **Relative importance of new facilities to retrofit for existing conditions. Considers if there are there previous plans that identify facilities that can retrofit existing areas.** | | | |
| # of planned new facilities | # | 0 | 0 |
| Area that is outside of the smaller Receiving Water subarea that is not routed to existing SWM facilities | ac | 0.00 | 170.63 |
| # of planned new facilities / acre of untreated | A = # of planned facilities * (Existing area without SWM facilities / Total area outside of Receiving Water subarea) | **0.00** | **0.00** |
| Importance for considering future best management practices for development / redevelopment | B = Total developable + redevelopable area / Receiving Water subarea | **0.00** | **0.48** |
| A higher score indicates a higher relative importance for retrofitting existing areas not routed to existing SWM facilities | **Score = A + B** | **0.00** | **0.48** |
| | | | |
| **Relative importance of land management strategies, such as LID, infiltration, other** | | | |
| Would LID help? 1 = low potential to implement; 5 = moderate potential, 10 = high potential | A: 1, 5 or 10 | 1 | 5 |
| Is infiltration feasible? 1 = low potential; 5 = moderate potential, 10 = high potential | B: 1, 5 or 10 | 1 | 1 |
| Are reduced footprints and / or native vegetation preservation or revegetation feasible? 1 = low potential, 5 = moderate potential, 10 = high potential | C: 1, 5 or 10 | 1 | 10 |

| | | | |
|---|---|---|---|
| **CITY OF ORTING** | | | |
| **SMAP Phase 2 Step 3** | | | |
| | | | |
| Ranking calculations for Receiving Water Prioritization | | | |
| | | | |
| **Consideration** | | **Carbon River Unnamed Tributary North** | **Carbon River Unnamed Tributary South** |
| **Major Sub-basin name** | | Village Crest/Rivers Edge South Subbasin | Orting Central Subbasin, Orting East Subbasin, Rainier Meadows Subbasin |
| A higher score indicates a higher relative importance of LID-type BMPs | **Score = (A + B + C) * (Amount of developable + redevelopable area / Receiving Water subarea)** | **0.00** | **3.86** |
| **Relative importance of SWMP actions** | | | |
| Maintain existing SWM facilities; O&M; inspection; monitor inspection reports | A = # of existing SWM facilities * (existing area routed to existing SWM facilities / Total Subbasin area) | **2.45** | **0.51** |
| Public education and outreach re: SMP, wetlands, buffers, preserving native vegetation | B = (Amount of developable + redevelopable area / Receiving Water subarea) | **0.00** | **0.48** |
| A higher score indicates a higher relative importance of SWMP actions within the Subbasin and Receiving Water subarea | **Score = A + B** | **2.45** | **1.00** |
| | | | |
| **Relative importance of preservation** | | | |
| This helps determine how important is it to preserve a receiving water as a high quality receiving water. Considers if there are other receiving waters which the City has predominant influence that could be an alternative. 1 = many other alternatives, 5 = some other alternatives, or 10 = no other practicable alternative | Factor = 1, 5 or 10 | 5 | 10 |
| A higher score indicates a higher relative importance for preserving a Receiving Water subarea over other receiving water subareas | **Score: Factor * (Amount of developable + redevelopable area / Receiving Water subarea)** | **0.00** | **4.83** |
| | | | |
| **Relative importance of regional plans to help with improving WQ or hydrology with future development or redevelopment** | | | |
| Number of projects planned | | 0 | 0 |
| A higher score indicates a higher relative importance of regional plans to preserve or restore water quality and / or hydrology | **Score = # of projects * (Total developable + redevelopable area / Receiving Water subarea)** | **0.00** | **0.00** |
| | | | |
| **Relative importance to address environmental health risk indicators** | | | |
| # of all health risk factors that discharge from developable or redevelopable areas via surface flow to the receiving subareas | # of factors | 0 | 0 |
| A higher score indicates a higher relative importance of environmental health risk factors in considering stormwater management approaches | **Score = # of factors * (Total developable + redevelopable area / Receiving Water subarea)** | **0** | **0** |
| | | | |
| **Relative importance of providing a higher level of treatment for surfaces triggering enhanced treatment** | | | |

| | | | |
|---|---|---|---|
| **CITY OF ORTING** | | | |
| **SMAP Phase 2 Step 3** | | | |
| | | | |
| Ranking calculations for Receiving Water Prioritization | | | |
| | | | |
| **Consideration** | | **Carbon River Unnamed Tributary North** | **Carbon River Unnamed Tributary South** |
| **Major Sub-basin name** | | Village Crest/Rivers Edge South Subbasin | Orting Central Subbasin, Orting East Subbasin, Rainier Meadows Subbasin |
| Would requiring enhanced treatment if not triggered be helpful? 0 = no because the loading concentrations are too low, rendering the treatment BMP ineffective; 10 = great benefit because the % of pollutant reduction is high regardless of influent concentrations. | | | |
| Developable + Redevelopable Area | ac | 0 | 65.92 |
| Zoning | | MUTC/MUTCN | MUTC/MUTCN |
| Fraction of Developable + Redevelopable | | 0 | 0.68 |
| Level of treatment | 1 = Basic; 2 = Enhanced | 2 | 2 |
| | | | |
| Developable + Redevelopable Area | ac | 0 | 30.57 |
| Zoning | | P, RC, RMF, RU | P, RC, RMF, RU |
| Fraction of Developable + Redevelopable | | 0 | 0.32 |
| Level of treatment | 1 = Basic; 2 = Enhanced | 1 | 1 |
| | | | |
| A higher score indicates a higher relative importance of future WQ treatment BMPs as development or redevelopment occurs in the Receiving Water area | **Score = sum (Treatment * Area)** | **0** | **1.68** |
| | | | |
| **TOTAL SCORE** | | **4.89** | **16.55** |

Notes:

1. Example calculations for illustrative purposes only. Actual values to be inserted for SMAP Phase 2 Step 3.
2. Zoning codes:

| | Potential treatment triggered |
|---|---|
| MUTC = Mixed Use Town Center | Enhanced |
| MUTCN = Mixed Use Town Center North | Enhanced |
| P = Public | Basic |
| RC = Residential Conservation | Basic |
| RMF= Residential Multifamily | Basic |
| RU = Residential Urban | Basic |

3. Factors for area within 150-ft OHWM setback from Shoreline Management Program:

| Fraction | Factor |
|---|---|
| 0 | 1 |
| 0.26 | 2 |
| 0.51 | 3 |
| 0.76 | 4 |

# Attachment D

Public Notification

**COUNCILMEMBERS**
Position No.
1. Tod Gunther
2. Chris Moore
3. Don Tracy
4. John Williams
5. Gregg Bradshaw
6. Greg Hogan
7. Melodi Koenig

**ORTING CITY COUNCIL**
Study Session Meeting Agenda
104 Bridge Street S, Orting, WA
Zoom – Virtual
June 15th, 2022
6:00 p.m.

## Deputy Mayor Greg Hogan, Chair

### 1. CALL MEETING TO ORDER, PLEDGE OF ALLEGIANCE, AND ROLL CALL.

This meeting is being held in person and through the platform zoom. A link for virtual participation can be found on the agenda or on the City's website.

Zoom: https://us06web.zoom.us/j/88488109269?pwd=ZTdneEI0RmNYZklYL0xkSVlteVZSdz09
Meeting ID: 884 8810 9269
Passcode: 038174

### 2. COMMITTEE REPORTS.

**A.** Public Works.
**CM Bradshaw & CM Williams**
**B.** Public Safety.
**CM Moore & CM Koenig**
**C.** Community and Government Affairs.
**CM Gunther & CM Tracy**

Excerpt from:

https://www.cityoforting.org/government/city-council/council-packets-minutes/-folder-175

Accessed 6/30/22

### 3. STAFF REPORTS.

### 4. AGENDA ITEMS.

**A. AB22-42 –** Supportive and Transitional Housing Amendments.
**Stefanie Hindmarch**
**B. AB22-14 –** Manufactured Home Code Amendments.
**Stephanie Hindmarch**
**C. AB22-59** – Public Outreach SMAP.
**Jeff Coop**
**D. AB22-58** – Emergency Ordinance 2022-1096 – Amending OMC 9-5A-9 Regarding Stormwater Regulations.
**Scott Larson**
**E. AB22-56** – Sole Source Designation.
**Gretchen Russo**
**F. AB22-46 –** Chief Hiring Process.
**Scott Larson**
**G. AB22-45** – Reader Board.
**Scott Larson**
**H. AB22-47 –** Low Income Home Water Assistance Program.
**Gretchen Russo**
**I. AB22-49 –** Seek Grant Additional Funds.
**Kim Agfalvi**
**J. AB22-38 –** Tunnels to Towers Sponsorship.
**Kim Agfalvi**

*Americans with Disabilities Act – reasonable accommodations provided upon request (360) 893-2219*

*Next Regular Meeting: June 29th, 2022 7:00pm*

K. **AB22-53** - Surplus of Firearms.
**Gretchen Russo**
L. **AB22-51 –** Vehicle Surplus.
**Gretchen Russo**
M. **AB22-52 –** Vehicle Purchase.
**Gretchen Russo**
N. **AB22-57 –** Shorten Study Session Meetings.
**CM Bradshaw**
O. **AB22-55 -** Facility Tour.
**CM Bradshaw**

5. **EXECUTIVE SESSION.**

6. **ADJOURNMENT.**