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

TECHNICAL MEMORANDUM

DATE:	February 25, 2022
TO:	Maryanne Zukowski, City Engineer
FROM:	Jeffrey Coop, PE, CFM
SUBJECT:	SMAP Phase 1
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 to document the results. This technical memorandum has been prepared to support the City of Orting (City) with Section S5.C.1.d.i to address the Phase 1 receiving water assessment requirement.

To facilitate the schedule for City review, SMAP Phase 1 is being completed based on the steps listed below. The following steps are based on Stormwater Management Action Planning Guidance (Ecology 2019b). This technical memorandum will be updated as the steps are completed.

- Step 1 – Delineate basins and identify receiving waters.
- Step 2 – Assess receiving water conditions.
- Step 3 – Assess stormwater management influence.
- Step 4 – Assess relative conditions and contributions.

The results for SMAP Phase 1 Steps 1 and 2 were documented in the SMAP Phase 1 Technical Memorandum (Parametrix; February 11, 2022). The technical memorandum is updated herein with the results for SMAP Phase 1 Step 3.

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 Carbon River are exempt from flow control. Based on SWMMWW Appendix III-A, discharges from the City into both the Puyallup River and 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 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. Table 1 summarizes the relative contributing areas. As can be seen in Table 1, the City has a negligible area tributary to the Puyallup River or Carbon River. Information regarding the gauging stations is from Water Resources Data-Washington Water Year 2005 (USGS).

Table 1. Contributing Area Comparison

Total area within City	**ac**	**1,767.07**
	sq mi	2.76
Puyallup River		
USGS Station Number		12093500
USGS Station Name		Puyallup River Near Orting
Tributary Area	sq mi	172
River Station at confluence with Carbon River	RM	17.9
River Station at USGS Station	RM	26.4
Approximate length between USGS Station and City	RM	8.5
Carbon River		
USGS Station Number		12094000
USGS Station Name		Carbon River Near Fairfax
Tributary Area	sq mi	78.9
River Station at confluence with Puyallup River	RM	0
River Station at USGS Station	RM	16.1
Approximate length between USGS station and City	RM	16.1
Combined Upstream Area prior to City	**sq mi**	**250.9**
City Area as percent of U/S Area		**1.10 percent**
Puyallup River downstream of Carbon River		
USGS Station Number		12101500
USGS Station Name		Puyallup River at Puyallup, WA
Tributary Area	sq mi	948
River Station	RM	6.6
River Station at confluence with Carbon River	RM	17.9
Approximate length between USGS Station and Carbon River confluence	RM	11.3
City Area as a percent of tributary area		**0.29 percent**

Notes: ac = acre; sq mi = square miles; RM = river mile.

1 Calculations do not account for the areas between the City and the USGS station upstream of the City.

2 Calculations do not account for areas tributary to the Puyallup River downstream of the City.

STEP 1 – DELINEATE BASINS AND IDENTIFY RECEIVING WATERS

Although there are limited areas for receiving waters within the City, two areas were identified for SMAP Phase 1 Step 1. The two areas are on the landward side of the Carbon River along the easterly side of town. The two identified receiving waters, subbasin boundaries, and outfall locations are shown in Attachment A. The two receiving waters are summarized in Table 2 below.

Table 2. Summary of Receiving Waters

Parameter	Carbon River Unnamed Tributary North	Carbon River Unnamed Tributary South
Receiving water footprint area	16.96 acres	60.92 acres
Total potential contributing area	93.79 acres	399.66 acres
Developed subbasins	Village Crest/Rivers Edge South	Orting Central Orting East Rainier Meadows
Undeveloped/underdeveloped subbasins	None	Orting Central Future Orting East Future
Discharges through	Existing pipe through levee	Existing pipe through levee

STEP 2 – ASSESS RECEIVING WATER CONDITIONS

There are no designated uses for either the Carbon River North Unnamed Tributary or the Carbon River South Unnamed Tributary. However, they both discharge into the Carbon River. Based on Chapter 173-201A-602 Table 602 of the Washington Administrative Code (WAC), designated uses for the Carbon River include the following:

- Aquatic Life uses: char spawning/rearing
- Recreation uses: Primary contact
- Water supply uses: all (domestic, industrial, agricultural, and stock water)
- Miscellaneous uses: all (wildlife habitat, fish harvesting, commerce/navigation, boating, aesthetics)
- Additional: Spawning and incubation protection

Table 3 summarizes current development coverage within the tributary areas to the two identified receiving waters.

Table 3. Summary of Receiving Water Tributary Conditions

Parameter	Carbon River North Unnamed Tributary	Carbon River South Unnamed Tributary
Total Tributary Area	93.79 acres	427.2 acres
Approximate Impervious Area	26.07 acres	87.32 acres
Approximate Pervious Area	67.72 acres	339.88 acres
Number of Existing stormwater management facilities	2	9
Approximate percentage of pervious area as percent of total tributary area	72 percent	80 percent

As can be seen in Table 3, most of the area within the Carbon River North Unnamed Tributary area is developed. Most of the area is within the Village Crest/Rivers Edge development and is served by existing stormwater management (SWM) facilities. Although the Carbon River South Unnamed Tributary has several existing SWM facilities, there is still a greater amount of area and a greater percentage of area that has the potential for future development or redevelopment.

There is no transportation planning occurring that will direct development specifically into the Carbon River North Unnamed Tributary area or Carbon River South Unnamed Tributary area. Transportation improvements that occur would be based on proposed development or redevelopment. Stormwater management, including Low Impact Development, would be implemented as required by Orting Municipal Code (OMC) Title 9 Chapter 5. Use of the SWMMWW is promulgated in the City through OMC 9-5A-9. In accordance with I-2.10, Water Quality Standards, of the SWMMWW, use of the SWMMWW is presumed to comply with Chapter 173-201A WAC water quality standards.

An initial assessment of receiving water conditions was performed using the following resources.

- https://www.epa.gov/ejscreen
- https://www.doh.wa.gov/DataandStatisticalReports/WashingtonTrackingNetworkWTN/WashingtonEnvironmentalHealthDisparitiesMap
- https://apps.ecology.wa.gov/coastalatlas/wc/landingpage.html

Background information regarding the above resources is included in Attachment B. The intent of the characterization screening tools for the SMAP process is to identify stormwater-related factors that can be considered in determining where stormwater management improvements may be appropriate in order to improve conditions in the tributary areas and the receiving waters. The information from the characterization screening tools will be considered in further detail in SMAP Phase 2.

Stormwater-related factors from the U.S. Environmental Protection Agency (USEPA) EJScreen tool for Environmental Indicators and EJ Indexes include:

- Hazardous Waste Proximity
- Superfund Proximity
- Wastewater Discharge Indicator
- Traffic Proximity
- Risk Management Plan Proximity

Stormwater-related factors from the Department of Health (DOH) screening tool include:

- Environmental Exposures – Populations near Heavy Traffic Roadways
- Environmental Exposures – Toxic Releases from Facilities
- Environmental Effects – Proximity to Hazardous Waste Treatment Storage and Disposal Facilities
- Environmental Effects – Proximity to National Priorities List Facilities (Superfund Sites)
- Environmental Effects – Proximity to Risk Management Plan Facilities
- Environmental Effects – Wastewater Discharge

Stormwater-related factors from the Puget Sound Watershed Characterization screening tool include:

- Water Flow
  - Overall
  - Delivery
  - Surface Storage
  - Recharge
  - Discharge
- Water Quality
  - Sediment
  - Phosphorus
  - Metals
  - Nitrogen
  - Pathogens
- Freshwater Fish and Wildlife Habitats
  - Sum of Freshwater Index Components
  - Maximum of Freshwater Index Components
  - Hydrogeomorphic Features (floodplain and wetland habitat)
  - Local Salmonid Habitats Index
  - Downstream Salmonid Habitats Index

Based on the USEPA EJScreen tool (see Attachment C):

- Screening data for the two receiving waters are within block groups 530530704041 and 530530704032.
- Most of the tributary areas for Carbon River North Unnamed Tributary and Carbon River South Unnamed Tributary are located in block group 530530704041. A portion of the Carbon River South Unnamed Tributary is located in block group 530530704032.
- Block group 530530704041 has a higher population percentile for superfund and risk management plan proximity than block group 5305307032. For SMAP Phase 2, the basis of this ranking should be reviewed in detail to determine where the facilities are located and to determine if stormwater from such facilities has the potential to enter into the Carbon River North Unnamed Tributary or Carbon River South Unnamed Tributary directly or through the City's conveyance system.

Based on the DOH screening tool (see Attachment D):

- The City has a low to medium ranking for environmental exposure risks. The highest risk indicator that is stormwater related is the potential of toxic releases from industrial facilities. For SMAP Phase 2, the basis of this ranking should be reviewed in detail to determine where the facilities are located and to determine if stormwater from such facilities has the potential to enter into the Carbon River North Unnamed Tributary or Carbon River South Unnamed Tributary directly or through the City's conveyance system.
- The City has a medium ranking for environmental effects, which are associated with proximity to hazardous waste treatment storage and disposal facilities, proximity to national priorities list facilities (Superfund sites), proximity to risk management plan facilities, and proximity to wastewater discharge. For SMAP Phase 2, the basis of the ranking for these factors should be reviewed in detail to determine where the facilities are located and to determine if stormwater from such facilities has the potential to enter into the Carbon River North Unnamed Tributary or Carbon River South Unnamed Tributary directly or through the City's conveyance system.

Table 4 provides a summary overview of the Puget Sound Watershed Characterization screening tool (see Attachment E).

Table 4. Puget Sound Watershed Characterization Screening Tool Summary Overview

Water Flow	Protection and Restoration	Considerations for SMAP Phase 2
Overall	Low Restoration/Development	Negligible change/impact from City actions
Delivery	Low Restoration/Development	Negligible change/impact from City actions
Surface Storage	Low Restoration/Development	Negligible change/impact from City actions
Recharge	Low Restoration/Development	Negligible change/impact from City actions
Discharge	Low Restoration/Development	Negligible change/impact from City actions
Water Quality	**Protection and Restoration**	**Considerations for SMAP Phase 2**
Sediment	Protection of source processes; restoration of source processes	Prevent activities that remove vegetation cover and increase channel erosion; restore natural cover and control existing sources
Phosphorus	Protection of source processes	Prevent activities that remove vegetation cover and increase channel erosion
Metals	Protection of source processes; protection of sinks	Prevent activities that remove vegetation cover and increase channel erosion; protect wetlands, lakes, and floodplains
Nitrogen	Protection of source processes	Limit new sources of nitrogen and prevent impacts to headwater streams, wetland, lake, and riparian denitrification areas
Pathogens	Protection of source processes	Limit new sources of pathogens
Fish and Wildlife Habitats		
Sum of Freshwater Index Components	15/20 (medium high ranking)	Summary results of local salmonid habitats index, downstream salmonid habitats index, and hydrogeomorphic features
Maximum of Freshwater Index Components	20/20 (high ranking)	Maximum results of local salmonid habitats index, downstream salmonid habitats index, or hydrogeomorphic features
Hydrogeomorphic Features	5/10 (medium ranking)	Limit/mitigation actions that impact wetlands or floodplains
Downstream Salmonid Habitats Index	5/20 (medium low ranking)	Negligible change/impact from City actions
Local Salmonid Habitats Index	10/10 (high ranking)	Limit/mitigate actions that would reduce the local salmonid habitats index

STEP 3 – ASSESS STORMWATER MANAGEMENT INFLUENCE

The focus of SMAP Phase 1 Step 3 is to assess the stormwater management influence for the receiving waters identified in Steps 1 and 2 to assess the relative conditions and the potential stormwater management influence. The Puyallup River and Carbon River were not evaluated because of the size of their tributary areas relative to the size of the City.

The Carbon River North Unnamed Tributary and Carbon River South Unnamed Tributary were selected for SMAP evaluation because the City has discharges into those areas, which then discharge into the Carbon River. Consequently, the City has a greater potential for improving water quality through stormwater management

actions in areas to these unnamed tributaries than for areas that directly discharge into the Puyallup River or Carbon River.

Stormwater management influence to the Carbon River North Unnamed Tributary and Carbon River South Unnamed Tributary vary because of the size differences between the tributary areas, amount of existing development, number of existing SWM facilities, and potential future development or redevelopment. Carbon River South Unnamed Tributary has the greatest potential for new development or redevelopment because of currently undeveloped land. The 2019 Comprehensive Plan Land Use and Zoning Map show the following land uses within the Carbon River South Unnamed Tributary area. The land use descriptions are summarized from OMC 13-3-2. Attachment F includes a figure that shows the zoning within the Carbon River North Unnamed Tributary and Carbon River South Unnamed Tributary. Allowable uses are included in Attachment G.

- Residential – Urban: provides for high-density urban single-family, townhouse, cottage, and duplex residential uses which benefit from the full array of services and amenities available in the town core.
- Residential – Conservation: provides for low-density single-family residential and duplex uses along the Puyallup and Carbon Rivers where there are critical areas such as frequently flooded areas, wetlands, and fish and wildlife habitat.
- Mixed Use – Town Center: provides a mix of commercial retail, office, residential and service development in the town core. Elements that impact stormwater management, such as pedestrian amenities and public transportation, will be considerations in development approvals for projects in this zone.
- Mixed Use – Town Center North: this area provides the greatest flexibility in development potential because of the large lots and land area. This area can include a mix of residential, nonresidential, open space and recreational uses that support a sustainable community by providing jobs and increasing the tax base. Elements that impact stormwater management, such as pedestrian amenities and public transportation, will be considerations throughout master planning and development approvals for projects in this zone. A Master Plan Development per OMC 13-3-2.E.2 and 3 is required for development in the Mixed Use – Town Center North area.
- Public Facilities: The intent of the Public Facilities Zone is to be applied to major parcels of land serving the cultural, educational, recreational, and public-service needs of the community, such as, but not limited to, schools, water and wastewater facilities, city buildings, city parking lots, and other City-owned uses. This zone applies only to lands owned by governmental agencies.

A feasibility study by the Orting School District is currently in process for both the Mixed Use – Town Center and Mixed Use – Town Center North areas. The results will likely require a code amendment for zoning changes.

The qualitative assessment of stormwater management influence for existing and future conditions for the two unnamed tributaries are summarized in Tables 5 and 6, respectively.

Table 5. Summary of Stormwater Management Influence, Existing Conditions

Factor Considered	Carbon River North Unnamed Tributary	Carbon River South Unnamed Tributary
General Description	Tributary area mostly developed. Stormwater from existing development routed through existing SWM facilities for Village Crest/Rivers Edge.	Tributary area mostly developed but has more area than Carbon River North Unnamed Tributary that could be developed or redeveloped.

Factor Considered	Carbon River North Unnamed Tributary	Carbon River South Unnamed Tributary
		Stormwater from some areas routed through existing SWM facilities. Not all areas are routed through existing SWM facilities.
Total Suspended Solids	Treatment provided through existing SWM facilities	Some treatment is provided for areas that are routed to existing SWM facilities.
Total Zinc	Potential removal through function of existing SWM facilities.	Potential removal through function of existing SWM facilities.
Total Copper	Potential removal through function of existing SWM facilities.	Potential removal through function of existing SWM facilities.
Receives Stormwater Point Flow Discharges	From outfalls from existing SWM facilities.	Most area has direct discharge into Carbon River through existing outfalls. Some areas have surface discharges into Carbon River South Unnamed Tributary.
Existing SWM Facilities	Village Crest/Rivers Edge Phase 1A, 2A, 3A.	Rainier Meadows, City Hall, Pierce County Public Safety, High School, Pioneer Village, Gas Station. SR 162/Washington Avenue infiltration gallery.

Notes: Pollutant selection based on Qualitative Procedures for Surface Water Impact Assessments (WSDOT 2009).

SWM = stormwater management

Table 6. Summary of Stormwater Management Influence, Future Conditions

Factor Considered	Carbon River North Unnamed Tributary	Carbon River South Unnamed Tributary
Total Suspended Solids	No change anticipated.	Will likely decrease as undeveloped areas develop and underdeveloped areas redevelop and new SWM facilities are provided.
Total Zinc	No change anticipated.	To be determined when Step 4 calculations are performed.
Total Copper	No change anticipated.	To be determined when Step 4 calculations are performed.
Future land use	No change anticipated. Continued residential development.	Existing developed areas not likely to redevelop. However, there are many lots that are underdeveloped. See zoning in Attachment F.
Future Stormwater Point Flow Discharges	No change anticipated.	Require level spreaders and prohibit point discharges for areas that discharge to Carbon River South Unnamed Tributary.
Future SWM Facilities	No change anticipated.	Will be provided in accordance with Orting Municipal Code.
Low-Impact Development	No change anticipated.	Will be provided where technically feasible in accordance with Orting Municipal Code.

Notes: Pollutant selection based on Qualitative Procedures for Surface Water Impact Assessments (WSDOT 2009).

SWM = stormwater management

STEP 4 – ASSESS RELATIVE CONDITIONS AND CONTRIBUTIONS

This technical memorandum, including area and potential pollutant loading calculations, will be updated as Step 4 is completed.

SMAP PHASE 2 – RECEIVING WATER PRIORITIZATION

The next phase of the SMAP is to prioritize the receiving waters based on the outcome of Phase 1. The receiving water prioritization is to be completed by June 30, 2022. A separate scope of work is being prepared to support SMAP Phase 2. The outcome of SMAP Phase 2 will be documented in a separate technical memorandum.

REFERENCES

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

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

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

Orting Municipal Code.

https://codelibrary.amlegal.com/codes/ortingwa/latest/orting_wa/0-0-0-5033

United States Geological Survey. Water Resources Data-Washington Water Year 2005.

https://pubs.usgs.gov/wdr/2005/wdr-wa-05-1/

Washington Administrative Code.

https://apps.leg.wa.gov/wac/default.aspx?cite=173-201a

Washington State Department of Transportation. WSDOT 2009. Quantitative Procedures for Surface Water Impact Assessments. April, 2009.

ATTACHMENTS

A – Mapping

B – Summary of Internet-Based Planning Tools

C – EPA Screening Tool Screenshots

D – DOH Screening Tool Screenshots

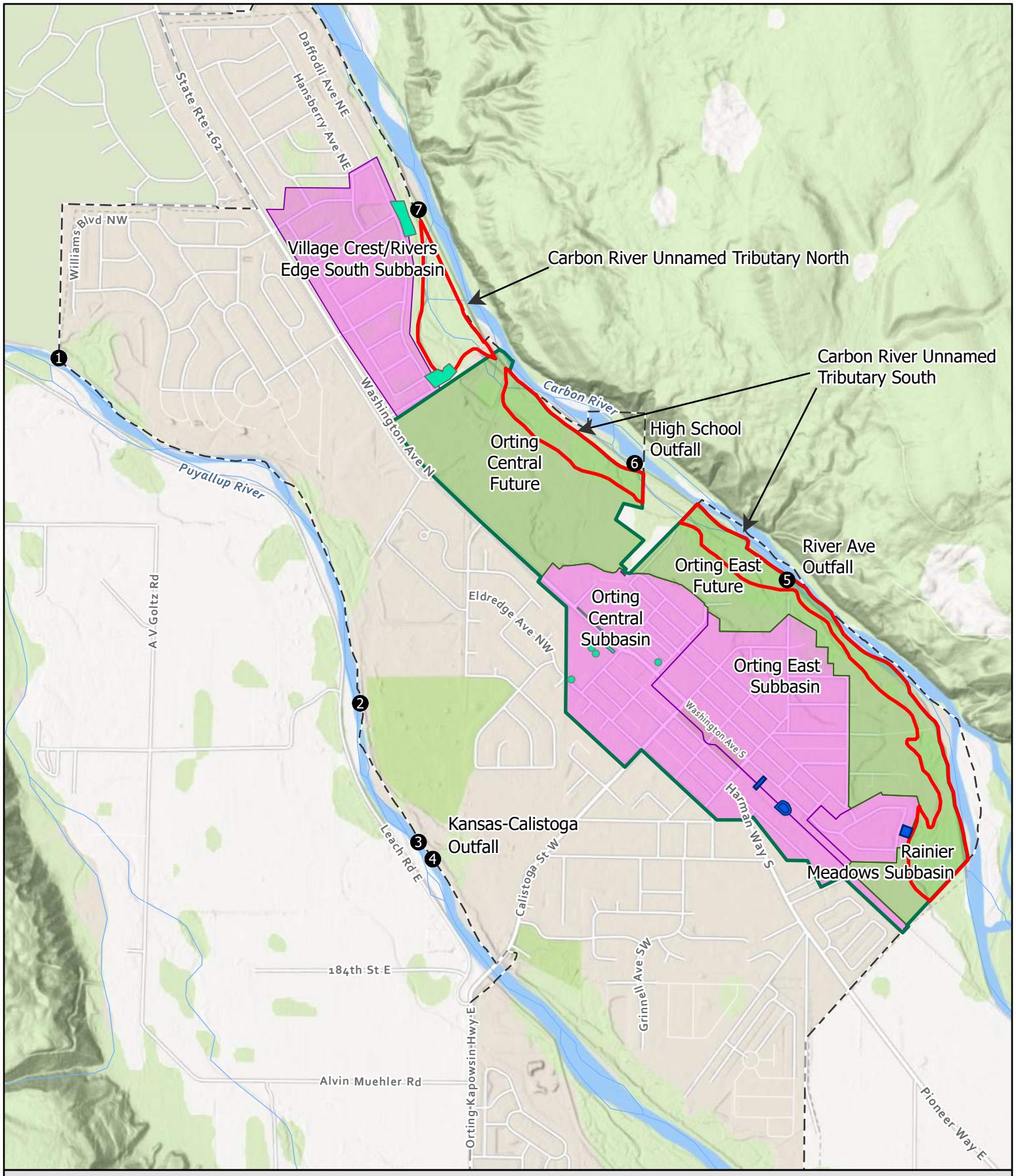
E – Puget Sound Watershed Characterization Tool Screenshots

F – Receiving Water Zoning Areas

G – Allowable Uses

Attachment A

Mapping



Date: 2/1/2022
Sources: City of Orting, Pierce County, Esri, NASA, NGA, USGS, FEMA

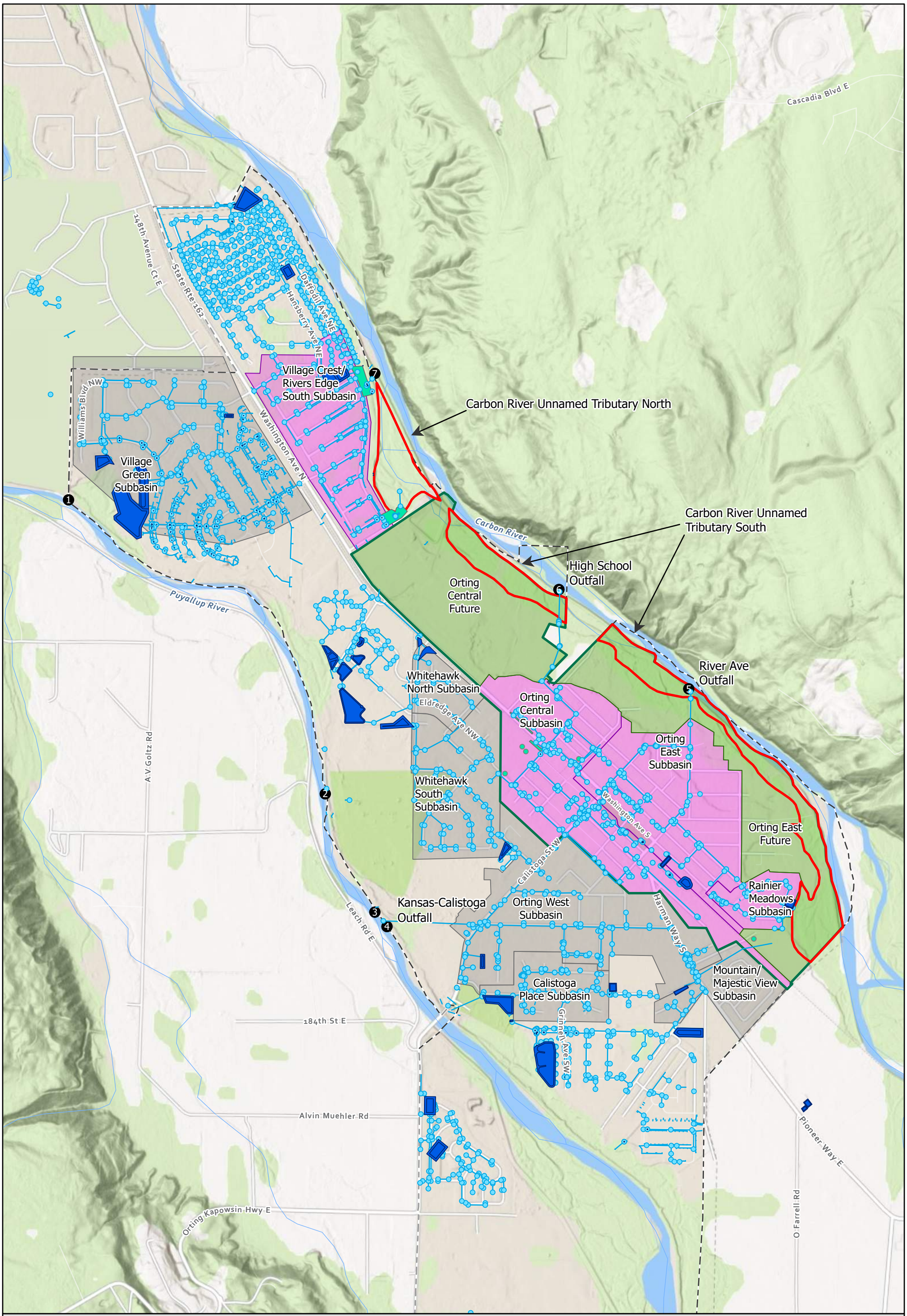
1 Outfall Locations
Developed Subbasins
Undeveloped Subbasins
Orting-Future North Boundary
Existing Public SWM Facilities
Existing Private SWM Facilities
SMAP Study Area
City Boundary

SWM Facilities and Outfall Locations
Orting SMAP

Scale: 1 in: 1,500 ft

0 500 1,000 2,000 Feet

Orting, WA



Date: 2/4/2022
Sources: City of Orting, Pierce County, Esri, NASA, NGA, USGS, FEMA

Scale: 1 in: 1,200 ft

0 500 1,000 2,000 Feet

- Outfall Locations
- Developed Subbasins
- Undeveloped Subbasins
- Subbasins Outside SMAP Tributary Area
- Orting-Future North Boundary
- Existing Public SWM Facilities
- Existing Private SWM Facilities
- Stormwater Pipes
- Stormwater Nodes
- SMAP Study Area
- City Boundary

Storm System Mapping

Note:
Storm system mapping for City reference only.
Not a NPDES Phase 2 Permit deliverable.

Orting, WA

Attachment B

Summary of Internet-Based Planning Tools

CITY OF ORTING
Stormwater Management Action Plan – Watershed Characterization

Summary of Internet Based Planning Tools

PUBLIC HEALTH AND THE ENVIRONMENT
The United States Environmental Protection Agency (USEPA) has developed a web-based tool that uses national data to combine environmental and demographic indicators that can be used to support USEPA's responsibility to protect public health and the environment. The Environmental Justice Screening and Mapping Tool (EJSCREEN Tool) is accessible through the following website:

https://www.epa.gov/ejscreen

The following environmental indicators from the EJSCREEN Tool were selected for watershed prioritization because they are the most directly related to management of surface water and stormwater resources.

- Hazardous Waste Proximity
- Superfund Proximity
- Wastewater Discharge Indicator
- Traffic Proximity
- Risk Management Plan (RMP) Proximity

Hazardous Waste Proximity
Hazardous waste site information used in the EJSCREEN Tool include the following:

- National Priorities List (NPL) sites;
- Risk Management Plan (RMP) facilities;
- Hazardous waste Treatment, Storage and Disposal Facilities (TSDFs); and,
- NPDES permitted major direct dischargers to water.

Hazardous waste sites are permitted through Ecology.

Proximity to hazardous waste sites can be used to evaluate the potential for stormwater impacts to the City's stormwater system or receiving waters within it's jurisdiction due to stormwater runoff from sites without adequate stormwater BMPs or without proper BMP maintenance. Ecology can be contacted if there are concerns about stormwater runoff from such sites or stormwater management facilities located on such sites.

The EJSCREEN Tool indicators present values based on percentiles related to block groups. Block groups are defined by the US Census Bureau. Census block groups are statistical divisions within a census tract and generally contain between 600 and 3,000 people.

The reported percentiles give a relative comparison of local information to state, regional or national block groups. Although the percentiles do not give a specific number of local residents, they do indicate if the local block groups have a higher or lower percentage relative to state, regional or national block groups. For evaluation for the City's receiving water prioritization, percentiles relative to state populations were used.

Superfund Proximity
Superfund sites are those that are covered under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) enacted in 1980.

National Priority List (NPL) sites are a subset of the Superfund sites.

The indicator is based on if a Superfund site is within 5 km of the average resident in a block group.

Although the main concern with pollutants from Superfund sites is that they can become airborne and dispersed by the wind or migrate into groundwater, there is the potential that the pollutants can leave the site through surface water runoff if there are insufficient stormwater treatment BMPs or if stormwater treatment BMPs are not properly maintained. The Superfund site indicator can be used to evaluate where City stormwater systems or where surface waters under the City's jurisdiction may be receiving stormwater runoff from Superfund sites. If there are concerns about stormwater treatment on a Superfund site, Ecology can be contacted.

Wastewater Discharge Indicator
Wastewater dischargers for the EJSCREEN Tool are those that are classified as "major direct dischargers", defined by law, and include industrial direct dischargers and Publicly Owned Treatment Works (POTWs). Such facilities are required to obtain permits under the Clean Water Act from USEPA or from the state where the state has been delegated by USEPA to administer its permitting authority under the Clean Water Act. The wastewater dischargers indicator is based on a distance of 5 km and population -weighted averages of blocks in each block group.

Although this indicator does not have a direct connection to stormwater management, it does indicate where wastewater discharges may be occurring into waterbodies within the City's jurisdiction. Information regarding effluent quality from wastewater treatment facilities can be obtained from Ecology.

Traffic Proximity
Traffic proximity is based on the count of vehicles per day within 500 meters of a block centroid presented as the population-weighted average of blocks in each block group.

The Traffic proximity indicator is used primarily to evaluate potential areas of health impacts associated with high traffic and air quality impacts associated with vehicle emissions.

However, higher traffic can also impact water quality in receiving waters from surface water runoff from high traffic roadways. This indicator can be used to determine where a higher level of stormwater treatment could be considered.

Risk Management Plan Proximity
Risk Management Plan (RMP) facilities are those required by the Clean Air Act to file risk management plans. The Clean Air Act establishes a list of regulated substances that pose the greatest risk of harm from accidental releases to air or water. The list includes 72 substances because of their high acute toxicity and 60 substances because of their flammable or explosive potential. The indicator is based on proximity within 5 Km to population-weighted averages of blocks in each block group.

RMP facilities may have their own on-site BMPs for air or water treatment. However, there may still be residuals that leave the site after what the BMPs are designed to remove. Consequently, the City should contact RMP permitting agencies to obtain information regarding BMPs and maintenance if there is a concern about a site within the City. The Puget Sound Clean Air Agency can be contacted for information regarding RMP facilities in King County.

The RMP indicator is primarily in the event of an industrial accident. Although stormwater BMPs would not be designed to mitigate for such impacts, the BMPs would need to be inspected and possibly replaced if there were an accident.

Information from the EJSCREEN Tool will be summarized in the SMAP Phase 2 Receiving Water Prioritization Technical Memorandum. Summary tables will be similar to Tables 1 and 2 below.

Table 1. Summary of Stormwater-related EJSCREEN Environmental Indicators by Population Percentile

Environmental Indicator	Population Percentile (State ranked)
Hazardous Waste Proximity	
Superfund Proximity	
Wastewater Discharge	
Traffic Proximity	
RMP Proximity	

Table 2. Summary of Stormwater-related EJSCREEN Environmental Indicators by Number of Sites

Environmental Indicator	Number of Sites within City-portion of tributary area
Superfund sites	
Toxic release sites	
Water dischargers	
Brownfields	
Hazardous waste(TSDF) sites	

The Washington State Department of Health (DOH) has also developed an environmental health tracking mapping tool, Information by Location (IBL), available through the following websites:

https://www.doh.wa.gov/DataandStatisticalReports/WashingtonTrackingNetworkWTN/InformationbyLocation/WashingtonEnvironmentalHealthDisparitiesMap

https://fortress.wa.gov/doh/wtn/WTNIBL/

The DOH IBL Tool tracks various types of exposures, effects from exposures, and population factors to identify population risks. To assist in receiving water prioritization for stormwater management, the following exposures were selected:

- Populations near Heavy Traffic Roadways
- Proximity to hazardous waste generators and facilities
- Proximity to NPL / Superfund sites
- Proximity to RMP facilities

- Wastewater Discharge

The attached mapping shows:

- Hazardous waste sites
- Superfund NPL sites
- Toxic Release Inventory (TRI) sites, and
- Ecology cleanup sites

Proximity to high traffic areas might be different from EJSCREEN because the DOH IBL Tool uses Washington State census block data which might differ from federal census block data.

Proximity to hazardous waste sites, NPL / Superfund sites, and RMP facilities should be similar to EJSCREEN Tool results. However, results may vary if DOH is using Washington State census data. Results may also vary if DOH is using comparisons to national data and EJSCREEN is used to compare state data.

Proximity to wastewater discharges will vary from EJSCREEN because the DOH IBL Tool uses a 500 m distance and USEPA uses a 5 km distance. The proximity is based on distance to population-weighted averages of blocks in each census tract. The DOH indicator is based on USEPA EJSCREEN Tool information.

The traffic indicator uses Washington State Office of Financial Management census block population estimates and is based on annual average daily traffic (AADT) volumes, roadways within 150 meters of a census tract boundary, and the populations within 300 meters on each side of the roadway. Although the indicator is primarily focused on air pollution, the indicator could also be used to consider where stormwater BMPs with a higher level of treatment may be appropriate.

Proximity to hazardous waste generators and facilities includes commercial Hazardous Waste TSDF Facilities within 5 km and is based on a population-weighted averages of blocks in each census tract. The DOH indicator is based on USEPA EJSCREEN Tool information.

Proximity to NPL / Superfund sites are based on a 5 km distance and a population-weighted averages of blocks in each census tract. The DOH indicator is based on USEPA EJSCREEN Tool information.

Proximity to RMP facilities are based on a 5 km distance and a population-weighted averages of blocks in each census tract. The DOH indicator is based on USEPA EJSCREEN Tool information.

After the percentiles are calculated, the indicators are then ranked through a formula that takes other factors into account. The ranking reflects decile values, with each number representing 10% of the values in the data set. The rankings are then modified to give a relative comparison to other communities. So, the rank value indicates that there are about 10% of other communities with the same ranking and that (1-Rank Value)*10 gives the percentage of other communities with a higher level of the indicator.

Information from the DOH IBL Tool will be summarized in the SMAP Phase 2 Receiving Water Prioritization Technical Memorandum. Summary tables will be similar to Tables 3 and 4 below.

Table 3. Ranking of Stormwater-related DOH IBL Environmental Categories

Category	Parameter	Rank
Environmental Health Disparities	Population near Heavy Traffic Roadways	
Environmental Effects	Proximity to Hazardous Waste TSDFs	
Environmental Effects	Proximity to NPL / Superfund Sites	
Environmental Effects	Proximity to RMP Facilities	
Environmental Effects	Wastewater Discharge	

Table 4. Summary of Stormwater-related DOH IBL Parameters by Number of Sites

Parameter	Number of Sites within City-portion of tributary area
Hazardous Waste Sites	
NPL / Superfund Sites	
TRI Sites	
Ecology Cleanup Sites	

WATERSHED CHARACTERIZATION

The Washington State Department of Ecology has developed a mapping tool, the Puget Sound Watershed Characterization Project, that can be used to support stormwater management planning. The watershed characterization project mapping tool includes different categories for water flow, water quality, and fish and wildlife habitats. The categories are ranked from lowest to highest level of importance, and from lowest to highest level of degradation. The combination of these results guides in determining which of the following is best suited for the area in question:

- Conservation: areas ranked with low degradation and low importance,
- Protection: areas ranked with low degradation and high importance,
- Development: areas ranked with high degradation and low importance, or
- Restoration: areas ranked with high degradation and high importance.

The Watershed Characterization tool provides color-coded maps that show the relative value of small watersheds and marine shorelines in the Puget Sound Basin. The relative value is determined by the potential importance of the area to ecological processes or values, such as water delivery, sediment delivery, or habitat / species conservation, and weighing those factors against the degree that they have been interrupted or degraded.

The Watershed Characterization Tool is available through the following website:

https://apps.ecology.wa.gov/coastalatlas/wc/landingpage.html

Water Flow Assessments

The water-flow model integrates two distinct submodels, one for Importance and one for Degradation.

- Delivery: This group assesses the physical features that control how precipitation is delivered to the landscape. This includes the quantity of precipitation, area of forest cover and rain on snow

zones. Changes to these controls are also evaluated including percent of forest and impervious cover.

- Surface storage: This group assesses features that control the movement of water at the surface, including depressional wetlands and floodplains. Changes to storage are assessed based on the type of adjoining development and the changes to areas that decrease the capacity to store water.
- Recharge - This group assesses areas that control the infiltration of precipitation into groundwater. The model calculates the decrease in recharge based on the intensity of development.
- Discharge - This group assesses areas that control the movement of groundwater back to the surface, including the area of slope wetlands and floodplains with permeable deposits. Changes to discharge controls are evaluated based on road density, number of water wells and type of adjacent development.

For the Water Flow Assessments, the Importance model evaluates the watershed in an unaltered state. The Importance model considers important areas for delivery, movement and storage and includes such factors as precipitation, snow, rain on snow, depressional wetlands and lakes, unconfined and moderately confined floodplains, permeability, slope wetlands and higher permeable floodplains.

For the Water Flow Assessments, the Degradation model evaluates the watershed in its altered state. The degradation model considers impacts on water flow processes. Degradation to water flow processes generally accelerates the movement of surface flows downstream and generally can increase downstream flooding and erosion and subsequent degradation of aquatic habitat over time.

The Degradation model considers impervious cover, forest loss, dams, impacts to depressional wetlands and floodplains, densities of development, roads, and wells, and impacts to slope wetlands.

The Water Flow Protection and Restoration matrix combines the Importance and Degradation models. Areas with a relatively high Importance and relatively low Degradation (upper left hand corner of the matrix) are most suitable for protection strategies. Areas with relatively low importance and low degradation (lower left hand corner of the matrix) are lower priorities for protection. Areas with high importance and high degradation (upper right hand corner) should be considered for restoration actions. Areas with low importance and high degradation (lower right hand corner) are lower priorities for restoration.

Water Quality Assessments

There are five water quality models, each of which has an export potential submodel and a degradation submodel.

- Sediment Model: The Sediment Export Potential submodel assesses the relative capacity of an area under natural conditions to transport soil particles downstream based on an evaluation of areas that act as sources and sinks of sediment. The Degradation submodel assesses the relative sediment load based on current land cover, using a modified universal soil loss equation.
- Phosphorous Model: The Phosphorous Export Potential submodel assesses the relative capacity of an area under natural conditions to transport phosphorous downstream based on areas that act as sources and sinks of phosphorous. Based on existing land cover, the degradation submodel assesses the relative capacity to generate and load phosphorous into aquatic systems during a storm.

- Nitrogen Model: The Nitrogen Export Potential submodel assesses the relative capacity of area to transport nitrogen downstream, based on an evaluation of areas that act as sinks which facilitate denitrification. Based on current land cover, the Degradation submodel assesses the relative capacity to generate and load nitrogen into aquatic systems during a storm.
- Pathogens Model: The Pathogens Export Potential submodel assesses the relative capacity of an assessment unit under natural conditions to generate and transport pathogens downstream if disturbed, based on an evaluation of areas that act as sources and sinks for pathogens. Based on current land cover, the Degradation submodel assesses the relative capacity to generate and load pathogens into aquatic systems during a storm.
- Metals Model: The Metals Export Potential submodel assesses the relative capacity of area to generate and transport toxic metals downstream, based on an evaluation of areas that act as sinks which can trap metals. Based on current land cover, the Degradation submodel assesses the relative capacity to generate and load toxic metals into aquatic systems during a storm.

Sources of sediment can be from land clearing activities associated with land development, forestry, and agriculture. Sources of pathogens can be from septic systems and animal waste. Sources of nutrients can be from fertilizers and animal waste. Analysis for metals in the Watershed Characterization tool include copper and zinc. Copper can be introduced into the environment through natural sources such as volcanic eruptions, windblown dust, and forest fires. Copper can also be introduced from copper mining activities, metal manufacturing, agricultural and domestic use of pesticides and fungicides, leather processing and automotive brake pads. Zinc can be introduced into the environment through tire wear and from leaching from galvanized surfaces. Phosphorus is present in soil and geologic materials and can enter water along with sediments through sources from the same sources as sediment such as surface erosion, mass wasting, and in-channel erosion.

For the Water Quality assessment, the Export Potential model considers how readily an assessment unit can deliver the listed pollutant to downstream assessment unit based on parameter-specific factors. The Water Quality Degradation model uses the output from the Nonpoint Source Pollution and Erosion Comparison Tool (N-SPECT) to characterize the amount of degradation to parameter-specific water quality processes. N-SPECT is a GIS-based model, developed by the National Oceanic and Atmospheric Administration, that uses pollutant export coefficients to quantify the relationship between land use and land cover and pollutant amounts.

The Water Quality Protection and Restoration matrix combines the Export Potential and Degradation models. Areas with a relatively high Export Potential and relatively low Degradation (upper left hand corner of the matrix) are most suitable for protection of source processes. Areas with relatively low Export Potential and low Degradation (lower left hand corner of the matrix) are more suitable for protection of sinks. Areas with high Export Potential and high Degradation (upper right hand corner) should be considered for restoration of source processes. Areas with low Export Potential and high Degradation (lower right hand corner) are more suitable for restoration of sinks.

Management actions for sediment, phosphorous and metals may include:

- Protection of source processes, such as preventing activities that remove vegetation cover and increase channel erosion;
- Restoration of source processes, such as restoring natural cover and controlling existing sources;
- Protection of sinks, such as protecting wetlands, lakes and floodplains; and,
- Restoration of sinks, such as restoration of wetlands and floodplains.

Management actions for nitrogen may include:

- Protection of source processes, such as limiting new sources of nitrogen and preventing impacts to headwater streams, wetland, lake and riparian denitrification areas;
- Restoration of source processes, such as controlling existing sources of nitrogen;
- Protection of sinks, such as protecting headwater streams and areas of denitrification; and,
- Restoration of sinks, such as restoration of headwater streams and areas of denitrification.

Management actions for pathogens may include:

- Protection of source processes, such as limiting new sources of pathogens;
- Restoration of source processes, such as controlling exiting sources of pathogens and restoring wetlands;
- Protection of sinks, such as protecting wetlands; and,
- Restoration of sinks, such as restoring wetlands.

Fish and Wildlife Habitats Assessments

This category provides assessments for the following submodels, which have underlying assessments.

- Terrestrial: The Terrestrial index assesses the relative conservation value for terrestrial habitats as a function of landscape integrity and the locations of priority habitats and species.
- Freshwater: The Freshwater indices assess the relative conservation value for flowing water habitats as a function of the following:
- Salmonid habitats - based on the quantity and quality of habitats for all salmonids present or potentially present in the assessment unit;
- Downstream habitats – based on the quantity and quality of salmonid habitat downstream of the assessment unit; and
- Hydrogeomorphic features - all extant wetlands and undeveloped floodplains in the assessment unit.
- Marine - The Marine indices assess the relative conservation value for shoreline habitats as a function of all species, species groups, and habitats for which occurrence data were available: eight shellfish species or species groups of commercial/recreational interest, urchins, three forage fish species, eight salmonid species, numerous bird species, pinnipeds, kelp, eelgrass, surfgrass, and wetlands. The Marine Habitat Score presents the average relative conservation value of the shoreline segment.

For the Fish and Wildlife Habitats model, the Freshwater analyses were used for stormwater management and associated land use considerations. The Freshwater analyses that were considered include:

- Hydrogeomorphic Features - this analysis is based on the relative extent of wetlands and floodplains.
- Local Salmonid Habitats Index - also referred to as the Watershed Habitats Index, this is based on the sum of habitat units for all stream reaches in an assessment unit.
- Downstream Salmonid Habitats Index - this analysis indicates the relative value of streams, especially headwater streams, based on the quantity and quality of downstream salmonid habitats
- Aquatic Ecologic Integrity - Ecological integrity is the ability of an ecological system to support and maintain a biological community that has species composition, diversity, and functional organization similar to those of natural habitats. The assessment considers spatial data such as roads, land use, land cover, housing density or population density that can serve as surrogates for

ecosystem degradation. An Index of Biological Integrity (IBI) evaluates the ecological health of rivers or streams by measuring parameters of their biological communities. IBI considers species richness, species abundances, and species position on the food chain.

For hydrogeomorphic features, the index is arranged from 0 to 10, with 0 being the lowest density and 10 being the highest density.

For salmonid habitats, the index goes from 0, with no freshwater connectivity systems, to 1, the lowest value of salmonid quantity and quality habitats, to 10, the highest value of salmonid quantity and quality habitats.

For downstream salmonid habitat, the index goes from 1, with the lowest quantity and quality of downstream salmonid habitats to 20, the highest quantity and quality of downstream salmonid habitats.

For aquatic ecological integrity, the index goes from 0 - 10, the lowest ranking, to 91- 100, the highest ranking.

Results identified receiving waters within the City will be summarized in the SMAP Phase 2 the Receiving Water Prioritization Technical Memorandum. Summary tables will be similar to Tables 5 and 6 below.

Table 5. Summary of Stormwater-related Puget Sound Watershed Characterization Project Water Flow and Water Quality Assessments

Category	Parameter	Level of Importance	Level of Degradation	Protection and Restoration
Water Flow	Delivery	Med-High	High	High Restoration
Water Flow	Surface Storage	High	High	Highest Restoration
Water Flow	Recharge	Med-High	High	High Restoration
Water Flow	Discharge	High	High	Highest Restoration
		Export Potential	Degradation	
Water Quality	Sediment	Low	High	Restoration of Sinks
Water Quality	Phosphorous	Med-Low	High	Restoration of Sinks
Water Quality	Metals	Low	High	Restoration of Sinks
Water Quality	Nitrogen	Med-Low	High	Restoration of Sinks
Water Quality	Pathogens	Low	High	Restoration of Sinks

Table 6. Summary of Stormwater-related Puget Sound Watershed Characterization Project Fish and Wildlife Habitats Assessments

Category	Parameter	Approximate Rank

Fish and Wildlife Habitats	Sum of Freshwater Index Components	8
Fish and Wildlife Habitats	Maximum of Freshwater Index Components	12
Fish and Wildlife Habitats	Hydrogeomorphic Features	6.1-6.5
Fish and Wildlife Habitats	Downstream Salmonid Habitats	4
Fish and Wildlife Habitats	Local Salmonid Habitats Index	3
Fish and Wildlife Habitats	Aquatic Ecological Integrity	11-20
Fish and Wildlife Habitats	Terrestrial Habitats Index	0.00-1.91
Fish and Wildlife Habitats	Terrestrial Open Space Blocks	0.11-0.20

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Puget Sound Characterization – Volume 1 Appendix C: Assessing Water Quality Processes in Puget Sound and Western Washington (Ecology; October 2016)

Puget Sound Characterization – Volume 1 Appendix D: Geospatial Methods for the Water Resource Assessments (Ecology; May 2016)

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https://www.stormwaterx.com/resources/industrialpollutants/zinc/

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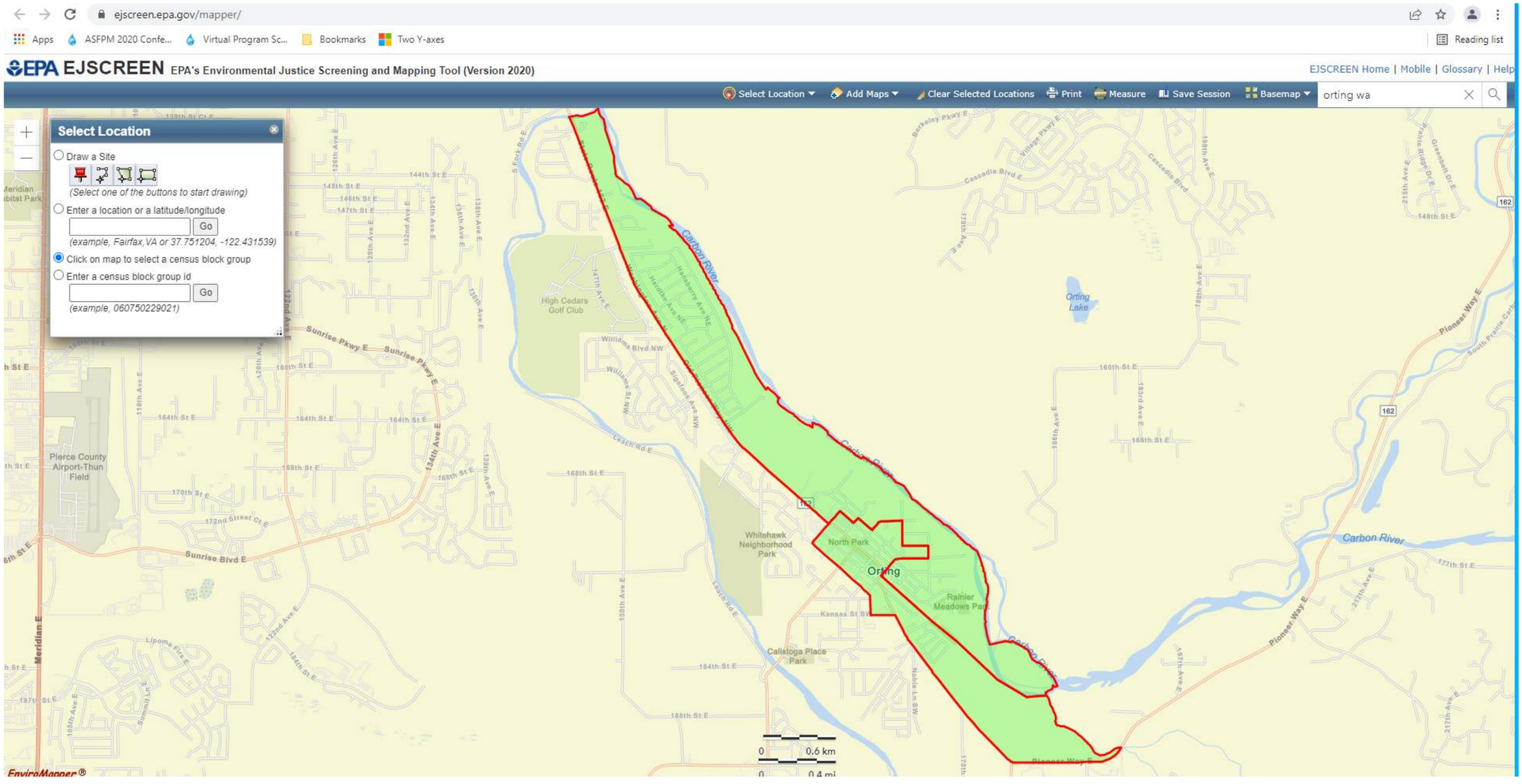
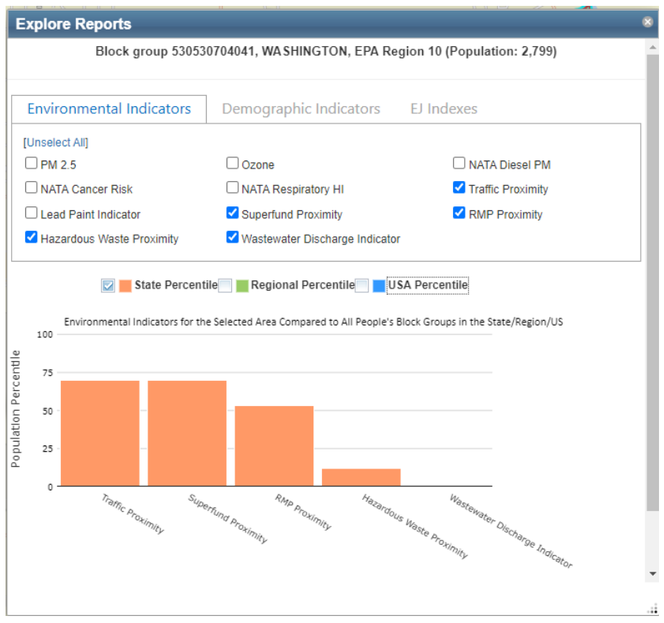
Attachment C

EPA Screening Tool Screenshots

CITY OF ORTING
SMAP Phase 1 – Receiving Water Characterization

https://ejscreen.epa.gov/mapper/

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RMP Proximity
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Wastewater Discharge Indicator
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Regional Percentile
USA Percentile
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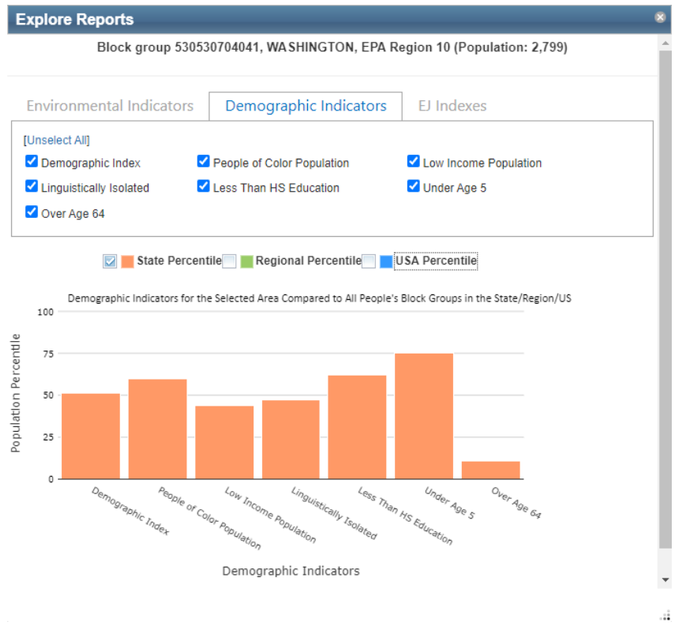
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Over Age 64
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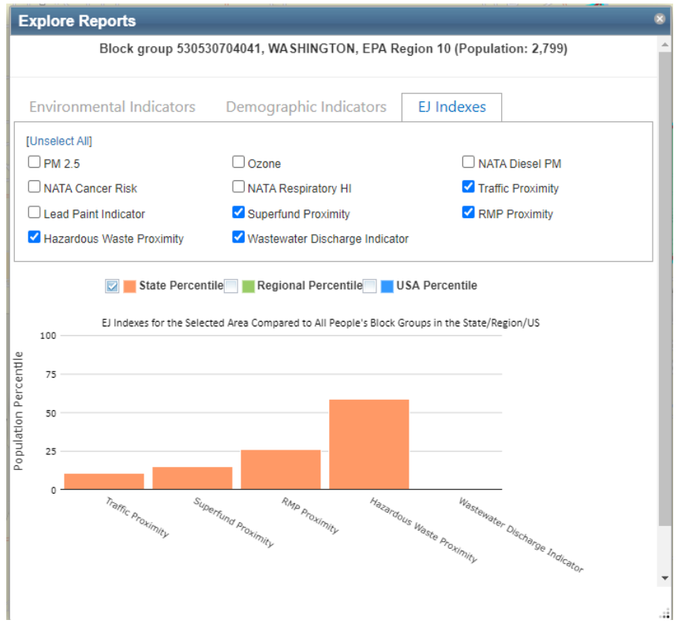
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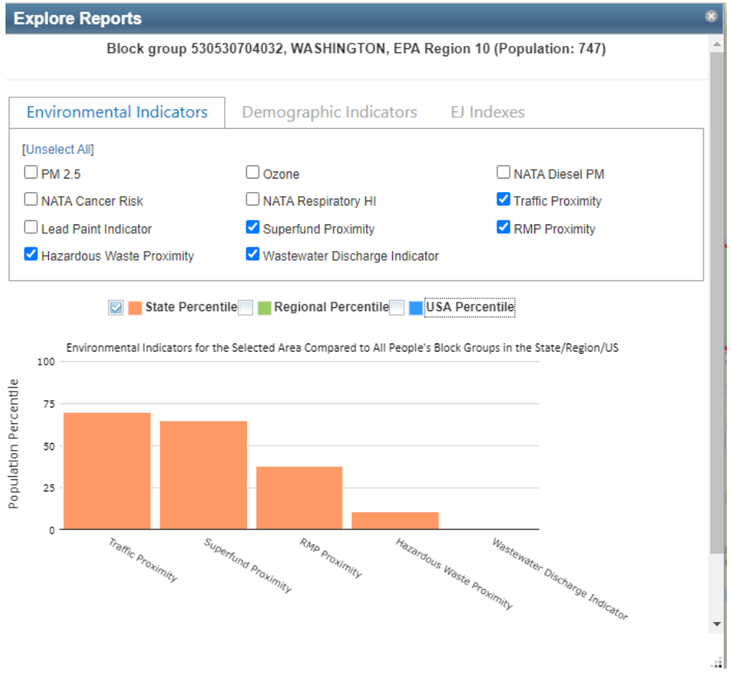
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Wastewater Discharge Indicator
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Regional Percentile
USA Percentile
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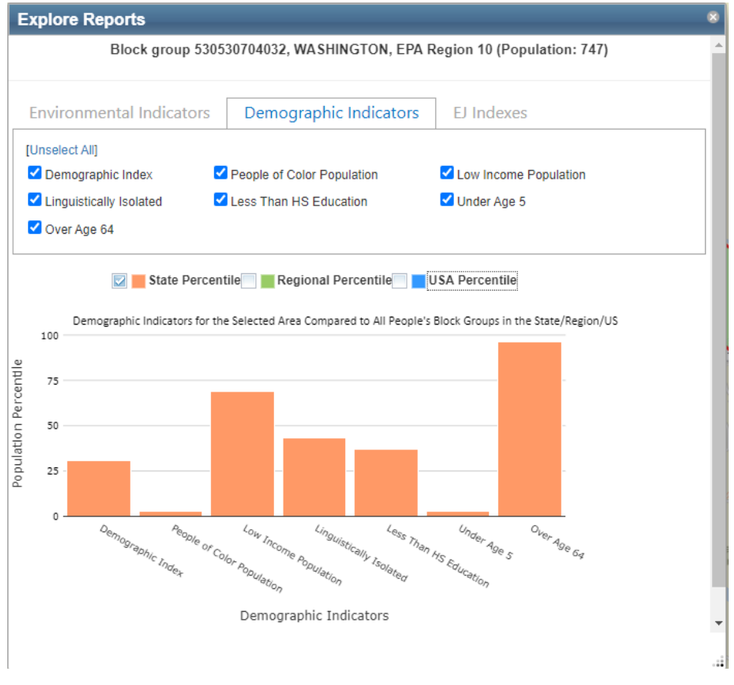
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Less Than HS Education
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Over Age 64
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Regional Percentile
USA Percentile
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Population Percentile
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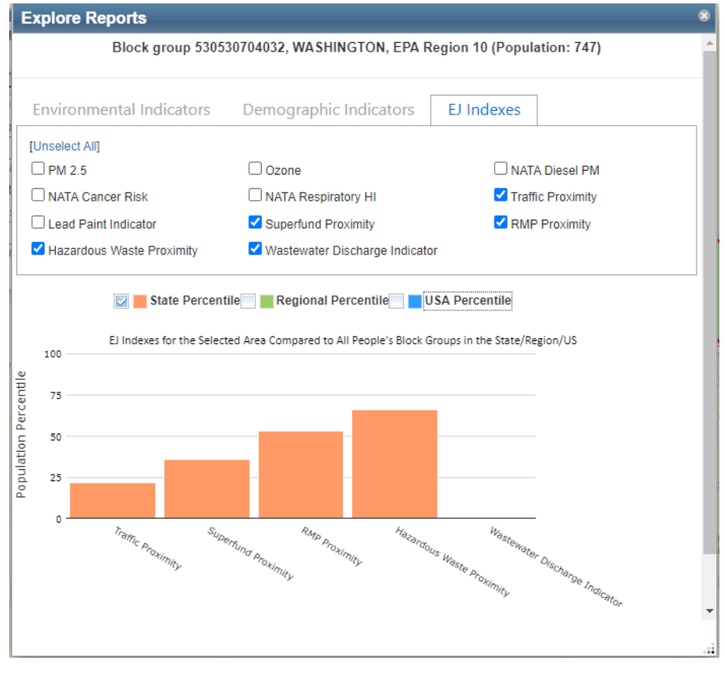
Demographic Indicators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Wastewater Discharge Indicator
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Regional Percentile
USA Percentile
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25
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Traffic Proximity
Superfund Proximity
RMP Proximity
Hazardous Waste Proximity
Wastewater Discharge Indicator

Attachment D

DOH Screening Tool Screenshots

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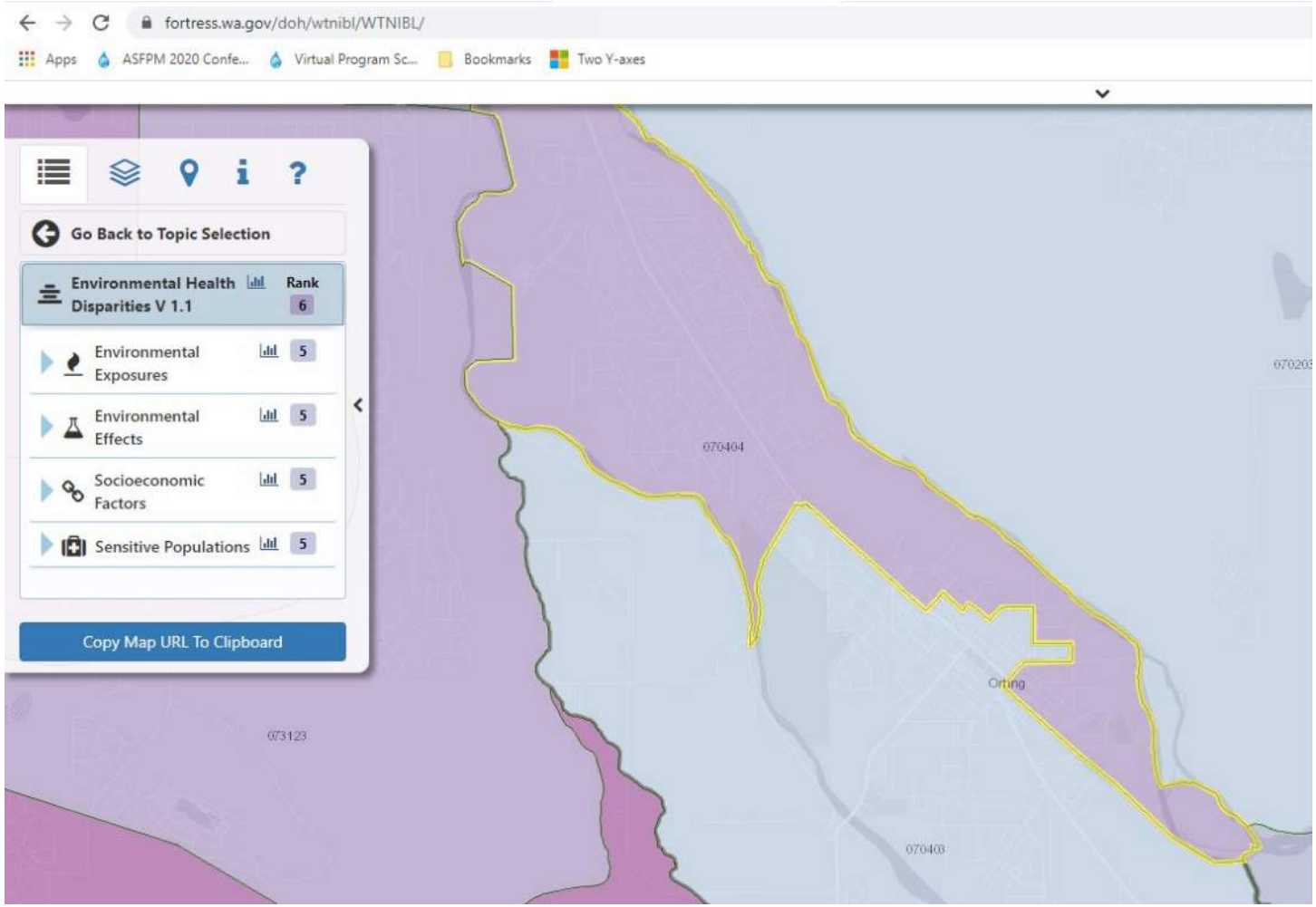
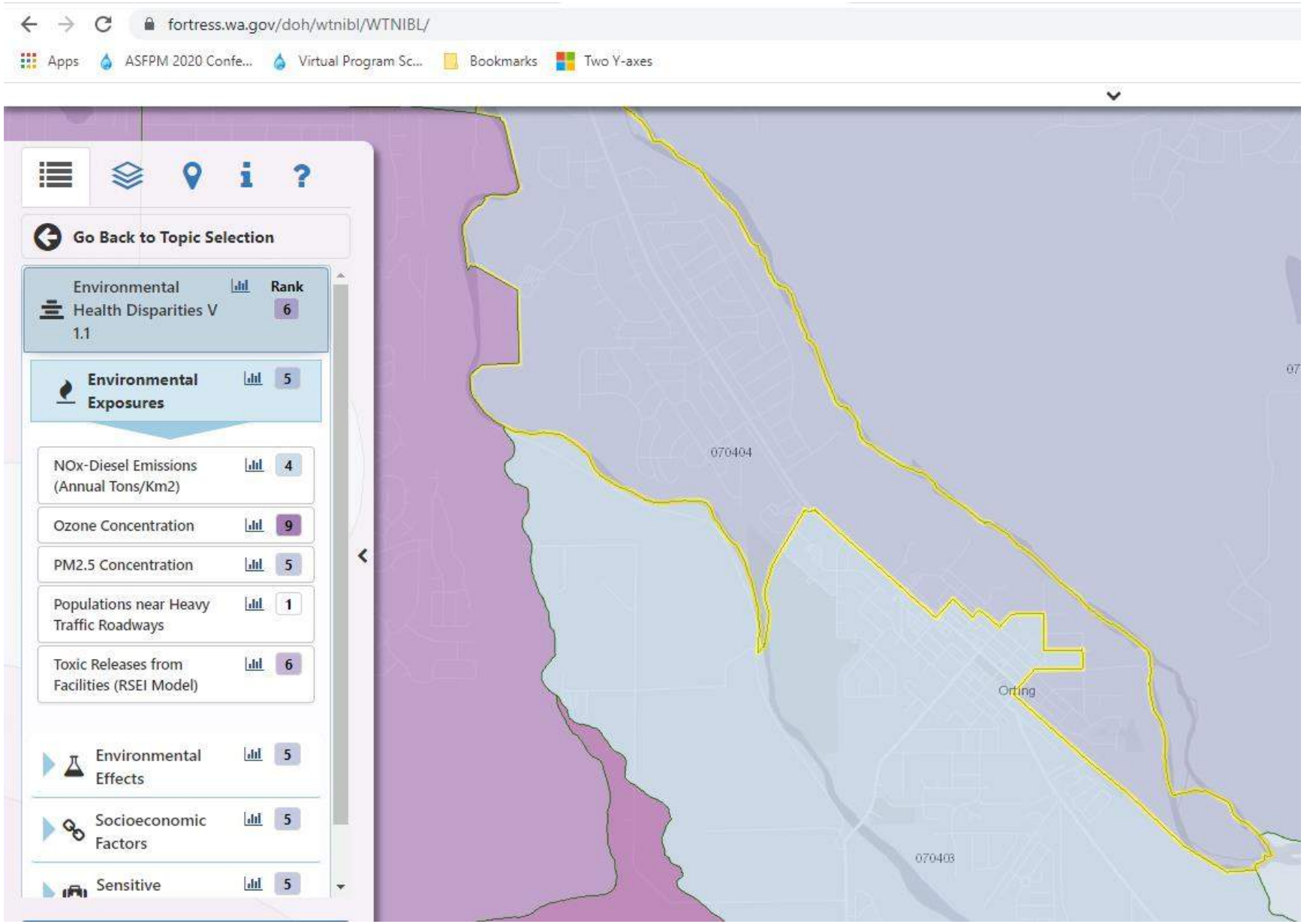
https://fortress.wa.gov/doh/wtnibl/WTNIBL/

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Virtual Program Sc...
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Environmental Exposures
5
NOx-Diesel Emissions (Annual Tons/Km2)
4
Ozone Concentration
9
PM2.5 Concentration
5
Populations near Heavy Traffic Roadways
1
Toxic Releases from Facilities (RSEI Model)
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Environmental Effects
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Socioeconomic Factors
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Sensitive
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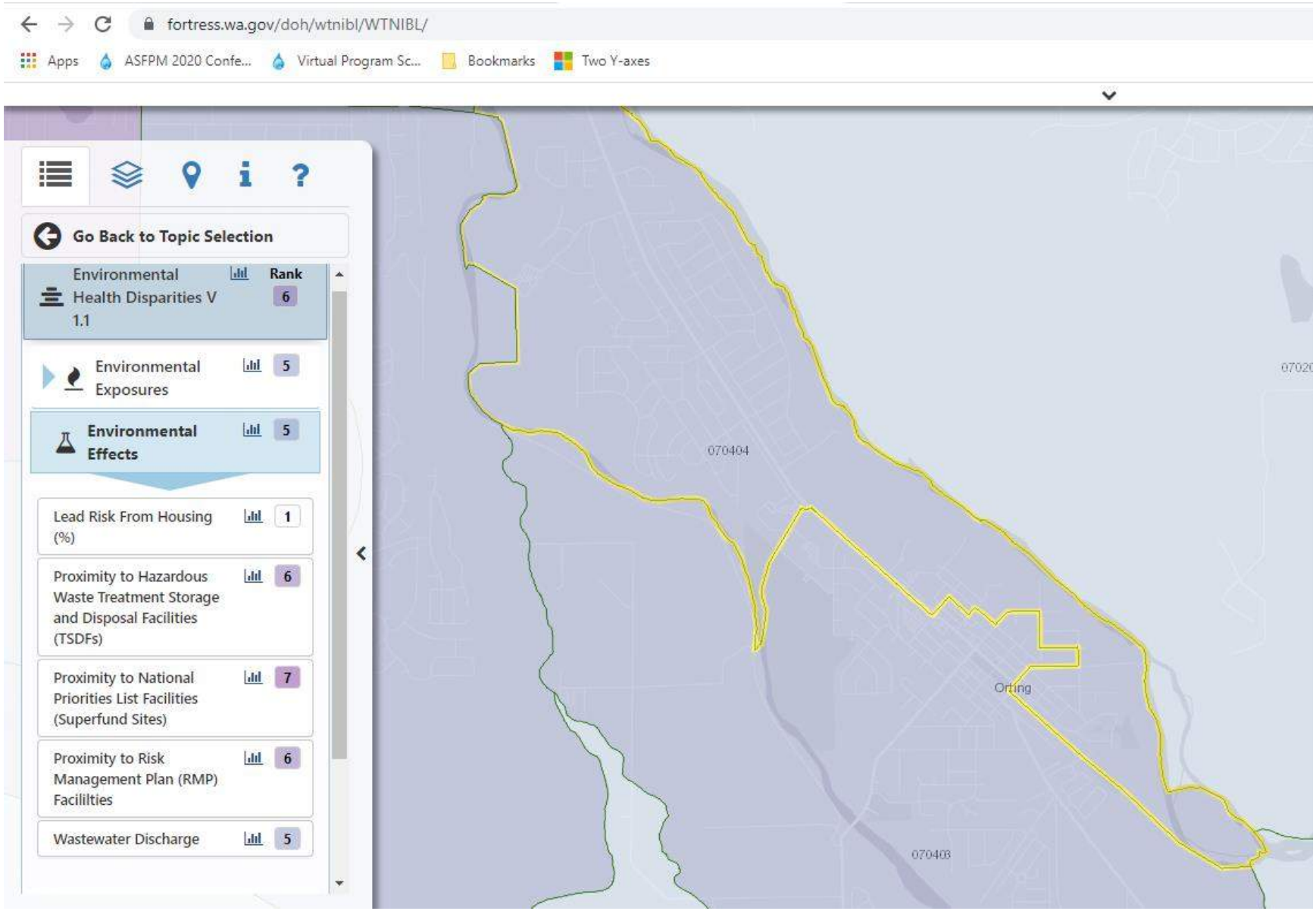
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Rank
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Environmental Exposures
5
Environmental Effects
5
Lead Risk From Housing (%)
1
Proximity to Hazardous Waste Treatment Storage and Disposal Facilities (TSDFs)
6
Proximity to National Priorities List Facilities (Superfund Sites)
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Wastewater Discharge
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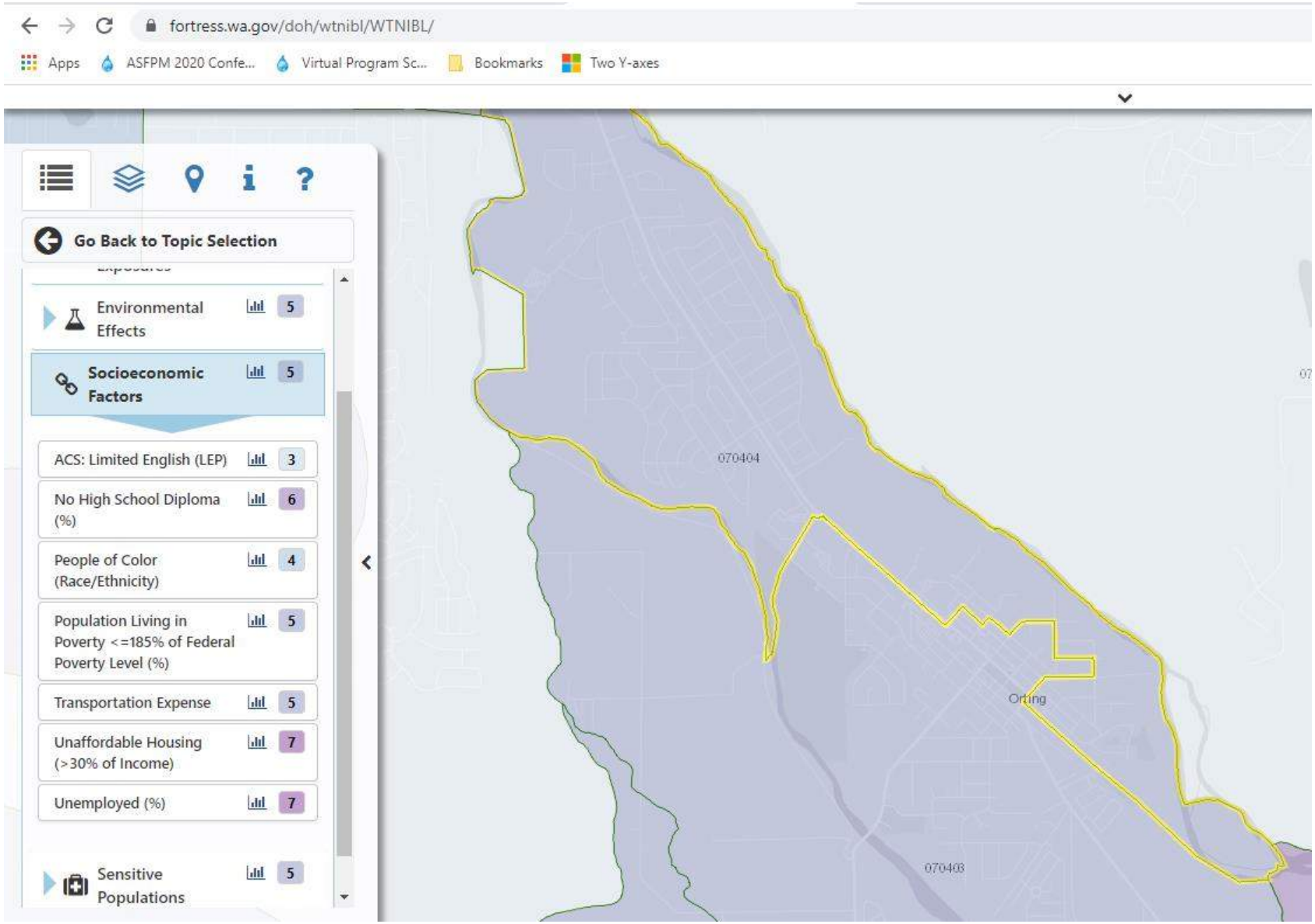
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Virtual Program Sc...
Bookmarks
Two Y-axes
Go Back to Topic Selection
Environmental Effects 5
Socioeconomic Factors 5
ACS: Limited English (LEP) 3
No High School Diploma (%) 6
People of Color (Race/Ethnicity) 4
Population Living in Poverty <=185% of Federal Poverty Level (%) 5
Transportation Expense 5
Unaffordable Housing (>30% of Income) 7
Unemployed (%) 7
Sensitive Populations 5
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Orting
070403

Attachment E

Puget Sound Watershed Characterization Tool Screenshots

CITY OF ORTING
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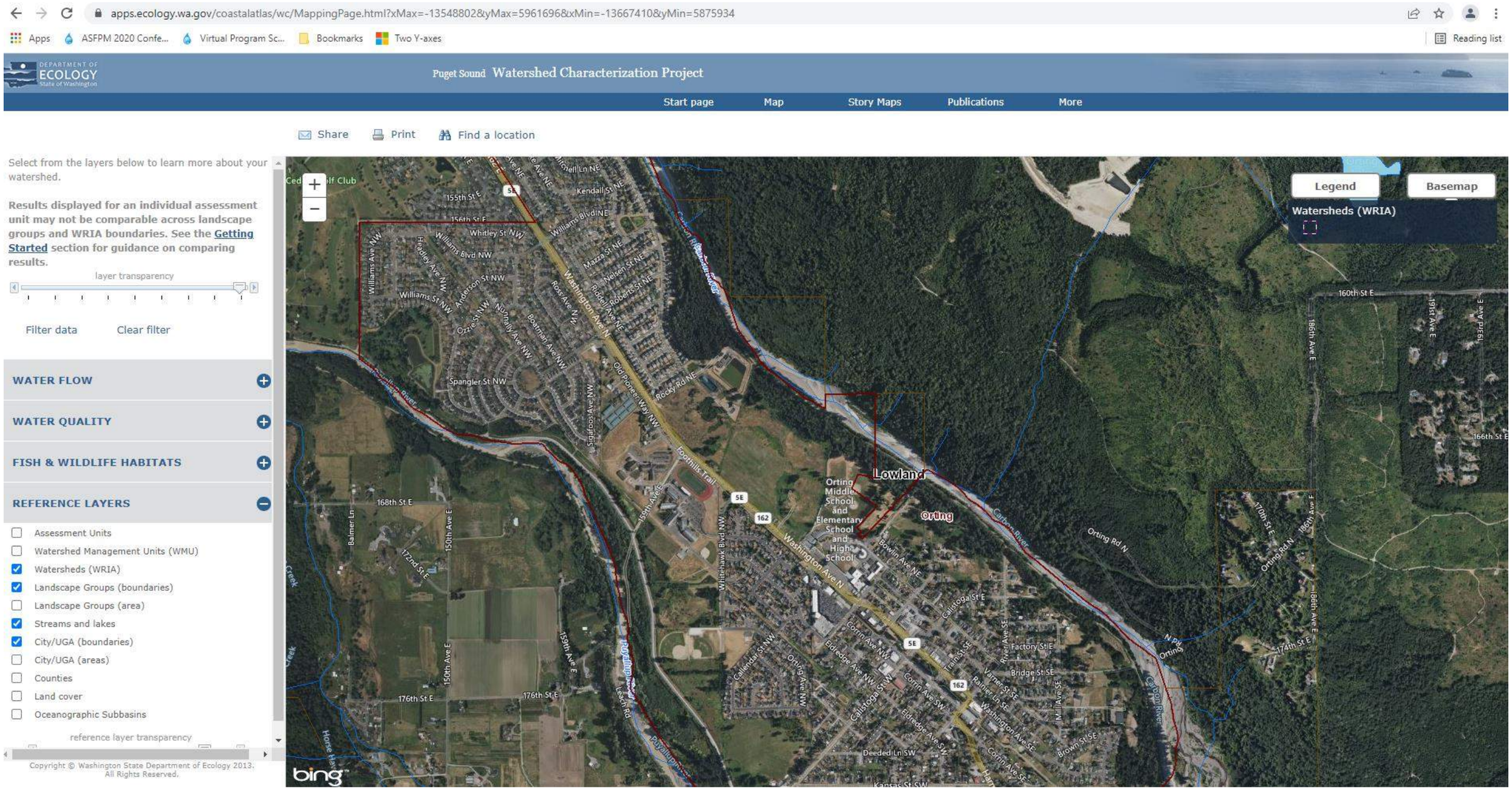

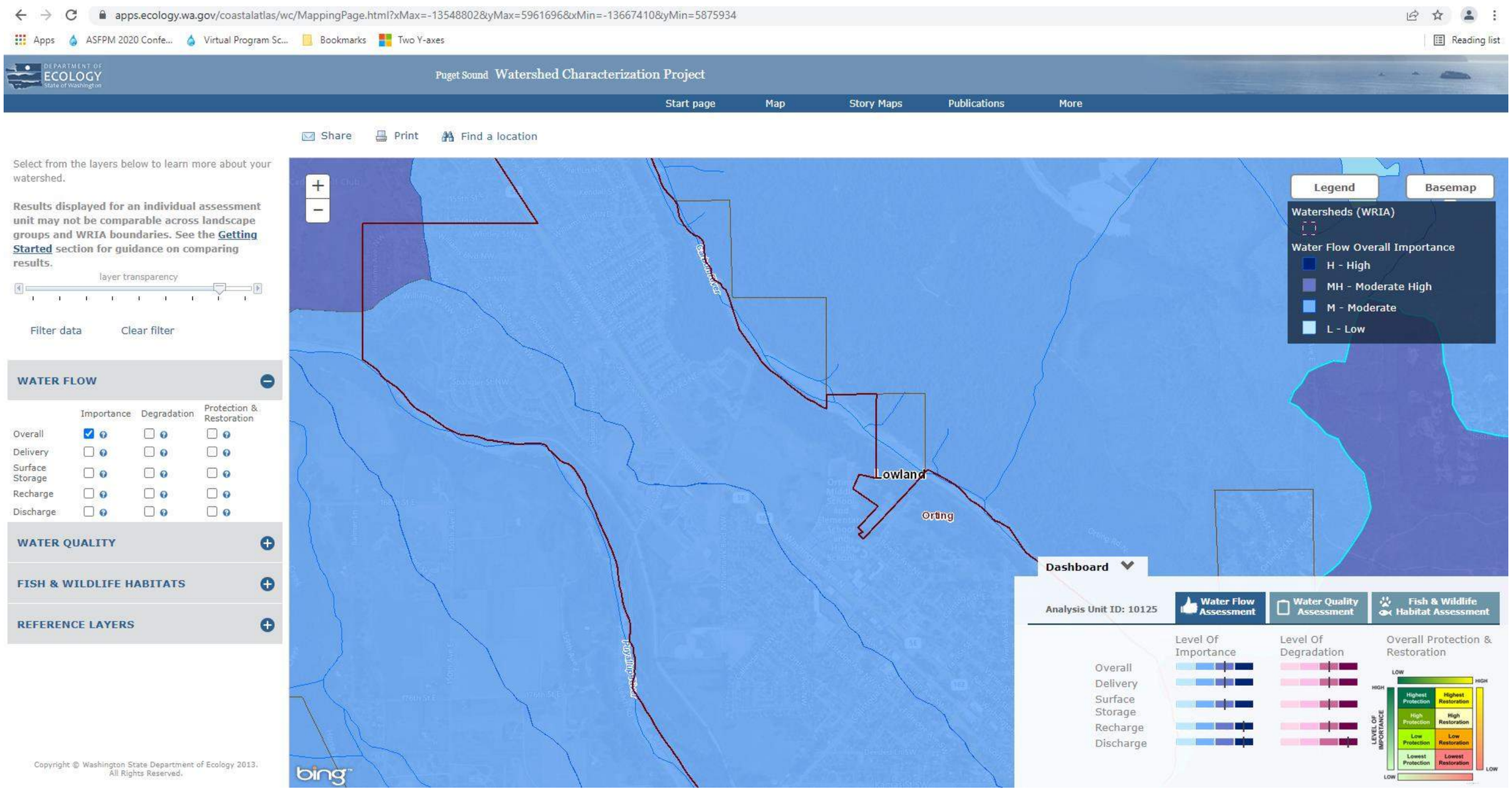
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Apps
ASFPM 2020 Confe...
Virtual Program Sc...
Bookmarks
Two Y-axes
Reading list
DEPARTMENT OF ECOLOGY State of Washington
Puget Sound Watershed Characterization Project
Start page
Map
Story Maps
Publications
More
Share
Print
Find a location
Select from the layers below to learn more about your watershed.
Results displayed for an individual assessment unit may not be comparable across landscape groups and WRIA boundaries. See the Getting Started section for guidance on comparing results.
layer transparency
Filter data
Clear filter
WATER FLOW
Importance
Degradation
Protection & Restoration
Overall
Delivery
Surface Storage
Recharge
Discharge
WATER QUALITY
FISH & WILDLIFE HABITATS
REFERENCE LAYERS
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Legend
Basemap
Watersheds (WRIA)
Water Flow Overall Importance
H - High
MH - Moderate High
M - Moderate
L - Low
Lowland
Orting
Dashboard
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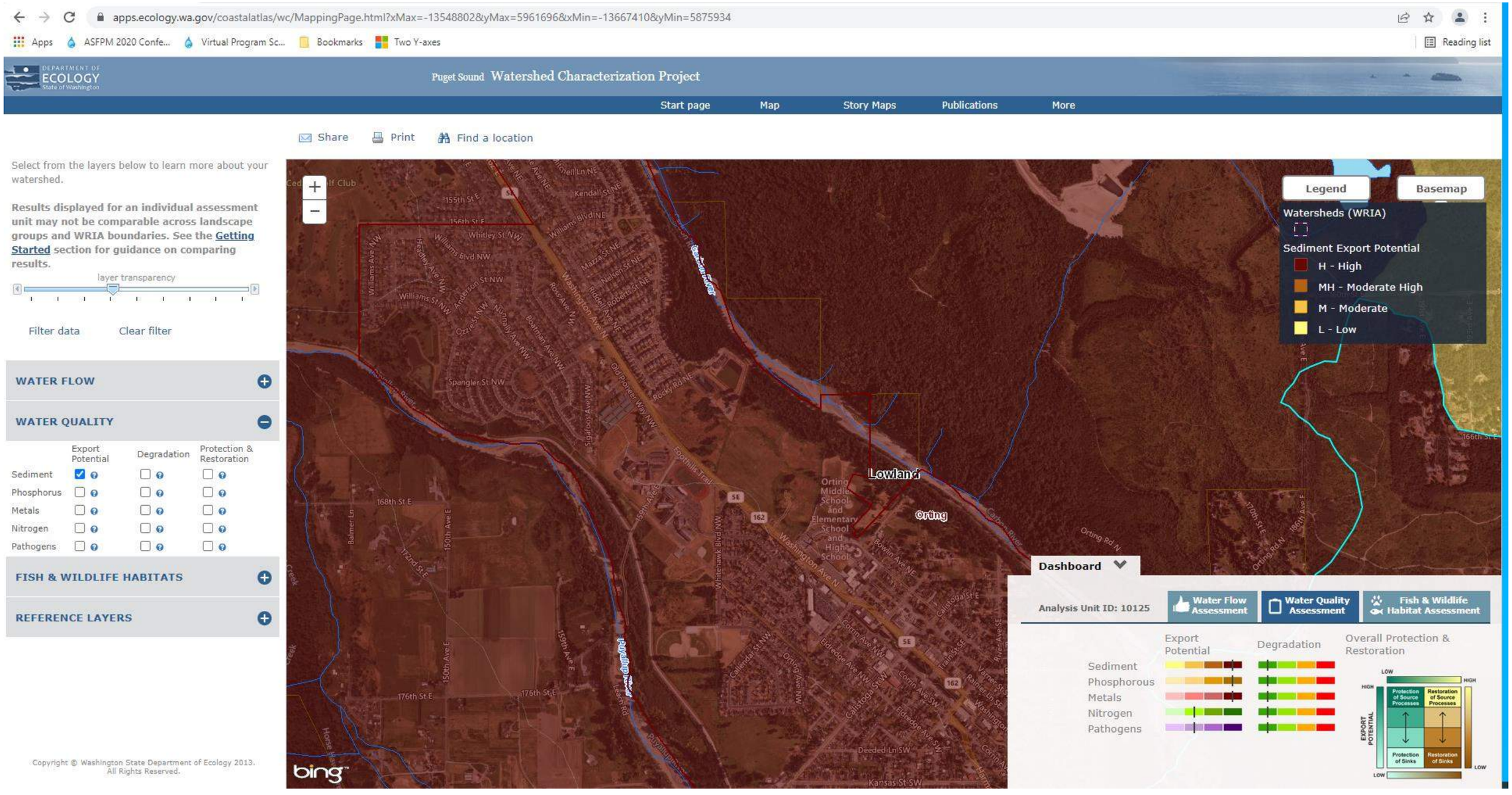
Water Flow Assessment
Water Quality Assessment
Fish & Wildlife Habitat Assessment
Level Of Importance
Level Of Degradation
Overall Protection & Restoration
Overall
Delivery
Surface Storage
Recharge
Discharge
LOW
HIGH
LEVEL OF IMPORTANCE
Highest Protection
Highest Restoration
High Protection
High Restoration
Low Protection
Low Restoration
Lowest Protection
Lowest Restoration
bing


apps.ecology.wa.gov/coastalatlas/wc/MappingPage.html?xMax=-13548802&yMax=5961696&xMin=-13667410&yMin=5875934
Apps
ASFPM 2020 Confe...
Virtual Program Sc...
Bookmarks
Two Y-axes
Reading list
DEPARTMENT OF ECOLOGY State of Washington
Puget Sound Watershed Characterization Project
Start page
Map
Story Maps
Publications
More
Share
Print
Find a location
Select from the layers below to learn more about your watershed.
Results displayed for an individual assessment unit may not be comparable across landscape groups and WRIA boundaries. See the Getting Started section for guidance on comparing results.
layer transparency
Filter data
Clear filter
WATER FLOW
WATER QUALITY
Export Potential
Degradation
Protection & Restoration
Sediment
Phosphorus
Metals
Nitrogen
Pathogens
FISH & WILDLIFE HABITATS
REFERENCE LAYERS
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Legend
Basemap
Watersheds (WRIA)
Sediment Export Potential
H - High
MH - Moderate High
M - Moderate
L - Low
Lowland
Orting
Dashboard
Analysis Unit ID: 10125
Water Flow Assessment
Water Quality Assessment
Fish & Wildlife Habitat Assessment
Export Potential
Degradation
Overall Protection & Restoration
Sediment
Phosphorous
Metals
Nitrogen
Pathogens
Protection of Source Processes
Restoration of Source Processes
Protection of Sinks
Restoration of Sinks
EXPORT POTENTIAL
LOW
HIGH
bing

apps.ecology.wa.gov/coastalatlas/wc/MappingPage.html?xMax=-13548802&yMax=5961696&xMin=-13667410&yMin=5875934

Apps | ASFPM 2020 Confe... | Virtual Program Sc... | Bookmarks | Two Y-axes | Reading list

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Puget Sound Watershed Characterization Project

Start page | Map | Story Maps | Publications | More

Share | Print | Find a location

Select from the layers below to learn more about your watershed.

Results displayed for an individual assessment unit may not be comparable across landscape groups and WRIA boundaries. See the Getting Started section for guidance on comparing results.

layer transparency

Filter data | Clear filter

WATER FLOW

WATER QUALITY

FISH & WILDLIFE HABITATS

Freshwater

- [x] Sum of Freshwater Index Components
- [ ] Maximum of Freshwater Index Components
- [ ] Hydrogeomorphic Features
- [ ] Downstream Salmonid Habitats Index
- [ ] Local Salmonid Habitats Index
- [ ] Aquatic Ecological Integrity

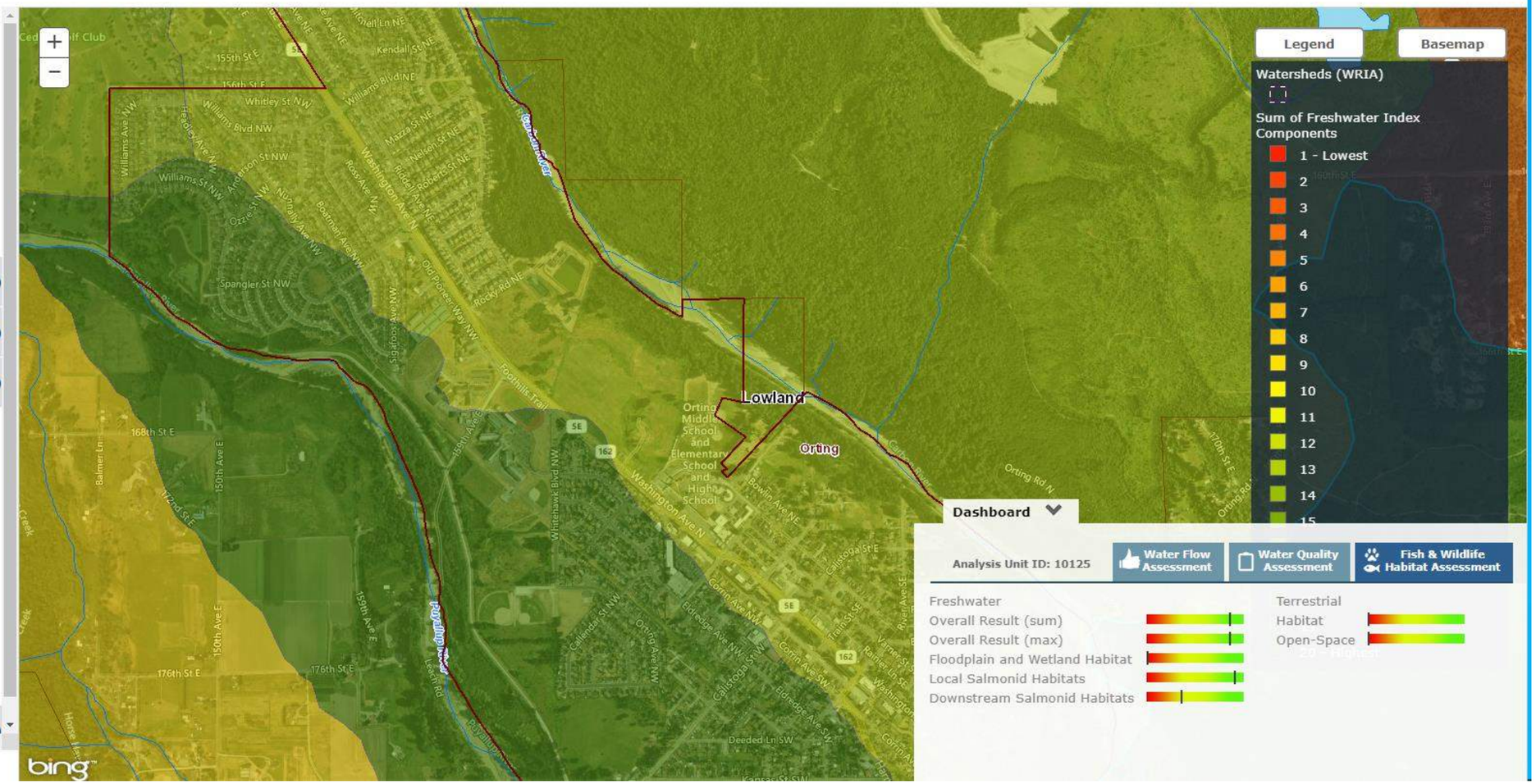
Terrestrial

- [ ] Terrestrial Habitats Index
- [ ] Terrestrial Open Space Blocks

Marine

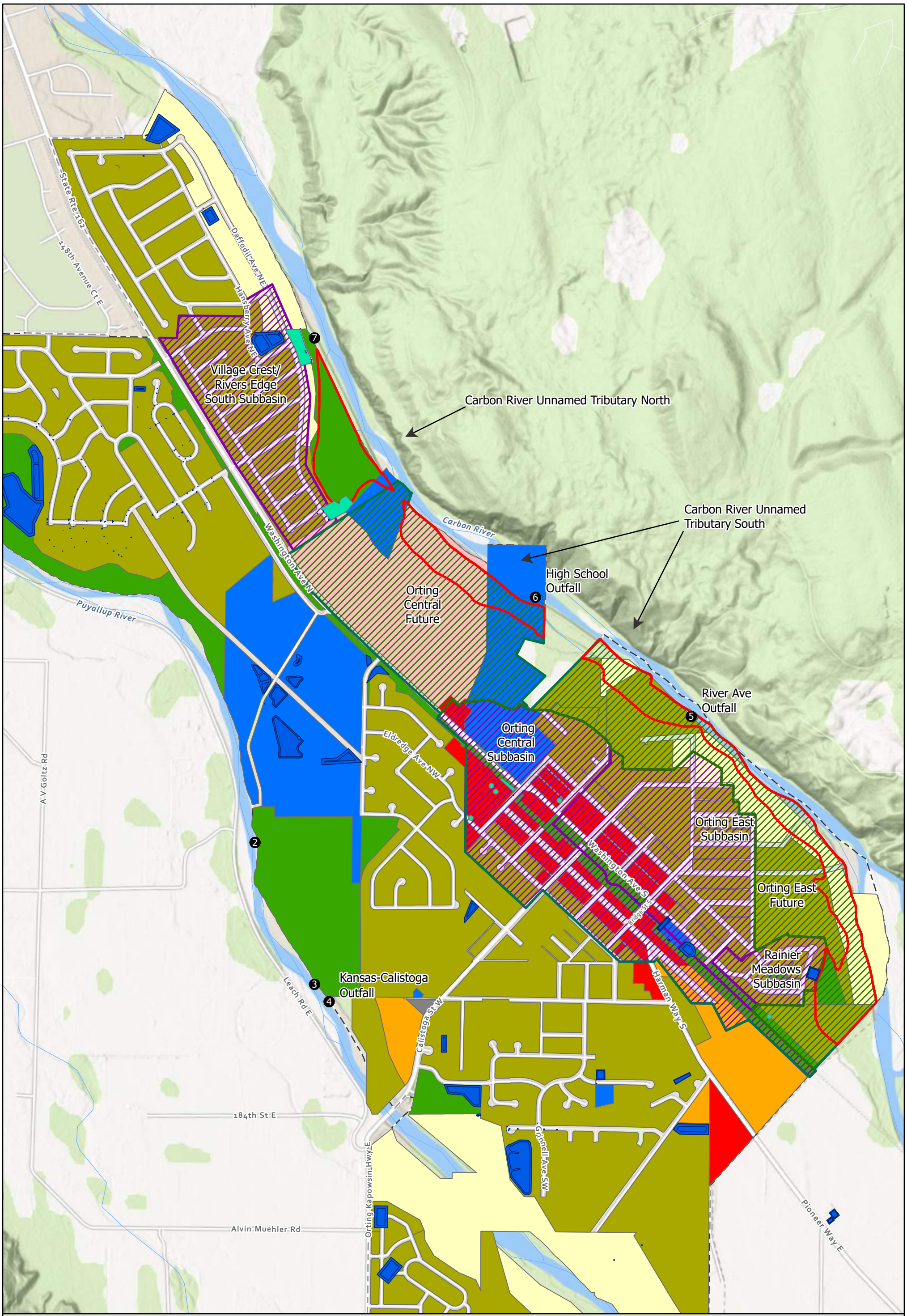
- [ ] Average of All Marine Shoreline Components
- [ ] Average of Top 5 Marine Shoreline Components

REFERENCE LAYERS



Attachment F

Receiving Water Zoning Areas


State Rte 162
148th Avenue Ct E
Daffodil Ave NE
Hansberry Ave NE
Village Crest/
Rivers Edge
South Subbasin
7
Carbon River Unnamed Tributary North
Carbon River Unnamed
Tributary South
Carbon River
Washington Ave N
High School
Outfall
6
Orting
Central
Future
Puyallup River
River Ave
Outfall
5
Orting
Central
Subbasin
Eldredge Ave NW
A V Goltz Rd
Orting East
Subbasin
Washington Ave S
Bridge St S
Orting East
Future
2
Rainier
Meadows
Subbasin
Kansas-Calistoga
Outfall
3
4
Leach Rd E
Calistoga St W
Harman Way S
184th St E
Grinnell Ave SW
Orting Kapowsin Hwy E
Alvin Muehler Rd
Pioneer Way E
Date: 2/21/2022
Sources: City of Orting, Pierce County, Esri, NASA, NGA, USGS, FEMA
Mixed Use - Town Center
Mixed Use - Town Center North
Light Manufacturing
Open Space & Recreation
Residential - Multi-Family
Residential - Urban
Residential - Conservation
Public Facilities
Orting-Future North Boundary
Developed Subbasins
Undeveloped Subbasins
Receiving Waters Boundary
Existing Private SWM Facilities
Existing Public SWM Facilities
Outfall Locations
City Boundary
Receiving Water Zoning Areas
Scale: 1 in: 1,000 ft
0
500
1,000
2,000
Feet
Orting, WA

Attachment G

Allowable Uses

13-3-3

TABLE 1
CITY OF ORTING LAND USE

RC: Residential-Conservation Zone
RU: Residential-Urban Zone
RMF: Residential-Multi-Family Zone
MUTC: Mixed Use-Town Center Zone
MUTCN: Mixed Use-Town Center North Zone
LM: Light Manufacturing Zone
OS: Open Space and Recreation Zone
PF: Public Facilities Zone

	Zones							
	RC	RU	RMF	MUTC	MUTCN[2]	LM	OS	PF
Residential uses[1]:								
Cottage	P	P	P		P			
Cottage development		P[3,4]	P[3,4]		P			
Duplex	P	P[10]	P	P	P[25]			
Group residences:		C	C[3]	C[3]				C[22]
Adult family homes	P	P	P	P	P			
Attached ground related residences					P			
Permanent supportive housing	C[26]	C[26]	C[26]	C[3, 26]	C[3, 26]			
Single room occupancy sleeping units								C
Transitional housing	C[26]	C[26]	C[26]	C[3, 26]	C[3, 26]			
Other[6]		C	P	C				
Manufactured home park	C	C	C					

13-3-3

	Zones							
	RC	RU	RMF	MUTC	MUTCN[2]	LM	OS	PF
Mobile/manufactured home	P[7]	P[7]	P[7]					
Multiple-family			P	P[3]	P			
Single-family detached	P	P	P		P[25]			
Temporary lodging:								
Bed and breakfast	C	C	C	P[3]				
Hotel/motel								
Rooming house			C	C[3]				
Townhouse		P[10]	P	P[3]	P[23]			
Commercial uses:								
Adult businesses				C[3]				
Arcades				P[3]				
Clubs and lodges			C[3]	P[3]				
Communication facilities								
Communication services				P[3]	C			
Daycare facilities:								
Daycare center		C	C	C	P			
Family daycare	P	P	P	C[3]				

13-3-3

	Zones							
	RC	RU	RMF	MUTC	MUTCN[2]	LM	OS	PF
Eating and drinking places			C[3]	P[3]	P		C[3]	
Health services			P[3]	P[3]	P			
Home occupations[12]	C[13]	C	C	C[3]	P			
Liquor stores				P[3]	P			
Offices			C[3]	P[3]	P	C[3]		
Personal services				P[3]	P			
Retail fuel sales				C[3]	P	P[3]		
Retail sales			C[3,14]	P[3]	P	C[3]	C[3]	
Theaters				P[3]	P			
Veterinary clinics					P			
Veterinary facilities				P[3]	P	P[3]		
Industrial uses:								
Manufacturing[18]:								
Assembly/fabrication					C[24]	P		
Food processing					C[24]	P		
Light manufacturing					C[24]	P		
Petroleum products						P		

	Zones							
	RC	RU	RMF	MUTC	MUTCN[2]	LM	OS	PF
Wineries and breweries				P	P	P		
Wood products						P		
Storage and shipping:								
Construction business					C[24]	P		
Equipment rental					C[24]	P		
Freight facilities warehousing						P		
Outdoor storage					C[24]	C		
Self-service storage					C[24]	P		
Wholesale trade					C[24]	P		
Cultural and recreational uses:								
Cultural:								
Art galleries				P[3]	P			
Churches	C[3]	C[3]	C[3]	P[3]	P			
Community centers				P[3]	C			
Community facilities					C			
Libraries				P[3]	P			
Museums				P[3]	P			
Outdoor theaters				P[3]	C			

13-3-3

	Zones							
	RC	RU	RMF	MUTC	MUTCN[2]	LM	OS	PF
Recreation:								
Athletic fields	C[20]	C[20]	C[20]		C		P	P
Campgrounds	C[20]	C[20]	C[20]				P	P
Golf facilities	C[20]	C[20]	C[20]				P	P
Parks	C[20]	C[20]	C[20]	C[20]	P	C[20]	P	P
Parks, plazas, courts					P			
RV parks	C[20]	C[20]	C[20]				C	C
Resorts (including lodging)			C	C	C			
Shooting ranges	C					C	C	C
Spas and health clubs					P			
Stables/riding clubs	C[20]						C	P
Trails	C[20]	C[20]	C[20]	C[20]	P	C[20]	P	P
Public uses:								
Animal shelters					C[24]	P		P
Colleges and universities			C	C	C	C		P
Correctional facilities						C		C
Emergency services		C	C	C	C	P		P
Government offices			P	P	P	P		P

	Zones							
	RC	RU	RMF	MUTC	MUTCN[2]	LM	OS	PF
Hazardous materials						C		C
Hospitals	C[3]	C[3]	C[3]	C	C	C		P
Justice facilities								P
K - 12 schools	C	C	C	P	C			P
Landfills		C				C		C
Public safety facilities		C	C	C	C	P		P
School support facilities					C	P		P
Shared off street parking				C	P			
Solid waste facilities						C		P
Transit facilities	C	C	C	C	C	C	C	P
Utility facilities	C	C	C	C	C	P	C	P
Vocational schools			C	C	C	C		P
Wastewater treatment								P
Water supply facilities	C	C	C	C	C	C	C	P
Resource uses:								
Agricultural:								

	Zones							
	RC	RU	RMF	MUTC	MUTCN[2]	LM	OS	PF
Agricultural research, testing and training	C				C	P		C
Growing crops	P				C			
Livestock and small animals	P[21]				C			
Fish and wildlife management:								
Aquaculture	C						C	C
Wildlife shelters	C						C	C
Forestry:							C	
Growing trees	P							
Mills						P		
Research and testing	C					P		C
Mineral:								
Batch plants						P		
Extraction and processing	C	C	C			P		C

Notes:

1. Residential planned unit developments (PUD) may allow increases in underlying density except in the MUTCN.
2. All development subject to Master Development Plan and MUTCN Bulk and Dimensional Requirements. See sections 13-3-2 E2 and E5 of this code.
3. Subject to architectural design review.

4. As a binding site plan.
5. Not located along retail street frontages.
6. Housing more than 12 unrelated individuals.
7. On a legal lot with permanent foundation.
8. On upper floors above ground floor commercial only.
9. On upper floors above ground floor commercial, or in freestanding residential buildings.
10. Townhouses are not allowed on flag lots (pipestem) in the RU zone.
11. In planned retail centers when building area is less than 10,000 square feet.
12. See section 13-5-4 of this title.
13. On site sales of agricultural products allowed.
14. Food stores only.
15. On upper floors above ground floor retail.
16. Including outdoor display or sales yards.
17. Not including overnight kennels or treatment facilities.
18. Machine shops, incinerators, wrecking yards, and feedlots may be permitted subject to appropriate mitigation of impacts on surrounding nonindustrial areas. Significant adverse noise, air quality, or other impacts caused by manufacturing processes shall be contained within buildings.
19. When entirely located in a building, not producing adverse noise or air quality impacts, and not located along retail street frontage. Ground floor area limited to 10,000 square feet maximum.
20. Private facilities.
21. Subject to all other City regulations regarding livestock.
22. Redevelopment of the Orting Soldiers' Home subject to site plan and architectural design review approval.
23. Three or more units per building.
24. May not have frontage along SR 162/Washington Avenue N. Must be screened from all adjacent residences with sight obscuring landscaping, 6-foot tall solid fencing.
25. For Senior Housing (aged 55+) only.
26. The number of permanent supportive housing units and transitional housing units allowed on any given property shall be no more than the number of standard dwelling units that would be allowed under the applicable zoning of the property. No permanent supportive housing or transitional housing may be located within one mile of another property than contains permanent supportive housing or transitional housing or a quarter mile of any school or park.