

CRS Activity 450: Stormwater Management

Activity 450 within the Community Rating System (CRS) is focused on preventing increases in flood frequencies, durations, peak flows, sediment and negative impacts on water quality. Activity 450 (Stormwater Management) is based on the principle that handling increases in stormwater due to changes in land use are best handled on-site by the developer at the time of development in combination with community efforts on a watershed basis to prevent loss of life and property damage. These credited activities focus on preventing an increase in risk to existing structures, future structures, and the erosion and sedimentation of streams.

Focus of this checklist. This checklist is for proper documentation of Stormwater Management Regulations (SMR) which includes sub-elements SZ, DS, LID and PUB and Watershed Management Planning (WMP). It does not discuss the documentation requirements for ESC or WQ.

- Size of development (**SZ**) is aimed at crediting the community for maximizing the types of development subject to on-site quantity control. (110 points)
- Design storms (**DS**) looks at the storm events used by the community to determine compliance with their no increase in peak flow and/or volume caused by new development. (225 points)
- Low impact development (**LID**) credit is provided for requiring the use of LID techniques to the maximum extent possible to reduce all design storms from the site prior to providing detention to meet the standards. (25 points)
- Public maintenance of required facilities (**PUB**) ensures that the community has the right to inspect and force maintenance by private owners of storage facilities that were required to meet the requirements of SZ and DS. (20 points)

The community must receive some credit for both SZ and DS in order to receive any credit under Activity 450 SMR or WMP. For more details, refer to the 2017 *CRS Coordinator's Manual*.

If you have any questions concerning the following checklist, please contact Dave Carlton at dave@dkcarlton.com or by phone at 206-604-7533.

Activity 450 (Stormwater Management) Documentation Checklist

- NEW APPLICATION MODIFICATION CYCLE DOCUMENTATION

Provide this checklist and the following for each item checked:

- (1) A thumb drive with a **searchable** pdf of each document submitted including a short description of your regulations and when you require onsite detention or retention of increased flows. Note the file name and the appropriate pages and section numbers for each element, or
- (2) The URL for on-line documents with the appropriate pages and exact section numbers noted, or
- (3) A paper copy of the documents with the appropriate acronym marked in the margin were the requirements for SZ, DS, LID and PUB are found.
- (4) If the community wants credit for the stormwater programs of upstream communities include documentation for each of the communities.

	Stormwater Manager	CRS Coordinator
Name		
Title		
Address		
Phone		
E-mail		

Form Completed By: _____ Date: _____

Comments:

Please provide the results of the three area calculations requested below and a map showing the watersheds. If no areas are provided, the maximum impact adjustment for a county, parish or borough is **0.50** and for a smaller entity is **0.25**. Determining these adjustments will require identifying the area affected by your standards, the standards of other communities in the watershed, and the area of all watersheds impacting the community.

- (1) The area of your community. _____
- (2) The area of all watersheds impacting your community. _____
- (3) The area of each upstream community with creditable activities _____

Activity Credit Criteria and Documentation

Credit criteria for this activity are described in detail in Section 452.a of the *CRS Coordinator's Manual*. There is no need to submit more than one copy of a design manual or regulatory section if it can be used to document separate sub-elements. Instead, in each section clearly indicate where to find the desired criteria, SZ and exemptions for instance. Submission of a short, written description of your program is helpful.

Stormwater Management Regulation (SMR):

Citation

1. Does the community have a regulation that requires new development to not increase runoff from the pre-development levels? Please provide a short, written description of your program describing what types of development are required to not increase flows leaving the site and what storms are used to determine the developer has met your standard. _____

If there is no requirement, SMR = 0 and WMP = 0.

2. Size of Development (SZ) documentation. _____
 Attach a copy of the regulation or design manual that requires new development to provide onsite controls that ensure the **post-development flows from the site are no greater than the pre-development flows**. Highlight the section that shows what kinds of development are subject to the requirement and what kinds of development are exempt from the requirement, or give the exact location of each appropriate section of your code or manual. In many communities all development greater than one acre is required to comply, or all development except a single family residence. For instance, Section 16.1.A(2) of the Land Development Code is acceptable, whereas Section 16 of the LDC is not.

If development larger than 5 acres or new impervious surface greater than 20,000 square feet is exempt from stormwater management regulation, there is no credit for SMR.

SMR = 0 and WMP = 0.

3. Design Storm (DS) documentation. _____
 Attach a copy of the regulation or design manual that describes the event(s) the developers engineer must use to demonstrate that the post-development flow will be no greater than the pre-development flow for the area being disturbed. If you do not require control of the 10-year or less frequent event on-site there is no credit. Highlight the specific requirement, or give the exact location of the requirement – example: *Section 16.7.A of the Land Development Code*.

If the design storm is less than the 10-year, SMR = 0 and WMP = 0.

- 4. Required Examples. _____
Attach copies of five drainage reports prepared by the developers engineer that show the post-development flows for each required design event are no greater than the pre-developed flows for the area being disturbed. There must be a clear description of the pre-development peak flows in comparison to the post-development peak flows for each required event. Copies of neither the actual models or plan sheets is necessary.

- 5. Low Impact Development (**LID**) documentation. _____
Attach a copy of the regulation that *requires* all new development subject too onsite flow controls to utilize Low Impact Development (LID) techniques to the *maximum extent possible* prior to designing a retention pond or detention pond to reduce flows to meet your flow control standards credited in DS.

- 6. Public Maintenance (**PUB**) documentation. _____
Attach a copy of the regulation allowing the community to enter all stormwater storage facilities required by the regulations and repair them whenever necessary or require the owner to do so.

- 7. Impact adjustment for SMR: _____
Attach a map showing the community boundaries and all watersheds impacting the community. Watersheds that are greater than 50 square miles when they enter your community can be excluded. Include the area of your community, and the total area of all the watersheds shown on the map.

** See Section 452 of the *CRS Coordinator's Manual* for exclusions from the watershed area above the community.

Watershed Management Master Planning (WMP):

If SMR = 0 or DS < 50, WMP = 0. There is no need to continue with this questionnaire or to provide additional documentation.

- 1. WMP1 documentation. _____
Attach a copy of each watershed plan that has analyzed the impact of sea level rise and/or fully developed watersheds on your community during a 100-year event. To be credited, the plan must have been adopted and implemented by your community and you must require new development to control the 10-year event and at least the 25-year event onsite, SMR = 50. Onsite control of the 10-year event and the 100-year event is acceptable.

- 2. WMP2 documentation. _____
Explain how your plan and regulations manage a 100-event and where those requirements/regulations are found.

- 3. WMP3 documentation. _____
Explain how your plan manages not only future peak flows, but also the volume of runoff from new development so that they do not increase over present values. A community must demonstrate that its watershed management plan and associated regulations prevents increases in peak flows at all points within its watershed(s) and downstream.

- 4. WMP4 documentation. _____
Explain how your plan manages the runoff from all storms up to and including the 5-day event and where to find that in the plan itself. Refer to specific regulations or standards.

- 5. WMP5 documentation. _____
Highlight the section of your plan that identifies existing wetlands or other natural open space areas to be preserved from development to provide natural attenuation, retention, or detention of runoff. Include the regulation that requires their preservation.

- 6. WMP6 documentation. _____
Highlight the section of your plan that recommends prohibiting development, alteration, or modification of existing natural channels. Include the regulation that implements the prohibition.

- 7. WMP7 documentation. _____
Highlight the section of your plan that recommends channel improvement projects should only use natural or “soft” approaches rather than gabions, rip rap, concrete, or other “hard” techniques. Include a copy of the regulation or the design standards that implement the regulation.

CID: _____ Community: _____ Co: _____ State: _____

8. WMP8 documentation. _____

Attach a copy of the ordinance establishing your source of dedicated funding to implement the watershed master plan and a copy of recent expenditures.

9. Impact adjustment for WMP: _____

Attach a map showing the community boundaries and all watersheds impacting the community. Watersheds that are greater than 50 square miles when they enter your community can be excluded. Include the area of your community, and the total area of all the watersheds shown on the map.

** See Section 452 of the *CRS Coordinator's Manual* for exclusions from the watershed area above the community.