

Stormwater Public Advisory Group

Meeting Summary

Thursday April 22, 2021 (1:00 PM – 2:30 PM)

Held Remotely via Microsoft Teams



CITY OF BEND

Attendees:

Bronwen Mastro (Bend Park and Recreation District), Moey Newbold (Central Oregon Land Watch) Jim Oberlander (Citizen), Tom Headley (Century West), Todd Cleveland (Deschutes County), Chris Hart-Henderson (Heart Spring Design), Ryan Johnson (Oregon Department of Environmental Quality), Aaron Salvesson (Salveson Homes); Joanne Richter (Upper Deschutes Watershed Council); Wendy Edde, Mary Packebush, David Buchanan, Sam Rossi, Dana Wilson, Michael Buettner (City of Bend Utility Dept.); Dustin Elmore, Brad Mandal, Pauline Hardie, Allison Platt (City of Bend Community Development Dept.); Brittany Barker, Drew Wells (City of Bend Engineering Infrastructure and Planning Dept.); David Abbas (City of Bend Transportation and Mobility Dept.); Eric Strecker (Terraphase); Brian Reis (HDR) (guest)

Key Items Discussed:

- **Welcome and Introductions** — Wendy Edde, Stormwater Program Manager, started the meeting by providing an overview of the agenda. General introductions were skipped to ensure meeting topics were addressed in the time allotted for the meeting, but Wendy briefly introduced the City's new Utility Director Mike Buettner and Utility Budget Manager Dana Wilson who will both be involved the upcoming stormwater rate structure work (described below).
- **Fish Health and Rubberized Roadways Discussion**
 - a. Eric Strecker, Principal Engineer, Terraphase and member of the Puget Sound Partnership's Science Panel began the discussion by presenting on the topic of Urban Stream Mortality Syndrome. A [Washingt State University/University of Washington led](#) study, published in December 2020, found coho salmon mortality linked to a pollutant known as 6PPD – Quinone. 6PPD—~~quinone~~ is a tire additive that slows the breakdown of tires. When 6PPD —~~Quinone~~ is oxidized, ~~becoming 6PPD-Quionone~~, it has been documented to be toxic to coho salmon and, to a lesser extent, steelhead and king salmon. The Deschutes River does not have documented coho salmon runs, however, it does provide habitat for steelhead, chinook salmon, sockeye salmon, and native redband trout. Worth noting are the relatively low concentrations that have been shown to impact rainbow trout (a close relative to steelhead and redband trout). Highlights from Mr. Strecker's presentation include:
 - An Oregon State University study [completed in 2000](#) found that the stormwater from highways became relatively non-toxic after [entering bioretention facilities](#) ~~and~~ coming into contact with soil. [The same study noted that the toxicity of 6PPD-Quinone was rapidly reduced by biofiltration through the Ecology mix.](#) That study as well as many others have found that there are mechanisms at the soil-level that remove, or buffer the toxicity of stormwater coming from highways. It is not yet clear the extent the removal efficiencies is influenced by the engineered

soil mixture used in the stormwater bioretention facilities designed to remove pollutants as opposed to soils in general.

- Current monitoring efforts are tracking 6PPD – quinone from tire wear and the associated “tire dust” that deposits on streets, entering surface water via stormwater drainage. Laboratory methods are still under development to detect and report 6PPD – Quinone.
 - There is evidence that points to 6PPD – quinone’s rapid biodegradation through hydrolysis (93% after 24 hours). There does not appear to be any evidence of bioaccumulation.
 - Additional research is needed to understand; how fast toxicity is reduced in receiving waters; if soil contact actually removes or neutralizes the pollutant; and what are the implications of recycled tires as an additive in paving mixes as rubberized chip seal is not used in Washington.
 - [There is little known about 6PPD-Quinone release from the use of tire-derived aggregate and crump tires in pavements and chip seals.](#)
 - Mr. Strecker recommended the City of Bend consider impacts to drinking water, human health, and other aquatic species.
- b. David Abbas, Transportation & Mobility Department Director, presented an overview of the City of Bend’s Streets and Operations Rubberized Chip Seal Project. David began by providing an overview of the City’s current methods and applications available to repair and protect the life of paved streets throughout the City. His overview provided an explanation of the cost/benefit of different approaches utilized by the City. This summer the City is adding another approach to improve pavement condition that is both cost effective and more environmentally-friendly. A chip seal product that includes recycled tires will be applied on streets east of highway 97 (near Pilot Butte) this summer with additional areas planned. This effort is estimated to remove approximately 3,600 tires from entering the landfill. David went on to explain that this product has been around for decades (used by Caltrans (California) and many other states) and has been used recently in Central Oregon by another municipality. Initial results from the regional application are very promising. David explained that the product replaces 20% of a mineral aggregate with an encapsulated recycled rubber additive. Due to the recent findings of 6PPD – quione related to tire wear and its impacts to salmonids, David explained that this product will not be applied in the City’s stormwater drainage to the Deschutes River (MS4) until more study can rule out ill effects.
- c. Wendy closed with a roundtable discussion to hear from the public. All public attendees were provided the opportunity to offer their input. Attendees appreciated the presentations and would like to learn more about how the product interacts with the environment in terms of removal and unintended consequences. Jim Oberlander asked about the potential for rubberized chip seal to catch fire (David A. assured there has not been an issue with chip seal); Moey Newbold was interested in Caltrans experience at altitude and appreciated the interdepartmental communication and use of best available science; Joanne Richter would be interested in seeing a monitoring plan and holding off on use in the MS4 area until more is known; Todd Cleveland is interested to learn more about how the chemical is attenuated or breaks down in the soil In general, the meeting attendees agreed that the City should wait to apply the rubberized chip seal product in areas that drain to the River, but are comfortable with this product being applied in other areas. This was mostly due to the fact that little is known of the potential impact to

Formatted: Font: (Default) +Body (Calibri)

aquatic species. The majority of attendees also expressed an interest in monitoring stormwater runoff from basins treated to understand more about how the chip seal product might breakdown and possible impacts to human health. Wendy indicated that the City promotes pretreatment by outfall location, and thus encourages bioretention in areas that drain to the river already. Drew Wells shared that the recent 14th street project within the area that drains to the river included 2 landscape swales on century; and the Newport project currently under construction will include 30 bioretention planter boxes varying in size along with 7 drywells that inject runoff that would otherwise drain to the river.

- **BCD Initiative Vision for Franklin Underpass** — Moey Newbold, Director of Urban Planning for Central Oregon LandWatch, provided an update on the Franklin Underpass visioning project. The goal of that project is to improve the Franklin corridor and east-to-west travel. Moey has been working with a local engineer, Jim Lord of Ashley Vance, and noted that a synergy project has been identified; they have also worked with an artist to create a mural. Moey proposed working with the City to combine the Franklin Underpass project to include improved mobility, a small memorial garden, with the drainage improvement project being planned by the City in the same area. Moey proposed collaboration to implement a similar framework to that of the improvements made to the 3rd Street Underpass that added green infrastructure (i.e. bioretention) to mitigate downstream flooding. Allison Platt, Senior Planner with the Growth Management Division, mentioned that a Feasibility Study is in the queue to understand how to implement the \$12 million under the Transportation Bond projects. Sinclair Burr, Principal Engineer with Engineering Infrastructure Planning Department, will be leading this effort and is the contact to coordinate with for this synergy project.
- **Utility Overview Outreach Videos: “Our Water System: A Journey Through Bend”** — Mary Packebush from Utility Communications provided an introduction of the City’s Utility Educational Outreach Program. A draft web platform is being constructed to serve the community and Mary would like to know if the PAG has any input on how the platform should be used. Generally, the focus has been on youth education, but Mary expressed an interest in understanding if the PAG could identify other target audiences that may find the subject matter valuable. Mary requested that all feedback be sent to her by mid-May.
- **Stormwater Fee Structure Review Project Update** — Wendy provided an update on the Stormwater Fee Rate Study. The study is being planned for the new fiscal year starting in July 2021 in coordination with FCS consultants. Topics that come out of that effort will be coming back to the PAG for review and input. Additional considerations are currently being included in the scope of the study. Please send Wendy any input on additional items. The initial scope is under review and will be shared with the PAG in future meetings.
- **Newport Avenue Stormwater and Corridor Improvements** — Drew Wells, Project Engineer, gave a project update on the Newport Corridor Improvements Project. Construction has started on segment 1 of 5 nearest Pageant Park. The South Awbrey Butte project is now a separate CIP and is slated for construction in 2023.
- **Roundtable Updates/Meeting Effectiveness Check-in** — Brad Mandal, Building Official, mentioned that the House Bill Committee will be presenting to Council regarding the House Bill that will allow smaller lots. Brittany Barker, Principal Engineer, shared that the Stormwater Master Plan is being planned to start in 2022. Wendy indicated that the timing

should work well as it will allow drafting the City's Integrated Stormwater Management Plan (focused on water quality protection) beforehand, which will also be brought before the PAG for input.

Key Decisions Made/Action Items

- The Public Advisory Group members supported the City's approach that due to the recent findings of 6PPD – Quinone related to tire wear and its impacts to salmonids, that rubberized chip seal will not be applied in the City's stormwater drainage to the Deschutes River [or Tumalo Creek](#) (MS4) until more study can rule out ill effects.
- The City will continue to track monitoring studies being conducted elsewhere for 6PPD-quinone, and will look into the possibility of setting up a monitoring study in Bend to learn more about rubberized chip seal and 6PPD-quinone.
- Moey Newbold will reach out to Sinclair Burr with regards to synergy ideas for the Franklin Underpass improvements project.
- PAG members have been asked to review the following "Our Water System: A Journey Through Bend" webpage for online educational lessons and provide comments and feedback directly to Mary Packebush (mpackebush@bendoregon.gov) by May 15, 2021. <https://www.bendoregon.gov/government/departments/utilities/6th-8th-grade-lessons>
- The stormwater fee structure scope will be shared with the PAG in future meetings.
- For additional meeting effectiveness or other input as a result of today's meeting, please email Wendy your thoughts.