

*Appendix C*

***Public Involvement and Participation***

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*Appendix C.1*

***Public Advisory Group:  
Meeting/ Agendas/ Summaries/ Sign-ins***

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CITY OF BEND

## Stormwater Quality

### Public Advisory Group

### Proposed Agenda

Thursday, September 6, 2018

9:00 AM – 11:00 AM

City Utility Annex—Eisenhower Conference Room  
62975 Boyd Acres Rd.

### Proposed Agenda

- I. **Welcome and Introductions, All, 9:00-9:10 AM**  
*Objectives: Introductions. Review agenda, previous meeting summary.*
- II. **Receive Updates Since—Density and Land Use, Ryan Oster, 9:10-9:20**  
*Objectives: Receive overview of recent activities related to density and land use including decisions made by Council.*
- III. **Review Draft PAG Priorities Recommendations, All, 9:20-9:50**  
*Objectives: Review draft recommendations together with prioritization exercise results. Discuss.*
- IV. **Discuss Next Steps, All, 9:50-10:15 AM, All**  
*Objectives: Discuss next steps taking into account non-perfect world considerations. Discuss additional data needs, timelines.*
- V. **Program Updates, 10:15- 10:30 AM, Wendy Edde**  
*Objectives: Receive regulatory and programmatic updates related to program elements including Annual Report schedule and permit updates, summer activities. Note: Our one water food service/restaurant training video has been finalized and released—you can watch it here: <https://www.bendoregon.gov/government/departments/utilities/educational-resources/food-service-training>. Provide requested input.*
- VI. **Receive One Water New Customer Brochure for Review, 10:30-10:45 AM, Wendy Edde**  
*Objectives: Receive.*
- VII. **Roundtable Discussion, 10:45-10:55 AM**  
*Objective: Open discussion for members to participate.*
- VIII. **Meeting Summary and Effectiveness Check-ins 10:55-11:00 AM**  
*Objective: Continual improvement of meeting effectiveness.*



CITY OF BEND

## Stormwater Quality

### Public Advisory Group

### Meeting Summary

Thursday, September 6, 2018

9:00 AM – 11:00 AM

City Utility Annex—Eisenhower Conference Room  
62975 Boyd Acres Rd.

#### Attendees

**Meeting Attendees.** Karna Gustafson (COBA), Chris Hart-Henderson (Heart Springs Design), Mark Ellington (BPRD); Lawrence Klein (Wylder Solutions); Fredrick Moore (DEQ); Wendy Edde, David Buchanan, Steve Prazak (City of Bend Utility); Ryan Oster, Brad Mandel, Pauline Hardie (City of Bend CDD); Tom Hickman (City of Bend EIPD)

#### Key Items Discussed

- **Welcome and Introductions.** Fredrick Moore introduced himself, new to the Public Advisory Group from DEQ. He has 30 years of experience in Hazardous Waste and is new to stormwater.
- **Updates Regarding Density and Land Use Decisions.** Pauline and Ryan indicated the Planning Commission is looking at reducing lot sizes down to 6,000 square feet for duplexes and 9,000 sf for triplexes. Current standards are 8,000 and 10,000 square feet. Pauline reported that on September 5, Council had a first reading for changing lot coverage increase from 45% to 60%. Accessory dwelling units are allowed in single family residential and townhomes. The stormwater designs were set up so that stormwater could be handled in the required landscaped areas—as lot coverage increases for buildings increases, there is less space for landscaped controls for stormwater.
- **Review Draft PAG Priorities Recommendations.** Wendy provided a draft one double-sided page summary for PAG to review and gave a brief overview on the results from last month's survey summary recommendations.

*Group Discussion on life cycle costs.* Wendy noted the finding for comparing initial construction cost to long term operational costs and how the results varied and were likely tied to affordable housing needs. Tom indicated that the City looks at both lifecycle and initial construction for CIP projects and use models to select the best options.

*Hurdles In Stormwater Design.* Chris indicated that sometimes banks do not understand the full cost of stormwater and appraise a project too low; this results in features getting cut so the project cost don't exceed the appraisal. Chris recognized this as an example of limitations outside of local control. Another issue noted was that utilities do not allow stormwater on top of them, so that limits available space as well.

*Recommendations Summary.* Wendy noticed that the recommendation trends were to allow as much flexibility as possible, and that onsite controls continues to be a high ranked option in each category combined with streetside options and neighborhood (subdivision level) regional options. Karna asked for clarification on the difference between street side and ROW, and street side included in the planter strip between the sidewalk and street or in-street (green street or UIC) facilities. These all tend to be in the right-of-way as non-ROW would be considered on-site. The question of two homeowners working together for a shared on-site came up. This has the potential to be viable with the right agreements running-with-the-land, and clear pathways for resolving issues.

*Opportunities for Surplus Properties/ to Combine Projects With BPRD.* Karna suggested that surplus property might be retained for stormwater facilities, and that this should be looked at part of the Stormwater Master Plan. Tom indicated that Jim Long (Affordable Housing Manager for the City) was going through the City and looking at vacant lots. The City does not have a robust inventory of vacant lots. A part of the Master Plan could use a model to find the low/ flooding spots and then look for surplus lots in that area. Brought up the use of parks for stormwater facilities. Mark indicated that Parks District Management has been considering the issue of densification as well. There may be opportunities to consider using pocket parks as regional facilities and it may be work looking at the cost share between the two agencies (City and parks), and updating the inventory of surplus property, especially with regard to infill, perhaps as part of the next Master Plan update. Mark cautioned that it is not safe to assume that all areas will drain. Ponderosa Park drains the parking lot and stays wet throughout the year. Do not under estimate the amount of water. Wendy agreed saying project proponents need to make sure the soil conditions are evaluated.

*Question and Answer, General Discussion.* Karna asked if the City had decided on Permeable Asphalt? Wendy, we haven't made a decision--it only has been used it in a few demonstration projects. Correct installation and specs are important. Utility conflicts can be an issue. Tom later indicated about permeable pavement that issues remain on long term maintenance and incidental sealing.

Brad asked what is the reason for disconnecting the downspout? Wendy indicated that by not having the direct connection to the storm drain system, the stormwater runoff can be slowed through vegetation and allowed to infiltrate, reducing the amount and velocity of runoff, and reducing peak flows.

Karna asked what is a regional control for infill? This was a little unclear, but Ryan would general consider this on-site, even if the water is crossing a lots in an easement.

- **Recommendations for Improving the Draft One-Pager Summary**

Karna, in the Density Opportunity Areas recommended moving the regional solutions up into the green. Karna suggested for Less Sensitive Drainage Areas large sites, it would be good to have the combination options for flexibility. Members agreed.

On the back page, Chris suggested changing the photo of Turf stone. This product needs water, which can be an issue for full sun. Chris allowed use of photos she has taken and shared with the City. Karna requested adding a Xeriscape™ yard photo (the dry riverbed photo had cut off the edge of the home). Chris would like to see cost comparisons for the different BMPs. Wendy indicated this could be done in a separate outreach piece. Steve suggested adding reference lettering for the UIC. Members expressed general consensus to make these changes.

- **Near Term Solutions**

Chris and Karna expressed a redevelopment question: if you are reducing impervious surface, is there enough flexibility to allow a person to demonstrate no impacts. Ryan answered right now no, as projects are required to meet the current standards. Wendy suggested the City could take a look at creating a credit incentive program for single family residential.

- **Study Needs**

The group discussed additional study needs.

*Cost Data.* Tom indicated that easily accessible life cycle cost data was not available. Swales would be an example, do we know how much the City is spending on those facilities?

Members discussed looking at the costs at different levels (onsite versus streetside right-of-way versus regional. It may be useful for informing or there could be an additional need to look also at the results of code changes and the associated costs to the property owner. Chris indicated that it would be helpful to have unit based price costs. Sq. Ft. cubic foot etc. Chris would also like the cost analysts for cisterns conducted as they may be a useful tool. Tom pondered whether a sensitivity analysis to compare a range of storm scenarios would be useful.

*Master Plan.* Tom indicated that he would like to get it kicked off late next year but could get bumped on the priority list due to work load.. Goal is to update all master plans every 5 years. Tom indicated it would be great if we could start collecting infiltration information now. Tom indicated a number of items could be done ahead of the Master Plan.

*Code Review.* The last watershed and stormwater based storm review was conducted in 2007. Members discussed if another code review is needed given intervening Code Changes. Depends on the Code changes. Pauline indicated that sometimes CDD works directly with the affected department; other times its more general and they reach out to other departments and the public

- **Program Updates.** Annual report is under development and will be sent out to the PAG for offline review. Also the grand prize student of the Kid's Video Contest is working with Zolo Media to finish up the public service announcement in time for release at the BendFilm festival in October. A new Training Video for restaurant staff is available (a link was included on the agenda, <https://www.bendoregon.gov/government/departments/utilities/educational-resources/food-service-training>).
- **Receive One Water New Customer Brochure for Review.** Wendy provided the one water brochure for the group to review. While a small print run has been made, the group was requested to review and comment by the next meeting



- **Roundtable and Effectiveness.** Karna is interested in septic to sewer issues. Karna would like information on aquifer depths within the City. Wendy mentioned that our main aquifer is 350-450 feet below surface. Chris discussed a UIC question.

### **Key Decisions Made/Key Action Items**

- PAG members to review City's "One Water" brochure and provide comments at the next meeting
- PAG members will review and provide comments on the draft Stormwater Annual Report in October for the City to submit to DEQ by the November 1 deadline.
- Wendy will update the one page fact sheet. City staff may send update to Council or include in the City Manager memorandum update.
- Staff will create a future outreach piece comparing costs of low impact development and other types of stormwater features.
- PAG members to provide any additional comments on the Future of Bend Stormwater Perspectives draft. Wendy had updated it to include the recommendations.



CITY OF BEND

## Stormwater Quality

### Public Advisory Group

### Proposed Agenda

Thursday, December 6, 2018

9:00 AM – 11:00 AM

City Utility Annex—Eisenhower Conference Room  
62975 Boyd Acres Rd.

### Proposed Agenda

- I. **PAG Appreciation Celebration, 9:00-9:30 AM**  
Please come a bit early to celebrate all the work we have put in on the density and stormwater approach effort to date, to recognize and celebrate our members who have departed this year and to meet and greet our new members.
- II. **Welcome and Introductions, All, 9:30-9:40 AM**  
*Objectives: Introductions. Review agenda, previous meeting summary.*
- III. **Discuss “One Water” New Customer Brochure, 9:40-9:50 AM, All**  
*Objectives: Provide and discuss any comments on the “One Water” New Customer Brochure that was distributed in hardcopy at the last meeting for PAG review.*
- IV. **DEQ Municipal Separate Storm Sewer (MS4) Phase II NPDES General Permit Overview, 9:50-10:00 AM, All**  
*Objectives: Receive overview of DEQ’s final General Permit (materials here: <https://www.oregon.gov/deq/wq/wqpermits/Pages/MS4-Permits.aspx>). (Here is our existing permit for stormwater to the river: <https://www.oregon.gov/deq/FilterPermitsDocs/ms4Pbendp.pdf>)*
- V. **Receive Updates—Density and Land Use, Ryan Oster, 10:00-10:05 AM**  
*Objectives: Receive overview of recent activities related to density and land use including decisions made by the Planning Commission and City Council.*
- VI. **Review/Approval Final PAG Priorities Recommendations Related to Density Development and Stormwater, All, 10:05-10:20 AM**  
*Objectives: Review revised draft recommendations and finalize documents.*
- VII. **Discuss Project and Program Status Updates, All, 10:20-10:35 AM, All**  
*Objectives: Receive updates on recent and current projects including Clean Water Works Partnership, CIP projects, synergy, effectiveness, system understanding (wellheads, drill holes, ambient water quality), and discuss biennial budget.*

- VIII. **Stormwater Workshop Planning Ideas**, All, 10:35- 10:45 AM,  
*Objectives: Brainstorm topics and speakers for a new and redevelopment workshop.*
- IX. **Roundtable Discussion**, All, 10:45-10:55 AM  
*Objective: Open discussion for members to participate.*
- X. **Meeting Summary and Effectiveness Check-ins**, All, 10:55-11:00 AM  
*Objective: Continual improvement of meeting effectiveness.*





CITY OF BEND

## Stormwater Quality

### Public Advisory Group Meeting Summary

Thursday, December 6, 2018 9:00 AM – 11:00 AM

City Utility Annex—Eisenhower Conference Room

**Attending:** Barbara Rich (Citizen at Large); Todd Cleveland (Deschutes County CDD); Frederick Moore, Krista Ratliff (DEQ); Karna Gustafson (COBA); Scott Wallace (Wallace Group/Bend Chamber); Lawrence Klein (Wylder Solutions/Citizen at Large); Tom Headley (Century West Engineering); Sean Mulderig, Steve Prazak, Wendy Edde (City of Bend Utility); Brad Mandal (City of Bend-CDD)

#### Key Items Discussed

- **PAG Appreciation Recognition.** City staff recognized members who have served and recently retired, and thanked all the Public advisory Group members for their efforts, especially with the density and drainage discussions over the past 20 months.
- **“One Water” New Customer Brochure Review.** Attendees generally approved of the brochure, intended to be a first introduction for new customers to the Utility Department, as currently the first introduction has been a bill. Members commented favorably on the inset tabs, good graphic design and clear concise information. Scott asked how they will be distributed—the first small run has been distributed during education programs as we received feedback. Ultimately they will be distributed to all new customers with the design such that it can fit into an envelope with the initial bill.

#### **DEQ Municipal Separate Storm Sewer (MS4) Phase II NPDES General Permit**

**Overview.** (DEQ’s final General Permit (<https://www.oregon.gov/deq/wq/wqpermits/Pages/MS4-Permits.aspx>). Bend’s existing permit: <https://www.oregon.gov/deq/FilterPermitsDocs/ms4Pbendp.pdf>) Wendy reminded attendees that the MS4 permit is for stormwater draining to surface waters, such as our Deschutes River. Wendy provided a brief overview of the General Permit released by DEQ on November 30<sup>th</sup>, along with a history of MS4 NPDES permitting including the remand rule. Whereas the City’s current MS4 permit is an individual permit, this permit is meant to cover all MS4 Phase II’s across the state. Wendy recognized the difficulty in trying to craft a permit that meets maximum extent practicable requirements for municipalities as small as 1,500-2,000 population and City’s like Bend that are growing by more than that each year. Wendy shared that the Upper Deschutes River does not currently have a TMDL, but there are pollutants of concern in the river and DEQ will create a TMDL for the

Upper Deschutes in coming years (they have one TMDL development ahead in the Eastern Region to complete before developing the one for the Upper Deschutes).

Wendy noted the cause or contribute language that the City has commented on in previous drafts remains, but the requirement to inspect septic systems (which is under the purview of the county or state) is no longer in the stormwater permit. Wendy noted that the permit does not require stormwater monitoring—the City monitors stormwater in its UIC permit and monitors ambient water quality in the river but not the direct pipe outfalls. The City has 60 days to determine whether or not to accept the general permit, apply for an individual permit, or take other action. City staff are currently analyzing the permit in detail with respect to the MEP standards that Congress set out and the City's ability to implement.

Karna asked what the implications to the everyday builder or person are. Wendy indicated that the City is still conducting review but one item that she noticed is that the Stormwater Management Plan will need to be updated yearly and post construction controls may see an increase. If the City were to go with an individual permit, this permit would be the starting base for creating an individual permit. Phase I permits included commercial/industrial inspections and river monitoring, which could be negotiated into an individual permit.

Scott asked if the regional Central Oregon Stormwater Manual (COSM) is part of the permit. Wendy indicated creation of the COSM manual was one of the tasks in the City's first integrated stormwater management plan (ISWMP) that the City developed as part of our 2007 permit, which is currently administratively extended, and that ISWMP became a part of the permit. So the development of the COSM was part of the permit. The COSM was first released as guidance in 2008 and comments were taken on it during the first couple of years of use. It was then revised in 2010 and that version was adopted as design standards in the City's Standards and Specs and in our Bend Code. There is a potential that permit requirements especially related to post-construction controls will result in changes needed to the COSM (at least for Bend). In answering a question as to whether other changes are needed for the COSM, Karna indicated that in general, not taking into account permit requirements, she does not feel a revision is necessary.

- **Density and Land Use.** Attendees discussed the recent lot size reductions passed by Council for duplex and triplex lots to help meet density requirements. Karna indicated that the goals are to work to reduce the commute miles traveled by bringing people back to within the existing city limits and make living affordable. Lot size has a direct effect on density, but lot coverage may but does not necessarily have a direct impact (given that one could build multistory and have the same or more density). Brad indicated that the affordability of a connected triplex would not have been practicable for a connected triplex. Lot coverage has not changed yet though there was a push for a 0.6 scaling ratio minimum for floor area to lot size. Council will also be considering proposals for tiny homes on wheels, and building requirements in upcoming meetings.

The PAG did not have any changes to the summary document or the two-page fact sheet summarizing PAG priorities and recommendations related to density development and stormwater. The documents provide guidance to City staff for improving the stormwater program. PAG members expressed support for City staff to present to Council about the links between stormwater and land use and the input provided by members on the density and drainage issue. Wendy indicated that Ryan had suggested taking a presentation to Council about April, once the new Council is seated. Staff will begin work on the presentation.

- **Additional Updates.** Due to time constraints, time given to the remaining items on the schedule were truncated.
  - Wendy indicated that City staff are currently conducting online surveys of Clean Water Works Partner main contacts and employees, and about to start a general public survey that will be released in January to avoid conflict with the City's community survey. The public survey will use questions asked before so comparisons can be made. She asked PAG members to help spread the word when released to help maximize the number of respondents.
  - Staff are currently working on field verifying water wellheads and the status of drill holes in time of travel areas so that we can ensure our UICs are being protective of water quality. The City is also having a summary analysis prepared of our ambient water quality data. City staff are planning a new and redevelopment themed workshop for the spring, to be focused on better site design and the breadth of options available to allow flexibility in design.
  - Staff across the City are working on the biennial budgets for the FY2019-20 and FY2020-21 years now. Department Heads will review the proposals in January and the process will move forward with City Hall review, Budget Committee review and Council review prior to final approval in May/June.

### **Key Decisions Made/ Action Items**

- If PAG members notice any changes needed to previous meeting summaries, contact Wendy.
- Wendy will share the link to the Clean Water Works public survey in January and PAG members will forward as they feel comfortable to help get a large number of respondents.
- PAG members with ideas for the workshop or early budget preferences should contact Wendy.
- Wendy will make changes to the incorrect cell phone listings in the PAG roster.



CITY OF BEND

## Stormwater Quality

### Public Advisory Group Proposed Agenda

Thursday, February 21, 2019

10:30 AM – 12:00 Noon

City Utility Annex—Eisenhower Conference Room  
62975 Boyd Acres Rd.

- I. **Welcome and Introductions**, All, 10:30-10:35 AM  
*Objectives: Introductions. Review agenda, previous meeting summary.*
- II. **Review Draft Council Presentation: Drainage and Density**, Wendy Edde and Ryan Oster, All, 10:35 -11:05 AM  
*Objectives: Review draft Council presentation providing a background overview on stormwater, the link with stormwater and land use, and a summary of the work that PAG has been exploring on drainage and density.*
- III. **Spring “Drainage and Density” Better Site Design Workshop Overview**, Wendy and Tom Headley, 11:05 AM – 11:15 AM  
*Objectives: Receive an update on and provide input regarding workshop tentatively scheduled for May 29 and 30.*
- IV. **Updates to “Bend’s Better Site Design Walking Tour” Booklet**, Wendy, All, 11:15 AM – 11:25 AM  
*Objectives: Given that the City needs to reprint the [Better Site Design Walking Tour](#) booklet, and associated [Points to Ponder](#) answer page, it’s an opportune time to provide updates especially given changes in the Old Mill area. Objectives here are to note any areas of the booklet that need further clarification or improvements; and provide input if the Points to Ponder page information should be included in the booklet directly.*
- V. **Discuss Stormwater Status Updates: Proposed Budget Overview, DEQ MS4 Phase II NPDES Permit, Project Updates** All, 11:25-11:35 AM, All  
*Objectives: Receive updates on biennial stormwater budget proposals for FY2019-20 through FY2020-21, and additional status updates.*
- VI. **Roundtable Discussion and Wintertime Issues**, Chris Hart-Henderson, All, 11:35-11:55 AM  
*Objective: Extended discussion this month to discuss concerns regarding wintertime project sign off timing brought forth by Chris Hart Henderson. Will also include additional roundtable item opportunities*
- VII. **Meeting Summary and Effectiveness Check-ins**, All, 11:55-12:00 Noon  
*Objective: Continual improvement of meeting effectiveness. Discuss next meeting date.*





CITY OF BEND

## **Stormwater Quality**

### **Public Advisory Group Meeting Summary**

**Thursday, February 21, 2019**

**10:30 AM – 12:00 PM**

#### **Members and City Staff Attending**

Todd Cleveland (Deschutes County Environmental Health); Chris Hart-Henderson (Heart Spring Design); Karna Gustafson (COBA); Joanne Richter (UDWC); Fredrick Moore (DEQ); Lawrence Klein (Wylder Solutions, LLC) ; Aaron Salvesen (Salvesen Homes, Small Business); Scott Wallace (Wallace Group, Bend Chamber of Commerce, Large Business/Industry). Ryan Oster, Brad Mandal, David Buchanan, Wendy Edde, Steve Prazak, Drexel Barnes, Teresa Briggs (City of Bend)

### **Key Items Discussed**

#### **Welcome and Updates Since Previous Meeting**

No changes to our last Meeting Summary.

#### **Clean Water Works Effectiveness Survey**

Follow-up surveys were sent out to the Clean Water Works Partner business contact, their employees and to the general public. Wendy will work to summarize the results and will share the findings with the PAG. Wendy thanked the PAG for helping get the word out on the surveys, the City received over a 100 responses to the public survey.

#### **PAG Member Updates**

Karan would like to suggest that Jeff Pain take her position, Wendy will work on getting the change approved. Aaron would like to represent the small business opening. Wendy will review existing PAG members that cannot attend regularly and work to find replacements. Wendy requested that the PAG provide suggested contacts of people that may be interested in joining the PAG.

#### **Review Draft Council Presentation**

The following comments were provided

- Karna: update population chart with current data.
- Wendy: will update presentation with the latest facility numbers for the MS4 system.
- Scott: Show the number of outfalls and the locations on MS4 overview slide.
- Wendy, Should we consolidate the scale types or expand on them? No clear direction was provided by the PAG.
- Joanne: Add Drill Holes numbers on Water Quality slide.
- Lawrence: Does the City have any statistics on the number wells and depths to ground water? Ryan, provided the general depths of the City 500-800 feet for City drinking water

wells. Wendy, the City has looked at this and can share some those reports. The depth varies across the City, with some shallower perched aquifers on the north end of the City.

- Chris: Providing the average depth of wells may be helpful.
- Tom: How much time will you have with Council for this presentation? Ryan estimated 30 minutes. Tom suggested adding in some additional time to explain the basic stormwater terms, like watershed.
- Tom: has that "Recommendations by Area" graphic been sent out to the public? Wendy not yet but could look into it. You could add a link to the new customer "One Water" mailer? Need to look into if that is available yet electronically. Teresa, recommended taking extra "One Water" flyers for the council and attendees.
- Scott: what is definition of near term compared to long term? Consolidate the slide to just the key take aways; are there any higher priorities?
- Chris: Recommended closing on a few key takeaways for council.

Email any additional feedback you may have on the presentation to Wendy.

## **Better Site Design Workshop**

### **Walking Tour Booklet Update:**

Wendy – Is planning to make some adjustments including capturing the new construction that has taken place in the Old Mill and updating the imagery where necessary. Wendy would like input on whether to refine the points to ponder: Should the answers be included in the back of the document? Currently it's on our website with a QR code link.

- Steve- Update contact information and remove Jeff England reference.
- Wendy - asked the group to review the walking tour booklet by the end of the month and provide any comments. The goal is to have this document updated and availed for the upcoming workshop.

### **Workshop Details:**

- Tom - Will work with PEO to provide continuing education credits.
- Wendy - Location is still be worked out.
- Chis - Who would you like to see attend? Wendy: first day is more general, second day would be more for design, engineer, architects and developers. PDH's for contractors.
- Provide any suggested speakers to Wendy.

## **Stormwater Quality Budget**

Teresa - The City has a two-year budget, which must meet Oregon budget laws. Starts in September and is finalized by June. The biennial budget is reviewed and updated yearly. Budget Committee can review all the way down to the line item. Council adopts the budget in June. Any budget changes made by Council that are greater than 10% have to go back to the committee per Oregon law. The City has a Stormwater rate forecast model; right now the model shows a 3% annual increases. This is a 20-30 year model that gets reviewed yearly.

Wendy - Rate increases did not take place until after the City's first formal Stormwater Master Plan was approved in 2014.

Teresa - 40 % of the stormwater budget goes to personnel. The city has a cost allocation plan that is approved by HUD, the most stringent regulating body. This is used to calculate the transfers to other departments that support stormwater. Utility Department has submitted the draft budget to the finance department. They are now reviewing that budget and then it will go to city manager for approval.

### **The proposed Stormwater Budget Includes:**

- \$375k Drainage improvement project.
- \$300k Dedicated for Stormwater Treatment.
- \$150k Coordinating with other CIP projects.
- \$200k O&M (Not including personnel costs)
- \$200K Water Quality Program (Not including personnel costs)

### **Wendy provided an overview on Key Water Quality Projects**

- Infiltration study (Prep for the Masterplan Update) .
- Ambient Water Quality Data
- COSM Update (In Year 2)
- Private Stormwater Database Collection
- UIC WQ Treatment (Providing treatment on existing Drill holes)
- Storm drain marker verification / Manhole Lid with WQ messages.

### **MS4 General Permit Update**

Permit is on hold, City will continue to operate under existing permit until final issues are resolved.

### **Roundtable Discussion**

Chris - Has been running into a problem recently, on a project in North Rim. Project is coming to completion in winter; Inspector will not sign off until stormwater is installed. Builder said he could not construct it sooner, due to needing the room for staging. Digging in the winter resulted in large chunks of frozen soil having to be hauled offsite. Chris provided a site plan as an example. CCRs limit the area that can be disturbed and excavation contractors are not aware of the drainage plans.

- Brad - Can CCR be revised?
- Todd - Sees this that people are compacting drainage area all the time, with material storage and masonry slurry. Some years you may not be able to dig in the winter if we have a severe winter.
- Ryan - Engineer is responsible for the design; the City is not responsible for manage the project.
- Chris - Design is taking place in isolation.
- Aaron - Weather is just something you have to deal with. The compaction around the site is unavoidable. How deep must you go to restore infiltration?
- Wendy - Would education help? Chris, Yes but that would be slower to see changes in the field and thought code change would improve it faster.
- Chris - Will City increases review on lots under 5,000 sq. ft? Ryan - This is not something we are looking at doing in the near term.
- Brad is seeing less re-inspects and fewer complaints as result of the temporary process now in place.
- Wendy wants to make sure LID is incorporated earlier in projects in general.
- Joanne - Upper Deschutes is close to getting a new director.

### **Meeting Check-in**

No meeting changes/recommendations were provided.

### **Key Decisions Made/ Action Items**

- PAG to send comments on council presentation to Wendy.
- Wendy will share drinking water/well depth information with Lawrence.

- Wendy to summarize the Clean Water Works Survey and the share results with PAG.
- PAG to review the walking tour booklet by the end of the month and provide any comments to Wendy.
- PAG to provide suggested speakers for Better Site Design workshop to Wendy.
- Wendy to review existing PAG members list and work to find replacements for non-participants.



CITY OF BEND

## Stormwater Quality

### Public Advisory Group Proposed Agenda

Wednesday, May 23, 2019

9:00 AM – 11:00 AM

City Hall—Council Chambers,

710 NW Wall Street **(Note different location)**

- I. **Welcome and Introductions**, All, 9:00-9:05 AM  
*Objectives: Introductions. Review agenda, previous meeting summary.*
- II. **Council Presentation Update and Request for Volunteers: Drainage and Density**, Wendy Edde and Ryan Oster, All, 9:05 -9:25 AM  
*Objectives: Receive update on first Council presentation that focused solely on providing a background overview on stormwater. Request volunteers to assist present the second presentation, providing the link with stormwater and land use, and a summary of the work that PAG has been exploring on drainage and density. Discuss scheduling.*
- III. **Spring “Drainage and Density” Better Site Design Workshop Update**, Wendy and Tom Headley, 9:25 AM – 9:40 AM  
*Objectives: Receive the announcement flyer for, draft agenda, and an update on and provide input regarding workshop tentatively scheduled for May 29 and 30.*
- IV. **Draft Stormwater Facility Maintenance Guidance Review** All, 9:40-10 AM,  
*Objectives: Staff are creating a series of user-friendly fact sheets to assist property owners with proper maintenance of stormwater facilities. Review draft Rain Garden/Bioretenention Maintenance Guideline fact sheet in graphic layout form as a template, as well as text versions of others.*
- V. **Draft Stormwater Facility Cost Data Review**, Wendy, All, 10:00 – 10:10 AM  
*Objectives: Review initial draft stormwater facility cost data literature review requested by PAG and to become a handout for the workshop. Provide comment as to layout and breadth.*
- VI. **Considering Low Impact Development – Worksheet Review**, Wendy, All, 10:10 AM-10:35 AM  
*Objectives: Bend Code Title 16 requires consideration of Low Impact Development. Review draft worksheet to assist meet this requirement.*
- VII. **Stormwater and the Standards and Specifications – An Overview of Recent Changes**, Ryan Oster, Wendy Edde 10:35 AM – 10:45 AM  
*Objective: Informational update.*
- VIII. **Roundtable Discussion and Updates**, All, 10:45-10:55 AM  
*Objective: Open Discussion.*

IX. **Meeting Summary and Effectiveness Check-ins, All, 10:55-11:00 AM**

*Objective: Continual improvement of meeting effectiveness. Confirm action items; discuss next meeting date.*

Stammwater  
Public Advisory Group  
May 23, 2019

<u>Name</u>	<u>Representing</u>
1. AARON SALVESEN	COSA/SALVESEN HOMES
2. Chris Hart-Henderson	Heart Springs landscape
3. Moey Newbold	Central OR LandWatch
4. Drexell BARNES	COB Env. Compliance
5. STEVE PRADAK	COB ECD
6. L. Klein	Wylar Solutions
7. Ryan Oster	COB CAD





### **DRAINAGE TO UNDERGROUND DRINKING WATER PROTECTION AREAS**

#### **Small Infill Lot**

- Onsite & Streetside Controls

#### **New Developments or Large Redevelopments**

- Combination: Onsite, Streetside, and Regional
- Onsite and Regional

### **DENSITY OPPORTUNITY AREAS**

#### **Small Infill Lot**

- Onsite
- Regional
- Combination: Onsite, Streetside, and Regional

#### **New Developments or Large Redevelopments**

- Regional
- Combination: Onsite, Streetside, and Regional

### **DRAINAGE TO THE RIVER**

#### **Small Infill Lot**

- Onsite & Streetside Controls
- Onsite

#### **New Developments or Large Redevelopments**

- Combination: Onsite, Streetside, and Regional
- Onsite and Regional

### **LESS SENSITIVE DRAINAGE AREAS**

#### **Small Infill Lot**

- Onsite

#### **New Developments or Large Redevelopments**

- Onsite
- Combination: Onsite, Streetside, and Regional

### **GEOLOGIC CHALLENGES**

#### **Small Infill Lot**

- Combination: Onsite, Streetside, and Regional

#### **New Developments or Large Redevelopments**

- Combination: Onsite, Streetside, and Regional
- Onsite and Regional



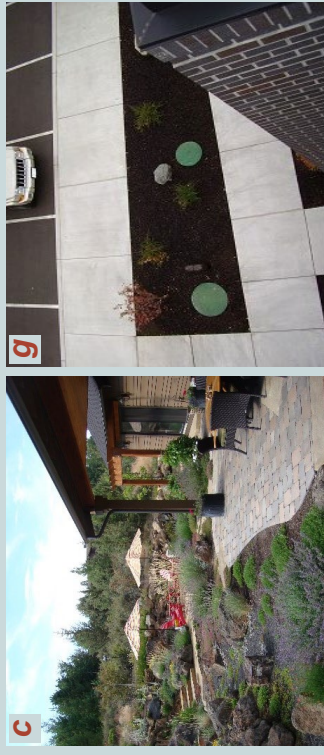
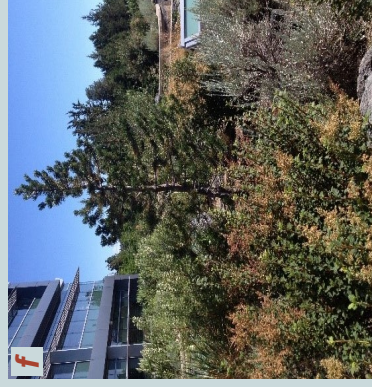
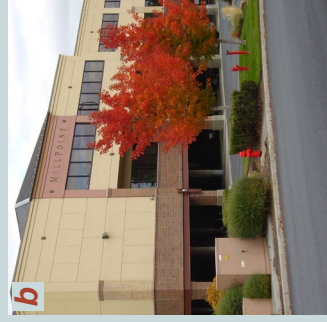
## **Stormwater Public Advisory Group Recommendations - Fall 2018**

The City of Bend Stormwater Public Advisory Group has been focused over the last 18 months on how best to handle stormwater with increasing density as needed to meet State land use goals related to UGB expansion, and as the City becomes more urbanized. The following represent the results of prioritization exercises in a perfect world without additional complications, regulatory requirements, competing needs, etc. To that end, the PAG recognizes the need for and highly prioritizes flexibility especially for last lot small infill projects.



# Glossary of Terms -

**ONSITE CONTROLS** seek to increase permeability, reduce impervious surface area and directly connected impervious areas to increase retention and detention through such practices as (a) rain gardens, (d) disconnected (b) parking footprints, (c) rain gardens, (d) disconnected downspouts, (e) permeable pavement or decks/benches, (f) green roofs, (g) cisterns, (h) underground injection controls.



**NEIGHBORHOOD STREETSIDE CONTROLS** are controls in the public right of way or private streetside designed either to retain or detain stormwater to reduce the amount or rate of runoff. These may include (a) green streets bioinfiltration, planter boxes, (b) filter strips, or underground injection controls.



**REGIONAL (SUBDIVISION) CONTROLS** are designed to take, detain/retain the stormwater from multiple lots through a retention or detention basin or swale.



**Accommodation Information for People with Disabilities**

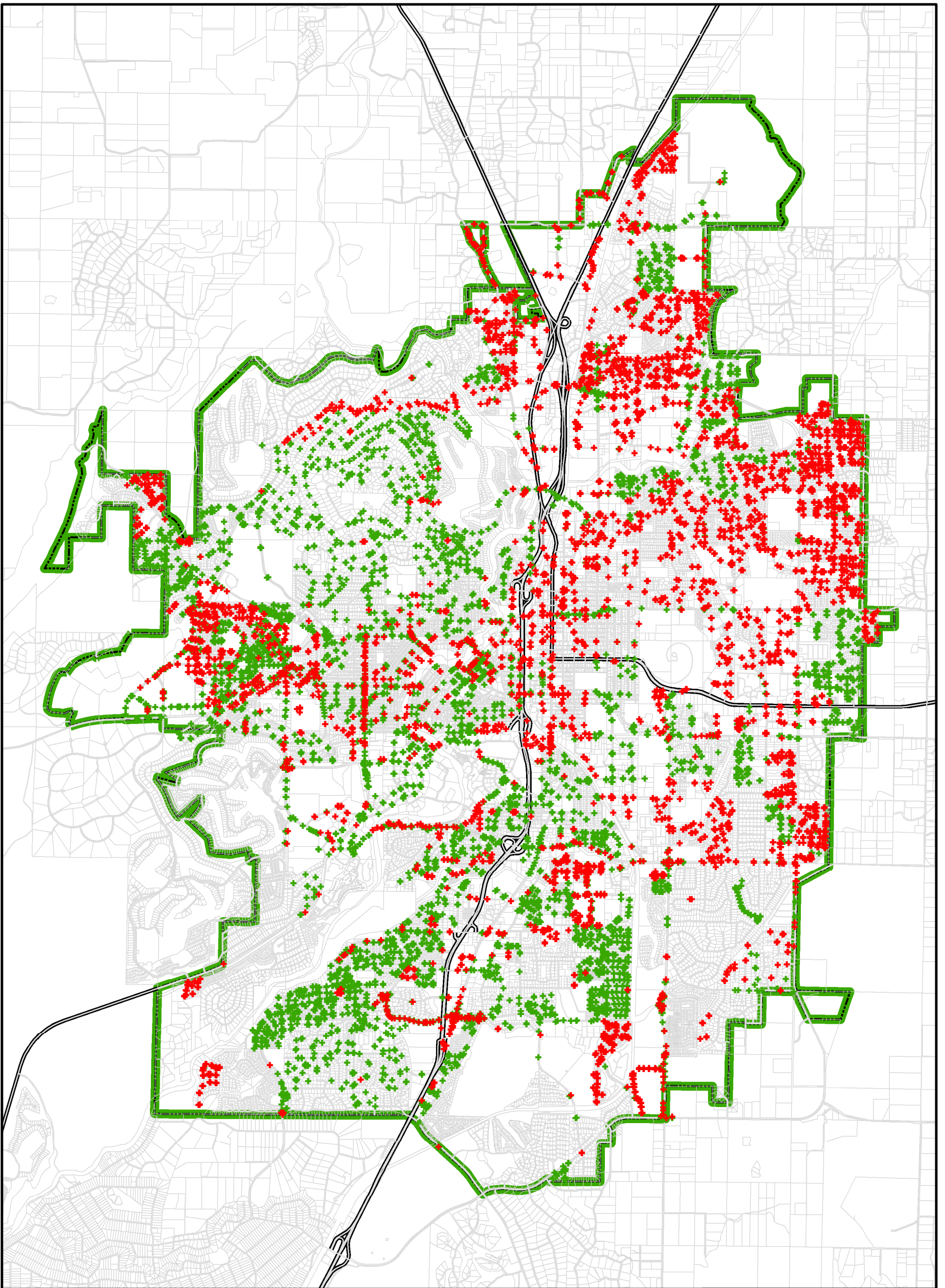
To obtain this information in an alternate format such as Braille, large print, electronic formats, etc. please contact Utility Department at: (541) 317-3000 ext. 2, [utilities@bendoregon.gov](mailto:utilities@bendoregon.gov), Relay Users Dial 7-1-1.

*Appendix C.2*

***Storm Drain Marking Map***

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## STORM DRAIN MARKERS

- + Not Marked
- + Marked
- City Limit



0 0.25 0.5 1  
Mi

Map prepared by dzarate, City of Bend  
 Print Date: Oct 30, 2019  
 Sources: City of Bend, Deschutes County



CITY OF BEND

This map is for reference purposes only. Care was taken in the creation of this map, but it is provided "AS IS." Please contact the City of Bend to verify map information or to report any errors.