

TRANSIENT NON-COMMUNITY WATER SYSTEM INFORMATION

FOR THE

TITUS WINERY

LOCATED AT:

2971 Silverado Trail
St. Helena, CA 94574
NAPA COUNTY APN 021-353-013

PREPARED FOR:

Eric and Phillip Titus
3264 Ehlers Lane
St. Helena, CA 94574
Telephone: (707) 963-3298

PREPARED BY:



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Napa, California 94558
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Job Number: 11-123



Michael R. Muelrath

Michael R. Muelrath R.C.E. 67435

10/2/2013

Date

TABLE OF CONTENTS

LIST OF APPENDICES	iii
INTRODUCTION	1
WATER SYSTEM NAME	2
NAME OF PERSON WHO PREPARED THIS REPORT	2
TECHNICAL CAPACITY	2
System Description.....	2
Water Demand Projection	2
Source Adequacy.....	3
Water Supply Capacity	3
Water Quality Characterization.....	3
Consolidation Analysis.....	3
MANAGERIAL	3
Organization.....	3
Land Ownership.....	4
Water Rights.....	4
FINANCIAL	4
Startup Cost.....	4
Annual Operating Cost.....	4
Funding	5

LIST OF APPENDICES

APPENDIX I: Titus Winery Conceptual Site Improvement Plans6

INTRODUCTION

Eric and Phillip Titus are applying for a Use Permit to construct and operate a new winery at their property located at 2971 Silverado Trail in Napa County, California. The subject property, known as Napa County Assessor's Parcel Number 021-353-013, is located along the west side of Silverado Trail approximately 0.25 miles northwest of the Silverado Trail / Deer Park Road intersection.

The use permit application under consideration proposes the construction and operation of a new winery with the following characteristics:

- Wine Production:
 - 24,000 gallons of wine per year
 - Crushing, fermenting, aging and bottling

- Employees (based on maximum anticipated staffing level during harvest):
 - 10 full time employees
 - 2 part time employees

- Marketing Plan:
 - Daily Tours and Tastings by Appointment
 - 60 visitors per day maximum
 - Private Promotional Tastings with Meals:
 - 8 per year
 - 25 guests maximum
 - Food prepared in onsite kitchen
 - Private Wine Club Marketing Events
 - 4 per year
 - 125 guests maximum
 - Food prepared offsite by catering company
 - Portable toilets brought in for guest use
 - Wine Release Events
 - 6 per year
 - 125 guests maximum
 - Food prepared offsite by catering company
 - Portable toilets brought in for guest use
 - Wine Auction Events
 - 2 per year
 - 125 guests maximum
 - Food prepared offsite by catering company
 - Portable toilets brought in for guest use

Other existing improvements on the property include a residential structure, various accessory buildings, approximately 26 acres of vineyard, gravel and dirt driveways and the utility infrastructure associated with the existing residential and agricultural uses.

Since the proposed number of winery employees plus the number of visitors is expected to exceed 24 for 60 or more days out of the year, the project will be required to implement a Transient Non-Community Public Water System.

Eric and Phillip Titus have requested that Applied Civil Engineering Incorporated (ACE) prepare a brief report outlining the anticipated technical, managerial and financial aspects of the water system that will be required to serve the proposed winery to accompany the winery Use Permit application as required by Napa County. A more detailed water system design and permit application package will be required during the building permit phase of the project.

WATER SYSTEM NAME

The water system will be known as the "Titus Winery Water System".

NAME OF PERSON WHO PREPARED THIS REPORT

This report was prepared by Michael Muelrath, PE of Applied Civil Engineering Incorporated. Information regarding the parameters of the subject Use Permit application was provided by Eric Titus.

TECHNICAL CAPACITY

System Description

Water for the existing residential and agricultural uses is currently provided by two existing groundwater wells. One well, known as the "Barn Well" is located just west of the existing barn building, approximately 125 feet north of the existing residence. This well was constructed in December 1997 and has an estimated yield of 40 gallons per minute according to the Well Completion Report (No. 528477). The second well, known as the "Vineyard Well" is located in the southwest portion of the adjacent property which is also owned by the Titus family (APN 021-353-003). This well was constructed in July 2000 and has an estimated yield of 130 gpm according to the Well Completion Report (No. 774354). Unfortunately neither the Barn Well nor the Vineyard Well were constructed with a 50 foot deep annular seal as required for public water supplies and therefore a new well must be drilled to serve the new water system. The new well must be constructed per Napa County standards and treatment must be provided as required to meet applicable local, state and federal water quality requirements.

Detailed plans for the water treatment system will be prepared and presented to Napa County for review during the building permit stage, after the new well is drilled and the required yield and water quality testing is performed.

Water Demand Projection

We have used the Napa County Phase I Water Availability Analysis Estimated Water Use Guidelines to estimate the annual water demand for the existing and proposed residential, winery and agricultural uses to be approximately 12.9 acre-feet per year. The new well will be dedicated to serving the domestic water needs of the winery and residential structures only. The existing

wells will continue to serve the vineyard irrigation needs. Therefore, the estimated annual water demand for the water system will be 1.39 acre-feet per year.

Using the projected annual demand, we have calculated an average daily demand of approximately 1,241 gallons and a maximum daily demand (MDD) of 2,792 gallons (calculated per California Waterworks Standards Section 64554b.3.(C)).

Source Adequacy

The new well must be constructed with a minimum 50 foot deep, 3 inch wide concrete annular seal to meet the requirements for Transient Non-Community water systems. A copy of the Well Completion Report providing information about the new well will be included with the water system application package at a future date.

Water Supply Capacity

Assuming a conservative well pumping cycle of 12 hours per day the new well must be capable of producing at least 3.9 gallons per minute to meet the water system's MDD. Furthermore, the water system must include a new storage tank that can store at least the MDD (2,792 gallons).

The yield of the new well must be tested upon completion to verify it is adequate. Testing must be performed in accordance with California Waterworks Standards Section 64554. Furthermore, we recommend that the water level, yield and drawdown in the well be monitored on an ongoing basis to detect any trends in changing water table levels and well yield so that alternate sources can be developed if needed.

Water Quality Characterization

Prior to permitting and construction of the water system it will be necessary to perform a full panel of water quality testing that covers all parameters required by Napa County. The water treatment system must then be designed to reduce all required contaminant levels to below the regulatory maximum contaminant level (MCL) for each constituent. Based on our past experience with water quality in this area we expect that some level of treatment will be required to meet water quality standards and that it should generally be feasible to provide this treatment with standard water treatment system equipment.

Consolidation Analysis

The subject parcel does not fall within the service area of a known existing public water system and thus consolidation is not feasible.

MANAGERIAL

Organization

Management and routine operation of the water system will be performed by the winery staff. One staff member will be responsible for performing sampling, reporting and keeping up to date

records onsite in accordance with Napa County requirements. The winery staff person in charge of the water system will consult with water system specialists as needed if issues arise with any components of the water system.

Land Ownership

The new well will be located on the same property as the proposed winery. This property is owned by Lee Titus & Sons LTD. Since the well and all water system components are to be located on the same property as the users of the water system (the winery and residence) no access or maintenance easements will be required.

Water Rights

The Titus Winery Water System will use groundwater from a non-adjudicated groundwater basin exclusively and is therefore not subject to water rights through the State Water Resources Control Board.

FINANCIAL

There will be no revenue generated by the water system.

The expected expenses for the water system can be broken down into initial startup cost and ongoing operational cost as shown below.

Startup Cost

Startup cost includes the new well and pump for the new well, water transmission piping, water storage tank, water treatment system equipment, booster pump and installation. The water treatment and storage equipment will be designed based on a full panel of water quality test results that will be performed on water from the new well. Based on previous experience we estimate that the cost for the well, well pump, water transmission piping, water storage tank, booster pump, water treatment system equipment and installation will be in the range of \$75,000 to \$100,000.

Actual costs will be dependent upon the results of the water quality testing and design of the water treatment system.

Annual Operating Cost

Annual operating cost for the water system will include cost for performing quarterly and annual water quality testing, equipment maintenance and replacement, replacement of consumable items and electrical service charges. The actual cost to operate and maintain the water system will be dependent on the final design of the water system. We estimate that the annual cost associated with operating and maintaining the water system will be in the range of \$5,000 to \$10,000 per year depending on final water system design.

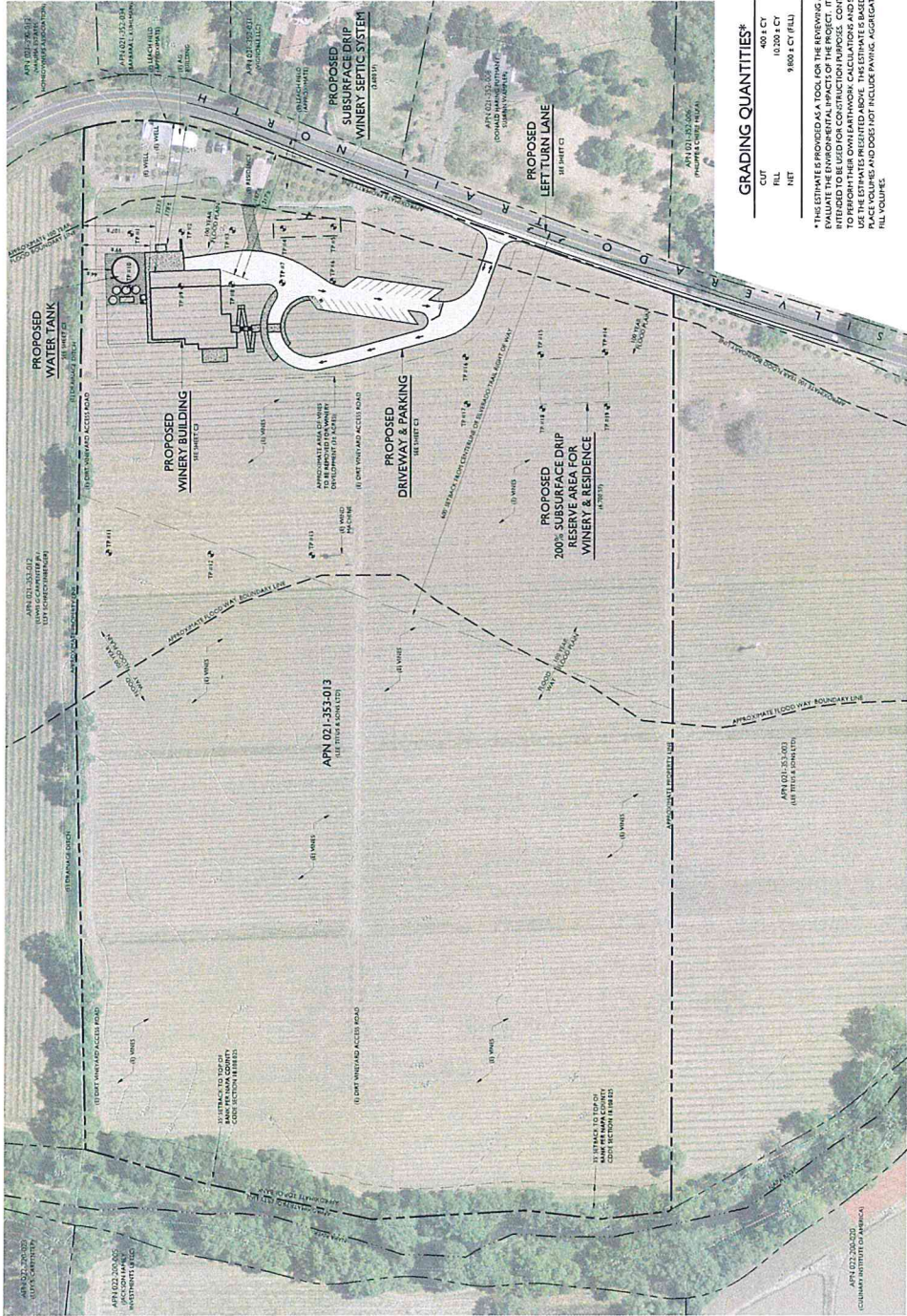
Funding

The startup cost will be financed along with construction of the proposed winery. The winery's annual operating budget will include a line item for water system operation and maintenance cost to ensure finances are available to operate and maintain the water system throughout the life of the winery.

APPENDIX I: Titus Winery Conceptual Site Improvement Plans

TITUS WINERY

USE PERMIT CONCEPTUAL SITE PLANS



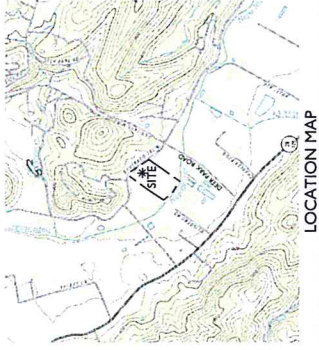
GRADING QUANTITIES*

CUT	1883 CY
FILL	10200 CY
TOT	9317 CY (FILL)

* THIS ESTIMATE IS PROVIDED AS A TOOL FOR THE REVIEWING AGENCIES TO EVALUATE THE ENVIRONMENTAL IMPACT OF THE PROJECT. IT IS NOT TO BE USED FOR FINANCIAL OR CONTRACTING PURPOSES AND SHALL NOT BE USED FOR THEIR OWN ENGINEERING CALCULATIONS AND SHALL NOT BE USED FOR ANY OTHER PURPOSES. THIS ESTIMATE IS BASED ON THE DATA PROVIDED AND DOES NOT INCLUDE PAINTING, AGGREGATES OR SELECT FILL SOURCES.

VINEYARD STATISTICS

EXISTING VINEYARD	264 ACRES
PROPOSED VINEYARD	234 ACRES*
* APPROXIMATELY 34 ACRES OF VINES WILL BE REMOVED IN ORDER TO ACCOMMODATE DEVELOPMENT OF THE PROPOSED WINERY.	



PROJECT INFORMATION

PROPERTY OWNER & APPLICANT:
LEE TITUS & SONS LTD
3244 HELENA LANE
ST. HELENA, CA 94574

SITE ADDRESS:
2971 SILVERADO TRAIL NORTH
ST. HELENA, CA 94574

ASSESSOR'S PARCEL NUMBER:
021-353-013

PARCEL SIZE: 31.77± ACRES
PROJECT SIZE: 3.2± ACRES

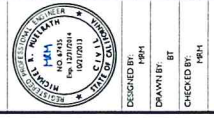
ZONING: AGRICULTURAL PRESERVE (AP)
DOMESTIC WATER SOURCE: PRIVATE WELL
FIRE PROTECTION WATER SOURCE: PRIVATE WELL
WASTEWATER TREATMENT AND DISPOSAL: ON-SITE

SHEET INDEX:

- C1 OVERALL SITE PLAN
- C2 LEFT TURN LANE CONCEPT PLAN
- C3 WINERY CONCEPTUAL SITE PLAN
- C4 IMPERVIOUS AREA EXHIBIT

NOTES:

1. TEST PIT# ONE THROUGH THIRTEEN (TP #1 - TP #13) WERE EXCAVATED BY RMA WHEATLAND MANAGEMENT ON DECEMBER 15, 2011 AND WERE WITNESSED BY A COUNTY DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (SEE E11-066210).
2. TEST PIT# FOURTEEN THROUGH SEVENTEEN (TP #14 - TP #17) WERE EXCAVATED BY RMA WHEATLAND MANAGEMENT ON DECEMBER 15, 2011 AND WERE WITNESSED BY A COUNTY DEPARTMENT OF ENVIRONMENTAL MANAGEMENT (SEE E11-066210).
3. BACKGROUND PHOTOGRAPHS WERE TAKEN ON 10/04/2011. THE PHOTOGRAPHS WERE TAKEN FROM THE PROPERTY LINE TO THE PROPERTY LINE. THE PHOTOGRAPHS WERE TAKEN FROM THE PROPERTY LINE TO THE PROPERTY LINE. THE PHOTOGRAPHS WERE TAKEN FROM THE PROPERTY LINE TO THE PROPERTY LINE.
4. THE PROPERTY LINES SHOWN ON THESE PLANS DO NOT REPRESENT A BOUNDARY SURVEY. THEY ARE APPROXIMATE AND ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. A BOUNDARY SURVEY SHOULD BE OBTAINED FOR MORE INFORMATION.
5. TOPOGRAPHY / ELEVATION INFORMATION IS APPROXIMATE. SEE FEMA FIRM DATA FLOOD ELEVATION AT BUILDING SITE WAS DETERMINED TO BE 238 FEET MEAN SEA LEVEL. SEE FEMA FIRM DATA FLOOD ELEVATION AT BUILDING & ENVIRONMENTAL SERVICES DEPARTMENT - ENGINEERING DIVISION ON JANUARY 31, 2013.



DESIGNED BY: PRH
DRAWN BY: BT
CHECKED BY: PRH

← USE PERMIT CONCEPTUAL SITE PLANS →
← TITUS WINERY →
← OVERALL SITE PLAN →

TITUS WINERY
2971 SILVERADO TRAIL NORTH
ST. HELENA, CA 94574
NAPA COUNTY APN 021-353-013

DATE:	SEPTEMBER 2013
JOB NUMBER:	11-132
FILE:	11-132CON.LDWDING
ORIGINAL SIZE:	A7.5" X 7"
SHEET NUMBER:	AS NOTED
SHEET NUMBER:	CI



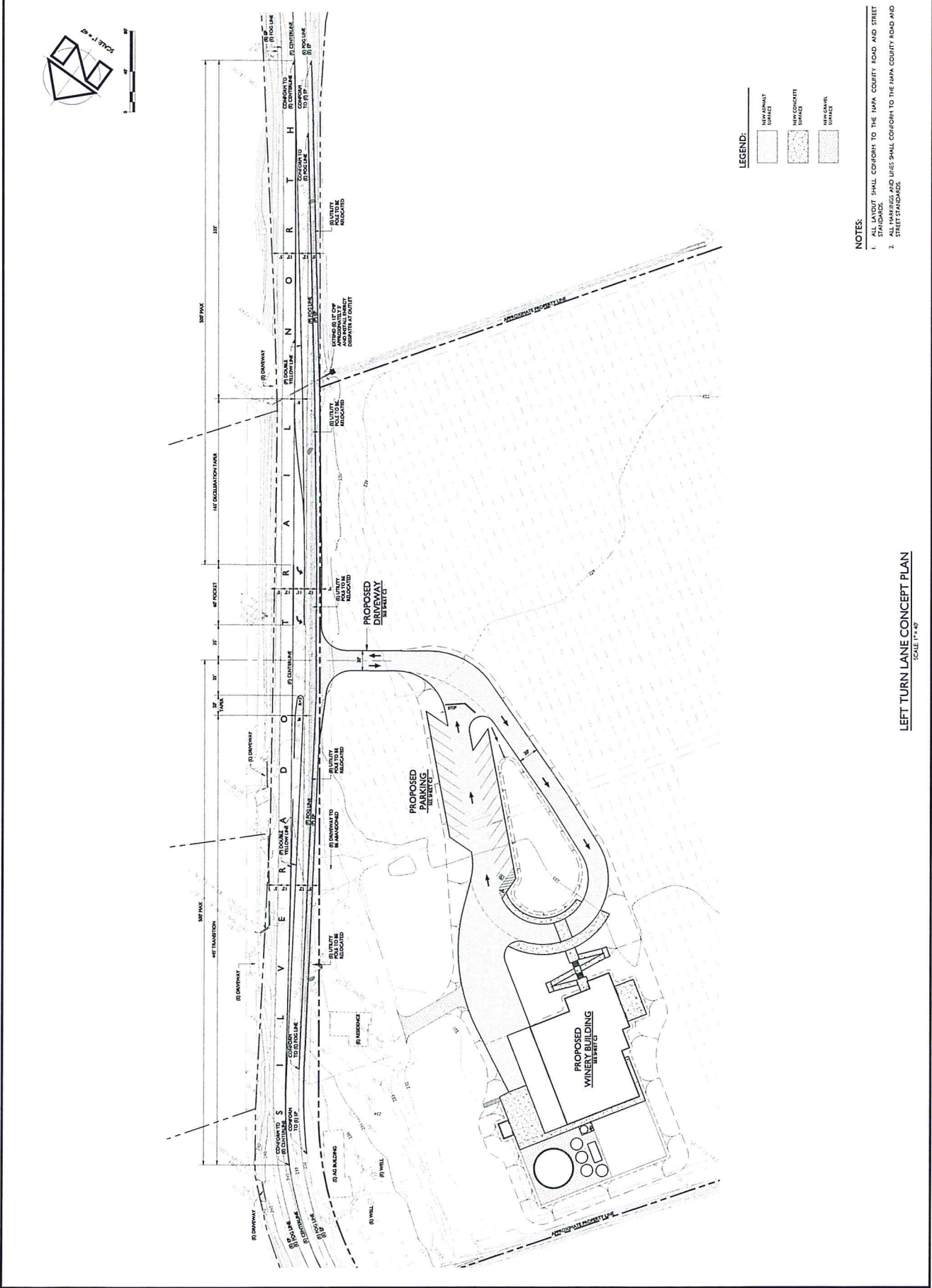
DESIGNED BY: MSH
 DRAWN BY: BT
 CHECKED BY: MSH

TITUS WINERY
 LEFT TURN LANE CONCEPT PLAN
 USE PERMIT CONCEPTUAL SITE PLANS
 NAPA COUNTY APN 021-353-013

TITUS WINERY
 2971 SILVERADO TRAIL NORTH
 ST. HELENA, CA 94574
 NAPA COUNTY APN 021-353-013

DATE:	SEPTEMBER 2013
JOB NUMBER:	11-123
FILE:	111123CONCEPT.DWG
ORIGINAL SIZE:	A1 (24" x 36")
SCALE:	AS NOTED
SHEET NUMBER:	C2

OF
 4

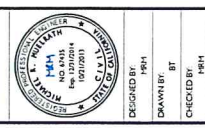


LEGEND:

[Symbol]	IMPAVMENT IMPACT
[Symbol]	PROPOSED IMPACT
[Symbol]	EXISTING IMPACT

- NOTES:
1. ALL IMPACT SHALL CONFORM TO THE NAPA COUNTY ROAD AND STREET STANDARDS.
 2. ALL MARKINGS AND USES SHALL CONFORM TO THE NAPA COUNTY ROAD AND STREET STANDARDS.

LEFT TURN LANE CONCEPT PLAN
 SCALE 1" = 40'



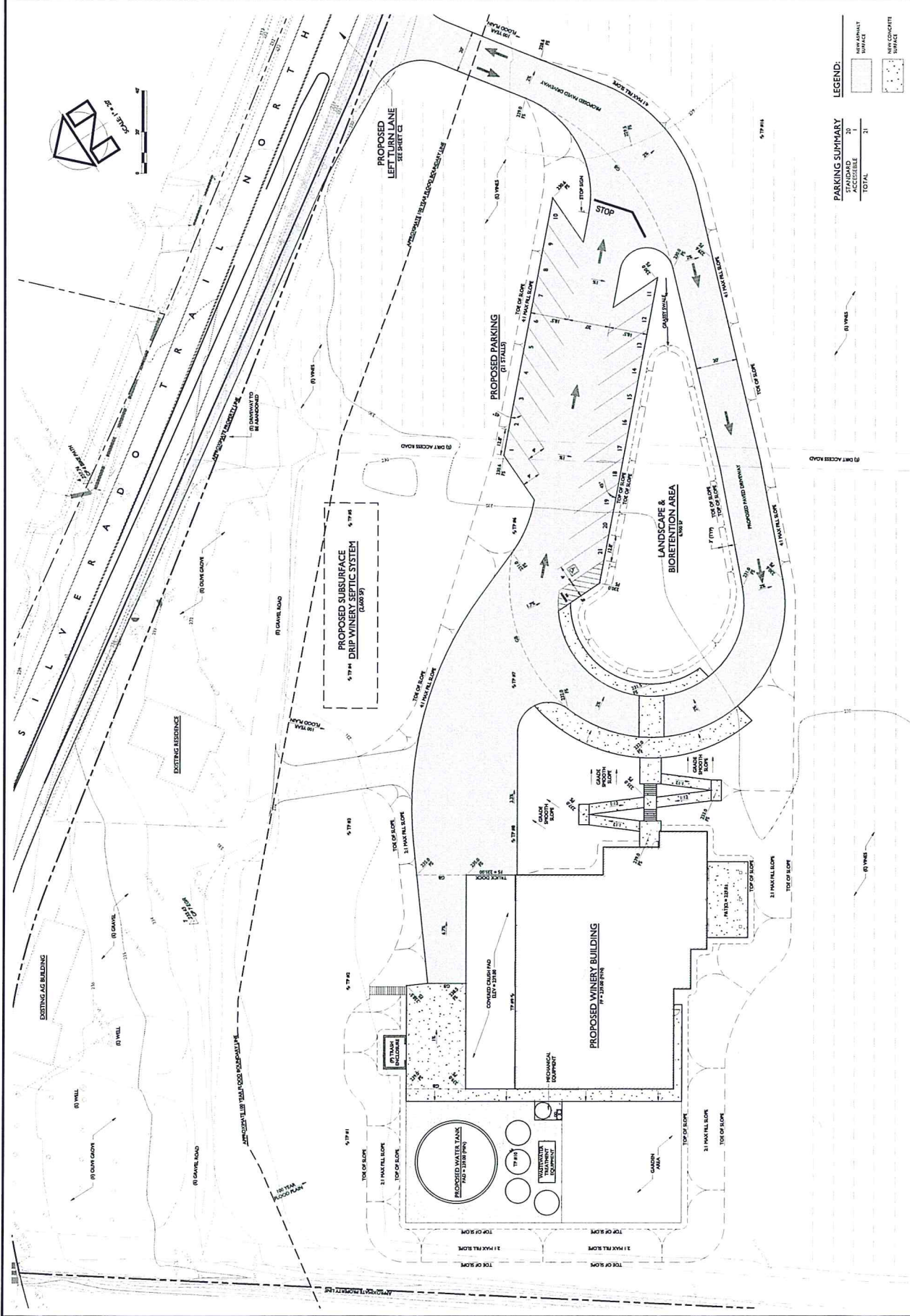
DESIGNED BY: MPH
 DRAWN BY: BT
 CHECKED BY: MPH

TITUS WINERY
 USE PERMIT CONCEPTUAL SITE PLAN
 WINERY CONCEPTUAL SITE PLAN

TITUS WINERY
 2971 SILVERADO TRAIL NORTH
 ST. HELENA, CA 94574
 NAPA COUNTY APN 021-353-013

DATE: SEPTEMBER 2013
 JOB NUMBER: 11-133
 FILE: 11-133CONCEPTUAL
 ORIGINAL SIZE: 11" x 17"
 SCALE: AS SHOWN
 SHEET NUMBER: C3

OF 4



LEGEND:

- EXISTING PAVEMENT
- PROPOSED PAVEMENT
- NEW CONCRETE SURFACE
- NEW GRAVEL SURFACE

PARKING SUMMARY

STANDARD	20
ACCESSIBLE	1
TOTAL	21

WINERY CONCEPTUAL SITE PLAN
 SCALE: 1" = 20'

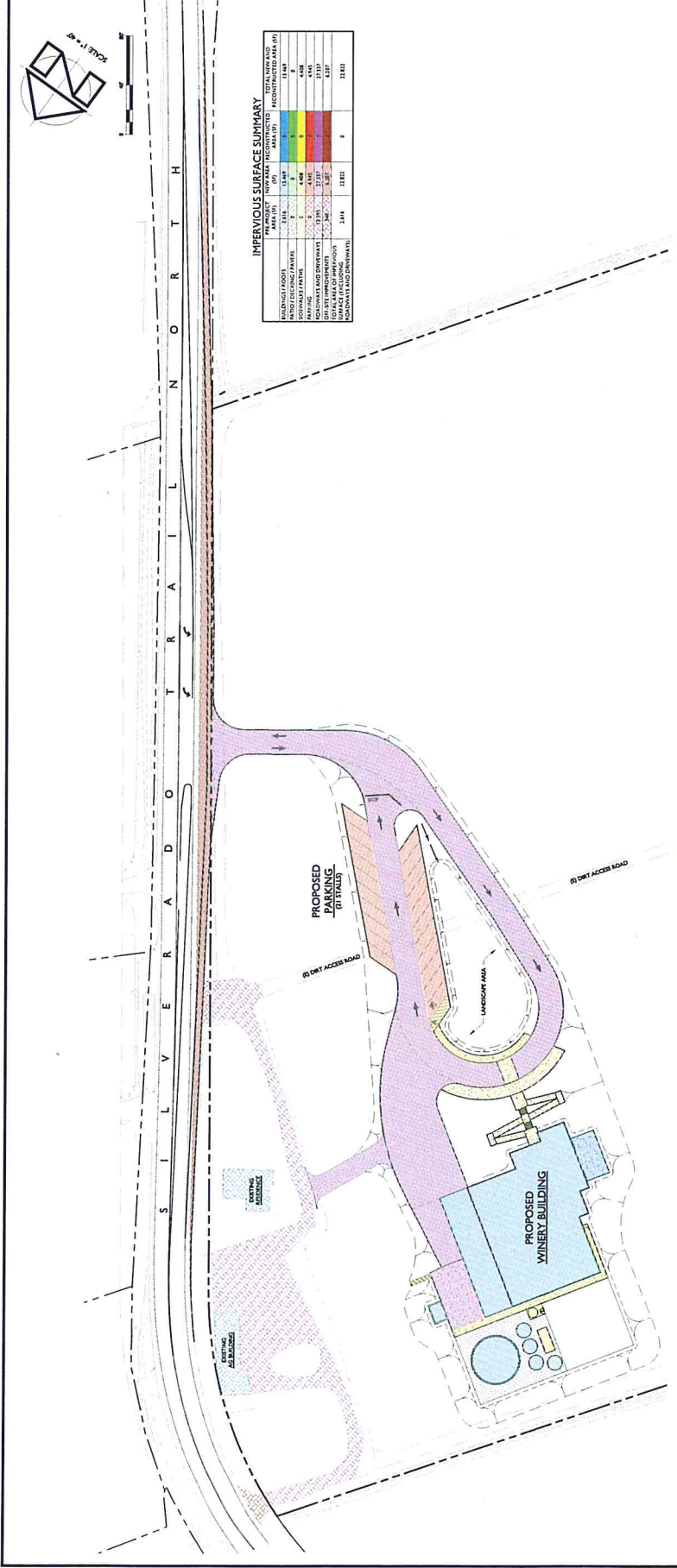


DESIGNED BY: MTH
 DRAWN BY: BT
 CHECKED BY: MTH

TITUS WINERY
 USE PERMIT CONCEPTUAL SITE PLANS
 IMPERVIOUS AREA EXHIBIT

TITUS WINERY
 2971 SILVERADO TRAIL NORTH
 ST. HELENA, CA 94574
 NAPA COUNTY APN 021-353-013

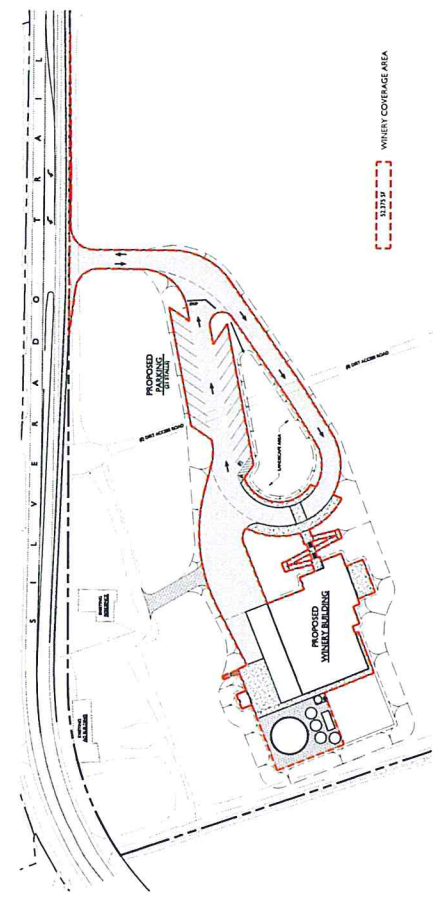
DATE: SEPTEMBER 2013
 JOB NUMBER: 11-1132
 FILE: 11-1132CON-UPPER DWG
 ORIGINAL SIZE: 11" X 17"
 SCALE: AS SHOWN
 SHEET NUMBER: C4



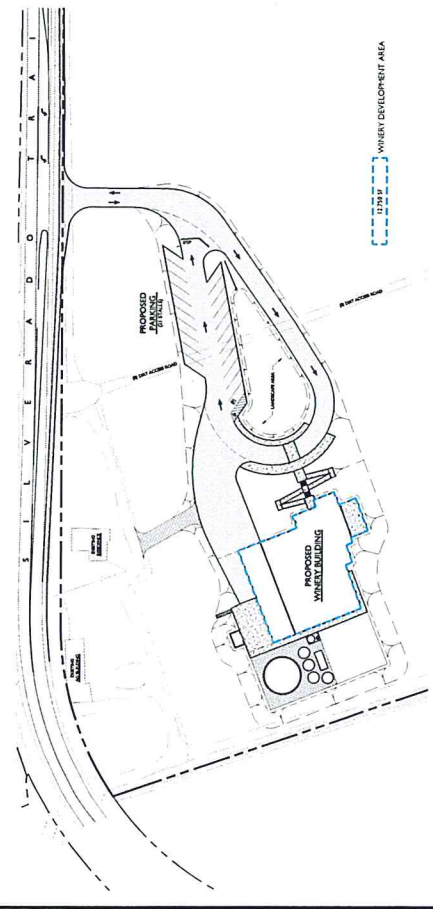
IMPERVIOUS SURFACE SUMMARY

IMPERVIOUS SURFACE	AREA (SQ. FT.)	PERCENTAGE OF TOTAL IMPERVIOUS SURFACE
PROPOSED WINERY BUILDING	11,447	11.4%
PROPOSED PARKING (21 STALLS)	11,447	11.4%
DRY ACCESS ROAD	4,415	4.4%
LANDSCAPE AREA	4,415	4.4%
TOTAL IMPERVIOUS SURFACE	31,724	31.7%
TOTAL DEVELOPMENT AREA	100,000	100%

IMPERVIOUS AREA EXHIBIT
 SCALE 1" = 40'



WINERY COVERAGE AREA EXHIBIT
 SCALE 1" = 40'



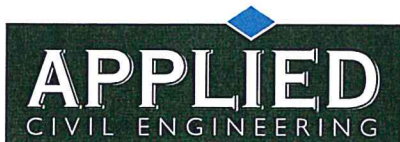
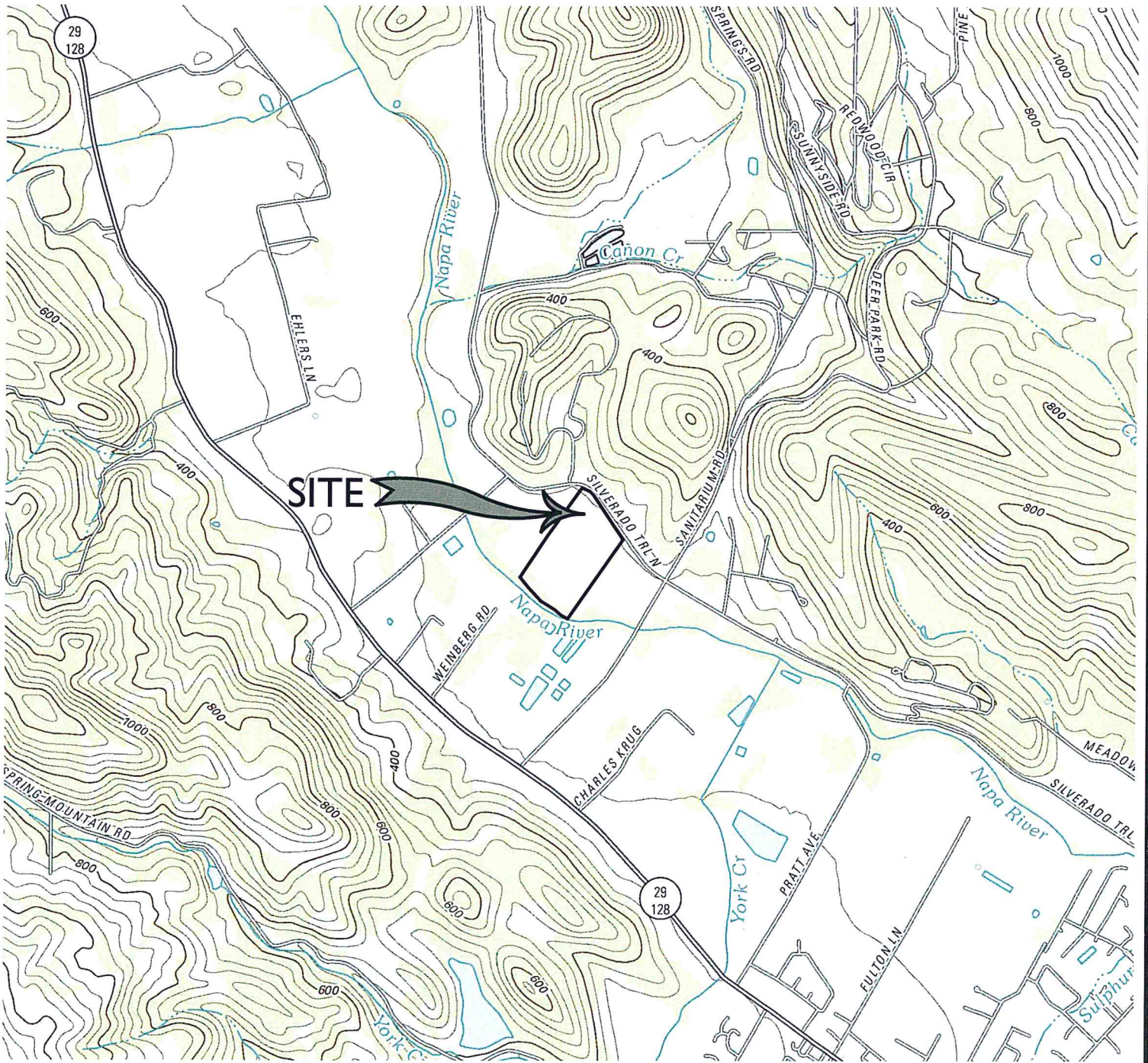
WINERY DEVELOPMENT AREA EXHIBIT
 SCALE 1" = 40'

SITE TOPOGRAPHY MAP

REPRESENTS A PORTION OF THE
UNITED STATES GEOLOGICAL SURVEY 7.5 MINUTE QUADRANGLE
"ST. HELENA, CA"



SCALE: 1" = 2,000'



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