

City of Turlock



POST-CONSTRUCTION PROJECT WORKSHEET
FOR
SMALL AND REGULATED PROJECTS



Serving the public interest in partnership with developers, homeowners, and contractors, in order to build a better community to ensure the safety, health and welfare of the citizens of Turlock.

What is this document for?

The Phase II MS4 Permit requires the City of Turlock to condition certain small projects with implementing one or more Site Design Measures that “treat” storm water runoff using methods to evapo-transpire, infiltrate, harvest and reuse, or biotreat. After proponents of small projects select the Site Design Measure(s), they are required to quantify the runoff reduction achieved through the implementation of those measures. This is done using the State Water Board’s Post-Construction Calculator (which can be downloaded following the information provided in Appendix 5 of the Post Construction Standards Plan).

Who is required to complete this document?

In regards to the Post-Construction Standards Plan, all projects fall into one of three possible categories: small, regulated, or not applicable. If a project does not qualify under either of the two following sections, the Post Construction Standards Plan does not apply to it.

Small projects are defined as those that create and/or replace between 2,500 ft² and 5,000 ft² of impervious surface. This includes projects that have no net increase in the impervious footprint. Linear utility projects (LUPs) are not subject to the small project Site Design Measure requirements. More information about small projects can be found in the Post Construction Standards Plan.

For the purposes of this Post-Construction Standards Plan, a “Regulated Project” is one that will create and / or replace 5,000 ft² or more of impervious surface. Regulated Projects include new and redevelopment projects on public or private land that fall under the planning and permitting authority of the municipality. Redevelopment is defined as any land-disturbing activity that results in the creation, addition, or replacement of exterior impervious surface areas on a site on which some past development has occurred. Redevelopment projects do not include pavement grinding and resurfacing of existing roadways; construction of new sidewalks, pedestrian ramps, or bike lanes on existing roadways; or routine replacement of damaged pavement for short, non-contiguous sections of roadway. More information about regulated projects can be found in the Post Construction Standards Plan.

What is required in this document?

This worksheet list the necessary information required for both small and regulated project at the end of each section. Small projects shall submit the Project Summary Sheet and the Small Project Submittal Sheet. Regulated projects shall submit the Project Summary Sheet and a Regulated Project DMA Submittal Sheet for each project Drainage Management Area (DMA).

PROJECT SUMMARY SHEET

Project Owner Information:

Project Owner Name:				
Name of Contact Person:				
Mailing Street Address:				
City:		State:		Zip:
Telephone:		Email:		

Project Information:

Project Name:				
Name of Contact Person:				
Project Address:				
City:		State:		Zip:
Start date:		Ending date:		
Project size (ft ²):		Subject to the Construction General Permit? (Yes / No)		

Information of the Post-Construction Standards Plan Preparer:

Name of Organization:				
Name of Contact Person:				
Mailing Street Address:				
City:		State:		Zip:
Telephone:		Email:		

Project Applicability:

Type of Project: (Check one)		Small Project (2,500 to 5,000 ft ² or detached single family home)
		Regulated Project (5,000 ft ²)
		Not applicable to the Post-Construction Standards Plan <i>(provide reason in the space below)</i>
Is this a redevelopment project? (Yes / No)		Will the project result in an increase of more than 50% of the impervious surface? (Yes / No)
Project or vesting map received approval from the municipality? (Yes, No, or N/A)		Date of project or vesting map approval:
Describe the nature and scope of the construction project:		
Number of Drainage Management Areas (DMAs):		

SMALL PROJECT SUBMITTAL SHEET

Project Information:

Project Name:	
Project Owner Name:	
Project Address:	

Selection of Site Design Measures:

Select one or more of the following Site Design Measures (as identified in [Section 4.1](#) of the Post-Construction Standards Plan) which will be incorporated into the project's design.

<i>Site Design Measures</i>	<i>Selected? (Yes / No)</i>
Stream Setbacks and Buffers	
Soil Quality Improvement and Maintenance	
Tree Planting and Preservation	
Rooftop and Impervious Area Disconnection	
Porous Pavement	
Green Roofs	
Vegetated Swales	
Rain Barrels and Cisterns	

Post-Construction Calculator Information:

Enter the following data from the State's Post-Construction Calculator:

Pre-project Runoff Volume (ft³)	
Post-project Runoff Volume (ft³)	
Net Credit of Volume Credits (ft³)	

Small Project Submittal Requirements:

The following must be submitted for Small Projects to the plan checker:

- Completed pages 1 and 2 of this Post-Construction Worksheet.
- Site plans showing the selected Site Design Measure(s) (identified in [Section 4.1](#)). The plans must be stamped by a California Civil Professional Engineer if any of the following Site Design Measures were selected: rooftop and impervious area disconnection, porous pavement, or rain cisterns. The plans must be stamped by a California Structural Professional Engineer if a green roof was selected or if there is a significant structural aspect to the rain cisterns and collection system. The plans must be stamped by a California Licensed Landscape Architect if any of the following Site Design Measures were selected: stream setbacks and buffers, soil quality improvement, or vegetated swales. The Site Design Measure(s) must be clearly called out on the submitted plans.
- A printout of the results page from the Water Board's SMARTS or Microsoft Excel™ Post-Construction Calculator.

REGULATED PROJECT DMA SUBMITTAL SHEET

Drainage Management Area (DMA) & Project Information:

A **separate** Regulated Project DMA Submittal Sheet is required to be completed and submitted for each DMA. Refer to Section 5.1 of the Post-Construction Standards Plan for more information about DMAs.

Project Name:	
Project Owner Name:	
Project Address:	
Name of the DMA:	
DMA area (ft²)	

Selection of Applicable Source Controls:

Indicate which of the following activities or pollutant sources are included in **this DMA** of the new development or redevelopment. For more information about required Source Control refer to Section 5.2.

<i>Site Design Measures</i>	<i>(Yes / No)</i>
Accidental spills or leaks	
Interior floor drains	
Parking / storage areas and maintenance	
Indoor and structural pest control	
Landscape / outdoor pesticide use	
Pools, spas, ponds, decorative fountains, and other water features	
Restaurants, grocery stores, and other food service operations	
Refuse areas	
Industrial processes	
Outdoor storage of equipment or materials	
Vehicle and equipment cleaning	
Vehicle and equipment repair and maintenance	
Fuel dispensing areas	
Loading docks	
Fire sprinkler test water	
Drain or wash water from boiler drain lines, condensate drain lines, rooftop equipment, drainage sumps, and other sources	
Unauthorized non-storm water discharges	
Building and grounds maintenance	

Hydrologic Soil Group and Soil Type Information:

Enter information concerning the soil types within this DMA. For more information, refer to Table 7 of the Post-Construction Standards Plan.

Soil Type Name	HSG Group (A, B, C, or D)

Low Impact Development (LID) Design Requirements:

Please describe how the project is meeting each of the following LID design requirements. Provide your response in the text box following each requirement or provide responses on a separate sheet.

1. Define the areas of the project that are to be left undisturbed or protected from soil disturbance. Identify sensitive environmental receptors such as water bodies, stream buffers, existing trees, riparian areas, and habitat areas.

2. How is the project concentrating development on portions of the site with less permeable soils and preserving areas that can promote infiltration?

3. How is the project limiting the overall impervious coverage of the site consisting of paving and roofs?

4. If applicable, how much setback is there of the development from creeks, wetlands, and riparian habitats?

5. List and describe the trees that will be preserved.

6. Describe how the new development or redevelopment site layout will conform along natural landforms.

7. Describe how the project is avoiding excessive grading and disturbance of vegetation and soils.

8. Describe how the new development or redevelopment is replicating the site's natural drainage patterns.

9. Describe how the project will detain and retain runoff through the new development and redevelopment site.

Pre- and Post-Development Project Hydrology Information:

Provide the following hydrology information for **this DMA**.

Pre-development Conditions:

Percent Impervious	
Average runoff coefficient for this DMA	
Peak flow rate (ft ³ /sec) for this DMA using the 2-year 24-hour design value discussed in Section 5.5.	

Post-development Conditions:

Percent Impervious	
Average runoff coefficient for this DMA	
Peak flow rate (ft ³ /sec) for this DMA using the 2-year 24-hour design value discussed in Section 5.5.	

Selection of Site Design and Treatment Control Measures:

Indicate which Site Design and Treatment Control Measures will be used for **this DMA**. For more information, refer to Table 3. Provide calculations and design drawings for the selected measures per the submittal requirements describe in Section 5.6.

Site Design or Treatment Control Measure	Sizing Criteria	Selected? (Yes / No)	Enter the Calculated Design Capture Volume or Flow Rate
Stream setbacks and vegetated buffers <i>(Site Design Measure)</i>	Flow		
Soil quality improvement <i>(Site Design Measure)</i>	Volume		
Tree planting and preservation <i>(Site Design Measure)</i>	SMARTS Calculator		
Porous pavement <i>(Site Design Measure)</i>	Volume		
Green roofs <i>(Site Design Measure)</i>	Volume		
Vegetated swales <i>(Site Design Measure)</i>	Flow		
Rain harvesting and reuse <i>(Site Design Measure)</i>	Volume		
Bioretention and rain gardens <i>(Treatment Control Measure)</i>	Volume		
Infiltration trench, Flow-through Planter, or Tree Wells <i>(Treatment Control Measure)</i>	Volume and Flow		
Retention and detention basins <i>(Treatment Control Measure)</i>	Volume		

Variations and Exceptions:

Identify any applicable variations or exceptions for ***this DMA***.

Condition	Allowed Variation	Applicable to this DMA? If so, explain.
Facilities located within 10 feet of structures or other potential geotechnical hazards established by the geotechnical expert for the project	May incorporate an impervious cutoff wall between the bioretention / infiltration facility and the structure or other geotechnical hazard	
Facilities with documented high concentrations of pollutants in underlying soil or groundwater, facilities located where infiltration could contribute to a geotechnical hazard, and facilities located on elevated plazas or other structures	May incorporate an impervious liner and may locate the underdrain discharge at the bottom of the subsurface drainage/storage layer (this configuration is commonly known as a “flow-through planter”)	
Facilities located in areas of high groundwater, highly infiltrative soils or where connection of underdrain to a surface drain or to a subsurface storm drain are infeasible	May omit the underdrain	
Facilities serving high-risk areas such as fueling stations, truck stops, auto repairs, and heavy industrial sites	Are required to provide additional treatment to address pollutants of concern prior to the flow reaching the infiltration facility	

If infiltration is not feasible for **this DMA**, please provide an explanation of the infeasibility and a description of the alternate non-infiltrating treatment control measure(s) that will be used in accordance with the development requirements in Section 5.4.4.

Regulated Project Submittal Requirements:

The following must be submitted for Regulated Projects to the plan checker:

- The completed Post-Construction Worksheet including page 1 and, for each DMA, pages 3 – 10.
- A separate site plan for each DMA must be submitted. If there are multiple DMAs, a key map showing the location of the DMAs in relationship to one another and the entire site is required to be submitted. Each DMA site plan is required to show the following information:
 - ✓ DMA name and boundary;
 - ✓ The selected Site Design and Treatment Control Measures (identified in Table 3);
 - ✓ The total drainage area in square feet of the DMA;
 - ✓ The pre-development peak flow rate at the point(s) of discharge;
 - ✓ The predicted post-development peak flow rate at the point(s) of discharge;
 - ✓ Areas of existing impervious surfaces (pre-development);
 - ✓ Proposed areas of impervious surfaces (post-development);
 - ✓ Setbacks from creeks, wetlands, and riparian habitats;
 - ✓ Existing topography and drainage patterns (pre-development);
 - ✓ Proposed topography and drainage patterns (post-development);
 - ✓ Soil types, soil type boundaries within the DMA, and their Hydrologic Soil Group Classification rating (A, B, C, or D); and
 - ✓ Trees, vegetation, and sensitive environmental areas to be protected and preserved.

Each plan must be stamped by a qualified licensed professional. The plans must be stamped by a California Civil Professional Engineer if any of the following control measures were selected: rooftop and impervious area disconnection, porous pavement, rain cisterns, bioretention or rain gardens, infiltration trench, or retention or detention basins. The plans must be stamped by a California Structural Professional Engineer if a green roof was selected or if there is a significant structural aspect to the rain cisterns and collection system. The plans must be stamped by a California licensed Landscape Architect if any of the following Site Design Measures were selected: stream setbacks and buffers, soil quality

improvement, vegetated swales, bioretention and rain gardens. The selected Site Design and Treatment Control Measure(s) must be clearly called out on the submitted plans.

- Design drawings for the proposed Treatment Control Measures showing a plan view, elevation view, and subsurface cross-sections must be submitted. Sufficient detail and specifications should be included in these drawings to provide for adequate plan check review and for the construction of the treatment “facility”. Each design drawing must be stamped by a qualified licensed professional. The drawings must be stamped by a California Civil Professional Engineer if any of the following control measures were selected: rooftop and impervious area disconnection, porous pavement, rain cisterns, bioretention or rain gardens, infiltration trench, or retention or detention basins. The drawings must be stamped by a California Structural Professional Engineer if a green roof was selected or if there is a significant structural aspect to the rain cisterns and collection system. The drawings must be stamped by a California licensed Landscape Architect if any of the following Site Design Measures were selected: stream setbacks and buffers, soil quality improvement, vegetated swales, bioretention and rain gardens.
- A print out of the results page from the MS Excel™ Volumetric BMP Sizing Tool for each DMA and control measure that requires the volumetric sizing criteria is required to be submitted. (Refer to Appendix 6 for information on how to download the tool.)
- Calculations stamped by the appropriate licensed individual (as described above) for each DMA and control measure that requires flow-based sizing criteria must be included with the submittal.
- An Operation and Maintenance Plan and signed Statement of Responsibility for the proposed treatment control measures must accompany the submittal (refer to Section 6 and Appendix 9).