NARRATIVE SUPPLEMENT TO THE TRACK I VINEYARD EROSION CONTROL PLAN WINROD VINEYARDS 3465 STATE HIGHWAY 128 NAPA COUNTY, CA APN 017-110-038

Prepared For:

Winrod Family Trust
c/o Michael A. Winrod
3465 State Highway 128
Calistoga, CA 94515

Prepared By:

Bartelt Engineering
1303 Jefferson Street, 200 B
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Richard Paxton, P.E.
Project Engineer

April 2023 – Revised (WAA Tier 1 & Tier 3)
September 2022 – Revised (WAA only)
October 2021 – Revised (WAA only)
September 2021 – Revised (WAA only)
May 2021 – Revised
August 2020
Job No. 18-26

BARTELT ENGINEERING

NARRATIVE SUPPLEMENT TO THE TRACK I VINEYARD DEVELOPMENT AND EROSION CONTROL PLAN FOR WINROD VINEYARDS 3465 STATE HIGHWAY 128, NAPA COUNTY, CALIFORNIA APN 017-110-038

1. **The nature and purpose of all/any land clearing, grading or earthmoving activity, the amount of cut & fill, the location of spoils storage and disposal area, the total number of acres of grading involved including but not limited to roads, vineyard avenues, trenching for irrigation or pipes, reservoirs, wells, water tanks, septic systems, etc. Indicate the areas of land clearing, grading or earthmoving activity that will occur on 30% or greater slopes. (Note: slopes shall be calculated in whole percentages)**

   The purpose of this erosion control plan is to provide construction plans, specifications, and erosion and sediment mitigation measures for the land preparation and planting of several vineyard blocks located at 3465 State Highway 128, Napa County, California. The 104.79± acre parcel is located off State Highway 128 approximately 4 miles west of the City of Calistoga, CA (refer to the location map and site plan on the Track I Vineyard Development and Erosion Control Plan prepared by Bartelt Engineering).

   The Track I Vineyard Development and Erosion Control Plan proposes to develop 8.4± acres of new vineyard, continue to operate the existing 4.6± acres of vineyard that was installed without an approved Erosion Control Plan and ultimately remove and replant the existing vineyards and restore the necessary stream setbacks.

   The Track I vineyard development will occur in three (3) phases that will consist of planting Vineyard Block 3, removing and replanting Block 2, and removing and replanting Block 1 as shown on the Track I Vineyard Development and Erosion Control Plan prepared by Bartelt Engineering (the Erosion Control Plan). Planting of Vineyard Blocks 1 through 3 will have a cumulative disturbed area of 16.5± acres with 13± acres of planted vineyard. Land disturbing activity will include ripping and discing of the soil, then planting of proposed vineyard blocks as shown on the Erosion Control Plan. The vines will be planted generally perpendicular to contour with a seven (7) foot vine row spacing and a four (4) foot spacing between vines for all vineyard blocks. Grading will include minor cuts and fills for land smoothing only. Minor grading will occur on slopes greater than 30 percent within scattered portions of the vineyard blocks. However, the average slopes through each of the vineyard blocks is estimated to be less than 30 percent. Any rock spoils generated as a result of land disturbing activity will be used onsite as part of the erosion control measures.

2. Comprehensive description of existing site conditions, including topography, vegetation (including under-story and canopy cover) and soils. Provide extent of tree cover canopy covered and shrub and brush without a tree canopy covered areas in acres for each parcel. Identify and indicate the project boundaries in watershed, including municipal watershed, and in the water deficient area. The plan preparer is required to visit the site and the narrative must include the date, purpose and persons making each visit. The description shall verify the source or validity of the topographic map. Wide angle or panoramic photographs documenting existing site conditions shall be provided. A photo location map indicating the date of the site visit and by whom it was made shall accompany such documentation.

   The subject parcel is surrounded by existing vineyards, wooded areas with grass, and residential developments. The subject parcel is primarily bordered by vineyards and some wooded areas. The 104.79± acre subject parcel is currently developed with a residence, garage, well, access roads, and 4.6± acres of vineyard. The Sonoma County boundary line borders the subject parcel to the west. The existing and proposed vineyard blocks are located within the Blossom Creek Watershed, which is not a municipal watershed.

   The existing ground slopes within the existing and proposed vineyard blocks vary from 9% to 24% with the average slope being approximately 14% between all the vineyard blocks. The slopes of the vineyard sites have been calculated using a 1"=200' topographic map having a ten (10) foot contour interval. Actual slopes may vary throughout the vineyard blocks. Slope sections are shown on the Erosion Control Plan. Bartelt Engineering staff have visited the site on numerous occasions to verify the existing site conditions and photographically document the site. Refer to the Erosion Control Plan for Photographic Documentation of the site.

   Per the Napa County Geographic Information Systems (GIS) shape files, the existing vegetation within the project area consists of vineyard and vegetated tree areas. Existing parcel cover for APN 017-110-038 is approximately 93.8% tree canopy (which consists of coniferous forest and oak woodland areas) and 6.2% agricultural/other (which includes residential and vineyard areas).

3. All natural and man-made features on-site including but not limited to streams, watercourses (drainage, channels, etc.), wetlands, riparian habitat, lakes, reservoirs, roads, water tanks, septic systems, reservoirs, ponds, etc. Indicate which ones may be affected by the proposed activity. For blueline and County-definition streams indicate top, toe and slope of bank, channel depth and existing and proposed setback conditions. The entire length of blueline streams and 41 County-named streams on the parcel(s) shall be included in photo documentation (a recent aerial may be included). Provide the name and distance of the nearest blueline and/or County-definitional stream(s) to the project site.

   Existing man-made and natural features on site include: woodland areas, coniferous trees, residential and agricultural structures, vineyards, driveways, and an olive orchard. There are multiple water courses that run through the subject parcel.

All proposed vineyard block configurations are located outside of the required Napa County setbacks to these drainage courses and the setbacks are shown on the Erosion Control Plan. In addition, the proposed vineyard blocks are not located within areas that have been designated to contain sensitive, rare, threatened or endangered plant or animal habitats. Refer to the Biology Report for additional information.

No archeological or cultural resource sites were found within the limits of the proposed vineyard blocks. Refer to the "Cultural Resources Evaluation of Three Proposed Vineyard Blocks at 3465 CA-128, Calistoga, Napa County, California" prepared by Archaeological Resource Service (the Archeology Report) for additional information.

4. **Location and source of water for irrigation or other uses. Provide copies of all necessary permits.**

Irrigation water will be supplied to the existing vineyard blocks by the existing onsite well.

5. **Soil types/soil series identified in the Soil Conservation Service (SCS) Napa County Soil Survey, or if prepared, a site-specified soils report.**

The following soil types are found on and/or adjacent to the parcel:

- Aiken loam, 15 to 30 percent slopes, map symbol 101
- Bale clay loam, 2 to 5 percent slopes, map symbol 105
- Forward silt loam, 5 to 39 percent slopes, map symbol 139
- Forward silt loam, 12 to 57 percent slopes, map symbol 140
- Kidd Loam, 30 to 75 percent slopes, map symbol 156
- Forward silt loam, 12 to 57 percent slopes, map symbol FoG

The approximate location of the soil types on the parcel are shown on the Erosion Control Plan.

6. **Critical areas of erosion and slope instability such as gullies, landslides, etc. within or potentially effecting the "development site: (i.e., the area disturbed by the project) or potentially affected by the work to be undertaken within the development site. In the case of landslides a report indicating the probable effects of the planned work on slope stability and erosion levels shall be prepared and submitted by a registered geologist.**

It is our understanding that the development site does not contain landslides or areas susceptible to creep as recorded in the Napa County Environmental Sensitivity Maps/GIS.

7. **Any erosion calculations prepared.**

Universal Soil Loss Equation (USDA, 1987) calculations are attached.

8. Any/all proposed erosion control methods including, but not limited to:

The proposed erosion control methods are specified on the Erosion Control Plan and outlined below. The proposed vineyard development consists primarily of land ripping and discing, constructing new trellis systems, installing new irrigation systems, and planting/replanting the vineyard blocks. Vegetative cover in the form of a grass cover crop will be established and maintained within the vineyard block and on all adjacent vineyard avenues and disturbed areas.

a) All drainage systems and facilities, walls, cribbing or other erosion protection devices to be constructed with, or as a part of the proposed work.

Prefabricated silt fences and/or straw wattle sediment barriers will be installed where sediment barriers are shown on the Erosion Control Plan and where it is deemed appropriate during the course of construction and maintenance. The sediment barriers are intended to provide temporary sediment control while the cover crop is getting established. The silt fence and/or straw wattle sediment barriers will be ground keyed for stability to prevent the transportation of surface erosion sediment off the hillside and into watercourses. An installation detail for the silt fence and the straw wattle sediment barrier is shown on the Erosion Control Plan. The Vineyard Manager may select from silt fence or straw wattle sediment barrier options for sediment barriers.

b) Proposed vegetative erosion control measures including location, type and quantity of seed, mulch, fertilizer and irrigation; timing and methods of planting, mulching and maintenance of plant material and slopes until a specified percentage of plant coverage is uniformly established.

Removal of existing vegetation and minor grading or ripping within the proposed vineyard block sites is expected to occur per the outlined schedule shown below. Erosion control measures such as straw wattles, seed, and straw mulch will be installed to stabilize the vineyard blocks during the first winter for each project phase. Minor grading, contouring, vineyard staking, and planting of the vines will occur in the spring and summer for each project phase. It is intended to cultivate every vine row during the first three (3) years to encourage proper establishment of the vine root system. During this three (3) year period the vine rows will be annually seeded, fertilized, and mulched by October 15th to establish a minimum cover crop density of 75%. After the initial three (3) year development period every other vine row will be cultivated, annually alternating between rows.

The tilled and non-tilled areas will be seeded and straw mulched as needed each fall to stabilize the development areas as well as any other erosion prone areas. Seed may be applied by hand, mechanical seed drill, or by mechanical broadcaster. Straw will be applied at 4,000 pounds per acre. Irrigation of the cover crop is highly recommended prior to the rainy season. The seeding specification for the cover crop is shown on the Erosion Control Plan. This mix of annual grasses should be able to reseed itself under natural conditions.

A program of mulching and reseeding disturbed areas every year will assure that appropriate plant residues and densities will be achieved in the vineyard and avenues. The cover crop will be maintained with a surface mowing program to avoid soil disruption which might increase erosion potential. Maximum cover density will be developed and the cover crop will be monitored in late fall and late spring to time the mowing in order to allow for the maturing of seed heads to insure regermination and also to verify stand purity. The mowing and/or cultivation program will be the primary defense against non-native weed infestation. In areas where the soil is too poor to adequately support the cover crop, remedial soil amendments such as lime, gypsum and/or compost will be applied as needed based on laboratory analysis of the soils in the area(s) requiring remedial amendments. In vineyard areas where mechanized methods are used and strip spraying is determined to be necessary, a post emergent herbicide application under the trellis will be used to control weeds. For all of the proposed vineyard blocks a post emergent herbicide in an 18 inch wide strip under the trellis will be used if necessary. If required, herbicides may be used in the vineyard for the first two growing seasons of the new vines to manage vigorous cover crop growth. Fertilization and mulching of the seed mix will be required and performed as detailed on the Erosion Control Plan.

Vineyard avenues, access roads or staging areas that are not rocked will be seeded with a permanent cover crop to achieve minimum densities of 75%.

9. **Storm water stabilization measures to handle any increased peak rates of runoff from the development of the site that would result in flooding or channel degradation downstream. Include calculations of estimated increased runoff and/or explanation of why an increase is/is not expected.**

Refer to the Hydrology & Hydraulic Analysis for Winrod Vineyards prepared by Bartelt Engineering for additional information on stormwater runoff and the Erosion Control Plan for the proposed stormwater improvements.

10. **An implementation schedule showing the following:**

a) **The proposed vegetation clearing, earthmoving/grading and construction/planting schedule.**

Phase 1 - Vineyard Block 3

April 2022 - October 2022	Remove existing vegetation, complete site ripping, grading, and discing prior to October 15th.
Prior to October 15, 2022	Complete winterization of the site. Apply seed and fertilizer for temporary cover crop over entire project area, including vineyard and adjacent disturbed areas. Install temporary erosion control measures including silt fence and straw wattle sediment barriers.

October 2022 - March 2023	Maintain erosion and sediment control devices in good working order during rainy season. Inspect after all rain events producing significant runoff. Re-seed temporary cover crop as necessary to maintain appropriate cover over entire project area.
April 2023 - October 2023	Complete grading as needed. Install vineyard avenues and permanent erosion control measures. Install irrigation system, trellis system, and plant rootstock.
Prior to October 15, 2023	Complete winterization of the site. Apply seed and fertilizer for temporary cover crop over entire project area, including vineyard and adjacent disturbed areas. Install temporary erosion control measures including silt fence and straw wattle sediment barriers.
Spring 2024	See annual maintenance schedule.

Phase 2 - Vineyard Block 2

April 2024 - October 2024	Remove existing vegetation, complete site ripping, grading, and discing prior to October 15th. Complete relocation of driveway.
Prior to October 15, 2024	Complete winterization of the site. Apply seed and fertilizer for temporary cover crop over entire project area, including vineyard and adjacent disturbed areas. Install temporary erosion control measures including silt fence and straw wattle sediment barriers.
October 2024 - March 2025	Maintain erosion and sediment control devices in good working order during rainy season. Inspect after all rain events producing significant runoff. Re-seed temporary cover crop as necessary to maintain appropriate cover over entire project area.
April 2025 - October 2025	Complete grading as needed. Install vineyard avenues and permanent erosion control measures. Install irrigation system, trellis system, and plant rootstock.

Prior to October 15, 2025	Complete winterization of the site. Apply seed and fertilizer for temporary cover crop over entire project area, including vineyard and adjacent disturbed areas. Install temporary erosion control measures including silt fence and straw wattle sediment barriers.
Spring 2026	See annual maintenance schedule.

Phase 3 - Vineyard Block 1

April 2026 - October 2026	Remove existing vegetation, complete site ripping, grading, and discing prior to October 15th. Complete relocation of driveway.
Prior to October 15, 2026	Complete winterization of the site. Apply seed and fertilizer for temporary cover crop over entire project area, including vineyard and adjacent disturbed areas. Install temporary erosion control measures including silt fence and straw wattle sediment barriers.
October 2026 - March 2027	Maintain erosion and sediment control devices in good working order during rainy season. Inspect after all rain events producing significant runoff. Re-seed temporary cover crop as necessary to maintain appropriate cover over entire project area.
April 2027 - October 2027	Complete grading as needed. Install vineyard avenues and permanent erosion control measures. Install irrigation system, trellis system, and plant rootstock.
Prior to October 15, 2027	Complete winterization of the site. Apply seed and fertilizer for temporary cover crop over entire project area, including vineyard and adjacent disturbed areas. Install temporary erosion control measures including silt fence and straw wattle sediment barriers.
Spring 2028	See annual maintenance schedule.

b) The proposed schedule for winterizing the site (by October 15th of each year the permit is in effect, except in a municipal watershed, where the deadline for completion is September 1st).

Annual Maintenance

Vineyard Development for the First Three (3) Years:

1. Cultivate every vine row and apply a post emergent herbicide as necessary to properly establish the root system of the young vines.

2. Establish and maintain a cover crop with 75% vegetal coverage during the rainy season (December – March).

3. Mulch vineyard at rate of 4,000 pounds of straw per acre.

Vineyard Maintenance After Year Three (3) of Development:

1. Cultivate and/or mow every other vine row, annually alternating cultivation between vine rows for all vineyard blocks. Maintain 50% cover crop coverage during the spring and summer months (April – August) on all vineyard blocks.

2. Establish and maintain a cover crop with 75% coverage during the rainy season (December – March) on all vineyard blocks.

3. Mulch vineyard at rate of 4,000 pounds of straw per acre.

Farming Activities Scheduled Throughout Calendar Year

January

a. Maintain and monitor vineyard avenues, waterbars, and erosion control measures during rain events
b. Pruning and tying vines
c. Pruning wounds spray protection

February

a. Maintain and monitor vineyard avenues, waterbars, and erosion control measures during rain events
b. Pruning and tying vines
c. Pruning wounds spray protection
d. Shred or burn pruned canes

March

a. Maintain and monitor vineyard avenues, waterbars, and erosion control measures during rain events
b. Finish pruning and tying vines
c. Pruning wounds spray protection
d. Shred or burn pruned canes
e. Mow cover crops in vine rows and vineyard avenues in preparation for frost season (first pass)

April

a. Maintain and monitor vineyard avenues, waterbars, and erosion control measures during rain events
b. Spading and/or discing mowed cover crops on alternating vine rows (first pass)
c. Shoot thinning
d. Sulfur application to protect against powdery mildew

May

a. Mow cover crops on alternating vine rows not cultivated and vineyard avenues (second pass)
b. Spading and/or discing on alternating vine rows to pull soil moisture (delay irrigation) and for mechanical control of weeds (second pass)
c. Lateral removal
d. Sulfur application to protect against powdery mildew

June

a. Hedging vine canopy
b. Sulfur application to protect against powdery mildew

July

a. Leaf removal
b. Sulfur application to protect against powdery mildew

August

a. Pre-harvest cleaning and maintenance of all swales by October 15th for non-municipal watershed

September

a. Start harvest
b. Spread and incorporate soil amendments (compost, gypsum, dolomite, etc.) in all vine rows after harvest
c. Start erosion control measures for vineyard blocks

October

a. Finish harvest
b. Seed all vine rows or areas with a weak cover crop by October 15th
c. Spread and incorporate soil amendments (compost, gypsum, dolomite, etc.) in all vine rows after harvest
d. Finalize erosion control measures in all blocks and avenues on or before October 15th
e. Spread straw mulch by October 15th –or–

f. Spread straw mulch within one week of the end of harvest of the individual vineyard blocks or within one week of a total of two inches of rainfall that occurs after October 15th (with approved extension from Napa County Planning, Building & Environmental Services)
g. Maintain and monitor vineyard avenues, waterbars, and erosion control measures during rain events

November

a. Maintain and monitor vineyard avenues, waterbars, and erosion control measures during rain events

December

a. Maintain and monitor vineyard avenues, waterbars, and erosion control measures during rain events

c) **The proposed schedule for installation of all interim erosion and sediment control measures (including vegetative measures) and the stage of completion of such devices/measures at the end of the grading season (i.e., on October 15th [except in 5 designated municipal watersheds where it is September 1st] of each year the permit will be in effect).**

See sections 10.a and 10.b of this Narrative Supplement above and the Notes on the Erosion Control Plan.

d) **The proposed schedule for installation of any permanent erosion and sediment control devises required.**

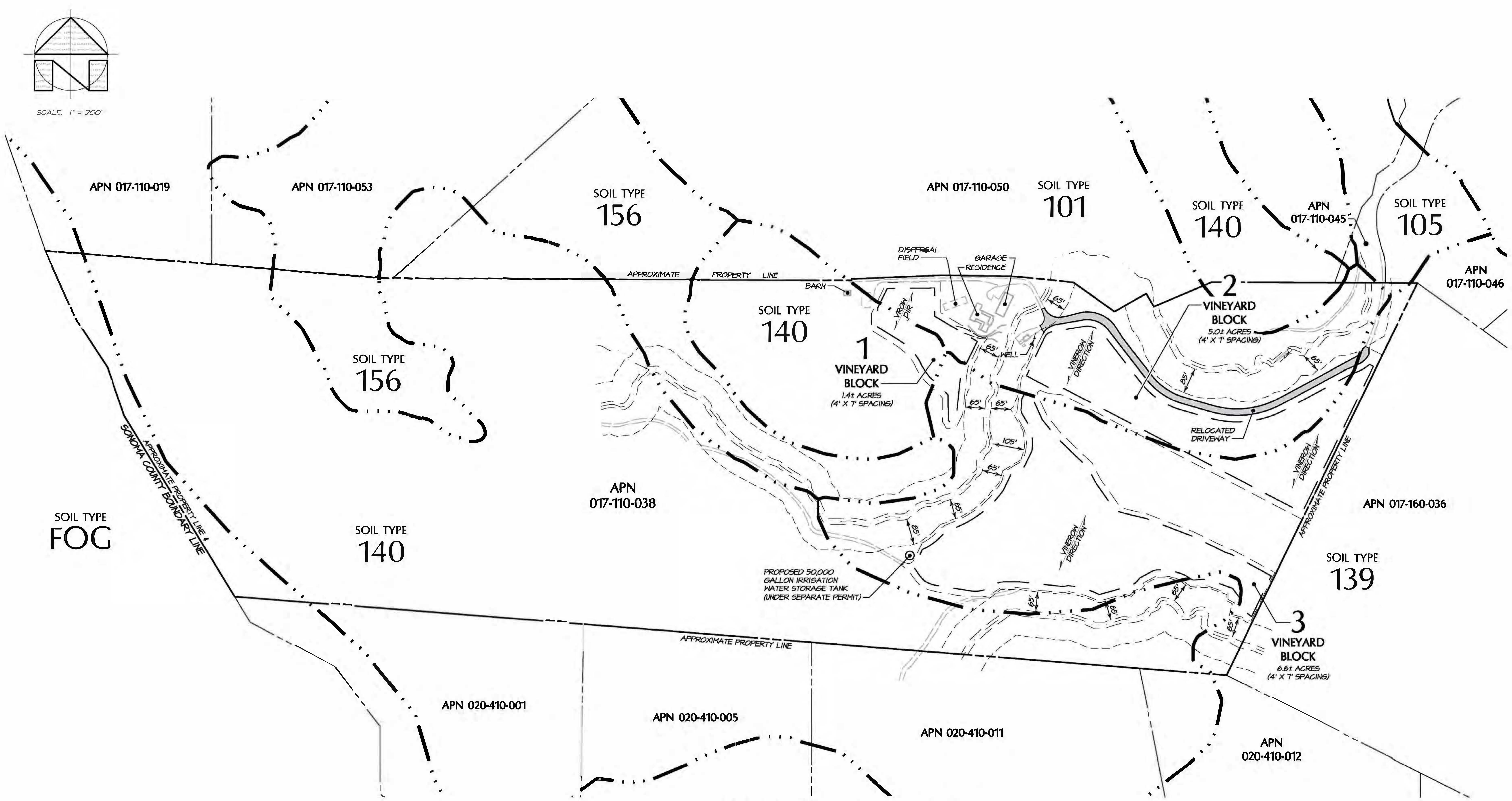
See sections 10.a and 10.b of this Narrative Supplement above and the Notes on the Erosion Control Plan.

11. **The estimated cost of implementation of the erosion and sediment control measures.**

Typical erosion control cost for a project of this size can range from $30,000.00 to $50,000.00 per acre.

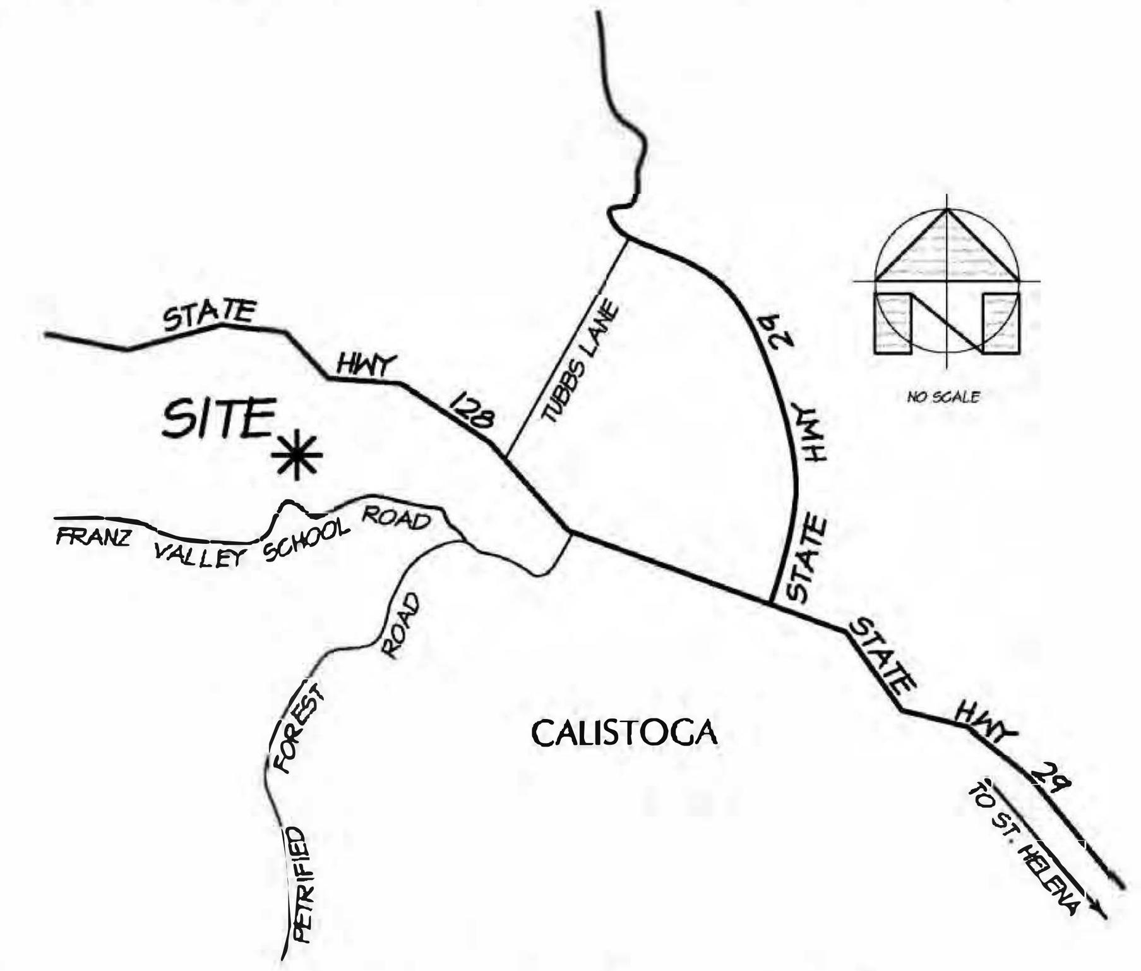
WINROD VINEYARDS

TRACK I VINEYARD DEVELOPMENT AND EROSION CONTROL PLAN



OVERALL SITE PLAN

SCALE: 1" = 200'



LOCATION MAP

NO SCALE

PROJECT INFORMATION:

PROPERTY OWNER & APPLICANT:
WINROD FAMILY TRUST
C/O MICHAEL A. WINROD
3465 STATE HIGHWAY 128
CALISTOGA, CA 94515
(707) 942-6900

PROJECT ADDRESS:
3465 STATE HIGHWAY 128
NAPA COUNTY, CA 94515

ASSESSOR'S PARCEL NUMBER:
017-110-038

PARCEL SIZE:
104.79± ACRES

PARCEL ZONING:
AW

SHEET INDEX*:

* NOTE: SEE ALSO THE NARRATIVE SUPPLEMENT TO THE EROSION CONTROL PLAN WHICH SHALL BE CONSIDERED A PART OF THIS PLAN.

VINEYARD DEVELOPMENT STATISTICS:

VINEYARD BLOCKS	DISTURBED ACREAGE*	PLANTED ACREAGE	APPROXIMATE VINE COUNT**
1	2.0± ACRES	1.4± ACRES	2,178± VINES
2	6.3± ACRES	5.0± ACRES	7,779± VINES
3	8.2± ACRES	6.6± ACRES	10,268± VINES
TOTAL:	16.5± ACRES	13.0± ACRES	20,225± VINES

* DISTURBED ACREAGE INCLUDES, BUT IS NOT LIMITED TO, CLEARED ACREAGE, ROADS AND INCIDENTAL DISTURBANCES.

** VINE COUNT IS BASED ON VINEYARD BLOCK VINE SPACING OF 4' X 7' VINE ORIENTATION IS AS SHOWN ON THESE PLANS (APPROXIMATELY N 26°00'41" E)

SOIL TYPE LEGEND:

NAPA COUNTY SOILS:
101* - AIKEN LOAM, 15% TO 30% SLOPES
105 - BALE CLAY LOAM, 2% TO 5% SLOPES
139* - FORWARD SILT LOAM, 5% TO 39% SLOPES
140* - FORWARD SILT LOAM, 12% TO 57% SLOPES
156 - KIDD LOAM, 30% TO 75% SLOPES

SONOMA COUNTY SOILS:
FOG - FORWARD SILT LOAM, 12% TO 57% SLOPES

* OCCURS WITHIN PROJECT AREA

SYMBOL LEGEND:

SOIL CLASSIFICATION BOUNDARY
EDGE OF PROPOSED VINEYARD AVENUE
EDGE OF PROPOSED VINEYARD BLOCK

NO.	DATE	DESCRIPTION	SHEETS	BY
2	05-12-2023	EMAIL COMMENTS DATED MAY 2, 2023	EC1, EC13	DCB
1	09-13-2022	EMAIL COMMENTS DATED JULY 7, JULY 12, AND JULY 26, 2022.	EC1, EC12	DCB

REGISTERED PROFESSIONAL ENGINEER
RICHARD PAXTON
No. 84634
CIVIL
STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF

Richard Paxton
RICHARD PAXTON 05-12-2023

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WINROD VINEYARDS
OVERALL SITE PLAN
NAPA COUNTY CALIFORNIA

DATE: MAY 2021
JOB NO: 18-26
SHEET NO: EC1 OF 16

P20-00247-ECPA

GENERAL NOTES:

1. ALL WORKMANSHIP AND MATERIALS FOR THE IMPROVEMENTS SHOWN ON THESE PLANS SHALL CONFORM TO THE REQUIREMENTS OF THE NAPA COUNTY ROAD & STREET STANDARDS, THE LATEST EDITION OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS AND STANDARD PLANS, THE 2019 CALIFORNIA BUILDING CODE (C.B.C.) AND NAPA COUNTY ENVIRONMENTAL HEALTH STANDARDS. THE IMPROVEMENTS SHOWN ON THESE PLANS SHALL BE INSPECTED BY A REPRESENTATIVE FROM NAPA COUNTY PLANNING, BUILDING AND ENVIRONMENTAL SERVICES DEPARTMENT AND OBSERVED BY THE ENGINEER.
2. CONTRACTOR SHALL PROVIDE SUBMITTALS FOR ALL MATERIALS TO BE USED ON THE PROJECT TO THE ENGINEER FOR APPROVAL PRIOR TO BIDDING, PURCHASING, OR INSTALLATION. CONTRACTOR SHOULD ALLOW AT LEAST FIVE (5) WORKING DAYS FOR INITIAL REVIEW OF EACH SUBMITTAL. ALLOW FIVE (5) ADDITIONAL WORKING DAYS FOR EACH RESUBMITTAL. ADDITIONAL REVIEW TIME MAY BE REQUIRED IF COORDINATION WITH SUBSEQUENT SUBMITTALS IS REQUIRED. USE OF UNAPPROVED MATERIALS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
3. ALL MATERIALS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS NOTED OTHERWISE.
4. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR BEING FAMILIAR WITH THE SPECIFICATIONS, PROVISIONS, AND PROCEDURES REQUIRED BY NAPA COUNTY FOR THE WORK OUTLINED IN THESE PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING A COPY OF THE APPROVED PLANS AND ANY ADDENDUMS AT THE JOB SITE AT ALL TIMES.
5. CONTRACTOR SHALL BE APPROPRIATELY LICENSED WITH THE STATE OF CALIFORNIA TO PERFORM THE WORK OUTLINED IN THESE PLANS.
6. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL SECURE CONSTRUCTION PERMITS FROM NAPA COUNTY AND OTHER AGENCIES AS NECESSARY.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL APPROPRIATE PERMITS PRIOR TO THE START OF ANY WORK WITHIN A RIPARIAN AREA.
8. CONTRACTOR SHALL CONTACT THE ENGINEER TO ARRANGE A PRE- CONSTRUCTION MEETING FOR THE PURPOSE OF REVIEWING JOB REQUIREMENTS AND NAPA COUNTY PROCEDURES.
9. CONTRACTOR SHALL NOTIFY NAPA COUNTY STAFF AND THE ENGINEER AT LEAST THREE (3) WORKING DAYS PRIOR TO COMMENCEMENT OF WORK.
10. CONSTRUCTION AND GRADING ACTIVITIES ON THE SITE SHALL BE LIMITED TO BETWEEN 7:00 A.M. AND 7:00 P.M. DAILY.
11. CONTRACTOR SHALL PROVIDE EMERGENCY TELEPHONE NUMBERS TO THE NAPA COUNTY SHERIFF, FIRE, AND PUBLIC WORKS DEPARTMENTS AND KEEP THEM INFORMED DAILY REGARDING THE STREETS UNDER CONSTRUCTION AND DETOURS. DETOURS SHALL NOT BE PERMITTED UNLESS APPROVED IN WRITING BY THE NAPA COUNTY PUBLIC WORKS DEPARTMENT.
12. CONTRACTOR SHALL NOTIFY ALL PUBLIC OR PRIVATE UTILITY COMPANIES TWO (2) WORKING DAYS PRIOR TO COMMENCEMENT OF WORK ON THIS PROJECT TO VERIFY THE LOCATION OF EXISTING UTILITY LINES. CALL UNDERGROUND SERVICE ALERT (U.S.A.) TOLL FREE AT 811 OR (800) 227-2600, 6:00 A.M. TO 7:00 P.M., MONDAY THROUGH FRIDAY OR SUBMIT TICKET ONLINE AT WWW.811EXPRESS.COM. THE CONTRACTOR SHALL ALSO CALL ANY COMPANY OR AGENCY FOR SERVICE LOCATIONS WHO ARE NOT A MEMBER OF UNDERGROUND SERVICE ALERT.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF ALL EXISTING UTILITIES IN THE FIELD. COSTS OF REPAIRING ANY DAMAGES OR INJURIES CAUSED BY THE CONTRACTOR SHALL BE BORNE BY THE CONTRACTOR. VARIOUS UNDERGROUND LINES WERE PLOTTED ON THE PLANS FROM THE INFORMATION OBTAINED FROM THE RESPECTIVE UTILITY COMPANIES AND/OR THE OWNER; THEREFORE, NO WARRANTY, EXPRESSED OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CORRECTNESS OF THEIR LOCATION.
14. EXISTING UTILITIES SHALL BE KEPT IN SERVICE AT ALL TIMES. UTILITIES THAT INTERFERE WITH THE WORK TO BE PERFORMED SHALL BE PROTECTED AS REQUIRED BY NAPA COUNTY, PG&E, AT&T, COMCAST, AND THE OWNER.
15. CONTRACTOR SHALL COORDINATE ALL NECESSARY UTILITY RELOCATIONS, IF REQUIRED, WITH THE APPROPRIATE UTILITY COMPANIES AND/OR THE OWNER.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING FACILITIES AND IMPROVEMENTS FROM DAMAGE RESULTING FROM CONTRACTOR'S WORK. ANY DAMAGE CAUSED BY CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
17. CONTRACTOR AGREES THAT THEY SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THE PROJECT; EXCEPT FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
18. SHOULD ANY CONTRACTOR OR SUBCONTRACTOR FIND ANY DEFICIENCIES, ERRORS, CONFLICTS, OR OMISSIONS IN THESE PLANS AND SPECIFICATIONS OR SHOULD THERE BE ANY DOUBT AS TO THEIR MEANING OR INTENT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR A WRITTEN CLARIFICATION, ADDENDUM, ETC. SHOULD THE CONTRACTOR FAIL TO DO SO BEFORE SUBMITTING A PROPOSAL, THE CONTRACTOR CANNOT CLAIM ADDITIONAL COMPENSATION FOR WORK REQUIRED TO COMPLETE THE PROJECT.
19. THESE PLANS ARE INTENDED TO SHOW SITE IMPROVEMENTS FOR A TRACK I VINEYARD DEVELOPMENT. THIS DESIGN INCLUDES, BUT IS NOT LIMITED TO, GRADING AND STORM DRAINAGE. BARTELT ENGINEERING IS NOT RESPONSIBLE FOR GEOTECHNICAL ENGINEERING SERVICES.
20. ALL DIMENSIONS SHOWN ON THE PLANS SHOW MEASUREMENTS IN A HORIZONTAL PLANE. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. IF THERE IS A CONFLICT, NOTIFY THE ENGINEER AND OBTAIN CLARIFICATION. NO DEVIATION OR SUBSTITUTION SHALL BE ALLOWED WITHOUT OBTAINING WRITTEN APPROVAL FROM THE ENGINEER.
21. FADED BACKGROUND REPRESENTS EXISTING TOPOGRAPHIC FEATURES. THE TOPOGRAPHIC INFORMATION SHOWN ON THIS PLAN WAS TAKEN FROM THE "TOPOGRAPHIC MAP OF A PORTION OF THE LANDS OF MICHAEL AND KELLY WINROD TRUSTEES" PREPARED BY TERRA FIRMA SURVEYS, INC. AND FLOWN BY AMERICAN AERIAL MAPPING, INC., DATED FEBRUARY 29, 2019. BARTELT ENGINEERING ASSUMES NO LIABILITY, REAL OR ALLEGED, REGARDING THE ACCURACY OF THE TOPOGRAPHIC INFORMATION SHOWN.

   VERTICAL DATUM: NAVD88
   BASIS OF BEARING: CALIFORNIA COORDINATE SYSTEM, ZONE2, NAD 83
   CONTOUR INTERVAL: EVERY TWO (2) FEET, HIGHLIGHTED EVERY TEN (10) FEET.
22. THIS DRAWING DOES NOT REPRESENT A BOUNDARY SURVEY. BOUNDARY LINES SHOWN ARE APPROXIMATE AND FOR INFORMATIONAL PURPOSES ONLY.
23. THESE PLANS ARE INTENDED TO BE USED FOR CONSTRUCTION STAKING OF THE VINEYARD DEVELOPMENT SHOWN HEREON. ALL STAKING IS TO BE PERFORMED BY A LICENSED LAND SURVEYOR. IF THE CONTRACTOR OR SURVEYOR FINDS ANY DISCREPANCIES, CONTACT BARTELT ENGINEERING FOR A WRITTEN CLARIFICATION.
24. THE TERM "ENGINEER", AS CALLED OUT ON THIS SET OF PLANS, SHALL MEAN A REPRESENTATIVE OF BARTELT ENGINEERING.

PLANNING NOTES:

1. SHOULD HAZARDOUS MATERIALS BE ENCOUNTERED DURING CONSTRUCTION, NAPA COUNTY ENVIRONMENTAL HEALTH DIVISION SHALL BE NOTIFIED AND APPROPRIATE REMEDIATION MEASURES SHALL BE UNDERTAKEN.
2. SHOULD GROUND-DISTURBING ACTIVITIES ASSOCIATED WITH CONSTRUCTION REVEAL THE PRESENCE OF POTENTIAL CULTURAL RESOURCES (E.G., ARTIFACT CONCENTRATIONS, STRUCTURAL DEBRIS, SKELETAL REMAINS), WORK WITHIN 50 FEET OF THE FIND SHALL BE SUSPENDED UNTIL A QUALIFIED CULTURAL RESOURCE SPECIALIST CAN EVALUATE THE DISCOVERY AND RECOMMEND APPROPRIATE MITIGATION MEASURES, CONSISTENT WITH THE CEQA GUIDELINES. AS PROJECT CONSTRUCTION PROCEEDS, THE DISCOVERY SHALL BE CLEARLY MARKED AND PROTECTED BY TEMPORARY FENCING IF CULTURAL RESEARCH OR RECOVERY TECHNIQUES ARE LONG-TERM IN NATURE.
3. SHOULD SKELETAL REMAINS BE ENCOUNTERED, THE NAPA COUNTY CORONER SHALL BE NOTIFIED. SHOULD THE CORONER DETERMINE THAT SUCH REMAINS ARE IN A CONTEXT SUGGESTING THE HISTORIC OR PREHISTORIC OCCUPANCY BY NATIVE AMERICANS, THE CALIFORNIA NATIVE AMERICAN HERITAGE COMMISSION SHALL BE NOTIFIED, SO IT MAY ARRANGE AT ITS DISCRETION FOR QUALIFIED NATIVE AMERICAN OR EQUIVALENT PARTICIPATION IN DETERMINING THE DISPOSITION OF SUCH REMAINS.

GRADING NOTES:

1. ALL MOVEMENT OF EARTH SHALL COMPLY WITH THE NAPA COUNTY ROAD & STREET STANDARDS, THE 2019 CALIFORNIA BUILDING CODE (C.B.C.), THE NAPA COUNTY CONSERVATION REGULATIONS, AND THESE PLANS.
2. THE SITE SHALL BE VISUALLY INSPECTED BY THE CONTRACTOR TO DETERMINE THE EXTENT OF CLEARING, GRUBBING, AND GRADING WORK TO BE DONE. GRADING ON THE SITE WILL BE LIMITED TO THE EXCAVATIONS AND/OR FILLS AS SHOWN ON THESE PLANS.
3. IN THE ABSENCE OF A GEOTECHNICAL INVESTIGATION REPORT, ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
4. REASONABLE MEASURES SHALL BE PROVIDED AND PRACTICED TO MINIMIZE ANY NUISANCE FROM DUST DURING GRADING AND CONSTRUCTION OPERATIONS. CONTRACTOR SHALL CONDUCT ALL GRADING OPERATIONS IN SUCH A MANNER AS TO PRECLUDE WIND BLOWN DIRT, DUST, AND RELATED DAMAGE TO NEIGHBORING PROPERTIES. SUFFICIENT WATERING TO CONTROL DUST IS REQUIRED AT ALL TIMES. CONTRACTOR SHALL ASSUME LIABILITY FOR CLAIMS RELATED TO WIND BLOWN MATERIAL. IF THE DUST CONTROL IS INADEQUATE AS DETERMINED BY NAPA COUNTY OR THE OWNER, CONSTRUCTION WORK SHALL BE SUSPENDED UNTIL CORRECTIVE MEASURES ARE TAKEN.
5. CONTRACTOR SHALL CONFORM TO EXISTING SURROUNDING TOPOGRAPHY AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN GRADING AND AVOID ANY ABRUPT OR APPARENT CHANGES IN GRADES OR CROSS SLOPES, LOW SPOTS, OR HAZARDOUS CONDITIONS.
6. TREES THAT ARE REMOVED SHALL ALSO HAVE THEIR STUMPS AND MAJOR ROOT SYSTEMS REMOVED. AFTER A TREE OR A STUMP IS REMOVED, THE RESULTING EARTH CAVITY SHALL BE CLEANED OF LARGER ROOTS (TWO (2) INCH DIAMETER AND LARGER).
7. TREE STUMPS AND ALL OTHER ORGANIC MATERIAL TO BE BURNED SHALL BE PILED AT STRATEGIC LOCATIONS WITHIN THE CLEARED AREAS. THESE PILES SHALL BE BURNED ONLY AFTER OBTAINING ALL REQUIRED APPROVALS FROM ALL GOVERNMENT AGENCIES, INCLUDING CALIFORNIA DEPARTMENT OF FORESTRY AND BAY AREA AIR QUALITY MANAGEMENT DISTRICT.
8. TREE STUMPS AND ALL OTHER ORGANIC MATERIAL TO BE REMOVED AS PART OF THE VINEYARD DEVELOPMENT MAY BE CHIPPED AND/OR HAULED OFFSITE AND DISPOSED OF PROPERLY.

EROSION CONTROL NOTES:

1. THIS PROJECT IS NOT WITHIN A MUNICIPAL WATERSHED OR GROUNDWATER DEFICIENT AREA.
2. ALL MAJOR GRADING SHOWN HEREIN SHALL BE WINTERIZED IF NOT YET COMPLETED PRIOR TO OCTOBER 15 OF EACH YEAR THAT THE PROJECT IS UNDER CONSTRUCTION. EXCEPTIONS INCLUDE, BUT ARE NOT LIMITED TO, PROVISIONS THAT THE MAJOR GRADING HAS PREDOMINANTLY BEEN COMPLETED AND THAT THERE COULD BE A DETRIMENTAL IMPACT ON THE ENVIRONMENT IF THE MAJOR GRADING REMAINS INCOMPLETE. A REQUEST TO ALLOW GRADING TO OCCUR BETWEEN OCTOBER 15 AND APRIL 1 SHALL BE SUBMITTED TO NAPA COUNTY PLANNING, BUILDING AND ENVIRONMENTAL SERVICES TWO (2) WORKING WEEKS PRIOR TO OCTOBER 15 OF EACH YEAR THAT THE PROJECT IS UNDER CONSTRUCTION. NO GRADING SHALL OCCUR AFTER OCTOBER 15 UNTIL APPROVAL HAS BEEN GRANTED BY THE NAPA COUNTY PLANNING, BUILDING AND ENVIRONMENTAL SERVICES DIRECTOR OR THEIR REPRESENTATIVE(S).
3. THIS PLAN ADDRESSES EROSION AND SEDIMENT CONTROL MEASURES AND MINOR GRADING ASSOCIATED WITH THE CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHOWN ON THIS PLAN DURING THE WINTER SHUT-DOWN PERIOD (OCTOBER 15 TO APRIL 1).
4. ALL PERMANENT AND TEMPORARY SEDIMENT/DETENTION DEVICES SHALL BE INSTALLED PRIOR TO OCTOBER 15 OF EACH YEAR WITHIN WHICH WORK TAKES PLACE.
5. SILT FENCE AND/OR STRAW WATTLE SEDIMENT BARRIERS WILL BE INSTALLED PRIOR TO OCTOBER 15 AND WILL REMAIN OPERABLE DURING THE WINTER SHUT-DOWN PERIOD (OCTOBER 15 TO APRIL 1).
6. CHANGES TO THIS EROSION AND SEDIMENT CONTROL PLAN, TO MEET FIELD CONDITIONS, WILL BE MADE ONLY WITH THE APPROVAL OF, OR AT THE DIRECTION OF, THE ENGINEER.
7. THE CONTRACTOR WILL INFORM ALL CONSTRUCTION SITE WORKERS ABOUT THE MAJOR PROVISIONS OF THE EROSION AND SEDIMENT CONTROL PLAN AND SEEK THEIR COOPERATION IN AVOIDING THE DISTURBANCE OF THESE EROSION CONTROL MEASURES.
8. DURING THE WINTER SHUT-DOWN PERIOD (OCTOBER 15 TO APRIL 1) ALL SEDIMENT BARRIERS WILL BE INSPECTED AND REPAIRED AT THE END OF EACH WORKING DAY AND, IN ADDITION, AFTER EACH RAIN EVENT PRODUCING RUNOFF.
9. BETWEEN OCTOBER 15 AND APRIL 1, ALL PAVED AREAS WILL BE KEPT CLEAR OF DIRT, SEDIMENT, AND DEBRIS. THE PROJECT AREA WILL BE MAINTAINED SO THAT MINIMAL SEDIMENT-LADEN RUNOFF LEAVES THE SITE.
10. THE SEEDED AREAS WILL BE REPAIRED, RESEEDED, AND MULCHED AS SOON AS POSSIBLE AFTER BEING DAMAGED.
11. ALL GRADED OR DISTURBED AREAS SHOULD BE SEEDED IMMEDIATELY AFTER GRADING IS COMPLETE.
12. AREA TO BE SEEDED SHOULD BE SCARIFIED TO A DEPTH OF FOUR (4) INCHES TO EIGHT (8) INCHES AND DRESSED TO PROVIDE A REASONABLY SMOOTH FIRM SURFACE.

EROSION CONTROL NOTES:

13. THE SEED AND FERTILIZER SHOULD BE APPLIED BY HAND OR MECHANICAL SEED DRILL AT THE RATES SPECIFIED BELOW:

    VINEYARD ROWS AND AVENUES:
    MULTIPLEX ANNUAL EROSION MIXTURE APPLIED AT 25 TO 35 POUNDS PER ACRE IN THE FOLLOWING PERCENTAGES:

SUBTERRANEAN CLOVER PK	30%
MEDIC PK	20%
CRIMSON CLOVER	10%
ROSE CLOVER	10%
BLANDO BROME	10%
ZORRO FESCUE	10%
PERSIAN CLOVER	10%

REVEGETATED AREAS WITHIN CONSERVATION SETBACKS:
LEBALLISTER'S HOLDFAST NATIVE BLEND APPLIED AT 45 TO 65 POUNDS PER ACRES IN THE FOLLOWING PERCENTAGES:

CALIFORNIA BROME (ANNUAL)	30$
CALIFORNIA BROME (PERENNIAL)	20%
BLUE WILDRYE	15%
THREE WEEKS FESCUE	15%
CALIFORNIA POPPY	17%
CALIFORNIA NATIVE LUPINES	3%

AN EQUIVALENT SEED MIX MAY BE SUBSTITUTED BY THE OWNER DEPENDING ON THE SUCCESS OF PRIOR SEED MIXES AND THE NUTRIENT LEVELS IN THE SOIL.

14. FERTILIZER USED SHOULD BE ONE OF THE FOLLOWING SPECIFICATIONS:

16-20-0	250 POUNDS PER ACRE
15-15-15	300 POUNDS PER ACRE
12-12-12	400 POUNDS PER ACRE

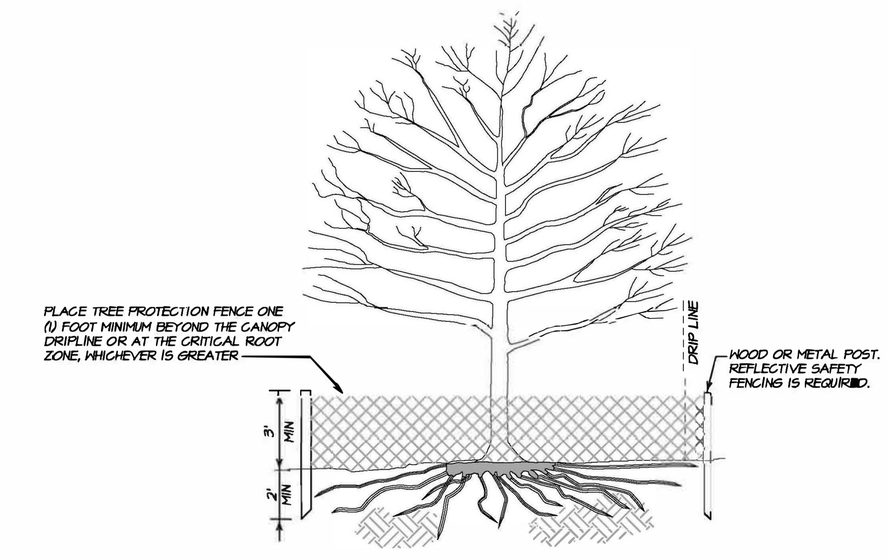
15. STRAW MULCH SHOULD BE APPLIED, BY HAND, TO ALL DISTURBED AREAS AT A RATE OF 4,000 POUNDS PER ACRE.
16. NORTH AMERICAN GREEN BIONET C125BN EROSION CONTROL BLANKETS SHOULD BE INSTALLED OVER SEED ON ALL DISTURBED SLOPES 4:1 OR STEEPER.
17. TEMPORARY EROSION CONTROL BEST MANAGEMENT PRACTICES (BMPS) MAY BE INSTALLED WITHIN THE NAPA COUNTY CONSERVATION REGULATIONS SETBACKS; HOWEVER, PERMANENT EROSION CONTROL BMPS (OTHER THAN SEED AND MULCH) ARE NOT PERMITTED WITHIN THE SETBACKS.

FARMING PRACTICES NOTES:

1. AFTER THE INITIAL THREE (3) YEAR DEVELOPMENT PERIOD, THE VINEYARD IS INTENDED TO HAVE AN ALTERNATING-TILL COVER CROP WITH A MINIMUM OF 75 PERCENT COVERAGE BETWEEN VINEROWS. FARMED WITH WHEELED OR TRACK-DRIVEN VEHICLES.
2. A POST EMERGENT HERBICIDE APPLICATION IN A 18 INCH WIDE SPRAY STRIP BENEATH THE VINEROWS MAY BE USED AS NECESSARY.
3. PROPOSED DEPTH OF RIPPING FOR INITIAL VINEYARD DEVELOPMENT IS 30 INCHES.
4. THROUGHOUT THE LIFE OF THE VINEYARD IT MAY BE NECESSARY TO REESTABLISH THE VEGETATIVE COVER CROP. IN SUCH INSTANCES THE COVER CROP WILL BE MANAGED AS DESCRIBED IN THE "PROTOCOL FOR RE-PLANTING/RENEWAL OF APPROVED NON-TILLED VINEYARD COVER CROPS" AS DESCRIBED IN A MEMORANDUM FROM PATRICK LOWE, NAPA COUNTY CONSERVATION, DEVELOPMENT AND PLANNING DEPARTMENT, DATED APRIL 12, 2004. PRE-IRRIGATION OF THE COVER CROP MAY BE PERFORMED AS NECESSARY TO ESTABLISH AND MAINTAIN THE COVER CROP UNTIL THE ONSET OF WINTER RAINS. IF THE COVER CROP IS RE-ESTABLISHED TO 75 PERCENT SURFACE COVER, STRAW MULCH WILL NOT BE REQUIRED.
5. PROTOCOL FOR RE-PLANTING/RENEWAL OF APPROVED NON-TILLED VINEYARD COVER CROPS:
   A. RATIONALE: UNDER NORMAL FARMING CONDITIONS NON-TILLED VINEYARD COVER CROPS MAY NEED TO BE ROUTINELY RE-ESTABLISHED, OR RENEWED, EVERY FOUR (4) TO FIVE (5) YEARS BASED ON FACTORS ROUTINELY ENCOUNTERED DURING VINEYARD FLOOR MANAGEMENT. THOSE FACTORS INCLUDE:
      - WEED MANAGEMENT AND WEED COMPETITION WITH THE SELECTED COVER CROP.
      - EXCESSIVE COMPETITION WITH VINES BY THE SELECTED COVER CROP.
      - POOR SEED DEVELOPMENT AND GERMINATION, WHERE THE SELECTED ANNUAL COVER CROP RELIES UPON ANNUAL SEED PRODUCTION FOR YEAR-TO-YEAR SUCCESSION.
   B. IN ADDITION, UNFORESEEN EVENTS MAY AFFECT VINEYARD FLOOR MANAGEMENT SYSTEMS IN A MUCH SHORTER TIME FRAME. IT MAY BECOME NECESSARY TO RE-ESTABLISH OR RENEW THE NON-TILLED COVER CROP ON A LIMITED EMERGENCY BASIS. SUCH LIMITED EMERGENCY SITUATIONS MIGHT INCLUDE UNFORESEEN EVENTS SUCH AS:
      - SUBSTANTIAL INFESTATION BY "PESTS", SUCH AS BURROWING RODENTS, INSECTS, FUNGI, ETC. THAT REDUCE THE VIGOR AND EFFECTIVENESS OF THE SELECTED COVER CROP.
      - CATASTROPHIC WEATHER CONDITIONS, SUCH AS PROLONGED DROUGHT OR UNSEASONABLE HEAVY RAINFALL.
      - DEGRADED SOIL STRUCTURE AND FUNCTION, SUCH AS COMPACTION, RUTTING, OR MOUNDING DUE TO UNAVOIDABLE VINEYARD OPERATIONS DURING WET SOIL CONDITIONS.
      - A TEMPORARY OR PERMANENT LOSS OF IRRIGATION WATER SUPPLY, LEADING TO INCREASED RELIANCE ON AMBIENT SOIL MOISTURE TO MAINTAIN COVER CROP PRODUCTION.
      - UNFORESEEN EXCAVATION OR GRADING TO REPAIR DAMAGED IRRIGATION OR RUNOFF CONTROL SYSTEMS.
   C. PROTOCOL: EROSION CONTROL PLANS SHOULD PROVIDE SITE-SPECIFIC SPECIFICATIONS FOR COVER CROP RE-ESTABLISHMENT OR RENEWAL FOR THE PREDICTABLE CIRCUMSTANCES MENTIONED ABOVE. HOWEVER, WHEN IT BECOMES NECESSARY, EITHER BY ROUTINE OR EMERGENCY, TO RE-ESTABLISH OR RENEW VINEYARD COVER CROP, A PROTOCOL INCORPORATING THE FOLLOWING MEASURES SHOULD BE FOLLOWED:
      - SEEK PROFESSIONAL CONSULTATION, INCLUDING SOIL NUTRIENT ANALYSIS, TO DETERMINE THE REASONS FOR THE ORIGINAL COVER CROP'S FAILURE. ADJUST SOIL FERTILITY, IRRIGATION, AND SEED SELECTION ACCORDINGLY.
      - WHEN TILLAGE IS NECESSARY, ALTERNATE ROWS SHOULD BE TILLED, SEEDED, AND STRAW-MULCHED TO EFFECTIVELY ACCOMPLISH THE RE-ESTABLISHMENT/RENEWAL PROCESS OVER A TWO (2) YEAR PERIOD.
   D. TILLAGE AND RE-SEEDING SHOULD BE CONDUCTED IN THE FOLLOWING MANNER:
      - IN YEAR ONE (1), TILL TO PREPARE SEED BED AND SOW DESIRED COVER CROP IN EVERY OTHER ROW ("THE EVENS"), LEAVING THE ALTERNATE ROWS ("THE ODDS") UNTILLED AND MOWED ONLY.
      - MULCH ALL TILLED ROWS HAVING AN UP AND DOWN HILL (PERPENDICULAR TO CONTOUR) ROW DIRECTION WITH 4,000 POUNDS PER ACRE OF LOOSE STRAW, OR APPROVED EQUIVALENT, AFTER SEEDING.
      - TILLED ROWS WITH CROSS-SLOPE (PARALLEL TO CONTOUR) ROW DIRECTION AND SLOPE GRADIENTS LESS THAN 15% MAY NOT REQUIRE STRAW MULCH.
      - IN YEAR TWO (2), TILL TO PREPARE SEED BED AND SOW DESIRED COVER CROP IN "ODD" ROWS.
      - IN YEAR TWO (2), LEAVE "EVEN" ROWS UNTILLED AND MOWED ONLY.
      - MULCH ROWS TILLED IN YEAR TWO (2) AS SPECIFIED ABOVE.
      - PUT ALL RE-ESTABLISHMENT MEASURES IN PLACE BY THE REGULAR WINTERIZATION DEADLINE BASED UPON THE LOCATION OF THE VINEYARD.
      - IN YEAR THREE (3), RETURN ALL ROWS TO NON-TILLED CULTURE.

TREE PROTECTION NOTES:

1. SEE PLAN FOR LOCATION OF ALL TREES TO BE PROTECTED.
2. TREE PROTECTION STANDARDS WILL BE UTILIZED FOR THE PROTECTION OF TREES LOCATED WITHIN 25 FEET OF THE LIMITS OF WORK. CONSTRUCTION ACTIVITY INCLUDES, BUT IS NOT LIMITED TO, GRADING, TRENCHING, EXCAVATING, OPERATION OR PARKING OF CONSTRUCTION EQUIPMENT, OR VEHICLES IN THE VICINITY OF A TREE TO BE PRESERVED.
3. TREE PROTECTION FENCING SHOULD BE LOCATED A MINIMUM OF ONE (1) FOOT BEYOND THE CANOPY DRIPLINE IF AVAILABLE SPACE AND LOGISTICS ALLOW. FENCE SHOULD BE PLACED AT A GREATER DISTANCE OF UP TO TWICE THE DIAMETER OF THE DRIPLINE AND AT EACH TREE WITHIN 25 FEET OF THE PROPOSED PROJECT DEVELOPMENT AREA.
4. TREE PROTECTION FENCING SHOULD BE A MINIMUM OF FOUR (4) FEET IN HEIGHT AT ALL LOCATIONS AND SHOULD FORM A CONTINUOUS BARRIER WITHOUT ENTRY POINTS AROUND ALL INDIVIDUAL TREES OR GROUP OF TREES. BARRIER TYPE FENCING SHOULD BE CHAIN LINK OR ORANGE CONSTRUCTION FENCING. FENCING SHOULD BE INSTALLED IN A PROFESSIONAL MANNER WITH ADEQUATE UPRIGHTS AND APPROPRIATE ATTACHMENTS. CONCRETE FOOTINGS ARE NOT REQUIRED DUE TO THE TEMPORARY NATURE OF THE FENCING.
5. CONTRACTOR WILL DIRECT ALL EQUIPMENT AND PERSONNEL TO REMAIN OUTSIDE THE FENCED AREA AT ALL TIMES UNTIL THE PROJECT IS COMPLETE AND WILL INSTRUCT PERSONNEL AND SUBCONTRACTORS AS TO THE PURPOSE AND IMPORTANCE OF THE TREE PROTECTION FENCING AND PROTECTION.
6. TREE PROTECTION FENCING WILL REMAIN IN PLACE AND WILL NOT BE REMOVED UNTIL ALL CONSTRUCTION ACTIVITIES ARE COMPLETED. THIS INCLUDES RIPPING AND GRADING ACTIVITIES, INSTALLATION OF UNDERGROUND UTILITIES OR IMPROVEMENTS, AND ANY OTHER CONSTRUCTION OR ACTIVITY SCHEDULED FOR PROJECT DEVELOPMENT. THERE MAY BE OCCASIONS WHEN ACCESS IS REQUIRED AND FENCING MAY BE TEMPORARILY MOVED TO FACILITATE THE WORK.
7. ALL TREE PROTECTION DEVICES MUST BE INSTALLED PRIOR TO ANY LAND DISTURBANCE, INCLUDING THE CUTTING OF ANY TREES.
8. CRITICAL ROOT ZONE IS THE CIRCULAR AREA EXTENDING OUT ONE (1) FOOT FROM THE TREE TRUNK FOR EVERY ONE (1) INCH OF TRUNK DIAMETER MEASURED 4-1/2 FEET ABOVE GRADE.
9. ROOTS OF SINGLE STANDING TREES OFTEN EXTEND TWO (2) TO THREE (3) TIMES THE DISTANCE OF THE ACTUAL DRIPLINE AND FUNCTION PRIMARILY IN THE UPTAKE OF NUTRIENTS AND WATER. THE DRIPLINE IS ARBITRARILY ESTABLISHED AS THE MINIMUM ROOT AREA GENERALLY REQUIRED TO PRESERVE TREE HEALTH. LEAVE AS MUCH AREA AROUND THE CIRCUMFERENCE OF THE TREE AS POSSIBLE BEYOND THE DRIPLINE TO FURTHER ENSURE TREE SURVIVAL AND HEALTH.
10. ORIGINAL GRADE SHOULD BE MAINTAINED IN THE IMMEDIATE AREA OF THE ROOT CROWN AND WHERE THE SOIL CONTACTS THE TREE TRUNK, AT ALL TIMES. NO INCREASE IN GRADE WILL BE ALLOWED UNDER ANY CIRCUMSTANCES IN THIS AREA.
11. ALL GRADING WILL BE ACCOMPLISHED TO PREVENT THE CONCENTRATION OF RUNOFF NEAR EXISTING TREES. THE INTENT IS TO PREVENT ACCUMULATION OF EXCESS WATER IN THE ROOT ZONES OF EXISTING TREES.
12. ALL UNDERGROUND WORK WITHIN TREE DRIPLINES SHOULD BE AVOIDED WHEREVER POSSIBLE TO REDUCE NEGATIVE IMPACT ON TREES. THE INSTALLATION OF UNDERGROUND UTILITIES OUTSIDE THE TREE DRIPLINE IS RECOMMENDED AS PART OF THE PROTECTION.
13. NO GRADING, TRENCHING, OR FILLING OF MATERIALS IS TO OCCUR WITHIN THE TREE PROTECTION ZONE WITHOUT THE APPROVAL OF THE PROJECT ARBORIST.
14. WHERE UTILITY TRENCHES ARE REQUIRED WITHIN TREE DRIPLINES, TUNNEL UNDER OR AROUND THE ROOTS BY DRILLING, AUGER BORING, PIPE JACKING, OR DIGGING BY HAND.
15. NO STORING OF MATERIALS IS TO OCCUR WITHIN THE TREE PROTECTION ZONE.



TREE PROTECTION DETAIL

NO SCALE

NO.	DATE	DESCRIPTION	BY
2	05-12-2023	NO CHANGE TO THIS SHEET	DCB
1	04-13-2022	NO CHANGE TO THIS SHEET	DCB

REGISTERED PROFESSIONAL ENGINEER
RICHARD PAXTON
No. 84634
CIVIL
STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF

Richard Paxton
RICHARD PAXTON 05-12-2023

OWNERSHIP OF DOCUMENTS

THIS DOCUMENT AND THE IDEAS INCORPORATED HEREIN AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF BARTELT ENGINEERING AND IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT, WITHOUT THE WRITTEN AUTHORIZATION OF PAUL N. BARTELT, P.E. BARTELT ENGINEERING WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY BARTELT ENGINEERING. COPIES MADE FROM THIS DRAWING ARE FOR THE USE OF THE CLIENT OF BARTELT ENGINEERING AND MAY BE DISTRIBUTED TO CONTRACTORS AND SUBCONTRACTORS FOR USE IN ASSOCIATION WITH THE ENTITLED PROJECT. IT SHALL BE THE USER'S SOLE RESPONSIBILITY TO VERIFY THAT THIS DRAWING REPRESENTS THE LATEST INFORMATION RELATIVE TO THE PROJECT.

DES: CN / RP
DRWN: KP / DB
CHKD: PNB

BARTELT
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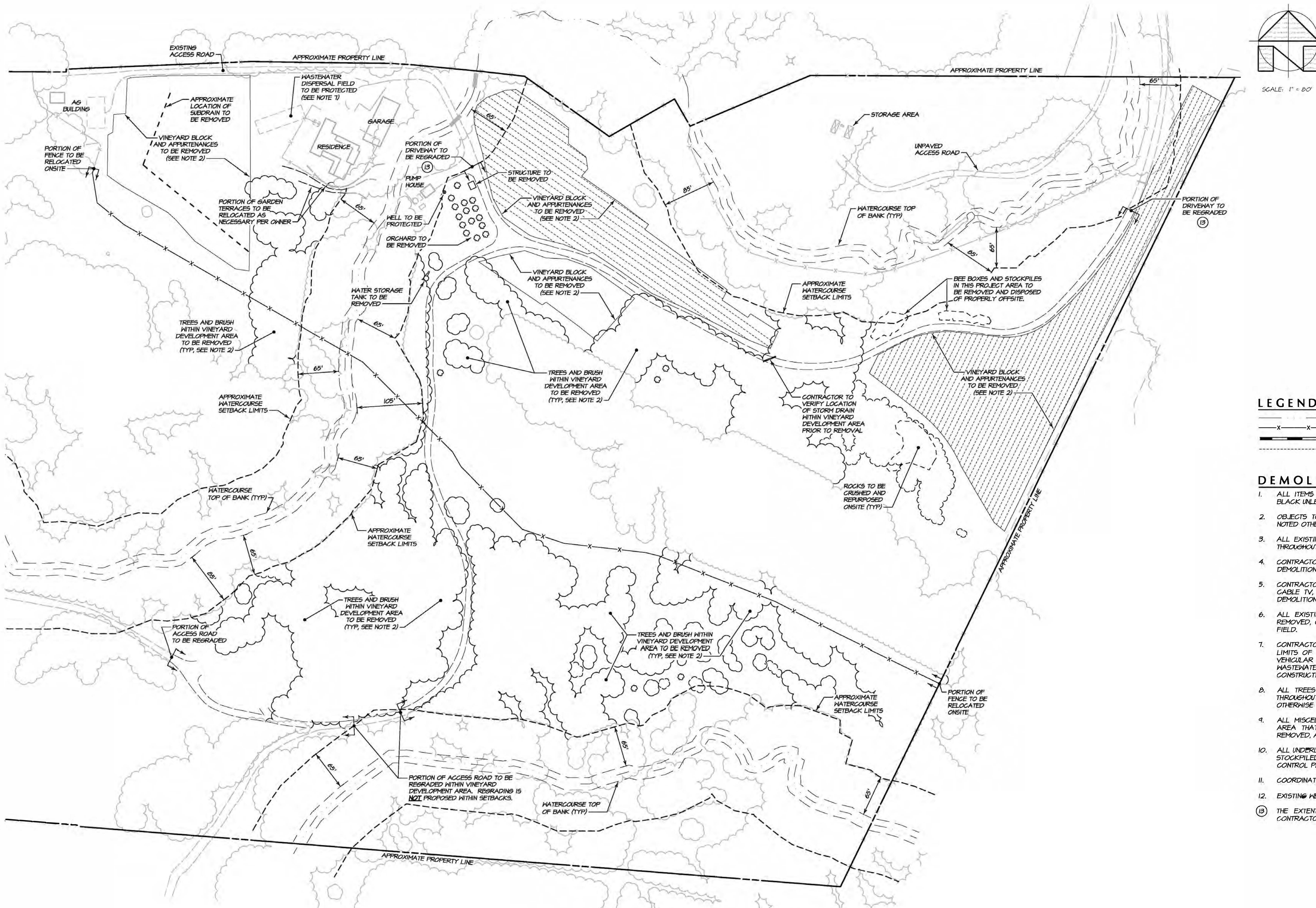
· Telephone: 707-258-1301 ·

WINROD VINEYARDS
GENERAL NOTES
NAPA COUNTY CALIFORNIA

DATE: MAY 2021
JOB NO: 18-26
SHEET NO:
EC2
OF 16 2



LEGEND:

— · · —	EXISTING FLOWLINE OF WATERCOURSE
—x——x—	EXISTING FENCE TO BE RELOCATED
▬ ▭ ▬	EXISTING STORM DRAIN TO BE REMOVED
- - - - -	EXISTING VINEROW TO BE REMOVED

DEMOLITION NOTES:

1. ALL ITEMS TO BE ADDRESSED BY THIS DEMOLITION PLAN ARE HIGHLIGHTED IN BLACK UNLESS OTHERWISE NOTED.
2. OBJECTS TO BE REMOVED SHALL BE DISPOSED OF PROPERLY OFFSITE UNLESS NOTED OTHERWISE.
3. ALL EXISTING IMPROVEMENTS TO REMAIN SHALL BE PROTECTED FROM DAMAGE THROUGHOUT THE COURSE OF CONSTRUCTION.
4. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL UTILITIES NOT SLATED FOR DEMOLITION.
5. CONTRACTOR SHALL DETERMINE LOCATION OF EXISTING GAS, ELECTRICAL, PHONE, CABLE TV, SANITARY SEWER, AND POTABLE WATER LINES PRIOR TO START OF DEMOLITION.
6. ALL EXISTING UTILITIES DISCOVERED DURING CONSTRUCTION SHALL BE SAVED, REMOVED, OR RE-ROUTED AS DIRECTED BY THE OWNER AND ENGINEER IN THE FIELD.
7. CONTRACTOR SHALL INSTALL A TEMPORARY CONSTRUCTION FENCE, AROUND THE LIMITS OF THE RESIDENTIAL WASTEWATER DISPERSAL FIELD, TO PROHIBIT ANY VEHICULAR TRAFFIC, EQUIPMENT STORAGE, OR STAGING FROM OCCURRING IN THE WASTEWATER DISPERSAL FIELD AREA THROUGHOUT THE DURATION OF CONSTRUCTION.
8. ALL TREES AND VEGETATION NOT MARKED FOR REMOVAL ARE TO BE SAVED THROUGHOUT THE COURSE OF DEMOLITION AND CONSTRUCTION UNLESS DIRECTED OTHERWISE BY THE OWNER. SEE TREE PRESERVATION NOTES.
9. ALL MISCELLANEOUS MATERIALS, VEGETATION, AND ROOTS WITHIN THE PROJECT AREA THAT ARE NOT SPECIFICALLY ADDRESSED ON THIS PLAN ARE TO BE REMOVED, AND DISPOSED OF PROPERLY OFFSITE BY THE CONTRACTOR.
10. ALL UNDERLYING AGGREGATE BASE ROCK AND GRAVEL SHALL BE REMOVED AND STOCKPILED FOR REUSE ONSITE AT THE LOCATION SHOWN ON THE EROSION CONTROL PLAN.
11. COORDINATE ANY TEMPORARY STOCKPILING OF MATERIAL WITH THE ENGINEER.
12. EXISTING WELL(S) SHALL BE PROTECTED.

(13) THE EXTENT OF EXISTING UTILITIES WITHIN THE PROJECT AREA IS UNKNOWN. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS DURING CONSTRUCTION.

EXISTING CONDITIONS- DEMOLITION PLAN

SCALE: 1" = 80'

NO.	DATE	DESCRIPTION	BY
2	05-12-2023	NO CHANGE TO THIS SHEET	DCB
1	09-13-2022	NO CHANGE TO THIS SHEET	DCB

REGISTERED PROFESSIONAL ENGINEER RICHARD PAXTON No. 84634 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF

RICHARD PAXTON 05-12-2023

DES: CN / RP
DRWN: KP / DB
CHKD: PNB

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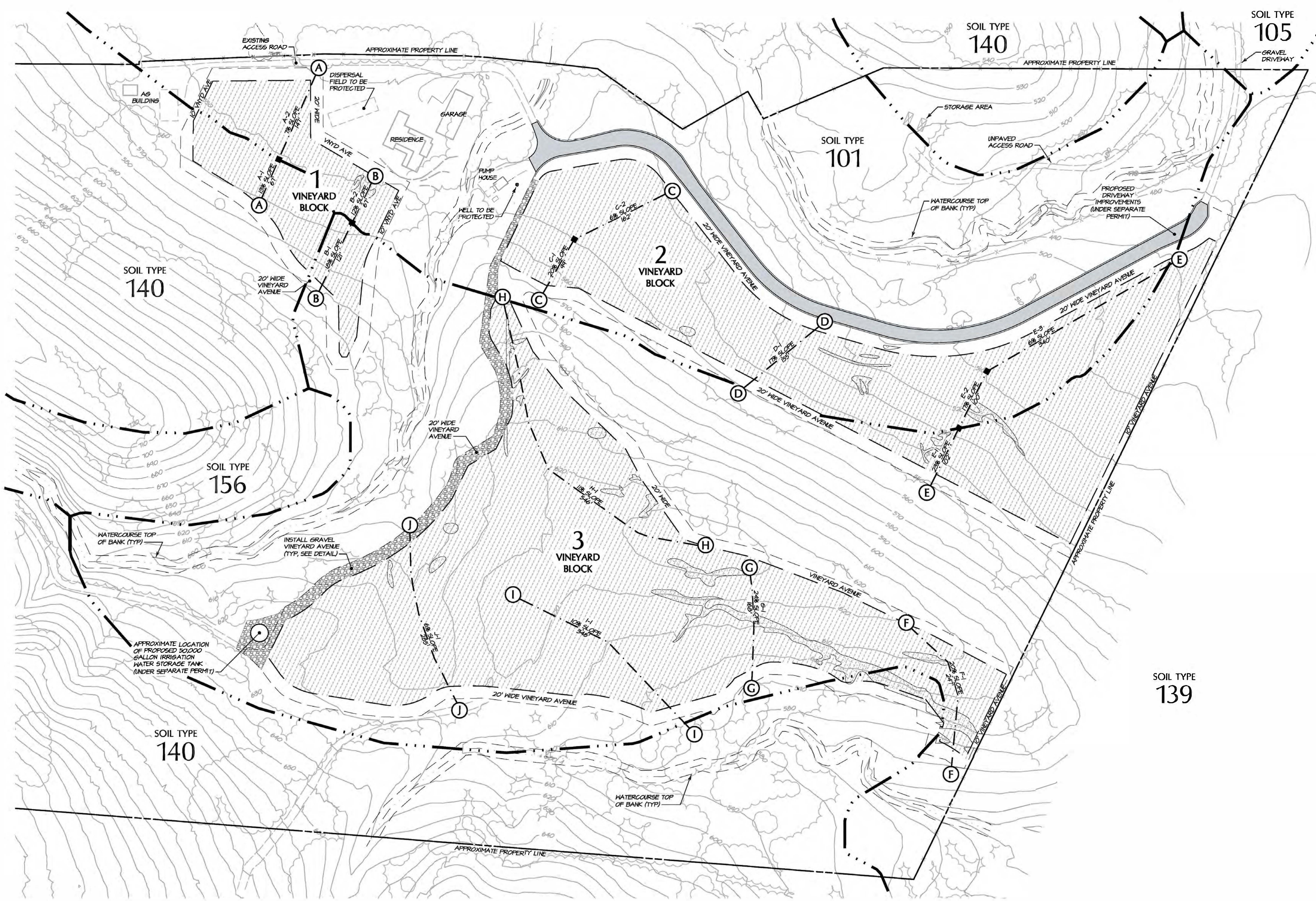
WINROD VINEYARDS
DEMOLITION PLAN
NAPA COUNTY CALIFORNIA

DATE: MAY 2021
JOB NO: 18-26
SHEET NO. EC3
OF 16 (2)



VINEYARD SITE PLAN

SCALE: 1" = 80'

SOIL TYPE LEGEND:

NAPA COUNTY SOILS:

101* - AIKEN LOAM, 15% TO 30% SLOPES

139 - FORWARD SILT LOAM, 5% TO 39% SLOPES

140* - FORWARD SILT LOAM, 12% TO 57% SLOPES

156 * - KIDD LOAM, 30% TO 75% SLOPES

SONOMA COUNTY SOILS:

FOG - FORWARD SILT LOAM, 12% TO 57% SLOPES

* OCCURS WITHIN PROJECT AREA

SLOPE SECTIONS:

VINEYARD BLOCK	SECTION LABEL	% SLOPE	VINEYARD BLOCK	SECTION LABEL	% SLOPE
1	A-A	9%	3	F-F	20%
	B-B	16%		G-G	24%
	BLOCK AVG	13%		H-H	11%
				I-I	10%
2	C-C	11%		J-J	6%
	D-D	17%		BLOCK AVG	14%
	E-E	11%			
	BLOCK AVG	13%			

SYMBOL LEGEND:

AREA WITHIN PROJECT WITH SLOPES OVER 30% (20,072± SQUARE FEET / 0.5± ACRES)

EDGE OF PROPOSED VINEYARD AVENUE

PROPOSED VINEYARD LAYOUT & VINEROW DIRECTION

SOIL CLASSIFICATION BOUNDARY

NO.	DATE	DESCRIPTION	BY
2	05-12-2023	NO CHANGE TO THIS SHEET	DCB
1	09-13-2022	NO CHANGE TO THIS SHEET	DCB

REGISTERED PROFESSIONAL ENGINEER RICHARD PAXTON No. 84634 CIVIL STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF

RICHARD PAXTON 05-12-2023

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DES: CN / RP
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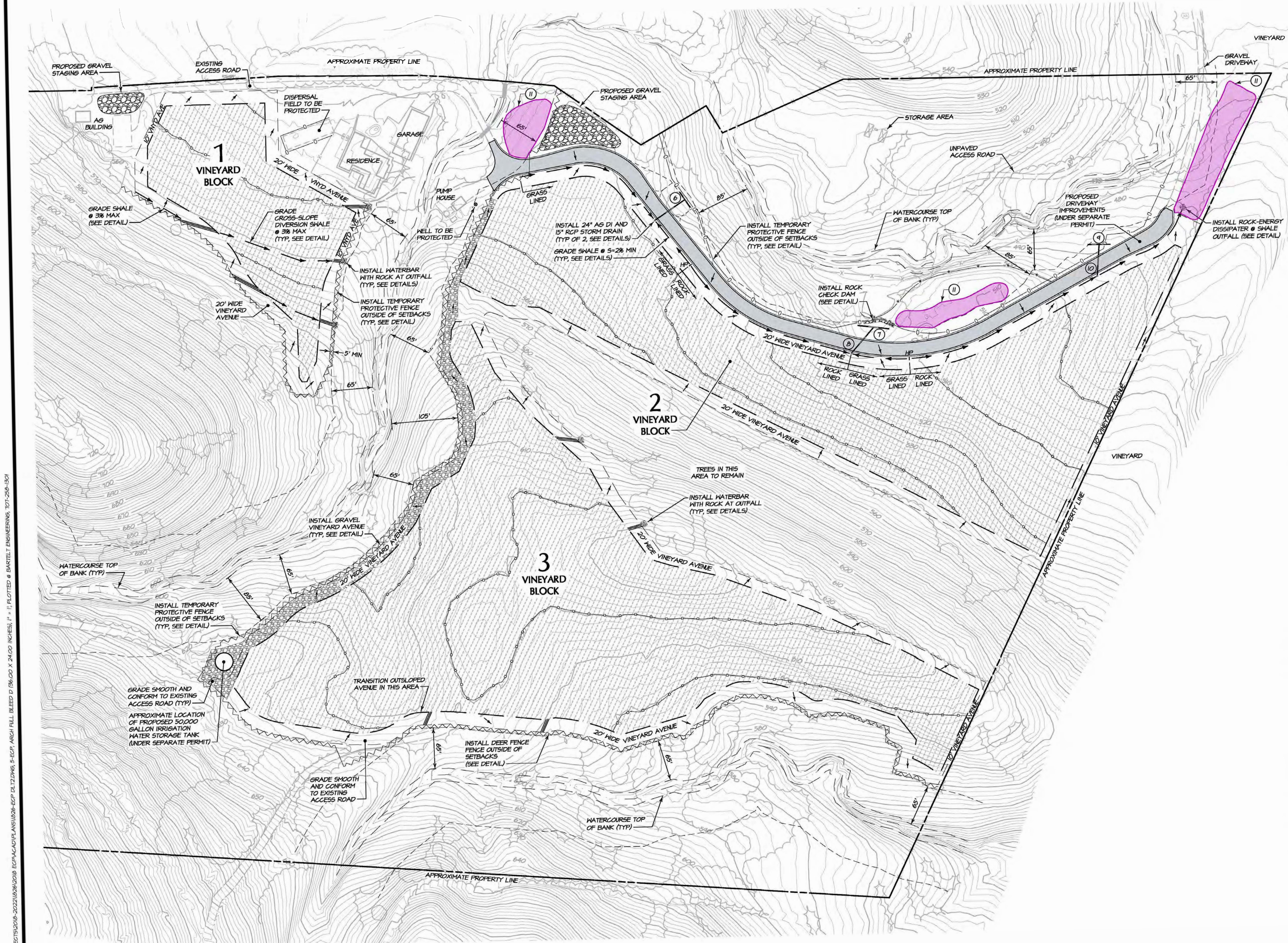
WINROD VINEYARDS
VINEYARD SITE PLAN
NAPA COUNTY CALIFORNIA

DATE: MAY 2021
JOB NO. 18-26
SHEET NO. EC4
OF 16



EROSION CONTROL PLAN

SCALE: 1" = 80'

LEGEND:

- EXISTING STORM DRAIN
- INSTALL STORM DRAIN @ 2% MIN AND/OR AGRICULTURAL DRAIN INLET (AGDI) WITH CUT-OFF COLLAR WHERE SHOWN (SEE DETAILS)
- INSTALL CROSS-SLOPE DIVERSION OR GRADE ROCK LINED OR GRASS LINED SHALE AS NOTED PER PLAN (SEE DETAIL)
- INSTALL WATTLE SEDIMENT BARRIER (SEE DETAIL)
- INSTALL SILT FENCE SEDIMENT BARRIER (SEE DETAIL)
- INSTALL TEMPORARY PROTECTIVE FENCE
- INSTALL DEER FENCE
- LIMITS OF CLEARING OR EDGE OF VINEYARD AVENUE
- GRADE TO DRAIN
- EDGE OF VINEYARD BLOCK
- PROPOSED VINEYARD LAYOUT & VINEROW DIRECTION
- INSTALL WATER BAR (SEE DETAIL)
- INSTALL ROCK PER PLAN
- REVEGETATED AREA (20,000± SF)

NOTES:

1. PROPOSED DEPTH OF RIPPING FOR INITIAL VINEYARD DEVELOPMENT IS 24 INCHES.
2. AFTER THE EXISTING VEGETATION HAS BEEN REMOVED, THE SOIL RIPPED AND ROCK RAKED, THE DISTURBED AREA WILL BE TRACK-WALKED, SEEDED, AND STRAW MULCHED (SEE DETAIL).
3. SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO OCTOBER 15, FOLLOWING THE REMOVAL OF THE EXISTING VINEYARD OR VEGETATION. ONCE VINES ARE PLANTED, THE EXTENT OF ANNUAL SEDIMENT BARRIER INSTALLATION SHALL BE DETERMINED BASED ON THE OWNER'S ABILITY TO ESTABLISH A 75 PERCENT MINIMUM COVER CROP, PROOF THAT THE VINEYARD AREA HAS STABILIZED AND THAT POTENTIAL EROSION CAN BE MINIMIZED THROUGH ANNUAL SEEDING, MULCHING, AND THE ESTABLISHMENT OF A HEALTHY COVER CROP.
4. ALL ROCK EXTRACTED DURING SOIL PREPARATION SHALL BE USED ONSITE.
5. VINEYARD IRRIGATION LINES SHALL BE INSTALLED WITHIN THE LIMITS OF THE VINEYARD DEVELOPMENT AREA AND OUTSIDE ALL WATERCOURSE SETBACKS.

(6) INSTALL 30± LF OF 15" ADS N-12 TEE SPREADER WITH ROCK AT OUTFALL (SEE DETAIL)
(7) INSTALL 50± LF OF 18" ADS N-12 TEE SPREADER (SEE DETAIL)
(8) INSTALL 24" AG DI AND 18" ADS N-12 STORM DRAIN LINE (SEE DETAIL)
(9) INSTALL 36± LF OF 15" ADS N-12 TEE SPREADER (SEE DETAIL)
(10) INSTALL 24" AG DI AND 15" ADS N-12 STORM DRAIN LINE (SEE DETAIL)
(11) REVEGETATE AREA WITH NATIVE SEED BLEND (SEE EROSION CONTROL NOTES)

REGISTERED PROFESSIONAL ENGINEER — RICHARD PAXTON — No. 84634 — CIVIL — STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF

Richard Paxton
RICHARD PAXTON 05-12-2023

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1	09-13-2022	NO CHANGE TO THIS SHEET	DCB

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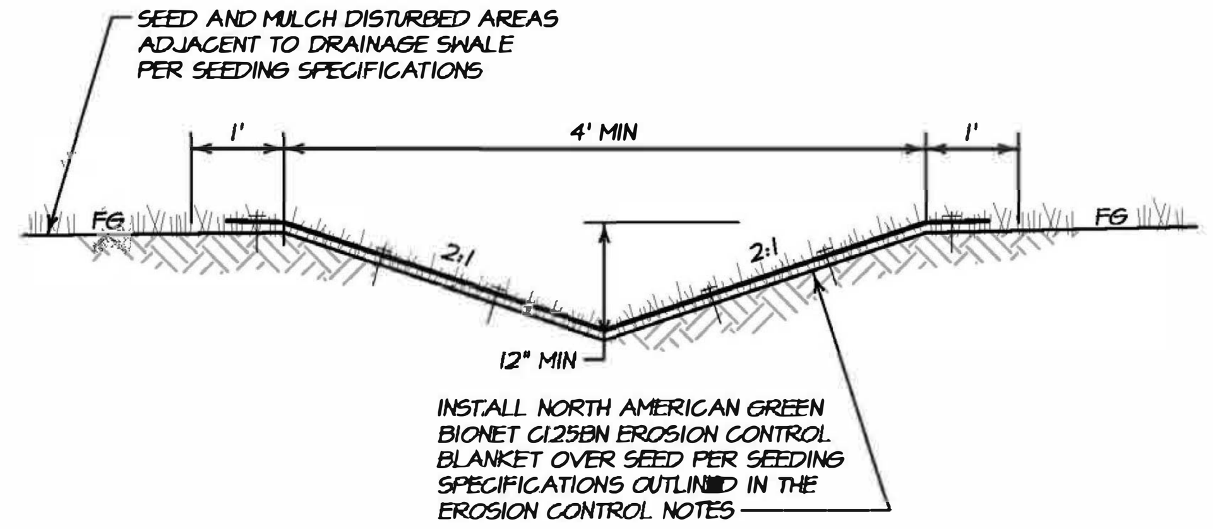
WROD VINEYARDS
EROSION CONTROL PLAN

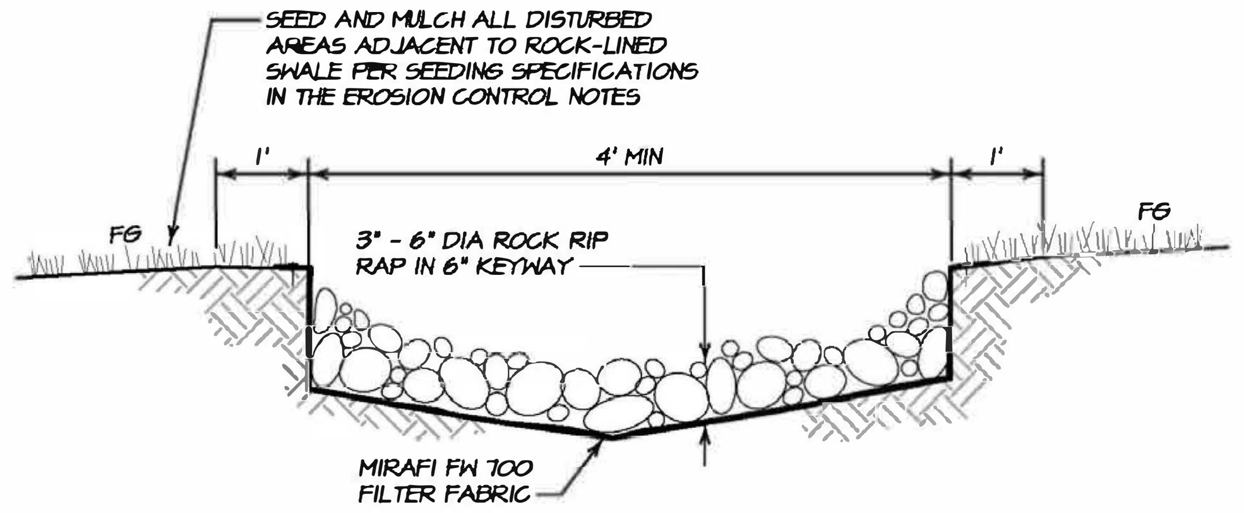
NAPA COUNTY CALIFORNIA

DATE: MAY 2021
JOB NO. 18-26
SHEET NO.
EC5
OF 16 (2)



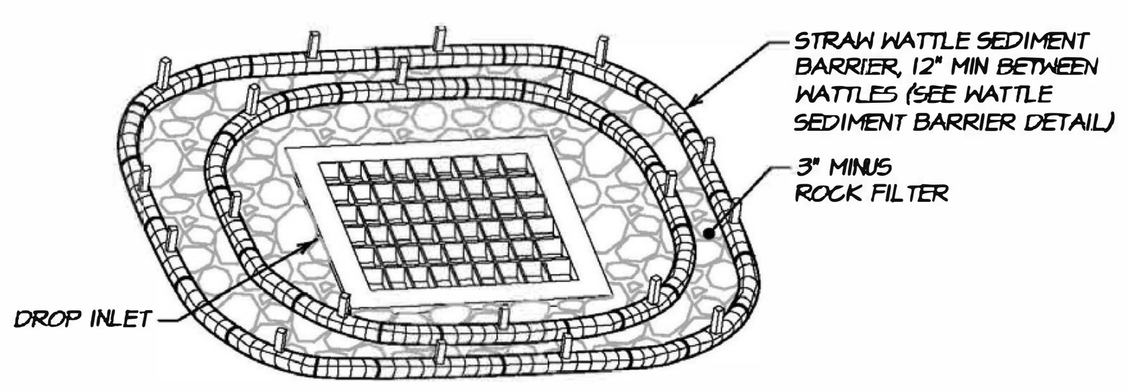
GRASS-LINED SWALE DETAIL

NO SCALE



ROCK-LINED SWALE DETAIL

NO SCALE



NOTES:

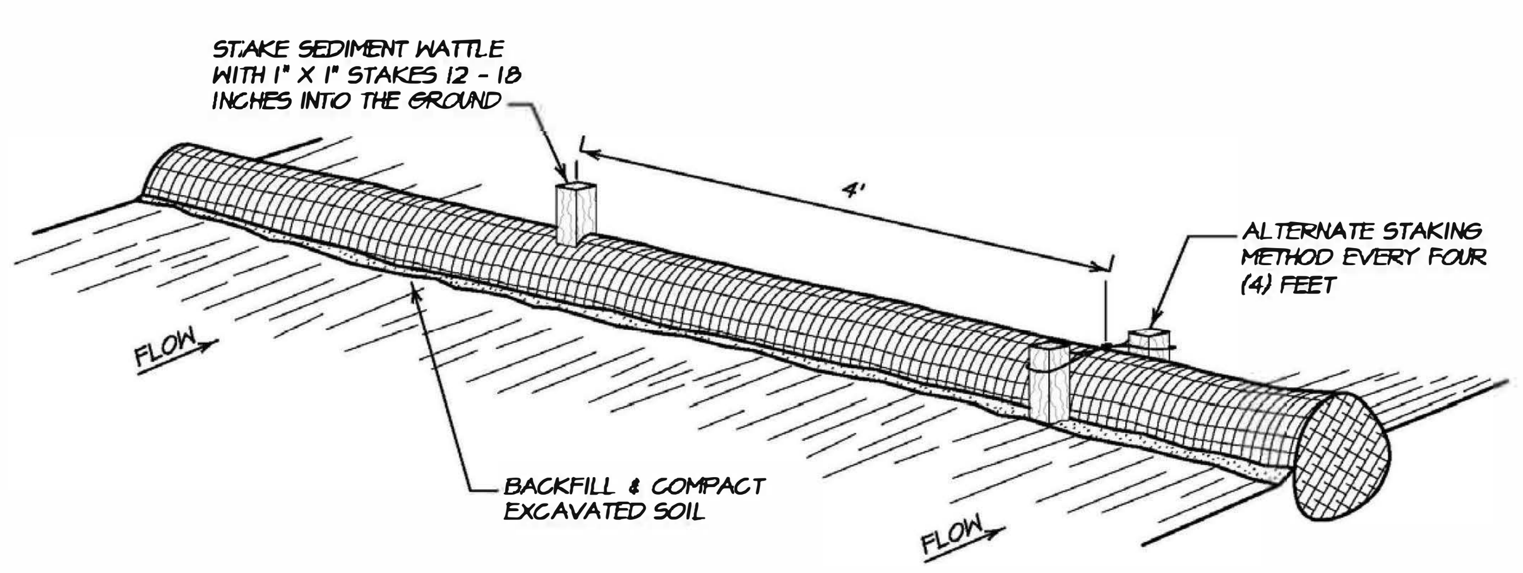
1. THIS DETAIL APPLIES TO DRAIN INLETS LOCATED IN NON-PAVED AREAS ONLY.
2. PLACE AND OVERLAP ENDS OF STRAW WATTLE SEDIMENT BARRIER SO THAT NO SPACE EXISTS BETWEEN THE ENDS OF THE SEDIMENT BARRIER.
3. REMOVE SEDIMENT AND DEBRIS AS IT ACCUMULATES TO ALLOW DRAINAGE INTO THE STORM DRAIN SYSTEM.
4. REMOVE FILTER AFTER CONSTRUCTION.

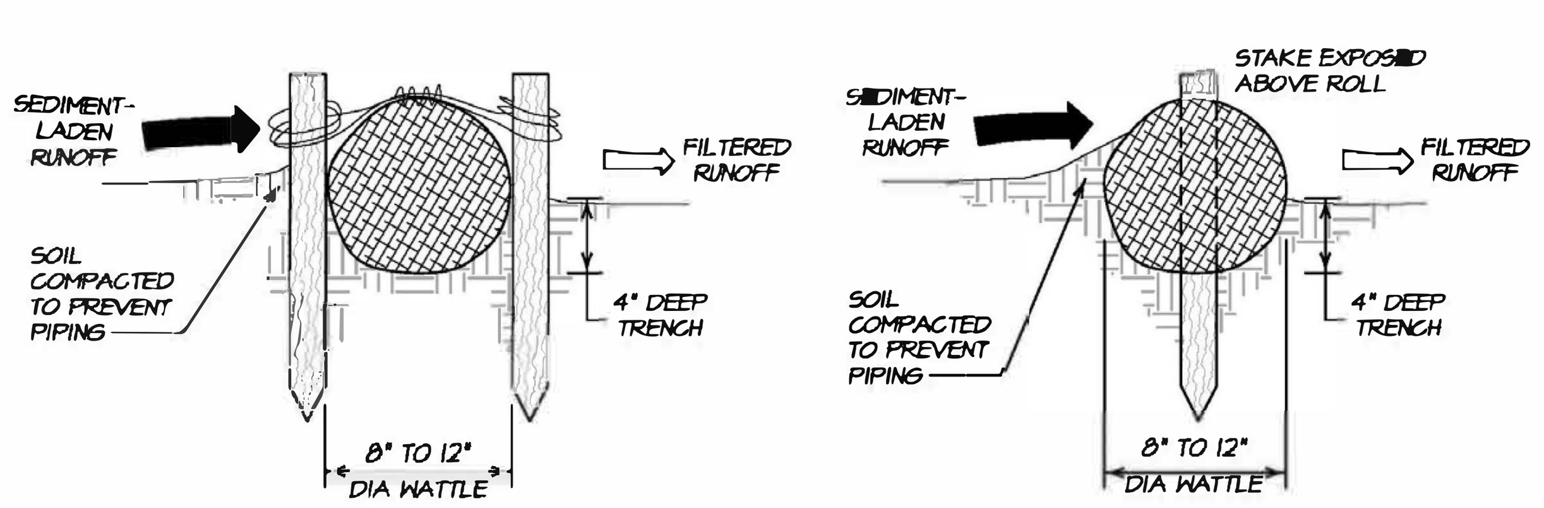
STRAW WATTLE DROP INLET FILTER DETAIL

NO SCALE

INSTALLATION OF WATTLE SEDIMENT BARRIER

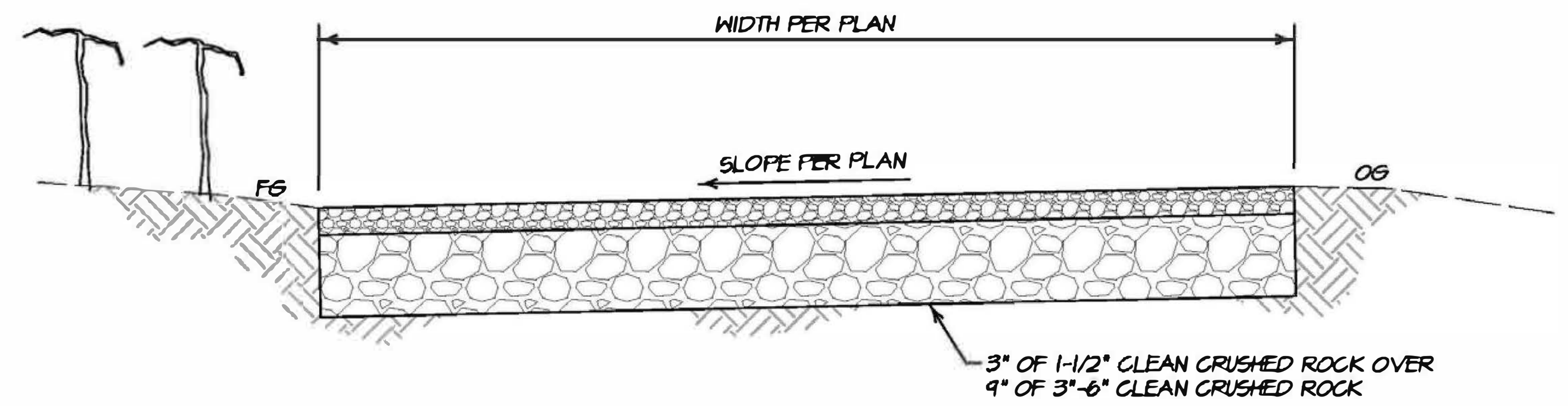
1. PREPARE THE SLOPE BEFORE THE WATTLING PROCEDURE IS STARTED. SHALLOW GULLIES SHOULD BE SMOOTHED AS WORK PROGRESSES.
2. DIG SMALL TRENCHES ACROSS THE SLOPE ON CONTOUR, TO PLACE ROLLS IN. THE TRENCH SHOULD BE DEEP ENOUGH TO ACCOMMODATE HALF THE THICKNESS OF THE ROLL. WHEN THE SOIL IS LOOSE AND UNCOMPACTED, THE TRENCH SHOULD BE DEEP ENOUGH TO BURY THE ROLL 2/3 OF ITS THICKNESS BECAUSE THE GROUND WILL SETTLE.
3. IT IS CRITICAL THAT ROLLS ARE INSTALLED PERPENDICULAR TO WATER MOVEMENT, PARALLEL TO THE SLOPE CONTOUR. START BUILDING TRENCHES AND INSTALL ROLLS FROM THE BOTTOM OF THE SLOPE AND WORK UP.
4. CONSTRUCT TRENCHES AT CONTOUR INTERVALS DEPENDING ON STEEPNESS OF SLOPE. THE STEEPER THE SLOPE, THE CLOSER TOGETHER THE TRENCHES. LAY THE ROLL ALONG THE TRENCHES FITTING IT SNUGLY AGAINST THE SOIL. MAKE SURE NO GAPS EXIST BETWEEN THE SOIL AND THE STRAW WATTLE.
5. USE A STRAIGHT BAR TO DRIVE HOLES THROUGH THE WATTLE AND INTO THE SOIL FOR THE WILLOW OR WOODEN STAKES. DRIVE THE STAKE THROUGH PREPARED HOLE INTO SOIL. LEAVE ONLY ONE (1) OR TWO (2) INCHES OF STAKE EXPOSED ABOVE ROLL.
6. INSTALL STAKES AT LEAST EVERY FOUR (4) FEET APART THROUGH THE WATTLE AS SHOWN BELOW.
7. STRAW WATTLE SHALL BE 100 PERCENT BIODEGRADABLE.
8. WATTLES AND STAKES SHALL BE REMOVED AND DISPOSED OF PROPERLY OFFSITE ONCE COVER CROP IS ESTABLISHED AND NOTICE IS RECEIVED FROM ENGINEER.





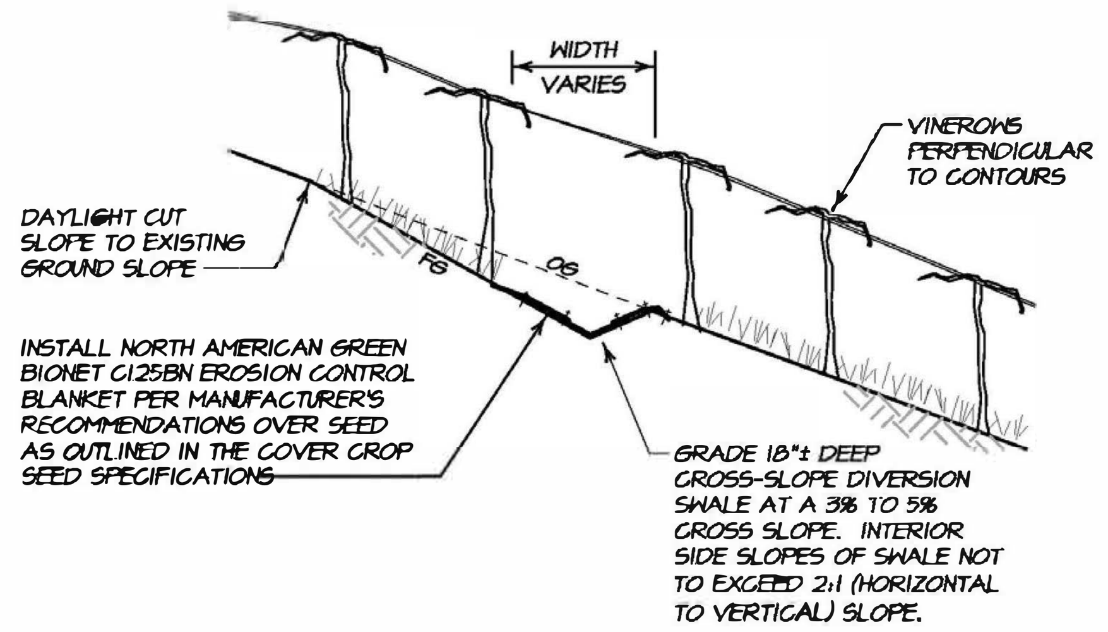
WATTLE SEDIMENT BARRIER DETAIL

NO SCALE



GRAVEL VINEYARD AVENUE DETAIL

NO SCALE

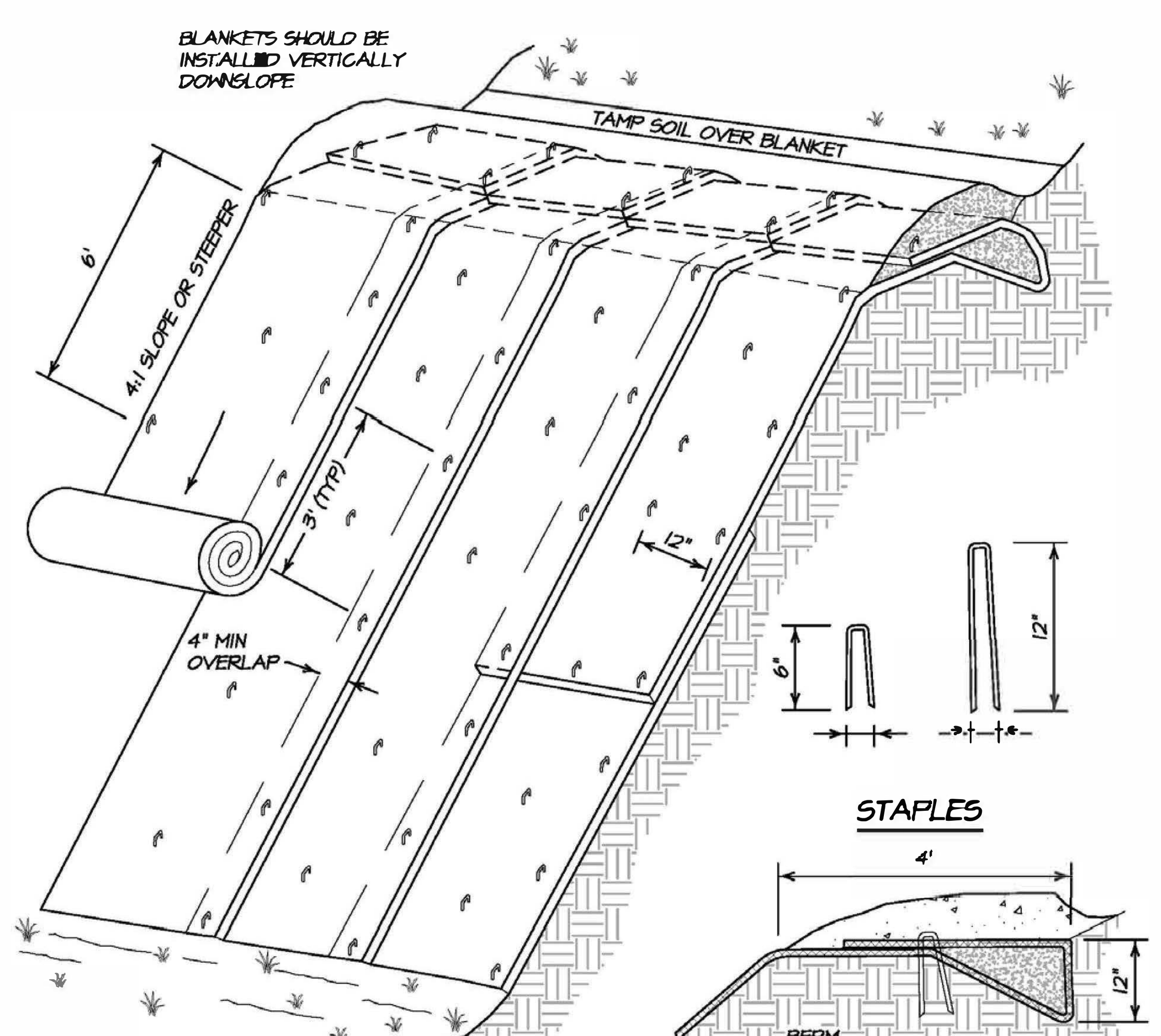


NOTES:

1. GRADE SWALE ENTIRELY IN CUT WHERE POSSIBLE. IF FILL IS USED ON BERM, FILL MUST BE MOISTURE CONDITIONED AND COMPACTED TO ACHIEVE 90 PERCENT RELATIVE COMPACTION.
2. NORTH AMERICAN GREEN BIONET C125BN EROSION CONTROL BLANKET SHALL BE INSTALLED OVER SEED ALONG THE ENTIRE DIVERSION SWALE. BLANKETS SHALL EXTEND OVER ENTIRE BERM AND UPSLOPE OF FLOW AND INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
3. IRRIGATION OF SEEDED AREAS ALONG DIVERSION SWALES PRIOR TO THE RAINY SEASON IS HIGHLY RECOMMENDED TO ESTABLISH A HEALTHY COVER CROP.

CROSS-SLOPE DIVERSION SWALE SECTION

NO SCALE



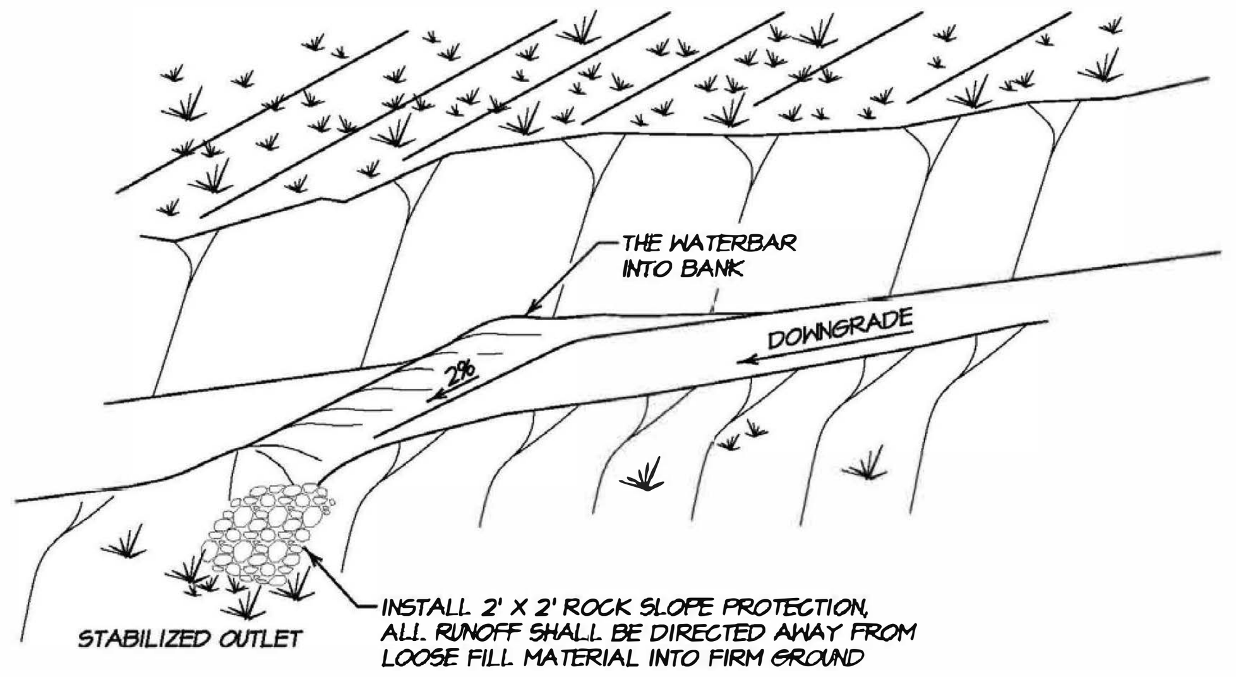
ISOMETRIC VIEW

NOTES:

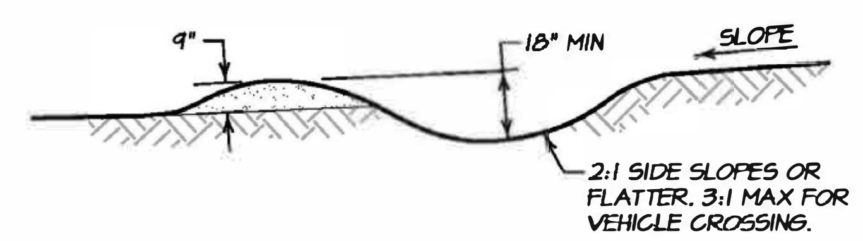
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS. BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY NORTH AMERICAN GREEN BIONET C125BN BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

SLOPE STABILIZATION & EROSION CONTROL BLANKET INSTALLATION DETAIL

NO SCALE



ISOMETRIC



CROSS SECTION

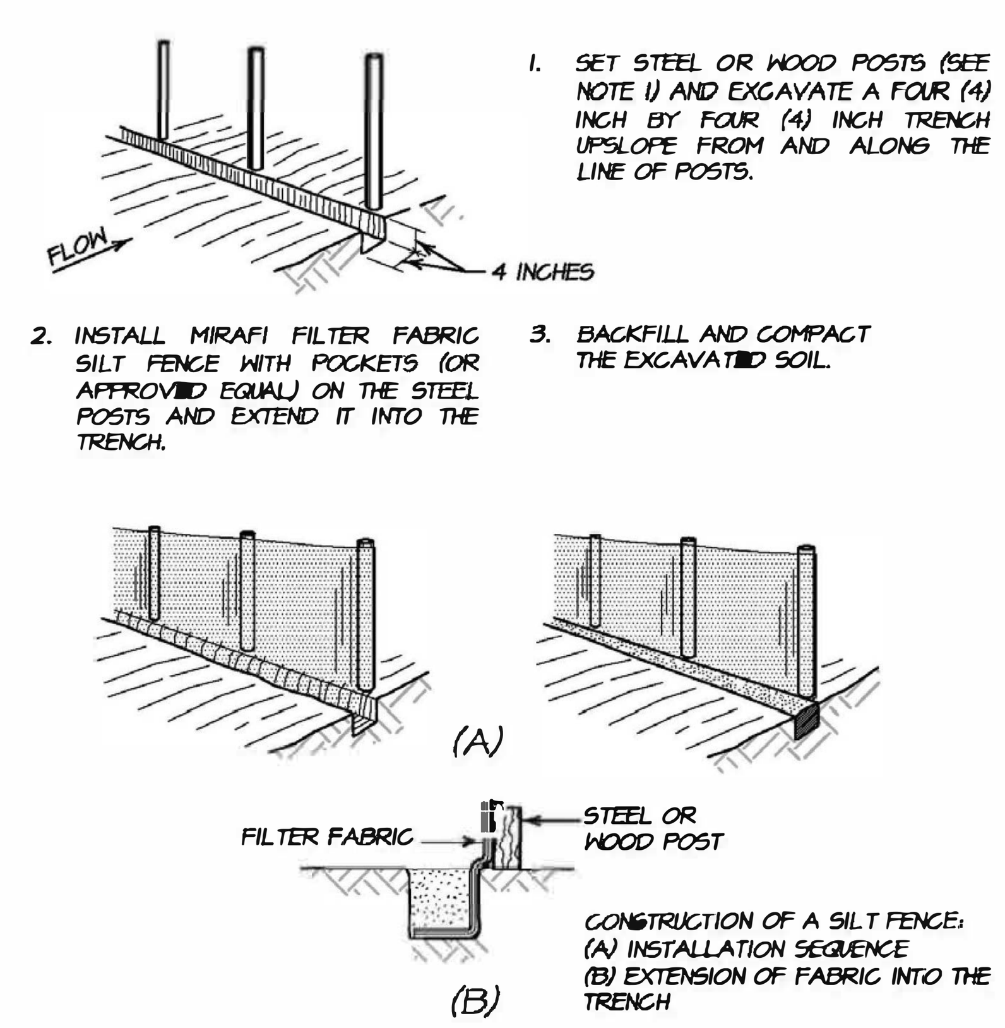
MAXIMUM DISTANCE BETWEEN WATERBARS				
EROSION HAZARD	ROAD OR AVENUE SLOPE			
	10% OR LESS	11% - 25%	26% - 50%	50% OR MORE
VERY SEVERE	100'	75'	50'	50'
SEVERE	150'	100'	75'	50'
MODERATE	200'	150'	100'	75'
LOW	300'	200'	150'	100'

TYPICAL WATERBAR DETAIL

NO SCALE

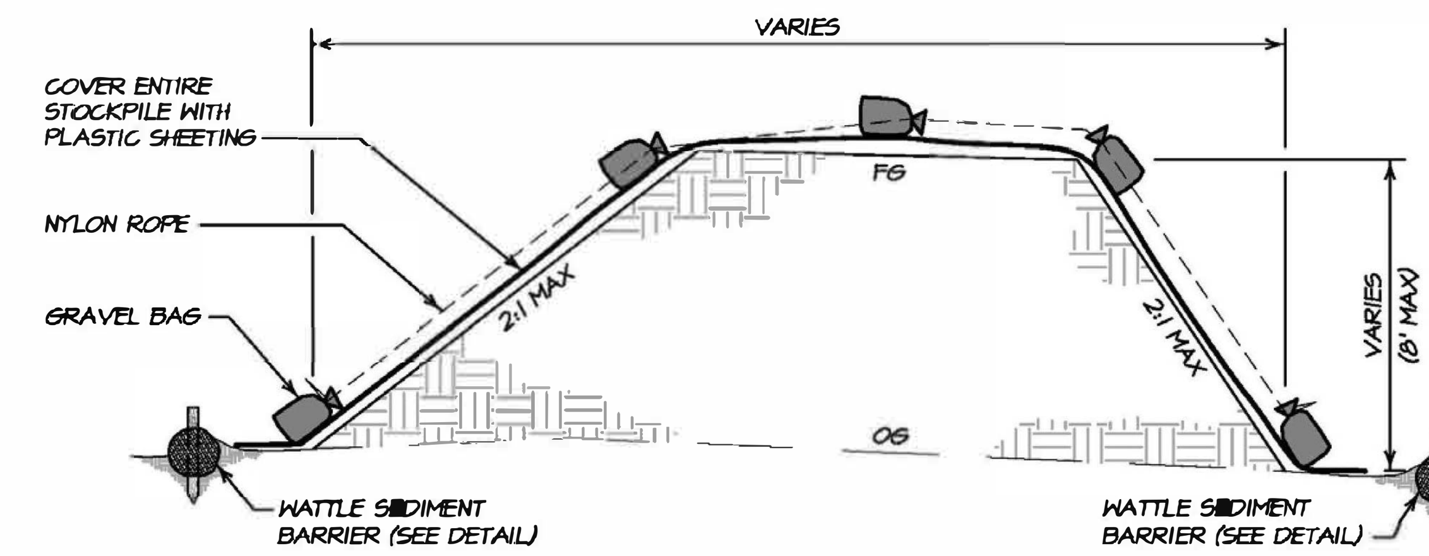
INSTALLATION OF SILT FENCE SEDIMENT BARRIER

1. LAY OUT A SUITABLE FENCE LINE AND SET POSTS ALONG IT. ON SLOPES, ALIGN THE FENCE ALONG THE CONTOUR AS CLOSELY AS POSSIBLE. IN SMALL SWALES, CURVE THE FENCE LINE UPSTREAM AT THE ENDS TO DIRECT THE FLOW TOWARD THE MIDDLE OF THE FENCE.
2. SPACE POSTS ON SIX (6) FOOT CENTERS AND DRIVE THEM A MINIMUM OF 12 INCHES INTO THE GROUND. POSTS FOR SILT FENCES CAN BE EITHER 1-1/2 INCHES MINIMUM DIAMETER HARD WOOD OR 1.33 POUNDS PER FOOT STEEL WITH A MINIMUM LENGTH OF FIVE (5) FEET. STEEL POSTS MUST HAVE PROJECTIONS FOR FASTENING WIRE TO THEM.
3. FASTEN THE FILTER FABRIC TO THE UPHILL SIDE OF THE FENCE POSTS, AND EXTEND TO SIX (6) TO EIGHT (8) INCHES INTO THE TRENCH. THE HEIGHT OF THE FENCE SHOULD NOT EXCEED 36 INCHES. DO NOT STAPLE FABRIC ONTO TREES. CUT THE FILTER FABRIC FROM A CONTINUOUS ROLL TO AVOID THE USE OF JOINTS. WHEN JOINTS ARE NECESSARY, SPLICE THE FILTER CLOTH AT A SUPPORT POST, WITH A MINIMUM SIX (6) INCHES OVERLAP, AND SECURELY FASTEN BOTH ENDS TO THE POST.
4. BACKFILL THE TRENCH OVER THE TOE OF THE FABRIC AND COMPACT THE SOIL.
5. PREFABRICATED SILT FENCE WITH POSTS MAY BE USED AS AN ALTERNATE TO SETTING STEEL OR WOOD POSTS.



SILT FENCE SEDIMENT BARRIER DETAIL

NO SCALE



NOTES:

1. IF STOCKPILE IS TOPSOIL, IT MAY BE PROTECTED BY APPLYING STRAW MULCH AND EROSION CONTROL SEED MIX IN PLACE OF PLASTIC SHEETING. IF GRASSES FAIL TO ESTABLISH EFFECTIVE COVER, PLASTIC SHEETING WILL BE REQUIRED.
2. PLASTIC SHEETING SHALL BE SECURELY HELD IN PLACE WITH A LINE OF GRAVEL BAGS SLUNG OVER THE TOP OF THE STOCK PILE WITH ROPE.

TYPICAL STOCKPILE CROSS SECTION

NO SCALE

2	05-12-2023	NO CHANGE TO THIS SHEET		DCB
1	09-13-2022	NO CHANGE TO THIS SHEET		DCB
NO.	DATE	DESCRIPTION		BY

REGISTERED PROFESSIONAL ENGINEER
RICHARD PAXTON
No. 84634
CIVIL
STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF

Richard Paxton

RICHARD PAXTON 05-12-2023

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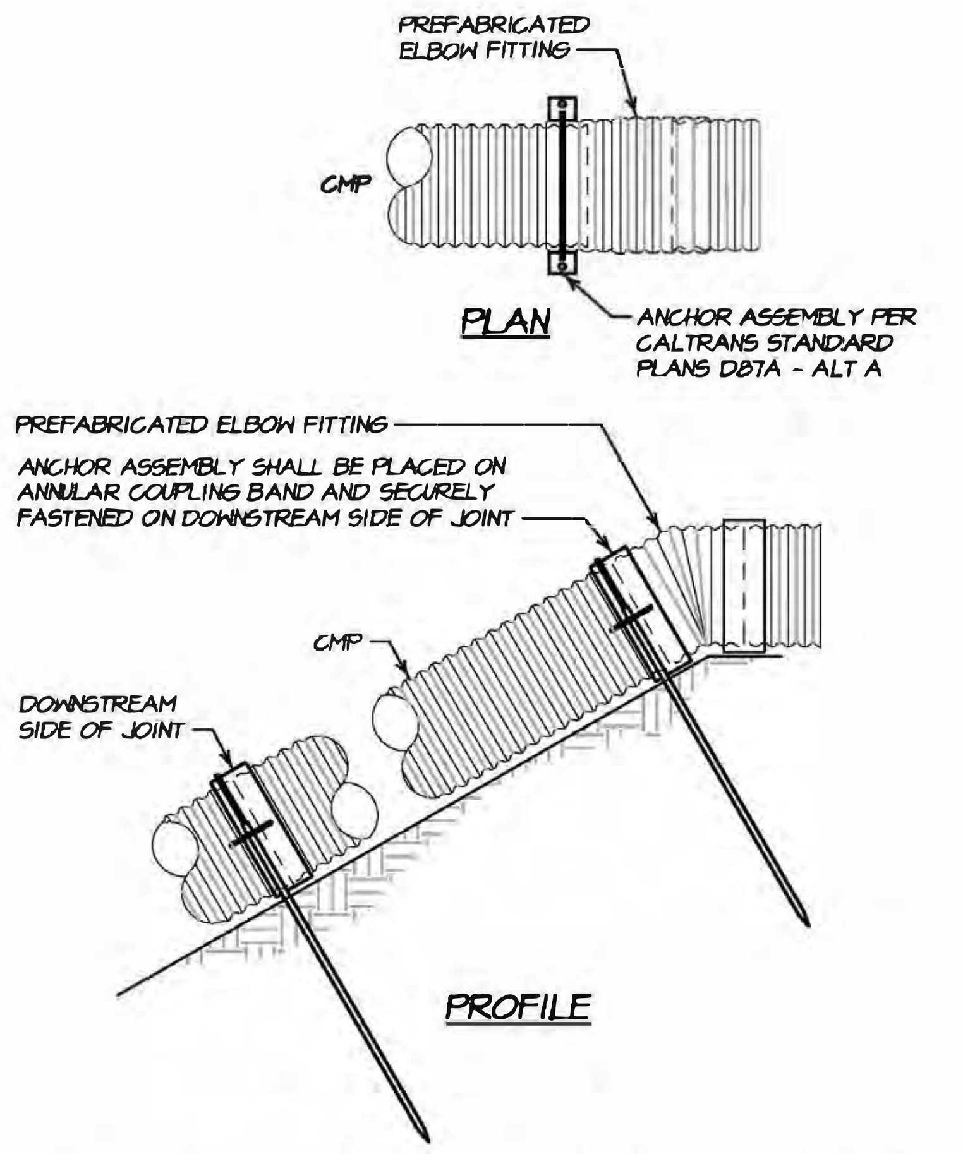
WINROD VINEYARDS
DETAIL SHEET

NAPA COUNTY CALIFORNIA

DATE: MAY 2021
JOB NO: 18-26
SHEET NO: EC6
OF 16

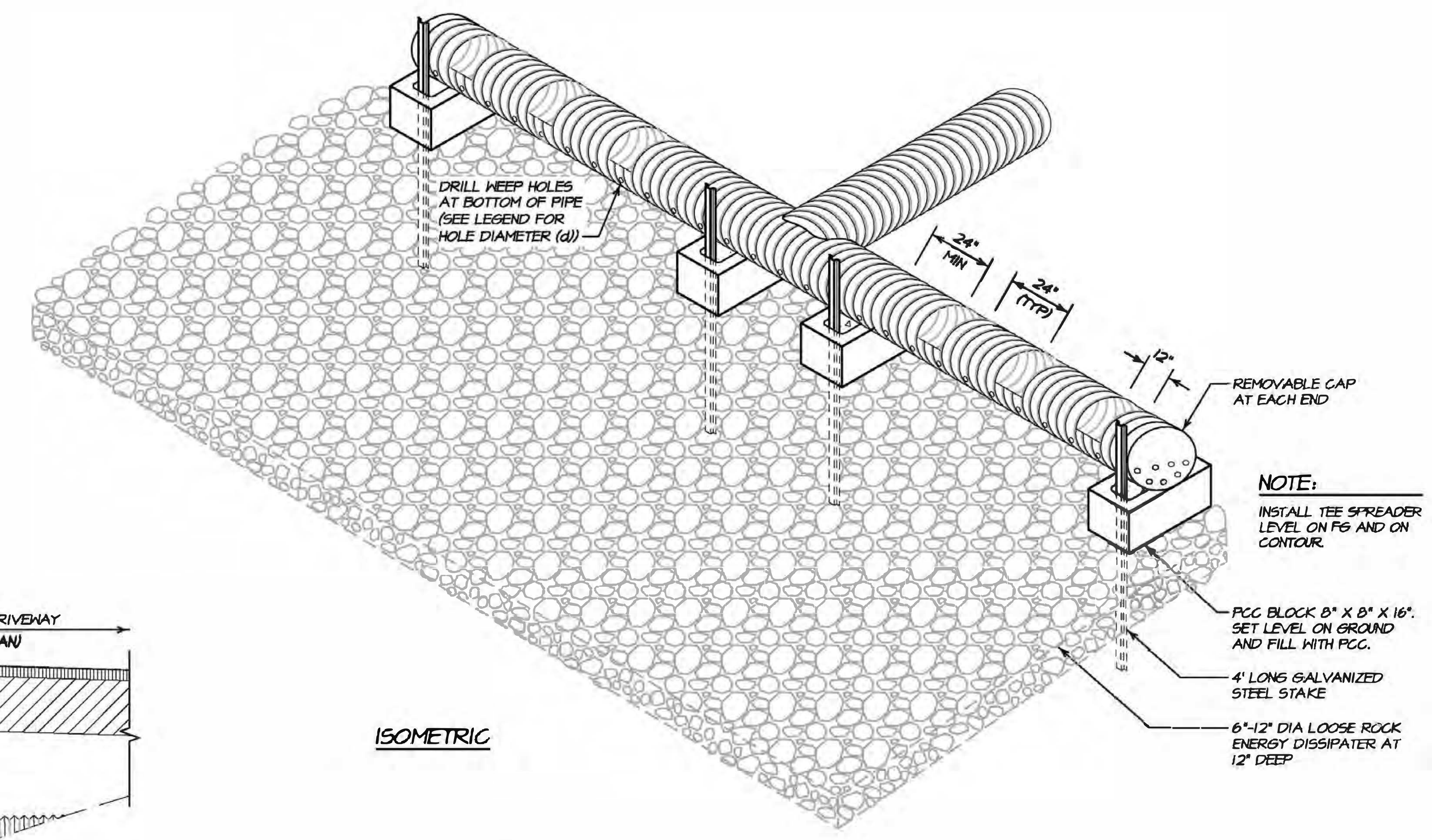


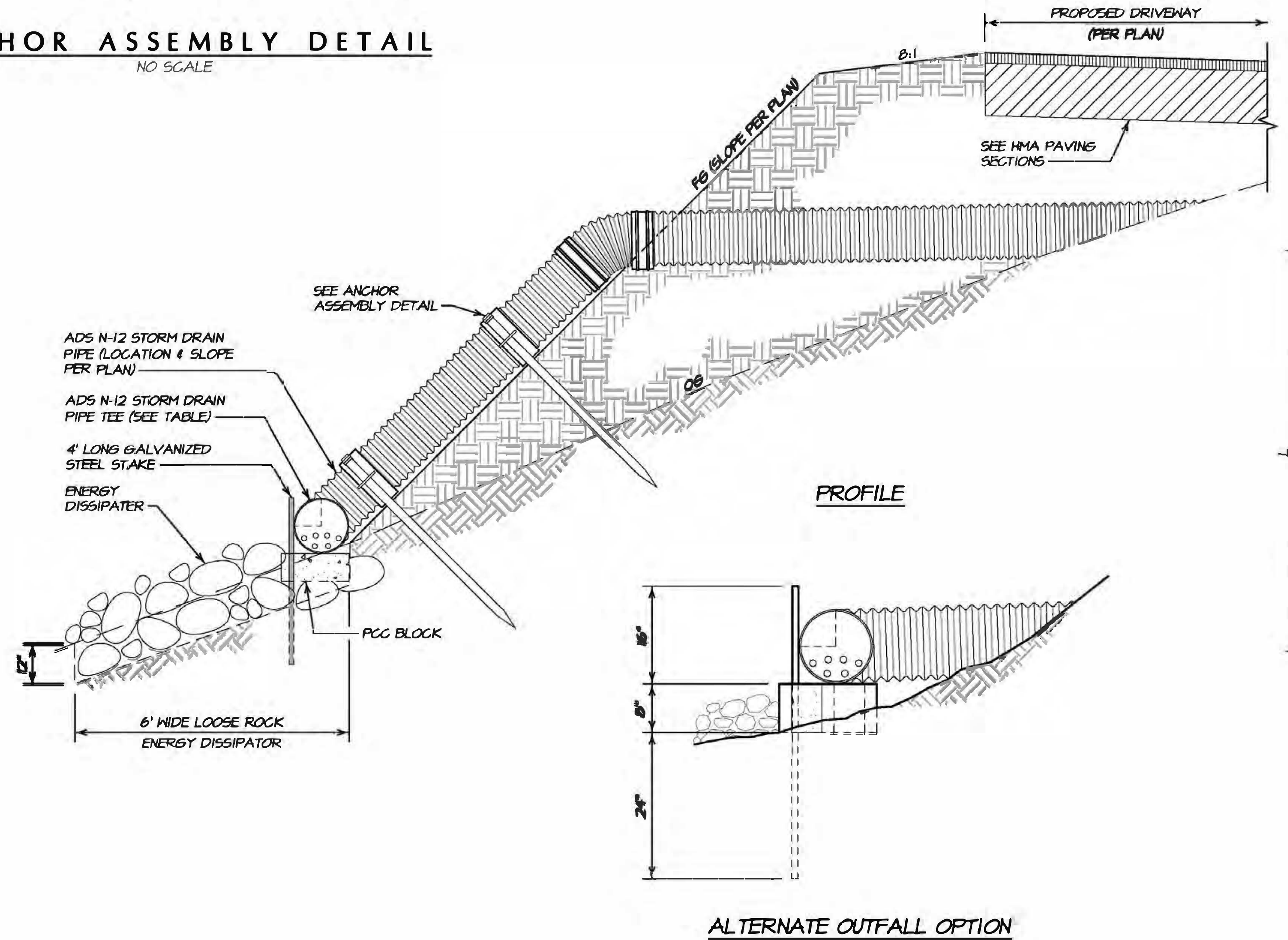
ANCHOR ASSEMBLY DETAIL

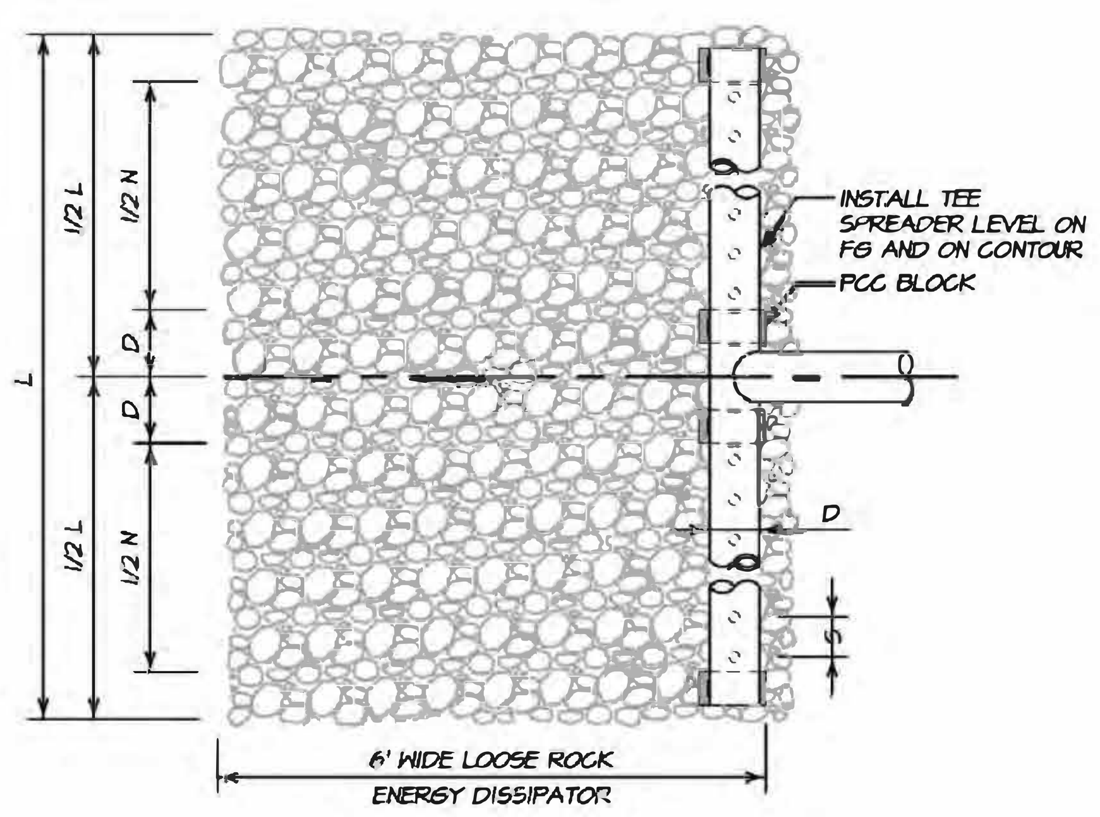
NO SCALE

TABLE					
Q (CFS)	D (IN)	L (FT)	d (IN)	S (IN)	N (HOLES)
1	12	16	1.5	12	14
2	12	22	1.5	12	26
3	12	28	2	12	20
4	12	30	2	12	28
5	15	30	2.5	15	22
6	15	32.5	2.5	15	26
7	18	36	3	18	22
8	18	42	3	18	26
9	18	45	3	18	28
10	24	48	3.5	24	24

D = DIAMETER OF PIPE
d = DIAMETER OF WEEP HOLES
S = SPACING BETWEEN WEEP HOLES
N = TOTAL NUMBER OF WEEP HOLES

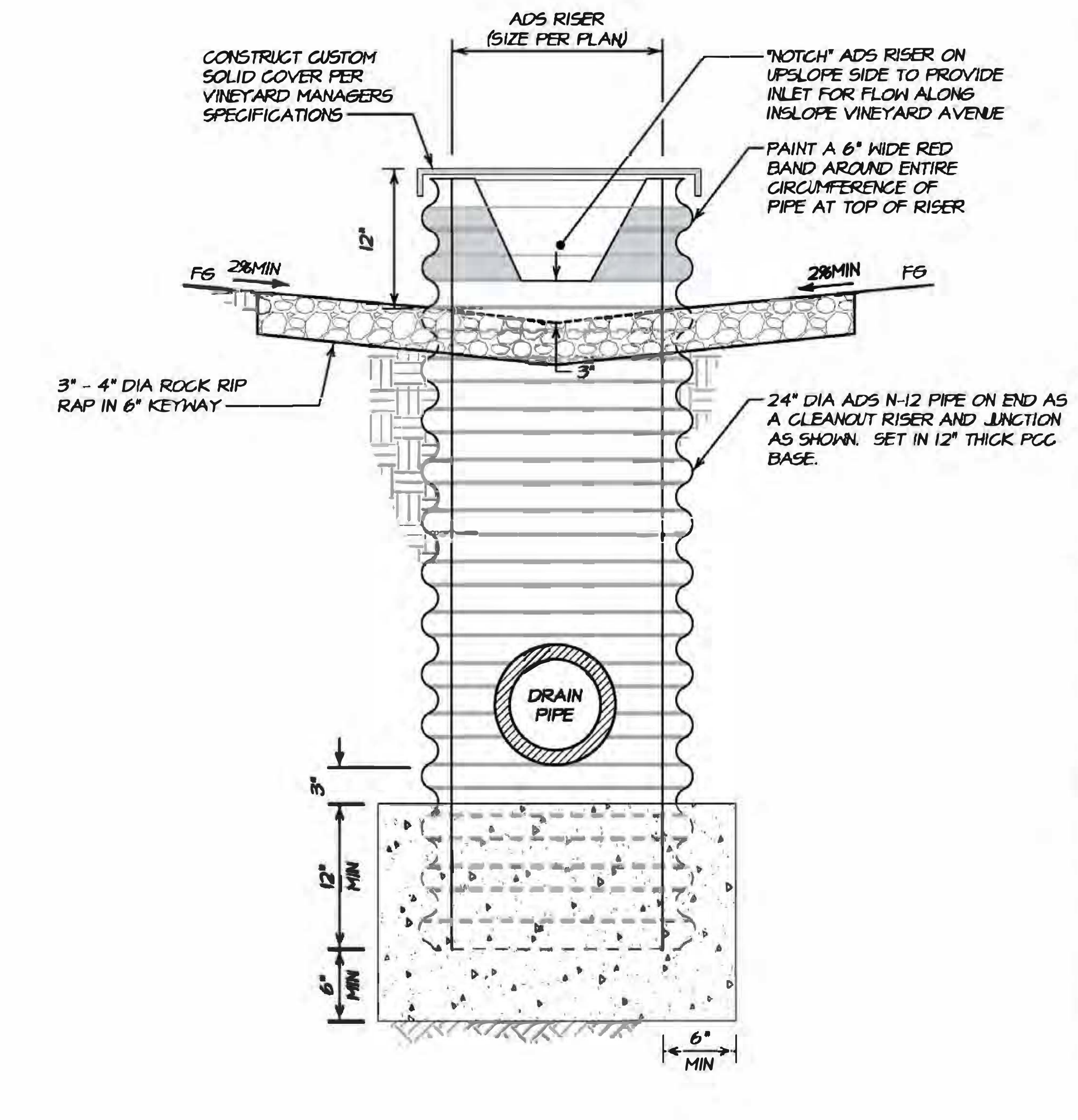






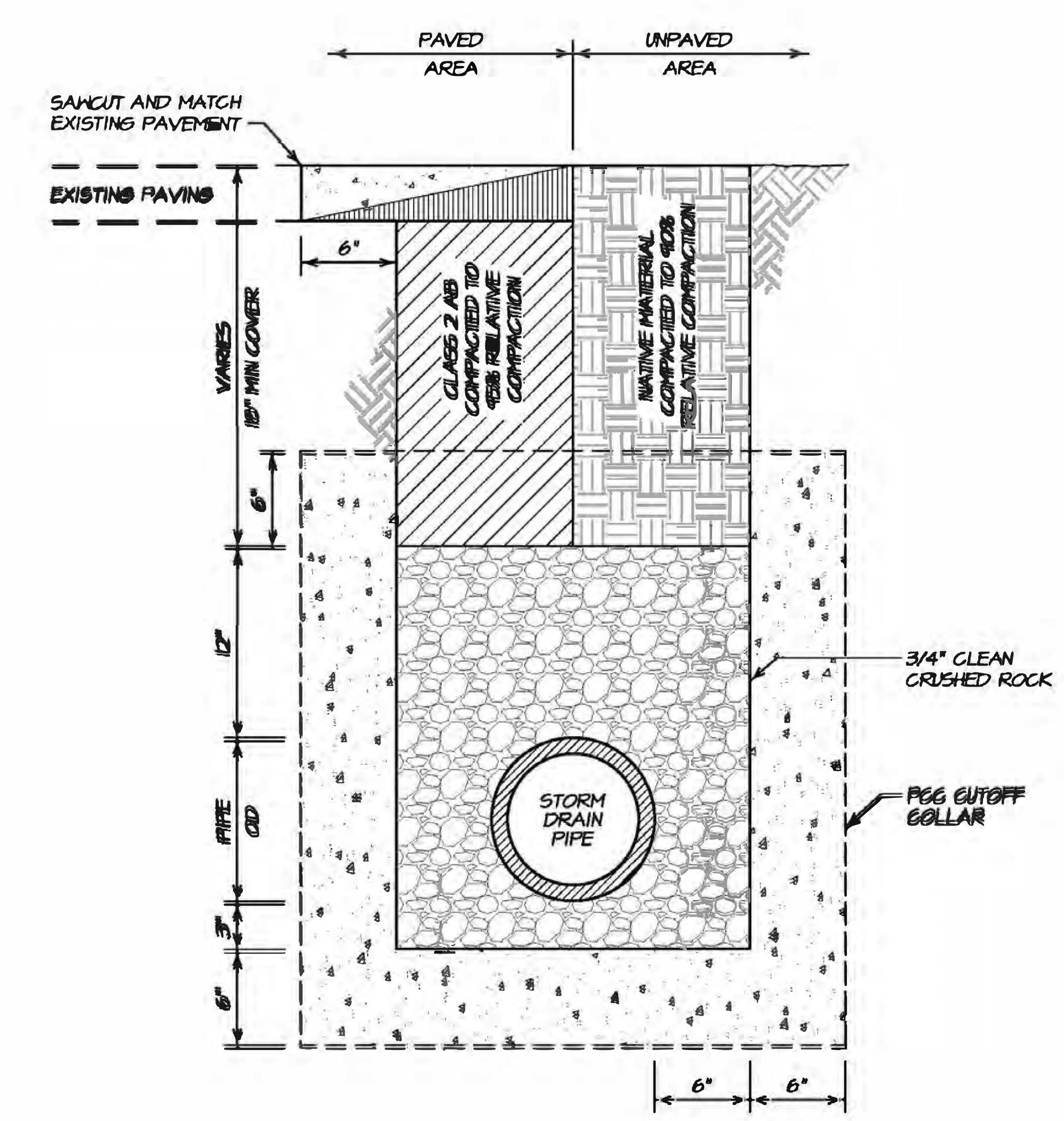
TEE SPREADER DETAIL

NO SCALE



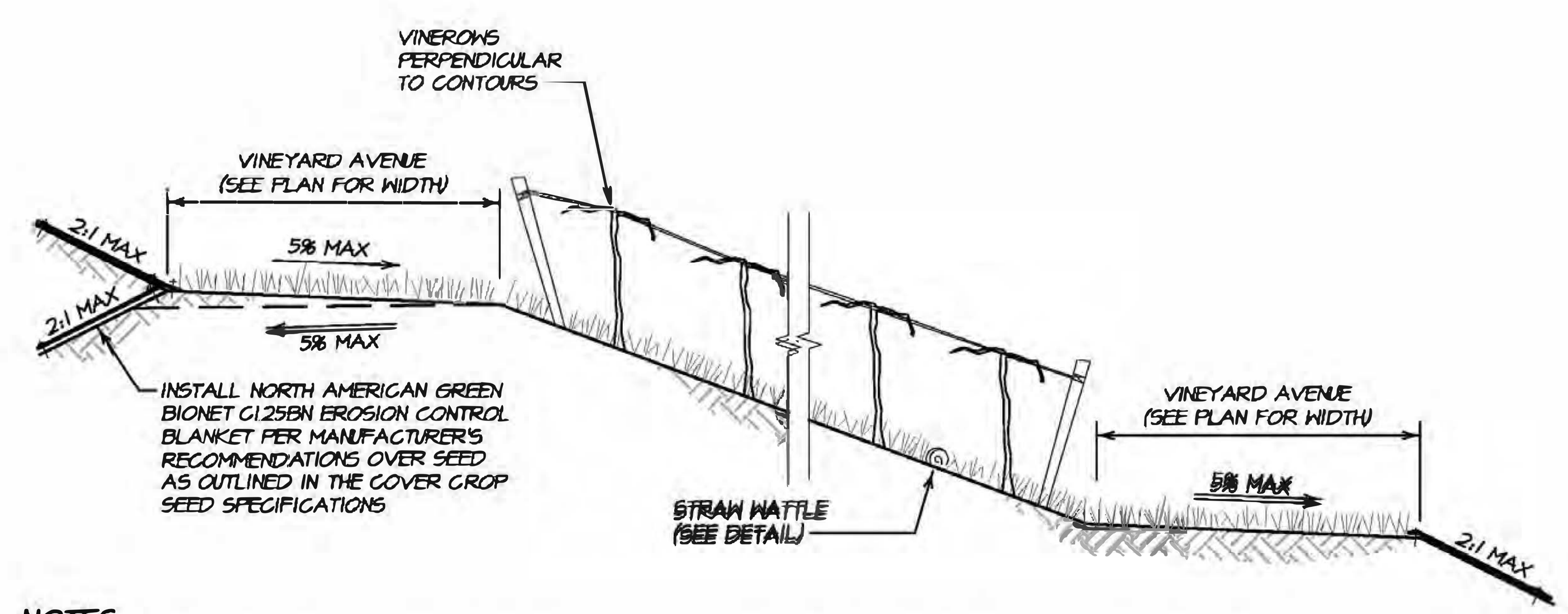
AGRICULTURAL STORM DRAIN INLET DETAIL

NO SCALE



STORM DRAIN TRENCH DETAIL

NO SCALE

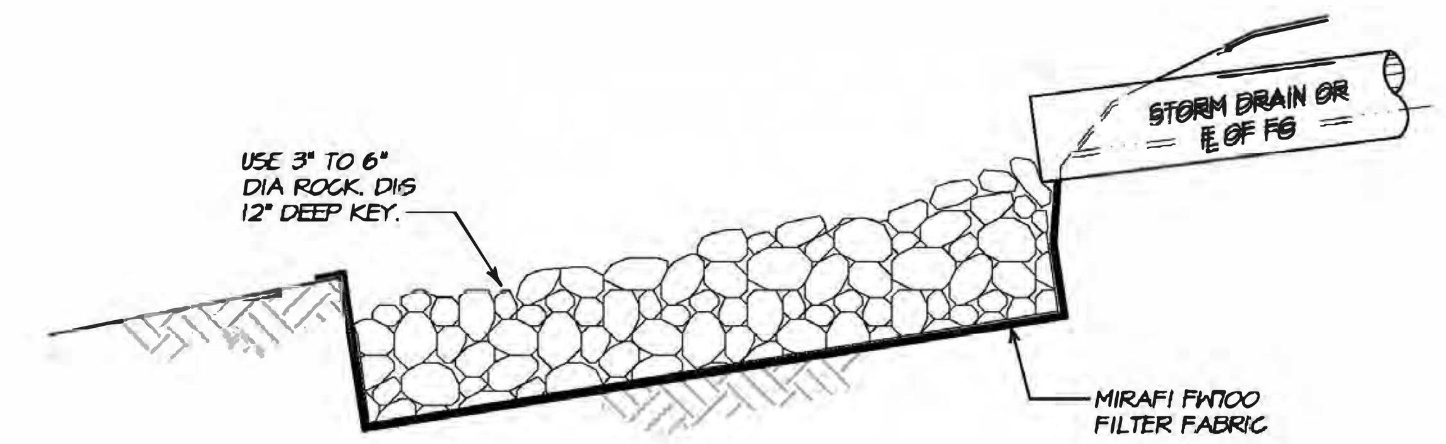


NOTES:

1. SEED AND MULCH ALL DISTURBED AREAS PER SEEDING SPECIFICATIONS OUTLINED IN THE EROSION CONTROL NOTES.
2. IRRIGATION OF SEEDED AREAS PRIOR TO THE RAINY SEASON IS HIGHLY RECOMMENDED TO ESTABLISH A HEALTHY COVER CROP.

VINEYARD SECTION

NO SCALE



ROCK ENERGY DISSIPATER DETAIL

NO SCALE

NO.	DATE	DESCRIPTION	BY
2	05-12-2023	NO CHANGE TO THIS SHEET	DCB
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PREPARED UNDER THE DIRECTION OF

RICHARD PAXTON 05-12-2023

WINROD VINEYARDS
DETAIL SHEET
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DES: CM / RP
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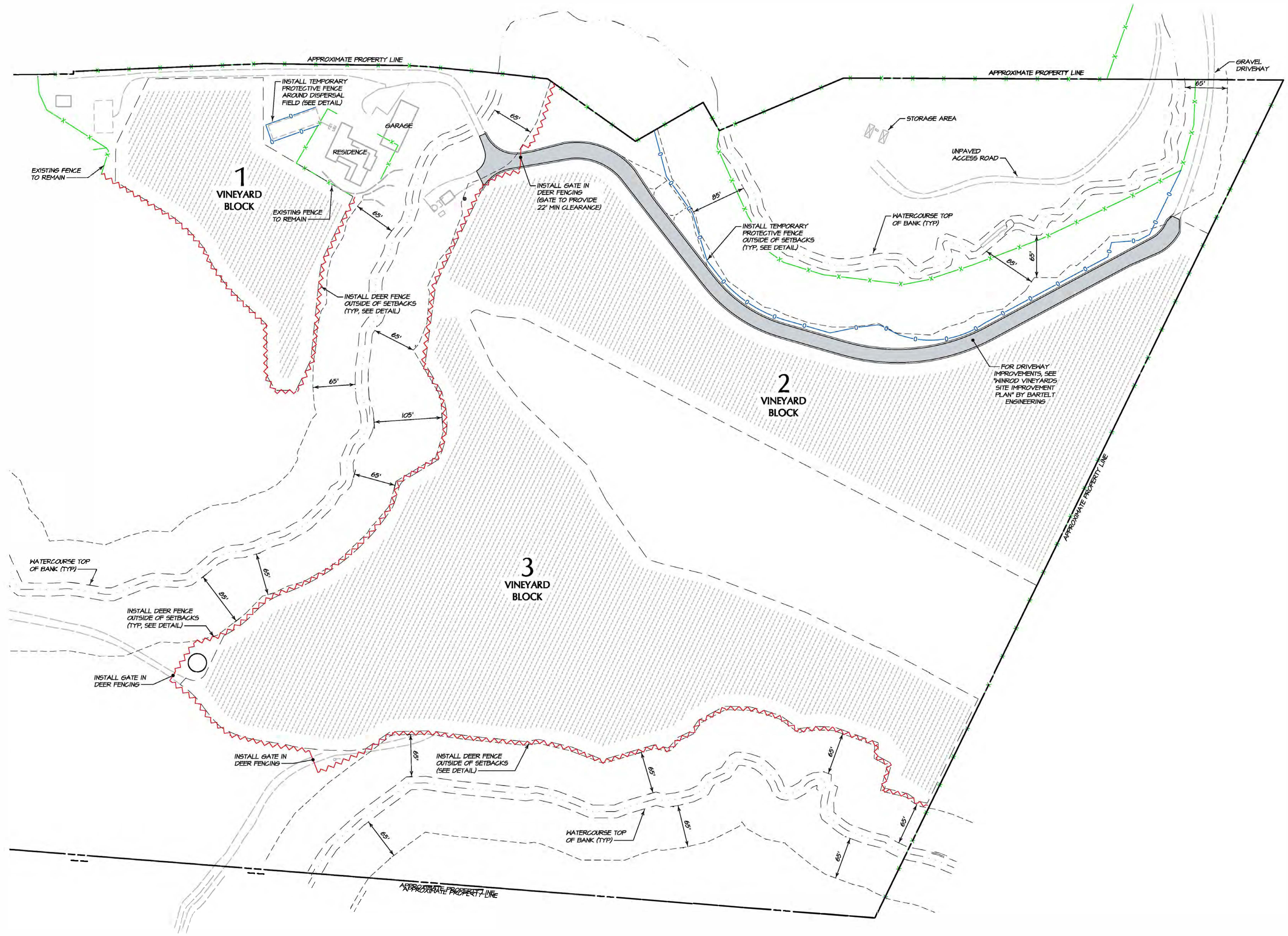
CHKD: PNB

DATE: MAY 2021
JOB NO: 18-26
SHEET NO: EC7

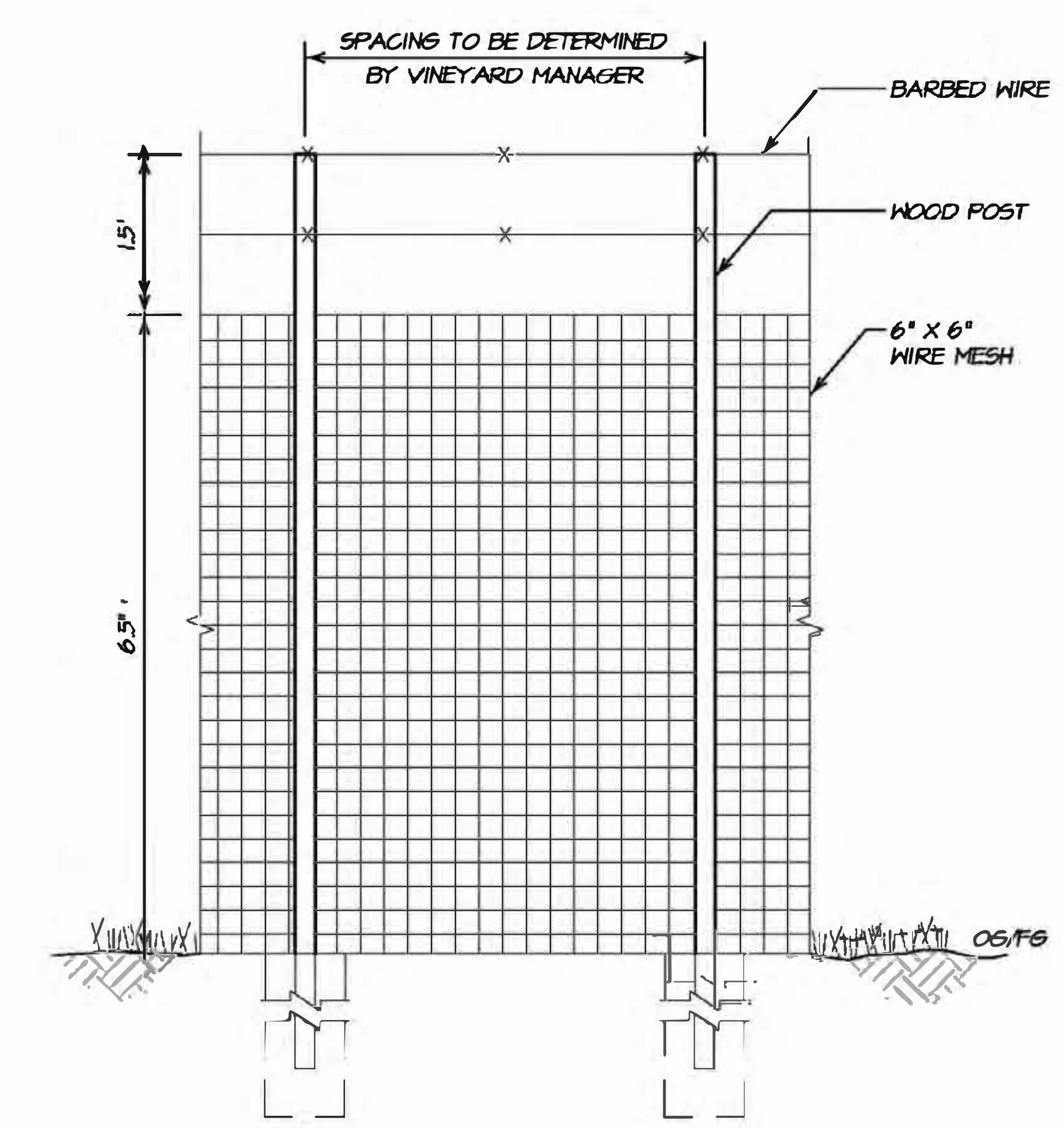


FENCING PLAN

SCALE: 1" = 80'

INSTALLATION OF DEER FENCE

1. PERMANENT FENCING SHALL BE INSTALLED AS SHOWN ON THE PLAN IN A MANNER THAT MAINTAINS PROTECTIVE SETBACKS AND BUFFERS AND KEEPS WILDLIFE MOVEMENT CORRIDORS UNIMPEDED. DEER FENCING SHALL BE:
   A. INSTALLED SO AS NOT TO RESTRICT THE MOVEMENT OF LARGER TERRESTRIAL WILDLIFE.
   B. LIMITED TO THE PERIMETER OF THE VINEYARD BLOCKS; CONTIGUOUS VINEYARD BLOCKS MAY BE FENCED AS ONE (1), PROVIDING THAT PROTECTIVE BUFFERS ARE MAINTAINED AND WILDLIFE MOVEMENT REMAINS UNOBSTRUCTED.
   C. WIRE MESH WITH OPENINGS NO SMALLER THAN SIX (6) INCHES.
2. ALL PROPERTY LINE FENCING, OTHER THAN DEER FENCING ALONG THE EDGES OF CONTIGUOUS VINEYARD BLOCKS, SHALL BE BARBED WIRE OR OTHER SIMILAR FIELD FENCING THAT DOES NOT RESTRICT THE MOVEMENT OF TERRESTRIAL WILDLIFE.
3. THE PROPERTY OWNER SHALL IMPLEMENT THIS PLAN IN A PHASED MANNER COORDINATED WITH THE DEVELOPMENT OF THE NEWLY PROPOSED VINEYARD.



DEER FENCE DETAIL

NO SCALE

LEGEND:

- EXISTING FENCE
- INSTALL DEER FENCE (SEE DETAIL)
- INSTALL TEMPORARY PROTECTIVE FENCE
- LIMITS OF CLEARING OR EDGE OF VINEYARD AVENUE
- GRADE TO DRAIN
- EDGE OF VINEYARD BLOCK
- PROPOSED VINEYARD LAYOUT & VINEROW DIRECTION

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WINROD VINEYARDS
FENCING PLAN

NAPA COUNTY CALIFORNIA

DATE: MAY 2021
JOB NO: 18-26
SHEET NO: EC8 of 16

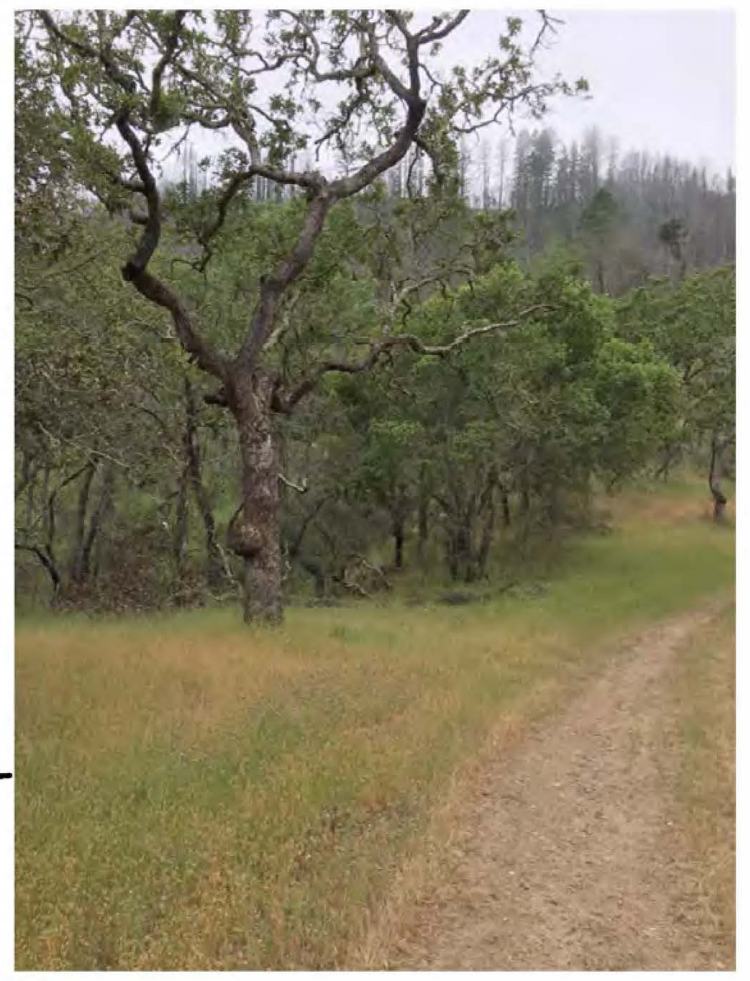
PHOTOGRAPH 1

PHOTOGRAPH 2

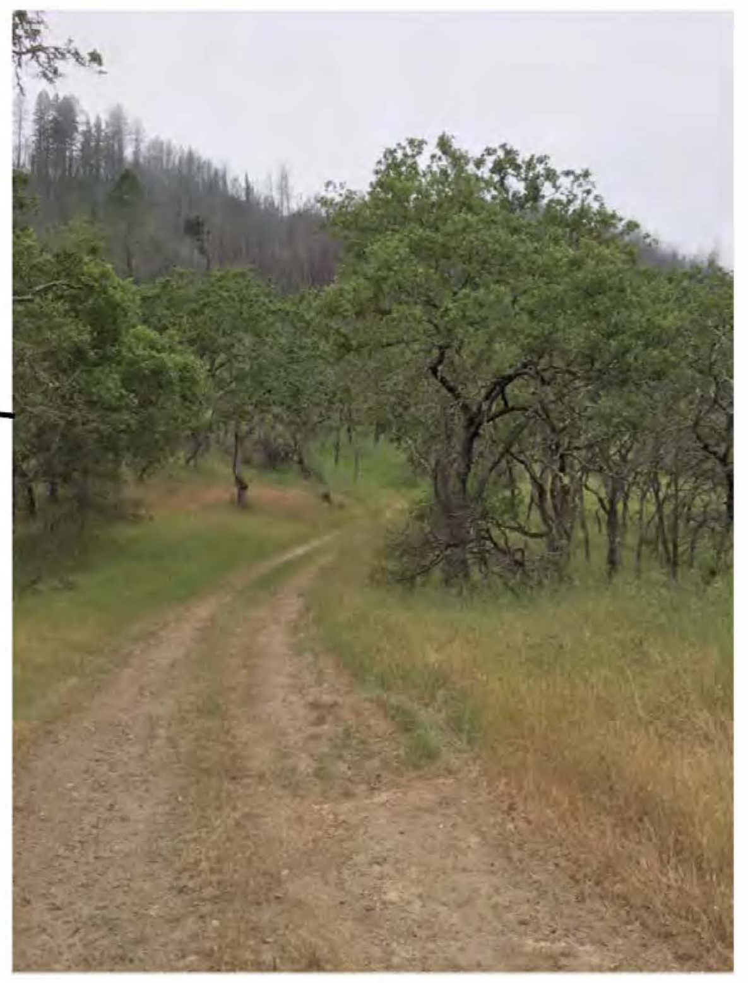
PHOTOGRAPH 3

PHOTOGRAPH 4

PHOTOGRAPH 5



PHOTOGRAPH 6



PHOTOGRAPH 7

SCALE: 1" = 100'
REPRODUCE IN COLOR

NOTES:

REPRESENTS LOCATION AND DIRECTION OF PHOTOGRAPH TAKEN BY BARTELT ENGINEERING ON MAY 8, 2019.

THE 2018 AERIAL PHOTOGRAPH USED AS A BASE FOR THIS PLAN WAS PROVIDED BY NAPA COUNTY. ALL PROPERTY LINES, BUILDINGS, UTILITIES, WASTEWATER SYSTEM LOCATIONS, DIMENSIONS, AND DESCRIPTIONS SHOWN HEREON ARE APPROXIMATE AND SHALL BE VERIFIED IN THE FIELD.

PHOTOGRAPHIC DOCUMENTATION

SCALE: 1" = 100'

NO.	DATE	DESCRIPTION	BY
2	05-12-2023	NO CHANGE TO THIS SHEET	DCB
1	04-13-2022	NO CHANGE TO THIS SHEET	DCB

REGISTERED PROFESSIONAL ENGINEER
RICHARD PAXTON
No. 84634
CIVIL
STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF

RICHARD PAXTON 05-12-2023

BARTELT ENGINEERING
CIVIL ENGINEERING · LAND PLANNING
1303 Jefferson Street, 200 B, Napa, CA 94559
www.barteltengineering.com
· Telephone: 707-258-1301 ·

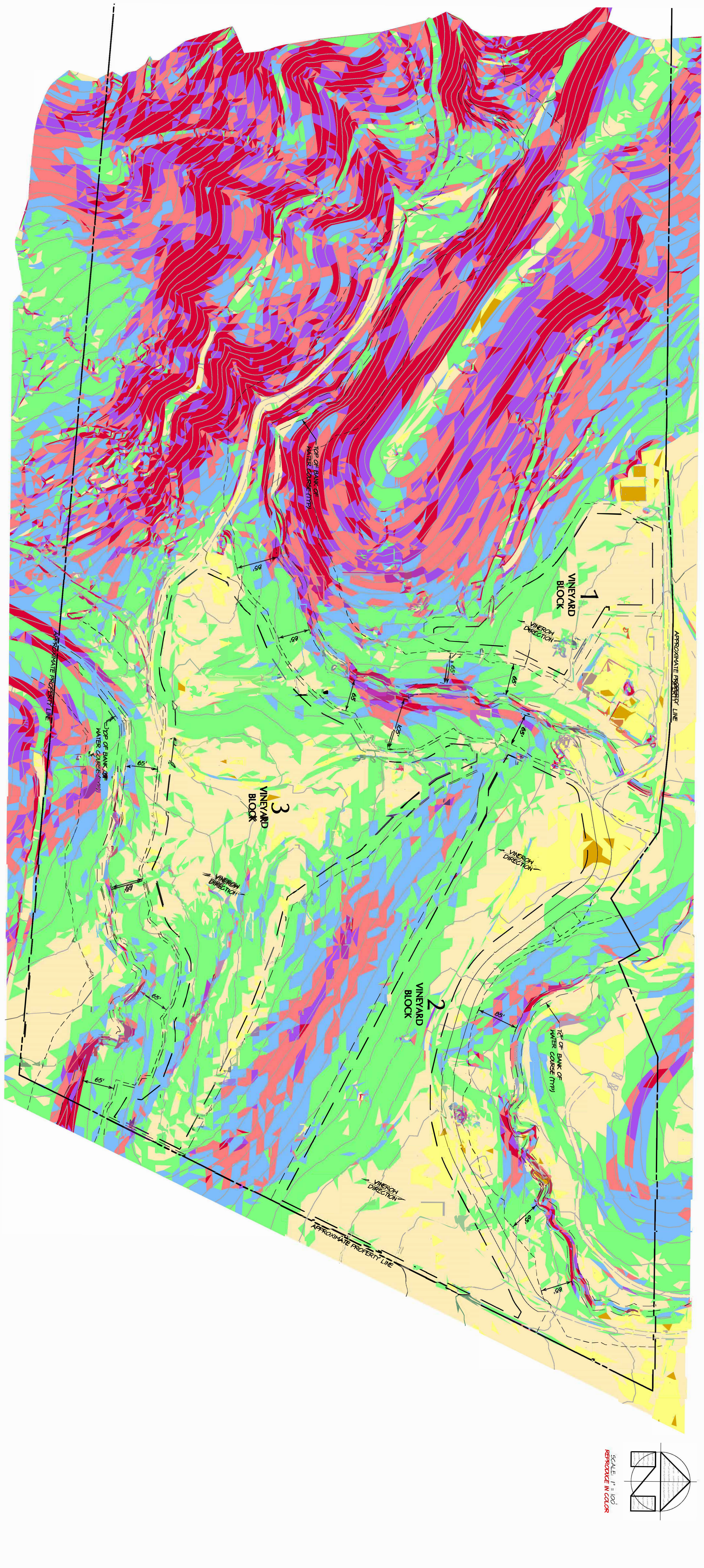
DES: CN / RP
DRWN: KP / DB
CHKD: PNB

WINROD VINEYARDS
PHOTOGRAPHIC DOCUMENTATION

NAPA COUNTY — CALIFORNIA

DATE: MAY 2021
JOB NO. 18-26
SHEET NO. EC9

5/8/2023 - 11:17 AM, DavidB, S:\LAND PROJECTS\2018-2022\1826\2018 ECP\ACAD\EXHIBITS\1826-SA.DWG, SLOPE ANALYSIS, ARCH FULL BLEED D (36.00 X 24.00 INCHES), 1" = 1', PLOTTED @ BARTELT ENGINEERING, 707-258-1301



SLOPE ANALYSIS

SCALE: 1" = 100'

SLOPE ANALYSIS LEGEND:

SLOPE (PERCENT)	REQUIRED SETBACK
0% < 1% SLOPES	35 FEET
1% TO 5% SLOPES	45 FEET
5% TO 15% SLOPES	55 FEET
15% TO 30% SLOPES	65 FEET
30% TO 40% SLOPES	85 FEET
40% TO 50% SLOPES	105 FEET
50% TO 60% SLOPES	125 FEET
60% AND ABOVE SLOPES	150 FEET

NO.	DATE	DESCRIPTION	BY
2	05-12-2023	NO CHANGE TO THIS SHEET	DCB
1	04-13-2022	NO CHANGE TO THIS SHEET	DCB

REGISTERED PROFESSIONAL ENGINEER
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No. 84634
CIVIL
STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF
Richard Paxton 05-12-2023
RICHARD PAXTON

SCALE: 1" = 100'
REPRODUCE IN COLOR

WINROD VINEYARDS
SLOPE ANALYSIS
NAPA COUNTY CALIFORNIA

DATE: MAY 2021
JOB NO: 18-26
SHEET NO: C10
of 16

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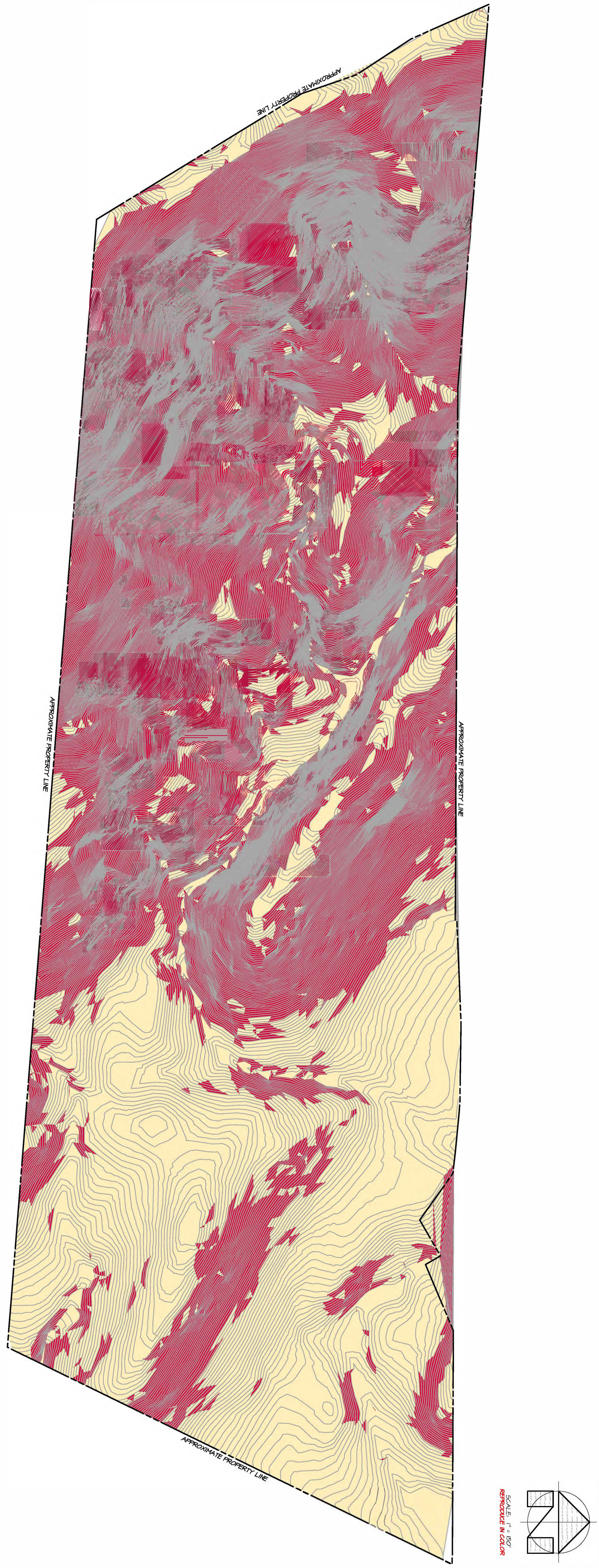
WATER AVAILABILITY ANALYSIS EXHIBIT

SCALE: 1" = 150'

SLOPE ANALYSIS LEGEND:

SLOPE (PERCENT)	APPROXIMATE AREA
0% TO 30% SLOPES	40.5± ACRES
30% AND ABOVE SLOPES	64.3± ACRES



SCALE: 1" = 150'
REPRODUCE IN COLOR

NO.	DATE	DESCRIPTION	BY
2	05-12-2023	NO CHANGE TO THIS SHEET	DCB
1	04-13-2022	NO CHANGE TO THIS SHEET	DCB

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PREPARED UNDER THE DIRECTION OF

4RED

RICHARD PAXTON 05-12-2023

WINROD VINEYARDS

WATER AVAILABILITY ANALYSIS EXHIBIT

NAPA COUNTY CALIFORNIA

DATE: MAY 2021
JOB NO: 18-26
SHEET NO: EC11 OF 11

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SHEET CONTENTS REMOVED FROM PLAN SET. REFER TO BIOLOGICAL RESOURCE ASSESSMENT WITH BOTANICAL SURVEYS AND DELINEATION OF WATER OF THE U.S. FOR THE WINROD VINEYARDS PROJECT PREPARED BY NORTHWEST BIOSURVEY DATED SEPTEMBER 5, 2019, UPDATED SEPTEMBER 8, 2020 FOR POTENTIAL CANOPY COVER LOSS AS A RESULT OF THE PROPOSED VINEYARD DEVELOPMENT.

NO.	DATE	DESCRIPTION	BY
2	05-12-2023	NO CHANGE TO THIS SHEET	DCB
1	04-13-2022	EMAIL COMMENTS DATED JULY 7, JULY 12, AND JULY 26, 2022.	DCB

REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF

RICHARD PAXTON 05-12-2023

WINROD VINEYARDS

NAPA COUNTY CALIFORNIA

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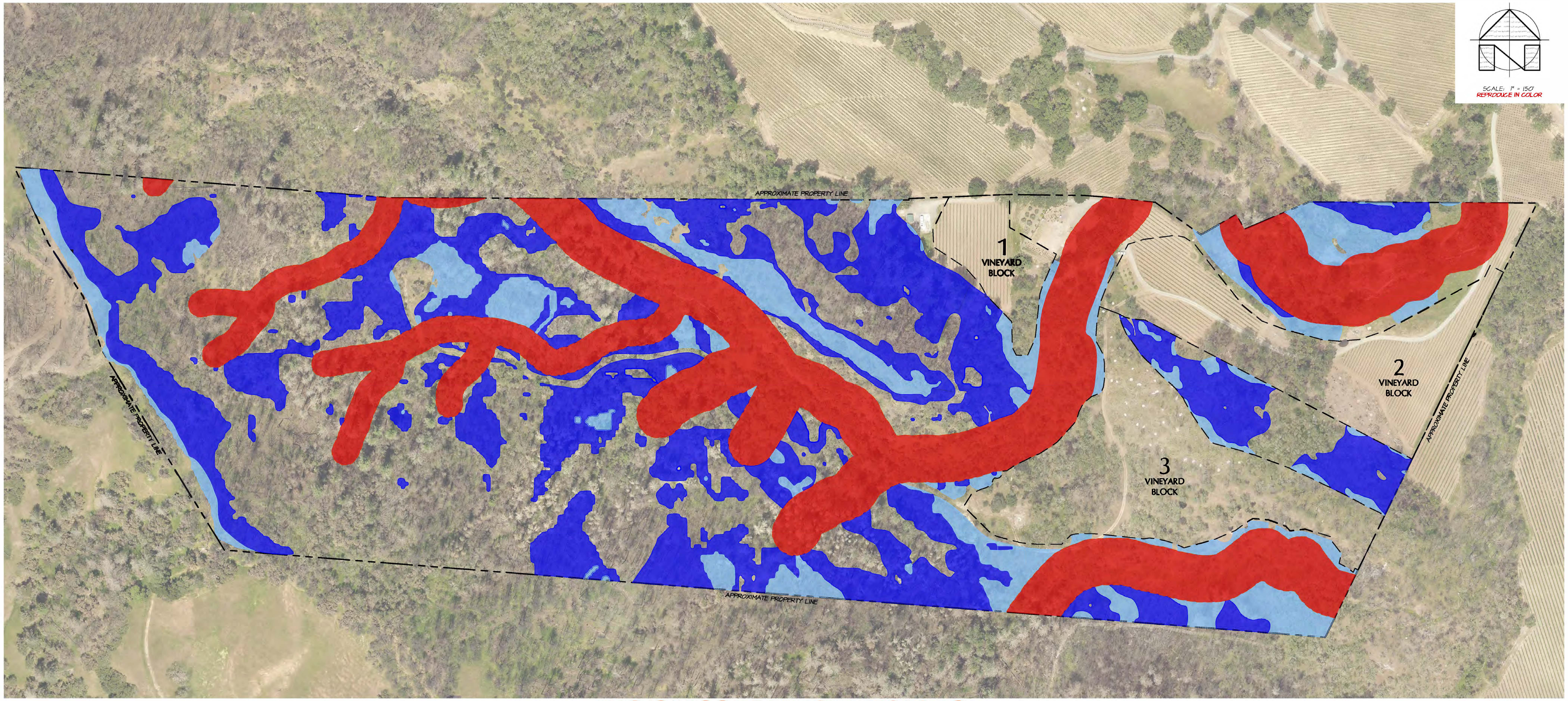
DATE: MAY 2021
JOB NO. 18-26
SHEET NO.
EC12
OF 16



CANOPY MITIGATION AREA EXHIBIT

SCALE: 1" = 150'

NOTE:

THIS EXHIBIT HAS BEEN CREATED USING P20-00247; WINROD VINEYARD ECPA, FIGURE 4; "CANOPY COVER REMOVAL" PROVIDED BY NAPA COUNTY PLANNING, BUILDING AND ENVIRONMENTAL SERVICES DATED OCTOBER 11, 2022.

LEGEND:

- POTENTIAL PRESERVATION AND/OR REPLANT AREAS ON (30% SLOPES (9.5 ACRES)
- POTENTIAL PRESERVATION AND/OR REPLANT AREAS ON 30% - 50% SLOPES (22.8 ACRES)
- STREAM SETBACKS
- EDGE OF PROPOSED VINEYARD AVENUE

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RICHARD PAXTON 05-12-2023

NO.	DATE	DESCRIPTION	BY
2	05-12-2023	SHEET ADDED PER COMMENTS DATED MAY 2, 2023	DCB
1	04-13-2022	N/A	DCB

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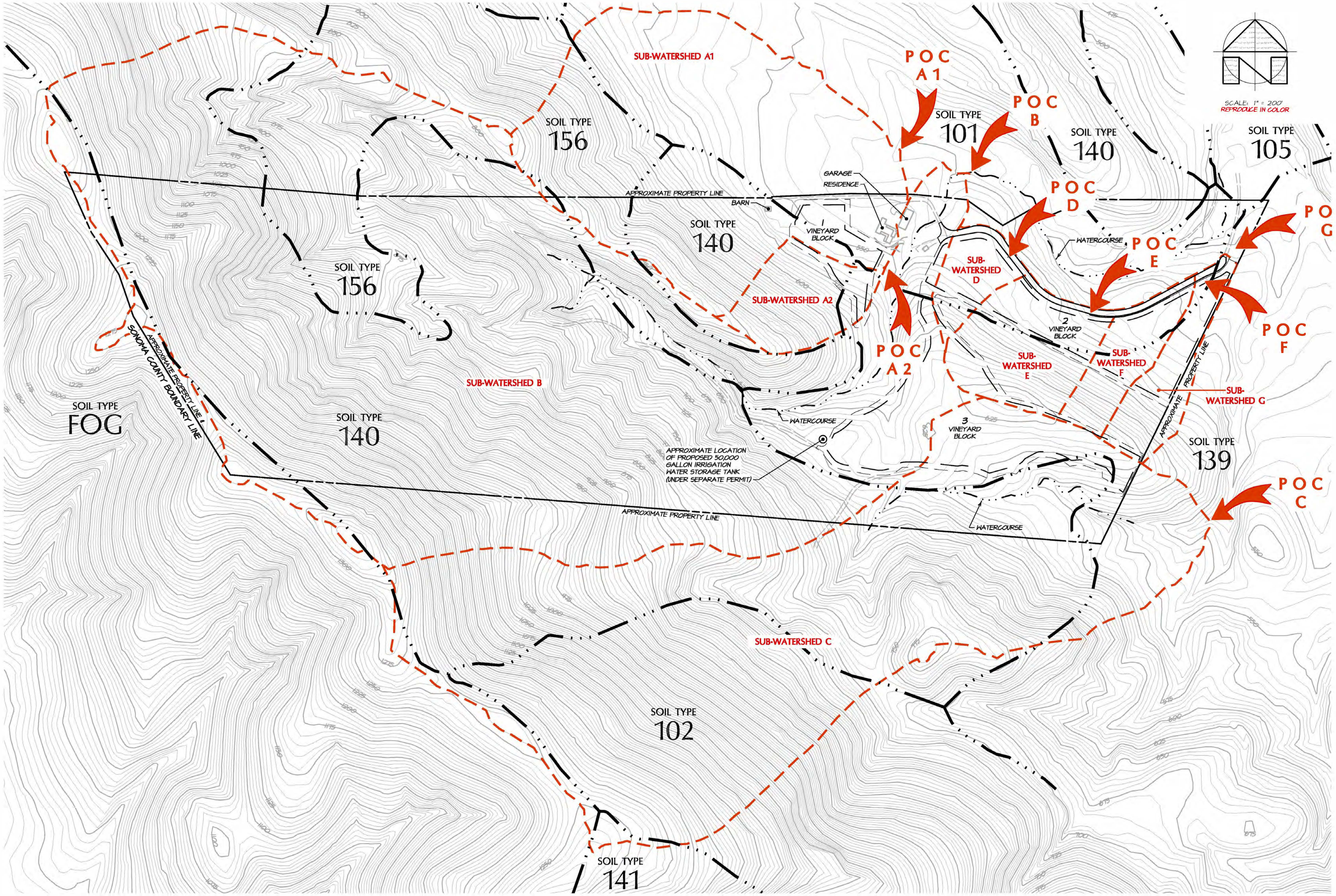
WINROD VINEYARDS

CANOPY MITIGATION AREA EXHIBIT

NAPA COUNTY — CALIFORNIA

DATE: MAY 2023
JOB NO. 18-26
SHEET NO. EC13 OF 16



OVERALL SITE PLAN

SCALE: 1" = 200'

SOIL TYPE LEGEND:

NAPA COUNTY SOILS:

101* - AIKEN LOAM, 15% TO 30% SLOPES

102* - AIKEN LOAM, 30% TO 50% SLOPES

105 - BALE CLAY LOAM, 2% TO 5% SLOPES

139* - FORWARD SILT LOAM, 5% TO 39% SLOPES

140* - FORWARD SILT LOAM, 12% TO 57% SLOPES

141* - FORWARD-KIDD COMPLEX, 11% TO 60% SLOPES

156* - KIDD LOAM, 30% TO 75% SLOPES

SONOMA COUNTY SOILS:

FOG*- FORWARD SILT LOAM, 12% TO 57% SLOPES

* OCCURS WITHIN SUB-WATERSHED AREA

NOTE:

SUB-WATERSHED AREAS WERE DEVELOPED FROM THE NAPA COUNTY GEOGRAPHIC INFORMATION SYSTEM MAPS WITH FIVE (5) FOOT CONTOUR INTERVALS OF THE NAPA RIVER WATERSHED.

LEGEND:

SOIL CLASSIFICATION BOUNDARY

EDGE OF PROPOSED VINEYARD AVENUE

EDGE OF PROPOSED VINEYARD BLOCK

LIMITS OF PROJECT SUB-WATERSHED

EXISTING WATER COURSE

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RICHARD PAXTON 05-12-2023

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2	05-12-2023	NO CHANGE TO THIS SHEET	DCB
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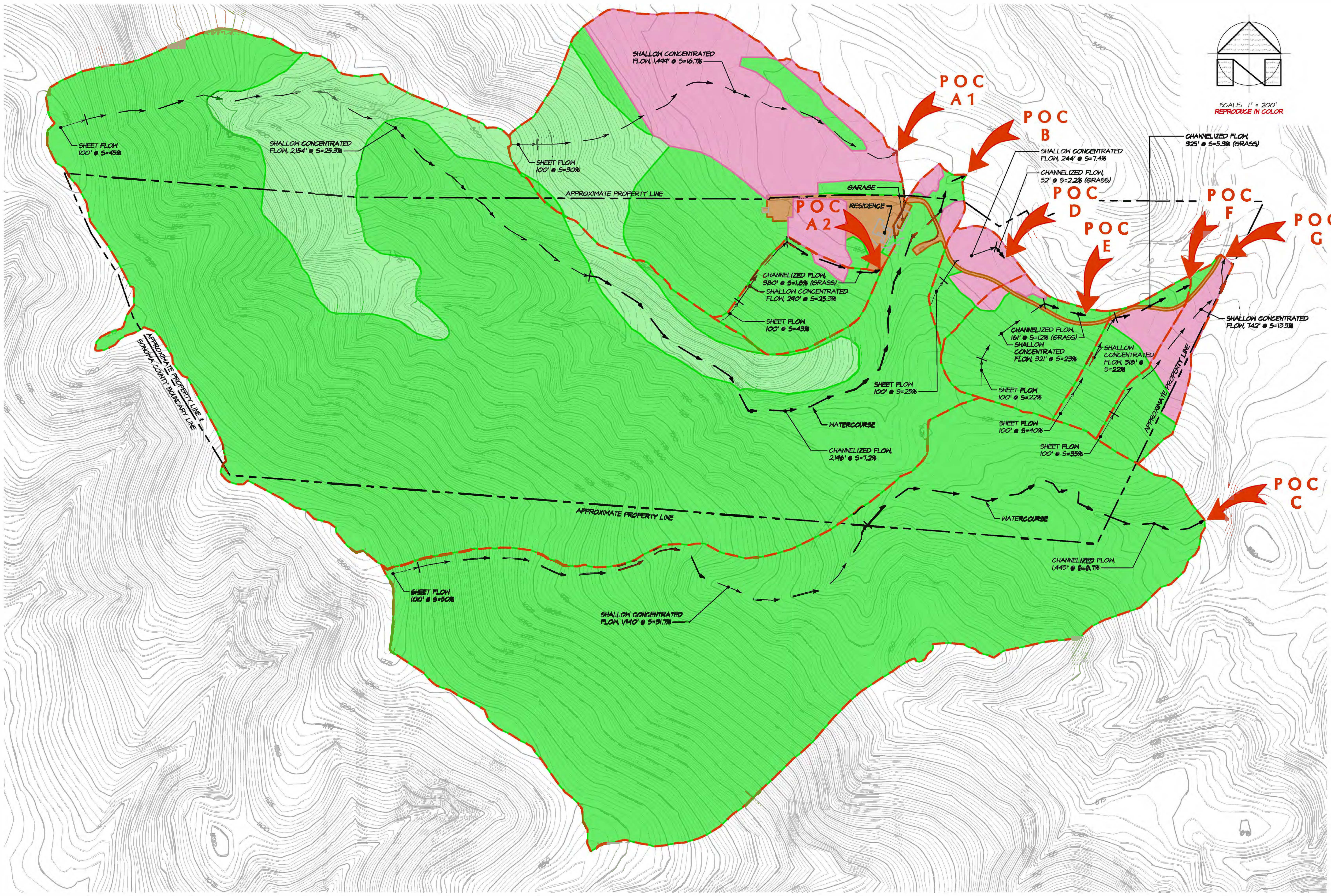
WINROD VINEYARDS
OVERALL SITE PLAN
HYDROLOGY EXHIBIT

NAPA COUNTY CALIFORNIA

DATE: MAY 2021
JOB NO: 18-26
SHEET NO: EC14 OF 16



PRE-DEVELOPMENT CONDITIONS

SCALE: 1" = 200'

HATCH LEGEND:

HYDROLOGIC SOIL GROUP AND CURVE NUMBER C	D	LAND USE
98	98	PAVED PARKING LOTS, ROOF, DRIVEWAYS, STREETS, AND ROADS
76	82	WOODS AND GRASS COMBINATION
79	N/A	VINEYARD (< 75% GRASS COVERAGE)

LEGEND:

Symbol	Description
(red dashed line)	LIMITS OF PROJECT WATERSHED
(arrows)	SHEET FLOW, SHALLOW CONCENTRATED FLOW, OR CHANNELIZED FLOW
POC	POINT OF CONCENTRATION
|	TRANSITIONAL FLOW MARKER

PREPARED UNDER THE DIRECTION OF

REGISTERED PROFESSIONAL ENGINEER · RICHARD PAXTON · No. 84634 · CIVIL · STATE OF CALIFORNIA

RICHARD PAXTON 05-12-2023

NO.	DATE	DESCRIPTION	BY
2	05-12-2023	NO CHANGE TO THIS SHEET	DGB
1	04-13-2022	NO CHANGE TO THIS SHEET	DGB

WINROD VINEYARDS
PRE-DEVELOPMENT CONDITIONS
HYDROLOGY EXHIBIT
NAPA COUNTY CALIFORNIA

DATE: MAY 2021
JOB NO: 18-26
SHEET NO: EC15 OF 16

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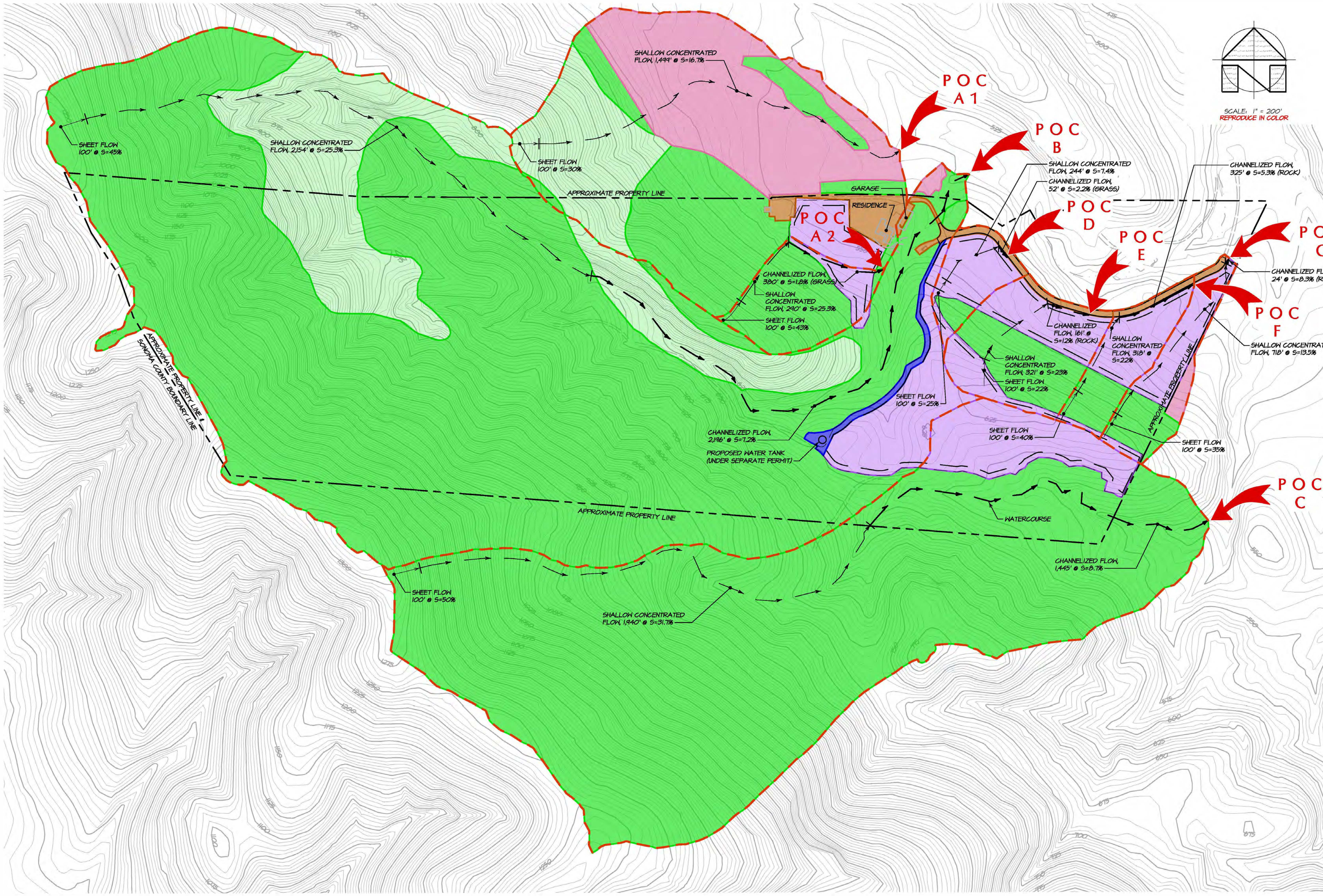

POST-DEVELOPMENT CONDITIONS

SCALE: 1" = 200'

HATCH LEGEND:

HYDROLOGIC SOIL GROUP AND CURVE NUMBER C	D	LAND USE
98	98	PAVED PARKING LOTS, ROOF, DRIVEWAYS, STREETS AND ROADS
	82	WOODS AND GRASS COMBINATION
	N/A	GRAVEL ROAD
	N/A	VINEYARD (< 75% GRASS COVERAGE)
74	80	VINEYARD (> 75% GRASS COVERAGE)

LEGEND:

- LIMITS OF PROJECT WATERSHED
- SHEET FLOW, SHALLOW CONCENTRATED FLOW, OR CHANNELIZED FLOW
- POC — POINT OF CONCENTRATION
- TRANSITIONAL FLOW MARKER

PREPARED UNDER THE DIRECTION OF

REGISTERED PROFESSIONAL ENGINEER RICHARD PAXTON No. 84634 CIVIL STATE OF CALIFORNIA

RICHARD PAXTON 05-12-2023

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OWNERSHIP OF DOCUMENTS

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WINROD VINEYARDS
POST-DEVELOPMENT CONDITIONS
HYDROLOGY EXHIBIT
NAPA COUNTY CALIFORNIA

DATE: MAY 2021
JOB NO: 18-26
SHEET NO: EC16
OF 16