Stormwater Control Plan

Davis Estates, P14-00411
Planning Commission Hearing Date - October 3, 2018

STORMWATER CONTROL PLAN FOR A REGULATED PROJECT

Davis Estates Winery
Use Permit Modification

Prepared for:

Davis Estates Winery
4060 Silverado Trail
Calistoga, CA 94515
Phone: 707-942-0700

Prepared by:

Summit Engineering, Inc.
463 Aviation Blvd, Suite 200
Santa Rosa, CA 95403
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SUMMIT

CIVIL STRUCTURAL ELECTRICAL WATER|WASTEWATER

Project No. 2012097

May 18, 2015

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This Stormwater Control Plan was prepared using the Bay Area Stormwater Management Agencies Association's (BASMAA's) Post-Construction Manual template dated July 11, 2014.

I. PROJECT DATA

Table 1. Project Data

Project Name/Number	Davis Estates Winery – Use Permit Modification / 2012097
Application Submittal Date	
Project Location	4060 Silverado Trail, Calistoga, CA 94515
Project Phase No.	1
Project Type and Description	Project Type: Regulated – This project consists of the construction of a paved parking lot and left turn lane to support an increase in visitation and marketing events. The project also includes the addition of two fermentation tanks on an existing outdoor work area and expansion of the existing caves to support an increase in production.
Total Project Site Area (acres)	5.35 acres
Total New and Replaced Impervious Surface Area	11,361 sq ft (0.26 acres)
Total Pre-Project Impervious Surface Area	92,792 sq ft (2.13 acres)
Total Post-Project Impervious Surface Area	102,179 sq ft (2.37 acres)

II. SETTING

II.A. Project Location and Description

Davis Estates is located at 4060 Silverado Trail in Calistoga, California (approximate coordinates of 38.57009˚ N, 122.51459˚ W). The project site consists of approximately 5.35 acres. The project site is located approximately 1.5 miles north of Highway 29, east of the intersection of Larkmead Lane and Silverado Trail, and a quarter mile from a tributary to Napa River. See the Vicinity Map in the Attachments section.

The proposed improvements include a left turn lane on Silverado Trail and a paved parking lot to support an increase in visitation and marketing events. The project also includes the addition of two fermentation tanks on an existing outdoor work area and expansion of the existing caves to support an increase in production. The widening of Silverado Trail to accommodate the left turn lane will not create more than 5,000 square feet of contiguous newly impervious area and will therefore not require stormwater mitigation.

II.B. Existing Site Features and Conditions

The project site is currently under construction for previously permitted improvements including the development of a winery, barn, grape receiving and exterior production area, patio for visitation, new parking

facilities and improvements to the entrance and access roads. The area surrounding the project boundary consists of vineyards.

The project site is located in a small valley that is currently serving as a vineyard at the base of surrounding hills extending to the north, east, and south. The average slope in the project area is approximately 9% towards the valley floor to the west. The elevation of the project site ranges from 385 to 305 feet above mean sea level (msl). Stormwater run-on from the surrounding hills is collected in two drainage swales at the north and south end of the developed portion of the site and routed around the developed area. Collected surface runoff from developed areas is conveyed through a network of storm drains and swales, discharging west of the developed site to the existing roadside ditch along Silverado Trail Road. The ditches along Silverado Trail Road eventually drain to a tributary to Napa River 0.25 miles to the South, which eventually drains to Napa River.

Based on mapping from the National Resources Conservation Service (NRCS) Web Soil Survey, the project site soils are classified as type '104', hydrologic soil group "C". The surrounding landscape areas are classified as soil type '152' hydrologic soil group "B". According to the NRCS, Group "B" consists of soils having a moderate infiltration rate when thoroughly wet, consisting chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission. Group "C" Soils have a slow infiltration rate when thoroughly wet, consisting chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

II.C. Opportunities and Constraints for Stormwater Control

The general slopes of the proposed improvements create natural elevation differences which provide the needed hydraulic head to move water to a bioretention low impact development (LID) facility.

Constraints of the project include working within a previously developed site.

III. LOW IMPACT DEVELOPMENT DESIGN STRATEGIES

III.A. Optimization of Site Layout

III.A.1. Limitation of development envelope

The project site was previously developed. The new parking lot will be constructed adjacent to an existing driveway and building. The roadway left turn lane will result in pavement widening of existing Silverado Trail adjacent to an existing ditch. The bioretention LID facility is located within the project boundary and will receive runoff from new impervious parking lot area.

III.A.2. Preservation of natural drainage features

The proposed improvements will be located within the developed area and will not impact existing natural drainage features. Stormwater runoff from the proposed impervious parking lot will drain into the bioretention LID facilities. The widened Silverado Trail will drain into the existing roadside ditch, as it does in the existing condition.

III.A.3. Setbacks from creeks, wetlands, and riparian habitats

Development will not be performed within 100 feet or more of nearby creeks and riparian habitats. The project is located a quarter of a mile from the nearest creek, which is a tributary to Napa River.

III.A.4. Minimization of imperviousness

Impervious surfacing of the site was minimized to meet the needs and requirements of the proposed marketing and hospitality improvements. The production improvements will not result in any added or reworked impervious surfacing. The proposed fermentation tanks will be placed on an existing concrete slab, therefore not adding any impervious surface area to the project site.

III.A.5. Use of drainage as a design element

The gravel-pave walkway, which is part of the landscape design, will be self-retaining. The bioretention LID facility will be integrated into the landscape design as part of the design element.

III.B. Use of Permeable Pavements

The walkway will consist of gravel-pave material, which is a permeable pavement.

III.C. Dispersal of Runoff to Pervious Areas

Runoff from the parking lot will be routed to a bioretention LID facility. Excess runoff not infiltrated into the permeable walkway will sheet flow off-site into vineyards.

III.D. Stormwater Control Measures

This project will follow the "Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties (DGSTC)", prepared for the Bay Area Stormwater Management Agencies Association. Bioretention LID Facilities were sized at a minimum of 4% of the equivalent tributary area, as specified in the Phase II Stormwater National Pollutant Discharge Elimination System (NPDES) Permit.

One bioretention LID facility will be located to the west of the proposed parking lot. It was designed in accordance with the Biorentention Facility Design Criteria beginning on Page 4-3 of the DGSTC, as well as Figures 4-1 and 4-2. Locations of LID facility can be seen in the Stormwater Control Plan, attached. Runoff from the widened Silverado Trail roadway does not require stormwater mitigation because it will add less than 5,000 square feet of contiguous impervious surface area.

IV. DOCUMENTATION OF DRAINAGE DESIGN

IV.A. Descriptions of Each Drainage Management Area

IV.A.1. Table of Drainage Management Areas

Table 2. Drainage Management Areas

DMA Region	Surface Type	Area (acres)
1	Asphalt Concrete	0.10
2	Gravel-Pave	0.02
3	Asphalt Concrete	0.07
4	Asphalt Concrete	0.05

See Stormwater Control Plan in the Attachments section.

IV.A.2. Drainage Management Area Descriptions

DMA 1, totaling 4,425 square feet, is an impervious area consisting of asphalt concrete parking lot. This DMA drains to bioretention LID facility #1.

DMA 2, totaling 907 square feet, is a self-retaining area comprised of gravel-pave, permeable gravel.

DMA 3, totaling 2,984 square feet, is an impervious area consisting of asphalt concrete roadway widening, and is exempt.

DMA 4, totaling 1,977 square feet, is an impervious area consisting of asphalt concrete roadway widening and is exempt.

IV.B. Tabulation and Sizing Calculations

IV.B.1. Information Summary for Bioretention Facility Design

Table 3. Information Summary for Bioretention Facility Design

Total Project Area: 5.35 acres	
LIDF 1 Area	**DMA 1 Area:** 4,425 ft^2

IV.B.2. Self-Treating Areas

None

IV.B.3. Self-Retaining Areas

Table 4. Self-Retaining Areas

DMA Region	**Area (square feet)**
2	907

IV.B.4. Areas Draining to Self-Retaining Areas

None

IV.B.5. Areas Draining to Bioretention Facilities

Table 5. LID Facility 1

DMA Region	DMA Area (ft^2)	Post-project surface type	DMA Runoff factor	DMA Area × runoff factor (ft^2)	Facility Name: LIDF 1		
					SCM Sizing factor	Minimum SCM Size (ft^2)	Proposed SCM Size (ft^2)
1	4,425	Asphalt-Concrete	1.0	4,425			
Total				4,425	0.04	177	180

V. SOURCE CONTROL MEASURES

V.A. Site activities and potential sources of pollutants

- On-site Storm Drain Inlets
- Sidewalks

V.B. Source Control Table

Table 6. Source Control Table

Potential source of runoff pollutants	Permanent source control BMPs	Operational source control BMPs
On-site Storm Drain Inlets	Mark all inlets with the words "No Dumping! Flows to Creek" or similar.	- Maintain and periodically replace inlet markings. - Provide stormwater pollution prevention information to new site owners, lessees, or operators. - See applicable operational BMPs in Fact Sheet SC-44, "Drainage System Maintenance"
Sidewalk (gravel-pave)	None	- Sweep sidewalks regularly to prevent accumulation of litter and debris. Collect debris from pressure washing to prevent entry into the storm drain system. Collect wash water containing any cleaning agent or degreaser and discharge to the sanitary sewer not to a storm drain.

V.C. Features, Materials, and Methods of Construction of Source Control BMPs

All Source Control BMPs listed in the previous section will be implemented with corresponding and appropriate features, materials, and methods of construction.

VI. STORMWATER FACILITY MAINTENANCE

VI.A. Ownership and Responsibility for Maintenance in Perpetuity

The applicant accepts responsibility for interim operation and maintenance of stormwater treatment and flow-control facilities until such time as this responsibility is formally transferred to a subsequent owner. The owner then accepts full responsibility for the proper operation and maintenance of all stormwater facilities.

VI.B. Summary of Maintenance Requirements for Each Stormwater Facility

Any maintenance of all bio-retention facilities will be financed and implemented by the owner of Davis Estates Winery. All facilities shall be inspected annually and documented. Any necessary repairs to facilities shall also be documented. Updated information, including contact information, must be provided to the municipality if property is sold and whenever designated individuals or contractors change.

VII. CONSTRUCTION CHECKLIST

Table 7. Construction Checklist

(to be completed prior to submitting construction documents)

Stormwater Control Plan Page #	Source Control or Treatment Control Measure	See Plan Sheet #s

VIII. CERTIFICATIONS

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

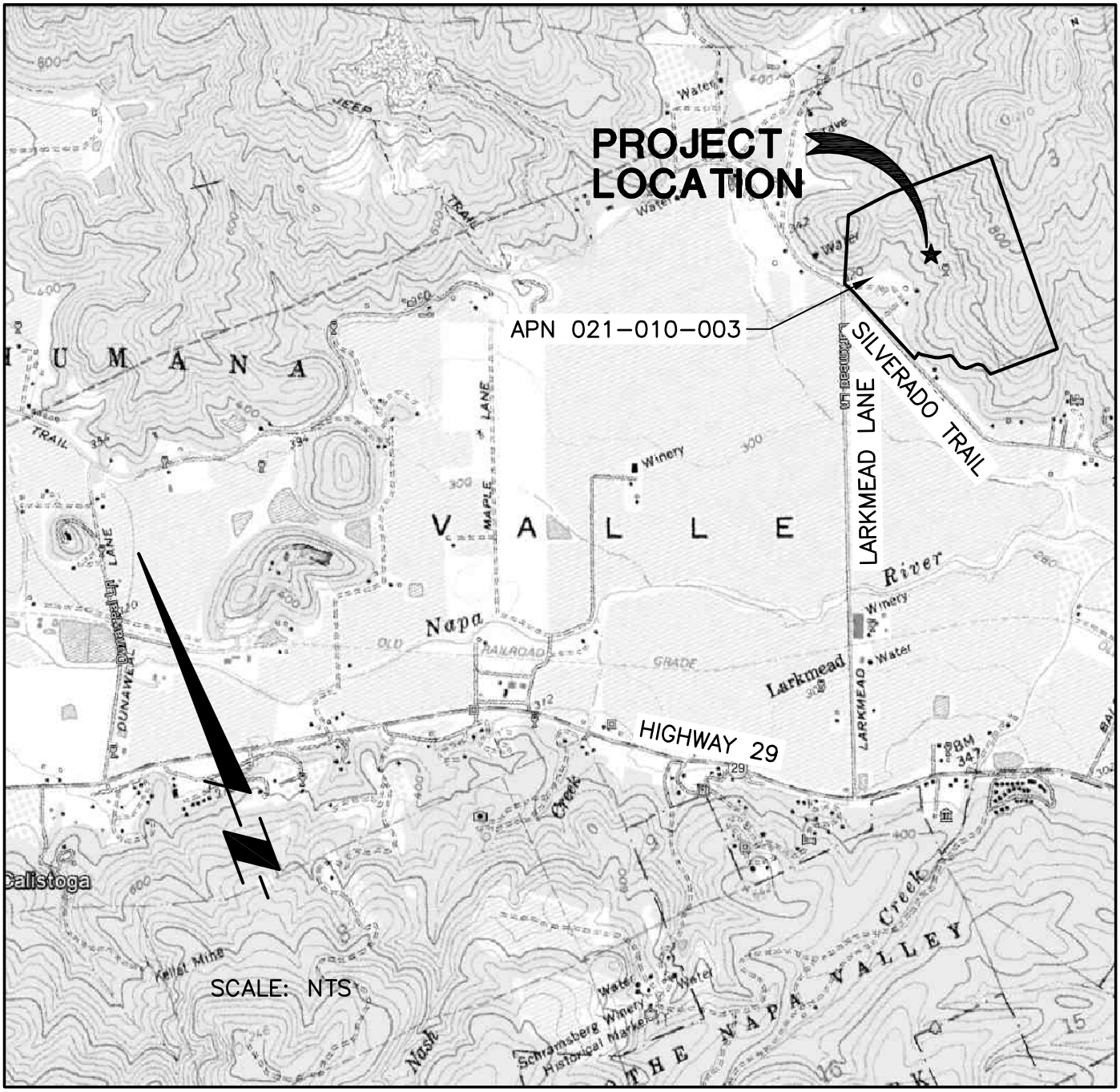
ATTACHMENTS

SUMMIT

DAVIS ESTATES
4060 SILVERADO TRAIL
CALISTOGA, CA 94515
APN 021-010-003

VICINITY MAP

PROJECT NO. 2012097
DATE 12-19-2012
SHT NO 1 OF 1
BY TF CHK MH



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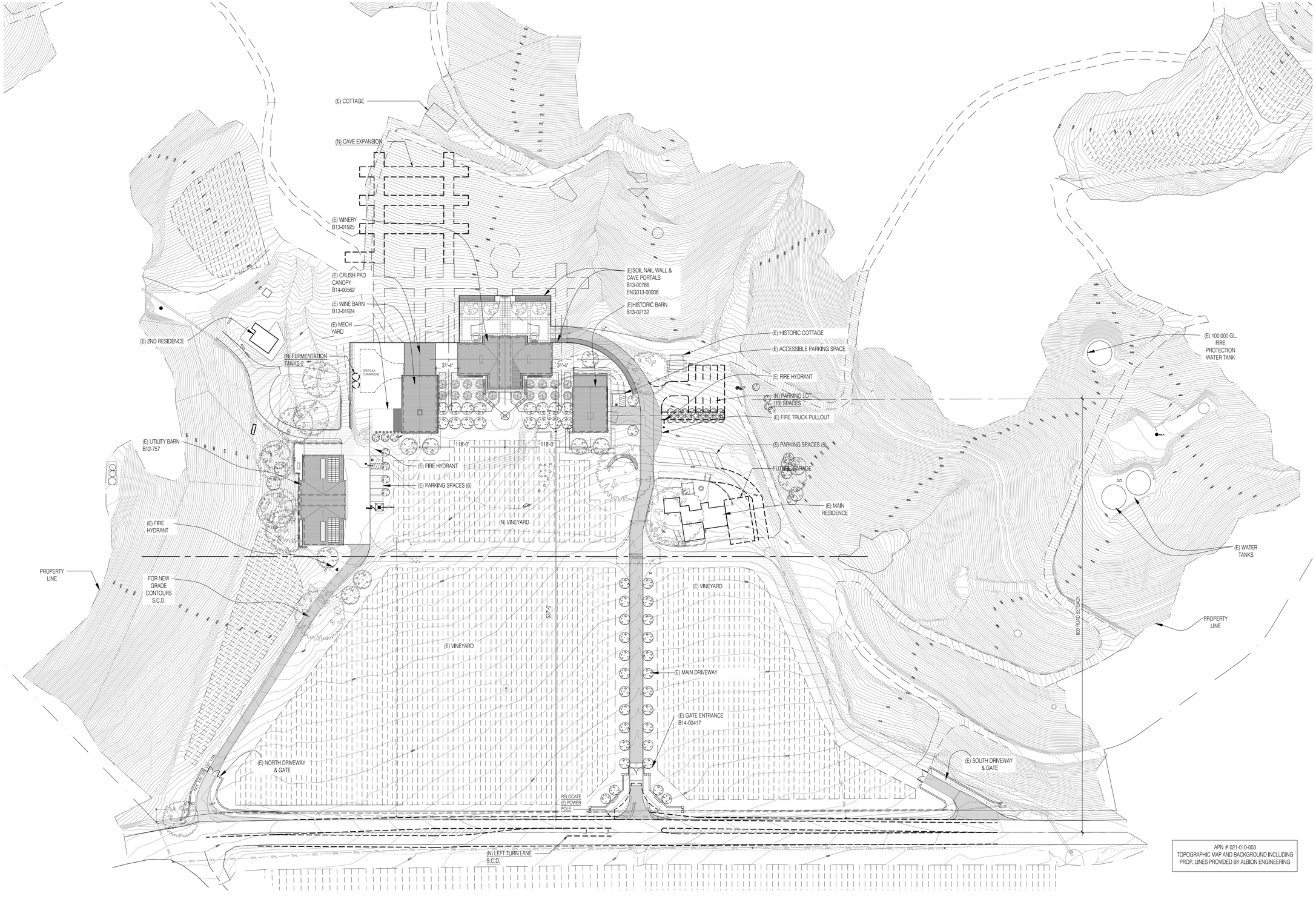

1 WINERY SITE PLAN

SCALE: 1" = 60'-0"

0' 60' 120' 180' 240'

BACKEN GILLAM KROEGER
architects

2352 MARINSHIP WAY
SAUSALITO, CALIF 94965
TELEPHONE 415 289 3800
FACSIMILE 415 289 3866

1028 MAIN STREET
ST. HELENA, CALIF 94574
TELEPHONE 707 963 1920
FACSIMILE 707 963 1924

DAVIS ESTATES

4060 SILVERADO TRAIL
CALISTOGA, CA

Plot Date	5/12/15
Drawn By	MB
Checked By	JT
Project No.	2011-19

Date	Issue
8/15/13	BUILDING PERMIT
3/26/14	PERMIT RESUBMITTAL
6/3/14	CONSTRUCTION SET
3/11/15	WINERY INTERIORS SET
3/18/15	KITCHEN PERMIT RESUBL

OVERALL
SITE PLAN
FIRST FLOOR

SCALE : AS NOTED

A1.1

NOTE:

SEE ARCHITECT PLAN A1.1 FOR ALL SITE IMPROVEMENTS ASSOCIATED WITH USE PERMIT MODIFICATION

0 5 10 20
GRAPHIC SCALE IN FEET

(E) COTTAGE

PARKING LOT

BIORETENTION LIDF 1

DMA #2

DMA #1

GRAVEL-PAVE WALKWAY, SELF RETAINING

WINERY IMPROVEMENTS, UNDER SEPARATE PERMIT

CP #35
CP 15" DITCH
N 4518.29
E 5604.78
ELEV 354.33

CP #6
CP 6" MAG CONC
N 4472.05
E 5415.02
ELEV 328.82

WINERY IMPROVEMENTS, UNDER SEPARATE PERMIT

(E) ROADSIDE DITCH

(E) LANDSCAPE WALL

(E) ROADSIDE DITCH

(E) LANDSCAPE WALL

SILVERADO TRAIL

DMA #3

LEFT TURN LANE

DMA #4

LEFT TURN LANE STRIPING, TYP

0 20 40 80
GRAPHIC SCALE IN FEET

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DAVIS ESTATES
4060 SILVERADO TRAIL
CALISTOGA, CA 94515
APN 021-010-003

DAVIS ESTATES WINERY

STORMWATER CONTROL PLAN

05-18-2015	PERMIT SUBMITTAL

DATE:	11-20-2012
JOB NO:	2012097
SCALE:	AS SHOWN
DRAWN:	JA
CHECKED:	JAP

SHEET
SCP-1

NAPA COUNTY
POST-CONSTRUCTION RUNOFF MANAGEMENT REQUIREMENTS

APPENDIX A

APPLICABILITY CHECKLIST

NAPA COUNTY POST-CONSTRUCTION RUNOFF MANAGEMENT REQUIREMENTS
APPENDIX A – APPLICABILITY CHECKLIST

Post-Construction Runoff Management Applicability Checklist	County of Napa Department of Public Works 1195 Third Street Napa, CA 94559 (707) 253-4351 for information

Project Address: 4060 Silverado Trail Calistoga, CA	Assessor Parcel Number(s): APN 021-010-003	Project Number: *(for County use Only)*

Instructions:

Structural projects requiring a use permit, building permit, and/or grading permit must complete the following checklist to determine if the project is subject to the Post-Construction Runoff Management Requirements. In addition, the impervious surface worksheet on the reverse page must also be completed to calculate the amount of new and reconstructed impervious surfaces proposed by your project. This form must be completed, signed, and submitted with your permit application(s). Definitions are provided in the Post-Construction Runoff Management Requirements policy. **Note:** If multiple building or grading permits are required for a common plan of development, the total project shall be considered for the purpose of filling out this checklist.

POST-CONSTRUCTION STORMWATER BMP REQUIREMENTS (Parts A and B)

- ✓ If any answer to Part A are answered "yes" your project is a "Priority Project" and is subject to the Site Design, Source Control, and Treatment Control design standards described in the Napa County Post-Construction Runoff Management Requirements.
- ✓ If all answers to Part A are "No" and any answers to Part B are "Yes" your project is a "Standard Project" and is subject to the Site Design and Source Control design standards described in the Napa County Post-Construction Runoff Management Requirements.
- ✓ If every question to Part A and B are answered "No", your project is exempt from post-construction runoff management requirements.

Part A: Priority Project Categories

Does the project meet the definition of one or more of the priority project categories?

1.	Residential with 10 or more units ……	Yes (No)
2.	Commercial development greater than 100,000 square feet……	Yes (No)
3.	Automotive repair shop……	Yes (No)
4.	Retail Gasoline Outlet……	Yes (No)
5.	Restaurant……	Yes (No)
6.	Parking lots with greater than 25 spaces or greater than 5,000 square feet……	Yes (No)

*Refer to the definitions section for expanded definitions of the priority project categories.

Part B: Standard Project Categories

Does the project propose:

1.	A facility that requires a NPDES Permit for Stormwater Discharges Associated with **Industrial** Activities?……	Yes (No)
2.	New or redeveloped impervious surfaces 10,000 square feet or greater, excluding roads?……	Yes (No)
3.	Hillside residential greater than 30% slope……	Yes (No)
4.	Roadway and driveway construction or reconstruction which requires a Grading Permit.....	(Yes) No
5.	Installation of new storm drains or alteration to existing storm drains?……	(Yes) No
6.	Liquid or solid material loading and/or unloading areas?……	Yes (No)
7.	Vehicle and/or equipment fueling, washing, or maintenance areas, excluding residential uses?……	Yes (No)
8.	Commercial or industrial waste handling or storage, excluding typical office or household waste?……	Yes (No)

Note: To find out if your project is required to obtain an individual General NPDES Permit for Stormwater discharges Associated with Industrial Activities, visit the State Water Resources Control Board website at, www.swrcb.ca.gov/stormwtr/industrial.html

Impervious Surface Worksheet

Project phasing to decrease impervious surface area shall not exempt the project from Post-Construction Runoff Management requirements. A new development or redevelopment project must comply with the requirements if it is part of a larger common plan of development that would result in the creation, addition and/or reconstruction of one acre or more of impervious surface. (For example, if 50% of a subdivision is constructed and results in 0.9 acre of impervious surface, and the remaining 50% of the subdivision is to be developed at a future date, the property owner must comply with the Post-Construction Runoff Management requirements.

Type of Impervious Surface	**Impervious Surface (Sq Ft)**			**Total New and Reconstructed Impervious Surfaces (Sq Ft)**
	Pre-Project (if applicable)	**New** (Does not replace any existing impervious area)	**Reconstructed** (Replaces existing impervious area)	
Buildings, Garages, Carports, other Structures with roofs	13,650	-	-	-
Patio, Impervious Decking, Pavers and Impervious Liners	12,192	-	-	-
Sidewalks and paths	2,910	*	-	-
Parking Lots	1,420	4,425	-	4,425
Roadways and Driveways,	110,210	4,962	1,974	6,936
Off-site Impervious Improvements	N/A	N/A	N/A	N/A
Total Area of Impervious Surface (Excluding Roadways and Driveways)	30,172	4,425*	-	4,425*

* Sidewalk will be permeable pavers, therefore not included in total Impervious surface area

Incorrect information on proposed activities or uses of a project may delay your project application(s) or permit(s).

I declare under penalty of perjury, that to the best of my knowledge, the information presented herein is accurate and complete.

Name of Owner or Agent (Please Print):	Title:
Signature of Owner or Agent:	Date: