No.	Book	Section	Page (errata v.)	Manual or Code language 2015	Replacement language	Reason for update	Corrections /Edits	Mandated	Policy/tech issue	2019 SWMMWW
221	Introduction		9		See manual	Update section on UIC regulations to consider the 2019 SWMMWW guidance.	X			X
320	Introduction		9		The CCSM requires basic treatment for stormwater discharges to UIC wells from pollutant generating surfaces.	Clark County stormwater code and manuals have always required basic treatment for pollutant generating surfaces discharge to Class V wells. This provides a higher level of protection and lengthen the functional life of the wells.	X			
340	Book 1		Multiple			There are dozens of information/guidance boxes in the manual. Each one needs to be reviewed and updated.	X			
340	Book 2		Multiple			There are dozens of information/guidance boxes in the manual. Each one needs to be reviewed and updated.	X			
340	Book 3		Multiple			There are dozens of information/guidance boxes in the manual. Each one needs to be reviewed and updated.	X			
220	all books		multiple	(SMMWW; Department of Ecology, ~~2014~~)	(SMMWW; Department of Ecology, 2019)	Update to refer to equivalence to the 2019 SWMMWW.	X			X
341	1,2 & 4	_Various	Multiple			These books, including Appendix 1-I, contain various Plant List tables. The tables all refer the user to clark.wa.gov/weed for a list of noxious weeds, which may not be used in any facilities. There does not appear to be an equivalent page in the new organizational structure of the Clark County web site. Currently, the link redirects to the Vegetation Management home page.	X			
196	1	1.2.2.	8	Construction of agricultural buildings or other hard surfaces for carrying out agricultural activities; provided, that no stormwater is released from the site directly or indirectly to the County's stormwater conveyance system.	Construction of agricultural buildings or other hard surfaces made of compacted earth materials for the sole purpose of carrying out commercial agricultural activities; provided, that no stormwater is released from the site directly or indirectly to the County's stormwater conveyance system.	The term agriculture is not defined in the manual, leading to confusion about applications of the code to land development that is only strictly associated with a prospective or ongoing commercial agricultural activity.			X	
217	1	1.2.2.	8	silent	Pavement replaced as part of a NPDES permit Structural Stormwater Control project retrofitting existing stormwater facilities.	Some Structural Stormwater Control projects to meet NPDES phase I permit special condition S5.C.7, such as replacing standard catch basins with filter inlets or bioretention installations will often replace existing paved surfaces. The replaced pavement could trigger code as redevelopment. These county projects should be exempt from Chapter 40.386.	X			

335	1	1.3.	10	Approved Continuous Flow Model – Where referenced in this document, this term applies to continuous simulation hydrologic models approved for use in Clark County by the Department of Ecology. The Western Washington Hydrology Model (WWHM) and MGSFlood are the only two approved models for use in Clark County.	Approved Continuous Flow Model – Where referenced in this document, this term applies to continuous simulation hydrologic models approved for use in Clark County by the Department of Ecology. ~~The Western Washington Hydrology Model (WWHM2012) and MGSFlood are the only two approved models for use in Clark County.~~ Ecology-approved models are listed in the Additional Resources pages for the on-line 2019 SWMMWW.	The approved model under NPDES Permit Appendix 10 is the WWHM2012.		X		
368	1	1.3	11	None	Existing hard surface - hard surfaces at a single family residence or duplex created before 2009 or greater than 5,000 square feet of impervious surface on a non-residential site created before 2000."	Adding a definition for existing hard surface provides a basis for deciding when to apply the manual to existing hard surfaces. The phase I permits before the 2007 phase I permit referenced the Puget Sound Manual. The Puget Sound Manual did not apply post-construction BMPs to single family residence and duplex construction. The Puget Sound Manual did apply to all other projects creating more than 5,000 square feet of new or replaced impervious surfaces. Under county code from 2000 and the Puget Sound Manual, all MRs would apply to projects greater than 5,000 square feet except the residential SFR and duplex projects. Under the SWMMWW 2005 adopted by Clark County in 2009, all projects over 2,000 square feet of hard impervious surface would have triggered the manual.			X	
218	1	1.4	16	Silent	Permit (Construction) Time Limit. All permits issued pursuant to the regulations contained in Chapter 40.385 or earlier stormwater code and the 2009 or earlier version of the Clark County Stormwater Manual expire on January 8, 2021, except if approved construction has begun on site before January 8, 2021. Beginning construction means, at a minimum, the site work associated with and directly related to the approved project has begun. For example: grading the project site to final grade, or the installation of utilities. Simply clearing the project site does not constitute the beginning of construction.	This relates to the permit requirement for projects vested under the 2009 or earlier code and manual that have not started construction by January 2021. Section 40.386.010.D. should be added to the manual as a new paragraph at the end of Section 1.4.	X			
183	1	1.4	16	Silent	For purposes of applying the manual thresholds to a proposed single family residential subdivision (i.e., a plat or short plat project), assume 4,000 sq. ft. of hard surface (8,000 sq. ft. on lots of 5 acres or more) for each newly created lot, unless the project proponent has otherwise formally declared other values for each lot in the complete land division application.	The manual is unclear regarding a standard approach for defining the amount of impervious area per lot in residential subdivisions. This language is from the 2019 SWMMWW and was not in the 2014 SWMMWW. This default applies if the designer lacked more accurate information.	X		X	X

401	1	1.4.1	17	The following new development shall comply with Minimum Requirements #1 – #9 for the new and replaced hard surfaces and the converted vegetation areas: Results in 5,000 square feet, or greater, of new plus replaced hard surface area, or • Converts ¾ acres, or more, of vegetation to lawn, or landscaped areas,	The following new development shall comply with Minimum Requirements #1 – #9 for the new and replaced hard surfaces and the converted vegetation areas: Results in 5,000 square feet, or greater, of new plus replaced hard surface area, or • Converts ¾ acres, or more, of vegetation to lawn, or landscaped areas, or • Converts 1 acre or more of vegetation to stabilized soil on projects lacking an approved Final Engineering Plan, or Converts 2.5 acres, or more, of native vegetation to pasture.	Grading permit projects are building projects under Title 14, separate from development projects under Title 40.As such, they are required to meet the requirements of the stormwater manual for post construction BMPs.				
402	1	1.4.2	17	The following new development shall comply with Minimum Requirements #1 – #9 for the new and replaced hard surfaces and the converted vegetation areas: Results in 5,000 square feet, or greater, of new plus replaced hard surface area, or • Converts ¾ acres, or more, of vegetation to lawn, or landscaped areas,	The following new development shall comply with Minimum Requirements #1 – #9 for the new and replaced hard surfaces and the converted vegetation areas: Results in 5,000 square feet, or greater, of new plus replaced hard surface area, or • Converts ¾ acres, or more, of vegetation to lawn, or landscaped areas, or • Converts 1 acre or more of vegetation to stabilized soil on projects lacking an approved Final Engineering Plan, or Converts 2.5 acres, or more, of native vegetation to pasture.	Grading permit projects are building projects under Title 14, separate from development projects under Title 40.As such, they are required to meet the requirements of the stormwater manual for post construction BMPs.				
336	1	1.4.2.	18	Clark County may allow the Minimum Requirements to be met for an equivalent (flow and pollution characteristics) area within the same site. For publicly-funded linear transportation projects, the equivalent area does not have to be within the project limits, but must drain to the same receiving water.	Clark County may allow the Minimum Requirements to be met for an equivalent (flow and pollution characteristics) area within the same TDA ~~site~~. If the equivalent area is outside the TDA, or off site, the equivalent area must drain to the same receiving water and the guidance for equivalent facilities using in-basin transfers must be followed, as detailed in "I-D.6 Regional Facility Area Transfers" in the SWMMWW. For publicly-funded linear transportation projects, the equivalent area does not have to be within the project limits, but must drain to the same receiving water.H26	This change is mandated by the phase I permit.		X		
337	1	1.4.2.1.	17	Other types of redevelopment projects shall comply with Minimum Requirements #1 – #9 for the new and replaced hard surfaces and the converted vegetated areas if the total of new plus replaced hard surfaces is 5,000 square feet or more, and the valuation of proposed improvements – including interior improvements – exceeds 50% of the assessed value of the existing site improvements.	Other types of redevelopment projects shall comply with Minimum Requirements #1 – #9 for the new and replaced hard surfaces and the converted vegetated areas if the total of new plus replaced hard surfaces is 5,000 square feet or more, and the valuation of proposed improvements – including interior improvements – exceeds 50% of the assessed value of the existing project site improvements for commercial and industrial projects or the site for all other projects.	The permit mandates the change to use project site rather than site for valuation criterial. This lowers the bar for when redevelopment is triggered.		X		

404	1	1.4.2.1	19 Figure 1.2	silent	or convert 1 acre or more of vegetation to stabilized soil on projects lacking an approved Final Engineering Plan,	This language is added to clarify that a stormwater site plan is required for grading projects to address MR 1-9 after grading.	X			
405	1	1.4.2.1	20 Figure 1.3	silent	or convert 1 acre or more of vegetation to stabilized soil on projects lacking an approved Final Engineering Plan,	This language is added to clarify that a stormwater site plan is required for grading projects to address MR 1-9 after grading.	X			
383	1	1.4.2.1	20 Figure 1.3	exceed 50 % of the assessed value (or replacement value) of the existing site improvements?	exceed 50 % of the assessed value (or replacement value) of the existing project site improvements improvements for commercial and industrial projects or the site for all other projects?	Required by phase I permit		X		
338	1	1.5.2.2.	23	The SWPPP shall be implemented beginning with initial land disturbance and until final stabilization. Sediment and erosion control BMPs shall be consistent with the BMPs contained in Book 2, Chapter 8.	The SWPPP shall be implemented beginning with initial land disturbance and until final stabilization. Sediment and erosion control BMPs shall be consistent with the BMPs contained in Book 2, Chapter ~~8~~ 9 or the 2019 SWMMWW Volume II, Chapter 3.	The 2019 SWMMWW made many changes to the BMPs. The intent is to reference the 2019 SWMMWW to be consistent with a renewed Construction Stormwater General Permit. Also, by referencing the Ecology BMPs Clark County can forego ongoing maintenance of these BMPs for projects subject to the Ecology construction general permit.	X			X
339	1	1.5.2.2	23	Silent	The applicant may comply with Minimum Requirement #2 at a site covered under the Construction Stormwater General Permit - National Pollutant Discharge Elimination System and State Waste Discharge Permit for Stormwater Discharges Associated with Construction Activity by fully implementing the permit- required SWPPP.	The county manual was adopted before the CSGP was changed to include the current 13 elements, which made the 12 element CSGP SWPPP unacceptable under the 2013 phase I permit, which required the 13 elements in permit Appendix 1. The 13th element is projection for LID BMPs. The 2019 phase I permit Appendix 1 has language allowing use of the CSGP to meet MR #2.	X			
334	1	1.5.5.1	24	1.5.5.1. Project Thresholds	1.5.5.1. Project ~~Thresholds~~ Compliance Options	This section is not about thresholds, it has the LID compliance options.	X			
156	1	1.5.5.1	25	Table 1.1. Silent	"On sites where infiltration BMPs are infeasible or not capable of meeting the performance standard, the project must use List 2."	There are rural large lots where the LID performance standard is infeasible due to site topography and/or geologic media that preclude infiltration. Add language stating that if site conditions make it infeasible to meet the performance standard, the applicant may use LID List 2.	X		X	?
248	1	1.5.8	32	based on the 2014 SWMMWW	See the manual.	Replace 2015 manual language with 2019 permit Appendix 1 language			X	
406	1	1.5.8.4	33	See Manual	See the manual	Removed language in additional requirements referencing erosion control, source control and treatment because they are redundant with MRs.			X	
412	1	1.5.8	36	Figure 1.4	See the manual	Update Figure 1.4 to reflect manual changes. This conforms to the new approach to MR #8.			X	
407	1	1.6.1	38 -43	18" x 24"	~~18" x 24"~~ 12" x 16"	Change the standard stormwater sign size to match current practice.	X			
384	1	1.6.1	38	Silent	Inlet medallions may be used in place of a bioretention sign for bioretention facilities in roads. The medallion must be placed at each facility inlet.	Sign posts in bioretention facilities in streets are a problem for several reasons. A good alternative is to place the standard inlet medallion by each inlet to the facility. Retain the signs for facilities in tracts and parking lots.	X			
408	1	1.6.1	38	(18" x 24")	~~(18" x 24")~~ (12" x 16")	Sign size was reduced several years ago in practice because the 18x24 signs were too large.	X			

386	1	1.6.1	38	Figure 1.7: Standard Clark County Bioretention Sign (12” x 16”)	Figure 1.7: Standard Clark County Bioretention Sign ~~(18" x 24")~~ (12” x 16”). Inlet medallions may be used in place of signs for facilities in roads.	Figure caption update.	X			
387	1	1.6.2	39	Silent as to placement	For fenced stormwater facilities, a sign must be placed at the entrance and on each side facing a road or sidewalk.	Add the standard requirement to place facility signs in the most reasonable manner.	X			
388	1	1.6.2	38	(18 x 24 inches)	~~(18 x 24 inches)~~ (12 x 16 inches)	The standard bioretention sign is too big.	X			
390	1	1.7	46	development or redevelopment site	development or redevelopment project ~~site~~	Clarify that the site plan is for the project site.	X			
391	1	1.8.1	47	All plans, studies, and reports that are part of the Preliminary Stormwater Plan shall be signed and dated by the professional civil engineer(s)	All plans, studies, and reports that are part of the Preliminary Stormwater Plan shall be ~~signed and dated~~ stamped by the professional civil engineer(s)	State law (WAC 196-23-020) does not require preliminary documents to be signed or dated.	X			
331	1	1.8.1.3	49	7. Locations of proposed pervious surfaces. Locations of proposed structural source control BMPs in accordance with Minimum Requirement #3.	7. Locations of proposed pervious surfaces. Locations of proposed structural source control BMPs in accordance with Minimum Requirement #3. Include BMP number and name from Book 3.	The section does not include the requirement to cite all BMPs by number and name used in the CCSM. It is added to ensure that reviewers and asset management staff receive the correct BMP identification.	x			
343	1	1.8.1.3	49	9. Areas of the project site where on-site stormwater management BMPs will be located in accordance with Minimum Requirement #5. This includes, but is not limited to, areas of retained native vegetation, location of retained or new trees to be used for surface reduction credit, and required flow paths and lengths of dispersion BMPs.	9. Areas of the project site where on-site stormwater management BMPs will be located in accordance with Minimum Requirement #5. This includes, but is not limited to, areas of retained native vegetation, location of retained or new trees to be used for surface reduction credit, and required flow paths and lengths of dispersion BMPs. Include BMP number and name from Book 2.	The section does not include the requirement to cite all BMPs by number and name used in the CCSM. It is added to ensure that reviewers and asset management staff receive the correct BMP identification.	x			
344	1	1.8.1.3	49	10. Approximate location and size of proposed runoff treatment and flow control facilities.	10. Approximate location and size of proposed runoff treatment and flow control facilities. Include BMP number and name from Book 2.	The section does not include the requirement to cite all BMPs by number and name used in the CCSM. It is added to ensure that reviewers and asset management staff receive the correct BMP identification.	x			
332	1	1.8.1.5 Section B	51	This section shall discuss how each Minimum Requirement applicable to the project (as identified in Section A.2) will be met.	This section shall discuss how each Minimum Requirement applicable to the project (as identified in Section A.2) will be met. Use the CCSM BMP number and name when discussing BMPs.	The section does not include the requirement to cite all BMPs by number and name used in the CCSM. It is added to ensure that reviewers and asset management staff receive the correct BMP identification.	x			
211	1	1.8.1.5	55	None	13. The 1996 flood aerial photograph from Clark County MapsOnline if the GIS depth to water map shows groundwater depth is less than 20 feet.	Including the 1996 flood photos in the preliminary plan alerts the applicant and county staff that there could be problems with shallow groundwater in wet years.	X			

203	1	1.8.2.	56	None	6. A plan sheet showing the entire stormwater drainage system on a single sheet to facilitate mapping assets in the GIS and Construction Inspection. Each BMP must be identified using the BMP number from Book 2.	Some projects submit multi-page construction plans that make it very difficult to map the infrastructure conveyance system.	X			
171	1	1.8.2.2	57	None	10. Catchment areas for each Stormwater Treatment and Flow Control BMP.	Add language to clearly state that the stormwater design include the facility catchment boundary. This facilitates mapping.	X			
103	1	1.8.2.3.	62	None	For private facilities in residential subdivisions, provide an estimate of the average annual operation and maintenance cost for facilities owned by an HOA. This will give the HOA a basis for collecting revenue to maintain the facility in accordance with Clark County's NPDES permit requirements.	The manual does not include any requirement to estimate the long-term cost to maintain and potentially replace facilities. In particular, privately owned facilities dedicated to HOAs. Examples exist where underground facilities could cost hundreds of thousands of $ to replace. There should be a mechanism to identify a yearly HOA revenue stream needed to maintain the facilities in perpetuity. Clean Water has some simple models to estimate maintenance but not replacement. Guidance should be provided in this area.			X	
132	1	1.8.2.3	62	Silent	Include a planting maintenance plan to ensure that plantings survive the two-year applicant maintenance period.	Include language to require plant maintenance plan during the 2-year developer maintenance period.	X			
189	1	1.8.6	68	3. The issuance of occupancy permits for development subject to site plan review.	3. The issuance of occupancy permits for development subject to site plan review or building permits for residences with Stormwater Treatment and Flow Control BMPs.	This language is needed to ensure record drawings are produced so that BMPs are correctly entered into StormwaterClk. This would only apply to projects with engineered facilities.	X			
136	1	1.9.2	70	None	Applicants must follow county policy for conveyance of open space, critical areas, undevelopable remnant lands, and stormwater tracts in Appendix 1-K.	The reference to county policy on land dedications provides clarity for development projects.	X		X	
187	1	1.9.3.2.	72	The Applicant for a residential subdivision or a site plan review shall submit a "Covenant Running With the Land" (Stormwater Covenant) to Clark County that specifies the responsibility for stormwater facility maintenance, and the Responsible Official shall review and approve the Stormwater Covenant, after which it shall be recorded with the Clark County Auditor.	The Applicant for a residential subdivision, single family residence or other building project having stormwater treatment and flow control BMPs or a site plan review shall submit a "Covenant Running With the Land" (Stormwater Covenant) to Clark County that specifies the responsibility for stormwater facility maintenance, and the Responsible Official shall review and approve the Stormwater Covenant, after which it shall be recorded with the Clark County Auditor.	Projects that are single family residences with MR 1-9 need a maintenance covenant requirement in the manual.	X			

200	1	1.9.3.4	73	rain garden BMP	~~rain garden BMP~~	This requirement should only apply to engineered BMPs and not include rain gardens.	X			
409	1	1.9.4.3	75	The preserved area(s) for BMP T5.30A Full Dispersion and BMP T5.40 Preserving Native Vegetation shall be placed in a separate tract or protected through recorded easements for individual lots.	For land divisions and site plans, the preserved area(s) for BMP T5.30A Full Dispersion and BMP T5.40 Preserving Native Vegetation shall be placed in a separate tract or protected through recorded easements for individual lots. For individual residences or other building projects on existing lots, the dispersion area must be included in a covenant running with the land to preserve it.	The practice is to place a covenant on the dispersion area for projects triggering MR 1-9. Projects triggering only MR 1-5 have no maintenance requirement	X			
303	1	2.3	86	2.3. Soil Assessment	2.3. Soil Assessment for Engineered Stormwater Plans	Add the words "for engineered site plans" to the section heading to clarify when it is needed.	X			
106	1	2.3.5	92	or	~~or~~ and	Make the change at the top of page 90 to include GIS and well data. Some applicants use the current language to justify inadequate submittals to determine site groundwater depth.	X		X	
233	1	2.4	92	Silent	Critical areas code provides protection of tree species.	Added this to the competing needs infeasibilty list to include 2019 manual language.	X			X
371	1	3.4.6.	141		Contech Stormfilter Phosphosorb media	Update the proprietary BMP to include this common filter type.	X			
8	1	3.4.7.1.	142	The general use level designation (GULD) confers a general acceptance for the specified applications (land uses). General Use Level Designation BMPs may be used for new development, redevelopment, or retrofit situations anywhere in Washington, subject to conditions that Ecology places within the Use Designation document.	The general use level designation (GULD) confers a general acceptance for the specified applications (land uses). General Use Level Designation BMPs may be used for new development, redevelopment, or retrofit situations anywhere in Washington, subject to conditions that Ecology places within the Use Designation document and acceptance of the BMP by the permitting municipality.	Add language to clarify required acceptance by permitting municipality.	X			
298	1	4.3.1.	148	Silent	All UIC wells receiving runoff from pollutant generating surfaces are required to have basic treatment. All underground infiltration BMPs receiving runoff from surfaces other than pollutant generating must have a pretreatment BMP.	Add a note here stating that all UIC wells that receive runoff from PG surfaces are required by Clark County to be fitted with basic treatment BMPs.	X			

347	1	4.3.1.1.	149	Ecology's UIC guidelines, as found in Guidance for UIC wells that manage stormwater (Ecology 2006), provides information on provides information on what is classified as a UIC, provides design information that must be followed for UIC installation, and provides information on requirements to meet the Non-endangerment Standard.	Ecology's UIC guidelines, as found in ~~Guidance for UIC wells that manage stormwater (Ecology 2006)~~, Stormwater Management Manual for Western Washington (2019), Chapter I-4, provides information on what is classified as a UIC, provides design information that must be followed for UIC installation, and provides information on requirements to meet the Non-endangerment Standard.	Chapter I-4 of the 2019 SWMMWW should be referenced in the CCSM.	X			X
286	1	5.2.1	162	Silent	The project engineer shall make a finding on the downstream conveyance suitability to accept flows from the proposed project based on the qualitative analysis.	Add a statement that the qualitative analysis must include a finding on whether the downstream conveyance is adequate to accept flows from the project.	X			
250	1	6.1.1	167	For more information on the impacts of erosion and sediment on the environment and how erosion occurs, see Volume II, Section 1.4 of the Stormwater Management Manual for Western Washington (Ecology 2014)	For more information on the impacts of erosion and sediment on the environment and how erosion occurs, see Volume II, ~~Section 1.4~~ Chapter II-1 of the Stormwater Management Manual for Western Washington (Ecology ~~2014~~ 2019)	Reference the 2019 manual for more info on EC issues.	X			X
224	1	6.1.1	168	Silent	• Alternately, the BMPs listed in 2019 SWMMW Volume II, Chapter 3 may be used to complete a SWPPP.	Update this section to reference the 2019 SWMMWW BMPs.	X			X
372	1	6.1.2	165	Silent	Clark County allows development and redevelopment projects to meet minimum requirement #2 by either using the standards of this Chapter or the SWPPP created to meet requirements of the Ecology Construction Stormwater General Permit.	Clark County intends to allow either compliance with the county manual or the use of the CSGP SWPPP for compliance with MR #2. This allows applicants to prepare a single SWPPP to meet county requirements and the CSGP requirements. It also retains the county BMPs for projects under an acre.	X		X	
351	1	6.1.2	170	Table 6.1	Deleted table	The table lists things the applicant should do to meet state construction permit. This should not be in the county manual.	X			
352	1	6.2	168	See Manual	See manual for removed reference to Table 6.1 and associated text.	Table 6.1 is not needed to implement the manual or the Construction General Permit.	X			
376	1	6.3	171	Silent	Use Sections 6.3, 6.4, and 6.5 if the project is not developing a SWPPP to meet requirements of the CSWGP.	There are several options for completing the SWPPP. If the applicant has got this far, they will not be using the short form in Appendix J, using either the manual or the CSGP.	X			X
353	1	6.4.	Multiple	Current language	See the manual.	The manual is updated to include the Construction General Permit revisions required by the NPDES Phase I Permit.		X		X

163	1	1-A	A-2	Silent	Approved Continuous Flow Model – Where referenced in this document, this term applies to continuous simulation hydrologic models approved for use in Clark County by the Department of Ecology. Ecology-approved models are listed in the Additional Resources pages for the on-line 2019 SWMMWW.	The glossary does not include the definition for approved continuous model	X			
215	1	App. 1-A	A-17	Silent	Existing hard surface means “a single family residence or duplex created before 2009 or greater than 5,000 square feet of impervious surface on a site existing in 2000."	Adding a definition for existing hard surface provides a basis for deciding when to apply the manual to existing hard surfaces. The phase I permits before the 2007 phase I permit referenced the Puget Sound Manual. The Puget Sound Manual did not apply post-construction BMPs to single family residence and duplex construction. The Puget Sound Manual did apply to all other projects creating more than 5,000 square feet of new or replaced impervious surfaces. Under county code from 2000 and the Puget Sound Manual, all MRs would apply to projects greater than 5,000 square feet except the residential SFR and duplex projects. Under the SWMMWW 2005 adopted by Clark County in 2009, all projects over 2,000 square feet of hard impervious surface would have triggered the manual.	X		X	
356	1	Appendix 1-A	A-25	Silent	Indirect discharge means discharging to the MS4 through a man-made-conveyance not owned or operated by Clark County.	This defines indirect discharge in a manner that can be enforced based on land ownership and topography. Consider that a site discharge leaving a property and not entering a created conveyance system ceases to be stormwater runoff and becomes solely waters of the state under RCW 90.48.	X			
299	1	Appendix 1-E	E-2		Please refer to the draft manual Appendix 1-E	The appendix instructions refer to tables Book 1 3.1, 3.2, and 3.3. The appendix should reference 2.1, 2.2, and 2.3 of Chapter 2.	X			
138	1	appendix 1-G	9		See Appendix G	PW developed a boiler plate covenant for residential T5.30 dispersion areas on MR 1-9 projects.	X			
194	1	Appendix 1-G	19	none	See Appendix G	The manual lacks guidance on plat language for stormwater facility ownership.	X			
359	1	Appendix 1-H	H-1	All of Appendix 1-H	See the CCSM	Appendix I-C from the SWMMWW replaces the previous Appendix from the 2014 SWMMWW.		X	X	
361	1	Appendix 1-I	multiple	See pages I-1 to I-8	See pages I-1 to I-8	There are numerous simple edits for clarity in the hard copy of Appendix 1-I manual that include removing language not relevant to small projects and highlighting important instructions.	X			
65	1	Appendix 1-I	I-81	Table 2	See the manual.	There is a need for a raingarden/bioretention plant list that works locally.	X			
284	2	1	Multiple		See Chapter 1	Chapter 1 has numerous references to modeling analysis that may have changed since the 2014 manual.	X			X
162	2	1.3.2	9	Outdated reference to status of the Clark County WWHM and WHMM 3.	See Book 2	Outdated references to WWHM models.	X			
379	2	1.3.2	9	Box referring to the draft Clark County WWHM	Remove the box	The Clark County calibration was under review when the manual was published in 2015	X			

379	2	1.3.2	9		The most recent WWHM version includes the standard WWHM and a version specific to Clark County. Either of these versions is acceptable.	List the most recent version of the WWHM. Add a paragraph before the discussion of the Clark County stuff.	X			
413	2	1.3.2	11	pasture	~~pasture~~ field	The Clark County WWHM uses the term field instead of pasture.	X			
392	2	1.3.2	11	Silent	Refer to Appendix 1-B for the alternative pre-development land cover for parts of Mill Creek basin.	Reference Appendix 1-B Mill Creek alternative flow control standard.	X			
139	2	2	Multiple	LID setbacks	An LID BMP can be considered infeasible if a setback is not possible to meet.	In the SWMMWW, setbacks for LID are chiefly infeasibility criteria. Clark County's manual has also placed the infeasibility setbacks in the design standards as standard setbacks.	X			
393	2	2	22	silent	Add the USDA texture table to the manual	The manual references the USDA sediment sizes by name, not particle size.	X			
93	2	2	22	(defined as a particle size of 2mm or greater in accordance with ASTM D422-63 particle size analysis)	~~(defined as a particle size of 2mm or greater in accordance with ASTM D422-63 particle size analysis)~~	The manual references an ASTM particle size not used in the manual. The second bullet under drywells. In the bullets, remove references to ASTM particle size to be consistent with the use of the USDA size categories referenced earlier in BMP and in the SWMMWW.	X			
3	2	2	22	Silent	o If located in very fine to fine sand: 225 cubic feet per 1,000 square feet of roof area. o If located in loam (defined as having no more than 20 percent clay and greater than 40 to 50 percent sand): 375 cubic feet per 1,000 square feet of roof area.	Downspout Full Infiltration Drywells lacks minimum volume of gravel required for use in soils other than coarse sand, cobbles, and medium sands even though they are allowed for use in loam. Clark County believes the original intent in the Ecology manual was to allow trenches in silty soils but only allow drywells in sand.	X			
123	2	2	26	silent	• Do not place utilities or sewer lines in the infiltration trench.	An example came up where a building permit project placed a sewer or water line in an infiltration trench.	X			
199	2	2	28	Figure 2.3	Delete figure 2.3.	Figure 2.3 of Book 2 seems to conflict with the written text. Remove the figure because the setbacks and design criteria are fine and the SWMMWW does not have a comparable figure.	X			
315	2	2	28	50 feet from the top of any slope over 15%. This setback may be reduced to 15 feet based on a geotechnical evaluation.	50 feet from the top of any slope over 15%. This setback may be reduced to 15 feet based on a geotechnical evaluation. The flow path must remain at 25 feet.	The design criteria allow for shortening the 50-foot flow path above a steep slope based on a geotech report. This creates confusion about the total flow path length for some designers. There should be a statement about the minimum flow path length when a steep slope flow path is reduced. It would be 25 feet of total flow path length. It makes sense to retain the 25 foot flow path including the steep slope.	X			

394	2	2	31	Until that time, in situations where multiple downspout dispersions will occur, the roof area can be modeled as a landscaped area (where the 50 foot flow path requirement is met), or as 50% landscape/50% lawn (where a gravel trench is used to disperse into a vegetated area with a 25 to 50 foot flow path) so that the project schematic in the approved continuous flow model is manageable.	Until that time, in situations where multiple downspout dispersions will occur, the roof area can be modeled as a landscaped area (where the 50 foot flow path requirement is met), or as 50% landscape/50% ~~lawn~~ impervious (where a gravel trench is used to disperse into a vegetated area with a 25 to 50 foot flow path) so that the project schematic in the approved continuous flow model is manageable.	There is a typographical error using lawn for impervious	X			
140	2	2	34	Silent	If site conditions make a perforated stub-out infeasible due to setbacks, a tight line may be used.	BMP T5.10D: Building sites are sometimes impossible to fit with feasible roof drain LID BMPs. The list ends at perforated stub out leaving reviewers uncertain of the best option. If all are infeasible, the applicant should be able to use any legal option.	X			
395	2	2	34	Silent	• If site conditions make a perforated stub-out infeasible due to setbacks, a tight line may be used.	Added to language to the perforated stubout design to allow a pipe if the stubout is infeasible.	X			
380	2	2	37	Do this in WWHM 3 on the Mitigated Scenario screen by entering the dispersed impervious area into one of the entry options for dispersal of impervious area runoff. For procedures in WWHM2012 See Appendix C.	~~Do this in WWHM 3 on the Mitigated Scenario screen by entering the dispersed impervious area into one of the entry options for dispersal of impervious area runoff. For procedures in WWHM2012 See Appendix C.~~	Correct the reference to the WWHM	X			
381	2	2	40	This is done in the WWHM3 on the Mitigation Scenario screen by entering the dispersed impervious area into one of the entry options for dispersal of impervious area runoff	~~This is done in the WWHM3 on the Mitigation Scenario screen by entering the dispersed impervious area into one of the entry options for dispersal of impervious area runoff.~~	Correct the reference to the WWHM	X			
202	2	2	41	None	BMP T5.13 is not required inside roof driplines.	T5.13 should not be required under roof driplines. Add language to the T5.13 design criteria that does not require it inside of roof driplines. Make the edit under the applicability, limitations and setback section on page 42.	X			
11	2	2	42	includes stockpiling "duff and topsoil"	"duff if present and topsoil"	Duff is not present at most development sites which are generally pastures.	X			
12	2	2	43	The resulting soil should be conducive to the type of vegetation to be established.	The resulting soil should be conducive to the type of vegetation to be established, such as compacting soil in preparation for turf.	To avoid problems with too soft soil, add language noting that soil can be prepared for use as turf or landscaped plantings.	X			
366	2	2	52	Table 2.2	See the manual.	There is a need for a raingarden/bioretention plant list that works locally..	X			

14	2	2	56	A rock pad at the inlet for energy dissipation.	~~A rock pad~~ concrete pad at the inlet for energy dissipation.	Clark County no longer allows for rock splash pads in bioretention facilities due to difficulty cleaning them.	X			
396	2	2	70	table 2.3	See manual for text changes.	Remove plants and update text as directed by Julie Christian.	X			
144	2	2 and 5.1.2.	75	Silent	At the time each bioretention facility or linear bioretention facility is constructed, each facility must be tested to verify the infiltration rate meets design standards. For linear facilities, one infiltration test is required for every fifty feet of facility length. The test must use ASTM D 3385 - Standard Test Method for Infiltration Rate of Soils in Field Using Double-Ring Infiltrometer.	Post construction testing for bioretention is needed.	X		X	
411	2	2 and 5.1.2.	75	Silent	Before warranty bond release, each bioretention facility must be tested to verify adequate infiltration rates. Linear facilities must be tested once for every fifty feet of length. The test must use ASTM D 3385 - Standard Test Method for Infiltration Rate of Soils in Field Using Double-Ring Infiltrometer.	Post construction testing for bioretention is needed for maintenance and performance bonds.	X		X	
168	2	2	77	Silent	Due to the high risk for failure, permeable asphalt pavement is not allowed for use as wearing surface in travel lanes for Clark County right-of-way where any infeasibility criterion exists.	Some development projects are using permeable pavement where it is deemed infeasible due to ADT. Add language baring permeable pavement with ROW ADT greater than 400.	X		X	
146	2	2	77	Silent	Permeable asphalt is not allowed for paved surfaces dedicated to Clark County roads. Where permeable pavement is feasible, the project must meet the LID performance standard using standard infiltration BMPs or use an alternative permeable pavement.	Locally, there continues to be large problems with the installation of permeable asphalt. Projects fail post installation testing or disaggregate. Require that the performance standard be met for ROW to avoid permeable pavement when permeable pavement is feasible.	X		X	
317	2	2	81	and the underlying geotextile material	~~and the underlying geotextile material~~	The section on Separation or Bottom filter references the use of geotextile fabric. This language conflicts with the prohibition on geotextile for this purpose.	X			
397	2	2	82	Silent	Driveways that are not an engineered treatment or flow control BMP must have a six-inch thick aggregate base.	Base design does not specify thickness for MR 1-5 projects. Add a bullet.	X			
398	2	2	101	Silent	For land divisions and site plans, the preserved area(s) for BMP T5.30A Full Dispersion and BMP T5.40 Preserving Native Vegetation shall be placed in a separate tract or protected through recorded easements for individual lots. For individual residences on existing lots, the dispersion area must be included in a covenant running with the land to preserve it.	Clarifies the need for a preserved area for projects that are subdivisions and site plans and the need for a dispersion area covenant for single family home building on rural lots.	X			

195	2	2	110	third bullet: Less stringent ratios of sending land and receiving land and receiving land uses may be submitted, with supporting modeling results showing flow control requirements are satisfied for the site.	~~Less stringent ratios of sending land and receiving land and receiving land uses may be submitted, with supporting modeling results showing flow control requirements are satisfied for the site.~~ Where a development has less than 75 percent of a site available to maintain or create into a pasture/cropland, that area may still be used for full dispersion of a portion of the developed area. The ratio of the pasture/cropland to the impervious area, which is dispersed to the pasture/cropland, must not be less than 75 percent to 15 percent.	The stated alternative to the pasture and crop land site percentage requirement is not possible to model, rendering it pointless. The added language is similar to the standard for full dispersion to native vegetation.	X			
399	2	2	111	• There shall be a minimum 3-foot depth to the average annual maximum groundwater elevation.	~~• There shall be a minimum 3-foot depth to the average annual maximum groundwater elevation.~~	The requirement for an average of 3 foot depth to water is infeasible to demonstrate. Also, removing this criterion removes a barrier to using full dispersion due to the cost of geotech reports.	X			X
288	2	2	117		See manual for text changes.	BMP T5.41 has outdated information in references. Remove the outdated reference material and replace it with something current if possible. It was removed from the Ecology manual.	X			X
188	2	3	Multiple	No single fence language section	See new Chapter 8	The 2015 manual fence requirements are placed in detention facility design standards and are not aimed at all facility types. There should be a section devoted to fence requirements. Categories are fence for attractive nuisance issues, controlling access, and wall safety. Apply as determined by legal and policy to private and public facilities. Include language for SFR projects too.	X			
363	2	4	204	None.	See the draft manual for the new language.	The WSDOT compost amended biofiltration swale is not included in the county manual. Add it as BMP T9.15 Compost Amended Biofiltration Swale (CABS)	X			
289	2	4	211		See the manual for edits	BMP T9.40 title and text is called "basic filter strip" and should be changed to "vegetated filter strip" for consistency with SWMMWW, EW manual and WSDOT manual.	X			X
204	2	4	224		See the draft manual for moved language on wetpond access	Access information is in the setbacks section. Access standards are moved to the design standards.	X			
102	2	4	247	None	See the manual for updates.	Establish a numbering convention for proprietary BMP. For example T12.10 - Stormfilter ZPG.	X			
400	2	5.2	255	None	See the manual for updates.	The manual did not include the prohibited stormwater discharges listed in the 2019 UIC guidance in the SWMMWW.	X			

242	2	5.2	261	No language on vertical separation for infiltration basins.	The infiltration basin base must be ≥ 5 feet above the seasonal high-water mark, bedrock (or hardpan) or other low permeability layer. A separation down to 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 site professional to be adequate to prevent overtopping.	The SWMMWW SSC-5 for infiltration facilities is 5 feet with 3 feasible. This was an omission in the 2015 manual. Add it to the design criteria.	X	X		X
206	2	6.1.4.1.	267	None	The riser must be attached to the manhole using two straps, on above and one below the outlet.	Only having one pipe support allows pipes to move and break loose. Figure 6.1 shows only 1 pipe support above the outlet pipe. Faculty maintenance inspectors suggest adding one below the outlet pipe.	X			
290	2	6	279	Detention ponds on school sites must comply with safety standards developed by the Department of Health (DOH) and the superintendent for Public Instruction (SPI). These standards include what is called a 'non-climbable fence.' One example of a non-climbable fence is a chain-link fence with a tighter mesh, so children cannot get a foot-hold for climbing. The designer should consult the DOH's Office of Environmental Programs.	~~Detention ponds on school sites must comply with safety standards developed by the Department of Health (DOH) and the superintendent for Public Instruction (SPI). These standards include what is called a 'non-climbable fence.' One example of a non-climbable fence is a chain-link fence with a tighter mesh, so children cannot get a foot-hold for climbing. The designer should consult the DOH's Office of Environmental Programs.~~	Remove entire paragraph including the reference to DOH regarding the fencing requirements around detention ponds because they do not have the guidance the manual indicates. Also, schools will regulate how facilities are fenced. Renumber the bullets	X			X
188	2	8	315	No single fence language section	Added Chapter 8	Fence requirements are placed in detention facility design standards and are not aimed at all facility types. There should be a section devoted to fence requirements. Categories are fence for attractive nuisance issues, controlling access, and wall safety. Apply as determined by legal and policy to private and public facilities. Include language for SFR projects too.	X			
268	2	9	369	See 2015 manual	See draft manual	BMP C154 Concrete Washout Facilities is updated to 2019 SWMMWW. Required by NPDES permit Appendix 10.		X		X
315	2	Appendix B	B-1	Language for WWHM and WWHM3	See the manual	This appendix has outdated information about the WWHM. Replace with 2019 SWMMWW information. Removed text and referred to the Ecology manual.	X			X
316	2	Appendix 2-C	C-1	Guidance for use of WWHM3	See the manual.	The 2021 Clark County manual will not include the use of the WWHM3. References to WWHM3 are removed from the appendix, retaining the WWHM12 discussion.	X			X

216	3	2.1	10	For the temporary storage of solid wastes contaminated with liquids or other potential polluted materials use dumpsters, garbage cans, drums, and comparable containers, which are durable, corrosion resistant, non-absorbent, non-leaking, and equipped with either a solid cover or screen cover to prevent littering	For the temporary storage of solid wastes contaminated with liquids or other potential polluted materials use dumpsters, drop boxes, garbage cans, drums, and comparable containers, which are durable, corrosion resistant, non-absorbent, non-leaking, and equipped with either a solid cover or screen cover to prevent littering	f	X			
295	4		2	Silent	Many defects listed in this Book are not specifically related to facility performance to treat pollutants and control runoff rates. The presence of a defect that does not hinder treatment, flow control, or public safety is not a violation of county code.	Revise the introduction to maintenance tables to ensure it is clear that not all are required, it is up to inspector to determine what is a functional maintenance requirement. Make it separate paragraph on page 2.	X			X
4	4		84	None	See Book 4.	Add maintenance standards for the Filterra-like BMPs..	X			
4	4		88	see Book 4	See Book 4.	Update plant list to match Book 2.	X			
107	13.26A				13.26A.025.A.3. Connections to the county storm sewer system made in violation of county stormwater and erosion control standards are a prohibited discharge.	The county lacks a strong enforcement mechanism for projects built in violation of 40.386. Enforcement through Title 32 is slow and lacks significant disincentives for failure to speedily work through the development process. 13.26A provides a mechanism to threaten criminal penalties. Clear authority to enforce NPDES permit requirements reduces the risk of an ongoing presence of a connection to the MS4 in violation of the permit stormwater control standards.			X	
208	13.26A.005.B.4.			Phase I NPDES municipal stormwater permit that became effective August 1, 2013 (amended December 2014) and is due to expire July 31,2018, for Clark County.	Phase I NPDES municipal stormwater permit ~~that became effective August 1, 2013 (amended December 2014) and is due to expire July 31,2018, for Clark County~~.	By citing the permit generically, it will never become outdated. The permit is reissued every ~ 5 years and continuously remains in effect.	X			
319	40.386.010.C (7)			silent	7. Pavement replaced as part of a NPDES permit Structural Stormwater Control project retrofitting existing stormwater facilities.	Some Structural stormwater control projects such as inlet replacements with filter vaults or bioretention replace existing paved surfaces, which can trigger code as redevelopment. Clearly this is not the intent of the stormwater code or Appendix 1 of the permit. These county projects should be exempt from Chapter 40.386.	X			

365	40.386.010.C.2.			Construction of agricultural buildings or other hard surfaces for carrying out agricultural activities; provided, that no stormwater is released from the site directly or indirectly to the county's stormwater conveyance system.	Construction of agricultural buildings or other hard surfaces for the sole purpose of carrying out commercial agricultural activities; provided, that no stormwater is released from the site directly or indirectly to the county's stormwater conveyance system.	The code exemption for agricultural buildings and hard surfaces that do not drain to the MS4 does not conform to the definition of commercial agriculture in the manual and state law. This raises problems for projects where the applicant builds roads on rural lands as a part of a development project. While the manual does not require the minimum requirements to be applied to agricultural hard surfaces not connected to the county storm system, the broad definition causes problems for interpreting what is actually a commercial ag-related project.	X		X	
2	40.420.	40.420.020 A.2.c		Silent	Any reduction of existing conveyance capacity, and any net loss of existing storage capacity for the base flood, are prohibited in FEMA Special Flood Hazard Areas (SFHA) unless certification by a licensed professional engineer registered in the state of Washington is provided demonstrating through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that any floodplain encroachments shall not result in any increase in flood levels during the occurrence of the base flood. This prohibition also applies to all areas within the limits of the FEMA Special Flood Hazard Area (SFHA), as determined by hydrologic/hydraulic computations, for all streams and manmade channels. Compensatory storage provided to offset any loss of flood storage capacity must hydraulically equivalent to the areas where flood storage is reduced.	Per Paul Rudwick requests and as reviewed by Chris Cook in the PA's office. Places code language where it should be in the flood plain regulations along with stormwater manual.	X			