Clean Water Services
Clean Water Advisory Commission
Meeting Notes
February 13, 2019

Attendance

Attending the meeting from CWAC:
- Commission Chair Tony Weller (Builder-Developer)
- Molly Brown (District 2/Treece)
- Andy Duyck (District 4/Willey)
- Art Larrance (At-Large/Harrington)
- John Jackson (Agriculture)
- Lori Hennings (Environmental)
- Matt Wellner (Builder-Developer)
- Diane Taniguchi-Dennis (Clean Water Services Chief Executive Officer (CEO)/non-voting)
- David Waffle (Cities/non-voting)

Absent:
- Commission Vice Chair Mike McKillip (District 3/Rogers)
- Judy Olsen (Agriculture)
- Kevin Wolfe (Business)
- Stu Peterson (Business)

Attending the meeting from Clean Water Services:
- Mark Jockers, Government and Public Affairs Manager
- Nora Curtis, Conveyance Systems Department Director
- Damon Reische, Planning and Development Services Division Manager
- Ryan Sandhu, Field Operations Division Manager
- Ken Williamson, Director of Regulatory Affairs
- Shannon Huggins, Public Involvement Coordinator
- Stephanie Morrison, Executive Assistant
- Bryan Thistle, Field Construction/Maintenance Supervisor – SWM/SFM
- James Vitko, Field Construction/Maintenance Supervisor – System Maintenance
- Anne MacDonald, Senior Water Resources Program Manager
- Chris Faulkner, Water Resources Program Manager

Members of the public attending the meeting:
- Kathryn Harrington (Clean Water Services Chair)
- Tim Sauder, Washington County Department Transportation Operations and Maintenance and Senior Environmental Resource Specialist
- Vandy Vanderzanden, Citizen
- Kris Balliet, Executive Director, Tualatin Riverkeepers
- Savannah Edson, Metropolitan Land Group

1. Call to Order
Mr. Weller called the meeting to order at 6:32 pm in the Tualatin Room at the Clean Water Services (CWS) Administration Building Complex in Hillsboro, Oregon.

2. Previous Meeting Notes
There were no comments regarding the notes from the last meeting, January 9, 2019.

3. Design and Construction Standards Update
Mr. Reische discussed the update to the Design and Construction Standards (Standards), which is a requirement of the CWS 2016 Watershed Based Permit **(presentation attached)**. Phase 1 included revisions to the Standards to address the 1,000 square-foot (sf) treatment threshold and LIDA prioritization. Phase 2 requires CWS to develop a strategy and revise the Standards to address hydromodification by April 22, 2019 (presentation attached).

Questions and comments related to the Standards update are in Appendix A.

The Standards include design and construction requirements for sanitary and storm conveyance, stormwater management, vegetated corridors, erosion control and pump stations. The Standards were last updated in 2017 in order to meet two NPDES (Watershed Based) permit requirements regarding stormwater management; the 1,000 sf water quality treatment threshold and the prioritization of Low Impact Development Approaches (LIDA).

The third permit requirement necessitating an update to the Standards is to have requirements that address post development hydromodification impacts. Hydromodification is the change in volume or rate of runoff from a site as a result of changes to the landscape. Flooding, downcutting and erosion, all of which can result in a detriment to water quality, are associated with hydromodification.

CWS' approach to hydromodification is based on developing Sub-basin Strategies which look at the streams in an area as an entire system and uses regional approaches to make the streams more resilient. This Sub-basin approach was pilot tested in North Bethany. The strategy incorporated stream restoration, upland ponds, LIDA, and a dynamic orifice control technology, known as Real Time Control. It takes time to develop Sub-basin Strategies, so CWS developed a Base Strategy as an interim approach while continuing to develop sub-basin specific strategies.

CWS has held regular meetings with stakeholder groups since August 2016 and is scheduled to update the Board of Directors at a Work Session on February 26. A Public Hearing to adopt the Standards is scheduled for the March 26, 2019, CWS Board of Directors/Washington County Commission meeting. Stakeholders have reviewed the methodology and strategies in great detail and provided helpful comments. Some of the comments work in opposition, and staff is attempting to get the right balance between opposing viewpoints. The timeframe for review and adoption is tight; new Standards must be adopted by April 22, 2019. Stakeholders recognize the tight timeline and appreciate as much time as possible to review.

Changes to Chapter 4 will be released February 14, 2019. Changes are called out with reader notes and colored text. Some of the changes are in terminology or organization. There are also a few changes proposed to Chapter 1 in the definitions section that pertain to hydromodification.

Applicants need to know three things (location of project, size of project, and hydromodification risk level of the receiving stream) to determine what stormwater management approaches they can use on their project.

There is an updated version of the web map tool that was originally released with the Base Strategy Methodology. The map is intended to be a prescreening tool. The web tool is used to determine whether a project is in an Expansion Area and what the Hydromodification Risk Level is for the Receiving Stream Reach. Property developers can zoom in to see tax lots and streams. In response to comments on the first version, graphics have been improved and simplified. The map now shows risk associated with the streams only, not the entire upland drainage area.

With information from the map and the proposed size of the development, an applicant can then determine what approaches for hydromodification can be used. The Standards also include a site-specific reach assessment methodology if applicants believe the web map tool is inaccurate.

Since the release of the original Base Strategy Methodology, the Project Size Categories have been simplified. A "small" project is 1,000-12,000 sf; a "medium" project is 12,000-80,000 sf; a "large" project is more than 80,000 sf.

To approximate the number of single-family residential lots in each category, a rough calculation uses 2,640 sf of impervious area per dwelling unit as the impervious area for each lot and then factors in an additional 25-35 percent impervious area for other required amenities such as roads. So,

- 12,000 sf of impervious area is roughly equal to a four or five-lot subdivision with roads.
- 80,000 sf of impervious area is roughly equal to a 20-lot subdivision with roads.

Approach options are listed in three categories:

- Category 1 provides an option between fee-in-lieu or LIDA. It's the applicant's choice.
- Category 2 allows for the use of peak matching pond, infiltration LIDA or a combination of the two. Pond sizing is similar to the sizing used by Portland and Gresham; the post development runoff for the 2-year, 5-year, and 10-year storm peaks must match the pre-development runoff for ½ the 2-year, 5-year and 10-year storm peaks, respectively.
- Category 3 has the same peak matching sizing concept as Category 2, but adds a requirement to have 30 percent of impervious surface be managed by LIDA. It also offers the option to use the Tualatin River Urban Stormwater Tool (TRUST) to size the ponds.

The February 14 rollout includes updated standards language for Chapter 1 and Chapter 4, a guidance document to help bridge the changes from the methodology to Chapter 4, a revised web map tool, and an executive summary.

4. Leaf Program Review

Mr. Sandhu discussed the status of the Leaf Program evaluation **(presentation attached).** Mr. Sandhu reviewed the reviewed the work done by CWAC to date, beginning with the charge from the CWS Board of Directors (Board), which is to review, discuss and provide a recommendation on the leaf program. The program has been discussed at CWAC meetings in March 2018, May 2019 and September 2018.

The goal tonight is to agree on a recommendation to present to the Board.

Questions and comments related to the Leaf Program Review are in Appendix B.

Mr. Sandhu said the original primary driver of the Leaf Program was to reduce flooding calls caused by leaves. He discussed the three criteria CWAC developed to evaluate alternatives:

- Meet the intent of the program

- Cost
- Ease of implementation

Mr. Sandhu provided additional call data requested by CWAC at their last meeting. CWS can't track leaf-related calls specifically, but worked to cull general flooding call data and identify flooding calls that occurred during leaf pick-up season. This allowed CWS to make some general observations:

- CWS received more calls from inside the curbside pickup area than expected. The curbside pickup area is about one-tenth the size of the area outside the pickup area, but the number of calls from within the curbside pickup area are more than 10% of the total call volume.
- Calls are fairly spread out.

Mr. Sandhu provided additional data CWS collected about the green bins that are included in garbage service for all urban unincorporated Washington County. Base service includes a 60-gallon bin every other week. Additional bins cost $1.50 a month. Extra bags or bundles are $3 each. Not many customers currently pay for additional yard debris bins (2,688 of 56,500), so this could be an opportunity for growth.

Mr. Sandhu reviewed the alternatives previously identified by CWAC:

A: Status quo

B: Expand curbside program to all CWS customers. Continue current leaf drop days.

C: Eliminate curbside pickup, expand leaf drop days

D: Eliminate curbside program, eliminate drop days, promote green bins

E: Eliminate curbside pickup, eliminate leaf drop days, upgrade storm sewer infrastructure

Two alternatives were previously tabled by CWAC:

F: Do nothing (does not meet permit requirements)

G: Partner with nonprofits (logistics)

Mr. Sandhu reviewed how CWAC had previously rated the alternatives using the established criteria. CWAC looked at options which could be sustainable and flexible over time, whether costs could be controlled and be equitable to all ratepayers. Based on the criteria, CWAC rated options C and D highest. Staff has therefore brought a draft recommendation forward for CWAC to consider.

Recommendation:

- Eliminate curbside service.
- Promote green bins in conjunction with Washington County through bill inserts, social media, etc.
- Expand drop days. Sites currently operate from 8am-4pm. CWS could condense hours and add locations without adding costs.
- Continue enhanced storm patrol (preventative maintenance of known localized flooding locations).
- Continue routine street sweeping. (It is a permit requirement.)

Next steps:

- April 23: Board Work Session scheduled

- Summer 2019 and 2020: Public outreach and education
- Fall 2020: Implementation

Ms. Huggins talked about public involvement and recommends "consult" as the level of engagement. This will be a tough message, especially for the 14 percent of ratepayers who get leaf pickup. CWS will give a long lead time and wants to reach out to all ratepayers. CWS wants to ask the public to weigh in on drop site locations, dates and times. That will help inform ratepayers about the program and offer an opportunity for buy-in.

Mr. Duyck made a motion to forward the recommendation to the Washington County Board. Ms. Brown seconded the motion.

The motion passed unanimously.

5. Announcements

Mr. Jockers briefed the CWS Board on February 12, 2019 on the recruitment for open positions on the Commission. There were five applicants for the environmental representative position and three applicants for the District 1 position. Staff will ask the Board to make appointments at the February 26, 2019, meeting.

At the last meeting the Commission recommended two members to serve on the Budget Committee – Chair Weller and Mr. Waffle. The Board will be asked to take action on these appointments at their February 26, 2019, meeting. The Budget Committee meeting is May 3, 2019.

The next Commission meeting is scheduled for Wednesday, March 13, 2019.

6. Adjournment

Mr. Weller adjourned the meeting at 8:25 pm.

(Meeting notes compiled by Jody Newcomer.)

Appendix A
Clean Water Services Advisory Commission Meeting Notes
February 13, 2019

Questions and comments regarding Design and Construction Standards update:

Web Map Tool

Q. Using the web map tool, will you be able to zoom to parcel level?

A. Yes. You can see the storm system and creeks. Stream order is no longer shown. Once you get to the receiving reach, you look a quarter mile downstream, in all cases.

Fee-in-Lieu (FIL)

Q. Does Category 1 include either LIDA or Fee-in-Lieu at the developer's option?

A. Yes.

Q. Can you use fee-in-lieu funds on bigger projects which may include stream restoration?

A. Yes.

Q. Is there any restriction on how fee-in-lieu funds can be used?

A. Fee-in-lieu will apply to Base Strategy areas. Sub-basin areas will have a Regional Stormwater Management Charge (RSMC), which is similar to fee-in-lieu but is based on the cost to implement specific projects. Fee-in-lieu is a more general fee in base strategy areas which may not have specific identified projects yet. CWS plans to use FIL to address areas with greatest risk and/or detriment.

Infiltration Approaches

Q. What do you mean by Infiltration LIDA in Categories 1 and 2? How are these facilities sized?

A. Chapter 4 has a table that shows different soils and assumed infiltration rates associated with those soils. You can do onsite testing to show a greater infiltration rate, then size facilities based on what you could achieve. Category 1 has simplified sizing of 12 percent. You don't have to engineer those facilities or figure out sizing. If you feel like infiltration is a bad idea for your site, you can do fee-in-lieu. Staff expect most homeowners in Category 1 will choose fee-in-lieu, but didn't want to close the door to rain gardens.

Q. We have soils that don't allow infiltration. Are we trying to maximize the opportunity for infiltration, or only in those areas you can demonstrate a level of infiltration?

A. CWS' approach is a little different from other jurisdictions. We're not emphasizing infiltration first, we're allowing it as an option and a way to manage a site in conjunction with a pond.

Documents

Q. How do I get the complete document so I can see how it fits into the stormwater management plan?

A. It's on the website. The link will be included in the email announcement. All members of CWAC and attendees should be on email.

Q. Are Chapters 1 and 4 the only chapters included in the rollout?

A. We need to look at submittal requirements in Chapter 2. Chapter 1 has changes to definitions and new language in the section about alternatives approach. Chapter 4 will have an insert for hydromodification requirements. We're working to add details and guidance, but they are not included in the February 14 rollout.

Q. What are the expectations of cities and jurisdictions to put in their development codes or engineering standards?

A. Cities will need to apply our standards. Whether they adopt directly into their own code or reference the CWS code is different for each jurisdiction.

Public Involvement Process

Q. Is it the desire of the Board for CWAC to take public testimony at the March 13 CWAC meeting?

A. It depends on the amount and type of feedback CWS receives with this rollout. Staff may ask the Board to charge CWAC with taking public testimony. Staff might organize a sub-committee to meet before the next full CWAC meeting.

General Comments

- So happy to see the emphasis on restoration in streamside corridors. Stream corridors are the best wildlife corridors. It's extra important in the face of climate change.

- I think approach in Category 1 is great, as long as it's the option for landowner.

- UGB expansion areas are easy. It's a blank canvas. You can address the issue without too much of a burden on any one property owner.

- Developers are concerned and stressed about the limited window to review the proposed Standards. Need to hire experts to review and dissect. It takes time to do the work and absorb.

- I'm worried about the impacts to medium-size projects. Particularly worried about Category 2. I'm hopeful we might have additional time to work through issues after April 22.

  Response: On the regulatory side, CWS can meet its regulatory requirements with DEQ by April 22. Staff believes CWS can work on some of the broader, complex issues raised tonight in the implementation phase over the longer term. CWS doesn't have to have everything in place on April 22 to satisfy our regulatory requirements.

- Appreciate conversations with CWS. You have been more than willing to talk through stuff. We're just trying to get to a point where it doesn't feel like it's going to take half the land that's already limited and make it unbuildable. It's going to take a little bit for us to get comfortable.

  Response: CWS is trying to find the right balance of being practical and pragmatic and yet improving the environmental condition. Part of it is we're catching up from the past. There are a lot of comments about watersheds that are already impacted, including concerns from the Riverkeepers about erosion on the

south side of Bull Mountain. Those will be addressed as part of the strategy CWS is trying with Cedar Hill-North Johnson, which staff hopes hope will be the flagship model.

Appendix B
Clean Water Services Advisory Commission Meeting Notes
February 13, 2019

Questions and comments regarding Leaf Program Review:

Questions/Discussion

Q. Can you stop and start green bin service at any time?
A. Yes, that is how the franchise agreements are written.

Q. Can you throw everything in back of pickup and not use bags at drop site?
A. Yes. Crews will help unload leaves. The only restriction is plastic bags. If you use plastic bags, crews will cut them open and return plastic.

Q. Wasn't this program about $350,000 a year?
A. That's correct for the past few years. $375,000 with FY20 numbers. About $75,00 for drop sites. The rest for curbside pickup.

Q. You recently bought new equipment. What would happen to the equipment?
A. Might be able to sell to Hillsboro, which runs a similar program. Or we'll use Oregon state auction site.

Q. You won't have to add or subtract staff?
A. Recommendation is crafted as cost neutral. A long-term concern was sustainability of the current program. The goal is to see how can we optimize the program and bring equity to CWS customers.

Suggestions/Comments on Recommendation

- Not arguing with approach, but green bins add a lot of plastic.
- Not suggesting changing plan, but provide a contingency that if you get a lot more flooding calls you have an opportunity to revisit approach.
- Suggest adding drop days close to neighborhoods where you eliminate curbside service.
- Try to do more preventative work in high-risk areas.
- Consider incorporating call line or something similar in outreach for known risk areas.
- Start thinking now about proposed drop sites before CWS implements and spread them where they're needed so the District can show it won't be arduous to find a drop site.
- Don't forget to talk to the waste haulers. They have to provide more green bins.
- We have talked about an improbable option of neighborhoods opting in. Might want to pre-emptively talk about why that's not an option.
- Consult-level outreach doesn't change decision; it affects implementation.

Public Comment
Vandy Vanderzanden:

Mr. Vanderzanden lives on SW 192nd Avenue in Aloha outside the boundary lines for the leaf pickup service and has previously talked with Mr. Jockers and Mr. Sandhu on the leaf collection program. He described the geography of his neighborhood – four drain basins go through culvert to a retention pond behind house. The current approach of selective, limited curbside pickup doesn't make sense. It's critical the area stays as clean as possible. Please communicate decision clearly and broadly. Mr. Vanderzanden wasn't even aware of the leaf program until about four or five years ago. Mr. Vanderzanden asked why those that don't get the service pay the same monthly fee as the people who get leaf pickup? He asked that CWAC take all the issues into consideration when making their decision.

CWS Board Chair Harrington: Are you advocating any particular strategy or are you more concerned with the fairness issue?
Mr. Vanderzanden: I want to see the existing program expanded.

General Comments

- It would be helpful to add details to the slide with recommendations when presenting to the Board to make very clear what the recommendations are.

- A lot of people don't know the details of program, like that the sweepers can't manage large piles of leaves.

- A couple of years ago I visited a drop box site and was surprised how easy it was. I lived here more than 25 years before using the drop sites. Consider creating a video to show how the program works.

- I think you hit the mark. How you word it will make all the difference in the world.

- This is CWAC's recommendation for the Board. It's up to the Board to make the decision.
  Response: Staff will provide proper context when it goes to the Board. We're tentatively scheduled to go to Board with this recommendation on April 23. Will consult with CWAC on implementation.

- Update on implementation is good idea.

- It's been a lot of work. Appreciate the effort from everyone.

CWS Design & Construction Standards Update and Hydromodification

Damon W. Reische, P.W.S.
Planning & Development Svs. Division Mgr.

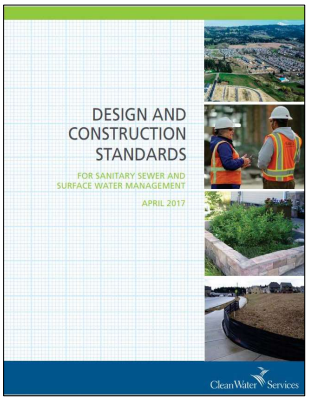
Clean Water Services Advisory Commission, February 13, 2019

Tonight's Agenda

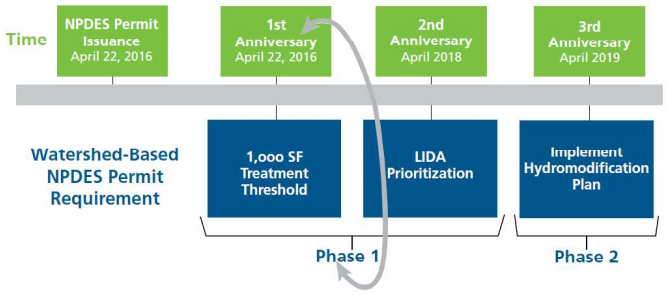
- Background on Standards and Permit Requirements
- Timeline and Major Tasks
- Hydromodification Strategies
- Stakeholder Comments and Response
- February 14 Rollout
- Next Steps and Schedule for Adoption

Design & Construction Standards

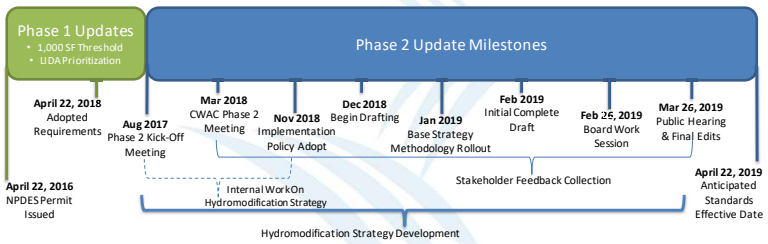
- Sani & Storm Conveyance
- Stormwater Management
- Vegetated Corridors
- Erosion Control
- Pump Stations



Why Update the Design and Construction Standards?



D&C Standards Update: Timeline & Major Tasks



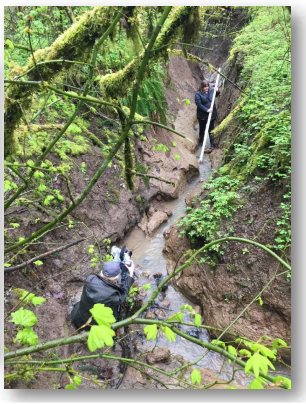
Stakeholder Engagement Phase 1 & 2: 8/16 – 1/19

- Public Hearings – 2
- Board Meeting – 3
- Co-Implementers Meetings – 12
- General Outreach Presentations – 7
- Clean Water Advisory Commission Meeting – 6
- Ongoing Information on CWS Website & Factsheet
- Email Notification Sent to D&C Update List – 350+ Individuals

Remaining Stakeholder Engagement Phase 2: 2/19 – 4/19

- Co-Implementers - Monthly
- Clean Water Advisory Commission (CWAC) - Monthly
- Tualatin Riverkeepers – January 31st
- Tualatin River Watershed Council – February 6th
- Portland Home Builders Association – February 22nd
- General Stakeholder Meeting – February 22nd
- Public Hearing – March 26, 2019

What is Hydromodification?

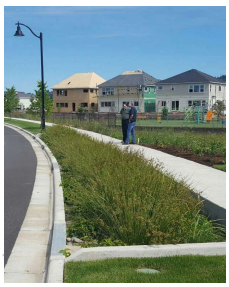


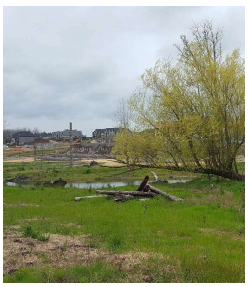
Integrated strategy to address Hydromodification

- Furthers broad District & community goals
- Meets MS4 permit requirements
- Implementable D&C Standards and fee structure
- Compatible with other agency requirements (DSL, NMFS, etc.)
- Defensible: economic, legal & regulatory
- Suite of tools (right place, right time)
- Can be implemented at a site or regional scale
- Adaptable and expandable (phased implementation)

Sub-Basin Strategies

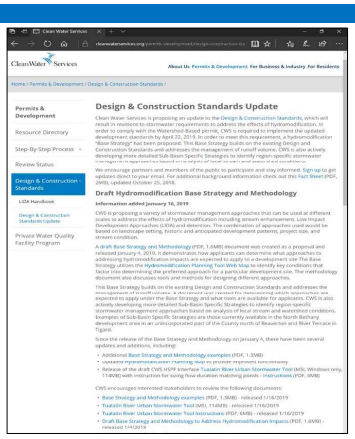
Base Strategy to Address Hydromodification Impacts





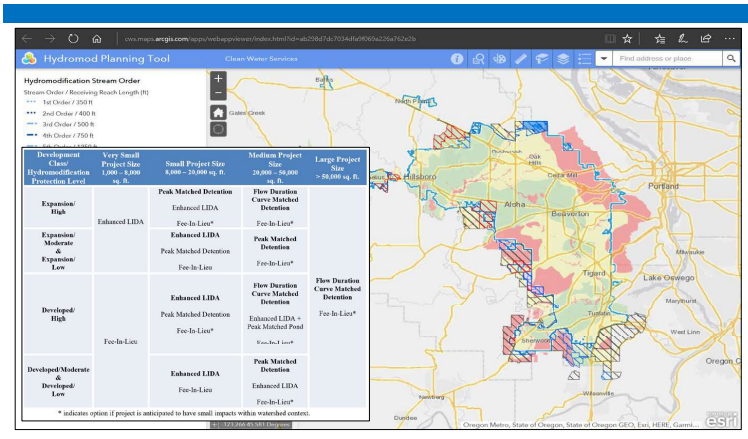
Web Address:
cleanwaterservices.org/dncupdate

Email Comments to:
dncupdate@cleanwaterservices.org

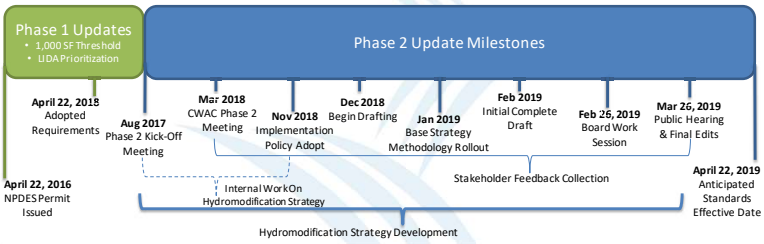


Base Strategy Concept

- BMPs Based on:
  - Project Size Category
  - Development Class
  - Hydromodification Risk Level
- Need to know 3 things:
  - Where project is (address, tax lot[s], intersection)
  - How much impervious area is planned
  - Where project discharges to stream



D&C Standards Update: Timeline & Major Tasks



Stakeholder Engagement Phase 1 & 2: 8/16 – 1/19	Remaining Stakeholder Engagement Phase 2: 2/19 – 4/19
• Public Hearings – 2 • Board Meeting – 3 • Co-Implementers Meetings – 12 • General Outreach Presentations – 7 • Clean Water Advisory Commission Meeting – 6 • Ongoing Information on CWS Website & Factsheet • Email Notification Sent to D&C Update List – 350+ Individuals	• Co-Implementers - Monthly • Clean Water Advisory Commission (CWAC) - Monthly • Tualatin Riverkeepers – January 31st • Tualatin River Watershed Council – February 6th • Portland Home Builders Association – February 22nd • General Stakeholder Meeting – February 22nd • Public Hearing – March 26, 2019

Stakeholder Comments

- Simplify/Clarify Methodology and Map
- Provide flexibility in standards

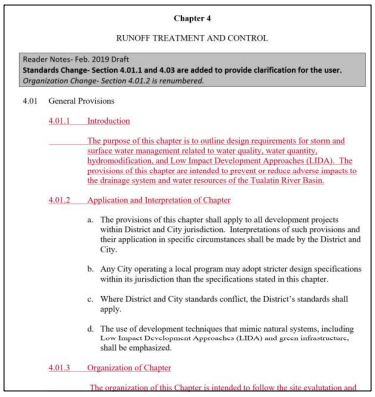
- Allow for simplified/familiar detention sizing method
- Tailor methodology to the Tualatin River Basin

Stakeholder Comments

- Avoid cumulative small project impacts by reducing thresholds for small projects
- Avoid over-burdening small projects

- Allow for greater flexibility to use Fee-In-Lieu, especially for medium projects in infill locations
- Limit the use of Fee-In-Lieu; ensure each project has on-site measures to protect all streams

Proposed Updates to Standards



Chapter 4

RUNOFF TREATMENT AND CONTROL

Reader Notes- Feb. 2019 Draft
Standards Change- Section 4.01.1 and 4.03 are added to provide clarification for the user.
Organization Change- Section 4.01.2 is renumbered.

4.01 General Provisions

4.01.1 Introduction

The purpose of this chapter is to outline design requirements for storm and surface water management related to water quality, water quantity, hydromodification, and Low Impact Development Approaches (LIDA). The provisions of this chapter are intended to prevent or reduce adverse impacts to the drainage system and water resources of the Tualatin River Basin.

4.01.2 Application and Interpretation of Chapter

a. The provisions of this chapter shall apply to all development projects within District and City jurisdiction. Interpretations of such provisions and their application in specific circumstances shall be made by the District and City.

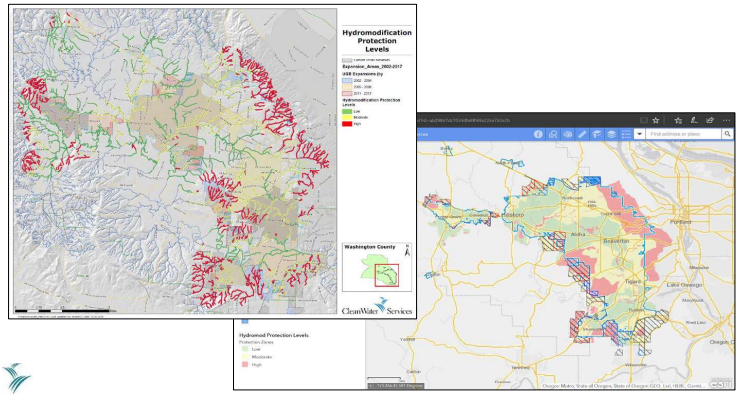
b. Any City operating a local program may adopt stricter design specifications within its jurisdiction than the specifications stated in this chapter.

c. Where District and City standards conflict, the District's standards shall apply.

d. The use of development techniques that mimic natural systems, including Low Impact Development Approaches (LIDA) and green infrastructure, shall be emphasized.

4.01.3 Organization of Chapter

The organization of this Chapter is intended to follow the site evaluation and



Summary Table of Stormwater Management Categories

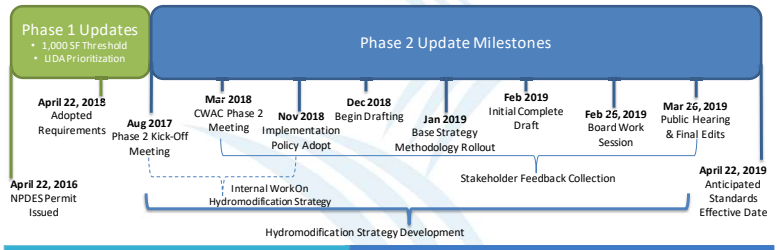
Development Class/ Hydromodification Risk Level	Small Project 1,000 – 12,000 SF	Medium Project 12,000 – 80,000 SF	Large Project > 80,000 SF
Expansion/High	Category 1	Category 3	Category 3
Expansion/ Moderate			
Expansion/ Low		Category 2	
Developed/ High		Category 3	
Developed/ Moderate		Category 2	Category 2
Developed/ Low			

February 14 Rollout

- Updated Standards Including
  - Chapter 1 Definitions,
  - Chapter 4 Stormwater Standards
  - Guidance Document
- Revised Web Map Tool
- "Executive Summary"

Questions or comments?

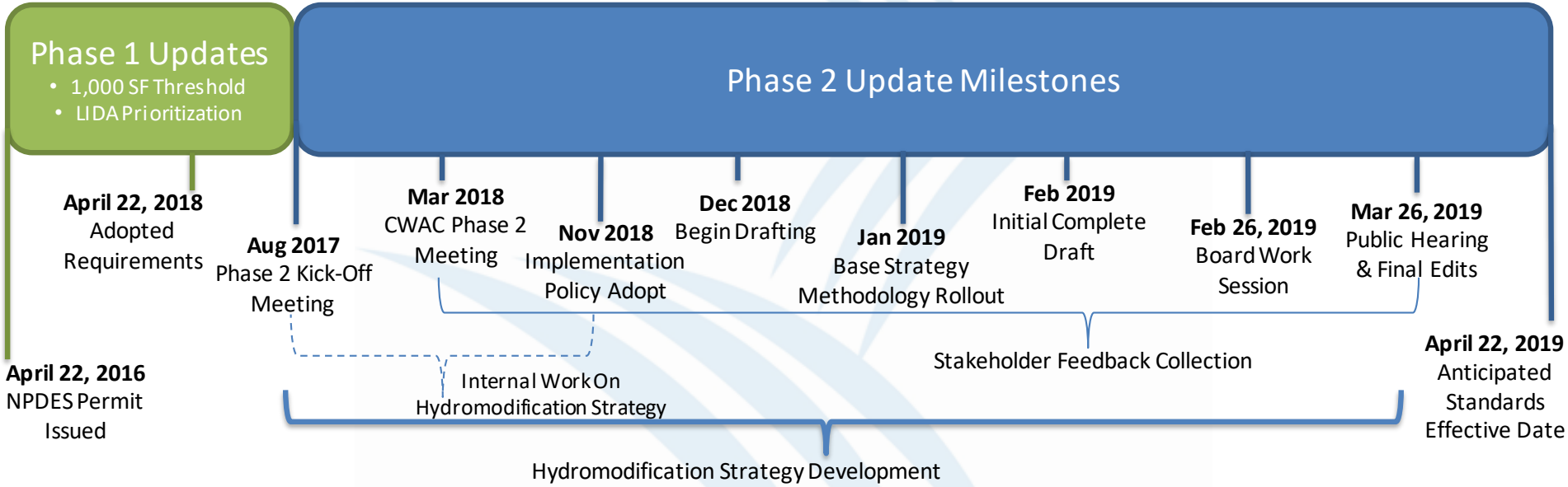
D&C Standards Update: Timeline & Major Tasks



Stakeholder Engagement Phase 1 & 2: 8/16 – 1/19	Remaining Stakeholder Engagement Phase 2: 2/19 – 4/19
• Public Hearings – 2 • Board Meeting – 3 • Co-Implementers Meetings – 12 • General Outreach Presentations – 7 • Clean Water Advisory Commission Meeting – 6 • Ongoing Information on CWS Website & Factsheet • Email Notification Sent to D&C Update List – 350+ Individuals	• Co-Implementers - Monthly • Clean Water Advisory Commission (CWAC) - Monthly • Tualatin Riverkeepers – January 31st • Tualatin River Watershed Council – February 6th • Portland Home Builders Association – February 22nd • General Stakeholder Meeting – February 22nd • Public Hearing – March 26, 2019

Clean Water Services

D&C Standards Update: Timeline & Major Tasks



Stakeholder Engagement Phase 1 & 2: 8/16 – 1/19

- Public Hearings – 2
- Board Meeting – 3
- Co-Implementers Meetings – 12
- General Outreach Presentations – 7
- Clean Water Advisory Commission Meeting – 6
- Ongoing Information on CWS Website & Factsheet
- Email Notification Sent to D&C Update List – 350+ Individuals

Remaining Stakeholder Engagement Phase 2: 2/19 – 4/19

- Co-Implementers - Monthly
- Clean Water Advisory Commission (CWAC) - Monthly
- Tualatin Riverkeepers – January 31st
- Tualatin River Watershed Council – February 6th
- Portland Home Builders Association – February 22nd
- General Stakeholder Meeting – February 22nd
- Public Hearing – March 26, 2019

Summary Table of Stormwater Management Categories

Development Class/ Hydromodification Risk Level	Small Project 1,000 – 12,000 SF	Medium Project 12,000 – 80,000 SF	Large Project > 80,000 SF
Expansion/High	Category 1	Category 3	Category 3
Expansion/ Moderate			
Expansion/ Low		Category 2	
Developed/ High		Category 3	
Developed/ Moderate		Category 2	Category 2
Developed/ Low			

The stormwater management options associated with each project category are described below:

Category 1 - Projects that represent the lowest anticipated risk.

1. Infiltration LIDA, using the Simplified 12% LIDA Sizing Factor
2. Payment of a Hydromodification Fee-In-Lieu

Category 2 - Projects that represent a moderate anticipated risk.

1. Peak Matched Detention, using the Standard LIDA Sizing*; or
2. Infiltration LIDA, using the Standard LIDA Sizing; or
3. Combination of Peak Matched Detention and Infiltration LIDA to optimize site design, using the Standard LIDA Sizing.

Category 3 - Projects that represent the highest anticipated risk.

1. Combination of detention and LIDA*
   A) Peak Matched Detention using the Detention Sizing described in, and
   B) Manage 30% of the new and modified impervious area using any mix of LIDA from Table 4-3 using design criteria described in; or
2. Flow Duration Curve Matched Detention**.

**Sized to achieve post development runoff rates for the 2 year, 5 year, and 10 year 24 hour storm events that match the pre-development runoff rate for ½ the 2 year, 5 year, and 10 year storm events respectively*

***Sized using Tualatin River Urban Storm Tool (TRUST)*

Hydromodification Protection Levels

Current Urban Reserves

Expansion_Areas_2002-2017

UGB Expansions (by

- 2002 - 2004
- 2005 - 2008
- 2011 - 2017

Hydromodification Protection Levels

- Low
- Moderate
- High

Washington County

N

0 1.75 3.5 7 Miles

ProtectionLevels_Feb2019 | Last Updated By: strands | Date: 2/13/2019

Clean Water Services

CLEAN WATER SERVICES LEAF PROGRAM

February 13, 2019

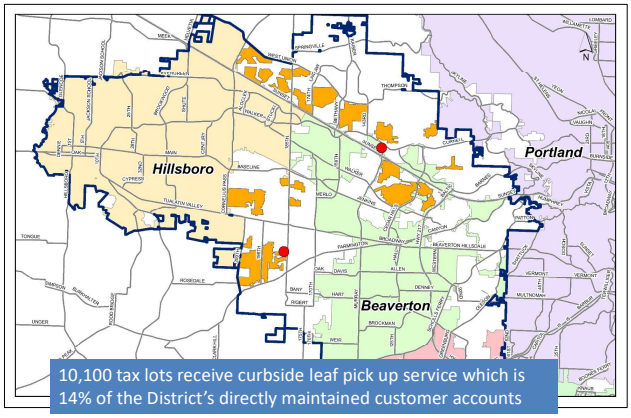
Nora Curtis and Ryan Sandhu / Conveyance Department
Bryan Thistle and James Vitko / Field Operations Division

Clean Water Services



CLEAN WATER SERVICES LEAF PROGRAM

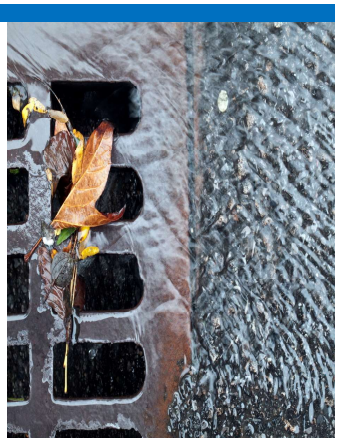
- Today's Purpose
  - Continue discussion on the District's Leaf Program and complete the charge from Board
- Requested Action
  - Make recommendation for staff to take to Board related to Leaf Program
  - Discuss public involvement process



10,100 tax lots receive curbside leaf pick up service which is 14% of the District's directly maintained customer accounts

LEAF PROGRAM - AGENDA

- Board Charge (5 mins)
- Summary of Previous Meetings (5 mins)
- Additional Data, part 2 (5 mins)
- Proposed Recommendation (20 mins)
- Public Involvement (10 mins)

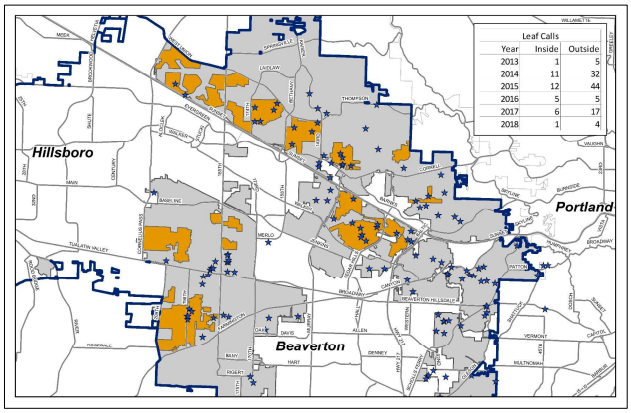


CHARGE TO CWAC

- The Board charges CWAC with reviewing, discussing, and providing a recommendation to the Board of Directors and staff on issues related to the Leaf Program including:
  - Review of current program;
  - Development of criteria to evaluate program alternatives;
  - Development of program alternatives and review against criteria; and
  - Provide recommendations to Board.

PREVIOUS LEAF PROGRAM MEETING SUMMARY

- March 2018 CWAC Meeting
  - Reviewed Board charge
  - Discussed initial program drivers, elements, and current challenges
  - Developed potential rating criteria for program alternatives
- May 2018 CWAC Meeting
  - Static equipment display
  - Finalized rating criteria
  - Discussed program alternatives
  - Equipment demo
- September 2018 CWAC Meeting
  - Reviewed additional data
  - Evaluated alternatives and discussed results
  - Additional data requested



Leaf Calls

Year	Inside	Outside
2013	1	5
2014	11	32
2015	12	44
2016	5	5
2017	6	17
2018	1	4

ADDITIONAL DATA PART 2, GREEN BINS

- **Included in garbage service for all urban unincorporated Washington County**
  - **60 gallon debris bin, every other week**
  - **Additional bin: $1.50/month**
  - **Extra bags/bundles: $3.00 each**
- **Statistics**
  - **Customers with yard debris service: 56,500**
  - **Customers with additional yard debris carts: 2,688**
  - **Average 13+ set outs per customer per year**
  - **Extra set outs (kraft bags and cans) per year: 35,490**

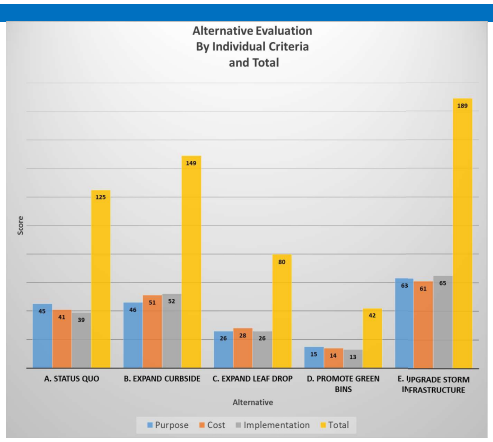
2016 Data, provided by Washington County Solid Waste and Recycling

LEAF PROGRAM – ALTERNATIVES

- **Alternative A -** Status quo
- **Alternative B –** Expand Curbside Program to All District Customers; Continue Current Leaf Drop Days
- **Alternative C –** Eliminate Curbside Pickup; Expand Leaf Drops Days
- **Alternative D –** Eliminate Curbside Program; Eliminate Drop Days; Promote Green Bins
- **Alternative E** – Eliminate Curbside Pickup; Eliminate Leaf Drop Days; Upgrade Storm Sewer Infrastructure;

"Tabled" Alternatives

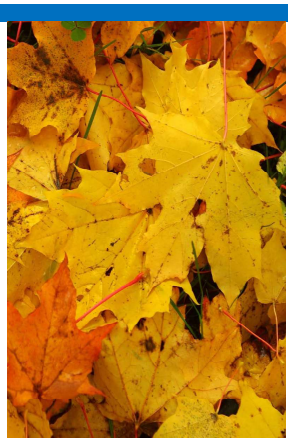
- **Alternative F –** Do nothing
  - Does not meet Performance Standards to have a program
- **Alternative G –** Partner with non-profits (e.g., Boy Scouts, Faith Groups)
  - Logistics
  - Liability



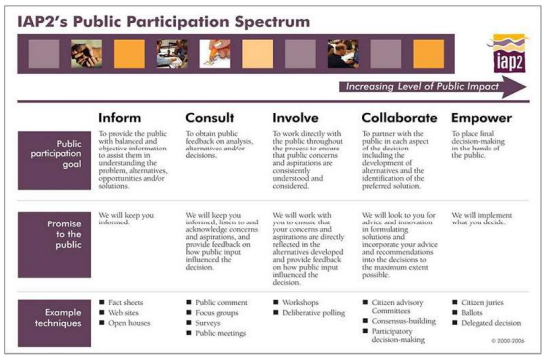
RECOMMENDATION

- Eliminate Curbside
- Promote Green Bins
- Expand Drop Days
- Continue Enhanced Storm Patrol
  - Preventive maintenance of known localized flooding locations
- Continue Routine Street Sweeping

RECOMMENDATION DISCUSSION AND ACTION



LEAF PROGRAM – PUBLIC INVOLVEMENT



NEXT STEPS

- Spring 2019 Board Work Session
  - Staff presents CWAC recommendation to Board
- Summer 2019
  - Public Outreach and Education based on Board Direction
- Fall 2020
  - Full Implementation of Program Changes