

1 **40.380 STORMWATER AND EROSION CONTROL**

2
3 **40.380.010 INTRODUCTION**

4
5 A. Purpose.

6 The purpose of this chapter is to safeguard public health, safety and welfare by
7 protecting the quality of surface and ground waters for drinking water supply,
8 recreation, fishing and other beneficial uses through the application of best
9 management practices (BMPs) for stormwater management and erosion control.

10
11 B. Applicability.

- 12 1. The provisions of this chapter shall apply to all new development, re-
13 development, and drainage projects consistent with the *Stormwater*
14 *Management Manual for Western Washington (SMMWW)* as modified by this
15 chapter, and the county's *Stormwater Manual*.
- 16 2. Applicability of this chapter may be modified by Sections 40.380.020(A)(10)
17 and (11).
- 18 3. Meeting the requirements of this chapter is the joint and severable
19 responsibility of both the owner(s) of the site on which land-disturbing activity
20 occurs and the person(s) undertaking such activity. In addition, if the land-
21 disturbing activity involves a county-issued permit, the applicant is also
22 responsible for meeting the requirements of this chapter.
- 23 4. The responsible official is authorized to enforce the provisions of this chapter
24 using the remedies and procedures in Title 32.

25
26 C. Exemptions.

- 27 1. Exemptions to the Minimum Requirements (listed in Section 40.380.010(D))
28 shall be granted for the following activities:
- 29 a. Forest practices regulated under Title 222 WAC, except Class IV General
30 Forest Practices that are conversions from timber land to other uses.
- 31 b. Commercial agriculture practices involving working the land for production.
32 However, the conversion from timberland to agriculture and the
33 construction of new impervious surfaces are not exempt. Agricultural uses
34 must occur on property that is either:
- 35 (1) participating in a current use assessment classification for agricultural
36 land pursuant to Chapter 84.34 RCW or is eligible for such current use
37 assessment classification; or
- 38 (2) conducted under a farm management plan approved by the Clark
39 Conservation District.
- 40 c. Normal landscape maintenance activities and gardening.

- 1 d. Drilling sites, waste management pits, temporary access roads, pipelines,
2 natural gas treatment plants, natural gas pipeline compressor stations,
3 and crude oil pumping stations.
- 4 e. The following road maintenance practices:
5 (1) pothole and square cut patching;
6 (2) overlaying existing asphalt or concrete pavement without expanding
7 the area of coverage;
8 (3) shoulder grading;
9 (4) regrading/reshaping drainage systems;
10 (5) crack sealing;
11 (6) resurfacing with in-kind material without expanding the road prism;
12 and
13 (7) vegetation management.
- 14 2. Exemptions to specific Minimum Requirements shall be granted for the
15 following activities:
- 16 a. The construction of single-family homes, duplexes, and their accessory
17 structures may be exempt from Minimum Requirements #3 through #10,
18 provided the following conditions are met:
19 (1) The project site is included in a stormwater plan previously approved
20 by the county;
21 (2) The system provides for detention or retention of runoff from residential
22 lots; and
23 (3) A stormwater pollution prevention plan (SWPPP) is prepared and
24 implemented meeting the standards in Minimum Requirement #2.
- 25 b. Drainage projects that are not new development or re-development and
26 do not create new underground injection control wells are exempt from
27 Minimum Requirement #6, and the responsible official may waive all or
28 parts of Minimum Requirement #1 if the project meets other applicable
29 requirements of this chapter.
- 30 c. Underground utility projects that replace the ground surface with in-kind
31 material or materials with similar runoff characteristics are only subject to
32 Minimum Requirement #2.
- 33 d. New development and re-development meeting the criteria in Appendix I-
34 E of the *SMMWW* are exempt from Minimum Requirement #7, provided
35 that:
36 (1) The discharge structure is designed to avoid erosion during all storms
37 up to the one hundred- (100-) year storm; and
38 (2) If an existing discharge structure is used:
39 (a) The discharge structure must meet the requirements of Section
40 40.380.010(C)(2)(d)(1); and
41 (b) The discharge structure and conveyance system leading to the
42 discharge must have adequate capacity to meet the requirements
43 of this chapter.

- 1 e. In addition to the Columbia River, the Lewis River and the East Fork of the
2 Lewis River, Appendix I-E of the *SMMWW* is appended to include
3 Vancouver Lake and Lake River.
4 f. Infill and re-development projects are exempt from the one tenth (0.1) cfs
5 flow increase threshold contained in Minimum Requirement #7.
6 3. New development and drainage projects undertaken by governmental
7 agencies are exempt from Section 40.380.020(E)(5).
8 4. A proposed project is exempt from performing an off-site analysis if any of the
9 following conditions apply:
10 a. The county determines based on the information in the final technical
11 information report (TIR) that there is sufficient evidence to conclude that
12 the project will not have a significant adverse impact on the downstream
13 and/or upstream drainage system; or
14 b. The project:
15 (1) adds less than two thousand (2,000) square feet of new impervious
16 surface; and
17 (2) adds less than thirty-five thousand (35,000) square feet of new
18 pervious surface; and
19 (3) does not construct or modify a drainage pipe/ditch that is twelve (12)
20 inches or more in size/depth or that receives runoff from a drainage
21 pipe/ditch that is twelve (12) inches or more in size/depth; and
22 (4) does not contain or lie adjacent to a landslide, steep slope, or erosion
23 hazard area; or
24 c. The project does not change the rate, volume, duration, or location of
25 discharges to and from the project site (e.g. where existing impervious
26 surface is replaced with other impervious surface having similar runoff-
27 generating characteristics, or where pipe/ditch modifications do not
28 change existing discharge characteristics).
29

30 D. Definitions.

31 For the purposes of this chapter, the following definitions shall apply. Additional
32 definitions can be found in the *SMMWW*.
33

Basin plan	“Basin Plan” means a plan that assesses, evaluates, and proposes solutions to existing and potential future impacts to the beneficial uses of, and the physical, chemical, and biological properties of waters of the state within a basin.
Best management practices (BMPs)	“Best management practices (BMPs)” means schedules of activities, prohibitions of practices, maintenance procedures, managerial practices, or structural features that prevent or reduce adverse impacts to waters of Washington State.
Drainage project	“Drainage project” means the excavation or construction of pipes, culverts, channels, embankments or other flow-

	altering structures in any stream, stormwater facility or wetland in Clark County.
Impervious surface	<p>“Impervious surface” means a hard surface area which:</p> <ul style="list-style-type: none"> • prevents or retards the entry of water into the soil as under natural conditions prior to development; or • causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. <p>Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or storage areas, concrete or asphalt paving, gravel surfaces, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces for the purposes of determining whether the thresholds for application of minimum requirements are exceeded. Open, uncovered retention/detention facilities shall be considered impervious surfaces for purposes of runoff modeling.</p>
Land-disturbing activity	<p>“Land-disturbing activity” means any activity that results in movement of earth, or a change in the existing soil cover (both vegetative and non-vegetative) and/or the existing soil topography. Land disturbing activities include, but are not limited to clearing, grading, filling, and excavation. Compaction that is associated with stabilization of structures and road construction shall also be considered a land disturbing activity. Vegetation maintenance practices are not considered land-disturbing activity.</p>
Low impact development	<p>“Low impact development” means an approach to stormwater management that emphasizes the use of on-site natural and built features to reduce the impacts of increased flow rates and volumes associated with increases in impervious area.</p>
Maintenance	<p>“Maintenance” means repair and upkeep activities conducted on currently serviceable structures, facilities, and equipment that involves no expansion or use beyond that previously existing and results in no significant adverse hydrologic impact. It includes those usual activities taken to prevent a decline, lapse, or cessation in the use of structures and systems. Those usual activities may include replacement of dysfunctional facilities, including cases where environmental permits require replacing an existing structure with a different type structure, as long as the functioning characteristics of the original structure are not</p>

	changed.
Minimum Requirements	<p>“Minimum requirements” means the ten sets of requirements that are part of the <i>SMMWW</i>, as follows:</p> <ul style="list-style-type: none"> • Minimum Requirement #1: Preparation of stormwater site plans • Minimum Requirement #2: Construction stormwater pollution prevention • Minimum Requirement #3: Source control of pollution • Minimum Requirement #4: Preservation of natural drainage systems and outfalls • Minimum Requirement #5: On-site stormwater management • Minimum Requirement #6: Runoff treatment • Minimum Requirement #7: Flow control • Minimum Requirement #8: Wetlands protection • Minimum Requirement #9: Basin/watershed planning • Minimum Requirement #10: Operation and maintenance
Native vegetation	<p>“Native vegetation” means plant species, other than noxious weeds, that are indigenous to the coastal region of the Pacific Northwest and which reasonably could have been expected to naturally occur on the site.</p>
New development	<p>“New development” means:</p> <ul style="list-style-type: none"> • land disturbing activities, including Class IV general forest practices that are conversions from timber land to other uses; • construction or installation of a building or other structure; • creation of impervious surfaces; and • subdivisions, short subdivisions, and binding site plans, as defined and applied in Chapter 58.17 RCW. <p>Projects meeting the definition of re-development shall not be considered new development.</p>
Pre-developed condition	<p>“Pre-developed condition” means the land cover condition used to determine flow control requirements as required by Section 40.380.020(C)(2).</p>
Project site	<p>“Project site” means that portion of a property, properties, or right-of-way subject to land disturbing activities, new</p>

DRAFT
7-15-08

	impervious surfaces, or replaced impervious surfaces.
Re-development	<p>“Re-development” means on a site that is already substantially developed (i.e., has 35% or more of existing impervious surface coverage):</p> <ul style="list-style-type: none"> • the creation or addition of impervious surfaces; • the expansion of a building footprint or addition or replacement of a structure; • construction, installation or expansion of a building or other structure; • replacement of impervious surface that is not part of a routine maintenance activity; or • land-disturbing activities.
Regional facilities	“Regional facilities” means facilities designed and constructed to treat and control stormwater runoff from a contributing area of at least forty (40) acres in size.
Replaced impervious surface	<p>“Replaced impervious surface” means:</p> <ul style="list-style-type: none"> • for structures, the removal and replacement of any exterior impervious surfaces or foundation; or • for other impervious surfaces, the removal down to bare soil or base course and replacement within the same threshold discharge area.
Responsible official	“Responsible official” means the director of Clark County Public Works or their designee.
Road-related development	“Road-related development” means land-disturbing activity where the sole objective is the development or re-development of roads, sidewalks and bike lanes.
Site	“Site” means the area within the legal boundaries of a parcel or parcels of land that is (are) subject to new development or re-development. For road projects, the length of the project site and the right-of-way boundaries define the site.
Stormwater facility	“Stormwater facility” means a constructed component of a stormwater drainage system, designed or constructed to perform a particular function, or multiple functions. Stormwater facilities include, but are not limited to facilities for conveyance, retention, detention, infiltration, and treatment.
<i>Stormwater Facility Maintenance Manual</i>	“ <i>Stormwater Facility Maintenance Manual</i> ” means the currently adopted stormwater facility maintenance manual maintained by Clark County Public Works.
<i>Stormwater Management Manual for Western Washington</i>	“ <i>Stormwater Management Manual for Western Washington</i> ” (SMMWW) means the stormwater manual adopted by the Department of Ecology in February 2005.

<i>Stormwater Manual</i>	“ <i>Stormwater Manual</i> ” means the currently adopted stormwater manual maintained by Clark County Public Works.
Substantial completion	“Substantial completion” means <ul style="list-style-type: none">• following inspection, stormwater facilities are operational and constructed to county standards;• streets are constructed and at least one lift of asphalt is installed when paving is required; and• the project is in full compliance with this chapter.
Underground injection control	“Underground injection control” means a man-made subsurface fluid distribution system designed to discharge fluids into the ground that consists of an assemblage of perforated pipes, drain tiles, or other similar mechanisms, or a dug hole whose depth is greater than the largest surface dimension.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

40.380.020 STANDARDS--STORMWATER CONTROL

A. General Standards.

1. The *SMMWW* as modified by the county’s *Stormwater Manual* is adopted by reference, and the recommendations and requirements contained therein will be the minimum standards for this chapter except as modified in this chapter.
2. Where provisions of this chapter conflict with other Title 40 requirements, the more stringent shall apply.
3. Stormwater facilities shall be constructed in accordance with the most recent edition of the *Standard Specifications for Road, Bridge, and Municipal Construction* as prepared by Washington Department of Transportation (WSDOT).
4. Design of bridge stormwater systems shall be in accordance with the Washington Department of Transportation *Bridge Design Manual*, latest edition.
5. All new development and re-development shall comply with the following:
 - a. Minimum Requirement #2 (Section 40.380.030).
 - b. New development and re-development that creates or adds two thousand (2,000) square feet or more of new, replaced, or new-plus-replaced impervious surface or which has land-disturbing activity of seven thousand (7,000) square feet or more shall comply with Minimum Requirements #1 through #5 for the new and replaced impervious surfaces and the land disturbed.
 - c. New development and re-development that creates or adds five thousand (5,000) square feet or more of new impervious surface, converts three quarters (0.75) of an acre or more of native vegetation to lawn or

- 1 landscaped area, or converts two-and-a-half (2.5) acres or more of native
2 vegetation to pasture shall comply with Minimum Requirements #1
3 through #10 for the new impervious and converted pervious surfaces.
- 4 d. An off-site analysis as described in the *Stormwater Manual*, unless
5 exempted by Section 40.380.010(C)(4).
- 6 e. The county may allow the Minimum Requirements to be met for an
7 equivalent (flow and pollution characteristics) area within the same site.
8 For public road projects, the equivalent area does not have to be within
9 the same project limits but must drain to the same receiving water.
- 10 6. In addition, all re-development shall comply with the following:
- 11 a. Road-related projects that create or add five thousand (5,000) square feet
12 or more of new impervious surface and the new impervious surface totals
13 fifty percent (50%) or more of the existing impervious surface within the
14 project limits, shall comply with Minimum Requirements #1 through #10
15 for new and replaced impervious surfaces. The project limits shall be
16 defined by the physical length of the project and the width of the right-of-
17 way.
- 18 b. Non road-related projects where the total of new plus replaced impervious
19 surface is five thousand (5,000) square feet or more and the valuation of
20 the proposed improvements exceeds fifty percent (50%) or more of the
21 existing site valuation, shall comply with Minimum Requirements #1
22 through #10 for new and replaced impervious surfaces.
- 23 7. Design of infiltration BMPs shall be in accordance with the Washington
24 Department of Ecology *Guidance for UIC Wells that Manage Stormwater*.
- 25 8. Drainage Structure Labeling and Signage. All catch basins and manholes
26 capable of accepting stormwater shall be signed or stenciled in accordance
27 with the *Stormwater Manual*
- 28 9. Dispersion. On single-family residential and agriculture sites greater than
29 twenty-two thousand (22,000) square feet, stormwater may be fully dispersed
30 over pasture or crop land in accordance with the requirements in the
31 *Stormwater Manual*. Sites that can fully disperse per those requirements or
32 the requirements in the SMMWW are not required to provide runoff treatment
33 or flow control facilities.
- 34 10. Basin plans.
- 35 a. Basin plans as addressed in Minimum Requirement #9 are strategies
36 designed to protect and enhance surface and groundwater within a
37 watershed.
- 38 b. A plan shall include but not be limited to recommendations for:
39 (1) stormwater requirements for new development and re-development;
40 (2) capital improvement projects;
41 (3) land use management through identification and protection of critical
42 areas, comprehensive land use and transportation plans, zoning
43 regulations, site development standards, and conservation areas;

- 1 (4) source control activities, to include public education and involvement,
2 and business programs;
3 (5) other targeted stormwater programs and activities, such as
4 maintenance, inspections, and enforcement;
5 (6) monitoring; and
6 (7) an implementation schedule and funding strategy.
7 c. To be valid, basin plans must:
8 (1) be stamped, signed and dated by a registered professional engineer
9 licensed in the State of Washington;
10 (2) adopted by the board;
11 (3) meet the requirements of RCW 36.94 and the *SMMWW*; and
12 (4) be incorporated by reference into this section.
13 d. Where conflicts occur, the policies and standards in an adopted basin plan
14 shall supersede the requirements of this chapter.
- 15 11. Regional facilities.
16 a. The county encourages the use of regional stormwater facilities.
17 b. If regional facilities are used to meet some or all of the requirements of
18 this chapter, the following conditions shall be met:
19 (1) Stormwater runoff shall be transported from a project site to a regional
20 facility through a pipe or man-made open channel conveyance system.
21 (2) If the regional facility does not yet exist, interim quantity control and
22 treatment methods shall be used to meet the requirements of this
23 chapter. All interim methods shall be approved in writing by the
24 responsible official.
25 (3) The facility must have sufficient capacity to provide the treatment and
26 quantity control specified in this chapter.
27 (4) A written commitment from the owner of the facility, or the responsible
28 official in the case of county-owned facilities, shall be provided that
29 allows use of the facility by the applicant.
30 c. Where a stormwater utility exists, a system development charge can be
31 assessed for use of a regional facility.
32
- 33 B. Water Quality Treatment.
34 1. General Standards.
35 a. If project site conditions are appropriate and groundwater quality will not
36 be impaired, infiltration is the preferred BMP. Direct discharge of untreated
37 stormwater to groundwater is prohibited. All discharges to groundwater
38 shall comply with the Water Pollution Control Act (RCW 90.48), the Water
39 Resources Act (RCW 90.54), and Water Quality Standards for Ground
40 Waters of the State of Washington (WAC 173-200). Infiltration may be
41 limited near public water supply wells.
42 b. Runoff treatment facilities shall be selected pursuant to Volume V, Chapter
43 2 of the *SMMWW*.
44 c. The stormwater treatment facilities shall be sized for the entire flow
45 directed to them.

- 1 d. The following water quality management plans and local
2 ordinances/regulations have been identified pursuant to Volume V,
3 Chapter 2 of the *SMMWW* as having specific requirements for receiving
4 waters:
5 (1) Total maximum daily load plans for Gibbons Creek and Salmon Creek;
6 and
7 (2) Lake management plans for Lacamas and Round Lakes.
- 8 2. Phosphorus treatment is required in the Lacamas watershed above the dam
9 at the south end of Round Lake for all project sites exceeding one (1) acre in
10 size.
- 11 3. Experimental BMPs shall follow the guidelines for emerging technologies
12 Volume V, Chapter 12 of the *SMMWW*.
- 13 4. Stormwater treatment facilities shall be maintained in accordance with the
14 latest version of the *Stormwater Facility Maintenance Manual*.
- 15 5. Hydrologic analysis for runoff treatment design shall be in accordance with
16 Volume III and Volume V, Chapter 2 of the *SMMWW*, with the following
17 exceptions:
18 a. Table III-2.1, Hydrologic Soil Groups for Selected Soils in Washington
19 State is replaced by:
20 (1) the *Soil Conservation Service Clark County Soil Survey* published in
21 1972 and updated by the Natural Resources Conservation Service
22 (NRCS);
23 (2) GIS soil maps of Clark County;
24 (3) Washington Soil Survey data as available on the NRCS website; or
25 (4) Hydrological soil groups as developed by a registered soil scientist
26 using criteria in the NRCS *National Soils Handbook*.
- 27 b. Appendix III-A, Isopluvial Maps for Design Storms, is replaced by
28 Isopluvial Maps for Design Storms in Clark County.
- 29 6. Swales shall have a free discharge. When placed within a detention basin,
30 calculations shall be provided that demonstrate that the peak stage during the
31 water quality design storm is lower than the minimum swale elevation.
32
- 33 C. Quantity Control.
- 34 1. General Standards.
- 35 a. No new development or re-development shall be allowed to materially
36 increase or concentrate stormwater runoff onto an adjacent property or
37 block existing drainage from adjacent lots.
- 38 b. All lots must be designed to provide positive drainage from the bottom of
39 footings to an approved stormwater facility, **unless a geotechnical report**
40 **has been prepared stating that a footing drain is not required.**
- 41 c. Detention facilities shall be functional prior to completion of site
42 improvements (e.g., impervious surfaces). If permanent infiltration ponds

- 1 are used for flow control during construction, these facilities shall be
2 protected from siltation during the construction phase.
- 3 d. In addition to the requirements of Chapter 40.420, no reduction of existing
4 conveyance capacity and no net loss of existing storage capacity for the
5 one hundred- (100-) year storm is permitted in special flood hazard areas
6 as defined in Section 40.420.010(C). This requirement shall also apply to
7 all areas within the limits of the existing one hundred- (100-) year
8 floodplain for all streams and man-made channels within the county.
- 9 2. Pre-development Land Cover Requirements.
- 10 a. The pre-developed condition to be matched shall be a forested land cover
11 unless:
- 12 (1) Reasonable information is available that indicates the project site
13 was prairie prior to settlement; or
- 14 (2) The drainage area of the immediate stream and all subsequent
15 downstream basins has had at least forty percent (40%) total
16 impervious surface since 1985. In this case, the pre-developed
17 condition to be matched shall be the existing land cover condition; or
- 18 (3) The drainage area of the immediate stream and all subsequent
19 downstream basins has had less than forty percent (40%) forested
20 cover since 1955. In this case, the pre-developed condition to be
21 matched shall be the land cover condition generating the least
22 amount of stormwater runoff since 1955, as determined through
23 aerial photographs.
- 24 b. Where an approved watershed study exists, the land cover condition to be
25 matched shall be commensurate with achieving a target flow regime
26 identified in the study. If no land cover condition or target flow regime is
27 identified, land cover condition to be matched shall be as required above.
- 28 c. This requirement is not applicable to project sites designed to retain all
29 stormwater runoff onsite.
- 30 3. Design Methodology for Stormwater Infiltration Systems.
- 31 a. The design of stormwater infiltration facilities shall follow the requirements
32 in Volume III, Section 3.3 of the *SMMWW* and the *Stormwater Manual*,
33 except as revised herein, and the *Guidance for UIC Wells that Manage*
34 *Stormwater* published by the Washington Department of Ecology. If a
35 facility meets any part of the UIC definition in Section 40.380.010(D), the
36 developer must register the UIC and provide proof of registration to the
37 county prior to use.
- 38 b. The design shall follow the methodology in either the simplified or detailed
39 approaches in Volume III, Section 3 of the *SMMWW*.
- 40 c. Infiltration receptor characterization shall include the installation of ground
41 water monitoring wells unless the highest ground water level is
42 demonstrated to be at least fifteen (15) feet below the proposed infiltration
43 facility. These wells shall be installed and monitored during at least one
44 wet season within three (3) years prior to the date of final approval.
- 45 d. Test locations for performing infiltration tests as called for in the simplified

method shall be performed as follows:

(1) One or more infiltration tests shall be conducted at the location of each proposed infiltration facility; and

(2) At least one test shall be conducted for each location where the soil characteristics significantly vary within the vicinity of proposed infiltration facilities.

e. Allowable methods for determining infiltration rates as called for in the simplified method (Section 3.3.4 of the *SMMWW*) are as follows:

(1) The Single-Ring Falling Head Test as described in the *Stormwater Manual*, or

(2) A Pilot Infiltration Test (PIT) conducted pursuant to Appendix III-D, Volume III of the *SMMWW*.

f. Groundwater.

The base of all infiltration basins or trench systems shall be greater than five (5) feet above the seasonal high-water mark, bedrock (or hardpan) or other low permeability layer. A separation down to three (3) feet may be considered if the ground water mounding analysis, volumetric receptor capacity, and the design of the overflow and/or bypass structures are judged by the county to be adequate to prevent overtopping and meet the site suitability criteria specified in the *SMMWW*.

g. Stormwater Infiltration Facility Setbacks.

(1) Stormwater infiltration facilities shall be setback according to Table 40.380.020-1.

Table 40.380.020-1. Stormwater Infiltration Facility Setbacks.	
Stormwater infiltration facility setback from:	Distance
Drinking water wells ¹	100 feet minimum
Building foundations	20 feet minimum, upslope 100 feet minimum, downslope
Slopes equal to or greater than 15%	50 feet minimum
Roof downspout infiltration systems	10 feet minimum from any structure or property line.

¹ Infiltration facilities upslope of drinking water supplies and within the 1-, 5-, and 10-year time of travel zones must comply with Washington Department of Health requirements.

(2) Setbacks may be reduced if a geotechnical report addresses potential impacts of trench phreatic surface on structures within twenty (20) feet of the proposed facility.

h. No permanent infiltration systems shall be allowed into service until:

(1) the entire contributing drainage area has received final stabilization; and

(2) permanent water quality BMPs are in place and have been approved

- 1 by the county.
- 2 i. Before acceptance of any infiltration facility by the county, the completed
- 3 facility must be tested and monitored to demonstrate that the facility
- 4 performs as designed. If the facility performance is not satisfactory, the
- 5 facility will need to be modified or expanded as needed in order to make it
- 6 function as designed. The facility will be determined to perform
- 7 satisfactorily if the rate of infiltration is at least 95% of the design infiltration
- 8 rate.
- 9 j. A ground water mounding analysis shall be conducted at all sites where
- 10 the depth to seasonal ground water table or low permeability stratum is
- 11 less than five (5) feet or where the depth to seasonal ground water table
- 12 or low permeability stratum is less than fifteen (15) feet and the runoff to
- 13 the infiltration facility is from more than one (1) acre of effective impervious
- 14 surface. Groundwater modeling (mounding analysis) of the proposed
- 15 infiltration facility shall be done using the design infiltration rate and the
- 16 estimated maximum groundwater elevation determined for the proposed
- 17 facility location.
- 18

19 D. Stormwater Facilities.

20 1. General.

- 21 a. Stormwater facilities shall be located in accordance with the county's
- 22 critical areas ordinances, Chapters 40.410 through 40.450.
- 23 b. Stormwater facilities, other than closed conveyance systems, shall be
- 24 located in relation to existing and proposed on-site sewage system
- 25 drainfields as follows:
- 26 (1) at least thirty (30) feet when downslope from the drainfield system.
- 27 (2) at least ten (10) feet when upslope from the drainfield system.
- 28 c. Stormwater facilities, other than underground closed systems, shall be
- 29 located outside easements and corridors used by phone, electric, water,
- 30 natural gas, and other utilities unless the utilities are installed prior to
- 31 construction of the facility.
- 32 d. Sites used for stormwater facilities shall be owned by the applicant,
- 33 county, or state.
- 34 (1) If the county or state owns the site, a letter from the responsible
- 35 agency allowing use of the site for stormwater control shall be
- 36 submitted with the preliminary stormwater plan.
- 37 (2) If the county or state does not own the site, the ownership shall be
- 38 included for consideration with the land use application for the
- 39 development.
- 40 e. Stormwater facilities other than underground closed systems in urban
- 41 residential subdivisions and short plats shall be located on separate tracts
- 42 which are recommended, but not required, to meet minimum zoning lot
- 43 size requirements. The plat or other dedication instrument shall indicate
- 44 tract disposition in the event of county abandonment or vacation.

- 1 2. Side slopes.
2 Side slopes of stormwater facilities shall be according to Table 40.380.020-2
3 and Section 40.380.020(D)(3).
4

Table 40.380.020-2. Stormwater Facility Side Slopes.	
All facilities with slopes flatter than or equal to 3:1	Allowed
All facilities with slopes flatter than or equal to 2:1	Allowed, if: <ul style="list-style-type: none">• Side slopes don't need mowing, and• Erosion control and slope stability are provided
Public facilities, vertical slopes	Allowed, if: <ul style="list-style-type: none">• Perimeter has less than or equal to 75% vertical slopes;• Vertical slopes more than two feet tall are fenced;• Maintenance access is adequate; and• Side slopes in a biofiltration treatment area are 3:1 or flatter.
Private facilities, slopes steeper than 3:1	Allowed if: <ul style="list-style-type: none">• Perimeter has less than or equal to 75% vertical slopes;• Vertical slopes more than two feet tall are fenced;• Long-term erosion control is provided;• Side slopes in a biofiltration treatment area are 3:1 or flatter; and• It is demonstrated that the facility can be adequately maintained.

- 5
6
7 3. Fencing.
8 a. Public stormwater treatment and runoff control facilities shall be fenced in
9 accordance with Volume III of the SMMWW.
10 b. Fences are not required for private stormwater facilities, provided a hold-
11 harmless agreement is provided to the county.
12 c. If the facility is not enclosed by a fence, the covers for all control
13 structures, manholes, and catch basins shall be bolted in-place.
14 d. A gate or lockable bollards shall be provided across any access road.
15 e. Wood board fences are not allowed.
16

17 E. Maintenance and Ownership.

- 18 1. County Ownership of Stormwater Facilities. County ownership of stormwater
19 facilities is required for all such facilities that are to be located within a public

1 right-of-way or for which arrangements for private long-term maintenance
2 which are acceptable to the responsible official have not been made.

3 2. Acceptance of Ownership by the County.

4 a. Stormwater facilities that are to be owned by the county will be
5 provisionally accepted for ownership upon the approval of the record
6 drawings and approval of an inspection of the facilities by the county.
7 Provisional acceptance of the facilities shall not relieve the applicant from
8 any obligation to undertake any remedial measures to correct deficiencies
9 in the design, construction, maintenance or operation of the facilities.

10 b. No sooner than eighteen (18) months following the provisional acceptance
11 of the facilities, the applicant shall notify the responsible official that the
12 facilities are eligible for final acceptance of ownership by the county. Prior
13 to their final acceptance for ownership, the facilities shall be inspected to
14 determine that they are properly maintained and in satisfactory condition.
15 The responsible official shall require the applicant to conduct tests of the
16 facilities to reasonably demonstrate that they are operating as designed
17 and to the county standards for quality and quantity control as a condition
18 of final acceptance. Upon approval of the facilities by the responsible
19 official and all necessary ownerships and easements entitling the county
20 to properly access and maintain the facilities have been conveyed to the
21 county and recorded with the County Auditor, they will be finally accepted
22 for ownership by the county.

23 3. Maintenance of Stormwater Facilities.

24 a. County-Owned Facilities.

25 (1) For a period of at least two (2) years following the provisional
26 acceptance of stormwater facilities or thereafter until the facilities are
27 finally accepted by the county, the developer constructing the facilities
28 shall maintain, repair, redesign, or reconstruct the facilities to ensure
29 that they operate as designed and to the county standards for quality
30 and quantity control. This obligation shall extend to remedying any
31 damage caused to the facilities by builders or other third parties during
32 the initial maintenance period. The required maintenance shall be
33 performed according to the county's *Stormwater Facility Maintenance*
34 *Manual* pursuant to Section 13.26A.040.

35 (2) During the initial maintenance period, remedial work to correct
36 deficiencies shall be the responsibility of the developer and shall be
37 completed prior to final acceptance. Required remedial work to correct
38 maintenance and construction deficiencies shall be completed by the
39 applicant prior to final acceptance.

40 (3) Following final acceptance for county ownership, the county shall
41 maintain stormwater facilities.

42 b. Privately-Owned Facilities.

43 (1) For stormwater facilities for which the county will not provide
44 maintenance, the developer shall make arrangements with the
45 existing or future (as appropriate) occupants or owners of the subject
46 property for assumption of maintenance to the standards in the

1 county's *Stormwater Facility Maintenance Manual* pursuant to
2 Section 13.26A.040. The responsible official shall approve such
3 arrangements prior to county approval of the final stormwater plan.
4 Final plats shall include a note specifying the party(ies) responsible
5 for long-term maintenance of stormwater facilities.

6 (2) The county shall inspect privately maintained facilities for compliance
7 with the requirements of this chapter. If the parties responsible for
8 long-term maintenance fail to maintain their facilities to acceptable
9 standards, the county shall issue a written notice specifying required
10 actions to be taken in order to bring the facilities into compliance. If
11 these actions are not performed in a timely manner, the county shall
12 take enforcement action and recover from parties responsible for the
13 maintenance in accordance with Section 32.04.060.

14 (3) Easements or a covenant acceptable to the responsible official shall
15 be provided to the county for purposes of inspection and
16 maintenance of all privately maintained facilities. The minimum
17 dimensions of easements are listed in the *Stormwater Manual*, and
18 shall allow for access to all areas within the pond and drainage
19 structures by standard maintenance equipment vehicles.

20 4. Recovering costs of stormwater facilities.

21 a. The following costs associated with stormwater facilities may be
22 recoverable through latecomers agreements (RCW 35.91.010):

- 23 (1) Over-sizing on-site facilities above their existing capacity or the
24 capacity required for the proposed development; and
25 (2) A proportionate share of the total cost of off-site facilities.

26 b. If a stormwater utility exists, the costs for building or over-sizing a
27 stormwater facility may be eligible as a credit against applicable system
28 development charges.

29 5. Bonds and insurance.

30 a. Performance Security. In lieu of completing required stormwater facilities
31 within a preliminary plat prior to recording, the applicant shall post a
32 performance bond or other security acceptable to the responsible official
33 in the amount of one hundred fifty percent (150%) of the estimated cost
34 (prepared by the project engineer) of completing construction per the
35 approved stormwater plan. After determination by the responsible official
36 that all facilities are constructed in compliance with the approved plan, are
37 performing their intended functions in a satisfactory manner, and that the
38 maintenance bonding requirements of Section 40.380.020(E)(3) are met,
39 the performance bond or security shall be released. No building permits
40 shall be issued until the stormwater facilities are completed and
41 provisionally accepted.

42 b. Maintenance Security. In cases identified in Section 40.380.020(E)(3), a
43 maintenance bond or other security acceptable to the responsible official
44 shall be posted and maintained throughout the two- (2-) year initial
45 maintenance period for a stormwater facility.

1 **40.380.030 STANDARDS--EROSION CONTROL**
2

3 A. General Standards.

- 4 1. Contractor Certification. All land-disturbing activity performed by licensed
5 contractors shall be supervised by an individual who shall have successfully
6 completed formal training in erosion and sediment control during construction
7 by a recognized organization acceptable to the responsible official. A
8 certification of successful completion of such training shall be submitted at the
9 pre-construction conference.
10 2. Permanent infiltration BMPs shall not be used as temporary erosion control
11 devices.
12 3. Vehicles not performing a construction activity shall not be permitted off-
13 street. Worker personal vehicles shall be parked on adjacent streets or other
14 approved areas.
15

16 B. Underground Utility Construction.

17 The construction of underground utility lines shall be subject to the following:

- 18 1. An erosion control plan specifically related to underground work shall be
19 submitted and approved prior to beginning work.
20 2. BMPs shall be used to control erosion during and after construction.
21 3. BMPs damaged during construction shall be replaced or repaired.
22

23 C. Signage.

- 24 1. Erosion control signage approved by the responsible official shall be installed
25 at each point of entry for any subdivision or short plat prior to issuance of
26 provisional acceptance by the county. Signs may be purchased from the
27 county.
28 2. Removal of signage shall occur when either certificates of occupancy have
29 been issued for seventy percent (70%) of the lots or there are less than ten
30 (10) unoccupied lots remaining within the project site, whichever is later, or as
31 determined by the responsible official.
32
33

34 **40.380.040 ADMINISTRATION**
35

36 A. Submittals—General.

- 37 1. A stormwater plan shall be submitted identifying how stormwater runoff
38 originating on the project site or flowing through the project site is presently
39 controlled and how this will change due to the proposed development, re-
40 development, or drainage project. The purpose of the stormwater plan is to
41 determine whether a proposal can meet the requirements set forth in this
42 chapter.
43 2. Applicants proposing any new development or re-development governed by
44 this chapter shall submit the plans, studies, and information as provided
45 herein. If the project site is within the region covered by a basin plan pursuant
46 to this chapter, then the responsible official may waive information

- 1 requirements.
- 2 3. All plans, studies, and reports shall be stamped, signed and dated by a
3 registered professional civil engineer(s) licensed in the state of Washington,
4 and a registered soil scientist, if appropriate, responsible for their preparation,
5 and by the project engineer responsible for preparation of the stormwater
6 plan.
- 7 4. Record drawings.
- 8 a. Record drawings which accurately represent the project site as
9 constructed shall be provided to the county prior to:
10 (1) the issuance of building permits for single-family/duplex residential
11 subdivisions;
12 (2) the issuance of occupancy permits for development subject to site plan
13 review; and
14 (3) within sixty (60) days following completion of construction of other
15 development.
- 16 b. The record drawings shall include corrected engineering plans for the
17 stormwater system, showing constructed dimensions and elevations. In
18 addition, revisions to the final stormwater plan shall be submitted with the
19 record drawings where changes during construction significantly alter the
20 calculations and assumptions contained in the plan.
- 21 c. All plans submitted shall be reproducible and on Mylar.
- 22 d. The record drawing submittal shall be stamped, signed and dated by a
23 registered professional engineer licensed in the state of Washington.
- 24 e. Record drawings shall be submitted on computer disk in one of the
25 following approved file formats: Portable Document Format (.pdf),
26 AutoCAD (.dwg, .dxf), or MicroStation (.dgn).
- 27 f. Record drawings shall clearly indicate the ownership of any stormwater
28 facility and who is responsible for its maintenance.
- 29
- 30 B. Preliminary Stormwater Plan.
- 31 1. A preliminary stormwater plan is required for all new development and re-
32 development not exempted by Section 40.380.010(C).
- 33 2. A preliminary stormwater plan meeting the requirements of this section shall
34 be submitted with the land use application.
- 35 3. The preliminary stormwater plan submittal shall consist of a Preliminary
36 Development Plan and a Preliminary Technical Information Report (TIR)
37 prepared in accordance with the *Stormwater Manual*. The project engineer
38 shall include a statement that all required information is included and that the
39 proposed stormwater facilities are feasible.
- 40
- 41 C. Final Stormwater Plan.
- 42 1. The final stormwater plan is required and must be approved by the
43 responsible official prior to beginning construction related to new
44 development, re-development, or drainage project. The final stormwater plan
45 provides final engineering design and construction drawings in accordance

- 1 with the *Stormwater Manual*.
- 2 2. The final stormwater plan shall include the following:
- 3 a. A final development plan;
- 4 b. A final technical report (TIR);
- 5 c. The approved preliminary stormwater plan with an explanation of any
- 6 differences between the design concepts included in the preliminary and
- 7 final stormwater plans.
- 8 d. A final engineering plans that provide sufficient detail to allow construction
- 9 of the stormwater facilities. These plans shall be stamped, signed and
- 10 dated by registered professional engineer(s) licensed in the State of
- 11 Washington responsible for hydrologic, hydraulic, geotechnical, and
- 12 structural and general civil engineering design, and by the project
- 13 engineer responsible for the preparation of the final stormwater plan.
- 14 Additionally, the final engineering plan shall show all utilities to ensure
- 15 conflicts between proposed utility lines do not exist;
- 16 e. Any easements, covenants or agreements that are necessary to permit
- 17 construction must be included; and
- 18 f. A Construction Stormwater Pollution Prevention Plan (SWPPP).
- 19 3. The final stormwater plan shall be prepared in accordance with the
- 20 *Stormwater Manual*.

21

22 D. Construction Stormwater Pollution Prevention Plan.

23 A construction stormwater pollution prevention plan (SWPPP) prepared in

24 accordance with Volume II, Section 3.3 of the *SMMWW* is required for all

25 development and re-development not exempted by Section 40.380.010(C).

26

- 27 E. Plan Review.
- 28 1. For a land use application requiring a public hearing, the preliminary
- 29 stormwater plan shall be decided on in accordance with the procedures
- 30 applicable to the land use application. All other preliminary stormwater plans
- 31 shall be acted on by the responsible official within the timeline for the
- 32 preliminary land use decision;
- 33 2. The responsible official may waive in writing some or all of the content
- 34 requirements in the preliminary stormwater plan if:
- 35 a. The development activity or drainage project is included in an approved
- 36 final stormwater plan which meets the requirements of this chapter; or
- 37 b. A basin plan exists that supersedes any of the requirements.
- 38 The waiver of some or all of the preliminary stormwater control plan
- 39 requirements does not relieve the applicant of a final stormwater control
- 40 plan.
- 41 3. Variances. For purposes of this chapter, the following requirements shall
- 42 apply with regard to variances:
- 43 a. Type I and Type II (Administrative) Variances.
- 44 The responsible official may grant an administrative variance to the
- 45 numerical standards of this chapter using a Type I or Type II process
- 46 pursuant to Sections 40.510.010 and 40.510.020 prior to permit approval

1 and construction; provided, that the provisions of this chapter are met.
2 These variances deal with the design and construction of facilities, are not
3 limited to any percentage change, and typically include (but are not limited
4 to) the following:

- 5 (1) Conveyance system analysis and design;
- 6 (2) Off-site analysis;
- 7 (3) Materials;
- 8 (4) Facility side slopes;
- 9 (5) Easements;
- 10 (6) Percent of facility made up of retaining wall;
- 11 (7) Fencing requirements;
- 12 (8) Varying from the standard details; and
- 13 (9) The use of LID BMPs not currently included in the *Stormwater Manual*.

14 b. Type III Variances.

15 The responsible official may grant a variance from the requirements of this
16 chapter using a Type III process pursuant to Section 40.510.030 prior to
17 permit approval and construction; provided, that the provisions of this
18 chapter are met. A written finding of fact is required that addresses the
19 following:

- 20 (1) The variance provides for equivalent environmental protection and is in
21 the overriding public interest; and that the objectives of safety, function,
22 environmental protection and facility maintenance, based upon sound
23 engineering, are fully met;
- 24 (2) That there are special physical circumstances or conditions affecting
25 the property such that the strict application of these provisions would
26 deprive the developer of all reasonable use of the property of land in
27 question, and every effort to find creative ways to meet the intent of the
28 requirements has been made, including:
 - 29 (a) the current (pre-project) use of the site;
 - 30 (b) how the application of the Minimum Requirements restrict the
31 proposed use of the site compared to the restrictions that existed
32 prior to the adoption of the Minimum Requirements;
 - 33 (c) the possible remaining uses of the site if the variance were not
34 granted;
 - 35 (d) the uses of the site that would have been allowed prior to the
36 adoption of the Minimum Requirements;
 - 37 (e) a comparison of the estimated percentage of value loss as a result
38 of the Minimum Requirements versus the estimated amount and
39 percentage of value loss of requirements that existed prior to
40 adoption of the Minimum Requirements; and
 - 41 (f) the feasibility for the owner to alter the project to comply with the
42 Minimum Requirements.

- 1 (3) That the granting of the variance will not be detrimental to the public
2 health and welfare, nor injurious to other properties in the vicinity
3 and/or downstream, and to the quality of waters of the state; and
4 (4) The variance is the least possible variance that could be granted to
5 comply with the intent of this section.
6 4. Exceptions for single-family/duplex residential subdivisions.
7 a. The responsible official may approve the issuance of building permits for
8 up to fifty percent (50%) of the lots after the stormwater and road
9 improvements are substantially complete.
10 b. Building permits for model homes may be approved pursuant to Section
11 40.260.145.
12 5. Stormwater plans decisions may be appealed in conjunction with the
13 associated land use application.