



**County of San Diego**  
**Stormwater Quality Management Plan (SWQMP)**  
**For Priority Development Projects (PDPs)**

Use for all PDPs (see Storm Water Intake Form, Part 4)



Project Information	
<b>Project Name</b>	Rancho Guejito Tasting Facility & Event Center
<b>Project Address</b>	17224 San Pasqual Valley Road, Escondido, CA 92027
<b>Assessor's Parcel # (APN)</b>	242-070-08,13,15; 242-110-01
<b>Permit # / Record ID</b>	PDS2020-MUP-20-001

Project Applicant / Project Proponent	
<b>Name</b>	Rancho Guejito Corporation
<b>Address</b>	17224 San Pasqual Valley Road, Escondido, CA 92027
<b>Phone</b>	800-519-4441
<b>Email:</b>	hank@ranchoguejito.net

SWQMP Preparer	
<b>Name</b>	Jayne Janda-Timba
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<b>PE Number (if applicable)</b>	70649

**Preparer's Certification**

I understand that the County of San Diego has adopted minimum requirements for managing urban runoff, including storm water, from land development activities, as described in the County of San Diego BMP Design Manual. The BMP Design Manual is a design manual for compliance with local County of San Diego Watershed Protection Ordinance (Sections 67.801 et seq.) and regional MS4 Permit (California Regional Water Quality Control Board San Diego Region Order No. R9-2013-0001, as amended by Order No. R9-2015-0001 and Order No. R9-2015-0100) requirements for storm water management.

This SWQMP is intended to comply with applicable requirements of the BMP Design Manual. I certify that it has been completed to the best of my ability and accurately reflects the project being proposed and the applicable BMPs proposed to minimize the potentially negative impacts of this project's land development activities on water quality. I understand and acknowledge that the plan check review of this SWQMP by County staff is confined to a review and does not relieve me as the person in charge of overseeing the selection and design of storm water BMPs for this project, of my responsibilities for project design.

<b>Signature</b>	<b>Date</b> October 20, 2020
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**COUNTY ACCEPTED**

SWQMP Approved By:

Approval Date:

**\* Note \* Approval does not constitute compliance with regulatory requirements.**

**Submittal Record:** List the dates of SWQMP and plan submittals and updates. Briefly describe key changes from previous versions. If responding to plan check comments, note this in the entry and attach the responses as applicable.

No.	Date	Summary of Changes
<b>Preliminary Design / Planning / CEQA</b>		
1	12/3/2018	Initial Submittal
2	10/16/2020	2nd Submittal
3	Date	Summary of Change
4	Date	Summary of Change
No.	Date	Summary of Change
<b>Final Design</b>		
1	Date	Initial Submittal
2	Date	Summary of Change
3	Date	Summary of Change
4	Date	Summary of Change
No.	Date	Summary of Change
<b>Plan Changes</b>		
1	Date	Initial Submittal
2	Date	Summary of Change
3	Date	Summary of Change
4	Date	Summary of Change
No.	Date	Summary of Change

## PDP SWQMP Submittal Checklist

**SWQMP Tables:** All of the eight tables below must be completed.

<input checked="" type="checkbox"/> Table 1: Scope of SWQMP Submittal .....	Page 2
<input checked="" type="checkbox"/> Table 2: Baseline BMPs for Existing Natural Features and Proposed Features (Groups 1, 2, and 3) .....	Page 3
<input checked="" type="checkbox"/> Table 3: Baseline BMPs for Pollutant-generating Sources (Group 4) .....	Page 4
<input checked="" type="checkbox"/> Table 4: Infeasibility Justifications for Baseline BMPs .....	Page 5
<input checked="" type="checkbox"/> Table 5: DMA Structural Compliance Strategies and Documentation .....	Page 6
<input checked="" type="checkbox"/> Table 6: Critical Coarse Sediment Yield Area (CCSYA) Requirements .....	Page 7
<input checked="" type="checkbox"/> Table 7: Minimum Construction Stormwater BMPs .....	Page 8
<input checked="" type="checkbox"/> Table 8: Infeasibility Justifications for Construction BMPs.....	Page 9

**SWQMP Attachments<sup>1</sup>:** Use the checklist below to identify which attachments will be included with this submittal. Attachments with boxes already checked (☒) are required for all projects. The applicability of other attachments will be determined upon completing this form.

- ☒ Attachment 1: Storm Water Intake Form
- ☒ Attachment 2: DMA Exhibits and Construction Plan Sheets
- ☒ Attachment 3: Source Control BMP Worksheet
- ☒ Attachment 4: Previous SWQMP Submittals
- ☒ Attachment 5: Existing Site and Drainage Description
- ☒ Attachment 6: Documentation of DMAs without Structural BMPs
- ☐ Attachment 7: Documentation of DMAs with Structural Pollutant Control BMPs
- ☒ Attachment 8: Documentation of DMAs with Structural Hydromodification Management BMPs
- ☒ Attachment 9: Management of Critical Coarse Sediment Yield Areas
- ☒ Attachment 10: Installation Verification Form
- ☐ Attachment 11: BMP Maintenance Agreements and Plans
- ☐ Attachment 12: Documentation of Alternative Compliance Projects (ACPs)

After completing the remainder of this form, check the applicable SWQMP Attachment boxes to summarize your selections.

<sup>1</sup> All SWQMP attachments are available at [www.sandiego.gov/stormwater](http://www.sandiego.gov/stormwater) under the Development Resources tab. Some attachments are presented out of order because they are shared between multiple SWQMP forms.

### Table 1 – Scope of SWQMP Submittal

Select one option below that describes the scope of this SWQMP Submittal. Document your selection as indicated.

SWQMP Scope	Required Documentation
<input checked="" type="checkbox"/> <b><i>a. SWQMP addresses the entire project</i></b>	No additional documentation.
<input type="checkbox"/> <b><i>b. SWQMP implements requirements of an earlier master SWQMP submittal</i></b>	Include a copy of the previous submittal as <b>Attachment 4</b> .
<input type="checkbox"/> <b><i>c. First of multiple SWQMP submittals</i></b>	Use the spaces below to identify the elements addressed in this submittal and in future submittals.

(1) *Elements addressed in current submittal (streets, common areas, first project phase, etc.):*

*(2) Elements to be addressed in future submittal(s) (individual lots, future project phases, etc.):*



**Table 2 – Baseline BMPs for Existing and Proposed Site Features**

Site Features Select each feature that applies.		BMP Implementation Describe BMP implementation for each selected site feature.			
<b>Group 1: Existing Natural Site Features</b> [See BMPDM Sections 4.3.1 and 4.3.2]					
		<b>Maintain &amp; conserve natural features</b>		<b>Establish buffers for waterbodies</b>	
		Full	Partial	Full	Partial
<input type="checkbox"/>	Natural waterbodies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Natural storage reservoirs & drainage corridors	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
<input checked="" type="checkbox"/>	Natural areas, soils, & vegetation (incl. trees)	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
<b>Group 2: Common Impervious Outdoor Site Features</b> [See BMPDM Sections 4.3.3 and 4.3.5]					
		<b>Disperse impervious areas (See SD-B)</b>		<b>Use permeable materials (See SD-D)</b>	<b>Minimize impervious areas</b>
		Full	Partial	Full	Partial
<input checked="" type="checkbox"/>	Streets and roads	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Sidewalks & walkways	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Parking areas & lots	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Driveways	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Patios, decks, & courtyards	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Hardcourt recreation areas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Add impervious feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Add impervious feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	Add impervious feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Group 3: Other Outdoor Site Features</b> [See BMPDM Sections 4.2.6, 4.3.4, 4.3.5, 4.3.7, and 4.3.8]					
<input checked="" type="checkbox"/>	Rooftop areas	<b>Disperse rooftop runoff (See SD-B)</b>		<b>Install green roofs (optional; See SD-C)</b>	<b>Use rain barrels to capture runoff (optional; See SD-E)</b>
		Full	Partial	Full	Partial
		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Landscaped areas	<b>Use water-efficient landscaping (required)</b>		<b>Install efficient irrigation systems (required)</b>	<b>Minimize erosion of slopes and surfaces (required)</b>
		Full		Full	Full
		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	Water features (pools, spas, etc.)	<b>Provide a designated washing area</b>		<b>Drain feature to the sanitary sewer (if allowed)</b>	<b>Drain feature to a pervious area</b>
		Full	Partial	Full	Partial
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
				<input type="checkbox"/>	<input checked="" type="checkbox"/>

Note: Justification is required in Table 4 for any feature not selecting at least one BMP (either full or partial implementation). For Group 2 features this means not selecting either SD-B or SD-D. Additional justifications may be required on request by County staff. Also use Table 4 to describe sources or BMPs other than those listed.

**Table 3 –Baseline BMPs for Pollutant-generating Sources (Group 4)**

<b>A. Requirements for Documentation</b> Select either or both as applicable.	Completion of Part B is <u>not</u> required because: <input type="checkbox"/> This is a Small Residential Project, OR <input type="checkbox"/> None of these sources or features is proposed.	<input checked="" type="checkbox"/> <b>Source Control BMP Requirements Worksheet E.1-1</b> (SC in Appendix E of the BMP Design Manual) is included as <b>Attachment 3</b> (optional unless requested by County staff).
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<b>B. Sources and BMPs</b> Select all proposed sources and features below. Then select the BMPs on the right to be implemented for each.		Plumb to sanitary sewer	Drain feature to a pervious area	Provide containment for spills and discharges	Prevent contact with rainfall	Isolate flows from adjacent areas	Prevent wind dispersal	Label with stencils or signs
<b><u>Common Source Areas</u></b>								
<input checked="" type="checkbox"/> <b>Trash &amp; Refuse Storage</b>		□	---	□	☒	□	☒	---
<input type="checkbox"/> <b>Materials &amp; Equipment Storage</b>		□	---	□	□	□	□	---
<input type="checkbox"/> <b>Loading &amp; Unloading</b>		□	---	□	□	□	---	---
<input type="checkbox"/> <b>Fueling</b>		□	---	□	□	□	---	---
<input type="checkbox"/> <b>Maintenance &amp; Repair</b>		□	---	□	□	□	---	---
<input type="checkbox"/> <b>Vehicle &amp; Equipment Cleaning</b>		□	---	□	□	□	---	---
<input type="checkbox"/> <b>Food Preparation or Service</b>		□	---	□	□	□	---	---
<b><u>Distributed Features</u></b>								
<input checked="" type="checkbox"/> <b>Storm drain inlets &amp; catch basins</b>		---	---	---	---	---	---	☒
<input type="checkbox"/> <b>Interior floor drains and sumps</b>		□	---	---	---	---	---	---
<input checked="" type="checkbox"/> <b>Drain lines (air conditioning, etc.)</b>		□	☒	□	---	---	---	---
<input checked="" type="checkbox"/> <b>Fire test sprinkler discharges</b>		□	☒	□	---	---	---	---
Provide the following in Table 4: (1) justification of any source area or feature with NO BMPs selected, (2) justification of individual unselected BMPs <i>if requested by County staff</i> , and (3) identification of any proposed pollutant-generating sources and BMPs not listed here.								
Note: Pollutant-generating sources and features may <u>not</u> discharge directly to the MS4. Discharging to any of the stormwater BMPs identified in Table 5 Part B is also discouraged. If doing so, however, the source or feature area must be included in applicable DCV calculations.								

**Table 4 – Explanations and Justifications for Table 2 and 3 Baseline BMPs**

<input checked="" type="checkbox"/> <b>Check here if no explanations or justifications for Table 2 or 3 BMPs are required.</b>		
<ul style="list-style-type: none"> <li>• <b>Required Justifications:</b> If NO BMPs are selected for a source or feature, justify why <u>all</u> BMPs are either not applicable or are infeasible. For Group 2 features NO BMPs means not selecting either SD-B or SD-D.</li> <li>• <b>If Requested:</b> Justify why individual BMPs will not be implemented or will only be partially implemented.</li> <li>• <b>Additional Explanation:</b> Describe any proposed features and/or BMPs not listed in Tables 2 or 3.</li> </ul>		
BMP-Feature Combination		Explanation
Feature		
BMP		
Feature	Feature	Explanation
BMP	BMP	
Feature	Feature	Explanation
BMP	BMP	
Feature	Feature	Explanation
BMP	BMP	
Feature	Feature	Explanation
BMP	BMP	
Feature	Feature	Explanation
BMP	BMP	
Feature	Feature	Explanation
BMP	BMP	

**Table 5: DMA Structural Compliance Strategies and Documentation**

Part A – Selection and Application Structural Performance Standards							
<b>1. Selection of Standards</b> (select one; see BMPDM Section 6.1) <input checked="" type="checkbox"/> a. Pollutant control + hydromodification <input type="checkbox"/> b. Pollutant control only (project is exempt from hydromodification requirements)							
<b>2. Application of Structural Performance Standards</b> (select one; see BMPDM Section 1.7) <input type="checkbox"/> <b>New Development Projects:</b> Standards apply to <u>all impervious surfaces</u> . <input checked="" type="checkbox"/> <b>Redevelopment Projects:</b> Complete the calculations below. Select <u>the</u> applicable scenario based on the results.							
<b>a. Existing impervious area (ft²)</b>		<b>b. Impervious area created / replaced (ft²)</b>		<b>c. % Impervious created / replaced [(b/a)*100]</b>			
4,285 ft²		102,320		2,387 %			
<input checked="" type="checkbox"/> <i>Scenario 1: c is 50% or more:</i> Performance standards apply to all impervious surfaces (a + b). <input type="checkbox"/> <i>Scenario 2: c is less than 50%:</i> Performance standards apply only to created or replaced impervious surfaces (b only).							
Part B – Compliance Strategies and Required Attachments							
<b>1. Complete and submit each of the applicable attachments on the right.</b>	<b>Att. 1</b>	<b>Att. 2</b>	<b>Att. 3</b>	<b>Att. 4</b>	<b>Att. 5</b>		
	Storm Water Intake Form <input checked="" type="checkbox"/>	DMA Exhibits and Construction Plan Sheets <input checked="" type="checkbox"/>	Source Control BMP Worksheet (see Table 3) <input checked="" type="checkbox"/>	Previous SWQMP Submittals (see Table 1) <input checked="" type="checkbox"/>	Existing Site and Drainage Description <input checked="" type="checkbox"/>		
<b>2. Indicate each compliance strategy below that will be used for one or more DMAs on the site.</b>  <input type="checkbox"/> Self-mitigating DMAs (BMPDM Section 5.2.1) <input type="checkbox"/> De Minimis DMAs (BMPDM Section 5.2.2) <input checked="" type="checkbox"/> Self-retaining DMAs (BMPDM Section 5.2.3) <b>Structural BMPs (select all that apply)</b> <input type="checkbox"/> Pollutant Control BMPs (BMPDM Section 5.4) <input type="checkbox"/> Hydromodification BMPs (BMPDM Chapter 6) <input type="checkbox"/> Alternative Compliance Project (BMPDM Section 1.8)	<b>Att. 6</b>	<b>Att. 7</b>	<b>Att. 8</b>	<b>Att. 9</b>	<b>Att. 10</b>	<b>Att. 11</b>	<b>Att. 12</b>
	DMAs without Structural BMPs	DMAs w/ Structural Pollutant Control BMPs	DMAs w/ Structural Hydromod. BMPs	Critical Coarse Sediment Yield Areas	Installation Verification Form	Maintenance Agreements/ Plans	Alternative Compliance Projects
	<input type="checkbox"/>			<input type="checkbox"/>			
	<input type="checkbox"/>			<input type="checkbox"/>			
	<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> <b>Please check this box after you complete this list. Corresponding attachments will be automatically selected on the right.</b>							

- Attachments 1, 2, and 5 are required for all projects.

**Table 6: Critical Coarse Sediment Yield Area (CCSYA) Requirements**

<ul style="list-style-type: none"><li>○ Identify one applicable compliance pathway for the PDP below.</li><li>○ Document your selection in <b>Attachment 9</b>.</li></ul>
<b>A. Hydromodification Management Exemption (BMPDM Sections 1.6 and 6.1)</b>
<input type="checkbox"/> <b>PDP is Exempt from Hydromodification Management Requirements</b> Select if hydromodification management exemption was selected in Table 4 Part A.1.
<b>B. Watershed Management Area (WMAA) Mapping (BMPDM Appendix H.1.1.2)</b>
<input checked="" type="checkbox"/> <b>WMAA mapping demonstrates the following:</b> <ul style="list-style-type: none"><li>a. &lt;5% of potential onsite CCYSAs will be impacted (built on or obstructed)</li><li>b. All potential upstream offsite CCYSAs will be bypassed</li></ul>
<b>C. Resource Protection Ordinance (RPO) Methods (BMPDM Appendix H.1.1.1)</b>
<input type="checkbox"/> <b>RPO Scenario 1: PDP is subject to and in compliance with RPO requirements</b> <ul style="list-style-type: none"><li>a. Project requires one or more discretionary permits (RPO applicability is confirmed during discretionary review)</li><li>b. Onsite AND upstream offsite CCSYAs will be avoided and/or bypassed</li></ul>
<input type="checkbox"/> <b>RPO Scenario 2: PDP is entirely exempt/not subject to RPO requirements<sup>2</sup></b> <ul style="list-style-type: none"><li>a. Project does not require discretionary permits</li><li>b. Project will bypass all upstream offsite CCSYAs (no requirements for onsite CCSYAs)</li></ul>
<b>D. No Net Impact Analysis (BMPDM Appendix H.4)</b>
<input type="checkbox"/> <b>Project demonstrates no net impact to receiving waters</b>

<sup>2</sup> Does not include PDPs utilizing exemption(s) via RPO Section 86.604(e)(2)(cc) or 86.604(e)(3).

**Table 7 –Minimum Construction Stormwater BMPs**

Minimum Required BMPs by Activity Type		References	
Select all applicable activities and at least one BMP for each		Caltrans <sup>3</sup>	County of San Diego
<input checked="" type="checkbox"/> <b>Erosion Control for Disturbed Slopes</b> (choose at least 1 per season)			
<input checked="" type="checkbox"/> Vegetation Stabilization Planting <sup>4</sup> (Summer)	SS-2, SS-4		
<input checked="" type="checkbox"/> Hydraulic Stabilization Hydroseeding <sup>9</sup> (Summer)	SS-4		
<input checked="" type="checkbox"/> Bonded Fiber Matrix or Stabilized Fiber Matrix <sup>5</sup> (Winter)	SS-3		
<input type="checkbox"/> Physical Stabilization Erosion Control Blanket <sup>7</sup> (Winter)	SS-7		
<input checked="" type="checkbox"/> <b>Erosion control for disturbed flat areas (slope &lt; 5%)</b>			
<input checked="" type="checkbox"/> County Standard Lot Perimeter Protection Detail	SC-2		PDS 659 <sup>6</sup>
<input checked="" type="checkbox"/> Use of Item A erosion control measures on flat areas	SS-3, SS-4, SS-7		
<input type="checkbox"/> County Standard Desilting Basin (must treat all site runoff)	SC-2		PDS 660 <sup>7</sup>
<input type="checkbox"/> Mulch, straw, wood chips, soil application	SS-6, SS-8		
<input type="checkbox"/> <b>Energy dissipation (required to control velocity for concentrated runoff or dewatering discharge)</b>			
<input type="checkbox"/> Energy Dissipater Outlet Protection	SS-10		RSD D-40 <sup>8</sup>
<input checked="" type="checkbox"/> <b>Sediment control for all disturbed areas</b>			
<input checked="" type="checkbox"/> Silt Fence	SC-1		
<input checked="" type="checkbox"/> Fiber Rolls (Straw Wattles)	SC-5		
<input checked="" type="checkbox"/> Gravel & Sand Bags	SC-6, SC-8		
<input type="checkbox"/> Dewatering Filtration	NS-2		
<input type="checkbox"/> Storm Drain Inlet Protection	SC-10		
<input type="checkbox"/> Engineered Desilting Basin (sized for 10-year flow)	SC-2		
<input checked="" type="checkbox"/> <b>Preventing offsite tracking of sediment</b>			
<input checked="" type="checkbox"/> Stabilized Construction Entrance	TC-1		
<input checked="" type="checkbox"/> Construction Road Stabilization	TC-2		
<input type="checkbox"/> Entrance/Exit Tire Wash	TC-3		
<input type="checkbox"/> Entrance/Exit Inspection & Cleaning Facility	TC-1		
<input type="checkbox"/> Street Sweeping and Vacuuming	SC-7		
<input checked="" type="checkbox"/> <b>Materials Management</b>			
<input checked="" type="checkbox"/> Material Delivery & Storage	WM-1		
<input checked="" type="checkbox"/> Spill Prevention and Control	WM-4		
<input checked="" type="checkbox"/> <b>Waste Management<sup>9</sup></b>			
<input checked="" type="checkbox"/> Waste Management Concrete Waste Management	WM-8		
<input checked="" type="checkbox"/> Solid Waste Management	WM-5		
<input checked="" type="checkbox"/> Sanitary Waste Management	WM-9		
<input type="checkbox"/> Hazardous Waste Management	WM-6		

<sup>3</sup> See Caltrans 2017 Storm Water Quality Handbooks, Construction Site BMP Manual, available at: (<http://www.dot.ca.gov/hq/construc/stormwater/manuals.htm>)

<sup>4</sup> Planting or Hydroseeding may be installed between May 1st and August 15th. Slope irrigation must be in place and operable for slopes >3 feet. Vegetation must be watered and established prior to October 1st. A contingency physical BMP must be implemented by August 15th if vegetation is not established by that date. If landscaping is proposed, erosion control measures must also be used while landscaping is being established. Established vegetation must have a subsurface mat of intertwined mature roots with a uniform vegetative coverage of 70 percent of the natural vegetative coverage or more on all disturbed areas.

<sup>5</sup> All slopes over three feet must have established vegetative cover prior to final permit approval.

<sup>6</sup> County PDS 659. Standard Lot Perimeter Protection Design System (Bldg. Division)

<sup>7</sup> County PDS 660. County Standard Desilting Basin for Disturbed Areas of 1 Acre or Less Bldg. Division

<sup>8</sup> Regional Standard Drawing D-40 – Rip Rap Energy Dissipater (also acceptable for velocity reduction)

<sup>9</sup> Applicants are responsible to apply appropriate BMPs for specific wastes (e.g., BMP WM-8 for concrete).

**Table 8 – Explanations and Justifications for Construction Phase BMPs**

<input type="checkbox"/> Check here if no explanations or justifications for Table 7 BMPs are required.		
<b>Justifications for Table 7 Temporary Construction Phase BMPs</b> <ul style="list-style-type: none"> <li>• <b>Required Justifications:</b> Justify all construction activity types for which NO BMPs were selected.</li> <li>• <b>If Requested:</b> Justify why specific individual BMPs were not selected.</li> <li>• <b>Additional Explanation:</b> Describe any proposed features and/or BMPs not listed in Table 7.</li> </ul>		
<b>Activity Type / BMP</b>		<b>Explanation</b>
Activity Type	Energy Dissipation	Outlet protection is not anticipated as a result of the project based on no proposed storm drain or dewatering.
BMP	Energy Dissipator Outlet Protection	
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	
Activity Type	Activity Type	Explanation
BMP	BMP	



County of San Diego  
Stormwater Quality Management Plan (SWQMP)  
**Attachment 1: Storm Water Intake Form for All Permit Applications**

This form establishes Stormwater Quality Management Plan (SWQMP) requirements for Development Projects per Sections 67.809 and 67.811 of the County of San Diego Watershed Protection Ordinance (WPO). See **Storm Water Intake Form Instructions** for additional guidance and explanation of terms.

<b>Part 1. Project Information</b>		
Project Name:	Rancho Guejito Tasting Room & Event Center	
Record ID (Permit) No(s):	PDS2018-AD-12-032W1	
Assessor's Parcel No(s):	242-070-08,13,15; 242-110-01	
Street Address (or Intersection):	17224 San Pasqual Valley Road	
City, State, Zip:	Escondido, CA 92027	

<b>Part 2. Applicant / Project Proponent Information</b>		
Name:	Hank Rupp	
Company:	Rancho Guejito Corporation	
Street Address:	17224 San Pasqual Valley Road	
City, State, Zip:	Escondido, CA 92027	
Phone Number	800-519-4441	
Email:	<a href="mailto:hank@ranchoguejito.net">hank@ranchoguejito.net</a>	

<b>Part 3. Required Information for All Development Projects</b>			
<b>(A)</b>	<b>1. Existing (pre-development) impervious surfaces (ft<sup>2</sup>)</b>	<b>2. Created or replaced impervious surfaces (ft<sup>2</sup>)</b>	<b>3. Total disturbed area (acres or ft<sup>2</sup>)</b>
	4,285	102,320	311,041
<b>(B)</b>	<input checked="" type="checkbox"/> Check here and provide a WDID# if this project is subject to the California Construction General Permit (Order No. 2009-0009-DWQ) <sup>1</sup>		<b>WDID # (if issued)</b>
			TBD

<b>For County Use Only</b>	<b>Reviewed By:</b>	<b>Review Date:</b>
<input type="checkbox"/> Standard SWQMP	<input type="checkbox"/> PDP SWQMP	<input type="checkbox"/> Green Streets PDP Exemption SWQMP

<sup>1</sup> Available at: [https://www.waterboards.ca.gov/water\\_issues/programs/stormwater/construction.html](https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html)



**Part 4. Priority Classification & SWQMP Form Selection****(A) If your project is the following ... (select one)****(B) You must complete ...**☐ **Standard Project****→ Standard SWQMP Form**

- ☐ a. Project is East of the Pacific/Salton Sea Divide
- ☐ b. None of the PDP criteria below applies

☒ **Priority Development Project (PDP)****→ PDP SWQMP Form**

- ☐ 1. Project is part of an existing PDP, OR
- ☒ 2. Project does any of the following:
- ☒ a. Creates or replaces a total of 10,000 ft<sup>2</sup> or more of impervious surface
  - ☒ b. Creates or replaces a combined total of 5,000 ft<sup>2</sup> or more of impervious surface within one or more of the following uses: (1) parking lots; (2) streets, roads, highways, freeways, and/or driveways; (3) restaurants; and (4) hillsides
  - ☐ c. Creates or replaces a combined total of 5,000 ft<sup>2</sup> or more of impervious surface within one or more of the following uses: (1) automotive repair shops; and (2) retail gasoline outlets
  - ☐ d. Discharges directly to an Environmentally Sensitive Area (ESA) AND creates or replaces 2,500 ft<sup>2</sup> or more of impervious surface
  - ☒ e. Disturbs one or more acres of land (43,560 ft<sup>2</sup>) and is expected to generate pollutants post-construction
  - ☐ f. Is a redevelopment project that creates or replaces 5,000 ft<sup>2</sup> or more of impervious surface on a site already having at least 10,000 ft<sup>2</sup> of impervious surface

☐ **Green Streets PDP Exemption<sup>2</sup>****→ Green Streets PDP Exemption SWQMP Form****Part 5. Applicant Signature***I have reviewed the information in this form, and it is true and correct to the best of my knowledge.*

Applicant / Project Proponent Signature:

Date:

- **Upon completion** submit this form to the County.
- **If requested**, attach supporting documentation to justify selections made or exemptions claimed.
- **If this is a PDP that is part of a larger existing PDP**, you will be required to attach a copy of the existing SWQMP to the newer SWQMP submittal.

<sup>2</sup> **Green Streets PDP Exemption Projects** are those claiming exemption from PDP classification per WPO Section 67.811(b)(2) because they consist exclusively of *either* 1) development of new sidewalks, bike lanes, and/or trails; *or* 2) improvements to existing roads, sidewalks, bike lanes, and/or trails.



County of San Diego  
Stormwater Quality Management Plan (SWQMP)  
***Attachment 2: DMA Exhibits and Construction Plans***

## 2.0 General Requirements

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- Attachment 2 consolidates exhibits and plans required for the entire project.
- Complete the table below to indicate which sub-attachments are included with the submittal. Sub-attachments that are not applicable can be excluded from the submittal.
- Unless otherwise stated, features and BMPs identified and described in each corresponding Attachment (6 through 9) must be shown on applicable DMA Exhibits and construction plans submitted for the project.

Sub-attachments	Requirement
<input checked="" type="checkbox"/> 2.1: DMA Exhibits	All PDPs
<input type="checkbox"/> 2.2: Individual Structural BMP DMA Mapbook	PDPs with structural BMPs
<input checked="" type="checkbox"/> 2.3: Construction Plan Sets	All projects

## 2.1 DMA Exhibits

- DMA Exhibits must show all DMAs on the project site. Exhibits must include all applicable features identified in applicable SWQMP attachments.
- Exhibits may be prepared individually for the BMPs associated with each applicable SWQMP Attachment (6, 7, 8, and/or 9) or combined into one or more consolidated exhibits.
- Use this checklist to ensure required information is included on each exhibit (copy as needed).

<b>DMA Exhibit ID #:</b>	
<b>A. Features required for all exhibits</b>	
<b>1. Existing Site Features</b>	
<input checked="" type="checkbox"/> Underlying hydrologic soil group (A, B, C, D)	<input checked="" type="checkbox"/> Topography and impervious areas
<input checked="" type="checkbox"/> Approximate depth to groundwater	<input checked="" type="checkbox"/> Existing drainage network, directions, and offsite connections
<input checked="" type="checkbox"/> Natural hydrologic features	
<b>2. Drainage Management Area (DMA) Information</b>	
<input checked="" type="checkbox"/> Proposed drainage network, directions, and offsite connections	<input checked="" type="checkbox"/> DMA boundaries, ID numbers, areas, and type (structural BMP, de minimis, etc.)
<b>3. Proposed Site Changes, Features, and BMPs</b>	
<input type="checkbox"/> Proposed demolition and grading	<input type="checkbox"/> Construction BMPs <sup>2</sup>
<input checked="" type="checkbox"/> Group 1, 2, and 3 Features <sup>1</sup>	<input type="checkbox"/> Baseline source control BMPs
<input checked="" type="checkbox"/> Group 4 Features	<input type="checkbox"/> Baseline source control BMPs
<b>B. Proposed Features and BMPs Specific to Individual SWQMP Attachments<sup>3</sup></b>	
<input checked="" type="checkbox"/> Attachment 6	<input checked="" type="checkbox"/> SSD-BMP impervious dispersion areas <input type="checkbox"/> SSD-BMP tree wells
<input type="checkbox"/> Attachment 7	<input type="checkbox"/> Structural pollutant control BMPs
<input checked="" type="checkbox"/> Attachment 8	<input type="checkbox"/> Structural hydromodification management BMPs <input checked="" type="checkbox"/> Point(s) of Compliance (POC) for hydromodification management <input checked="" type="checkbox"/> Proposed drainage boundary and drainage area to each POC
<input checked="" type="checkbox"/> Attachment 9	<input checked="" type="checkbox"/> Onsite CCSYAs <input checked="" type="checkbox"/> Bypass of onsite CCSYAs <input type="checkbox"/> Bypass of upstream offsite CCSYAs

<sup>1</sup> Group 1-4 features and baseline BMPs from PDP SWQMP Tables 2 and 3.

<sup>2</sup> Minimum Construction Stormwater BMPs from PDP SWQMP Table 7.

<sup>3</sup> Identify the location, ID numbers, type, and size/detail of BMPs.

## 2.2 Individual Structural BMP DMA Mapbook

---

- Use this page as a cover sheet for the Structural DMA Mapbook.
- An individual Structural DMA Mapbook must be submitted for any project site with one or more structural BMPs. One Mapbook is required for each unique subsequent owner with responsibility for maintenance of a Structural BMP. Mapbook exhibits will be incorporated as exhibits in Stormwater Maintenance Agreements (SWMAs) and Maintenance Notifications (MNs). See Attachment 11 for additional information on maintenance agreements. If the Mapbook has been provided for each subsequent owner in Attachment 11, they are not required here.
- Place each map on 8.5"x11" paper.
- Show at a minimum the DMA, Structural BMP, Assessor's parcel boundaries with parcel numbers, and any existing hydrologic features within the DMA.

<input type="checkbox"/>	<u>All Mapbooks are attached</u>
<input type="checkbox"/>	<u>All Mapbooks are in Attachment 11</u>

## 2.3 Construction Plan Sets

- DMAs, features, and BMPs identified and described in this attachment must also be shown on all applicable construction and landscape plans.
- As applicable, plan sheets must identify:
  - All features and BMPs identified in Sub-attachment 2.1 (DMA Exhibits).
  - The additional information listed below.
- Use this checklist to ensure required information is included on each plan (copy as needed).

Plan Type
<b>Required Information<sup>4</sup></b>
<ul style="list-style-type: none"><li><input type="checkbox"/> Structural BMP(s) and Significant Site Design BMPs (if applicable) with ID numbers.</li><li><input checked="" type="checkbox"/> The grading and drainage design shown on the plans must be consistent with the delineation of DMAs shown on the DMA exhibit.</li><li><input type="checkbox"/> Details and specifications for construction of Structural BMP(s) and Significant Site Design BMPs (if applicable).</li><li><input type="checkbox"/> Signage indicating the location and boundary of structural BMP(s) as required by County staff.</li><li><input type="checkbox"/> How to access the structural BMP(s) to inspect and perform maintenance.</li><li><input type="checkbox"/> Features that are provided to facilitate inspection (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds).</li><li><input type="checkbox"/> Maintenance thresholds specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP).</li><li><input type="checkbox"/> Recommended equipment to perform maintenance.</li><li><input type="checkbox"/> When applicable, necessary special training or certification requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management.</li><li><input type="checkbox"/> Include landscaping plan sheets (if available) showing vegetation requirements for vegetated structural BMP(s).</li><li><input type="checkbox"/> All BMPs must be fully dimensioned on the plans.</li><li><input type="checkbox"/> When proprietary BMPs are used, site-specific cross-section with outflow, inflow, and manufacturer model number must be provided. Photocopies of general brochures are not acceptable.</li><li><input type="checkbox"/> Include all source control and site design measures described in the SWQMP.</li><li><input type="checkbox"/> Include all construction BMPs described in the SWQMP.</li></ul>

<sup>4</sup> For Building Permit Applications, refer to Form PDS 272,  
<https://www.sandiegocounty.gov/content/dam/sdc/pds/docs/pds272.pdf>



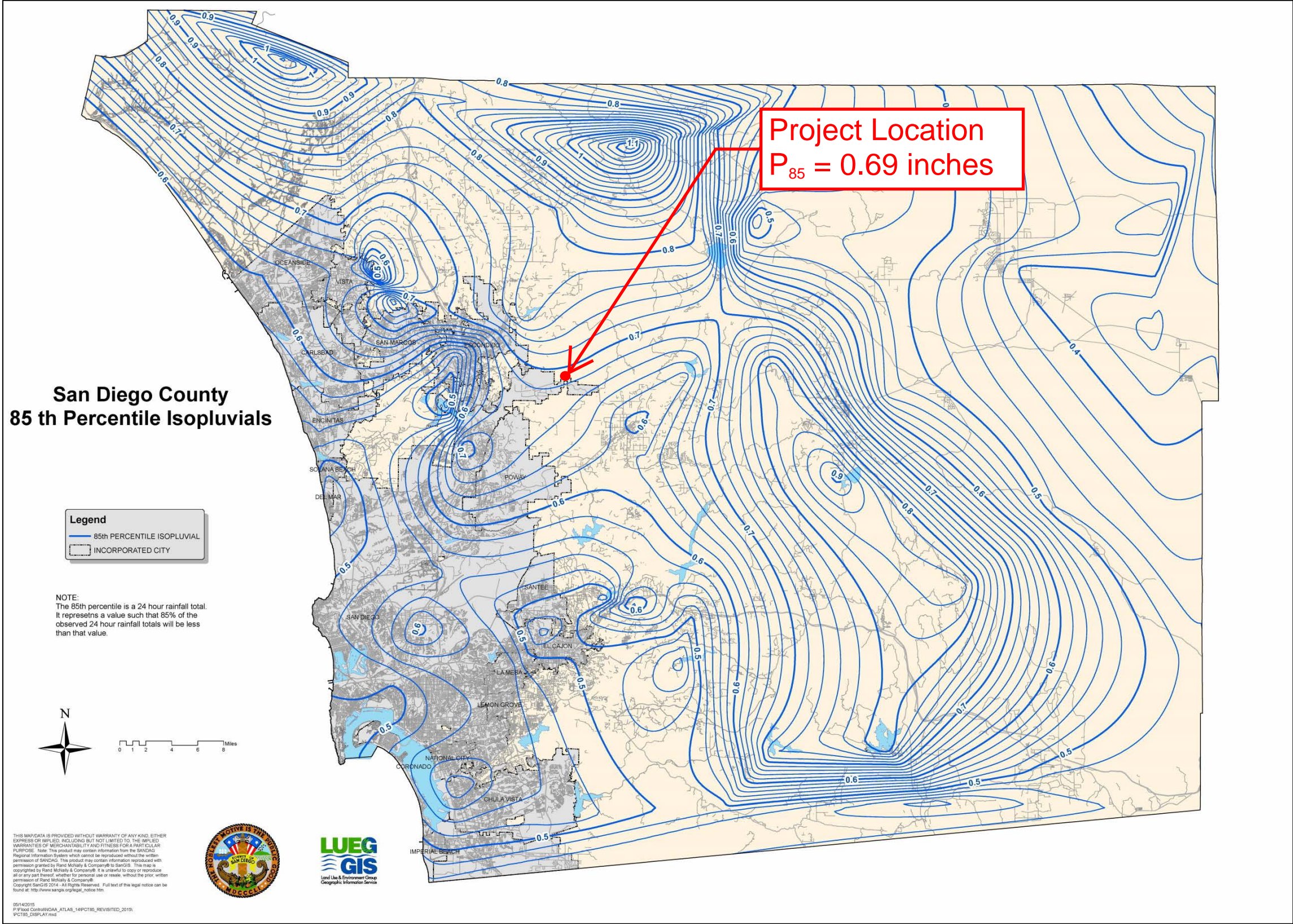


Figure B.1-1: 85th Percentile 24-hour Isopluvial Map



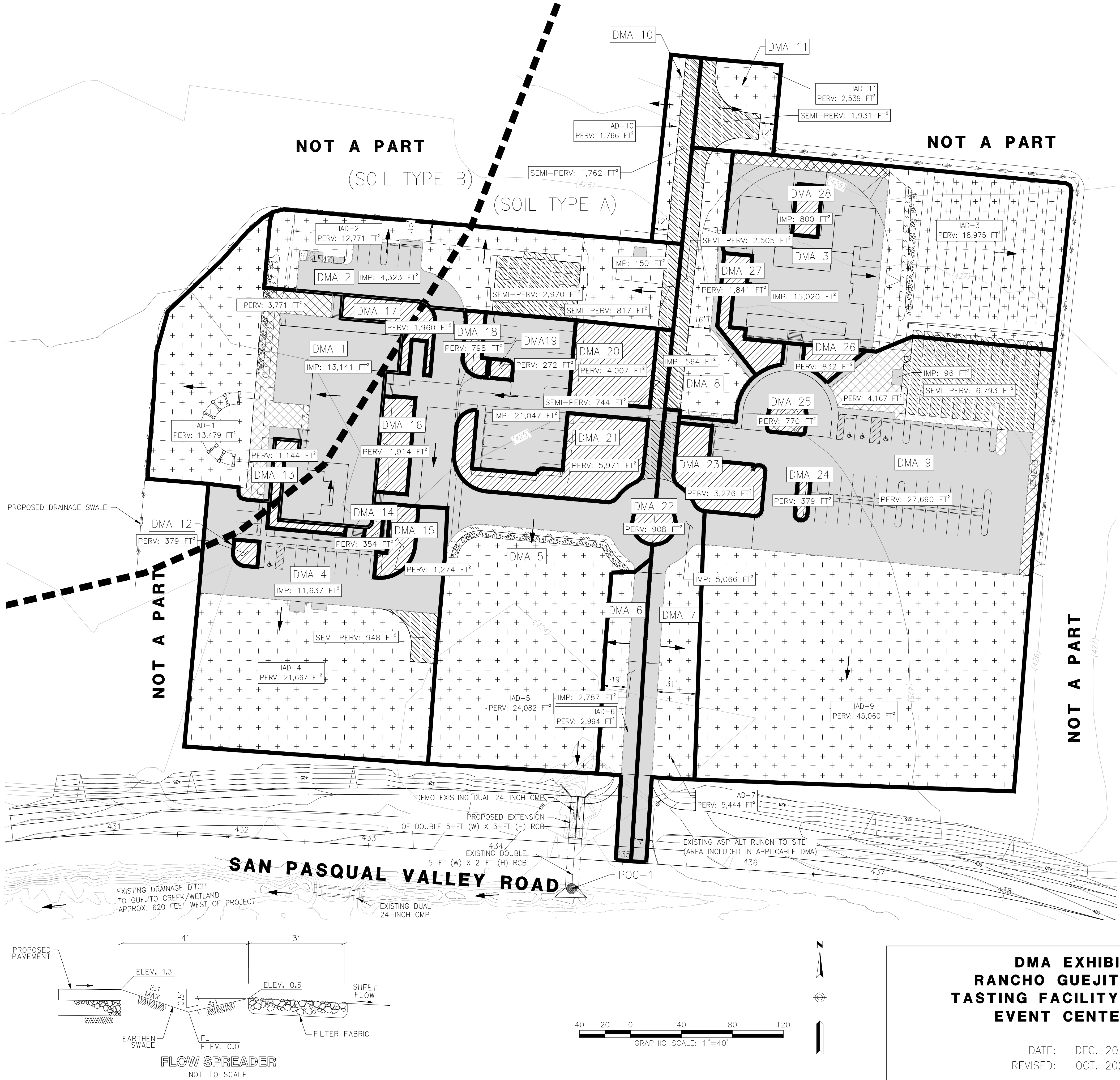
LEGEND

- DMA BOUNDARY
- DMA 9 DMA
- HYDROLOGIC SOIL TYPE BOUNDARY
- SWALE (V-DITCH)
- SURFACE FLOW DIRECTION
- IMPERVIOUS AREA
- SEMI-PERVIOUS AREA
- IMPERVIOUS AREA DISPERSION AREA
- SELF-RETAINING AREA BY IAD
- PERVIOUS AREA
- FLOW SPREADER SWALE
- FLOW SPREADER RIPRAP

NOTES:

- 85th PERCENTILE RAINFALL = 0.69 INCHES
- DEPTH TO GROUNDWATER >25 FT  
(TO BE VERIFIED DURING FINAL ENGINEERING)
- NO CRITICAL COURSE SEDIMENT YIELD AREAS WITHIN PROJECT BOUNDARY
- NO WATER COURSES WITHIN PROJECT BOUNDARY.
- NO RUN-ON TO SITE BASED ON SOIL HYDRAULIC CONDUCTIVITY EXCEEDED THE DESIGN STORM MAXIMUM RAINFALL INTENSITY. AS PRE-CAUTIONARY MEASURE DESIGN WILL INCLUDE SWALES TO CONVEY POTENTIAL RUN-ON AROUND SITE FEATURES AND AWAY FROM SITE BMPs.
- IAD = IMPERVIOUS AREA DISPERSION
- EXISTING SOIL CONDITIONS AT PROJECT LOCATION (VINEYARD) INCLUDE SANDY LOAM, EQUIVALENT TO AMENDED SOIL AS DOCUMENTED IN SD-F TO A DEPTH OF AND BEYOND 11 INCHES.
- SD-B CHECKLIST REQUIREMENTS TO BE MET PURSUANT TO APPENDIX E OF THE BMP DM.

DMA	PROPOSED DMA TYPE AND BMPs	TOTAL AREA (FT²)	IMPERVIOUS + SEMI-PERVIOUS AREA (FT²)	IMPERVIOUS AREA (FT²)	SEMI-PERVIOUS AREA (FT²)	PERVIOUS AREA (FT²)	PERVIOUS IAD AREA (FT²)	RATIO (I:P)	RATIO (H:S:P)
1	SELF-RETAINING (IAD)	30,391	13,141	13,141	-	3,771	13,479	0.76 :1	0.97 :1
2		21,031	8,260	4,473	3,787	-	12,771	0.35 :1	0.65 :1
3		35,124	15,020	15,020	-	1,129	18,975	0.75 :1	0.79 :1
4		34,252	12,585	11,637	948	-	21,667	0.54 :1	0.58 :1
5		46,758	21,790	21,046	744	886	24,082	0.84 :1	0.90 :1
6		5,781	2,787	2,787	-	-	2,994	0.93 :1	0.93 :1
7		10,510	5,066	5,066	-	-	5,444	0.93 :1	0.93 :1
8		8,511	3,099	564	2,535	-	5,412	0.10 :1	0.57 :1
9		83,806	34,579	27,786	6,793	4,167	45,060	0.56 :1	0.77 :1
10		3,528	1,762	-	1,762	-	1,766	- :1	1.00 :1
11		4,470	1,931	-	1,931	-	2,539	0 :1	0.76 :1
12		379	-	-	-	379	-	0 :1	0 :1
13		1,144	-	-	-	1,144	-	0 :1	0 :1
14		354	-	-	-	354	-	0 :1	0 :1
15		1,274	-	-	-	1,274	-	0 :1	0 :1
16		1,914	-	-	-	1,914	-	0 :1	0 :1
17		1,960	-	-	-	1,960	-	0 :1	0 :1
18		798	-	-	-	798	-	0 :1	0 :1
19		272	-	-	-	272	-	0 :1	0 :1
20		4,007	-	-	-	4,007	-	0 :1	0 :1
21		5,971	-	-	-	5,971	-	0 :1	0 :1
22		908	-	-	-	908	-	0 :1	0 :1
23		3,276	-	-	-	3,276	-	0 :1	0 :1
24		379	-	-	-	379	-	0 :1	0 :1
25		770	-	-	-	770	-	0 :1	0 :1
26		832	-	-	-	832	-	0 :1	0 :1
27		1,841	-	-	-	1,841	-	0 :1	0 :1
28	SELF-RETAINING (POOL)	800	800	800	-	-	-	0 :1	0 :1
TOTAL		311,041		102,320	18,500	36,032	154,189		



5620 FRIARS ROAD  
SAN DIEGO, CA 92110  
619.291.0707  
(FAX) 619.291.4165

DMA EXHIBIT  
RANCHO GUEJITO  
TASTING FACILITY &  
EVENT CENTER

DATE: DEC. 2019  
REVISED: OCT. 2020  
SHEET 1 OF 1

J- 14557



County of San Diego  
Stormwater Quality Management Plan (SWQMP)  
***Attachment 3: Source Control BMP Worksheet***

### **3.0 Cover Sheet and General Requirements**

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- Standard SWQMP Form Table 2 and PDP SWQMP Form Table 3 require the identification of pollutant-generating sources and associated BMPs for development projects.
- In some cases, County staff may request additional, more detailed documentation of source control BMP design details. If requested, applicants must submit a completed copy of this Source Control BMP Worksheet. This requirement can be satisfied either by submitting a copy of BMPDM Attachment E.1 (Source Control BMP Requirements) or equivalent documentation at the County's discretion.
- Submit this documentation using this cover sheet.
- Sources and BMPs must also be shown as applicable on DMA exhibits and construction plans (see Attachment 2).



## Automated Worksheet B.1: Calculation of Design Capture Volume (V2.0)

Category	#	Description	<i>i</i>	<i>ii</i>	<i>iii</i>	<i>iv</i>	<i>v</i>	<i>vi</i>	<i>vii</i>	<i>viii</i>	<i>ix</i>	<i>x</i>	Units
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	DMA-1	DMA-2	DMA-3	DMA-4	DMA-5	DMA-6	DMA-7	DMA-8	DMA-9	DMA-10	unitless
	2	85th Percentile 24-hr Storm Depth	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	inches
	3	Impervious Surfaces <u>Not Directed to Dispersion Area</u> (C=0.90)											sq-ft
	4	Semi-Pervious Surfaces <u>Not Serving as Dispersion Area</u> (C=0.30)											sq-ft
	5	Engineered Pervious Surfaces <u>Not Serving as Dispersion Area</u> (C=0.10)											sq-ft
	6	Natural Type A Soil <u>Not Serving as Dispersion Area</u> (C=0.10)											sq-ft
	7	Natural Type B Soil <u>Not Serving as Dispersion Area</u> (C=0.14)											sq-ft
	8	Natural Type C Soil <u>Not Serving as Dispersion Area</u> (C=0.23)											sq-ft
	9	Natural Type D Soil <u>Not Serving as Dispersion Area</u> (C=0.30)											sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	10	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	yes/no
	11	Impervious Surfaces <b>Directed to Dispersion Area</b> per SD-B (Ci=0.90)	13,141	8,260	15,020	12,585	21,790	2,787	5,066	3,099	34,579	1,762	sq-ft
	12	Semi-Pervious Surfaces <b>Serving as Dispersion Area</b> per SD-B (Ci=0.30)											sq-ft
	13	Engineered Pervious Surfaces <b>Serving as Dispersion Area</b> per SD-B (Ci=0.10)	13,479	12,771	18,975	21,667	24,082	2,994	5,444	5,412	45,060	1,776	sq-ft
	14	Natural Type A Soil <b>Serving as Dispersion Area</b> per SD-B (Ci=0.10)			1,129		886				4,167		sq-ft
	15	Natural Type B Soil <b>Serving as Dispersion Area</b> per SD-B (Ci=0.14)	3,711										sq-ft
	16	Natural Type C Soil <b>Serving as Dispersion Area</b> per SD-B (Ci=0.23)											sq-ft
	17	Natural Type D Soil <b>Serving as Dispersion Area</b> per SD-B (Ci=0.30)											sq-ft
	18	Number of Tree Wells Proposed per SD-A											#
	19	Average Mature Tree Canopy Diameter											ft
	20	Number of Rain Barrels Proposed per SD-E											#
21	Average Rain Barrel Size											gal	
Initial Runoff Factor Calculation	22	Total Tributary Area	30,331	21,031	35,124	34,252	46,758	5,781	10,510	8,511	83,806	3,538	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	24	Initial Runoff Factor for Dispersed & Dispersion Areas	0.45	0.41	0.44	0.39	0.47	0.49	0.49	0.39	0.43	0.50	unitless
	25	Initial Weighted Runoff Factor	0.45	0.41	0.44	0.39	0.47	0.49	0.49	0.39	0.43	0.50	unitless
	26	Initial Design Capture Volume	785	496	889	768	1,264	163	296	191	2,072	102	cubic-feet
Dispersion Area Adjustments	27	Total Impervious Area Dispersed to Pervious Surface	13,141	8,260	15,020	12,585	21,790	2,787	5,066	3,099	34,579	1,762	sq-ft
	28	Total Pervious Dispersion Area	17,190	12,771	20,104	21,667	24,968	2,994	5,444	5,412	49,227	1,776	sq-ft
	29	Ratio of Dispersed Impervious Area to Pervious Dispersion Area	0.80	0.60	0.70	0.60	0.90	0.90	0.90	0.60	0.70	1.00	ratio
	30	Adjustment Factor for Dispersed & Dispersion Areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	31	Runoff Factor After Dispersion Techniques	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	32	Design Capture Volume After Dispersion Techniques	0	0	0	0	0	0	0	0	0	0	cubic-feet
Tree & Barrel Adjustments	33	Total Tree Well Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
	34	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	35	Final Adjusted Runoff Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	36	Final Effective Tributary Area	0	0	0	0	0	0	0	0	0	0	sq-ft
	37	Initial Design Capture Volume Retained by Site Design Elements	785	496	889	768	1,264	163	296	191	2,072	102	cubic-feet
	38	Final Design Capture Volume Tributary to BMP	0	0	0	0	0	0	0	0	0	0	cubic-feet
No Warning Messages													

## Automated Worksheet B.2: Retention Requirements (V2.0)

[illegible]

### No Warning Messages

## Automated Worksheet B.3: BMP Performance (V2.0)

[illegible]

### No Warning Messages

## Automated Worksheet B.1: Calculation of Design Capture Volume (V2.0)

Category	#	Description	<i>i</i>	<i>ii</i>	<i>iii</i>	<i>iv</i>	<i>v</i>	<i>vi</i>	<i>vii</i>	<i>viii</i>	<i>ix</i>	<i>x</i>	Units
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	DMA-11	DMA-12	DMA-13	DMA-14	DMA-15	DMA-16	DMA-17	DMA-18	DMA-19	DMA-20	unitless
	2	85th Percentile 24-hr Storm Depth	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	inches
	3	Impervious Surfaces <u>Not Directed to Dispersion Area</u> (C=0.90)											sq-ft
	4	Semi-Pervious Surfaces <u>Not Serving as Dispersion Area</u> (C=0.30)											sq-ft
	5	Engineered Pervious Surfaces <u>Not Serving as Dispersion Area</u> (C=0.10)											sq-ft
	6	Natural Type A Soil <u>Not Serving as Dispersion Area</u> (C=0.10)											sq-ft
	7	Natural Type B Soil <u>Not Serving as Dispersion Area</u> (C=0.14)											sq-ft
	8	Natural Type C Soil <u>Not Serving as Dispersion Area</u> (C=0.23)											sq-ft
	9	Natural Type D Soil <u>Not Serving as Dispersion Area</u> (C=0.30)											sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	10	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	yes/no
	11	Impervious Surfaces <b>Directed to Dispersion Area</b> per SD-B (Ci=0.90)	1,931	0	0	0	0	0	0	0	0	0	sq-ft
	12	Semi-Pervious Surfaces <b>Serving as Dispersion Area</b> per SD-B (Ci=0.30)											sq-ft
	13	Engineered Pervious Surfaces <b>Serving as Dispersion Area</b> per SD-B (Ci=0.10)	2,539										sq-ft
	14	Natural Type A Soil <b>Serving as Dispersion Area</b> per SD-B (Ci=0.10)		379	1,144	354	1,274	1,914	1,960	798	272	4,007	sq-ft
	15	Natural Type B Soil <b>Serving as Dispersion Area</b> per SD-B (Ci=0.14)											sq-ft
	16	Natural Type C Soil <b>Serving as Dispersion Area</b> per SD-B (Ci=0.23)											sq-ft
	17	Natural Type D Soil <b>Serving as Dispersion Area</b> per SD-B (Ci=0.30)											sq-ft
	18	Number of Tree Wells Proposed per SD-A											#
	19	Average Mature Tree Canopy Diameter											ft
	20	Number of Rain Barrels Proposed per SD-E											#
21	Average Rain Barrel Size											gal	
Initial Runoff Factor Calculation	22	Total Tributary Area	4,470	379	1,144	354	1,274	1,914	1,960	798	272	4,007	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	24	Initial Runoff Factor for Dispersed & Dispersion Areas	0.45	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	unitless
	25	Initial Weighted Runoff Factor	0.45	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	unitless
	26	Initial Design Capture Volume	116	2	7	2	7	11	11	5	2	23	cubic-feet
Dispersion Area Adjustments	27	Total Impervious Area Dispersed to Pervious Surface	1,931	0	0	0	0	0	0	0	0	0	sq-ft
	28	Total Pervious Dispersion Area	2,539	379	1,144	354	1,274	1,914	1,960	798	272	4,007	sq-ft
	29	Ratio of Dispersed Impervious Area to Pervious Dispersion Area	0.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	30	Adjustment Factor for Dispersed & Dispersion Areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	ratio
	31	Runoff Factor After Dispersion Techniques	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	32	Design Capture Volume After Dispersion Techniques	0	0	0	0	0	0	0	0	0	0	cubic-feet
Tree & Barrel Adjustments	33	Total Tree Well Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
	34	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	35	Final Adjusted Runoff Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	36	Final Effective Tributary Area	0	0	0	0	0	0	0	0	0	0	sq-ft
	37	Initial Design Capture Volume Retained by Site Design Elements	116	2	7	2	7	11	11	5	2	23	cubic-feet
	38	Final Design Capture Volume Tributary to BMP	0	0	0	0	0	0	0	0	0	0	cubic-feet
No Warning Messages													

## Automated Worksheet B.2: Retention Requirements (V2.0)

[illegible]

### No Warning Messages

## Automated Worksheet B.3: BMP Performance (V2.0)

[illegible]

### No Warning Messages



Automated Worksheet B.1: Calculation of Design Capture Volume (V2.0)

Category	#	Description	<i>i</i>	<i>ii</i>	<i>iii</i>	<i>iv</i>	<i>v</i>	<i>vi</i>	<i>vii</i>	<i>viii</i>	<i>ix</i>	<i>x</i>	Units
Standard Drainage Basin Inputs	1	Drainage Basin ID or Name	DMA-21	DMA-22	DMA-23	DMA-24	DMA-25	DMA-26	DMA-27	DMA-28 (POOL)			unitless
	2	85th Percentile 24-hr Storm Depth	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69			inches
	3	Impervious Surfaces <u>Not Directed to Dispersion Area</u> (C=0.90)											sq-ft
	4	Semi-Pervious Surfaces <u>Not Serving as Dispersion Area</u> (C=0.30)											sq-ft
	5	Engineered Pervious Surfaces <u>Not Serving as Dispersion Area</u> (C=0.10)											sq-ft
	6	Natural Type A Soil <u>Not Serving as Dispersion Area</u> (C=0.10)											sq-ft
	7	Natural Type B Soil <u>Not Serving as Dispersion Area</u> (C=0.14)											sq-ft
	8	Natural Type C Soil <u>Not Serving as Dispersion Area</u> (C=0.23)											sq-ft
	9	Natural Type D Soil <u>Not Serving as Dispersion Area</u> (C=0.30)											sq-ft
Dispersion Area, Tree Well & Rain Barrel Inputs (Optional)	10	Does Tributary Incorporate Dispersion, Tree Wells, and/or Rain Barrels?	Yes	Yes	Yes	Yes	Yes	Yes	Yes				yes/no
	11	Impervious Surfaces <b>Directed to Dispersion Area</b> per SD-B (Ci=0.90)	0	0	0	0	0	0	0				sq-ft
	12	Semi-Pervious Surfaces <b>Serving as Dispersion Area</b> per SD-B (Ci=0.30)											sq-ft
	13	Engineered Pervious Surfaces <b>Serving as Dispersion Area</b> per SD-B (Ci=0.10)											sq-ft
	14	Natural Type A Soil <b>Serving as Dispersion Area</b> per SD-B (Ci=0.10)	5,971	908	3,276	379	770	832	1,841				sq-ft
	15	Natural Type B Soil <b>Serving as Dispersion Area</b> per SD-B (Ci=0.14)											sq-ft
	16	Natural Type C Soil <b>Serving as Dispersion Area</b> per SD-B (Ci=0.23)											sq-ft
	17	Natural Type D Soil <b>Serving as Dispersion Area</b> per SD-B (Ci=0.30)											sq-ft
	18	Number of Tree Wells Proposed per SD-A											#
	19	Average Mature Tree Canopy Diameter											ft
	20	Number of Rain Barrels Proposed per SD-E											#
21	Average Rain Barrel Size											gal	
Initial Runoff Factor Calculation	22	Total Tributary Area	5,971	908	3,276	379	770	832	1,841	0	0	0	sq-ft
	23	Initial Runoff Factor for Standard Drainage Areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	24	Initial Runoff Factor for Dispersed & Dispersion Areas	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.00	0.00	0.00	unitless
	25	Initial Weighted Runoff Factor	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.00	0.00	0.00	unitless
	26	Initial Design Capture Volume	34	5	19	2	4	5	11	0	0	0	cubic-feet
Dispersion Area Adjustments	27	Total Impervious Area Dispersed to Pervious Surface	0	0	0	0	0	0	0	0	0	0	sq-ft
	28	Total Pervious Dispersion Area	5,971	908	3,276	379	770	832	1,841	0	0	0	sq-ft
	29	Ratio of Dispersed Impervious Area to Pervious Dispersion Area	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a	ratio
	30	Adjustment Factor for Dispersed & Dispersion Areas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	1.00	ratio
	31	Runoff Factor After Dispersion Techniques	0.00	0.00	0.00	0.00	0.00	0.00	0.00	n/a	n/a	n/a	unitless
	32	Design Capture Volume After Dispersion Techniques	0	0	0	0	0	0	0	0	0	0	cubic-feet
Tree & Barrel Adjustments	33	Total Tree Well Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
	34	Total Rain Barrel Volume Reduction	0	0	0	0	0	0	0	0	0	0	cubic-feet
Results	35	Final Adjusted Runoff Factor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	unitless
	36	Final Effective Tributary Area	0	0	0	0	0	0	0	0	0	0	sq-ft
	37	Initial Design Capture Volume Retained by Site Design Elements	34	5	19	2	4	5	11	0	0	0	cubic-feet
	38	Final Design Capture Volume Tributary to BMP	0	0	0	0	0	0	0	0	0	0	cubic-feet
No Warning Messages													

[illegible]



## Automated Worksheet B.3: BMP Performance (V2.0)

[illegible]

### No Warning Messages

## E.1 Source Control BMP Requirements

### Worksheet E.1-1: Source Control BMP Requirements

**How to comply:** Projects must comply with this requirement by implementing all source control BMPs listed in this section that are applicable and feasible for their project. Applicability must be determined through consideration of the development project's features and anticipated pollutant sources. Appendix E.1 provides guidance for identifying source control BMPs applicable to a project. The Standard and PDP SWQMP templates include sections that must be used to document compliance with source control BMP requirements.

**How to use this worksheet:**

1. Review Column 1 and identify which of these potential sources of storm water pollutants apply to your site. Check each box that applies.
2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your project site plan.
3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs in a table in your project-specific storm water management report. Describe your specific BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting BMPs or substituting alternatives.

If These Sources Will Be on the Project Site ...	... Then Your SWQMP Must Consider These Source Control BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on Drawings	3 Permanent Controls—List in Table and Narrative	4 Operational BMPs—Include in Table and Narrative
<input type="checkbox"/> A. Onsite storm drain inlets  <input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Locations of inlets.	<input type="checkbox"/> Mark all inlets with the words “No Dumping! Flows to Bay” or similar. See stencil template provided in Appendix I-4	<input type="checkbox"/> Maintain and periodically repaint or replace inlet markings. <input type="checkbox"/> Provide storm water pollution prevention information to new site owners, lessees, or operators. <input type="checkbox"/> See applicable operational BMPs in Fact Sheet SC-44, “Drainage System Maintenance,” in the CASQA Storm Water Quality Handbooks at <a href="http://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook">www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook</a> . <input type="checkbox"/> Include the following in lease agreements: “Tenant 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.”

If These Sources Will Be on the Project Site ...	... Then Your SWQMP must consider These Source Control BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on Drawings	3 Permanent Controls—List in Table and Narrative	4 Operational BMPs—Include in Table and Narrative
<input type="checkbox"/> <b>B.</b> Interior floor drains and elevator shaft sump pumps <input checked="" type="checkbox"/> Not Applicable		<input type="checkbox"/> State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.	<input type="checkbox"/> Inspect and maintain drains to prevent blockages and overflow.
<input type="checkbox"/> <b>C.</b> Interior parking garages <input checked="" type="checkbox"/> Not Applicable		<input type="checkbox"/> State that parking garage floor drains will be plumbed to the sanitary sewer.	<input type="checkbox"/> Inspect and maintain drains to prevent blockages and overflow.
<input type="checkbox"/> <b>D1.</b> Need for future indoor & structural pest control <input checked="" type="checkbox"/> Not Applicable		<input type="checkbox"/> Note building design features that discourage entry of pests.	<input type="checkbox"/> Provide Integrated Pest Management information to owners, lessees, and operators.

If These Sources Will Be on the Project Site ...	... Then Your SWQMP must consider These Source Control BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on Drawings	3 Permanent Controls—List in Table and Narrative	4 Operational BMPs—Include in Table and Narrative
<input checked="" type="checkbox"/> <b>D2.</b> Landscape/Outdoor Pesticide Use <input type="checkbox"/> Not Applicable	<input type="checkbox"/> Show locations of existing trees or areas of shrubs and ground cover to be undisturbed and retained. <input type="checkbox"/> Show self-retaining landscape areas, if any. <input type="checkbox"/> Show storm water treatment facilities.	<p>State that final landscape plans will accomplish all of the following.</p> <input type="checkbox"/> Preserve existing drought tolerant trees, shrubs, and ground cover to the maximum extent possible. <input type="checkbox"/> 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 storm water pollution. <input type="checkbox"/> Where landscaped areas are used to retain or detain storm water, specify plants that are tolerant of periodic saturated soil conditions. <input type="checkbox"/> Consider using pest-resistant plants, especially adjacent to hardscape. <input type="checkbox"/> To ensure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.	<input type="checkbox"/> Maintain landscaping using minimum or no pesticides. <input type="checkbox"/> See applicable operational BMPs in Fact Sheet SC-41, “Building and Grounds Maintenance,” in the CASQA Storm Water Quality Handbooks at <a href="http://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook">www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook</a> . <input type="checkbox"/> Provide IPM information to new owners, lessees and operators.

If These Sources Will Be on the Project Site ...	... Then Your SWQMP must consider These Source Control BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on Drawings	3 Permanent Controls—List in Table and Narrative	4 Operational BMPs—Include in Table and Narrative
<input checked="" type="checkbox"/> <b>E.</b> Pools, spas, ponds, decorative fountains, and other water features. <input type="checkbox"/> Not Applicable	<input type="checkbox"/> Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet.	<input type="checkbox"/> 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.	<input type="checkbox"/> See applicable operational BMPs in Fact Sheet SC-72, “Fountain and Pool Maintenance,” in the CASQA Storm Water Quality Handbooks at <a href="http://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook">www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook</a> .
<input checked="" type="checkbox"/> <b>F.</b> Food service <input type="checkbox"/> Not Applicable	<input type="checkbox"/> For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment.  <input type="checkbox"/> On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.	<input type="checkbox"/> Describe the location and features of the designated cleaning area.  <input type="checkbox"/> Describe the items to be cleaned in this facility and how it has been sized to ensure that the largest items can be accommodated.	

If These Sources Will Be on the Project Site ...	... Then Your SWQMP must consider These Source Control BMPs		
1 Potential Sources of	2 Permanent Controls—Show on Drawings	3 Permanent Controls—List in Table and Narrative	4 Operational BMPs—Include in Table and Narrative
<input checked="" type="checkbox"/> <b>G. Refuse areas</b> <input type="checkbox"/> Not Applicable	<input type="checkbox"/> Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas. <input type="checkbox"/> If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent run-on and show locations of berms to prevent runoff from the area. Also show how the designated area will be protected from wind dispersal. <input type="checkbox"/> Any drains from dumpsters, compactors, and tallow bin areas must be connected to a grease removal device before discharge to sanitary sewer.	<input type="checkbox"/> State how site refuse will be handled and provide supporting detail to what is shown on plans. <input type="checkbox"/> State that signs will be posted on or near dumpsters with the words “Do not dump hazardous materials here” or similar.	<input type="checkbox"/> 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 liquid or hazardous wastes. Post “no hazardous materials” signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, “Waste Handling and Disposal” in the CASQA Storm Water Quality Handbooks at <a href="http://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook">www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook</a> .

If These Sources Will Be on the Project Site ...	... Then Your SWQMP must consider These Source Control BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on Drawings	3 Permanent Controls—List in Table and Narrative	4 Operational BMPs—Include in Table and Narrative Table and Narrative
<input type="checkbox"/> <b>H.</b> Industrial processes. <input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Show process area.	<input type="checkbox"/> If industrial processes are to be located onsite, state: “All process activities to be performed indoors. No processes to drain to exterior or to storm drain system.”	<input type="checkbox"/> See Fact Sheet SC-10, “Non-Storm Water Discharges” in the CASQA Storm Water Quality Handbooks at <a href="https://www.casqa.org/resources/bmp-handbooks">https://www.casqa.org/resources/bmp-handbooks</a> .
<input type="checkbox"/> <b>I.</b> Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.) <input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or runoff from area and protected from wind dispersal. <input type="checkbox"/> Storage of non-hazardous liquids must be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults. <input type="checkbox"/> Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.	<input type="checkbox"/> Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains. Where appropriate, reference documentation of compliance with the requirements of local Hazardous Materials Programs for: <ul style="list-style-type: none"> <li>▪ Hazardous Waste Generation</li> <li>▪ Hazardous Materials Release Response and Inventory</li> <li>▪ California Accidental Release Prevention Program</li> <li>▪ Aboveground Storage Tank</li> <li>▪ Uniform Fire Code Article 80 Section 103(b) &amp; (c) 1991</li> <li>▪ Underground Storage Tank</li> </ul>	<input type="checkbox"/> See the Fact Sheets SC-31, “Outdoor Liquid Container Storage” and SC-33, “Outdoor Storage of Raw Materials” in the CASQA Storm Water Quality Handbooks at <a href="http://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook">www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook</a> .



If These Sources Will Be on the Project Site ...	... Then Your SWQMP must consider These Source Control BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on Drawings	3 Permanent Controls—List in Table and Narrative	4 Operational BMPs—Include in Table and Narrative
<input type="checkbox"/> J. Vehicle and Equipment Cleaning <input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Show on drawings as appropriate:  (1) Commercial/industrial facilities having vehicle /equipment cleaning needs must either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses.  (2) Multi-dwelling complexes must have a paved, bermed, and covered car wash area (unless car washing is prohibited onsite and hoses are provided with an automatic shut-off to discourage such use).  (3) Washing areas for cars, vehicles, and equipment must be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer.  (4) Commercial car wash facilities must be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility must discharge to the sanitary sewer, or a wastewater reclamation system must be installed.	<input type="checkbox"/> If a car wash area is not provided, describe measures taken to discourage onsite car washing and explain how these will be enforced.	Describe operational measures to implement the following (if applicable):  <input type="checkbox"/> Washwater from vehicle and equipment washing operations must not be discharged to the storm drain system.  <input type="checkbox"/> Car dealerships and similar may rinse cars with water only.  <input type="checkbox"/> See Fact Sheet SC-21, “Vehicle and Equipment Cleaning,” in the CASQA Storm Water Quality Handbooks at <a href="http://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook">www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook</a> .

If These Sources Will Be on the Project Site ...	... Then Your SWQMP must consider These Source Control BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on Drawings	3 Permanent Controls—List in Table and Narrative	4 Operational BMPs—Include in Table and Narrative
<input type="checkbox"/> <b>K.</b> Vehicle/Equipment Repair and Maintenance <input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to protect from rainfall, run-on runoff, and wind dispersal. <input type="checkbox"/> Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains must not be installed within the secondary containment areas. <input type="checkbox"/> Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.	<input type="checkbox"/> State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area. <input type="checkbox"/> State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements. <input type="checkbox"/> State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.	<p>In the report, note that all of the following restrictions apply to use the site:</p> <input type="checkbox"/> No person must dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains. <input type="checkbox"/> No vehicle fluid removal must be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids must be contained or drained from the vehicle immediately. <input type="checkbox"/> No person must leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.

If These Sources Will Be on the Project Site ...	... Then Your SWQMP must consider These Source Control BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on Drawings	3 Permanent Controls—List in Table and Narrative	4 Operational BMPs—Include in Table and Narrative
<input type="checkbox"/> L. Fuel Dispensing Areas <input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Fueling areas <sup>16</sup> must have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are (1) graded at the minimum slope necessary to prevent ponding; and (2) separated from the rest of the site by a grade break that prevents run-on of storm water to the MEP.  <input type="checkbox"/> Fueling areas must be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area <sup>1</sup> .] The canopy [or cover] must not drain onto the fueling area.		<input type="checkbox"/> The property owner must dry sweep the fueling area routinely.  <input type="checkbox"/> See the Business Guide Sheet, "Automotive Service—Service Stations" in the CASQA Storm Water Quality Handbooks at <a href="https://www.casqa.org/resources/bmp-handbooks">https://www.casqa.org/resources/bmp-handbooks</a> .

<sup>16</sup> The fueling area must be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.

If These Sources Will Be on the Project Site ...	... Then Your SWQMP must consider These Source Control BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on Drawings	3 Permanent Controls—List in	4 Operational BMPs—Include in Table and Narrative
<b>M. Loading Docks</b> <input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks must be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts must be positioned to direct storm water away from the loading area. Water from loading dock areas should be drained to the sanitary sewer where feasible. Direct connections to storm drains from depressed loading docks are prohibited.  <input type="checkbox"/> Loading dock areas draining directly to the sanitary sewer must be equipped with a spill control valve or equivalent device, which must be kept closed during periods of operation.  <input type="checkbox"/> Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer.		<input type="checkbox"/> Move loaded and unloaded items indoors as soon as possible.  <input type="checkbox"/> See Fact Sheet SC-30, “Outdoor Loading and Unloading,” in the CASQA Storm Water Quality Handbooks at <a href="http://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook">www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook</a> .

If These Sources Will Be on the Project Site ...	... Then Your SWQMP must consider These Source Control BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on Drawings	3 Permanent Controls—List in Table and Narrative	4 Operational BMPs—Include in Table and Narrative
<input checked="" type="checkbox"/> <b>N.</b> Fire Sprinkler Test Water <input type="checkbox"/> Not Applicable		<input type="checkbox"/> Provide a means to drain fire sprinkler test water to the sanitary sewer.	<input type="checkbox"/> See the note in Fact Sheet SC-41, “Building and Grounds Maintenance,” in the CASQA Storm Water Quality Handbooks at <a href="http://www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook">www.casqa.org/resources/bmp-handbooks/municipal-bmp-handbook</a>
<b>O.</b> Miscellaneous Drain or Wash Water <input type="checkbox"/> Boiler drain lines <input type="checkbox"/> Condensate drain lines <input type="checkbox"/> Rooftop equipment <input type="checkbox"/> Drainage sumps <input checked="" type="checkbox"/> Roofing, gutters, and trim <input type="checkbox"/> Not Applicable		<input type="checkbox"/> Boiler drain lines must be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system. <input type="checkbox"/> 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. <input type="checkbox"/> Rooftop mounted equipment with potential to produce pollutants must be roofed and/or have secondary containment. <input type="checkbox"/> Any drainage sumps onsite must feature a sediment sump to reduce the quantity of sediment in pumped water. <input type="checkbox"/> Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.	

If These Sources Will Be on the Project Site ...	... Then Your SWQMP must consider These Source Control BMPs		
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on Drawings	3 Permanent Controls—List in Table and Narrative	4 Operational BMPs—Include in Table and Narrative
<input checked="" type="checkbox"/> <b>P.</b> Plazas, sidewalks, and parking lots. <input type="checkbox"/> Not Applicable			<input type="checkbox"/> Plazas, sidewalks, and parking lots must be swept regularly to prevent the accumulation of litter and debris.  Debris from pressure washing must be collected to prevent entry into the storm drain system. Washwater containing any cleaning agent or degreaser must be collected and discharged to the sanitary sewer and not discharged to a storm drain.

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County of San Diego  
Stormwater Quality Management Plan (SWQMP)  
***Attachment 4: Previous SWQMP Submittals***

#### **4.0 Cover Sheet**

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- If this SWQMP implements any requirements of an earlier master SWQMP submittal, a copy of that previous submittal must be attached under cover of this sheet.





County of San Diego  
Stormwater Quality Management Plan (SWQMP)  
***Attachment 5: Site and Drainage Description***

## 5.0 General Requirements

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- Each Priority Development Project (PDP) must provide a description of existing site conditions and proposed changes to them, including changes to topography and drainage.
- Has a **Drainage Report** has been prepared for the PDP?

☒ **Yes**

- Review of the Drainage Report must be concurrent with the PDP SWQMP.
- Include the summary page of the Drainage Report with this cover page, and provide the following information:

Title: Drainage Study for Rancho Guejito Tasting Facility & Event Center

Prepared By: Rick Engineering Company

Date: December 3, 2019 or subsequent versions

- Do not complete the rest of this attachment (also exclude these additional pages from your submittal). Additional documentation of site and drainage conditions is not required unless requested by County staff.

☐ **No** -- Complete and submit the remainder of this attachment below.



County of San Diego  
Stormwater Quality Management Plan (SWQMP)  
**Attachment 6: Documentation of DMAs without Structural BMPs**

## 6.0 General Requirements

- Use this attachment to document all proposed (1) self-mitigating, (2) de minimis, and (3) self-retaining DMAs. Indicate under “DMA Compliance Option” below which design options will be used to satisfy structural performance requirements for one or more DMA.

DMA Compliance Option	Required Sub-attachments	BMPDM Design Resources
<input type="checkbox"/> Self-mitigating	<ul style="list-style-type: none"><li>Sub-attachment 6.1</li></ul>	<ul style="list-style-type: none"><li>BMPDM Section 5.2.1</li></ul>
<input type="checkbox"/> De minimis	<ul style="list-style-type: none"><li>Sub-attachment 6.2</li></ul>	<ul style="list-style-type: none"><li>BMPDM Section 5.2.2</li></ul>
<input checked="" type="checkbox"/> Self-retaining <sup>1</sup>  <b><u>SSD-BMP Type(s)</u></b>  <input checked="" type="checkbox"/> Impervious Area Dispersion  <input type="checkbox"/> Tree Wells	<ul style="list-style-type: none"><li>Sub-attachment 6.3</li> <li>Sub-attachment 6.3.1</li> <li>Sub-attachment 6.3.2</li></ul>	<ul style="list-style-type: none"><li>BMPDM Section 5.2.3 (all options)</li> <li>Fact Sheet SD-B (Appendix E.8)</li> <li>Fact Sheet SD-A (Appendix E.7)</li></ul>

- Submit this cover page and all “Required Sub-attachments” listed for each selected DMA compliance option.
- See the BMPDM sections and appendices listed under “BMPDM Design Resources” for additional explanation of design requirements. Each constructed feature must fully satisfy the requirements described in these resources, and any other guidance identified by the County.
- DMA Exhibits and Construction Plans: DMAs, features, and BMPs identified and described in this attachment must be shown on DMA Exhibits and all applicable construction plans submitted for the project. See Attachment 2 for additional instruction on exhibits and plans.

<sup>1</sup> If “Self-retaining” is selected, also choose the types of Significant Site Design BMPs (SSD-BMPs) to be used. SSD-BMPs are Site Design BMPs that are sized and constructed to fully satisfy all applicable Structural Performance Standards for a DMA.

## 6.1 Self-mitigating DMAs (complete this page once for ALL self-mitigating DMAs)

Self-mitigating DMAs consist of natural or landscaped areas that drain directly offsite or to the public storm drain system. These DMAs are excluded from DCV calculations.

- Provide the information requested below for each proposed self-mitigating DMA. Add rows or copy the table if additional entries are needed.

DMA #	a. DMA Area (ft <sup>2</sup> )	Incidental Impervious Area		Permit # and Sheet #
		b. Size(ft <sup>2</sup> )	c. % (b/a*100)	

- “DMA #”, “DMA Area”, and “Permit # and Sheet #” are required for all DMAs listed.
- “Incidental Impervious Area” calculations are required only where applicable (see below).
- Each self-mitigating DMA must fully satisfy all design requirements and restrictions described in BMPDM Section 5.2.1 and any other guidance or instruction identified by the County. Check the boxes below to confirm that all required conditions are satisfied for every DMA listed.

- ☐ Each DMA is hydraulically separate from other DMAs that contain permanent storm water pollutant control BMPs.

### Natural and Landscaped Areas

- ☐ Each DMA consists solely of natural or landscaped areas, except for incidental impervious areas (see below).
- ☐ Each area drains directly offsite or to the public storm drain system.
- ☐ Soils are undisturbed native topsoil, or disturbed soils that have been amended and aerated to promote water retention characteristics equivalent to undisturbed native topsoil.
- ☐ Vegetation is native and/or non-native/non-invasive drought tolerant species that do not require regular application of fertilizers and pesticides.

### Incidental Impervious Areas (if applicable; see above)

Minor impervious areas may be permitted within the DMA if they satisfy the following criteria:

- ☐ They are not hydraulically connected to other impervious areas (unless it is a storm water conveyance system such as a brow ditch).
- ☐ They comprise less than 5% of the total DMA. Calculate the % incidental impervious area in the table above ( $c = b/a$ ). DMAs are not self-mitigating if this area is 5% or greater.

## 6.2 De Minimis DMAs (complete this page once for ALL de minimis DMAs)

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De minimis DMAs consist of areas too small to be considered significant contributors of pollutants and not practicable to drain to a BMP. They are excluded from DCV calculations. Examples include driveway aprons connecting to existing streets, portions of sidewalks, retaining walls, and similar features at the external boundaries of a project.

- Provide the information requested below for each proposed de minimis DMA. Add rows or copy the table if additional entries are needed.

<i><b>DMA #</b></i>	<i><b>DMA Area (ft<sup>2</sup>)</b></i>	<i><b>Permit # and Sheet #</b></i>

- “DMA #”, “DMA Area”, and “Permit # and Sheet #” are required.
- Check the boxes below to confirm that each required condition is satisfied for ALL de minimis DMAs on the site.
  - ☐ Each DMA listed is less than 250 square feet and not adjacent or hydraulically connected to each other.
  - ☐ Each DMA listed fully satisfies all design requirements and restrictions described in BMPDM Section 5.2.2 De Minimis DMAs.

### 6.3 Self-retaining DMAs using Significant Site Design BMPs

Self-retaining DMAs use Site Design BMPs to fully-retain the entire DCV, at a minimum. Site Design BMPs that fully retain the DCV, at a minimum, therefore replacing the need for a Structural BMP (S-BMP), are classified as Significant Site Design BMPs (SSD-BMPs). To satisfy pollutant control requirements only, self-retaining means retention of the entire DCV. However, under some circumstances, a self-retaining DMA can also satisfy hydromodification management requirements by implementing BMPs that retain a greater volume of runoff.

- Provide the information requested below for each proposed self-retaining DMA. Add rows or copy the table if additional entries are needed.

DMA #	DMA Area (ft <sup>2</sup> )	BMP Type (choose one per DMA)		Permit # and Sheet #
		Dispersion Area (Att. 6.3.1)	Tree Wells (Att. 6.3.2)	
1	30,391	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
2	21,031	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
3	35,124	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
4	34,252	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
5	46,758	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
6	5,781	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
7	10,510	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
8	8,511	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
9	83,806	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
10	3,528	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
11	4,470	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
12	379	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
13	1,144	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
14	354	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
15	1,274	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
16	1,914	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
17	1,960	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
18	798	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
19	272	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

20	4,007	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
21	5,971	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
22	908	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
23	3,276	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
24	379	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
25	770	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
26	832	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
27	1,841	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit
28	800	<input checked="" type="checkbox"/>	<input type="checkbox"/>	See DMA Exhibit – Pool

Copy and Paste table here for additional DMAs

- “DMA #”, “DMA Area”, and “Permit # and Sheet #” are required.
- Select one BMP Type per DMA. Provide detailed documentation for each DMA in Attachments 6.3.1 (Impervious Dispersion Areas) and/or 6.3.2 (Tree Wells) below.
- Each self-retaining DMA must fully satisfy all design requirements and restrictions described in BMPDM Section 5.2.3, applicable BMPDM Appendix E Fact Sheets, and any other guidance or instruction identified by the County.

#### 6.3.1 Self-retaining DMAs with Impervious Dispersion Areas

Impervious area dispersion (dispersion) refers to the practice of effectively disconnecting impervious areas from directly draining to the storm drain system by routing runoff from impervious areas such as rooftops (through downspout disconnection), walkways, and driveways onto the surface of adjacent pervious areas. The intent is to slow runoff discharges and reduce volumes. Dispersion with partial or full infiltration results in significant volume reduction by means of infiltration and evapotranspiration. When adequately sized, dispersion can also be used to satisfy both the pollutant control and hydromodification management structural performance standards for a DMA.

- Each self-retaining DMA with impervious area dispersion must fully satisfy all design requirements and restrictions described in BMPDM Section 5.2.3, Fact Sheet SD-B: Impervious Area Dispersion, and any other guidance or instruction identified by the County.
- Documentation of compliance with all applicable conditions must be submitted with this sub-attachment using the ***Summary Sheet for DMAs with Impervious Area Dispersion*** on the next

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

page. One version of this Summary Sheet must be completed for each applicable DMA.

- Applicants are responsible to comply with all other applicable requirements, regardless of whether they are included in the summary sheet.
- The following applies if the dispersion area is **native soil** (SD-B in Appendix E):
  - For pollutant control only, the DMA is considered self-retaining if the impervious to pervious ratio is:
    - 2:1 when the pervious area is composed of Hydrologic Soil Group A
    - 1:1 when the pervious area is composed of Hydrologic Soil Group B
- The following applies if the dispersion area includes **amended soil** (SD-B in Appendix E):
  - DMAs using impervious area dispersion can be considered to meet both pollutant control and hydromodification flow control requirements if the impervious to pervious area ratio is 1:1 or less and all other design requirements of SD-B are satisfied, including 11 inches of amended soil.
- The following apply if the dispersion area is **permeable pavement** (SD-D in Appendix E):
  - For pollutant control only, a DMA is considered self-retaining if the ratio of total drainage area (including permeable pavement) to area of permeable pavement is 1.5:1 or less, and all other design requirements of SD-D are satisfied.
  - Hydromodification management performance standards can be satisfied using permeable pavement only if constructed to Structural BMP specifications. In this case, the permeable pavement must be sized and constructed in accordance with the requirements of INF-3.

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<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

**Summary Sheet for DMAs with Impervious Area Dispersion** (Complete 1 sheet per DMA)**DMA # 1****A. Minimum Sizing Requirements**Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

- ☐ Soil Group A: Ratio I:P is 2:1 or less      ☐ Soil Group B: Ratio I:P is 1:1 or less

*Impervious Area (ft<sup>2</sup>)**Permeable Dispersion Area (ft<sup>2</sup>)**Ratio I:P*

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**Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

*Impervious Area (ft<sup>2</sup>)**Permeable Dispersion Area (ft<sup>2</sup>)**Ratio I:P*

13,141	13,479	0.97:1
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**Permeable Pavement (Pollutant Control Only)** Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

*DMA Area<sup>3</sup> (ft<sup>2</sup>)**Permeable Pavement Area (ft<sup>2</sup>)**Ratio DMA:Pavement*

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**B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

**Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

**Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 2**

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.



### A. Minimum Sizing Requirements

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

- ☐ **Soil Group A:** Ratio I:P is 2:1 or less      ☐ **Soil Group B:** Ratio I:P is 1:1 or less

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

### Amended Soil (Pollutant Control plus Hydromodification Management)

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
4,473 (Imperv) 3,787 (Semi-Pervious)	12,771	0.65:1

### Permeable Pavement (Pollutant Control Only) Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

### B. Minimum Design Criteria

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

#### Impervious Areas:

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

#### Pervious Dispersion Areas:

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 3**

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

### A. Minimum Sizing Requirements

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

- ☐ **Soil Group A:** Ratio I:P is 2:1 or less      ☐ **Soil Group B:** Ratio I:P is 1:1 or less

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

### Amended Soil (Pollutant Control plus Hydromodification Management)

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
15,020	18,975	0.79:1

### Permeable Pavement (Pollutant Control Only) Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

### B. Minimum Design Criteria

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

#### Impervious Areas:

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

#### Pervious Dispersion Areas:

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

DMA # 4

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

### A. Minimum Sizing Requirements

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

- ☐ **Soil Group A:** Ratio I:P is 2:1 or less      ☐ **Soil Group B:** Ratio I:P is 1:1 or less

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

### Amended Soil (Pollutant Control plus Hydromodification Management)

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
11,637 (Imperv) 948 (Semi-Pervious)	21,667	0.58:1

### Permeable Pavement (Pollutant Control Only) Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

### B. Minimum Design Criteria

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

#### Impervious Areas:

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

#### Pervious Dispersion Areas:

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

DMA # 5

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

## A. Minimum Sizing Requirements

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

- ☐ **Soil Group A:** Ratio I:P is 2:1 or less      ☐ **Soil Group B:** Ratio I:P is 1:1 or less

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

## Amended Soil (Pollutant Control plus Hydromodification Management)

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
21,046 (Imperv) 744 (Semi-Pervious)	24,082	0.90:1

## Permeable Pavement (Pollutant Control Only) Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

## B. Minimum Design Criteria

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

### Impervious Areas:

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

### Pervious Dispersion Areas:

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

DMA # 6

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

## A. Minimum Sizing Requirements

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

- ☐ Soil Group A: Ratio I:P is 2:1 or less      ☐ Soil Group B: Ratio I:P is 1:1 or less

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

## Amended Soil (Pollutant Control plus Hydromodification Management)

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
2,787	2,994	0.93:1

## Permeable Pavement (Pollutant Control Only) Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

## B. Minimum Design Criteria

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

### Impervious Areas:

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

### Pervious Dispersion Areas:

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

DMA # 7

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

## A. Minimum Sizing Requirements

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

- ☐ Soil Group A: Ratio I:P is 2:1 or less      ☐ Soil Group B: Ratio I:P is 1:1 or less

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

## Amended Soil (Pollutant Control plus Hydromodification Management)

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
5,066	5,444	0.93:1

## Permeable Pavement (Pollutant Control Only) Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

## B. Minimum Design Criteria

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

### Impervious Areas:

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

### Pervious Dispersion Areas:

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

DMA # 8

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

## A. Minimum Sizing Requirements

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

- ☐ **Soil Group A:** Ratio I:P is 2:1 or less      ☐ **Soil Group B:** Ratio I:P is 1:1 or less

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

## Amended Soil (Pollutant Control plus Hydromodification Management)

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
564 (Imperv) 2,535 (Semi-Pervious)	5,412	0.57:1

## Permeable Pavement (Pollutant Control Only) Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

## B. Minimum Design Criteria

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

### Impervious Areas:

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

### Pervious Dispersion Areas:

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

**DMA # 9**

**A. Minimum Sizing Requirements**

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

- ☐ **Soil Group A:** Ratio I:P is 2:1 or less      ☐ **Soil Group B:** Ratio I:P is 1:1 or less

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

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**Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

27,786 (Imperv) 6,787 (Semi-Pervious)	45,060	0.77:1
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**Permeable Pavement (Pollutant Control Only)** Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

*DMA Area<sup>3</sup> (ft<sup>2</sup>)*

*Permeable Pavement Area (ft<sup>2</sup>)*

*Ratio DMA:Pavement*

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**B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

**Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

**Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 10**

**A. Minimum Sizing Requirements**

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.



Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

- ☐ Soil Group A: Ratio I:P is 2:1 or less      ☐ Soil Group B: Ratio I:P is 1:1 or less

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

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**Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

1,762 (Semi-Pervious)	1,766	1:1
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**Permeable Pavement (Pollutant Control Only)** Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

*DMA Area<sup>3</sup> (ft<sup>2</sup>)*

*Permeable Pavement Area (ft<sup>2</sup>)*

*Ratio DMA:Pavement*

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## B. Minimum Design Criteria

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

### Impervious Areas:

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

### Pervious Dispersion Areas:

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 11**

## A. Minimum Sizing Requirements

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

- ☐ Soil Group A: Ratio I:P is 2:1 or less      ☐ Soil Group B: Ratio I:P is 1:1 or less

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

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**Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

1,931 (Semi-Pervious)	2,539	0.76:1
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**Permeable Pavement (Pollutant Control Only)** Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

*DMA Area<sup>3</sup> (ft<sup>2</sup>)*

*Permeable Pavement Area (ft<sup>2</sup>)*

*Ratio DMA:Pavement*

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## B. Minimum Design Criteria

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

### Impervious Areas:

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

### Pervious Dispersion Areas:

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 12**

## A. Minimum Sizing Requirements

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

- ☐ Soil Group A: Ratio I:P is 2:1 or less      ☐ Soil Group B: Ratio I:P is 1:1 or less

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

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**Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

0	379	0:1
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**Permeable Pavement (Pollutant Control Only)** Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

*DMA Area<sup>3</sup> (ft<sup>2</sup>)*

*Permeable Pavement Area (ft<sup>2</sup>)*

*Ratio DMA:Pavement*

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## B. Minimum Design Criteria

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

### Impervious Areas:

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

### Pervious Dispersion Areas:

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 13**

## A. Minimum Sizing Requirements

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

- ☐ Soil Group A: Ratio I:P is 2:1 or less      ☐ Soil Group B: Ratio I:P is 1:1 or less

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

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**Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

0	1,144	0:1
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**Permeable Pavement (Pollutant Control Only)** Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

*DMA Area<sup>3</sup> (ft<sup>2</sup>)*

*Permeable Pavement Area (ft<sup>2</sup>)*

*Ratio DMA:Pavement*

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**B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

**Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

**Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 14**

**A. Minimum Sizing Requirements**

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

- ☐ Soil Group A: Ratio I:P is 2:1 or less      ☐ Soil Group B: Ratio I:P is 1:1 or less

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

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**Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

0	354	0:1
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**Permeable Pavement (Pollutant Control Only)** Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

*DMA Area<sup>3</sup> (ft<sup>2</sup>)*

*Permeable Pavement Area (ft<sup>2</sup>)*

*Ratio DMA:Pavement*

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**B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

**Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

**Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 15**

**A. Minimum Sizing Requirements**

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

☐ Soil Group A: Ratio I:P is 2:1 or less      ☐ Soil Group B: Ratio I:P is 1:1 or less

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

#### **Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
0	1,274	0:1

#### **Permeable Pavement (Pollutant Control Only)** Provide calculations below.

☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

### **B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

#### **Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

#### **Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 16**

#### **A. Minimum Sizing Requirements**

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

☐ Soil Group A: Ratio I:P is 2:1 or less      ☐ Soil Group B: Ratio I:P is 1:1 or less

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

#### **Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
0	1,914	0:1

#### **Permeable Pavement (Pollutant Control Only)** Provide calculations below.

☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

### **B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

#### **Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

#### **Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 17**

#### **A. Minimum Sizing Requirements**

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

- ☐ **Soil Group A:** Ratio I:P is 2:1 or less      ☐ **Soil Group B:** Ratio I:P is 1:1 or less

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

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### **Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND

- ☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

0	1,960	0:1
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### **Permeable Pavement (Pollutant Control Only)** Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

*DMA Area<sup>3</sup> (ft<sup>2</sup>)*

*Permeable Pavement Area (ft<sup>2</sup>)*

*Ratio DMA:Pavement*

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## **B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

### **Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

### **Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.
- ☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.
- ☒ Are densely and robustly vegetated with drought tolerant species.
- ☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.
- ☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 18**

### **A. Minimum Sizing Requirements**

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.



☐ Soil Group A: Ratio I:P is 2:1 or less      ☐ Soil Group B: Ratio I:P is 1:1 or less

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

### **Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
0	798	0:1

### **Permeable Pavement (Pollutant Control Only)** Provide calculations below.

☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

## **B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

### **Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

### **Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 19**

### **A. Minimum Sizing Requirements**

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

- ☐ **Soil Group A:** Ratio I:P is 2:1 or less      ☐ **Soil Group B:** Ratio I:P is 1:1 or less

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

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### **Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND

- ☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

0	272	0:1
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### **Permeable Pavement (Pollutant Control Only)** Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

*DMA Area<sup>3</sup> (ft<sup>2</sup>)*

*Permeable Pavement Area (ft<sup>2</sup>)*

*Ratio DMA:Pavement*

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### **B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

#### **Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

#### **Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.
- ☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.
- ☒ Are densely and robustly vegetated with drought tolerant species.
- ☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.
- ☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 20**

### **A. Minimum Sizing Requirements**

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

☐ **Soil Group A:** Ratio I:P is 2:1 or less      ☐ **Soil Group B:** Ratio I:P is 1:1 or less

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

#### **Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
0	4,007	0:1

#### **Permeable Pavement (Pollutant Control Only)** Provide calculations below.

☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

### **B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

#### **Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

#### **Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 21**

#### **A. Minimum Sizing Requirements**

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

☐ Soil Group A: Ratio I:P is 2:1 or less      ☐ Soil Group B: Ratio I:P is 1:1 or less

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

### **Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
0	5,971	0:1

### **Permeable Pavement (Pollutant Control Only)** Provide calculations below.

☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

## **B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

### **Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

### **Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 22**

### **A. Minimum Sizing Requirements**

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

- ☐ **Soil Group A:** Ratio I:P is 2:1 or less      ☐ **Soil Group B:** Ratio I:P is 1:1 or less

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

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### **Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND

- ☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

0	908	0:1
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### **Permeable Pavement (Pollutant Control Only)** Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

*DMA Area<sup>3</sup> (ft<sup>2</sup>)*

*Permeable Pavement Area (ft<sup>2</sup>)*

*Ratio DMA:Pavement*

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## **B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

### **Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

### **Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.
- ☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.
- ☒ Are densely and robustly vegetated with drought tolerant species.
- ☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.
- ☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 23**

### **A. Minimum Sizing Requirements**

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

☐ Soil Group A: Ratio I:P is 2:1 or less      ☐ Soil Group B: Ratio I:P is 1:1 or less

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

#### **Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
0	3,276	0:1

#### **Permeable Pavement (Pollutant Control Only)** Provide calculations below.

☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

### **B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

#### **Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

#### **Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 24**

#### **A. Minimum Sizing Requirements**

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

☐ **Soil Group A:** Ratio I:P is 2:1 or less      ☐ **Soil Group B:** Ratio I:P is 1:1 or less

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

### **Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
0	379	0:1

### **Permeable Pavement (Pollutant Control Only)** Provide calculations below.

☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

## **B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

### **Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

### **Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 25**

### **A. Minimum Sizing Requirements**

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

☐ **Soil Group A:** Ratio I:P is 2:1 or less      ☐ **Soil Group B:** Ratio I:P is 1:1 or less

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

### **Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND  
☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
0	770	0:1

### **Permeable Pavement (Pollutant Control Only)** Provide calculations below.

☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

## **B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

### **Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

### **Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.  
☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.  
☒ Are densely and robustly vegetated with drought tolerant species.  
☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.  
☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 26**

### **A. Minimum Sizing Requirements**

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.



- ☐ **Soil Group A:** Ratio I:P is 2:1 or less      ☐ **Soil Group B:** Ratio I:P is 1:1 or less

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

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### **Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

- ☒ Ratio I:P is 1:1 or less, AND

- ☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

*Impervious Area (ft<sup>2</sup>)*

*Permeable Dispersion Area (ft<sup>2</sup>)*

*Ratio I:P*

0	832	0:1
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### **Permeable Pavement (Pollutant Control Only)** Provide calculations below.

- ☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

*DMA Area<sup>3</sup> (ft<sup>2</sup>)*

*Permeable Pavement Area (ft<sup>2</sup>)*

*Ratio DMA:Pavement*

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## **B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

### **Impervious Areas:**

- ☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

### **Pervious Dispersion Areas:**

- ☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.
- ☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.
- ☒ Are densely and robustly vegetated with drought tolerant species.
- ☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.
- ☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

**DMA # 27**

### **A. Minimum Sizing Requirements**

Verify that minimum standards are satisfied for the applicable dispersion area type below<sup>2</sup>.

**Native Soil (Pollutant Control Only)** Select one and provide calculations below.

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

<input type="checkbox"/> <b>Soil Group A:</b> Ratio I:P is 2:1 or less <input type="checkbox"/> <b>Soil Group B:</b> Ratio I:P is 1:1 or less		
<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>

**Amended Soil (Pollutant Control plus Hydromodification Management)**

Must satisfy both conditions and provide calculations below.

☒ Ratio I:P is 1:1 or less, AND

☒ 11 inches or more of the top of the pervious area consists of amended soils (Fact Sheet SD-F)

<i>Impervious Area (ft<sup>2</sup>)</i>	<i>Permeable Dispersion Area (ft<sup>2</sup>)</i>	<i>Ratio I:P</i>
0	1,841	0:1

**Permeable Pavement (Pollutant Control Only)** Provide calculations below.

☐ Ratio DMA area to area of permeable pavement is 1.5:1 or less

<i>DMA Area<sup>3</sup> (ft<sup>2</sup>)</i>	<i>Permeable Pavement Area (ft<sup>2</sup>)</i>	<i>Ratio DMA:Pavement</i>

**B. Minimum Design Criteria**

Check the boxes below to confirm that each design criterion has been satisfied for the DMA.

**Impervious Areas:**

☒ Are graded to ensure area that the full DCV drains to the dispersion area before the runoff discharges from the DMA.

**Pervious Dispersion Areas:**

☒ Are less than 5% slope and sheet flow over a distance of at least 10 feet from inflow to overflow route.

☒ Have inflow velocities of 3 ft/s or less OR use energy dissipation methods (e.g., riprap, level spreader) for concentrated inflows.

☒ Are densely and robustly vegetated with drought tolerant species.

☒ Consist of soil types capable of supporting or being amended to support vegetation (e.g., with sand or compost). If applicable, media amendments have been tested to verify that they are not a source of pollutants.

☒ Are owned by the project owner and will be dedicated to exclude future uses that might reduce their effectiveness.

Copy and Paste table here for additional DMAs

<sup>2</sup>Applicants wishing to utilize parameters less conservative than listed here must submit modeling to support their proposal. Consult your project manager for more information.

<sup>3</sup>Including the permeable pavement.

### 6.3.2 Self-retaining DMAs with Tree Wells

Trees wells can provide a variety of benefits such as interception and increased infiltration of rainfall, reduced erosion, energy conservation, air quality improvement, and aesthetic enhancement. They can also be used to satisfy both pollutant control and hydromodification management performance standards for a DMA.

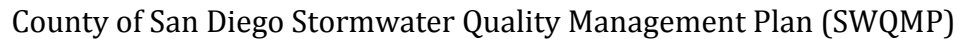
- Each self-retaining DMA with tree wells must fully satisfy all design requirements and restrictions described in BMPDM Section 5.2.3, Fact Sheet SD-A: Tree Wells, and any other guidance or instruction identified by the County.
- For pollutant control only, the DMA must retain the entire DCV. For hydromodification management, an additional volume must be retained in accordance with the sizing requirements presented in the DCV multiplier table in Fact Sheet SD-A.
- Documentation of compliance with applicable conditions must be submitted using the ***Summary Sheet for Self-retaining DMAs with Tree Wells*** on the next page. One version of this Summary Sheet must be completed for each applicable DMA.
- If both pollutant control and hydromodification standards apply, the soil depth of all tree wells in the DMA must be selected before determining the Required Retention Volume (RRV). Each tree well must be constructed to the selected depth. For pollutant control only, tree wells within a DMA may be constructed to different soil depths.
- In most cases tree wells must use Amended Soil per Fact Sheet SD-F. However, Structural Soil is required in some cases (e.g., placing the tree well next to a curb). See ***Structural Requirements for Confined Tree Well Soil Volume*** in Fact Sheet SD-A for additional explanation. If applicable, list the DMAs and Tree Well #s below for all tree wells requiring Structural Soil.

DMA #	Tree Wells Requiring Structural Soil (list Tree Well #s)

- The Design Capture Volume (DCV) must be known for each DMA in order to determine the volume to be mitigated by the tree wells. Instructions for DCV calculation are provided in BMPDM Appendix B.1. An automated version of Worksheet B.1 (Calculation of Design Capture Volume) is available at [www.sandiegocounty.gov/stormwater](http://www.sandiegocounty.gov/stormwater) under the Development Resources tab.

**Summary Sheet for Self-retaining DMAs with Tree Wells** (complete one sheet per DMA)

<b>DMA #:</b>		<b>DMA Area (ft<sup>2</sup>):</b>	
<b>Required Retention Volume (RRV)</b>			
<b>a. Design Capture Volume (DCV; ft<sup>3</sup>):</b>			
<b>b. DCV Multiplier (Fact Sheet SD-A)</b>			
Applicable Structural Performance Standards (select one)	Tree well soil depth (inches)	Underlying soil type (A, B, C, or D)	DCV Multiplier
<input type="checkbox"/> Pollutant control only	Any	All	1.0
<input type="checkbox"/> Pollutant control plus hydromodification			
<b>c. Required Retention Volume (ft<sup>3</sup>) [ DCV * DCV Multiplier]</b>			
<b>Tree Well Credit Volume</b> (add records or copy this sheet as needed for additional tree wells)			
Provide the information below for each tree well or group of tree wells within the DMA. A single entry can be used for any group of tree wells of the same species and soil depth.			
<b>Tree species or name</b>		<b>No. tree wells</b>	
<b>Mature Canopy Diameter (ft)</b>	<b>Credit Volume per tree well (ft<sup>3</sup>)</b>		
<b>Tree well ID #(s)</b> TBD	<b>Combined Volume (ft<sup>3</sup>)</b>		
<b>Tree species or name</b>		<b>No. tree wells</b>	
<b>Mature Canopy Diameter (ft)</b>	<b>Credit Volume per tree well (ft<sup>3</sup>)</b>		
<b>Tree well ID #(s)</b>	<b>Combined Volume (ft<sup>3</sup>)</b>		
<b>Tree species or name</b>		<b>No. tree wells</b>	
<b>Mature Canopy Diameter (ft)</b>	<b>Credit Volume per tree well (ft<sup>3</sup>)</b>		
<b>Tree well ID #(s)</b>	<b>Combined Volume (ft<sup>3</sup>)</b>		
<b>Tree species or name</b>		<b>No. tree wells</b>	
<b>Mature Canopy Diameter (ft)</b>	<b>Credit Volume per tree well (ft<sup>3</sup>)</b>		
<b>Tree well ID #(s)</b>	<b>Combined Volume (ft<sup>3</sup>)</b>		
<b>Tree species or name</b>		<b>No. tree wells</b>	
<b>Mature Canopy Diameter (ft)</b>	<b>Credit Volume per tree well (ft<sup>3</sup>)</b>		
<b>Tree well ID #(s)</b>	<b>Combined Volume (ft<sup>3</sup>)</b>		
<b>Total Credit Volume (ft<sup>3</sup>)</b>			
Add the combined volumes above. Total credit volume must equal or exceed the RRV.			



## 8.0 General Requirements

- |   |  |
|---|--|
| <b>Sub-attachments</b> (check all that are completed)   |  |
| <input checked="" type="checkbox"/> <b>8.1: Flow Control Facility Design</b> (required) <sup>1</sup><br>Submit using <input checked="" type="checkbox"/> the Sub-attachment 8.1 cover sheet provided, or <input type="checkbox"/> as a separate stand-alone document labeled Sub-attachment 8.1.  |  |
| <input checked="" type="checkbox"/> <b>8.2: Hydromodification Management Points of Compliance</b> (required)<br>Complete the table provided in Sub-attachment 8.2.  |  |
| <b>8.3: Geomorphic Assessment of Receiving Channels</b><br>1. Has a geomorphic assessment been performed for the receiving channel(s)?<br><input type="checkbox"/> No, the low flow threshold is 0.1Q2 (default low flow threshold)<br><input type="checkbox"/> Yes (provide the information below):<br>Low flow threshold: <input type="checkbox"/> 0.1Q2 <input type="checkbox"/> 0.3Q2 <input type="checkbox"/> 0.5Q2<br>Title:<br><br>Date: _____ Preparer: _____ |  |
| Submit using <input type="checkbox"/> the Sub-attachment 8.3 cover sheet provided, or <input type="checkbox"/> as a separate stand-alone document labeled Sub-attachment 8.3.   |  |
| <b>8.4: Vector Control Plan</b> (required if BMPs will not drain in less than 96 hours)<br><input type="checkbox"/> Included with this attachment <input checked="" type="checkbox"/> Not required  |  |

County of San Diego SWQMP Attachment 8.0 (General Requirements)  
Template Date: January 8, 2019

## 8.1 Flow Control Facility Design

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Insert Flow Control Facility Design behind this cover page or submit as a separate stand-alone document labeled Sub-attachment 8.1.

Hydromodification management requirements satisfied by the project using impervious area dispersion.

There is one point of compliance (POC) for the project area. Drainage management areas (DMAs) 1 through 28 are directed to POC-1. DMA-28 was excluded from impervious area calculations since it is a swimming pool and will have adequate freeboard. DMAs 1 through 27 meet both pollutant control and hydromodification flow control requirements since the impervious to pervious area ratio is 1:1 or less and other design requirements of fact sheet SD-B are satisfied, including 11 inches of amended soil per fact sheet SD-F.

The semi-pervious areas are the gravel overflow parking areas and decomposed granite access road. The ratio of the impervious to pervious areas is all less than 1:1. For DMAs with semi-pervious areas, the ratio of semi-pervious and impervious areas to pervious areas was also calculated. All of the DMAs have a ratio of less than 1:1 for semi-pervious and impervious areas to pervious areas and satisfy the criteria for pollutant control plus hydromodification management. See the following table for ratio and percent impervious calculations for each of the DMAs.

See DMA exhibit in Attachment 3

See Preliminary BMP and Hydromodification Sizing Table at the end of Attachment 8

## 8.2 Hydromodification Management Points of Compliance

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- List and describe all points of compliance (POCs) for flow control for hydromodification management.
- For each POC, provide a POC identification name or number, and a receiving channel identification name or number correlating to the project's HMP Exhibit (see Attachment 2).

POC name or #	Channel name or #	POC Description
1		Existing culvert that conveys runoff beneath CA-78 and discharges into an existing drainage ditch along the southern roadway shoulder.

### **8.3 Geomorphic Assessment of Receiving Water Channels**

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Insert Geomorphic Assessment behind this cover page or submit as a separate stand-alone document labeled Sub-attachment 8.3.



## **8.4 Vector Control Plan**

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Insert Vector Control Plan behind this cover page or submit as a separate stand-alone document labeled Sub-attachment 8.4.

**Rancho Guejito Tasting Facility Event Center**  
**Preliminary BMP and Hydromodification Sizing Table**

DMA	PROPOSED DMA TYPE AND BMPS	TOTAL AREA (FT <sup>2</sup> )	PERCENT IMPERVIOUS	PERCENT IMPERVIOUS & SEMI- PERVIOUS	IMPERVIOUS + SEMI- PERVIOUS AREA (FT <sup>2</sup> )	IMPERVIOUS AREA (FT <sup>2</sup> )	SEMI- PERVIOUS AREA (FT <sup>2</sup> )	PERVIOUS AREA (FT <sup>2</sup> )	PERVIOUS IAD AREA (FT <sup>2</sup> )	RATIO (I:P)	RATIO (I+S:P)
1	SELF RETAINING (IAD)	30,391	43%	43%	13,141	13,141	-	3,771	13,479	0.76 :1	0.97 :1
2		21,031	21%	39%	8,260	4,473	3,787	-	12,771	0.35 :1	0.65 :1
3		35,124	43%	43%	15,020	15,020	-	1,129	18,975	0.75 :1	0.79 :1
4		34,252	34%	37%	12,585	11,637	948	-	21,667	0.54 :1	0.58 :1
5		46,758	45%	47%	21,790	21,046	744	886	24,082	0.84 :1	0.90 :1
6		5,781	48%	48%	2,787	2,787	-	-	2,994	0.93 :1	0.93 :1
7		10,510	48%	48%	5,066	5,066	-	-	5,444	0.93 :1	0.93 :1
8		8,511	7%	36%	3,099	564	2,535	-	5,412	0.10 :1	0.57 :1
9		83,806	33%	41%	34,579	27,786	6,793	4,167	45,060	0.56 :1	0.77 :1
10		3,528	0%	50%	1,762	-	1,762	-	1,766	- :1	1.00 :1
11		4,470	0%	43%	1,931	-	1,931	-	2,539	0 :1	0.76 :1
12		379	0%	0%	-	-	-	379	-	0 :1	0 :1
13		1,144	0%	0%	-	-	-	1,144	-	0 :1	0 :1
14		354	0%	0%	-	-	-	354	-	0 :1	0 :1
15		1,274	0%	0%	-	-	-	1,274	-	0 :1	0 :1
16		1,914	0%	0%	-	-	-	1,914	-	0 :1	0 :1
17		1,960	0%	0%	-	-	-	1,960	-	0 :1	0 :1
18		798	0%	0%	-	-	-	798	-	0 :1	0 :1
19		272	0%	0%	-	-	-	272	-	0 :1	0 :1
20		4,007	0%	0%	-	-	-	4,007	-	0 :1	0 :1
21		5,971	0%	0%	-	-	-	5,971	-	0 :1	0 :1
22		908	0%	0%	-	-	-	908	-	0 :1	0 :1
23		3,276	0%	0%	-	-	-	3,276	-	0 :1	0 :1
24		379	0%	0%	-	-	-	379	-	0 :1	0 :1
25		770	0%	0%	-	-	-	770	-	0 :1	0 :1
26		832	0%	0%	-	-	-	832	-	0 :1	0 :1
27		1,841	0%	0%	-	-	-	1,841	-	0 :1	0 :1
28	SELF RETAINING (POOL)	800	N/A	N/A	800	800	-	-	-	0 :1	0 :1
TOTAL		311,041				102,320					

NOTES:

FT<sup>2</sup>= SQUARE FEET

I= IMPERVIOUS

IAD= IMPERVIOUS AREA DISPERSION

P= PERVIOUS

S= SEMI-PERVIOUS



County of San Diego Stormwater Quality Management Plan (SWQMP)  
***Attachment 9: Management of Critical Coarse Sediment Yield Areas***

**9.0 General Requirements**

- Complete the table below to indicate which compliance pathway was selected in PDP SWQMP Table 6. Include the corresponding sub-attachment with your SWQMP submittal. Other sub-attachments do not need to be included.
- See the BMPDM sections and appendices listed under “BMPDM Design Resources” for additional explanation of design requirements. Constructed features must fully satisfy the requirements described in these resources, and any other guidance identified by the County.
- **DMA Exhibits and Construction Plans:** CCSYAs and applicable BMPs identified and described in this attachment must be shown on DMA Exhibits and all applicable construction plans submitted for the project. See Attachment 2 for additional instruction on exhibits and plans.

<b>Sub-attachments</b>	<b>BMPDM Design Resources</b>
<input type="checkbox"/> <b>9.1: Documentation of Hydromodification Management Exemption<sup>1</sup></b>	Section 1.6
<input checked="" type="checkbox"/> <b>9.2: Watershed Management Area Analysis (WMAA) Mapping<sup>1</sup></b>	Appendix H.1.1.2
<input type="checkbox"/> <b>9.3: Resource Protection Ordinance (RPO) Methods</b>	Appendix H.1.1.1
<input type="checkbox"/> <b>9.4: No Net Impact Analysis</b>	Appendix H.4

<sup>1</sup> The San Diego County Regional comprehensive WMAA mapping data can be found on the Project Clean Water website here: [http://www.projectcleanwater.org/download/wmaa\\_attc\\_data/](http://www.projectcleanwater.org/download/wmaa_attc_data/)

- If the PDP is exempt from hydromodification management requirements (see Table 4 Part A.1 of the PDP SWQMP), use this Sub-attachment to document the exemption.
- Select the type of exemption below that applies and provide an explanation of the selection, including maps or other applicable documentation. Additional documentation may be requested by County staff.

<sup>2</sup> This option must include an analysis of the project using the methodology presented in Attachment E of the Regional Watershed Management Area Analysis.

## 9.2 Watershed Management Area Analysis (WMAA) Mapping (BMPDM Appendix H.1.1.2)

Watershed Management Area Analysis (WMAA) mapping is a simple way to screen projects to determine the presence of onsite or offsite upstream Potential Critical Coarse Sediment Yield Areas (PCCSYAs). The San Diego County Regional WMAA mapping data can be found on the Project Clean Water website here: [http://www.projectcleanwater.org/download/wmaa\\_attc\\_data/](http://www.projectcleanwater.org/download/wmaa_attc_data/).<sup>3</sup>

- Based on the WMAA map and the proposed project design, demonstrate below that both of the following conditions apply to the PDP:
  - (a) Less than 5% of PCCSYAs will be impacted (built on or obstructed) by the PDP, and
  - (b) All upstream offsite PCCSYAs will be bypassed (see BMPDM Appendix H.3).

**A. Mapping Results** -- At a minimum, show: (1) the project footprint, (2) areas of proposed development, (3) impacted onsite PCCSYAs, (4) offsite tributary areas<sup>4</sup>, and (5) bypass of upstream offsite PCCSYAs.

The project proposes development in areas where no PCCSYAs exists. A PCCSYAs Map has been prepared that shows the overall project boundary and drainage area up gradient from the proposed development areas. While mapped PCCSYAs are located within the local drainage basin, a hydrologic analysis of pre-project condition shows that the peak velocities from the discrete 2-year, 24-hour storm event of runoff from these areas are less than three feet per second prior to the flows reaching a water of the state. Consistent with Section H.1.2 of the BMP Design Manual, the areas identified as PCCSYAs within the up gradient drainage area are removed from consideration (i.e., not CCSYAs based on the results of the depositional analysis). Therefore, no CCSYAs exist within or up gradient of the project area. The PCCSYAs Map and 2-year, 24-hour analysis are provided in this attachment in support of this finding.

<sup>3</sup> Applicants may refine initial mapping results using options identified in BMPDM Appendix H.1.2.

<sup>4</sup> Tributary areas must be shown to demonstrate that upstream offsite PCCSYAs do not exist. If bypassing these areas, only the bypass should be shown.

**B. Explanation** -- Provide documentation as needed to demonstrate that (1) impacts to PCCSYAs are below 5%, and (2) upstream offsite PCCYSAs are effectively bypassed. Add pages as necessary.

### 9.3 Resource Protection Ordinance (RPO) Methods (BMPDM Appendix H.1.1.1)

- Either of two Resource Protection Ordinance (RPO) methods may also be used to demonstrate compliance with CCSYA requirements. Select either option and document the selection below:

☐ **RPO Scenario 1: PDP is subject to and in compliance with RPO requirements<sup>5</sup>**

- **Select** if the project requires one or more discretionary permits;
- **Demonstrate** that onsite AND upstream offsite CCSYAs will be avoided and/or bypassed.

☐ **RPO Scenario 2: PDP is entirely exempt/not subject to RPO requirements<sup>6</sup>**

- **Select** if the project does not require discretionary permits;
- **Demonstrate** that all upstream offsite CCSYAs will be bypassed<sup>7</sup>.

**A. Mapping Results** -- At a minimum, show as applicable: (1) the project footprint, (2) areas of proposed development, (3) locations of onsite and upstream offsite CCSYAs, and (4) bypass of all identified CCSYAs.

<sup>5</sup> RPO applicability is normally confirmed during discretionary review. Check with your project manager if you're not sure of your status.

<sup>6</sup> Does not include PDPs utilizing exemption(s) via RPO Section 86.604(e)(2)(cc) or 86.604(e)(3).

<sup>7</sup> This scenario does not impose requirements for onsite CCSYAs.

**B. Explanation** -- Provide documentation as needed to demonstrate that (1) onsite CCSYAs are avoided and bypassed [if applicable], and (2) upstream offsite CCYSAs are effectively bypassed. Add pages as necessary.

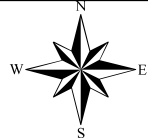
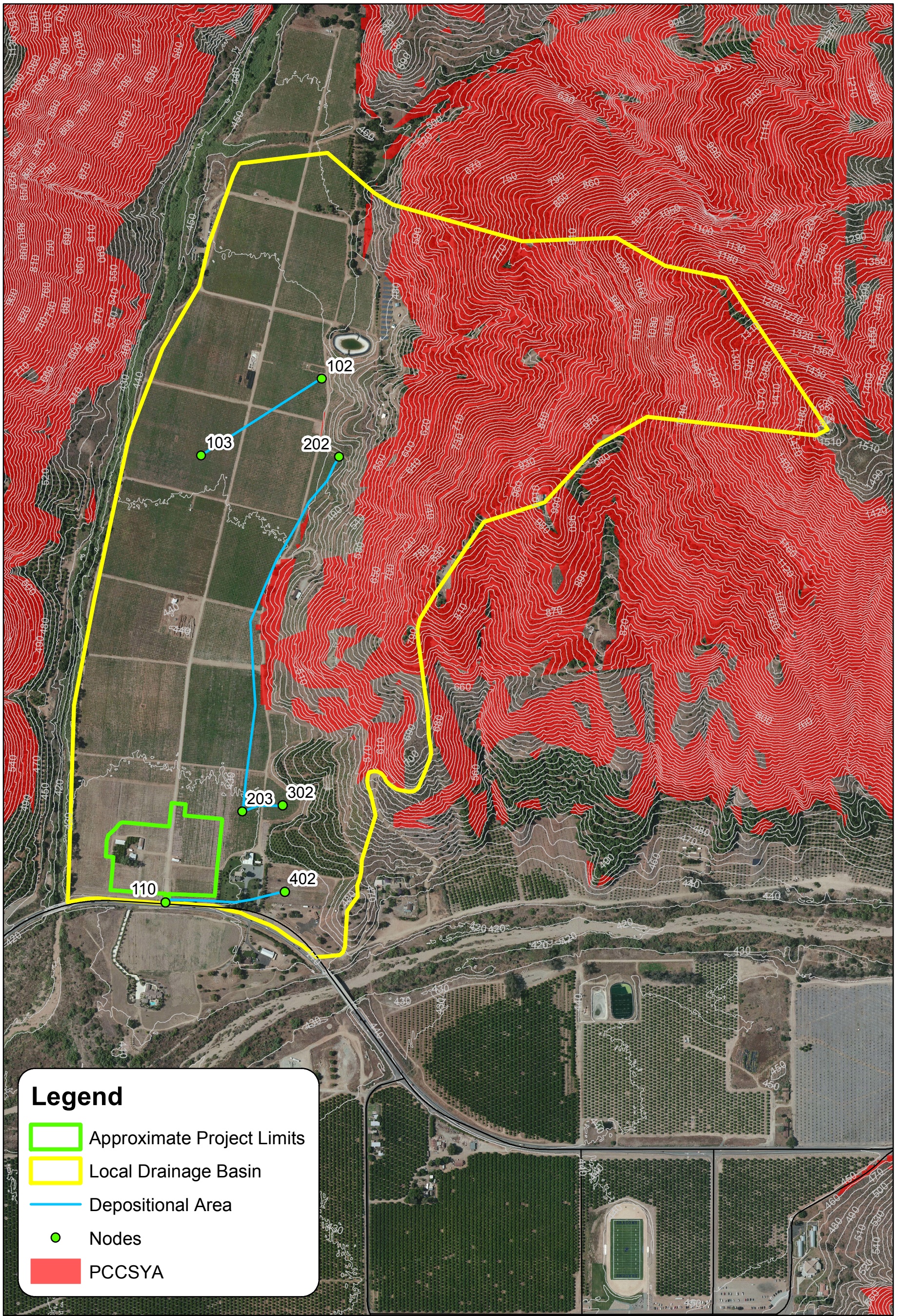


#### 9.4 No Net Impact Analysis (BMPDM Appendix H.4)

- When impacts to CCSYAs cannot be avoided or effectively bypassed, applicants must demonstrate that their project generates no net impact to the receiving water per the performance metrics identified in BMPDM Appendix H.4.
- Use the space below to document that the PDP will generate no net impact to any receiving water.

**No Net Impact Analysis** (add or attach pages as necessary)





0 290 580 1,160 Feet

EXHIBIT DATE: 10/25/2019 RICK JN: 14557

# **PCCSYAS MAP RANCHO GUEJITO TASTING FACILITY AND EVENT CENTER**



\*\*\*\*\*  
 RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE  
 Reference: SAN DIEGO COUNTY FLOOD CONTROL DISTRICT  
 2003,1985,1981 HYDROLOGY MANUAL  
 (c) Copyright 1982-2014 Advanced Engineering Software (aes)  
 Ver. 21.0 Release Date: 06/01/2014 License ID 1261

Analysis prepared by:

RICK ENGINEERING COMPANY  
 5620 Friars Road  
 San Diego, California 92110  
 619-291-0707 Fax 619-291-4165

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
 \* RANCHO GUEJITO TASTING FACILITY AND EVENT CENTER - LOCAL HYDROLOGY ANALY \*  
 \* EXISTING CONDITIONS (2-YEAR STORM EVENT) \*  
 \* RICK ENGINEERING COMPANY, 2019 \*  
 \*\*\*\*\*

FILE NAME: RGW\_E02.DAT  
 TIME/DATE OF STUDY: 10:50 10/24/2019

-----  
 USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:  
 -----

2003 SAN DIEGO MANUAL CRITERIA

USER SPECIFIED STORM EVENT(YEAR) = 2.00  
 6-HOUR DURATION PRECIPITATION (INCHES) = 1.600  
 SPECIFIED MINIMUM PIPE SIZE(INCH) = 6.00  
 SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90  
 SAN DIEGO HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD  
 NOTE: USE MODIFIED RATIONAL METHOD PROCEDURES FOR CONFLUENCE ANALYSIS  
 \*USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL\*  

NO.	WIDTH (FT)	CROWN TO CROSSFALL (FT)	STREET-CROSSFALL IN- / OUT- / PARK- SIDE / SIDE / WAY	HEIGHT (FT)	WIDTH (FT)	LIP (FT)	HIKE (FT)	FACTOR (n)
1	30.0	20.0	0.018/0.018/0.020	0.67	2.00	0.0312	0.167	0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:

1. Relative Flow-Depth = 0.00 FEET  
 as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)
  2. (Depth)\*(Velocity) constraint = 6.0 (FT\*FT/S)
- \*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN  
 OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.\*

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 100.00 TO NODE 101.00 IS CODE = 21  
 -----

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<

=====

SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT = .3000  
 SOIL CLASSIFICATION IS "C"  
 S.C.S. CURVE NUMBER (AMC II) = 63  
 INITIAL SUBAREA FLOW-LENGTH(FEET) = 80.00  
 UPSTREAM ELEVATION(FEET) = 1520.00  
 DOWNSTREAM ELEVATION(FEET) = 1480.00  
 ELEVATION DIFFERENCE(FEET) = 40.00  
 SUBAREA OVERLAND TIME OF FLOW(MIN.) = 5.979  
 WARNING: THE MAXIMUM OVERLAND FLOW SLOPE, 10.%, IS USED IN Tc CALCULATION!  
 2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.756  
 SUBAREA RUNOFF(CFS) = 0.11  
 TOTAL AREA(ACRES) = 0.10 TOTAL RUNOFF(CFS) = 0.11

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 101.00 TO NODE 102.00 IS CODE = 51  
 -----

>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<  
 >>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 1480.00 DOWNSTREAM(FEET) = 450.00  
 CHANNEL LENGTH THRU SUBAREA(FEET) = 3300.00 CHANNEL SLOPE = 0.3121  
 CHANNEL BASE(FEET) = 5.00 "Z" FACTOR = 3.000  
 MANNING'S FACTOR = 0.045 MAXIMUM DEPTH(FEET) = 5.00  
 2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.429  
 SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT = .3000  
 SOIL CLASSIFICATION IS "C"  
 S.C.S. CURVE NUMBER (AMC II) = 63  
 TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 28.14  
 TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 9.53  
 AVERAGE FLOW DEPTH(FEET) = 0.46 TRAVEL TIME(MIN.) = 5.77  
 Tc(MIN.) = 11.75  
 SUBAREA AREA(ACRES) = 74.00 SUBAREA RUNOFF(CFS) = 53.93  
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.300  
 TOTAL AREA(ACRES) = 74.1 PEAK FLOW RATE(CFS) = 54.00

## END OF SUBAREA CHANNEL FLOW HYDRAULICS:

DEPTH(FEET) = 0.66 FLOW VELOCITY(FEET/SEC.) = 11.70  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 102.00 = 3380.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 102.00 TO NODE 103.00 IS CODE = 51  
 \*\*\*\*\*

>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<  
 >>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) =	450.00	DOWNSTREAM(FEET) =	442.00
CHANNEL LENGTH THRU SUBAREA(FEET) =	900.00	CHANNEL SLOPE =	0.0089
CHANNEL BASE(FEET) =	10.00	"Z" FACTOR =	50.000
MANNING'S FACTOR =	0.040	MAXIMUM DEPTH(FEET) =	3.00
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 1.747			
VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT =	.2500		
SOIL CLASSIFICATION IS	"B"		
S.C.S. CURVE NUMBER (AMC II) =	85		
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =	62.42		
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =	1.91		
AVERAGE FLOW DEPTH(FEET) =	0.71	TRAVEL TIME(MIN.) =	7.85
Tc(MIN.) =	19.60		
SUBAREA AREA(ACRES) =	38.40	SUBAREA RUNOFF(CFS) =	16.77
AREA-AVERAGE RUNOFF COEFFICIENT =	0.283		
TOTAL AREA(ACRES) =	112.5	PEAK FLOW RATE(CFS) =	55.59

## END OF SUBAREA CHANNEL FLOW HYDRAULICS:

DEPTH(FEET) = 0.68 FLOW VELOCITY(FEET/SEC.) = 1.85  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 103.00 = 4280.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 103.00 TO NODE 104.00 IS CODE = 51  
 \*\*\*\*\*

>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<  
 >>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) =	442.00	DOWNSTREAM(FEET) =	428.80
CHANNEL LENGTH THRU SUBAREA(FEET) =	2200.00	CHANNEL SLOPE =	0.0060
CHANNEL BASE(FEET) =	10.00	"Z" FACTOR =	50.000
MANNING'S FACTOR =	0.040	MAXIMUM DEPTH(FEET) =	3.00
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 1.067			
*USER SPECIFIED(SUBAREA):			
VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT =	.2300		
S.C.S. CURVE NUMBER (AMC II) =	85		
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =	61.36		
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =	1.63		
AVERAGE FLOW DEPTH(FEET) =	0.77	TRAVEL TIME(MIN.) =	22.49
Tc(MIN.) =	42.09		
SUBAREA AREA(ACRES) =	46.50	SUBAREA RUNOFF(CFS) =	11.41
AREA-AVERAGE RUNOFF COEFFICIENT =	0.267		
TOTAL AREA(ACRES) =	159.0	PEAK FLOW RATE(CFS) =	55.59

## END OF SUBAREA CHANNEL FLOW HYDRAULICS:

DEPTH(FEET) = 0.74 FLOW VELOCITY(FEET/SEC.) = 1.61  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 104.00 = 6480.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 104.00 TO NODE 110.00 IS CODE = 51  
 \*\*\*\*\*

>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<  
 >>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) =	428.80	DOWNSTREAM(FEET) =	425.50
CHANNEL LENGTH THRU SUBAREA(FEET) =	620.00	CHANNEL SLOPE =	0.0053
CHANNEL BASE(FEET) =	10.00	"Z" FACTOR =	50.000
MANNING'S FACTOR =	0.040	MAXIMUM DEPTH(FEET) =	3.00
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 0.970			
*USER SPECIFIED(SUBAREA):			
VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT =	.2290		
S.C.S. CURVE NUMBER (AMC II) =	85		
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =	57.48		
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =	1.55		
AVERAGE FLOW DEPTH(FEET) =	0.77	TRAVEL TIME(MIN.) =	6.68
Tc(MIN.) =	48.77		
SUBAREA AREA(ACRES) =	17.00	SUBAREA RUNOFF(CFS) =	3.78
AREA-AVERAGE RUNOFF COEFFICIENT =	0.264		
TOTAL AREA(ACRES) =	176.0	PEAK FLOW RATE(CFS) =	55.59

## END OF SUBAREA CHANNEL FLOW HYDRAULICS:

DEPTH(FEET) = 0.76 FLOW VELOCITY(FEET/SEC.) = 1.53  
 LONGEST FLOWPATH FROM NODE 100.00 TO NODE 110.00 = 7100.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 110.00 TO NODE 110.00 IS CODE = 10  
 \*\*\*\*\*

>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<<

```

*****
FLOW PROCESS FROM NODE    200.00 TO NODE    201.00 IS CODE =  21
-----
>>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
=====
SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT = .3000
SOIL CLASSIFICATION IS "C"
S.C.S. CURVE NUMBER (AMC II) = 63
INITIAL SUBAREA FLOW-LENGTH(FEET) =      80.00
UPSTREAM ELEVATION(FEET) =    1010.00
DOWNSTREAM ELEVATION(FEET) =     970.00
ELEVATION DIFFERENCE(FEET) =      40.00
SUBAREA OVERLAND TIME OF FLOW(MIN.) =      5.979
WARNING: THE MAXIMUM OVERLAND FLOW SLOPE, 10.%, IS USED IN Tc CALCULATION!
      2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  3.756
SUBAREA RUNOFF(CFS) =      0.11
TOTAL AREA(ACRES) =      0.10    TOTAL RUNOFF(CFS) =      0.11
*****
FLOW PROCESS FROM NODE    201.00 TO NODE    202.00 IS CODE =  51
-----
>>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
>>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) =     970.00 DOWNSTREAM(FEET) =    450.00
CHANNEL LENGTH THRU SUBAREA(FEET) =  1500.00 CHANNEL SLOPE =  0.3467
CHANNEL BASE(FEET) =      5.00  "Z" FACTOR =      3.000
MANNING'S FACTOR = 0.045  MAXIMUM DEPTH(FEET) =      5.00
      2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  2.594
SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT = .3000
SOIL CLASSIFICATION IS "C"
S.C.S. CURVE NUMBER (AMC II) = 63
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =      4.83
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =      5.39
AVERAGE FLOW DEPTH(FEET) =      0.16  TRAVEL TIME(MIN.) =      4.63
Tc(MIN.) =      10.61
SUBAREA AREA(ACRES) =      11.70    SUBAREA RUNOFF(CFS) =      9.11
AREA-AVERAGE RUNOFF COEFFICIENT =  0.300
TOTAL AREA(ACRES) =      11.8    PEAK FLOW RATE(CFS) =      9.18

END OF SUBAREA CHANNEL FLOW HYDRAULICS:
DEPTH(FEET) =  0.23  FLOW VELOCITY(FEET/SEC.) =      6.89
LONGEST FLOWPATH FROM NODE    200.00 TO NODE    202.00 =    1580.00 FEET.
*****
FLOW PROCESS FROM NODE    202.00 TO NODE    203.00 IS CODE =  51
-----
>>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
>>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) =     450.00 DOWNSTREAM(FEET) =    429.50
CHANNEL LENGTH THRU SUBAREA(FEET) =  2350.00 CHANNEL SLOPE =  0.0087
CHANNEL BASE(FEET) =     10.00  "Z" FACTOR =     50.000
MANNING'S FACTOR = 0.040  MAXIMUM DEPTH(FEET) =      3.00
      2 YEAR RAINFALL INTENSITY(INCH/HOUR) =  1.112
*USER SPECIFIED(SUBAREA):
VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT = .2750
S.C.S. CURVE NUMBER (AMC II) = 63
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =     17.31
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =      1.36
AVERAGE FLOW DEPTH(FEET) =      0.41  TRAVEL TIME(MIN.) =     28.85
Tc(MIN.) =      39.46
SUBAREA AREA(ACRES) =      50.00    SUBAREA RUNOFF(CFS) =     15.29
AREA-AVERAGE RUNOFF COEFFICIENT =  0.280
TOTAL AREA(ACRES) =      61.8    PEAK FLOW RATE(CFS) =     19.23

END OF SUBAREA CHANNEL FLOW HYDRAULICS:
DEPTH(FEET) =  0.43  FLOW VELOCITY(FEET/SEC.) =      1.41
LONGEST FLOWPATH FROM NODE    200.00 TO NODE    203.00 =    3930.00 FEET.
*****
FLOW PROCESS FROM NODE    203.00 TO NODE    203.00 IS CODE =   1
-----
>>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
=====
TOTAL NUMBER OF STREAMS =  2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM  1 ARE:
TIME OF CONCENTRATION(MIN.) =    39.46
RAINFALL INTENSITY(INCH/HR) =      1.11
TOTAL STREAM AREA(ACRES) =     61.80
PEAK FLOW RATE(CFS) AT CONFLUENCE =     19.23
*****
FLOW PROCESS FROM NODE    300.00 TO NODE    301.00 IS CODE =  21
-----
>>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<
=====

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                                RGW_E02.RES
SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT = .3000
SOIL CLASSIFICATION IS "C"
S.C.S. CURVE NUMBER (AMC II) = 63
INITIAL SUBAREA FLOW-LENGTH(FEET) = 80.00
UPSTREAM ELEVATION(FEET) = 707.00
DOWNSTREAM ELEVATION(FEET) = 657.00
ELEVATION DIFFERENCE(FEET) = 50.00
SUBAREA OVERLAND TIME OF FLOW(MIN.) = 5.979
WARNING: THE MAXIMUM OVERLAND FLOW SLOPE, 10.%, IS USED IN Tc CALCULATION!
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.756
SUBAREA RUNOFF(CFS) = 0.34
TOTAL AREA(ACRES) = 0.30 TOTAL RUNOFF(CFS) = 0.34

*****
FLOW PROCESS FROM NODE 301.00 TO NODE 302.00 IS CODE = 51
-----
>>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
>>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 657.00 DOWNSTREAM(FEET) = 432.00
CHANNEL LENGTH THRU SUBAREA(FEET) = 1040.00 CHANNEL SLOPE = 0.2163
CHANNEL BASE(FEET) = 5.00 "Z" FACTOR = 3.000
MANNING'S FACTOR = 0.045 MAXIMUM DEPTH(FEET) = 5.00
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.548
*USER SPECIFIED(SUBAREA):
SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT = .2900
S.C.S. CURVE NUMBER (AMC II) = 63
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 2.24
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 3.51
AVERAGE FLOW DEPTH(FEET) = 0.12 TRAVEL TIME(MIN.) = 4.93
Tc(MIN.) = 10.91
SUBAREA AREA(ACRES) = 5.00 SUBAREA RUNOFF(CFS) = 3.69
AREA-AVERAGE RUNOFF COEFFICIENT = 0.291
TOTAL AREA(ACRES) = 5.3 PEAK FLOW RATE(CFS) = 3.92

END OF SUBAREA CHANNEL FLOW HYDRAULICS:
DEPTH(FEET) = 0.16 FLOW VELOCITY(FEET/SEC.) = 4.33
LONGEST FLOWPATH FROM NODE 300.00 TO NODE 302.00 = 1120.00 FEET.

*****
FLOW PROCESS FROM NODE 302.00 TO NODE 203.00 IS CODE = 51
-----
>>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
>>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 432.00 DOWNSTREAM(FEET) = 429.50
CHANNEL LENGTH THRU SUBAREA(FEET) = 250.00 CHANNEL SLOPE = 0.0100
CHANNEL BASE(FEET) = 10.00 "Z" FACTOR = 50.000
MANNING'S FACTOR = 0.040 MAXIMUM DEPTH(FEET) = 3.00
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.066
*USER SPECIFIED(SUBAREA):
VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT = .2250
S.C.S. CURVE NUMBER (AMC II) = 63
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 4.48
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 0.99
AVERAGE FLOW DEPTH(FEET) = 0.22 TRAVEL TIME(MIN.) = 4.19
Tc(MIN.) = 15.10
SUBAREA AREA(ACRES) = 2.40 SUBAREA RUNOFF(CFS) = 1.12
AREA-AVERAGE RUNOFF COEFFICIENT = 0.270
TOTAL AREA(ACRES) = 7.7 PEAK FLOW RATE(CFS) = 4.30

END OF SUBAREA CHANNEL FLOW HYDRAULICS:
DEPTH(FEET) = 0.21 FLOW VELOCITY(FEET/SEC.) = 0.99
LONGEST FLOWPATH FROM NODE 300.00 TO NODE 203.00 = 1370.00 FEET.

*****
FLOW PROCESS FROM NODE 203.00 TO NODE 203.00 IS CODE = 1
-----
>>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<
>>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<
=====
TOTAL NUMBER OF STREAMS = 2
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:
TIME OF CONCENTRATION(MIN.) = 15.10
RAINFALL INTENSITY(INCH/HR) = 2.07
TOTAL STREAM AREA(ACRES) = 7.70
PEAK FLOW RATE(CFS) AT CONFLUENCE = 4.30

** CONFLUENCE DATA **
STREAM RUNOFF Tc INTENSITY AREA
NUMBER (CFS) (MIN.) (INCH/HOUR) (ACRE)
1 19.23 39.46 1.112 61.80
2 4.30 15.10 2.066 7.70

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO
CONFLUENCE FORMULA USED FOR 2 STREAMS.

** PEAK FLOW RATE TABLE **

```

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	11.66	15.10	2.066
2	21.54	39.46	1.112

## COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:

PEAK FLOW RATE(CFS) = 21.54 Tc(MIN.) = 39.46  
 TOTAL AREA(ACRES) = 69.5  
 LONGEST FLOWPATH FROM NODE 200.00 TO NODE 203.00 = 3930.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 203.00 TO NODE 110.00 IS CODE = 51  
 -----

>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<  
 >>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 429.50 DOWNSTREAM(FEET) = 425.50  
 CHANNEL LENGTH THRU SUBAREA(FEET) = 760.00 CHANNEL SLOPE = 0.0053  
 CHANNEL BASE(FEET) = 10.00 "Z" FACTOR = 50.000  
 MANNING'S FACTOR = 0.040 MAXIMUM DEPTH(FEET) = 3.00  
 2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 0.955  
 \*USER SPECIFIED(SUBAREA):  
 VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT = .2470  
 S.C.S. CURVE NUMBER (AMC II) = 63  
 TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 22.25  
 TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 1.20  
 AVERAGE FLOW DEPTH(FEET) = 0.52 TRAVEL TIME(MIN.) = 10.51  
 Tc(MIN.) = 49.98  
 SUBAREA AREA(ACRES) = 6.00 SUBAREA RUNOFF(CFS) = 1.42  
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.276  
 TOTAL AREA(ACRES) = 75.5 PEAK FLOW RATE(CFS) = 21.54

END OF SUBAREA CHANNEL FLOW HYDRAULICS:  
 DEPTH(FEET) = 0.51 FLOW VELOCITY(FEET/SEC.) = 1.20  
 LONGEST FLOWPATH FROM NODE 200.00 TO NODE 110.00 = 4690.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 110.00 TO NODE 110.00 IS CODE = 1  
 -----

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
 TIME OF CONCENTRATION(MIN.) = 49.98  
 RAINFALL INTENSITY(INCH/HR) = 0.95  
 TOTAL STREAM AREA(ACRES) = 75.50  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 21.54

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 400.00 TO NODE 401.00 IS CODE = 21  
 -----

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<<

=====

SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT = .3000  
 SOIL CLASSIFICATION IS "C"  
 S.C.S. CURVE NUMBER (AMC II) = 63  
 INITIAL SUBAREA FLOW-LENGTH(FEET) = 80.00  
 UPSTREAM ELEVATION(FEET) = 575.00  
 DOWNSTREAM ELEVATION(FEET) = 548.00  
 ELEVATION DIFFERENCE(FEET) = 27.00  
 SUBAREA OVERLAND TIME OF FLOW(MIN.) = 5.979  
 WARNING: THE MAXIMUM OVERLAND FLOW SLOPE, 10.%, IS USED IN Tc CALCULATION!  
 2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.756  
 SUBAREA RUNOFF(CFS) = 0.11  
 TOTAL AREA(ACRES) = 0.10 TOTAL RUNOFF(CFS) = 0.11

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 401.00 TO NODE 402.00 IS CODE = 51  
 -----

>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<  
 >>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 548.00 DOWNSTREAM(FEET) = 432.80  
 CHANNEL LENGTH THRU SUBAREA(FEET) = 820.00 CHANNEL SLOPE = 0.1405  
 CHANNEL BASE(FEET) = 5.00 "Z" FACTOR = 3.000  
 MANNING'S FACTOR = 0.045 MAXIMUM DEPTH(FEET) = 5.00  
 2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.641  
 \*USER SPECIFIED(SUBAREA):  
 SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT = .2900  
 S.C.S. CURVE NUMBER (AMC II) = 63  
 TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 2.29  
 TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 3.15  
 AVERAGE FLOW DEPTH(FEET) = 0.13 TRAVEL TIME(MIN.) = 4.34  
 Tc(MIN.) = 10.32  
 SUBAREA AREA(ACRES) = 5.50 SUBAREA RUNOFF(CFS) = 4.21  
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.290  
 TOTAL AREA(ACRES) = 5.6 PEAK FLOW RATE(CFS) = 4.29

END OF SUBAREA CHANNEL FLOW HYDRAULICS:  
 DEPTH(FEET) = 0.20 FLOW VELOCITY(FEET/SEC.) = 3.93  
 LONGEST FLOWPATH FROM NODE 400.00 TO NODE 402.00 = 900.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 402.00 TO NODE 110.00 IS CODE = 51  
 -----

>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<  
 >>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) =	432.80	DOWNSTREAM(FEET) =	425.50
CHANNEL LENGTH THRU SUBAREA(FEET) =	780.00	CHANNEL SLOPE =	0.0094
CHANNEL BASE(FEET) =	10.00	"Z" FACTOR =	50.000
MANNING'S FACTOR =	0.040	MAXIMUM DEPTH(FEET) =	3.00
2 YEAR RAINFALL INTENSITY(INCH/HOUR) =	1.585		

\*USER SPECIFIED(SUBAREA):  
 VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT = .2620  
 S.C.S. CURVE NUMBER (AMC II) = 63  
 TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 5.49  
 TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 1.04  
 AVERAGE FLOW DEPTH(FEET) = 0.24 TRAVEL TIME(MIN.) = 12.46  
 Tc(MIN.) = 22.79  
 SUBAREA AREA(ACRES) = 5.70 SUBAREA RUNOFF(CFS) = 2.37  
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.276  
 TOTAL AREA(ACRES) = 11.3 PEAK FLOW RATE(CFS) = 4.94

END OF SUBAREA CHANNEL FLOW HYDRAULICS:  
 DEPTH(FEET) = 0.23 FLOW VELOCITY(FEET/SEC.) = 1.03  
 LONGEST FLOWPATH FROM NODE 400.00 TO NODE 110.00 = 1680.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 110.00 TO NODE 110.00 IS CODE = 1  
 -----

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<  
 >>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:  
 TIME OF CONCENTRATION(MIN.) = 22.79  
 RAINFALL INTENSITY(INCH/HR) = 1.58  
 TOTAL STREAM AREA(ACRES) = 11.30  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 4.94

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	21.54	49.98	0.955	75.50
2	4.94	22.79	1.585	11.30

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
 CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	17.92	22.79	1.585
2	24.52	49.98	0.955

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:  
 PEAK FLOW RATE(CFS) = 24.52 Tc(MIN.) = 49.98  
 TOTAL AREA(ACRES) = 86.8  
 LONGEST FLOWPATH FROM NODE 200.00 TO NODE 110.00 = 4690.00 FEET.

\*\*\*\*\*  
 FLOW PROCESS FROM NODE 110.00 TO NODE 110.00 IS CODE = 11  
 -----

>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<  
 =====

\*\* MAIN STREAM CONFLUENCE DATA \*\*

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	24.52	49.98	0.955	86.80

LONGEST FLOWPATH FROM NODE 200.00 TO NODE 110.00 = 4690.00 FEET.

\*\* MEMORY BANK # 1 CONFLUENCE DATA \*\*

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	55.59	48.77	0.970	176.00

LONGEST FLOWPATH FROM NODE 100.00 TO NODE 110.00 = 7100.00 FEET.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	79.52	48.77	0.970
2	79.25	49.98	0.955

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:



RGW\_E02.RES  
PEAK FLOW RATE(CFS) = 79.52 TC(MIN.) = 48.77  
TOTAL AREA(ACRES) = 262.8

=====

END OF STUDY SUMMARY:  
TOTAL AREA(ACRES) = 262.8 TC(MIN.) = 48.77  
PEAK FLOW RATE(CFS) = 79.52

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END OF RATIONAL METHOD ANALYSIS

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RATIONAL METHOD HYDROLOGY COMPUTER PROGRAM PACKAGE  
Reference: SAN DIEGO COUNTY FLOOD CONTROL DISTRICT  
2003,1985,1981 HYDROLOGY MANUAL  
(c) Copyright 1982-2014 Advanced Engineering Software (aes)  
Ver. 21.0 Release Date: 06/01/2014 License ID 1261

Analysis prepared by:

RICK ENGINEERING COMPANY  
5620 Friars Road  
San Diego, California 92110  
619-291-0707 Fax 619-291-4165

\*\*\*\*\* DESCRIPTION OF STUDY \*\*\*\*\*  
\* RANCHO GUEJITO TASTING FACILITY AND EVENT CENTER - LOCAL HYDROLOGY \*  
\* PROPOSED CONDITIONS (2-YEAR STORM EVENT) \*  
\* RICK ENGINEERING COMPANY, 2020 \*  
\*\*\*\*\*

FILE NAME: RGW\_P2.DAT  
TIME/DATE OF STUDY: 16:52 10/14/2020

-----  
USER SPECIFIED HYDROLOGY AND HYDRAULIC MODEL INFORMATION:  
-----

2003 SAN DIEGO MANUAL CRITERIA

USER SPECIFIED STORM EVENT(YEAR) = 2.00  
6-HOUR DURATION PRECIPITATION (INCHES) = 1.600  
SPECIFIED MINIMUM PIPE SIZE(INCH) = 6.00  
SPECIFIED PERCENT OF GRADIENTS(DECIMAL) TO USE FOR FRICTION SLOPE = 0.90  
SAN DIEGO HYDROLOGY MANUAL "C"-VALUES USED FOR RATIONAL METHOD  
NOTE: USE MODIFIED RATIONAL METHOD PROCEDURES FOR CONFLUENCE ANALYSIS  
\*USER-DEFINED STREET-SECTIONS FOR COUPLED PIPEFLOW AND STREETFLOW MODEL\*  
HALF- CROWN TO STREET-CROSSFALL: CURB GUTTER-GEOMETRIES: MANNING  
WIDTH CROSSFALL IN- / OUT-/PARK- HEIGHT WIDTH LIP HIKE FACTOR  
NO. (FT) (FT) SIDE / SIDE/ WAY (FT) (FT) (FT) (FT) (n)  
=== =====  
1 30.0 20.0 0.018/0.018/0.020 0.67 2.00 0.0313 0.167 0.0150

GLOBAL STREET FLOW-DEPTH CONSTRAINTS:

1. Relative Flow-Depth = 0.00 FEET  
as (Maximum Allowable Street Flow Depth) - (Top-of-Curb)  
2. (Depth)\*(Velocity) Constraint = 6.0 (FT\*FT/S)  
\*SIZE PIPE WITH A FLOW CAPACITY GREATER THAN  
OR EQUAL TO THE UPSTREAM TRIBUTARY PIPE.\*

\*\*\*\*\*

FLOW PROCESS FROM NODE 100.00 TO NODE 101.00 IS CODE = 21

-----  
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<  
=====

SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT = .3000  
SOIL CLASSIFICATION IS "C"  
S.C.S. CURVE NUMBER (AMC II) = 63  
INITIAL SUBAREA FLOW-LENGTH(FEET) = 80.00  
UPSTREAM ELEVATION(FEET) = 1520.00  
DOWNSTREAM ELEVATION(FEET) = 1480.00  
ELEVATION DIFFERENCE(FEET) = 40.00  
SUBAREA OVERLAND TIME OF FLOW(MIN.) = 5.979  
WARNING: THE MAXIMUM OVERLAND FLOW SLOPE, 10.%, IS USED IN Tc CALCULATION!  
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.756  
SUBAREA RUNOFF(CFS) = 0.11  
TOTAL AREA(ACRES) = 0.10 TOTAL RUNOFF(CFS) = 0.11

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FLOW PROCESS FROM NODE 101.00 TO NODE 102.00 IS CODE = 51

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-----
>>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
>>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 1480.00 DOWNSTREAM(FEET) = 450.00
CHANNEL LENGTH THRU SUBAREA(FEET) = 3300.00 CHANNEL SLOPE = 0.3121
CHANNEL BASE(FEET) = 5.00 "Z" FACTOR = 3.000
MANNING'S FACTOR = 0.045 MAXIMUM DEPTH(FEET) = 3.00
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.429
SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT = .3000
SOIL CLASSIFICATION IS "C"
S.C.S. CURVE NUMBER (AMC II) = 63
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 28.14
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 9.53
AVERAGE FLOW DEPTH(FEET) = 0.46 TRAVEL TIME(MIN.) = 5.77
Tc(MIN.) = 11.75
SUBAREA AREA(ACRES) = 74.00 SUBAREA RUNOFF(CFS) = 53.93
AREA-AVERAGE RUNOFF COEFFICIENT = 0.300
TOTAL AREA(ACRES) = 74.1 PEAK FLOW RATE(CFS) = 54.00

END OF SUBAREA CHANNEL FLOW HYDRAULICS:
DEPTH(FEET) = 0.66 FLOW VELOCITY(FEET/SEC.) = 11.70
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 102.00 = 3380.00 FEET.
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*****
FLOW PROCESS FROM NODE 102.00 TO NODE 103.00 IS CODE = 51
*****
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```
>>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
>>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 450.00 DOWNSTREAM(FEET) = 442.00
CHANNEL LENGTH THRU SUBAREA(FEET) = 900.00 CHANNEL SLOPE = 0.0089
CHANNEL BASE(FEET) = 10.00 "Z" FACTOR = 50.000
MANNING'S FACTOR = 0.040 MAXIMUM DEPTH(FEET) = 3.00
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 1.747
VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT = .2500
SOIL CLASSIFICATION IS "B"
S.C.S. CURVE NUMBER (AMC II) = 85
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 62.42
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 1.91
AVERAGE FLOW DEPTH(FEET) = 0.71 TRAVEL TIME(MIN.) = 7.85
Tc(MIN.) = 19.60
SUBAREA AREA(ACRES) = 38.40 SUBAREA RUNOFF(CFS) = 16.77
AREA-AVERAGE RUNOFF COEFFICIENT = 0.283
TOTAL AREA(ACRES) = 112.5 PEAK FLOW RATE(CFS) = 55.59

END OF SUBAREA CHANNEL FLOW HYDRAULICS:
DEPTH(FEET) = 0.68 FLOW VELOCITY(FEET/SEC.) = 1.85
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 103.00 = 4280.00 FEET.
```

```
*****
FLOW PROCESS FROM NODE 103.00 TO NODE 104.00 IS CODE = 51
*****
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-----
>>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<<
>>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 442.00 DOWNSTREAM(FEET) = 428.80
CHANNEL LENGTH THRU SUBAREA(FEET) = 2200.00 CHANNEL SLOPE = 0.0060
CHANNEL BASE(FEET) = 10.00 "Z" FACTOR = 50.000
MANNING'S FACTOR = 0.040 MAXIMUM DEPTH(FEET) = 3.00
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 1.067
*USER SPECIFIED(SUBAREA):
VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT = .2300
S.C.S. CURVE NUMBER (AMC II) = 85
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 61.36
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 1.63
AVERAGE FLOW DEPTH(FEET) = 0.77 TRAVEL TIME(MIN.) = 22.49
Tc(MIN.) = 42.09
SUBAREA AREA(ACRES) = 46.50 SUBAREA RUNOFF(CFS) = 11.41
```

AREA-AVERAGE RUNOFF COEFFICIENT = 0.267  
TOTAL AREA(ACRES) = 159.0 PEAK FLOW RATE(CFS) = 55.59

END OF SUBAREA CHANNEL FLOW HYDRAULICS:  
DEPTH(FEET) = 0.74 FLOW VELOCITY(FEET/SEC.) = 1.61  
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 104.00 = 6480.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 104.00 TO NODE 105.00 IS CODE = 51

-----  
>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<  
>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) =	428.80	DOWNSTREAM(FEET) =	427.90
CHANNEL LENGTH THRU SUBAREA(FEET) =	330.00	CHANNEL SLOPE =	0.0027
CHANNEL BASE(FEET) =	10.00	"Z" FACTOR =	50.000
MANNING'S FACTOR =	0.040	MAXIMUM DEPTH(FEET) =	5.00
2 YEAR RAINFALL INTENSITY(INCH/HOUR) =	0.998		

\*USER SPECIFIED(SUBAREA):  
VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT = .2620  
S.C.S. CURVE NUMBER (AMC II) = 85  
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 56.34  
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 1.20  
AVERAGE FLOW DEPTH(FEET) = 0.87 TRAVEL TIME(MIN.) = 4.59  
Tc(MIN.) = 46.68  
SUBAREA AREA(ACRES) = 5.70 SUBAREA RUNOFF(CFS) = 1.49  
AREA-AVERAGE RUNOFF COEFFICIENT = 0.267  
TOTAL AREA(ACRES) = 164.7 PEAK FLOW RATE(CFS) = 55.59

END OF SUBAREA CHANNEL FLOW HYDRAULICS:  
DEPTH(FEET) = 0.87 FLOW VELOCITY(FEET/SEC.) = 1.19  
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 105.00 = 6810.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 105.00 TO NODE 106.00 IS CODE = 51

-----  
>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<  
>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) =	427.90	DOWNSTREAM(FEET) =	426.50
CHANNEL LENGTH THRU SUBAREA(FEET) =	225.00	CHANNEL SLOPE =	0.0062
CHANNEL BASE(FEET) =	1.00	"Z" FACTOR =	10.000
MANNING'S FACTOR =	0.040	MAXIMUM DEPTH(FEET) =	5.00
2 YEAR RAINFALL INTENSITY(INCH/HOUR) =	0.977		

\*USER SPECIFIED(SUBAREA):  
VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT = .3180  
S.C.S. CURVE NUMBER (AMC II) = 85  
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 56.04  
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 2.43  
AVERAGE FLOW DEPTH(FEET) = 1.47 TRAVEL TIME(MIN.) = 1.54  
Tc(MIN.) = 48.22  
SUBAREA AREA(ACRES) = 2.90 SUBAREA RUNOFF(CFS) = 0.90  
AREA-AVERAGE RUNOFF COEFFICIENT = 0.268  
TOTAL AREA(ACRES) = 167.6 PEAK FLOW RATE(CFS) = 55.59

END OF SUBAREA CHANNEL FLOW HYDRAULICS:  
DEPTH(FEET) = 1.46 FLOW VELOCITY(FEET/SEC.) = 2.43  
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 106.00 = 7035.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 106.00 TO NODE 107.00 IS CODE = 51

-----  
>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<  
>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) =	426.50	DOWNSTREAM(FEET) =	425.80
CHANNEL LENGTH THRU SUBAREA(FEET) =	270.00	CHANNEL SLOPE =	0.0026
CHANNEL BASE(FEET) =	1.00	"Z" FACTOR =	10.000
MANNING'S FACTOR =	0.040	MAXIMUM DEPTH(FEET) =	5.00

```

    2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 0.945
*USER SPECIFIED(SUBAREA):
VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT = .2500
S.C.S. CURVE NUMBER (AMC II) = 85
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 55.87
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 1.75
AVERAGE FLOW DEPTH(FEET) = 1.74 TRAVEL TIME(MIN.) = 2.57
Tc(MIN.) = 50.79
SUBAREA AREA(ACRES) = 2.30 SUBAREA RUNOFF(CFS) = 0.54
AREA-AVERAGE RUNOFF COEFFICIENT = 0.268
TOTAL AREA(ACRES) = 169.9 PEAK FLOW RATE(CFS) = 55.59

END OF SUBAREA CHANNEL FLOW HYDRAULICS:
DEPTH(FEET) = 1.73 FLOW VELOCITY(FEET/SEC.) = 1.75
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 107.00 = 7305.00 FEET.

*****
FLOW PROCESS FROM NODE 107.00 TO NODE 110.00 IS CODE = 51
-----
>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<
>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<
=====
ELEVATION DATA: UPSTREAM(FEET) = 425.80 DOWNSTREAM(FEET) = 425.50
CHANNEL LENGTH THRU SUBAREA(FEET) = 340.00 CHANNEL SLOPE = 0.0009
CHANNEL BASE(FEET) = 1.00 "Z" FACTOR = 10.000
MANNING'S FACTOR = 0.040 MAXIMUM DEPTH(FEET) = 5.00
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 0.891
*USER SPECIFIED(SUBAREA):
VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT = .3970
S.C.S. CURVE NUMBER (AMC II) = 85
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 56.11
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 1.17
AVERAGE FLOW DEPTH(FEET) = 2.14 TRAVEL TIME(MIN.) = 4.85
Tc(MIN.) = 55.64
SUBAREA AREA(ACRES) = 2.90 SUBAREA RUNOFF(CFS) = 1.03
AREA-AVERAGE RUNOFF COEFFICIENT = 0.270
TOTAL AREA(ACRES) = 172.8 PEAK FLOW RATE(CFS) = 55.59

END OF SUBAREA CHANNEL FLOW HYDRAULICS:
DEPTH(FEET) = 2.13 FLOW VELOCITY(FEET/SEC.) = 1.17
LONGEST FLOWPATH FROM NODE 100.00 TO NODE 110.00 = 7645.00 FEET.

*****
FLOW PROCESS FROM NODE 110.00 TO NODE 110.00 IS CODE = 10
-----
>>>>MAIN-STREAM MEMORY COPIED ONTO MEMORY BANK # 1 <<<<
=====

*****
FLOW PROCESS FROM NODE 200.00 TO NODE 201.00 IS CODE = 21
-----
>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<
=====
SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT = .3000
SOIL CLASSIFICATION IS "C"
S.C.S. CURVE NUMBER (AMC II) = 63
INITIAL SUBAREA FLOW-LENGTH(FEET) = 80.00
UPSTREAM ELEVATION(FEET) = 1010.00
DOWNSTREAM ELEVATION(FEET) = 970.00
ELEVATION DIFFERENCE(FEET) = 40.00
SUBAREA OVERLAND TIME OF FLOW(MIN.) = 5.979
WARNING: THE MAXIMUM OVERLAND FLOW SLOPE, 10%, IS USED IN Tc CALCULATION!
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.756
SUBAREA RUNOFF(CFS) = 0.11
TOTAL AREA(ACRES) = 0.10 TOTAL RUNOFF(CFS) = 0.11

*****
FLOW PROCESS FROM NODE 201.00 TO NODE 202.00 IS CODE = 51
-----

```

>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<  
>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 970.00 DOWNSTREAM(FEET) = 450.00  
CHANNEL LENGTH THRU SUBAREA(FEET) = 1500.00 CHANNEL SLOPE = 0.3467  
CHANNEL BASE(FEET) = 5.00 "Z" FACTOR = 3.000  
MANNING'S FACTOR = 0.045 MAXIMUM DEPTH(FEET) = 5.00  
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.594  
SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT = .3000  
SOIL CLASSIFICATION IS "C"  
S.C.S. CURVE NUMBER (AMC II) = 63  
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 4.83  
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 5.39  
AVERAGE FLOW DEPTH(FEET) = 0.16 TRAVEL TIME(MIN.) = 4.63  
Tc(MIN.) = 10.61  
SUBAREA AREA(ACRES) = 11.70 SUBAREA RUNOFF(CFS) = 9.11  
AREA-AVERAGE RUNOFF COEFFICIENT = 0.300  
TOTAL AREA(ACRES) = 11.8 PEAK FLOW RATE(CFS) = 9.18

END OF SUBAREA CHANNEL FLOW HYDRAULICS:  
DEPTH(FEET) = 0.23 FLOW VELOCITY(FEET/SEC.) = 6.89  
LONGEST FLOWPATH FROM NODE 200.00 TO NODE 202.00 = 1580.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 202.00 TO NODE 203.00 IS CODE = 51

>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<  
>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 450.00 DOWNSTREAM(FEET) = 429.50  
CHANNEL LENGTH THRU SUBAREA(FEET) = 2350.00 CHANNEL SLOPE = 0.0087  
CHANNEL BASE(FEET) = 10.00 "Z" FACTOR = 50.000  
MANNING'S FACTOR = 0.040 MAXIMUM DEPTH(FEET) = 3.00  
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 1.112  
\*USER SPECIFIED(SUBAREA):  
VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT = .2750  
S.C.S. CURVE NUMBER (AMC II) = 63  
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 17.31  
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 1.36  
AVERAGE FLOW DEPTH(FEET) = 0.41 TRAVEL TIME(MIN.) = 28.85  
Tc(MIN.) = 39.46  
SUBAREA AREA(ACRES) = 50.00 SUBAREA RUNOFF(CFS) = 15.29  
AREA-AVERAGE RUNOFF COEFFICIENT = 0.280  
TOTAL AREA(ACRES) = 61.8 PEAK FLOW RATE(CFS) = 19.23

END OF SUBAREA CHANNEL FLOW HYDRAULICS:  
DEPTH(FEET) = 0.43 FLOW VELOCITY(FEET/SEC.) = 1.41  
LONGEST FLOWPATH FROM NODE 200.00 TO NODE 203.00 = 3930.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 203.00 TO NODE 203.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
TIME OF CONCENTRATION(MIN.) = 39.46  
RAINFALL INTENSITY(INCH/HR) = 1.11  
TOTAL STREAM AREA(ACRES) = 61.80  
PEAK FLOW RATE(CFS) AT CONFLUENCE = 19.23

\*\*\*\*\*  
FLOW PROCESS FROM NODE 300.00 TO NODE 301.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<

=====

SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT = .3000  
SOIL CLASSIFICATION IS "C"  
S.C.S. CURVE NUMBER (AMC II) = 63

INITIAL SUBAREA FLOW-LENGTH(FEET) = 80.00  
UPSTREAM ELEVATION(FEET) = 707.00  
DOWNSTREAM ELEVATION(FEET) = 657.00  
ELEVATION DIFFERENCE(FEET) = 50.00  
SUBAREA OVERLAND TIME OF FLOW(MIN.) = 5.979  
WARNING: THE MAXIMUM OVERLAND FLOW SLOPE, 10.%, IS USED IN Tc CALCULATION!  
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.756  
SUBAREA RUNOFF(CFS) = 0.34  
TOTAL AREA(ACRES) = 0.30 TOTAL RUNOFF(CFS) = 0.34

\*\*\*\*\*  
FLOW PROCESS FROM NODE 301.00 TO NODE 302.00 IS CODE = 51  
-----

>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<  
>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) =	657.00	DOWNSTREAM(FEET) =	432.00
CHANNEL LENGTH THRU SUBAREA(FEET) =	1040.00	CHANNEL SLOPE =	0.2163
CHANNEL BASE(FEET) =	5.00	"Z" FACTOR =	3.000
MANNING'S FACTOR =	0.045	MAXIMUM DEPTH(FEET) =	5.00
2 YEAR RAINFALL INTENSITY(INCH/HOUR) =	2.548		
*USER SPECIFIED(SUBAREA):			
SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT =	.2900		
S.C.S. CURVE NUMBER (AMC II) =	63		
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =	2.24		
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =	3.51		
AVERAGE FLOW DEPTH(FEET) =	0.12	TRAVEL TIME(MIN.) =	4.93
Tc(MIN.) =	10.91		
SUBAREA AREA(ACRES) =	5.00	SUBAREA RUNOFF(CFS) =	3.69
AREA-AVERAGE RUNOFF COEFFICIENT =	0.291		
TOTAL AREA(ACRES) =	5.3	PEAK FLOW RATE(CFS) =	3.92

END OF SUBAREA CHANNEL FLOW HYDRAULICS:  
DEPTH(FEET) = 0.16 FLOW VELOCITY(FEET/SEC.) = 4.33  
LONGEST FLOWPATH FROM NODE 300.00 TO NODE 302.00 = 1120.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 302.00 TO NODE 203.00 IS CODE = 51  
-----

>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<  
>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) =	432.00	DOWNSTREAM(FEET) =	429.50
CHANNEL LENGTH THRU SUBAREA(FEET) =	250.00	CHANNEL SLOPE =	0.0100
CHANNEL BASE(FEET) =	10.00	"Z" FACTOR =	50.000
MANNING'S FACTOR =	0.040	MAXIMUM DEPTH(FEET) =	3.00
2 YEAR RAINFALL INTENSITY(INCH/HOUR) =	2.066		
*USER SPECIFIED(SUBAREA):			
VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT =	.2250		
S.C.S. CURVE NUMBER (AMC II) =	63		
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) =	4.48		
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) =	0.99		
AVERAGE FLOW DEPTH(FEET) =	0.22	TRAVEL TIME(MIN.) =	4.19
Tc(MIN.) =	15.10		
SUBAREA AREA(ACRES) =	2.40	SUBAREA RUNOFF(CFS) =	1.12
AREA-AVERAGE RUNOFF COEFFICIENT =	0.270		
TOTAL AREA(ACRES) =	7.7	PEAK FLOW RATE(CFS) =	4.30

END OF SUBAREA CHANNEL FLOW HYDRAULICS:  
DEPTH(FEET) = 0.21 FLOW VELOCITY(FEET/SEC.) = 0.99  
LONGEST FLOWPATH FROM NODE 300.00 TO NODE 203.00 = 1370.00 FEET.

\*\*\*\*\*  
FLOW PROCESS FROM NODE 203.00 TO NODE 203.00 IS CODE = 1  
-----

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<  
>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<

=====

TOTAL NUMBER OF STREAMS = 2

CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:  
 TIME OF CONCENTRATION(MIN.) = 15.10  
 RAINFALL INTENSITY(INCH/HR) = 2.07  
 TOTAL STREAM AREA(ACRES) = 7.70  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 4.30

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)	AREA (ACRE)
1	19.23	39.46	1.112	61.80
2	4.30	15.10	2.066	7.70

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
 CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HOUR)
1	11.66	15.10	2.066
2	21.54	39.46	1.112

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:  
 PEAK FLOW RATE(CFS) = 21.54 Tc(MIN.) = 39.46  
 TOTAL AREA(ACRES) = 69.5  
 LONGEST FLOWPATH FROM NODE 200.00 TO NODE 203.00 = 3930.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 203.00 TO NODE 110.00 IS CODE = 51

>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<  
 >>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<

ELEVATION DATA: UPSTREAM(FEET) = 429.50 DOWNSTREAM(FEET) = 425.50  
 CHANNEL LENGTH THRU SUBAREA(FEET) = 982.00 CHANNEL SLOPE = 0.0041  
 CHANNEL BASE(FEET) = 1.00 "Z" FACTOR = 10.000  
 MANNING'S FACTOR = 0.040 MAXIMUM DEPTH(FEET) = 2.00  
 2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 0.963  
 \*USER SPECIFIED(SUBAREA):  
 VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT = .3150  
 S.C.S. CURVE NUMBER (AMC II) = 63  
 TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 22.95  
 TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 1.66  
 AVERAGE FLOW DEPTH(FEET) = 1.13 TRAVEL TIME(MIN.) = 9.85  
 Tc(MIN.) = 49.31  
 SUBAREA AREA(ACRES) = 9.30 SUBAREA RUNOFF(CFS) = 2.82  
 AREA-AVERAGE RUNOFF COEFFICIENT = 0.283  
 TOTAL AREA(ACRES) = 78.8 PEAK FLOW RATE(CFS) = 21.54

END OF SUBAREA CHANNEL FLOW HYDRAULICS:  
 DEPTH(FEET) = 1.10 FLOW VELOCITY(FEET/SEC.) = 1.63  
 LONGEST FLOWPATH FROM NODE 200.00 TO NODE 110.00 = 4912.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 110.00 TO NODE 110.00 IS CODE = 1

>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<

TOTAL NUMBER OF STREAMS = 2  
 CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 1 ARE:  
 TIME OF CONCENTRATION(MIN.) = 49.31  
 RAINFALL INTENSITY(INCH/HR) = 0.96  
 TOTAL STREAM AREA(ACRES) = 78.80  
 PEAK FLOW RATE(CFS) AT CONFLUENCE = 21.54

\*\*\*\*\*

FLOW PROCESS FROM NODE 400.00 TO NODE 401.00 IS CODE = 21

>>>>RATIONAL METHOD INITIAL SUBAREA ANALYSIS<<<<

\*\*\*\*\*



SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT = .3000  
SOIL CLASSIFICATION IS "C"  
S.C.S. CURVE NUMBER (AMC II) = 63  
INITIAL SUBAREA FLOW-LENGTH(FEET) = 80.00  
UPSTREAM ELEVATION(FEET) = 575.00  
DOWNSTREAM ELEVATION(FEET) = 548.00  
ELEVATION DIFFERENCE(FEET) = 27.00  
SUBAREA OVERLAND TIME OF FLOW(MIN.) = 5.979  
WARNING: THE MAXIMUM OVERLAND FLOW SLOPE, 10.%, IS USED IN Tc CALCULATION!  
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 3.756  
SUBAREA RUNOFF(CFS) = 0.11  
TOTAL AREA(ACRES) = 0.10 TOTAL RUNOFF(CFS) = 0.11

\*\*\*\*\*

FLOW PROCESS FROM NODE 401.00 TO NODE 402.00 IS CODE = 51

-----  
>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<  
>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 548.00 DOWNSTREAM(FEET) = 432.80  
CHANNEL LENGTH THRU SUBAREA(FEET) = 820.00 CHANNEL SLOPE = 0.1405  
CHANNEL BASE(FEET) = 5.00 "Z" FACTOR = 3.000  
MANNING'S FACTOR = 0.045 MAXIMUM DEPTH(FEET) = 5.00  
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 2.641

\*USER SPECIFIED(SUBAREA):

SAGEBRUSH FAIR COVER RUNOFF COEFFICIENT = .2900  
S.C.S. CURVE NUMBER (AMC II) = 63  
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 2.29  
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 3.15  
AVERAGE FLOW DEPTH(FEET) = 0.13 TRAVEL TIME(MIN.) = 4.34  
Tc(MIN.) = 10.32  
SUBAREA AREA(ACRES) = 5.50 SUBAREA RUNOFF(CFS) = 4.21  
AREA-AVERAGE RUNOFF COEFFICIENT = 0.290  
TOTAL AREA(ACRES) = 5.6 PEAK FLOW RATE(CFS) = 4.29

END OF SUBAREA CHANNEL FLOW HYDRAULICS:

DEPTH(FEET) = 0.20 FLOW VELOCITY(FEET/SEC.) = 3.93  
LONGEST FLOWPATH FROM NODE 400.00 TO NODE 402.00 = 900.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 402.00 TO NODE 110.00 IS CODE = 51

-----  
>>>>COMPUTE TRAPEZOIDAL CHANNEL FLOW<<<<  
>>>>TRAVELTIME THRU SUBAREA (EXISTING ELEMENT)<<<<

=====

ELEVATION DATA: UPSTREAM(FEET) = 432.80 DOWNSTREAM(FEET) = 425.50  
CHANNEL LENGTH THRU SUBAREA(FEET) = 780.00 CHANNEL SLOPE = 0.0094  
CHANNEL BASE(FEET) = 10.00 "Z" FACTOR = 50.000  
MANNING'S FACTOR = 0.040 MAXIMUM DEPTH(FEET) = 3.00  
2 YEAR RAINFALL INTENSITY(INCH/HOUR) = 1.585

\*USER SPECIFIED(SUBAREA):

VINEYARDS(DISKED) COVER RUNOFF COEFFICIENT = .2620  
S.C.S. CURVE NUMBER (AMC II) = 63  
TRAVEL TIME COMPUTED USING ESTIMATED FLOW(CFS) = 5.49  
TRAVEL TIME THRU SUBAREA BASED ON VELOCITY(FEET/SEC.) = 1.04  
AVERAGE FLOW DEPTH(FEET) = 0.24 TRAVEL TIME(MIN.) = 12.46  
Tc(MIN.) = 22.79  
SUBAREA AREA(ACRES) = 5.70 SUBAREA RUNOFF(CFS) = 2.37  
AREA-AVERAGE RUNOFF COEFFICIENT = 0.276  
TOTAL AREA(ACRES) = 11.3 PEAK FLOW RATE(CFS) = 4.94

END OF SUBAREA CHANNEL FLOW HYDRAULICS:

DEPTH(FEET) = 0.23 FLOW VELOCITY(FEET/SEC.) = 1.03  
LONGEST FLOWPATH FROM NODE 400.00 TO NODE 110.00 = 1680.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 110.00 TO NODE 110.00 IS CODE = 1

-----  
>>>>DESIGNATE INDEPENDENT STREAM FOR CONFLUENCE<<<<

>>>>>AND COMPUTE VARIOUS CONFLUENCED STREAM VALUES<<<<<

=====

TOTAL NUMBER OF STREAMS = 2  
CONFLUENCE VALUES USED FOR INDEPENDENT STREAM 2 ARE:  
TIME OF CONCENTRATION(MIN.) = 22.79  
RAINFALL INTENSITY(INCH/HR) = 1.58  
TOTAL STREAM AREA(ACRES) = 11.30  
PEAK FLOW RATE(CFS) AT CONFLUENCE = 4.94

\*\* CONFLUENCE DATA \*\*

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HR)	AREA (ACRE)
1	21.54	49.31	0.963	78.80
2	4.94	22.79	1.585	11.30

RAINFALL INTENSITY AND TIME OF CONCENTRATION RATIO  
CONFLUENCE FORMULA USED FOR 2 STREAMS.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HR)
1	18.04	22.79	1.585
2	24.55	49.31	0.963

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:  
PEAK FLOW RATE(CFS) = 24.55 Tc(MIN.) = 49.31  
TOTAL AREA(ACRES) = 90.1  
LONGEST FLOWPATH FROM NODE 200.00 TO NODE 110.00 = 4912.00 FEET.

\*\*\*\*\*

FLOW PROCESS FROM NODE 110.00 TO NODE 110.00 IS CODE = 11

-----

>>>>>CONFLUENCE MEMORY BANK # 1 WITH THE MAIN-STREAM MEMORY<<<<<

=====

\*\* MAIN STREAM CONFLUENCE DATA \*\*

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HR)	AREA (ACRE)
1	24.55	49.31	0.963	90.10

LONGEST FLOWPATH FROM NODE 200.00 TO NODE 110.00 = 4912.00 FEET.

\*\* MEMORY BANK # 1 CONFLUENCE DATA \*\*

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HR)	AREA (ACRE)
1	55.59	55.64	0.891	172.80

LONGEST FLOWPATH FROM NODE 100.00 TO NODE 110.00 = 7645.00 FEET.

\*\* PEAK FLOW RATE TABLE \*\*

STREAM NUMBER	RUNOFF (CFS)	Tc (MIN.)	INTENSITY (INCH/HR)
1	73.82	49.31	0.963
2	78.30	55.64	0.891

COMPUTED CONFLUENCE ESTIMATES ARE AS FOLLOWS:  
PEAK FLOW RATE(CFS) = 78.30 Tc(MIN.) = 55.64  
TOTAL AREA(ACRES) = 262.9

=====

END OF STUDY SUMMARY:

TOTAL AREA(ACRES) = 262.9 TC(MIN.) = 55.64  
PEAK FLOW RATE(CFS) = 78.30

=====

=====

END OF RATIONAL METHOD ANALYSIS





This form must be accepted by the County prior to the release of construction permits or granting of occupancy for applicable portions of a Priority Development Project (PDP). Its purpose is to provide documentation of the final installation of permanent Best Management Practices (BMPs) used to satisfy Structural Performance Standards for the development project. Compliance with these standards reduces the discharge of pollutants and flows from the completed project site. Applicable standards may be satisfied using Structural BMPs (S-BMPs), Significant Site Design BMPs (SSD-BMPs), or both. Applicants are responsible for providing all requested information. Do not leave any fields blank; indicate *N/A* for any requested item that is not applicable.

**PART 1 General Project and Applicant Information****Table 1: Project and Applicant Information**

A. Project Summary Information		ID No. IVF-20__-__ To be assigned by DPW-WPP
<b>Project Name</b>	Rancho Guejito Tasting Facility & Event Center	
<b>Record ID</b> (e.g. grading/improvement plan number, building permit)	PDS2018-AD-12-032W1	
<b>Project Address</b>	17224 San Pasqual Valley Road, Escondido, CA 92027	
<b>Assessor's Parcel Number(s)</b> APN(s)	242-070-08,13,15; 242-110-01	
<b>Project Watershed</b> (complete Hydrologic Unit, Area, and Subarea Name with Numeric Identifier)	Hydrologic Unit: San Dieguito River 905 Hydrologic Area: San Pasqual 905.3 Subarea: Guejito Creek 905.35	
B. Owner Information		
<b>Name</b>	Rancho Guejito Corporation	
<b>Address</b>	17224 San Pasqual Valley Road, Escondido, CA 92027	
<b>Email Address</b>	hank@ranchoguejito.net	
<b>Phone Number</b>	800-519-4441	



County of San Diego  
Stormwater Quality Management Plan (SWQMP)  
**Attachment 10: Installation Verification Form for Priority Development Projects**

**\*\*THIS PAGE IS FOR PARTIAL RECORD PLAN VERIFICATIONS ONLY \*\***

If this is a partial Installation Verification Form submittal, list ALL DMAs and BMPs for the Priority Development Project in **Table 2**. Provide acceptance information where applicable.

**Table 2: Information for Partial IVF Submittals**

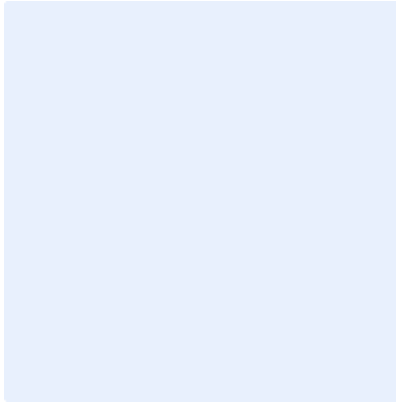
A: DMA and BMP Information			
DMA #	Structural and Significant Site Design BMPs	WPP Acceptance Date	IVF ID No. (e.g. 2018-001)
1	IAD		
2	IAD		
3	IAD		
4	IAD		
5	IAD		
6			
7			
8			
9			
10			
11			
12			
13			
14			
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19			
20			
21			
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24			
25			
26			
27			
28	SELF-RETAINING (POOL)		



**B: DMA and BMP Map**

Please attach a map showing (1) all DMAs for the project site, (2) the DMAs and/or lots accepted under previous Verification Forms, and (3) the locations of Structural BMPs and Significant Site Design BMPs previously accepted.

**SEE DMA EXHIBIT IN ATTACHMENT 3**





County of San Diego  
 Stormwater Quality Management Plan (SWQMP)  
**Attachment 10: Installation Verification Form for Priority Development Projects**

**PART 2 DMA and BMP Inventory Information**

Use this table to document Structural BMPs (S-BMPs) and Significant Site Design BMPs (SSD-BMPs) for the PDP. All DMAs that are not self-mitigating or de minimis must have at least one Structural BMP or Significant Site Design BMP.

- In **Part A**, list all Structural BMPs (including both Pollutant Control and/or Hydromodification as applicable) by DMA.
- Complete **Part B** for all DMAs that contain only Significant Site Design BMPs. SSD-BMPs are Site Design BMPs (SD-BMPs) that are sized and constructed to satisfy Structural Performance Standards for a DMA.
- Documentation of SD-BMPs is not required in this table for any DMA that also contains S-BMPs.
- The information provided for each BMP in the table must match that provided in the Stormwater Quality Management Plan (SWQMP), construction plans, maintenance agreements, and other relevant project documentation.

**Table 3: Required Information for Structural BMPs and Significant Site Design BMPs**

DMA #	BMP Information			Maintenance Category	Maintenance Agreement or Maintenance Notification Recorded Doc. #	Construction Plan Sheet #	Landscape Plan # & Sheet # (For Vegetated BMPs Only)	FOR DPW-WPP USE ONLY  <i>Reviewer concurs that the BMP(s) may be accepted into inventory (date and initial)</i>
	Quantity	Description/Type of Structural BMP	BMP ID #(s)					
<b>Part A Structural BMPs (S-BMPs)</b>								
Add rows as needed								
<b>Part B Significant Site Design BMPs (SSD-BMPs)</b>								
1	1	Dispersion Area	1	---	---			
2	1	Dispersion Area	2	---	---			



County of San Diego  
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3	1	Dispersion Area	3	---	---			
4			4					
5			5					
6			6					
7			7					
8			8					
9			9					
10			10					
11			11					
12			12					
13			13					
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18			18					
19			19					
20			20					
21			21					
22			22					
23			23					
24			24					
25			25					
26			26					
27			27					
Add rows as needed								



**PART 3 Required Attachments for All BMPs Listed in Table 3**

**For ALL projects, submit the following to the County inspector (check all that are attached):**

- ☐ **Photographs:** Labeled photographs illustrating proper construction of each S-BMP or SSD-BMP.
- ☐ **Maintenance Agreements:** Copies of all approved and recorded Storm Water Maintenance Agreements (SWMAs) or Maintenance Notifications (MNs) for all S-BMPs.

Note: All BMPs proposed for County ownership will remain the responsibility of the owner listed on **Page 1** until a signed Letter of Acceptance of Completion is received by the DPW Watershed Protection Program.

**For Grading and Improvement projects only, ALSO submit:**

- ☐ **Construction Plans:** An 11" X 17" copy of the most current applicable approved Construction Plan sheets:
  - ☐ Grading Plans, AND/OR
  - ☐ Improvement Plans, AND/OR
  - ☐ Precise Grading Plan(s) (only for residential subdivisions with tract homes), AND/OR
  - ☐ Other (Please specify) [Click here to enter text.](#)

Note: For each Construction Plan, the sheets submitted must incorporate all of the following:

- ☐ A BMP Table, AND
- ☐ A plan/cross-section of each verified as-built BMP, AND
- ☐ The location of each verified as-built BMP
- ☐ **Landscape Plans:** An 11" X 17" copy of the most current applicable Landscape Plan sheets where the BMPs are required to be vegetated, including:
  - ☐ The Certification of Completion (Form 407), AND
  - ☐ The Certificate of Approval from PDS Landscape Architect

Note: For each Landscape Plan, the sheets submitted must show the location of each verified as-built BMP.

**Required only for Verifications for Partial Record Plans**

- ☐ If this is a partial record plan verification, please include the following:
  - ☐ A list of previously submitted Verification Forms (**Table 2, A**)
  - ☐ A map of DMAs and BMPs (**Table 2, B**)





#### **PART 4 Preparer's Certification**

By signing below, I certify that the BMP(s) listed in Table 3 of this Verification Form have been constructed and all are in substantial conformance with the approved plans and applicable regulations. I understand the County reserves the right to inspect the above BMPs to verify compliance with the approved plans and Watershed Protection Ordinance (WPO). Should it be determined that the BMPs were not constructed to plan or code, corrective actions may be necessary before permits can be closed.

Note: Structural BMPs (Table 3, Part A) must be certified by a licensed professional engineer.

Please sign and, if applicable, provide your seal below.

Preparer's Printed Name:

\_\_\_\_\_  
[Click here to enter text.](#)

Email: [Click here to enter text.](#)

Phone Number: [Click here to enter text.](#)

Preparer's Signed Name:

\_\_\_\_\_

Date: [Click here to enter text.](#)

[SEAL]



County of San Diego  
Stormwater Quality Management Plan (SWQMP)  
**Attachment 10: Installation Verification Form for Priority Development Projects**

**COUNTY - OFFICIAL USE ONLY:**

For County Inspectors

County Department: \_\_\_\_\_

Date verification received from EOW: \_\_\_\_\_

By signing below, County Inspector concurs that every noted BMP has been installed per plan.

Inspector Name: \_\_\_\_\_

Inspector's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

For Building Division Only

Inspection Supervisor Name: \_\_\_\_\_

Inspector Supervisor's Signature: \_\_\_\_\_ Date: \_\_\_\_\_

PDCI & Building, along with the rest of this package, please provide to DPW WPP:

- ☐ A copy of the final accepted SWQMP and any accepted addendum

For Watershed Protection Program Only

Date Received: \_\_\_\_\_

WPP Reviewer: \_\_\_\_\_

WPP Reviewer concurs that the BMPs accepted in **Part 2** above may be entered into inventory.

WPP Reviewer's Signature: \_\_\_\_\_ Date: \_\_\_\_\_



## County of San Diego Stormwater Quality Management Plan (SWQMP)

### ***Attachment 11: BMP Maintenance Plans and Agreements***

#### **11.0 Cover Sheet and General Requirements**

- All Structural BMPs must have a plan and mechanism to ensure on-going maintenance. Use the table below to document the types of agreements to be submitted for the PDP and submit them under cover of this sheet.
- See BMPDM Section 7.3 for a description of maintenance categories and responsibilities. Note that since Category 3 and 4 BMPs are County-maintained, they do not require maintenance agreements.

##### **a. Applicability of Maintenance Agreements**

Check the boxes below to indicate which types of agreements are included with this attachment.

- ☐ Maintenance Notification (Category 1 BMPs)
  - Exhibit A: Project Site Vicinity; Project Site Map; and a map for each BMP and its Drainage Management Area
  - Exhibit B: BMP Maintenance Plan (see below)
- ☐ Stormwater Maintenance Agreement (Category 2 BMPs)
  - Exhibit A: Legal Description of Property
  - Exhibit B: BMP Maintenance Plan (see below)
  - Exhibit C: Project Site Vicinity Map

Maintenance agreement templates and instructions are provided on the County's website:

[www.sandiegocounty.gov/stormwater](http://www.sandiegocounty.gov/stormwater) under the Development Resources tab.

PDP applicants contact County staff to ensure they have the most current forms.

##### **b. Maintenance Plan Requirements**

Use this checklist to confirm that each maintenance plan includes the following that as applicable.

- ☒ Specific **maintenance indicators and actions** for proposed structural BMP(s). These must be based on maintenance indicators presented in BMP Design Fact Sheets in Appendix E and enhanced to reflect actual proposed components of the structural BMP(s).
- ☒ **Access** to inspect and perform maintenance on the structural BMP(s).
- ☒ Features to **facilitate inspection** (e.g., observation ports, cleanouts, silt posts, or other features that allow the inspector to view necessary components of the structural BMP and compare to maintenance thresholds).
- ☐ Manufacturer and part number for **proprietary parts** of structural BMP(s) when applicable.
- ☒ **Maintenance thresholds** specific to the structural BMP(s), with a location-specific frame of reference (e.g., level of accumulated materials that triggers removal of the materials, to be identified based on viewing marks on silt posts or measured with a survey rod with respect to a fixed benchmark within the BMP).
- ☒ Recommended **equipment** to perform maintenance.
- ☐ When applicable, necessary special **training or certification** requirements for inspection and maintenance personnel such as confined space entry or hazardous waste management.

## Impervious Area Dispersion

### BMP MAINTENANCE FACT SHEET FOR

#### SITE DESIGN BMP SD-B IMPERVIOUS AREA DISPERSION

**Impervious area dispersion** (dispersion) refers to the practice of effectively disconnecting impervious areas from directly draining to the storm drain system by routing runoff from impervious areas such as rooftops (through downspout disconnection), walkways, and driveways onto the surface of adjacent pervious areas. The intent is to slow runoff discharges, and reduce volumes. Typical dispersion components include:

- An impervious surface from which runoff flows will be routed with minimal piping to limit concentrated inflows
- Splash blocks, flow spreaders, or other means of dispersing concentrated flows and providing energy dissipation as needed
- Dedicated pervious area, typically vegetated, with in-situ soil infiltration capacity for partial or full infiltration
- Optional soil amendments to improve vegetation support, maintain infiltration rates and enhance treatment of flows
- Overflow route for excess flows to be conveyed from dispersion area to the storm drain system or discharge point

#### **Normal Expected Maintenance**

Vegetated area shall be maintained as part of normal landscape maintenance. Additionally, ensure that storm water runoff can be conveyed into the vegetated area as designed. That is, the mechanism that allows storm water runoff from impervious area to flow into the pervious area (e.g., a curb cut allows runoff from a parking lot to drain onto adjacent landscaping area, or a roof drain outlet is directed to a lawn) shall not be removed, blocked, filled, or otherwise changed in a manner that prevents storm water from draining into the pervious area. A summary table of standard inspection and maintenance indicators is provided within this Fact Sheet.

#### **Non-Standard Maintenance or BMP Failure**

Impervious area dispersion is a site design BMP that normally does not require maintenance actions beyond routine landscape maintenance. If changes have been made to the area, such as the vegetated area has been replaced with impervious area, or the mechanism that allows storm water runoff from impervious area to flow into the pervious area has been removed (e.g., roof drains previously directed to vegetated area have been directly connected to the street or storm drain system), the BMP is not performing as intended to protect downstream waterways from pollution and/or erosion. Corrective maintenance will be required to restore drainage into the pervious area as designed. If the pervious area has been removed, contact the County to determine a solution.

Runoff directed into vegetated areas is expected to be drained within 24-96 hours following a storm event. Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health, and surface ponding longer than approximately 96 hours following a storm event poses a risk of vector (mosquito) breeding. Poor drainage can result from clogging or compaction of the soils. Loosen or replace the soils to restore drainage.

## Impervious Area Dispersion

### Other Special Considerations

Site design BMPs, such as impervious area dispersion, installed within a new development or redevelopment project are components of an overall storm water management strategy for the project. The presence of site design BMPs within a project is usually a factor in the determination of the amount of runoff to be managed with structural BMPs (i.e., the amount of runoff expected to reach downstream retention or biofiltration basins that process storm water runoff from the project as a whole). When site design BMPs are not maintained or are removed, this can lead to clogging or failure of downstream structural BMPs due to greater delivery of runoff and pollutants than intended for the structural BMP. Therefore, the [City Engineer] may require confirmation of maintenance of site design BMPs as part of their structural BMP maintenance documentation requirements. Site design BMPs that have been installed as part of the project should not be removed, nor should they be bypassed by re-routing roof drains or re-grading surfaces within the project. If changes are necessary, consult the [City Engineer] to determine requirements.

# SD-B

## Impervious Area Dispersion

SUMMARY OF STANDARD INSPECTION AND MAINTENANCE FOR SD-B IMPERVIOUS AREA DISPERSION		
<p>The property owner is responsible to ensure inspection, operation and maintenance of permanent BMPs on their property unless responsibility has been formally transferred to an agency, community facilities district, homeowners association, property owners association, or other special district.</p> <p>Maintenance frequencies listed in this table are average/typical frequencies. Actual maintenance needs are site-specific, and maintenance may be required more frequently. Maintenance must be performed whenever needed, based on maintenance indicators presented in this table. The BMP owner is responsible for conducting regular inspections to see when maintenance is needed based on the maintenance indicators. During the first year of operation of a structural BMP, inspection is recommended at least once prior to August 31 and then monthly from September through May. Inspection during a storm event is also recommended. After the initial period of frequent inspections, the minimum inspection and maintenance frequency can be determined based on the results of the first year inspections.</p>		
Threshold/Indicator	Maintenance Action	Typical Maintenance Frequency
Poor vegetation establishment	Re-seed, re-plant, or re-establish vegetation per original plans.	<ul style="list-style-type: none"> <li>Inspect monthly.</li> <li>Maintenance when needed.</li> </ul>
Dead or diseased vegetation	Remove dead or diseased vegetation, re-seed, re-plant, or re-establish vegetation per original plans.	<ul style="list-style-type: none"> <li>Inspect monthly.</li> <li>Maintenance when needed.</li> </ul>
Overgrown vegetation	Mow or trim as appropriate.	<ul style="list-style-type: none"> <li>Inspect monthly.</li> <li>Maintenance when needed.</li> </ul>
<p>Standing water in vegetated pervious area for longer than 24 hours following a storm event</p> <p>Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health</p>	Disperse any areas of standing water to nearby landscaping (i.e., spread it out to another portion of the pervious area so it drains into the soil). Make appropriate corrective measures such as adjusting irrigation system, or repairing/replacing clogged or compacted soils.	<ul style="list-style-type: none"> <li>Inspect monthly and after every 0.5-inch or larger storm event. If standing water is observed, increase inspection frequency to after every 0.1-inch or larger storm event.</li> <li>Maintenance when needed.</li> </ul>
<p>Presence of mosquitos/larvae</p> <p>For images of egg rafts, larva, pupa, and adult mosquitos, see <a href="http://www.mosquito.org/biology">http://www.mosquito.org/biology</a></p>	Disperse any areas of standing water to nearby landscaping (i.e., spread it out to another portion of the pervious area so it drains into the soil). Loosen or replace soils to restore drainage (and prevent standing water)	<ul style="list-style-type: none"> <li>Inspect monthly and after every 0.5-inch or larger storm event. If mosquitos are observed, increase inspection frequency to after every 0.1-inch or larger storm event.</li> <li>Maintenance when needed</li> </ul>
Entrance / opening to the vegetated pervious area is blocked such that storm water from impervious area will not drain into the pervious area (e.g., a curb cut opening is blocked by debris or a roof drain outlet has been directly connected to the storm drain system)	Make repairs as appropriate to restore drainage into the vegetated pervious area.	<ul style="list-style-type: none"> <li>Inspect monthly.</li> <li>Maintenance when needed.</li> </ul>

# SD-B

## Impervious Area Dispersion

### References

American Mosquito Control Association.

<http://www.mosquito.org/>

County of San Diego. 2014. Low Impact Development Handbook.

<http://www.sandiegocounty.gov/content/sdc/dpw/watersheds/susmp/lid.html>

San Diego County Copermittees. 2016. Model BMP Design Manual, Appendix E, Fact Sheet SD-B.

[http://www.projectcleanwater.org/index.php?option=com\\_content&view=article&id=250&Itemid=220](http://www.projectcleanwater.org/index.php?option=com_content&view=article&id=250&Itemid=220)

## Impervious Area Dispersion

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	
Property / Development Name:		Responsible Party Name and Phone Number:
Property Address of BMP:		Responsible Party Address:

INSPECTION AND MAINTENANCE CHECKLIST FOR SD-B IMPERVIOUS AREA DISPERSION PAGE 1 of 3			
Threshold/Indicator	Maintenance Recommendation	Date	Description of Maintenance Conducted
Poor vegetation establishment Maintenance Needed? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	<input type="checkbox"/> Re-seed, re-plant, or re-establish vegetation per original plans <input type="checkbox"/> Other / Comments:		
Dead or diseased vegetation Maintenance Needed? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	<input type="checkbox"/> Remove dead or diseased vegetation, re-seed, re-plant, or re-establish vegetation per original plans <input type="checkbox"/> Other / Comments:		
Overgrown vegetation Maintenance Needed? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A	<input type="checkbox"/> Mow or trim as appropriate <input type="checkbox"/> Other / Comments:		



## Impervious Area Dispersion

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR SD-B IMPERVIOUS AREA DISPERSION PAGE 2 of 3			
Threshold/Indicator	Maintenance Recommendation	Date	Description of Maintenance Conducted
<p>Standing water in vegetated pervious area for longer than 24 hours following a storm event</p> <p>Surface ponding longer than approximately 24 hours following a storm event may be detrimental to vegetation health</p> <p>Maintenance Needed?</p> <p><input type="checkbox"/> YES</p> <p><input type="checkbox"/> NO</p> <p><input type="checkbox"/> N/A</p>	<p><input type="checkbox"/> Disperse any areas of standing water to nearby landscaping (i.e., spread it out to another portion of the pervious area so it drains into the soil). Make appropriate corrective measures to prevent standing water such as adjusting irrigation system, or repairing/replacing clogged or compacted soils</p> <p><input type="checkbox"/> Other / Comments:</p>		
<p>Presence of mosquitos/larvae</p> <p>For images of egg rafts, larva, pupa, and adult mosquitos, see <a href="http://www.mosquito.org/biology">http://www.mosquito.org/biology</a></p> <p>Maintenance Needed?</p> <p><input type="checkbox"/> YES</p> <p><input type="checkbox"/> NO</p> <p><input type="checkbox"/> N/A</p>	<p><input type="checkbox"/> Disperse any areas of standing water to nearby landscaping (i.e., spread it out to another portion of the pervious area so it drains into the soil)</p> <p><input type="checkbox"/> Make corrective measures (see above) to restore drainage (and prevent standing water)</p> <p><input type="checkbox"/> Other / Comments:</p>		

## Impervious Area Dispersion

Date:	Inspector:	BMP ID No.:
Permit No.:	APN(s):	

INSPECTION AND MAINTENANCE CHECKLIST FOR SD-B IMPERVIOUS AREA DISPERSION PAGE 3 of 3			
Threshold/Indicator	Maintenance Recommendation	Date	Description of Maintenance Conducted
<p>Entrance / opening to the vegetated pervious area is blocked such that storm water from impervious area will not drain into the pervious area (e.g., a curb cut opening is blocked by debris or a roof drain outlet has been directly connected to the storm drain system)</p> <p>Maintenance Needed?</p> <p><input type="checkbox"/> YES</p> <p><input type="checkbox"/> NO</p> <p><input type="checkbox"/> N/A</p>	<p><input type="checkbox"/> Make repairs as appropriate to restore drainage into the vegetated pervious area*</p> <p><input type="checkbox"/> Other / Comments:</p>		

\*If the pervious area has been removed, contact the [City Engineer] to determine a solution.