

Overview of Public Involvement Process

Phase 1 Design and Construction Standards Update

March 22, 2017

As part of Phase 1 of the Design & Construction Standards update process, Clean Water Services has completed proposed revisions to the Standards for consideration at a public hearing before the Board of Directors. The proposed revisions are informed by a six-month comprehensive public involvement process:

- Notices of meetings and interim drafts of the proposed changes were sent to a list of over 350 stakeholders from the development, builder, engineering, and environmental communities, as well as the County and City co-implementers, Tualatin Hills Park and Recreation District, and Community Participation Organization representatives.
- Background papers and draft changes were posted on the CWS website as they became available.
- Approximately 80 people attended three public meetings held in September 2016, October 2016 and January 2017.
- Three presentations were made to Clean Water Services Advisory Commission.
- A separate email account (dncupdate@cleanwaterservices.org) was established to receive comments and feedback. Written comments were received from 17 entities, a number of whom submitted multiple comments.

Staff have reviewed and considered the comments received through these outreach efforts. The comments are summarized by chapter and key topic (attached). Each comment summary is accompanied by a staff response that explains how comments were considered and incorporated into the proposed Standards. Staff appreciates the efforts of the many people who provided input during public meetings, reviewed the drafts and suggested improvements.

On Tuesday, March 28, the Board of Directors will hold a public hearing to consider the proposed changes. The hearing will include opportunities for additional public comment and consideration for adoption by the Board of Directors.

Hillsboro Civic Center Auditorium
155 N First Ave., Suite 300
Tuesday, March 28
6:30 pm

An electronic copy of the Board Memo, proposed Resolution & Order, and a complete set of the proposed revisions to the Standards is available at cleanwaterservices.org/dncupdate.

Topic	Comment Summary	Response
General		
Clear and objective standards	<p>At the first key topics public meeting, stakeholders voiced an interest in having clear and objective standards when treatment is required on-site and the anticipated requirements for LIDA Prioritization. Stakeholders commented that: 1) Standards need to be clear and objective with no room for interpretation (such as when fee-in-lieu and proprietary treatment can be used; 2) Applicants do not want to jump through hoops or debate/defend analysis; 3) Flexibility can be addressed through a different approach, such as the alternate method option; 4) Concerned with different plan reviewers interpreting standards differently. Stakeholders suggested the following metrics for criteria: low infiltration rates, high groundwater tables, and small lots with planning conflicts (landscaping, setbacks, utilities, vegetated corridor).</p> <p>After distributing the initial draft Chapter 4, CWS received one comment on the proposed revisions to existing criteria. In Section 4.05.2, the suggestion was made to remove "results in inefficient use of District or City resources for long term operations and maintenance," because "impractical and ineffective" is already broad enough.</p>	Staff proposed limited changes to the criteria used to determine when on-site treatment is required (Chapter 4, Section 4.05.2, Criteria for Requiring Implementation of a Water Quality Approach). Since distribution of the initial draft, Staff proposed new criteria in Section 4.07 that guide when LIDA is required on a development site. In both instances, Staff intend to balance certainty with flexibility.
Effective date(s) & vesting applications	When will the standards take effect and is it possible for the two codes to overlap for a specified period of time? Often, owners have committed dollars for design and engineering to a site even before submitting for land use review.	The permit states "By April 22, 2017, the permittee must implement and enforce a program to control post-construction stormwater runoff quality." Construction drawings submitted prior to April 22, 2017 would be reviewed under the previous (existing) Standards.
Lengthy review times	Can CWS and co-implementers conduct simultaneous reviews with building/planning? Look at timing of plat review and county survey review.	No change proposed to standards. This is a procedural issue that can be addressed outside the update process.
Outreach & Education	Prepare outreach materials for homeowners to describe basics such as what is a water quality LIDA and why is it important. Homeowner maintenance outreach should be developed that account for varying abilities of diverse owners, such as elderly, those with limited time, parents, kids, etc..	Existing maintenance guides exist that are distributed to property owners. Staff can continue to evaluate existing materials and new outreach opportunities.
Will design storm change?	Language in the new NPDES permit requires capturing and treating 80% of the annual average runoff. Will this require a change to the Standards?	An analysis determined that the water quality design storm in the Standards captures and treats 80% of the average annual runoff.

Topic	Comment Summary	Response
Chapter 1		
Definition of Development	<p>1.The definition of development exempts activities that remove impervious surfaces. However, the addition of "modified" conflicts with this exemption.</p> <p>2. Stakeholders requested that specific activities be exempt from the definition of development, or defined as maintenance, including projects for compliance with the American Disabilities Act and sidewalks.</p>	<p>1. Proposed changes to the definition of Development clarify that projects which only remove impervious surfaces are exempt from the definition of development. Projects that remove an impervious surface and replace it with impervious surface are development.</p> <p>2. Staff will continue to evaluate these requests in Phase 2.</p>
Definition of Impervious Surface	Will the updates change how impervious surface is defined for turf fields and gravel surfaces?	The proposed updates do not change the interpretation that synthetic turf fields are impervious. The treatment is the same regardless of infill material. The suggestion to better define gravel surfaces, similar to the guidance found in the Rates and Charges, will be evaluated during Phase 2. The proposed changes to the definition in the initial draft are replaced with the existing definition. The term has changed from "impervious area" to "impervious surface" for accuracy.
Definition of Low Impact Development Approaches (LIDA)	The changes in the initial draft provide a broad definition that can include any type of stormwater management, including proprietary treatment systems.	The existing definition spells out the acronym and provides examples, but does not define the term. In the initial draft, Staff expanded the definition of LIDA. After receiving public comment, Staff proposed a new definition, which is based on the definition provided in the NPDES permit.
Definition of Modify or Modified	Clearly define the word modified. Will road maintenance projects such as grinding/overlay be included as development?	Staff proposed a definition for "modify." The proposed definition does not change the existing interpretation of the term "maintenance." Based on stakeholder feedback, Staff proposed additional language to clarify the definition of maintenance. Grind and overlay projects are considered maintenance or repair when taken to prevent decline, lapse or cessation in the use of the existing impervious surface.
Definition of Site, Project Area, Property	Clarify the definition of Site, Project Area and Property as these terms apply to projects that modify existing impervious surfaces, are linear transportation projects or include multiple tax lots.	Staff did not propose a change to the definition of Site or Property (Section 1.03.51, The Property or the Site). The existing definition, along with allowances provided for in Sections 1.06, 4.05.3(c)(3) and 4.05.4, provide flexibility including the opportunity to treat adjacent impervious surfaces on- or off-site and to phase treatment through a Stormwater Master Plan. The proposed updates in Chapter 4 are also intended to facilitate development.
Other terms	Clarify the terms approaches versus facilities.	In the update, Staff propose integrating LIDA by acknowledging that existing treatment facilities qualify as LIDA, as defined in the NPDES permit, and incorporating techniques from the LIDA Handbook into Sections 4.05 and 4.06 of the Standards. In doing so, not every treatment option is always a "facility." For example, vegetated corridors as a filter strip are natural systems (approaches) but not facilities. Therefore, the proposed revisions have required a review of the terminology in the Standards. In Chapter 1, Staff proposed a definition for "water quality approaches" and changed "facility" to "approach" where applicable. Staff may evaluate additional clarification in Phase 2.

Topic	Comment Summary	Response
Chapter 2		
Erosion Control Permit Threshold	Regarding Section 2.03.2(d), consider exempting maintenance of public water quality and quantity facilities from requiring an erosion control permit.	No change proposed. Maintenance of public or private water quality/quantity facilities is currently exempt under Section 1.03.15.b(4).
1200-CN references	Why are templates for 1200-C and 1200-CN permits not included in the submittal requirements and standard details?	Templates and submittal requirements change based on agreements with DEQ. CWS maintains flexibility to respond to updated DEQ agreements and requirements when these items are not adopted in the Design and Construction Standards.
Clarify Maintenance Requirements	Will the new standards to prioritize LIDA result in the need for new performance and maintenance assurances, easements and legal language to correctly encumber private property owners with maintenance responsibilities?	In developing the standards to comply with the NPDES permit requirement to prioritize LIDA, Staff has proposed an approach that incorporates and relies on existing standards implemented at the local level (for instance through land use plans and community development codes, along with Chapter 3 of the Design and Construction Standards). Through this approach, Staff intend for applicants to meet the LIDA requirement through application of existing regulations and code language and not create additional reporting, assurance and easement requirements beyond those required by local standards. The legal language for maintenance of private facilities is currently provided through the Private Stormwater Facilities Agreement.
Proprietary Treatment Maintenance Assurance	Is the intention to turn over a freshly serviced/maintained facility at the end of the warranty period?	Yes. This is clarified with the proposed addition of Section 2.12.2(c). Note that the warranty period for proprietary treatment systems has been combined with the landscaping two year warranty.
Submittal requirements for model homes, LIDA lots and construction on single family existing lots of record	Clarify when single family development is exempt from the full site development review process and stamped engineered drawings.	In Section 2.03.1, Staff referenced a proposed Section 2.05 that describes a separate submittal and review process for development on single family and duplex existing lots of record. Plans would not need to be stamped by a registered engineer for proposed development on existing lots of record when treatment is consistent with the Design and Construction Standards and when not an alternate method.

Topic	Comment Summary	Response
<p>Chapter 4</p> <p>1,000 SF treatment threshold</p>	<p>1. In the initial draft, Section 4.05.1, "or increase the amount of stormwater runoff or pollution leaving the site" could be interpreted to supersede the proposed 1,000 SF new/modified threshold. Is that intentional?</p> <p>2. Does the 1,000 SF threshold apply to quantity also?</p>	<p>1. The interpretation is correct. This existing standard applies to projects where modification or creation of impervious area isn't proposed, but increased runoff results. For example, projects that add underdrains to fields increase runoff or pollution leaving the site.</p> <p>2. The 1,000 SF threshold applies to stormwater runoff quality. The April 22, 2017 deadline pertains to stormwater runoff quality only. April 22, 2019 is the deadline to develop and implement the post-construction stormwater runoff quantity program.</p>
<p>Low Impact Development Approaches (LIDA) Prioritization</p>	<p>Comments received after distribution of the initial draft suggested agreement with the proposed approach to separate the LIDA requirement from the treatment requirement. Specific comments referenced barriers to LIDA, requests for more specificity for approaches listed in the initial draft of Section 4.07 and interest in water quality or quantity credits for approaches.</p>	<p>After receiving comments on the approach proposed in the initial draft, Staff proposed additional revisions to Section 4.07. These include replacing options for parking minimization and lawn amendments with a broader provision that allows other approaches that provide stormwater infiltration, evapotranspiration, runoff reuse, or otherwise mimic natural hydrologic processes. The proposed Section 4.07 defers to existing standards and credits available through local land use and development standards. Many of the barriers referenced, such as construction in setbacks and waterproofing, are regulated by the city, county or state building code. Infiltration testing was also cited as a concern; by default, it is assumed that infiltration will not be possible and will not require infiltration testing. If an applicant has a site that does infiltrate and wants to infiltrate on-site, then the applicant can choose to conduct infiltration testing and submit results to Staff for review and approval. Further evaluation is expected during Phase 2.</p>
<p>Redevelopment (modified impervious area)</p>	<p>1. A reduction in impervious surface should not trigger redevelopment requirements for water quality treatment.</p> <p>2. For the deduction, is development confined to a tax lot of record as it relates to the revised methodology? If so, this should be better clarified.</p> <p>3. CWS received support for all three proposed methodologies. There was no overwhelming support for a specific methodology.</p> <p>4. Clearly define how treatment is required when a site has partial treatment.</p>	<p>1. A deduction is allowed for impervious area removal that is 1,000 square feet or greater. Treatment requirements will not apply to projects that are limited to impervious surface removal only, based on the definition of development.</p> <p>2. No change proposed. The deduction is for the project site as defined in Chapter 1 (The Property or The Site).</p> <p>3. The simplified ratio (3:1) was selected for the treatment requirement that applies to modified impervious surfaces. After distributing the examples of each approach, CWS received support for either the modified or simplified approaches. Staff selected the simplified ratio because it appeared to be the most straight forward and equitable approach.</p> <p>4. No change proposed. Treatment is required up to the maximum site size. If partial treatment is already provided then the Owner needs to treat up to the remaining untreated area.</p>

Topic	Comment Summary	Response
Additional comments	<p>In addition to the above Key Topics, stakeholders provided comments on these sections of Chapter 4:</p> <ol style="list-style-type: none"> 1. Fencing, Section 4.02.3: allow more types of fencing and provide a "no fence" option. 2. Water Quantity Design Criteria, Sections 4.02.4, 4.03 and 4.04: multiple comments on design considerations and specific design criteria and a request for a standard for a bio-retention cell to help meet the SLOPES V requirements. 3. Fee-In-Lieu, Section 4.05.2: maintain the fee-in-lieu option within Section 4.05.2, Criteria for Requiring Water Quality Treatment; allow a fee in-lieu on small projects where providing treatment is not proportional to the amount of work done; and revise the fee structure so that fee is proportional. 4. Impervious Area Used in Design, Section 4.05.5: Allow sizing of approach to be based on actual lot size when lots are less than 3,000 SF, or use methodology found in the Regional Stormwater Management Charge. 5. Water Quality Surface Area Sizing Methods, Section 4.05.6.b: can a sizing factor other than 6% be used for infiltration types of LIDA or to allow for smaller footprints on constrained lots? 6. Water Quality Design Criteria, Section 4.06: CWS received comments on the following items: design criteria and sizing methods for extended dry basins, constructed wetlands and vegetated swales; reconsider use of forebays; clarify when pre-treatment is required; allow treatment within the vegetated corridor. 	<ol style="list-style-type: none"> 1. The existing standards (Section 4.02.3(a)) allow District or City to approve construction of facilities that do not include fencing. Staff proposed a reference to allow "other approved methods." 2. Comments received will be reviewed and considered during Phase 2. 3. The Standards continue to provide an option for fee-in-lieu. Section 4.05.2 includes a provision that allows for fee-in-lieu in instances such as the one described. The proportional fee-in-lieu is allowed as outlined in the Rates and Charges; changes to the fee-in-lieu structure require review and evaluation of the Rates and Charges. Staff will evaluate changes to the Rates and Charges and can consider modifications consistent with the SWM rate methodology.. 4. These parameters are established by the SDC methodology and are outside the scope of this update. Staff may evaluate this during Phase 2. 5. Proposed Section 4.05.6.b specifies when LIDA can be sized using a ratio other than 6%. 6. Staff may evaluate design criteria and sizing methods during Phase 2; due to pretreatment requirements, Staff have proposed replacing forebays with a stilling basin designed to dissipate outfall energy and spread flows. Staff proposed changes to Section 4.05.7 to clarify that pretreatment is required unless otherwise specified in the Design Criteria for each approach. Staff proposed Section 4.06.11, Vegetated Corridor as a Filter Strip, to allow treatment within the corridor in specified situations when stormwater runoff can sheet flow to the vegetated corridor. The proposed revisions do not change how water quality facilities are reviewed for construction in the vegetated corridor.
Additional comments, continued	<ol style="list-style-type: none"> 7. Table 4-2 (reabeled Table 4-1): Clarify 'public systems'; any of the methods could be used by a public agency for their own projects and reconsider whether porous pavement provides water quantity control. 8. Water quality design criteria and integration of LIDA Handbook: CWS received comments on the amount of detail for each new item listed in Sections 4.06 (5) - (10), such as vegetation quantities, naming conventions and requests for additional design criteria to prevent groundwater from travelling outside the footprint of a LIDA. 9. Figure 4-1: 'In reader notes, there was a request to change 'and' to 'or' when describing when the reduction of 1,000 SF impervious area can be counted. 10. Option to treat equivalent area off-site: Within Section 4.05.2, add a #3 bullet that allows for treatment of an adjacent or nearby equivalent amount of untreated impervious area if constructing a facility onsite is impracticable or ineffective. If CWS or City grants approval to treat an untreated adjacent area, will the owner still be required to treat runoff from their site using a non-LIDA approach or does treating an equivalent site absolve them from treating their own site? 11. Walls in Water Quality Facilities: Change Section 4.06.12 to read "Walls are not allowed within the treatment areas of any water quality facility, unless they are part of a drop structure or a flow spreader" and change 'structural or geotechnical" to civil. 	<ol style="list-style-type: none"> 7. In Proposed Table 4-1, the 'public system' column is intended to describe which approaches can be publicly maintained when constructed as part of a commercial or residential development. Any of the methods can be used and are encouraged on publicly constructed development. Porous pavement and green roofs address water quantity through minimization of impervious surface. 8. Staff acknowledge that this Phase 1 update has not resolved discrepancies between the LIDA Handbook and Chapter 4. Staff expects to evaluate updates to Chapter 4 and the LIDA Handbook during Phase 2. As for vegetation quantities, plant quantities are high because the facility needs sufficient vegetation to work immediately after construction. 9. Since distribution of the initial draft, Staff replaced Figure 4-1 and associated language with proposed revisions to Section 4.05.5 (c). To assist with determining the treatment requirement, Staff will create a water quality calculator that will be available on CWS website. 10. This option is referenced in existing Section 4.05.4(a). May evaluate modifications in Phase 2. Approval to treat adjacent area meets the "on-site" treatment requirement. 11. No change proposed at this time.

Topic	Comment Summary	Response
Chapter 6		
Reference to 1200-CN	<ol style="list-style-type: none"> 1. Include DEQ 1200C and CN standard notes in Chapter 6, or provide a reference to them. 2. The 1200C/CN template should be included within the adopted D&Cs. 	<ol style="list-style-type: none"> 1. The standard notes as proposed meet the specific sections of DEQ's conditions in the 1200-C/CN permits and are included on the templates. If DEQ changes the notes, it's easier to change the template than the Standards, which may require public comment and board approval. 2. The template was created as a tool that provides guidance to assist designers and engineers with developing an ESC plan that meets DEQ's permit conditions. The requirements in Chapter 6 and tables that outline approved BMPs can be used to create an approved plan that meets both the District standards and DEQ's permit conditions.
Supplemental Plans - Dewatering, Section 6.03.8.b	<ol style="list-style-type: none"> 1. Dewatering and treatment are generally the same for construction to manage stormwater and groundwater. If identified at initial plan review, submit for approval. 2. Add requirement that dewatering design must be approved and setup prior to the activity necessitating the plan. 	<ol style="list-style-type: none"> 1. Well points and other traditional BMPs are often used to dewater clean groundwater and manage/convey clean stormwater from construction sites that would not require treatment. 2. The proposed standards would allow for plan submittal prior to the activity in cases where it is apparent that a dewatering/treatment system would be needed.
Supplemental Plans - Cement Treatment, Section 6.03.8.c	<ol style="list-style-type: none"> 1. Clarify if cement treatment can be applied during a rain event within the wet weather period and if cement treatment meets the wet weather cover requirements. 2. Require that turbidity readings/NTUs be provided for measurable erosion. 3. In Section 6.03.8.c.1, what is considered small and what does phased mean? 4. Additional suggestions were made to prohibit cement treatment in conjunction with low impact development approaches, and modify language in subsection c.4. 1. 	<ol style="list-style-type: none"> 1. As proposed, cement treatment can be applied during wet weather per manufacturer's recommendation. Amending soils with cement does not meet the wet weather requirement and is not an approved erosion control BMP. 2. Based on existing language in Sections 1.03.66 and 6.02.1, visible/measurable erosion is prohibited; therefore, requiring measurement is unnecessary. 3. In the proposed standards, "small manageable areas" was used to allow for flexibility since situations vary based on site conditions, characteristics, and weather. The inspector/contractor/engineer would work together to determine what's reasonable on each site. If it's determined that erosion can't be effectively managed to ensure compliance with Section 6.02.1, the areas would need to be protected from erosion and re-evaluated. 4. Staff is in agreement regarding comment about cement treating in areas where LIDA & GI will be used. Change will be evaluated with Phase 2.
Supplemental Plans - Chitosan, Section 6.03.8.d	<ol style="list-style-type: none"> 1. Provide more specifics on qualified operators 2. Provide more specifics on sand filtration system and turbidity limits (not just pH reference) 3. Reference applicable DEQ 1200C notes and Washington DOE requirements relating to Chitosan.. 	<ol style="list-style-type: none"> 1. The proposed standard provides flexibility. As this practice gains more regular use in Washington County, Staff will continue to evaluate for more specific requirements in Phase 2. 2. Staff has not proposed design requirements for sand only dewatering filtration system or turbidity limits. The CWS EC program emphasizes erosion prevention, rather than sediment control. The approved BMPs specified in Chapter 6 are intended to address requirements in Section 6.02.1. Staff chose to specify the pH range, because the pH must be in that range for the chitosan to be effective. 3. Chitosan is a product that has been around for several years, but is not commonly used in CWS' jurisdiction. Additional references to the DOE standards and 1200C notes are incorporated.

Topic	Comment Summary	Response
Additional comments	<ol style="list-style-type: none"> 1. Provide design standards for retaining wall requirements that are submitted with EC & grading plans. 2. In Section 6.02.1, what methodology will be used to determine measurable? And, what is the definition of 'surface water system' 3. To Section 6.02, suggest adding a subsection that requires showing drain/field tiles on initial plan submittals. 4. In Section 6.03.5.a, the mixed use of both sediment and waste product is confusing. What is considered an approved location for this? Garbage vs. shoveled back onsite? 5. In Section 6.03.5.e clarify "sediment barrier." This allowance is risky for treatment of turbidity; recognize soil types and limited BMPs to provide State Water Quality Standards 6. In Section 6.04.1.a, should a pre-construction conference be a requirement? "require" instead of "may"? 7. In Section 6.04.1.b, add an additional situation: when dewatering is required (treatment). 8. In Section 6.04.3, what are the permittee's inspection requirements for less than 1 acre sites? 9. Provide and define what content needs to be documented to correctly meet the weekly/monthly CWS inspection requirements. 	<ol style="list-style-type: none"> 1. No change made; CWS does not have authority to regulate design standards for retaining walls in unincorporated Washington County. 2. Visible or "Measurable" is defined in Chapter 1 Section 1.03.66. Surface water systems are natural or manmade systems that convey or impound water, i.e. rivers, streams, wetlands, lakes etc. 3. Field tiles are not something that are typically mapped. Staff believes the most appropriate way to address this issue is through redline or plan revisions to address erosion issues if or as drain tiles are encountered. 4. Sediment that accumulates around sediment control BMPs can be a waste product. Staff proposed a note to proposed Section 6.03.5.a that sediment/soil can be placed back on site and protected with appropriate erosion control BMPs. 5. Staff proposed changing "sediment barrier" to "sediment control BMP". Allowing sediment laden water to pass through vegetation meeting the specifications in this section is an effective sediment control BMP and is not intended to provide treatment. 6. The use of the word "may" is intentional. Staff does not require pre-construction meetings on every project. This allows some discretion as to whether we think it's appropriate to hold a meeting based on site characteristics, weather etc. 7. Staff proposes to determine the need for this requirement in Phase 2 of the update based on experience with dewatering over the next couple of years. 8. The inspections apply to all sites. Red line changes can be left to the discretion of the inspector until the plan is not legible. 9. The weekly and monthly inspections are required minimum inspections for CWS and Co-implementers based on the Stormwater Management Plan. It would not be appropriate to include this in the D&C Standards as it is not a requirement of the permittee.
Additional Comments Continued	<ol style="list-style-type: none"> 10. Add Cement Amendment to Table 6-1 Erosion Prevention BMPs. 11. In Section 6.03.7, provide more specifics on illicit discharges and turbidity monitoring and clarify when field changes are appropriate versus formal resubmittal and review. 	<ol style="list-style-type: none"> 10. Cement amending soil aids in the process of building structural fill and is not an erosion prevention BMP. 11. If visible or measurable erosion is occurring (See Section 1.03.66), the site is already in violation of CWS standards which CWS can regulate. Measuring background turbidity in a creek is related to DEQ's water quality standard and is not a CWS regulation. There is specific language in the 1200-C permit which outlines when revised plans are required.

Topic	Comment Summary	Response
Appendix A	CWS received comments on Appendix A, including how the requirements in Appendix A and the LIDA Handbook do not align.	Changes to Appendix A are beyond the scope of the Phase 1 Update, and will be evaluated in Phase 2.
Appendix B	CWS received comments on specific standard drawings, ranging from clarifying standards to deleting or modifying specific depths and materials.	Where Staff proposed additional changes to the details in response to comments, these changes are noted with a solid purple background (grey when printed in black and white). Comments received regarding Drawings 160 thru 230, 700 thru 790 and 1001 thru 1285 will be evaluated in Phase 2. Staff can provide responses to specific comments upon request.