

Stormwater Control Plan

Scarlett Winery P16-0428-UP Planning Commission Hearing - October 2, 2019

Planning, Building & Environmental Services

1195 Third Street, Suite 210 Napa, CA 94559 www.countyofnapa.org

> David Morrison Director



A Tradition of Stewardship A Commitment to Service

PROJECT GUIDANCE FOR STORMWATER QUALITY COMPLIANCE

PROJECT INFORMATION

Project Name		Project Number
Scarlett Winery		P16-00428
Project Address	Assesso	r's Parcel Number
1052 Ponti Road, Napa County, CA		030-280-010
Existing Development Permits Under Review or Issued		
N/A		

EROSION & SEDIMENT CONTROL PLAN (ESCP) APPLICABILITY

Under Provision E.10 of a statewide Phase II municipal stormwater NPDES permit reissued by the California State Water Resource Control Board in 2013, requires Napa County to establish and enforce an erosion and sediment control program to minimize the discharge of sediment and construction related pollutants. All individuals undertaking public or private construction or ground disturbing activities must take steps to prevent the discharge of pollutants resulting from these activities. Specified projects that require local permits or trigger ground disturbance thresholds must prepare plans describing the BMPs that will be implemented. Refer to Napa County's Erosion and Sediment Control Plan Guidance Table 3, Levels of Erosion and Sediment Control Requirements, for a summary of the general levels of requirements that are further described in the guidance document. Please respond to the following questions.

1.	Does the project require a Grading Permit?	Yes		No	\checkmark
2.	Does the project proposed soil disturbance greater or equal to 10,000 square feet?	Yes	\checkmark	No	
	Proposed Disturbed Soil Area: 3.0±	sq.ft.		acres	✓
3.	Does the project propose soil disturbance on slopes greater or equal to 5%?	Yes		No	✓
	Maximum Percent Slope:				
4.	Does the project propose installation of new and/or reconstructed storm drains which discharge to a municipal storm system or receiving water body?	Yes		No	✓

For County Use Only:

	High	Medium	Low	N/A
Threat to Water Quality				
Construction General Permit WDI	D# (if applicable)	:		



POST-CONSTRUCTION STORMWATER CONTROL PLAN (SCP) APPLICABILITY

Under Provision E.12 of a statewide Phase II municipal stormwater NPDES permit reissued by the California State Water Resource Control Board in 2013, requires Napa County to regulate development projects to control pollutants in runoff from newly created or replaced impervious surface. Prior to submittal of a use, building, or grading permit, applicants must determine the Project Type, Project Requirements and submittal requirements. Refer to Napa County's BASMAA Post- Construction Manual Table 1-1, Requirements at a Glance, for a summary of project type requirements.

TYPE OF PROJECT:

Single Family Dwelling*	Larger Plan of Development**
Commercial / Industrial / Non-Residential 🗸	Roads / Linear-Utility Project (LUP)
Total New or Replaced Impervious Surface Area (sq.ft.):	59,441
Total Pre-Project Impervious Surface Area (sq.ft.): Total	34,000
Post-Project Impervious Surface Area (sq.ft.):	93,441

*Single-Family home or dwelling unit means a dwelling unit containing not more than one kitchen, designed to be occupied by not more than one family, and includes a manufactured home as defined in Section 18.08.360 which is installed on a permanent foundation and certified under the National Manufactured Housing Construction and Safety Standards Act of 1974 (42 U.S.C. Sections 5401 and following).

**Larger Plan of Development means a development consisting of more than a single family home or dwelling unit and two accessory structures (e.g. detached garage, guest cottage, pool house, etc.).

For County Use Only:

	Single-Family Dwelling	Small Project	Regulated Project	Roads & LUPs	N/A
Project Category					

Operation & Maintenance Agreement Required: Yes No

I hereby certify that the information presented herein by myself or my representative is accurate and complete. Incorrect information on proposed activities or uses may delay your application(s) or permit(s).

Name of Owner / Agent:	Title:
Michael Grimes	Project Engineer, Bartelt Engineering
Signature of Owner / Agent	Date:
	January 2018

STORMWATER CONTROL PLAN FOR A REGULATED PROJECT SCARLETT WINERY 1052 PONTI ROAD NAPA COUNTY, CA APN 030-280-010

Prepared For:

Scarlett Wines c/o Mattie Cooper 3200 Danville Boulevard, Suite 100 Alamo, CA 95407

Prepared By:

Bartelt Engineering 1303 Jefferson Street, 200 B Napa, CA 94559 (707) 258-1301

Paul N. Bartelt, P.E. Principal Engineer

Michael G. Grimes, P.E. Project Engineer

January 2018 - Revised February 2017 September 2016 Job No. 15-02





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LIST OF ATTACHMENTS

Stormwater Control Plan - Drainage Management Area Exhibit
Impervious Area Exhibit Pre-Project Conditions
Impervious Area Exhibit Post-Project Conditions

This Stormwater Control Plan was prepared using the Bay Area Stormwater Agencies Association (BASMAA) template dated July 11, 2014.



1. PROJECT DATA

TABLE 1: PROJECT DATA	
Project Name/Number	Scarlett Winery
Application Submittal Date	January 2018
Project Location	APN: 030-280-010
Project Phase No.	N/A
Project Type and Description	Use Permit Modification
Total Project Site Area (acres)	3.0± acres
Total New and Replaced Impervious Surface Area (Onsite)	59,441 \pm SF (Proposed Winery)
Total Pre-Project Impervious Surface Area	$34,000 \pm SF$ (Existing Residence)
Total Post-Project Impervious Surface Area	93,441± SF (Existing Residence and Proposed Winery)
Parcel Percent Imperviousness Before Construction	1.6%
Parcel Percent Imperviousness After Construction	4.5%



2. SETTING

2.1 Project Location and Description

The Scarlett Winery project is located at 1052 Ponti Road in Napa County approximately 4 miles southeast of St. Helena, California. The parcel (APN 030-280-010) is approximately 47.88± acres, of which 47.17± acres are located west of Silverado Trail and zoned Agricultural Preserve (AP) and of which 0.71± acres are located east of Silverado Trail and are zoned Agricultural Watershed (AW). The project is located entirely within the AP zone. The proposed project will consist of one (1) phase and a disturbed area of approximately 3.0± acres. The disturbed area includes the proposed winery, driveway, parking areas, landscaping and vineyard.

2.2 Existing Site Features and Conditions

The subject parcel is currently developed with a residential building, guest house, driveway, access roads, vineyard and buildings associated with vineyard operations. Slopes on the AP portion of the parcel range between zero (0) and one (1) percent. According to the NRCS Soil Report, the soil type found in the project area of the parcel is Clear Lake clay, (map symbol 116, Hydrologic Soil Group "D") and Cole silt loam (map symbol 118, Hydrologic Soil Group "C").

2.3 **Opportunities and Constraints for Stormwater Control**

The location of the proposed winery is towards the northwestern corner of the subject parcel and can be seen on the Scarlett Winery Use Permit Drawings prepared by Bartelt Engineering. The project area is currently developed with vineyard and has a slight grade towards the southeast. This area of the parcel is known to have high groundwater during the wet season and receives run-on from up-gradient parcels. These characteristics make the northern property line of the subject parcel ideal for constructing an intercepting bioswale and a bioretention basin. The grade and agricultural development of the parcel also produce an ideal Self-Retaining Area for portions of the project that can be drained to the south of the project area. The proposed landscape islands in the visitor parking area and a portion of the bioswales will lend themselves to be Self-Treating Areas. Due to the nature of this project, the site will experience heavy vehicles, moderate passenger vehicle traffic and must meet Universal Access requirements. Therefore, the amount of impervious surface has been limited wherever possible that does not conflict with the future uses.



3. LOW IMPACT DEVELOPMENT DESIGN STRATEGIES

3.1 Optimization of Site Layout

3.1.1 Limitation of development envelope

Currently, the subject parcel is developed with a residential building, guest house, driveway, access roads, vineyard and buildings associated with vineyard operations. The proposed winery will be located north of the existing residence and will have its own driveway. Though the proposed buildings and structures will be built over currently pervious area, they are designed to have a minimal footprint. An example is that the winery will be constructed just outside of the winery development setback from Ponti Road, which minimizes the length of the driveway and thus contributes to the minimization of the impervious footprint of the project.

3.1.2 Preservation of natural drainage features

In general, all of the existing natural drainage features on this site will be maintained under the proposed conditions. A majority of the run-off will be directed to and retained in the vineyards south and east of the proposed winery. The location of the main bioretention facility is proposed at the northern end of the parcel where stormwater run-on from upgradient parcels collects during storm events. If the capacity of the bioretention facility is exceeded during 10-year and 100-year storm events, the water will enter an existing storm drain and empty into the existing drainage course located across the southern property line of the parcel.

3.1.3 Setbacks from creeks, wetlands and riparian habitats

The wastewater system will be constructed outside of any Napa County septic system setbacks (including well setbacks). There are no creeks, wetlands and/or riparian habitats identified on the subject parcel.

3.1.4 Minimization of imperviousness

Impervious area will increase as a result of the proposed project. Although the impervious area will increase, the development footprint has been minimized where possible.

3.1.5 Use of drainage as a design element

There are multiple elements proposed for this project that are designed to reduce stormwater runoff and promote infiltration. Gravel or another similar type of material will be utilized at the tasting room patio. A bioswale and bioretention facilities will be utilized with the proposed project to promote infiltration and slow water flows. Any water that exceeds the operational storage volume of the bioretention facilities will enter an existing storm drain system and empty into the drainage course located at the southern property line.



3.2 Use of Permeable Pavements

The extent of areas with permeable pavement are shown on the Scarlett Winery Use Permit Drawings prepared by Bartelt Engineering.

3.3 Dispersal of Runoff to Pervious Areas

All runoff is dispersed to pervious areas. These areas include landscaped areas, vineyards, bioswales and bioretention basins.

3.4 Stormwater Control Measures

This project will utilize a self-retaining area and bioretention facilities. See Section 4.1.1.



4. DOCUMENTATION OF DRAINAGE DESIGN

4.1 Descriptions of Each Drainage Management Area

4.1.1 <u>Table of Drainage Management Areas</u>

Table 4.1.1 below provides the name, area, Drainage Management Area (DMA) type and surface type of every DMA for this project.

4.1.2 Drainage Management Area Descriptions

The project will consist of numerous DMA types which include Self-Retaining Areas, Areas Draining to Self-Retaining Areas, Bioretention Facilities and Areas Draining to Bioretention Facilities.

Self-Retaining Areas on this site consist of areas starting with the prefix "SRA". The self-retaining area will consist entirely of vineyard that is surrounded by vineyard avenues, the vine rows and vineyard avenues help retain stormwater runoff by effectively retarding overland sheetflow due to their natural contours.

Areas Draining to Self-Retaining Areas on this site consist of all areas starting with the prefix "DSRA". These areas consist of roofs, pavement, wastewater dispersal field and gravel areas that do not drain to a bioretention facility.

Areas Draining to Bioretention Facilities on this site consist of all areas starting with the prefix "DBRF". These areas consist of mostly roofs/pavement, but also include a few gravel driveways, landscaped areas directly adjacent to the corresponding bioretention facility. There are three (3) bioretention facilities on the site, DBRF-A, DBRF-B and DBRF-C.

TABLE 4.1.1: TABLE OF DRAINAGE MANAGEMENT AREAS					
DMA Name	Area (square feet)	DMA Туре	Surface Type		
SRA-A	8,500	Self Retaining Area (SRA)	Landscape		
SRA-B	6,000	Self Retaining Area (SRA)	Landscape		
SRA-C	3,100	Self Retaining Area (SRA)	Landscape		
DSRA-A1	14,733	Areas Draining to SRA	Roof/Paving		
DSRA-A2	255	Areas Draining to SRA	Roof/Paving		
DSRA-A3	255	Areas Draining to SRA	Roof/Paving		
DSRA-A4	1,018	Areas Draining to SRA	Roof/Paving		
DSRA-A5	288	Areas Draining to SRA	Roof/Paving		



TABLE 4.1.1: TABLE OF DRAINAGE MANAGEMENT AREAS					
DMA Name	Area (square feet)	DMA Туре	Surface Type		
DSRA-B1	11,379	Areas Draining to SRA	Roof/Paving		
DSRA-B2	2,381	Areas Draining to SRA	Landscape		
DSRA-C1	2,450	Areas Draining to SRA	Roof/Paving		
DSRA-C1.1	21	Areas Draining to SRA	Landscape		
DSRA-C2	2,156	Areas Draining to SRA	Roof/Paving		
DSRA-C3	12,520	Areas Draining to SRA	Landscape		
BRF-A	1,882	Bioretention Facility	Landscape		
BRF-B	1,089	Bioretention Facility	Landscape		
BRF-C	302	Bioretention Facility	Landscape		
DBRF-A1.1	3,086	Areas Draining to Bio	Landscape		
DBRF-A1.1.1	15,305	Areas Draining to Bio	Roof/Paving		
DBRF-A1.1.1.1	174	Areas Draining to Bio	Landscape		
DBRF-A1.1.1.2	234	Areas Draining to Bio	Landscape		
DBRF-B2.1	2,207	Areas Draining to Bio	Landscape		
DBRF-B2.1.1	761	Areas Draining to Bio	Landscape		
DBRF-B2.1.2	2,097	Areas Draining to Bio	Roof/Paving		
DBRF-B2.1.3	7,031	Areas Draining to Bio	Roof/Paving		
DBRF-C1	2,474	Areas Draining to Bio	Roof/Paving		

4.2 <u>Tabulation and Sizing Calculations</u>

4.2.1 Information Summary for Bioretention Facility Design

TABLE 4.2.1A: INFORMATION SUMMARY FOR BIORETENTION FACILITY BRF-A				
Total Project Area (Square Feet) 15,654±				
DBRF-A1.1	3,086			
DBRF-A1.1.1	15,305			
DBRF-A1.1.1.1	174			
DBRF-A1.1.1.2	234			



TABLE 4.2.1B: INFORMATION SUMMARY FOR BIORETENTION FACILITY BRF-B			
Total Project Area (Square Feet)9,425±			
DBRF-B2.1	2,207		
DBRF-B2.1.1	761		
DBRF-B2.1.2	2,097		
DBRF-B2.1.3	7,031		

TABLE 4.2.1C: INFORMATION SUMMARY FOR BIORETENTION FACILITY BRF-C				
Total Project Area (Square Feet)2,474±				
DBRF-C1	2,474			

4.2.2 Self-Retaining Areas

TABLE 4.2.2: SELF-RETAINING AREAS			
DMA Name	Area (square feet)		
SRA-A	8,500		
SRA-B	6,000		
SRA-C	3,100		



4.2.3 Areas Draining to Self-Retaining Areas

TABLE 4.2.3: AREAS DRAINING TO SELF-RETAINING AREAS						
DMA	Area (square feet)	Post-project surface type	Runoff factor	Receiving self- retaining DMAs	Receiving self-retaining DMA Area (square feet)	Ratio of Impervious: Pervious
DSRA-A1	14,733	Roof/Paving	1.0			
DSRA-A2	255	Roof/Paving	1.0			
DSRA-A3	255	Roof/Paving	1.0	SRA-A	8,500	1.9
DSRA-A4	1,018	Roof/Paving	1.0			
DSRA-A5	288	Roof/Paving	1.0			
DSRA-B1	11,379	Roof/Paving	1.0	SRA-B	6,000	1.9
DSRA-B2	2,381	Landscape	0.1	JKA-D	0,000	1.5
DSRA-C1	2,450	Roof/Paving	1.0			
DSRA-C1.1	21	Landscape	0.1	SRA-C	3,100	1.9
DSRA-C2	2,156	Roof/Paving	1.0	5N/A-C	5,100	1.2
DSRA-C3	12,520	Landscape	0.1			

4.2.5 Areas Draining to Bioretention Facilities

TABLE 4.2.5A: AREAS DRAINING TO BIORETENTION FACILITIES AND CALCULATING MINIMUM BIORETENTION FACILITY SIZE								
DMA	DMA Area (square	Post-project surface type	DMA Runoff	Rupoff Area x	Bioreter	ntion Facility #1 (E	BRF-A)	
	(square feet)	surface type	factor	factor factor		Scarlett Winery		
DBRF-A1.1	3,086	Landscape	0.1	309				
DBRF-A1.1.1	15,305	Roof/Paving	1.0	15,305				
DBRF-A1.1.1.1	174	Landscape	0.1	17				
DBRF-A1.1.1.2	234	Landscape	0.1	23	IMP	Minimum IMP	Proposed	
DBRF-A1.1	3,086	Landscape	0.1	309	Sizing Factor	Facility Size (square feet)	IMP Facility Size	
Total (square fe	eet) =			15,654	0.04	627	1,882	



	TABLE 4.2.5B: AREAS DRAINING TO BIORETENTION FACILITIES AND CALCULATING MINIMUM BIORETENTION FACILITY SIZE						
DMA	DMA Area (square	Post-project surface type	DMA Runoff	DMA Area x runoff	Biorete	ntion Facility #2 (B	RF-B)
	feet)	surface type	factor	factor		Scarlett Wine	γ
DBRF-B2.1	2,207	Landscape	0.1	221	~		
DBRF-B2.1.1	761	Landscape	0.1	76			Proposed
DBRF-B2.1.2	2,097	Roof/Paving	1.0	2,097	IMP	Minimum IMP	IMP Facility
DBRF-B2.1.3	7,031	Roof/Paving	1.0	7,031	- Sizing Factor	Facility Size (square feet)	Size
Total (square	Total (square feet) =			9,425	0.04	377	1,089

TABLE 4.2.5C:	TABLE 4.2.5C: AREAS DRAINING TO BIORETENTION FACILITIES AND CALCULATING MINIMUM BIORETENTION FACILITY SIZE						
DMA	DMA Area (square	Post-project surface type	DMA Runoff factor factor factor	Biorete	ntion Facility #3 (E	BRF-C)	
	(square feet)	surface type				Scarlett Wine	ery
DBRF-C1	2,474	Roof/Paving	1.0	2,474			
				-			Proposed
				-	IMP	Minimum IMP	IMP Facility
				-	Sizing Factor	Facility Size (square feet)	Facility Size
Total (square	Total (square feet) =			2,474	0.04	99	302



5. SOURCE CONTROL MEASURES

5.1 Site Activities and Potential Sources of Pollutants

5.1.1. Source Control Table

TABLE 5.1: SOURCE	TABLE 5.1: SOURCE CONTROL TABLE				
Potential source of runoff pollutants	Permanent source control BMPs	Operational source control BMPs			
Onsite storm drain inlets	Mark all inlets with the words "No Dumping! Flows to Bay"	Maintain and periodically repaint or replace inlet markings			
(unauthorized non- stormwater discharges and	or similar.	Provide stormwater pollution prevention information to new site owners, lessees or operators			
accidental spills or leaks)		See applicable operational BMPs in Fact Sheet SC- 44, "Drainage System Maintenance," in the CASQA Stormwater Quality Handbooks at www.casqa.org/resources/bump-handbooks			
		Include the following in lease agreements: "Tenants shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains."			
Interior floor drain and elevator shaft sump pumps	State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.	Inspect and maintain drains to prevent blockages and overflow.			
Need for future indoor & structural pest control	Note building design features that discourage entry of pests.	Provide Integrated Pest Management information to owners, lessees and operators.			



	~	
TABLE 5.1: SOURCE	E CONTROL TABLE	
Landscape/Outdoor pesticide use/building & grounds maintenance	 State that final landscape plans will accomplish all of the following. Preserve existing native trees, shrubs and ground cover to maximum extent possible. Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution. Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions. Consider using pest- resistant plants, especially adjacent to hardscape. To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency and plant interactions. 	 □ Maintain landscaping using minimum or no pesticides. □ See applicable operational BMPs in Fact Sheets SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.casqa.org/resources/bmp-handbooks □ Provide IPM information to new owners, lessees and operators.
Pools, spas, ponds, decorative fountains & other water features	 If the local municipality requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements. 	 See applicable operational BMPs in Fact Sheet SC- 72, "Fountain and Pool Maintenance," in the CASQA Stormwater Quality Handbooks at www.casqa.org/resources/bmp-handbooks The sanitary sewer operator must be notified and a clean out identified when pools are to be drained to the sanitary sewer.



TABLE 5.1: SOURCE	e Control Table	
Food service	 Describe the location and features of the designated cleaning area. Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated. 	State maintenance schedule for grease interceptor.
Refuse areas	 State how site refuse will be handled and provide supporting detail to what is shown on plans. State that signs will be posted on or near dumpsters with the words "Do not dump hazardous materials here" or similar. 	 State how the following will be implemented; Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquids or hazardous wastes. Post "no hazardous materials" signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available onsite. See Fact Sheet SC-34, "Waste Handling and Disposal" in the CASQA Stormwater Quality Handbooks at www.casqa.org/resources/bmp-handbooks
Industrial processes	If the industrial processes are to be located on site, state: "All process activities to be performed indoors. No processes to drain to exterior or to storm drain systems."	See Fact Sheet SC-10, "Non-Stormwater Discharges" in the CASQA Stormwater Quality Handbooks at www.casqa.org/resources/bmp- handbooks
Fire sprinkler test water	 Provide a means to drain fire sprinkler test water to sanitary sewer. Municipal 	See note in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.casqa.org/resources/bmp-handbooks
Condensate drain lines Roofing, gutters & trim	 Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur. Condensate drain lines may not discharge to the storm drain system. Any drainage sumps onsite shall feature a sediment sump to reduce the quantity of sediment in pumped water. Include controls for other sources as specified by local reviewer. 	 If architectural copper is used, implement the following BMPs for management of rinse water during installation: If possible, purchase copper materials that have been pre-patinated at the factory. If patinated is done onsite, prevent rinse water from entering storm drains by discharging to landscaping or by collecting in a tank and hauling offsite. Consider coating the copper materials with an impervious coating that prevents further corrosion and runoff. Implement the following BMPs during routine maintenance: Prevent rinse water from entering storm drains by discharging to landscaping or by collecting in a tank and hauling maintenance:



TABLE 5.1: SOURCE	CONTROL TABLE	
Plazas, sidewalks & parking lots		Sweep plazas, sidewalks and parking lots regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect wash water containing any cleaning agent of degreaser and discharge to the sanitary sewer not to a storm drain.

5.2 Features, Materials and Methods of Construction of Source Control BMPs

Several features were incorporated into the design of the project to minimize the potential for stormwater pollution and are listed below. Please refer to the Scarlett Winery Use Permit Drawings prepared by Bartelt Engineering for detailed materials and methods of construction of source control BMPs.

6. STORMWATER FACILITY MAINTENANCE

6.1 <u>Ownership and Responsibility for Maintenance in Perpetuity</u>

The Owner agrees to implement the stormwater control strategy as outlined in this document and as shown in the plans prepared by Bartelt Engineering. The Owner accepts responsibility for the installation, operation and maintenance of the stormwater treatment and flow-control facilities noted in this Stormwater Control Plan. The Owner agrees to undertake this responsibility until such time as the responsibility is formally transferred to a subsequent owner.

6.2 <u>Summary of Maintenance Requirements for Each Stormwater Facility</u>

The following activities shall be completed at least annually. The frequency should be adjusted in response to the needs of each particular facility.

Clean up. Remove any soil or debris blocking planter inlets or overflows. Remove trash that typically collects near inlets or gets caught in vegetation.

Prune or cut back plants for health and to ensure flow into inlets and across the surface of the facility. Remove and replant as necessary. When replanting, maintain the design surface elevation and minimize the introduction of soil.

Control weeds by manual methods and soil amendment. In response to problem areas or threatening invasions, corn gluten, white vinegar, vinegar-based products or non-selective natural herbicides such as Burnout or Safer's Sharpshooter may be used.

Add mulch. Aged mulch, also called compost mulch, reduces the ability of weeds to establish, keeps soil moist and replenishes soil nutrients. Mulch is added from time to time as necessary to maintain a mulch layer thickness (some agencies require 3 inches).



However, ensure the underlying soil surface beneath the mulch layer is a minimum 6 inches below the overflow elevation, consistently throughout the surface area of the facility. In particular, ensure that the top of the mulch layer is below the facility overflow, so that as the facility fills during a major storm, the entire surface becomes wetted before the overflow elevation is reached.

Check signage. Remove graffiti and replace if necessary.

Check irrigation, if any, to confirm it is adequate but not excessive.

Landscaping maintenance personnel should be aware of the following:

Do not add fertilizer to bioretention facilities. Compost tea, available from various nurseries and garden supply retailers, may be applied at a recommended rate of 5 gallons mixed with 15 gallons of water per acre, up to two weeks prior to planting and once per year between March and June. Do not apply when temperatures are below 50° F or above 90° F or when rain is forecast in the next 48 hours.

Do not use synthetic pesticides on bioretention facilities. Beneficial nematodes and non-toxic controls may be used. Acceptable natural pesticides include Safer® products and Neem oil.

Sidewalks will be swept clean of debris regularly.

7. CONSTRUCTION CHECKLIST

Please refer to the Construction General Permit Stormwater Pollution Prevention Plan (SWPPP) prepared by Bartelt Engineering for all construction and post-construction BMPs. An Industrial General Permit No Exposure Certificate (NEC) will be filed with the State Water Resources Control Board.

8. CERTIFICATIONS

The preliminary design of stormwater treatment facilities and other stormwater pollution control measures in this plan are in accordance with the current edition of the BASMAA Post-Construction Manual.



