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Stormwater Control Plan

Howell Mountain Cemetery P20-00030
Planning Commission Hearing Date (June 17, 2026)

Stormwater Control Plan For
Howell Mountain Cemetery
1225 Howell Mountain Road
Napa County, CA

August 20, 2024

Wildlands
Attn: Ray Zucker
6558 Lonetree Boulevard
Rocklin, CA 95765

prepared by:

TSD Engineering, Inc.
Casey Feickert
785 Orchard Drive, Suite 110
Folsom, CA 95630

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Stormwater Control Plan Exhibit

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This Stormwater Control Plan was prepared using the template dated October 2018.

I. Project Data

Table 1. Project Data Form

Project Name/Number	Howell Mountain Cemetery
Project Location	1225 Howell Mountain Road Napa County, CA APNs: 018-120-016, 018-120-027
Project Phase No.	N/A
Project Type and Description	A green burial cemetery associated with paving and grading of existing road, parking, a small Welcome Center, and an entry gate.
Total Project Site Area (acres)	69.55 AC
Total New and Replaced Impervious Surface Area	1,405 SF
Total Pre-Project Impervious Surface Area	9,838 SF
Total Post-Project Impervious Surface Area	11,243 SF

II. Setting

II.A.1. Project Location and Description

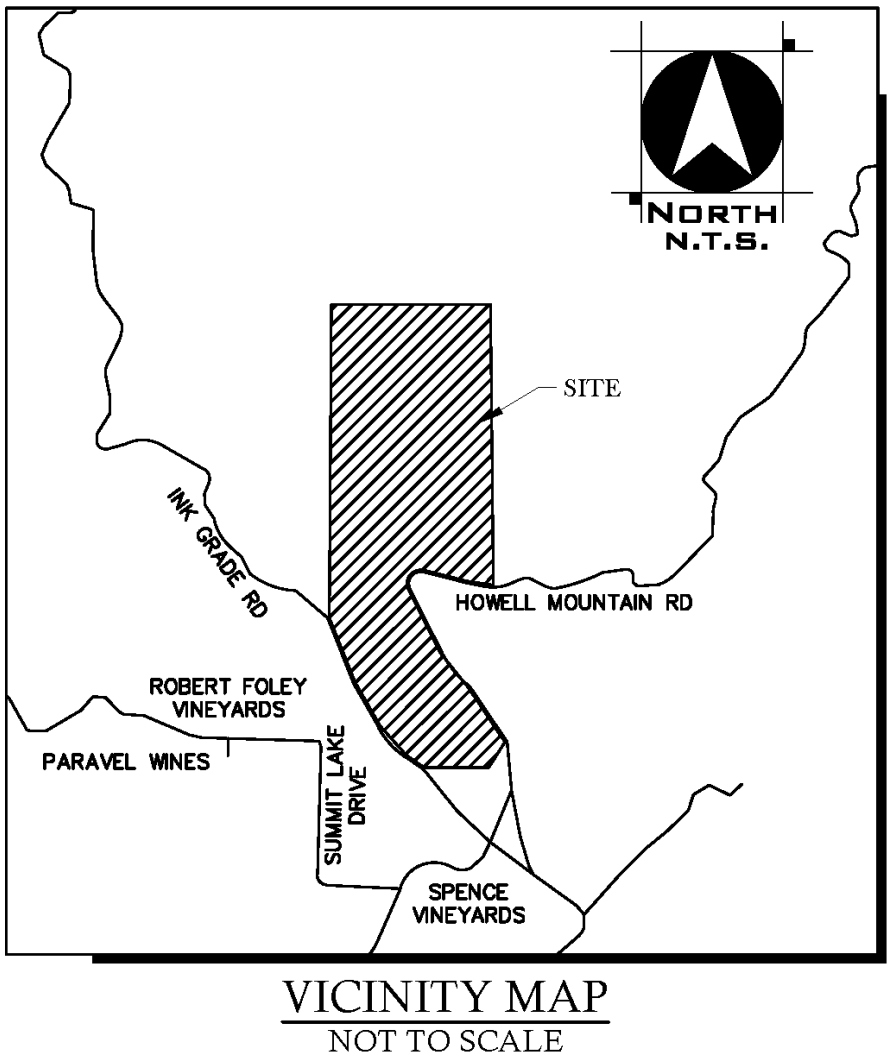
The project site is located at 1225 Howell Mountain Road in Napa, County (See Vicinity Map, Figure 1). The property covers approximately 109.30 acres that will be subdivided into two parcels, Parcel A & Parcel B (See the Preliminary Overall Site Plan in the Attachments). The subject project will be constructed on Parcel A, covering approximately 69.55 acres. Currently Parcel A is undeveloped.

The project proposes to construct a green burial cemetery with approximately 15.43 acres of interment space and the following items:

1. Paving and grading of existing road with porous pavement and parking along meandering roadway.
2. A small (16' x 33') Welcome Center will be located East of the Howell Mountain Road Entrance. The Welcome Center will be staffed to monitor parking and serve visitors and customers.
3. Parking striping for designations and fire turnaround at Welcome Center.

4. An entry gate and identification sign on Howell Mountain Road to identify Howell Mountain Conservation Cemetery and the street address.

Figure 1. Vicinity Map



II.B. Existing Site Features and Conditions

The project site, located on Parcel A, covers approximately 0.67 acres of currently undeveloped land. The existing site contains approximately 9,838 square feet of impervious surface from what appears to be a pump treatment shed, gallon concrete holding tank, a single private dwelling, a separate garage northwest of the proposed Welcome Center, and a portion of Howell Mountain Road.

The site's soil falls under hydrologic soil group C. The existing site is covered by dense vegetation consisting of different species of trees and brush, and ephemeral streams. The site currently drains from west to east with run-off sheet flowing onto natural open space. The existing drainage patterns will be maintained.

II.C. Opportunities and Constraints for Stormwater Control

Porous pavement will be used as a Low Impact Development (LID) facility in the driveway and parking areas, and the existing disconnected natural open space located east of the development will be used as a self-treating area. The grading of the site has been designed to allow stormwater runoff to surface drain to the existing disconnected natural open space to help slow, capture, and filter. A small portion of the site will be covered with impervious surfaces once developed. The impervious surfaces include concrete sidewalk, ADA parking, and roof at the Welcome Center which drains to the porous pavement.

III. Low Impact Development Design Strategies

III.A. Optimization of Site Layout

III.A.1. Limitation of development envelope

There are no known limitations of development onsite.

III.A.2. Preservation of natural drainage features

The site contains ephemeral streams that will need to be avoided.

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

A 35-foot setback is required for the ephemeral streams located within the site.

III.A.4. Minimization of imperviousness

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

III.B. Use of Permeable Pavements

Porous pavement will be used in the driveway and parking stalls onsite, (See Stormwater Control Plan, Figure 2). The porous pavement has been designed in accordance with the criteria stated in the *BASMAA Post-Construction Manual, "Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties."*

III.C. Dispersal of Runoff to Pervious Areas

Runoff will be dispersed to existing disconnected natural open space which will be used as a self-treating area**.**

III.D. Stormwater Control Measures

Porous pavement will be used in the driveway and parking stalls onsite for stormwater to infiltrate into the underlying soils and reduce pollutants.

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 Name	Surface Type	Area (square feet)
DMA 1	Porous Pavement / Concrete	29,330

IV.A.2. Drainage Management Area Descriptions

DMA 1, totaling 29,330 square feet, drains 27,925 square feet of porous pavement in the driveway and parking stalls, 830 square feet of concrete sidewalk and ADA parking, 575 square feet of roof from the Welcome Center. Runoff from DMA 1 drains to the existing disconnected natural open space located east of the development.

IV.B. Tabulation and Sizing Calculations

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

IV.B.2. Self-Treating Areas

Table 3. Self-Treating Areas

DMA Name	Area (square feet)
DMA 1	29,330 square feet

IV.B.3. Self-Retaining Areas

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

IV.B.5. Areas Draining to Bioretention Facilities

V. Source Control Measures

V.A. Site activities and potential sources of pollutants

V.B. Source Control Table

Table 4. Source Control BMPs

Potential source of runoff pollutants	Permanent source control BMPs	Operational source control BMPs
Need for future indoor & structural pest control.	Note building design features that discourage entry of pests.	Provide Integrated Pest Management information to owners, lessees, and operators.
Landscape/Outdoor Pesticide Use/Building and Grounds Maintenance	Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.	See applicable operational BMPs in Fact Sheet SC-41, "Building and Grounds Maintenance," in the CASQA Stormwater Quality Handbooks at www.casqa.org/resources/bmp-handboooks Provide IPM information to new owners, lessees and operators.
Driveway & Parking Areas	Porous Pavement	Sweep driveway and parking areas regularly to prevent accumulation of litter and debris.

VI. Stormwater Facility Maintenance

VI.A. Ownership and Responsibility for Maintenance in Perpetuity

The applicant agrees to execute all necessary agreements associated with drainage and stormwater control. 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.

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

Once completed, the property will be managed by a property management agency, yet to be determined. The property management agency will be responsible for operation and maintaining the storm water facilities, which include:

- Porous Pavement

Maintenance activities are listed below.

Porous Pavement

- Monthly
    - Inspect and remove debris as needed.
- Annually
    - Inspect the surface for deterioration or spalling.

VII. Construction Checklist

Table 5. Stormwater Control Plan/Construction Documents Cross-Checklist

Stormwater Control Plan Page #	Source Control or Treatment Control Measure	See Plan Sheet #s
5	Porous Pavement	Detail A / Sheet 2

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* [Check with local staff regarding other certification requirements.]

Attachments

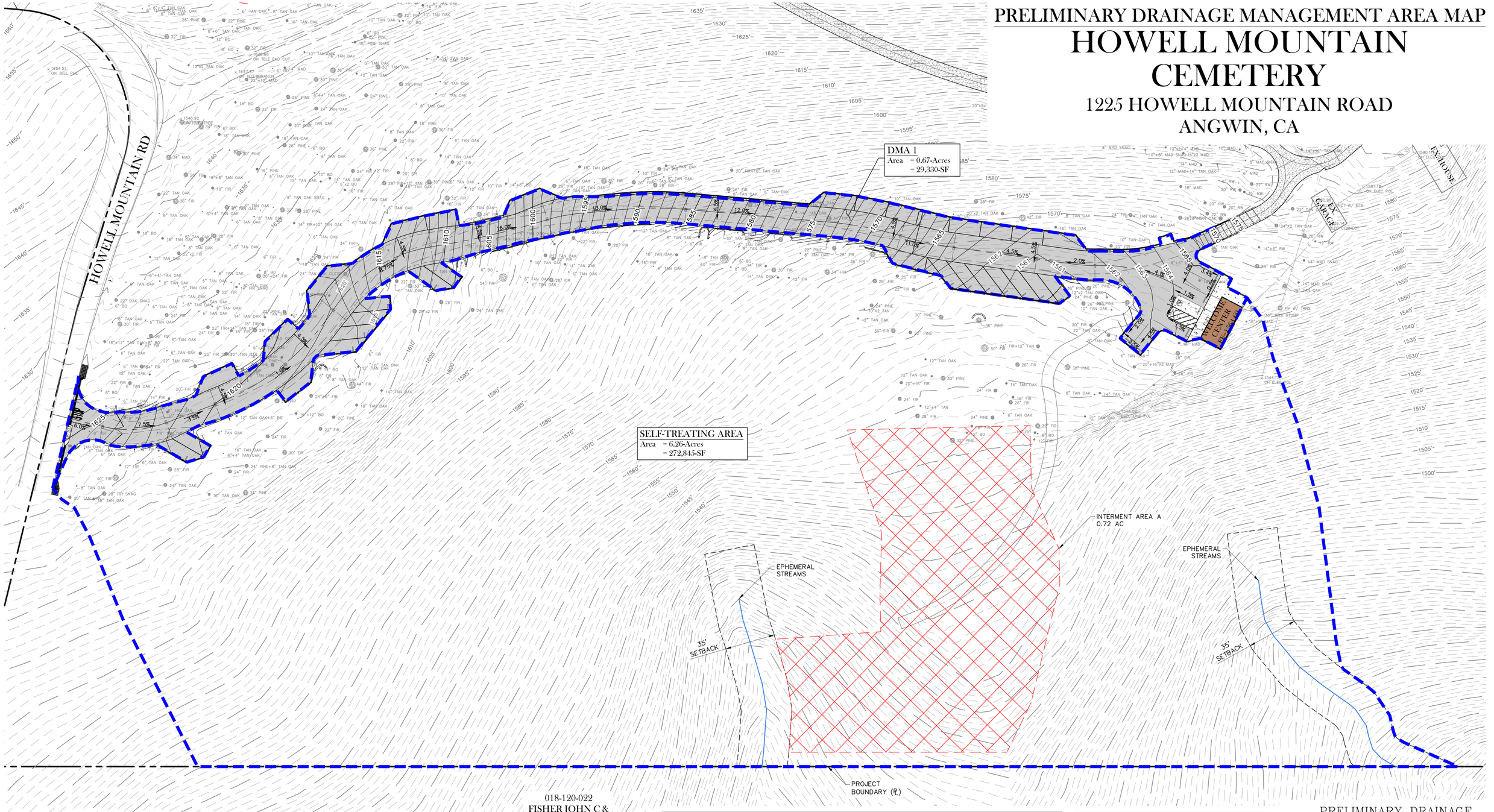
Figure 2. Preliminary Drainage Management Area Map

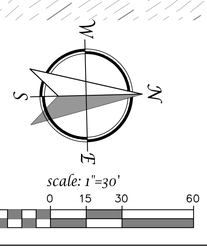
Preliminary Overall Site Plan

PRELIMINARY DRAINAGE MANAGEMENT AREA MAP

HOWELL MOUNTAIN CEMETERY

1225 HOWELL MOUNTAIN ROAD
ANGWIN, CA





DMA ANALYSIS

DMA	DMA AREA (SF)	DMA TYPE	SURFACE TYPE	RUNOFF FACTOR[1]	EISA[2] (SF)	SELF-TREATING AREA: SELF-TREATING DMA	SELF-TREATING AREA: SURFACE AREA RATIO
1	29,330	DRAINS TO SELF-TREATING AREA	POROUS PAVEMENT	0.1	2,933	-	-
				DMA 2 TOTAL EISA=	2,933	272,845	1.1%

NOTES:
(1) RUNOFF FACTOR PER TABLE 4-1 (STORMWATER TECHNICAL GUIDE FOR LOW IMPACT DEVELOPMENT - CITY OF KING PUBLIC WORKS)
(2) EQUIVALENT IMPERVIOUS SURFACE AREA (EISA) = SURFACE AREA x RUNOFF FACTOR
(3) BIO-RETENTION SURFACE AREA RATIO = EISA / BIO-RETENTION SURFACE AREA (4% MINIMUM REQUIRED)
(4) SELF RETAINING SURFACE AREA RATIO = EISA / SELF RETAINING SURFACE AREA (2:1 MAXIMUM)

KEY FEATURES LEGEND:

- DEVELOPED DMA BOUNDARY
- EXISTING CONTOUR (MAJOR)
- EXISTING CONTOUR (MINOR)
- PROPOSED CONTOUR (MAJOR)
- PROPOSED CONTOUR (MINOR)
- POROUS PAVEMENT
- CONCRETE PAVEMENT AREA

PRELIMINARY DRAINAGE MANAGEMENT AREA MAP
AUGUST 20, 2024

TSD ENGINEERING, INC.
expect more.
785 Orchard Drive, Suite 110
Folsom, CA 95630
Phone: (916) 608-0707
Fax: (916) 608-0701

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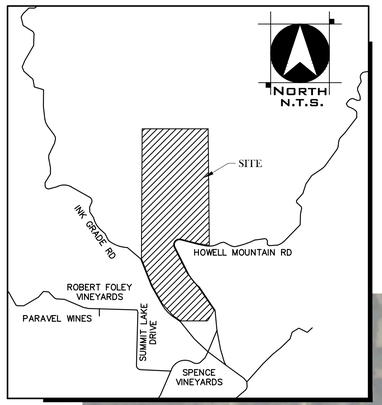
PRELIMINARY OVERALL SITE PLAN
HOWELL MOUNTAIN CEMETERY
1225 HOWELL MOUNTAIN ROAD
NAPA COUNTY, CA



VICINITY MAP
NOT TO SCALE

PROJECT SUMMARY

OWNER/DEVELOPER/APPLICANT
ETERNAL PRESERVE HOLDINGS, LLC.
3301 INDUSTRIAL AVE
ROCKLIN, CA
95765

ENGINEER
TSD ENGINEERING, INC
785 ORCHARD DRIVE
FOLSOM, CA 95630
ATTN: CASEY FEICKERT
cfeickert@tsdeng.com

PROPOSED USE
GREEN BURIAL CEMETERY

ZONING
AW (AGRICULTURAL WATERSHED)

SCALE
1" = 150'

CONTOUR INTERVAL
2' CONTOUR INTERVAL

TOPOGRAPHY
AERIAL TOPOGRAPHIC SURVEY
CONDUCTED JULY, 2017

ASSESSORS PARCEL NO
018-120-016, 018-120-027

AREA
PARCEL A = 69.55 AC
PARCEL B = 39.75 AC
TOTAL = 109.300 AC

NUMBER OF PARCELS
(2) TWO

WATER SUPPLY
PRIVATE WELL

SEWAGE DISPOSAL
PRIVATE SEPTIC SYSTEM

FIRE PROTECTION
NAPA COUNTY FIRE DEPARTMENT

PARK DISTRICT
NAPA COUNTY

SCHOOL DISTRICT
HOWELL MOUNTAIN ELEMENTARY SCHOOL DISTRICT

GAS & ELECTRIC
PG&E

TELEPHONE
AT&T

PARKING SUMMARY

STANDARD PARKING STALL (9'x20'):	37
ACCESSIBILE PARKING (9'x20'):	1
TOTAL STALLS:	38

018-120-015
LARSON RICHARD A TR

018-230-006
HAWKINS FRANK M & TRACEY A

BUZZARD'S ROOST TRAIL (APPROXIMATE LOCATION)

PROPOSED LOT LINE ADJUSTMENT

018-120-016
ETERNAL PRESERVE HOLDINGS LLC

PROPOSED CARGO CONTAINER LOCATION

INTERMENT AREA E
1.24 AC

INTERMENT AREA F
0.41 AC

35' STBK.

INTERMENT AREA D
0.41 AC

INTERMENT AREA H
1.46 AC

INTERMENT AREA I
3.90 AC

PARCEL A
69.55 AC

018-120-003
TAPLIN A RIAZ ETAL

PROPOSED CARGO CONTAINER LOCATION

EX. PUMP TREATMENT SHED

EX. GALLON CONCRETE HOLDING TANK

INTERMENT AREA G
0.27 AC

EPHEMERAL STREAMS

018-120-025
ZINKE LENORA ANN & ERNEST EDWARD TR

PARCEL B
39.75 AC

EXISTING PROPERTY LINE

HOWELL MOUNTAIN RD

EX. HOUSE

EX. GARAGE

WELCOME CENTER

INTERMENT AREA C
0.62 AC

INTERMENT AREA A
0.72 AC

INTERMENT AREA B
0.34 AC

018-120-027
ETERNAL PRESERVE HOLDINGS LLC

018-120-023
CLAY CLARENCE DON & LISA A TR

024-061-003
HOWELL MOUNTAIN CRU LLC

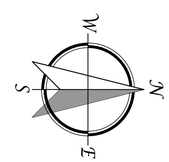
024-061-002
AZEVEDO JOHN A JR &VERNIE R

024-061-001
BEGEROW JON W & ERIN E

018-120-018
TARBERT PROPERTIES LP

018-120-022
FISHER JOHN C & LOUISE K TR

018-120-017
BORGES FRANK JR & SHERI TR



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150 0 75 150 300

SHEET 1/7

PRELIMINARY OVERALL SITE PLAN
AUGUST 20, 2024

TSD ENGINEERING, INC.
expect more.
785 Orchard Drive, Suite 110
Folsom, CA 95630
Phone: (916) 608-0707
Fax: (916) 608-0701

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TSD ENGINEERING, INC.
expect more.

DRAINAGE MEMO

To: Curtis Sawyer; Napa County Planning, Building & Environmental Services Dept.

From: Casey Feickert, PE; TSD Engineering, Inc.

CC:

Date: September 29, 2023

Re: P20-00030; Howell Mountain Cemetery
1225 Howell Mountain Road; APN 018-120-016

INTRODUCTION

This memo presents a brief project description for the **Howell Mountain Cemetery** project and discusses drainage, stormwater quality measures, and best management practices (BMP's) recommended for implementation for this project.

PROJECT DESCRIPTION

The project consists of the construction of the following items:

1) Paving and grading of existing road with porous pavement and parking along meandering roadway.

2) A small (16' x 33') Welcome Center will be located East of the Howell Mountain Road Entrance. The Welcome Center will be staffed to monitor parking and serve visitors and customers.

3) Parking striping for designations and fire turnaround at Welcome Center.

4) An entry gate and identification sign on Howell Mountain Road to identify Howell Mountain Conservation Cemetery and the street address.

BACKGROUND & EXISTING CONDITIONS

The Site is located along the west side of Howell Mountain Road and north of the intersection between Howell Mountain Road and White Cottage Road in the Angwin area of Napa County. It is comprised of approximately ±109.30 acres of undeveloped land identified by Napa County Assessor's Parcel Numbers (APNs) 018-120-016 and 018-120-027. The Site is covered by dense vegetation consisting of different species of trees and brush. It currently has a single private dwelling, a separate garage west of the proposed Welcome Center, and a pump treatment shed. Once the proposed improvements have been completed, approximately 1,340 sf. of new impervious surfaces are introduced which comprises roughly 0.03% of the total site area (±109.30 AC). The soil in this area falls under Type C Hydrologic Soil Group.

DRAINAGE

The site currently sheds from west to east with run-off sheet-flowing onto natural open space. The existing drainage patterns will be maintained, and porous pavement (See Appendix A - Porous Pavement Detail) will be utilized to manage runoff. Excluding the pervious surfaces, 1,340 sf of new impervious surface has been created, qualifying this project as a small project (See Appendix B – Project Data Form and Runoff Reduction Measure Selection). No underground drainage system is proposed for this site.

WATER QUALITY CONTROL MEASURES

Stormwater quality design measures will include stream setback and buffer, permeable pavement will be used in the driveway and parking area. Pollution source control measures to be implemented on-site include the following (with CASQA Fact Sheet references):

1) To prevent accidental spills or leaks, materials will be stored indoors away from storm drains or sensitive areas. (CASQA-11)

2) For parking/storage areas and maintenance, trash receptacles will be provided, "No Litter" signs posted and surface sweeping shall be conducted regularly. (CASQA-43)

3) Indoor and structural pest control: Federal, State and local laws and regulations for the use, storage and disposal of pesticides shall be followed. (CASQA-41)

4) Landscape/outdoor pesticide use: Federal, State and local laws and regulations for the use, storage and disposal of pesticides shall be followed. (CASQA-41)

5) Outdoor storage of equipment or materials: Limit exposure to rainfall whenever possible (CASQ SC-30, SC-31. SC-32)

6) Building and grounds maintenance: Encourage proper lawn management and landscaping. (SC-41)

The proposed source control measures are sufficient to capture and treat the proposed impervious areas created once the development is complete.

BEST MANAGEMENT PRACTICES (BMP's)

A. SEDIMENT CONTROL

1. Implement the use of silt fence, bio-filter bags, and/or fiber rolls along the perimeter of the project and below the toe or down slope of exposed and erodible slopes. (See SE-1, SE-5, and SE-14 of the *CASQA Stormwater BMP Handbook).*

2. This project will implement the use of porous paving for the ±27,923-SF driveway and *parking area (See Appendix A for attached Porous Pavement Detail).*

B. PAVING & GRINDING OPERATIONS (See CASQA Stormwater BMP Handbook NS-3)

1. For paving involving asphaltic cement concrete, do not allow sand or gravel placed over new asphalt to wash into storm drains, streets, or creeks. Vacuum or sweep loose sand and gravel and properly dispose of this waste by referring to WM-5, Solid Waste Management.

2. Leaks and spills from paving equipment can contain toxic levels of heavy metals and oil and grease. Place drip pans or absorbent materials under paving equipment when not in use. Clean up spills with absorbent materials and dispose of in accordance with the applicable regulations. See NS-10, Vehicle and Equipment Maintenance, WM-4, Spill Prevention and Control, and WM-10, Liquid Waste Management.

3. Substances used to coat asphalt transport trucks and asphalt spreading equipment should not contain soap and should be non-foaming and non-toxic.

4. Paving equipment parked onsite should be parked over plastic to prevent soil contamination.

5. Clean asphalt coated equipment offsite whenever possible. When cleaning dry, hardened asphalt from equipment, manage hardened asphalt debris as described in WM-5, Solid Waste Management. Any cleaning onsite should follow NS-8, Vehicle and Equipment Cleaning.

C. WASTE MANAGEMENT

The following steps will help keep a clean site and reduce storm water collection (See CASQA Stormwater BMP Handbook WM-5, WM-9):

1. Select designated waste collection areas onsite. Inspect waste totes for leaks and repair any tote that is not watertight. Locate containers in a covered area or in a secondary containment. Provide an adequate number of containers with lids or covers

that can be placed over the container to keep rain out or to prevent loss of wastes when it is windy.

2. Collect site trash daily, especially during rainy and windy conditions. Remove this solid waste promptly since erosion and sediment control devices tend to collect litter. Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris. Do not hose out dumpsters on the construction site. Leave dumpster cleaning to the trash hauling contractor. Arrange for regular waste collection before containers overflow.

3. Clean up immediately if a container does spill. Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas.

4. Proper sanitary and septic waste management prevent the discharge of pollutants to stormwater from sanitary and septic waste by providing convenient, well-maintained facilities, and arranging for regular service and disposal.

For the complete list of BMP's please refer to the CASQA Stormwater Handbook.

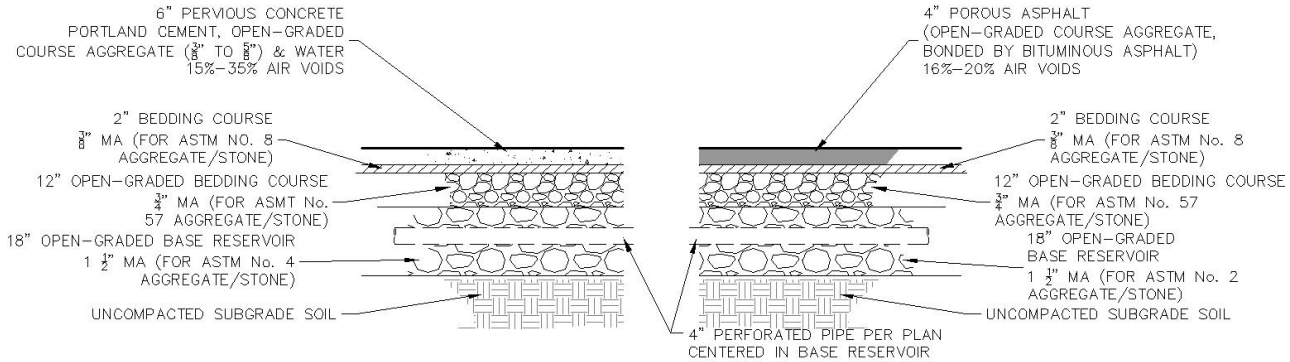
VECTOR CONTROL

This project will be designed to prevent storm water ponding on any disturbed area to control vector population. Buildings will divert storm water out through rain leaders. No underground utilities will be installed, which may be conducive for vector production. Proper pest control and pesticide use will also be implemented as mentioned above.

Sincerely,

Casey Feickert, P.E., CE#58930
TSD Engineering, Inc.
Vice President

APPENDIX A



PERVIOUS CONCETE OPTION

POROUS ASPHALT OPTION

APPENDIX B

3. Complete your submittal, which will include:
    - Project Data Form
    - Site Plan or Sketch
    - Completed checklist for each Runoff Reduction Measure selected

Step 1: Project Data Form and Runoff Reduction Measure Selection

Complete all fields.

Project Name/Number	
Application Submittal Date [to be verified by municipal staff]	September 29, 2023
Project Location [Street Address if available, or intersection and/or APN]	1125 Howell Mountain Road Napa County, CA
Name of Owner or Developer	Eternal Preserve Holdings, LLC
Project Type and Description [Examples: "Single Family Residence," "Parking Lot Addition," "Retail and Parking"]	Cemetery
Total Project Site Area (acres)	109.30 AC
Total New or Replaced Impervious Surface Area (square feet) [Sum of impervious area that will be constructed as part of the project]	1,340 SF
Total Pre-Project Impervious Surface Area	1,487 SF
Total Post-Project Impervious Surface Area	2,827 SF
Runoff Reduction Measures Selected (Check one or more)	☐ 1. Disperse runoff to vegetated area ☒ 2. Pervious pavement ☐ 3. Cisterns or Rain Barrels ☐ 4. Bioretention Facility or Planter Box

Step 2: Delineate impervious areas and locations of runoff reduction measures

Delineate the impervious area. On a site plan or sketch, show the impervious area—for example, a roof, or portion of a roof, or a paved area—that will drain to your runoff reduction measure. Typically, these delineations follow roof ridge lines or grade breaks. Alternatively, show the type and extent of pervious paving. An example sketch is attached.

Indicate the location and kind of runoff reduction measure you've selected. At least one option, designed to manage runoff from some amount of impervious area—or to avoid creating runoff—is required.