LANDS OF BUTLER

NEW VINEYARD DEVELOPMENT EROSION CONTROL PLAN

Erosion Control Notes:

1. Perform erosion prevention and sediment control in accordance with the latest edition of appendix Chapter 33 of the California Building Code, applicable Napa County regulations, and Section 20 of the Caltrans standard specifications.
2. The approved plans shall conform with the erosion prevention and sediment control best management practices contained in the latest editions of the following publications or an equivalent best management practice:

   Erosion and Sediment Control Field Manual by the San Francisco Bay Regional Water Quality Control Board.

   Manual of Standards for Erosion & Sediment Control Measures by the Association of Bay Area Governments.

   Construction Site Best Management Practices Manual by Caltrans.

   Stormwater Best Management Practice Handbook by the California Stormwater Quality Association.
3. If discrepancies occur between these notes, material referenced herein or manufacturer's recommendations, then the most protective shall apply.
4. The owner is responsible for obtaining and complying with the national pollutant discharge elimination system (NPDES) general permit no. CAS000002 waste discharge requirements for discharges of storm water runoff associated with construction activity disturbing land equal to or greater than one acre. Construction activities include but are not limited to clearing, grading, excavation, stockpiling, and reconstruction of existing facilities involving removal and replacement.
5. Preservation of existing vegetation shall occur to the maximum extent practicable.
6. The owner is responsible for preventing storm water pollution generated from the construction site year round. The owner must implement an effective combination of erosion prevention and sediment control on all disturbed areas during the rainy season (October 15 - April 15).
7. Erosion prevention and sediment control measures shall be inspected by the owner before forecasted storm events and after actual storm events to ensure measures are functioning properly. Storm events produce at least 1 inch of precipitation in a 24 hour period. Erosion prevention and sediment control measures that have failed or are no longer effective shall be promptly replaced. Erosion prevention and sediment control measures shall be maintained until disturbed areas are stabilized.
8. Changes to the erosion prevention and sediment control plan may be made to respond to field conditions. Changes shall be noted on the plan when made.
9. Discharges of potential pollutants from construction sites shall be prevented using source controls to the maximum extent practicable. Potential pollutants include but are not limited to: sediment, trash, nutrients, pathogens, petroleum hydrocarbons, metals, concrete, cement, asphalt, lime, paint, stains, glues, wood products, pesticides, herbicides, chemicals, hazardous waste, sanitary waste, vehicle or equipment wash water and chlorinated water.
10. Entrance(s) to the construction site shall be maintained in a condition that will prevent tracking or flowing of potential pollutants offsite. Potential pollutants deposited on paved areas within the county right-of-way, such as roadways and sidewalks, shall be properly disposed of at the end of each working day or more frequently as necessary.
11. Exposed slopes shall be protected by using erosion prevention measures to the maximum extent practicable, such as establishing 75% vegetation coverage, hydroseeding, straw mulch, geotextiles, plastic covers, blankets or mats.
12. Whenever it is not possible to utilize erosion prevention measures, exposed slopes shall employ sediment control devices, such as fiber rolls and silt fences. Fiber rolls and silt fences shall be trenched and keyed into the soil and installed on contour. Silt fences shall be installed approximately 2 to 5 feet from toe of slope.
13. Hydroseeding shall be conducted in a three step process. First, evenly apply seed mix and fertilizer to the exposed slope. Second, evenly apply mulch over the seed and fertilizer. Third, stabilize the mulch in place.

    Applications shall be broadcasted mechanically or manually at the rates specified below. Seed mix and fertilizer shall be worked into the soil by rolling or tamping. If straw is used as mulch, straw shall be derived from wheat, rice or barley and be approximately 6 to 8 inches in length. Stabilization of mulch shall be done hydraulically by applying an emulsion or mechanically by crimping or punching the mulch into the soil. Equivalent methods and materials may be used only if they adequately promote vegetation growth and protect exposed slopes.
14. The owner shall protect storm drain inlets from potential pollutants until drainage conveyance systems are functional and construction has been completed.
15. Energy dissipaters shall be installed at storm drain outlets which may convey storm water flow leading to soil erosion.
16. Soil and material stockpiles shall be properly protected to minimize sediment and pollutant transport from the construction site.
17. Solid waste, such as trash, discarded building materials and debris, shall be placed in designated collection areas or containers. The construction site shall be cleared of solid waste daily, or as necessary, and regular removal and proper disposal shall be arranged.
18. A concrete washout area, such as a temporary pit, shall be designated to clean concrete trucks and tools. At no time shall concrete products and waste be allowed to enter county waterways such as creeks or storm drains.
19. Proper application, cleaning and storage of potentially hazardous materials, such as paints and chemicals, shall be conducted to prevent the discharge of pollutants.
20. When utilized, temporary restrooms and sanitary facilities shall be located and maintained to prevent the discharge of pollutants.
21. Appropriate vehicle storage, fueling, maintenance and cleaning areas shall be designated and maintained to prevent discharge of pollutants.

Erosion Control Plan Narrative:

Nature and Purpose of All Land Clearing, Grading or Earthmoving Activity

This project proposes the development of approximately 5.1 acres of new vineyard (including vineyard avenues) and approximately 3.3 net acres (excluding vineyard avenues) at APN: 033-190-006, located in Napa, California. An additional 800 square feet (approximately) of earth disturbance will be required for trenching and installation of approximately 130 feet of new irrigation mainline, which shall be installed to provide water from an existing reservoir on the adjacent parcel to the proposed development areas. Furthermore, an additional 0.4 acres of land shall be used for temporary equipment staging and material storage outside of the proposed development area. The property is owned by Jeff Butler and measures approximately (10.1 acres).

Activities associated with the completion of this project include tree and brush removal within the proposed development areas, ripping, rock removal, application of soil amendments prior to planting, seeding of cover crop, mulching, installation of straw wattles, trenching for irrigation pipelines, installation of a new surface drainage mainline, installation of end posts, trellis system and deer fence, and planting of vines.

No off-site spoils disposal sites are anticipated. Rocks encountered in the development area shall be used for decoration. Any leftover rocks shall be used as road base. All temporary rock, soil and soil amendments shall be stockpiled within the development areas, if needed. No long term stockpiles of rock or soil are anticipated.

Description of Existing Site Conditions (prior to site disturbance):

Topographic information was provided by Napa County GIS Data Catalog, which is based on LiDAR data from 2002. The datum is North American Vertical Datum from 1988 (NAVD 88). The elevations in the proposed vineyard areas range from approximately 1,520 feet to 1,695 feet above mean sea level. Slopes within the proposed vineyard areas range from 13 to 26 percent.

According to a biological report by WRA Environmental Consultants prior to site disturbance, the subject parcel contains vegetation that consists mostly of oak woodland, non-native grasslands, developed areas, and streams. A complete list of plants located within the project areas is included in the biological report prepared by WRA Environmental Consultants, and dated February 2020.

The proposed project shall retain approximately 75% of the tree canopy cover that existed on the property in 2018. The 2018 conditions were used as a baseline due to the fact that the subject parcel was damaged by the 2017 Atlas Fire (Napa County Ordinance No. 1441).

The project site is located in the Suisun Creek watershed, this is not a municipal watershed, nor is it a water deficient area.

Initial site visit was conducted by Omar Reveles of Acme Engineering Inc. on March 20, 2019. Followed by site visits on April 1, 2019 and August 6, 2020.

Natural and man-made features on site:

According to the biological report from WRA Environmental Consultants and dated February 2020, two streams run through the subject parcel, one is an un-named blue line stream, the other is a seasonal drainage. Additionally, there is a roadside ditch which parallels the western edge of the access road and is culverted in several locations. Appropriate setbacks based on existing ground slope shall be maintained from the development boundary to the tops of banks of all nearby streams. These setbacks shall protect any riparian habitat associated with the previously mentioned watercourses.

Based on the biological report from WRA Environmental Consultants and dated February 2020, there are no seasonal wetlands or vernal pools associated with the project footprint.

There are no existing reservoirs on the subject parcel.

Access to the subject parcel is achieved through Twin Sisters Road which is an extension of Wild Horse Valley Road, which is an extension of Coombsville Road. Twin Sisters Road provides access to the temporary equipment staging and material storage area and to the proposed vineyard development areas. There are no existing structures within the subject parcel boundaries.

As previously mentioned, there are two streams near the project site. One of these streams is just inside the southeast corner of the subject parcel boundary, this is an un-named blue line stream. The other stream intersects the northern boundary of the subject parcel, this is a seasonal drainage. Both streams shall have setbacks from their respective top of bank to the proposed development areas.

There are no existing wells on the subject parcel. The water usage for the proposed vineyard shall be supplied by an existing well on the adjacent parcel, which belongs to the same owner (Jeff Butler). Based on a water availability analysis prepared by Acme Engineering Inc., the total irrigation water required is 0.73 acre-feet per year for the proposed vineyard.

Soil type, boundaries and erosion factors were obtained from Web Soil Survey (https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm). The only soil type present on the project site is Hambrigth Loam. Hambright Loam has a K-factor (soil erodibility) of 0.20. and a T-factor (natural soil loss) of 1 ton per acre.

There are no critical areas for erosion within the project site. Implementation of additional erosion control measures will only enhance the stability of the site.

Proposed Erosion and Sediment Control Measures:

During the first years after vineyard development a soil builder cover crop seed mix shall be used. During these initial years, all row middles shall be tilled in order to incorporate the nutrients from the cover crop back into the soil. To prevent excess soil loss during the soil building period, straw rolls shall be installed on contour (at the locations specified on the erosion control plan sheet) during the first year and as required in subsequent years. Soil loss was calculated using the Universal Soil Loss Equation (USLE). USLE calculation show that a 75% minimum ground cover with all row tillage and straw rolls is adequate to maintain an acceptable level of soil loss during the soil building period. After the soil building period, a permanent cover crop seed mix shall be used and row middles shall no longer be tilled, only mowed. USLE calculations show that a 75% minimum ground cover combined with no tillage is adequate to maintain an acceptable level of soil loss.

As previously mentioned, there is an existing roadside ditch which parallels the western edge of Twin Sisters Road and is culverted in several locations. Portions of this roadside ditch are at the edge of the proposed development boundaries. As part of vineyard development project, the culvert that crosses under the main access road shall be replaced. Water bars shall be installed at locations shown on site plans along vineyard avenues. The final pass with ripping and disking implements shall be done parallel to contours to the maximum extent practicable to prevent channeling of water downhill during the first winter after development.

Temporary erosion control measures shall consist of the following:

- All row middles will be tilled during the soil building period. Cover crop shall be established and maintained with a 75% minimum ground cover.
- Temporary cover crop mix shall be used during the soil building period & shall be installed as follows:

  Roto-till row middles to a 4" depth within 8" of the vines.

  Broadcast the following seed mix:

Cayuse Oats	7.5	pounds per acre
Bell Beans	15	pounds per acre
Purple Vetch	10	pounds per acre
Common Vetch	5	pounds per acre
Dundale Peas	12.5	pounds per acre

  Cover newly seeded soil with rice straw at a rate of 3,000 pounds per acre prior to October 15.

  Alternate seed mixes may be used upon approval of the project engineer.
- Straw wattles shall only be required after earth disturbance and up to the first year after vineyard development at the locations shown on site plan. After the first year, straw wattles shall be installed in proposed vineyard and vineyard avenues if needed.

Permanent erosion control measures shall consist of the following:

- Natural vegetation exists downslope of all blocks and is to be utilized in a permanent fashion as a no-touch buffer. No-touch buffers shall have a minimum width (adjacent to watercourses) as specified on the erosion control plan sheet. No-touch buffers shall consist of healthy existing native vegetation.
- After the soil building period, no tilling shall occur (only mowing) and a permanent cover crop shall be maintained with a 75% minimum ground cover.
- Permanent cover crop shall be installed as follows:

  Broadcast the following seed mix:

Blando Brome	12.5 pounds per acre
Zorro Annual Fescue	5 pounds per acre
Annual Ryegrass	12.5 pounds per acre
Sunrise Balansa Clover	2.5 pounds per acre
Nitro Persian Clover	2.5 pounds per acre
Crimson Clover	5 pounds per acre
Campeda Sub Clover	5 pounds per acre
Intermediate Ryegrass	5 pounds per acre

  Cover newly seeded soil with rice straw at a rate of 3,000 pounds per acre prior to October 15th of each year in the development area until the required cover crop factor is attained and maintained and the site is stable. Alternate seed mixes may be used upon approval of the project engineer.
- Fertilizer shall be applied as necessary by vineyard management personnel for both the vineyard and to achieve the specified vegetative ground cover percentage. A site specific soil analysis should be performed. Fertilizer shall be incorporated into the cover crop seeding process at the time of seeding.
- The proposed vineyard spacing and row direction shall be as follows:

  Blocks 1-2: 8' x 4' (row x vine), tractor farmed with vine row direction oriented up/down hill.
- The owner may subdivide the proposed vineyard blocks further based on viticultural and/or irrigation practices.

No pre-emergent herbicides will be strip sprayed in the vine rows for weed control. Contact or systemic herbicides may be applied. The maximum width of the spray strip shall 24 inches (12 inches on either side of the vine) in order to achieve 75% minimum vegetative cover (based on 8' row spacing) in the proposed tractor farmed vineyard blocks.

Vineyard avenues shall not be disked, only mowed. Vineyard avenues shall be seeded and mulched prior to October 15 of the development year, and in bare or disturbed areas of the following years. Avenues that don't meet the minimum required vegetative cover percent shall be reseeded and mulched until the specified cover is attained. Seeding and mulching is not required on properly surfaced gravel roads and avenues. No off-site spoils disposal sites are anticipated. Rocks encountered in the development area shall be used for decoration. Any leftover rocks shall be used as road base. All temporary rock, soil and soil amendments shall be stockpiled within the development areas, if needed. No long term stockpiles of rock or soil are anticipated.

Storm Water Stabilization Measures:

The intent is to maintain the existing sheet flow and shallow concentrated flow characteristics to the maximum extent practicable; however, there is an existing culvert that discharges runoff directly onto the upslope end of a proposed vineyard development area (Area B). To prevent this, a new drainage mainline is proposed. The proposed drainage mainline shall carry the run-off away from the existing culvert outfall and discharge it at a more stabilized outfall location.

A hydrological study was performed using TR55. The results of this study show that the proposed development will not cause an increase in peak runoff for a 2 year - 24 hour storm, nor will there be an increase in peak runoff for a 100 year - 24 hour storm. Because of these results no increased channel degradation is anticipated due to the proposed vineyard development.

Wildlife Exclusion Fencing:

Deer fencing shall be at least 6 feet tall, include exit gates at the corners, and be comprised of no smaller than 6-inch by 6-inch squares, such that small animals can move freely through the area and deer do not become trapped within the fencing.

Implementation Schedule:

Land Preparation: This portion of the development will consist of clearing, ripping, rock removal, application of soil amendments, maintenance and installation of the proposed drainage structures, installation of end posts, trellis system and deer fence. This will require heavy machinery and large trucks. Approximately 8 workers shall be required for land preparation tasks. These tasks shall be carried out from April to October 2021.

Installation of Vineyard and Erosion Control Measures: This portion of the development will consist of installation of avenues. It shall also include vineyard staking, vineyard planting, irrigation system installation, planting of cover crop and straw mulching. This will require small machinery and foot traffic. Approximately 25 workers will be required for vineyard and erosion control measure installation. These tasks shall be carried out between April and October 2021.

Vineyard Maintenance: This portion of the development will consist of annual vineyard farming practices, annual harvesting and it also includes any necessary adjustments of permanent erosion control practices. This will mostly require ATV and foot traffic; however, if repairs are required larger machinery may also be necessary. The exception to this is during harvest when large trucks and/or trailers are expected to be on site to transport the grapes. The number of workers will vary from 1 during erosion control measure inspections to several during harvest or pruning. These tasks shall begin in September 2021. Winterization tasks shall be completed by October 15 of each year.

Cost of Erosion Control Measures:

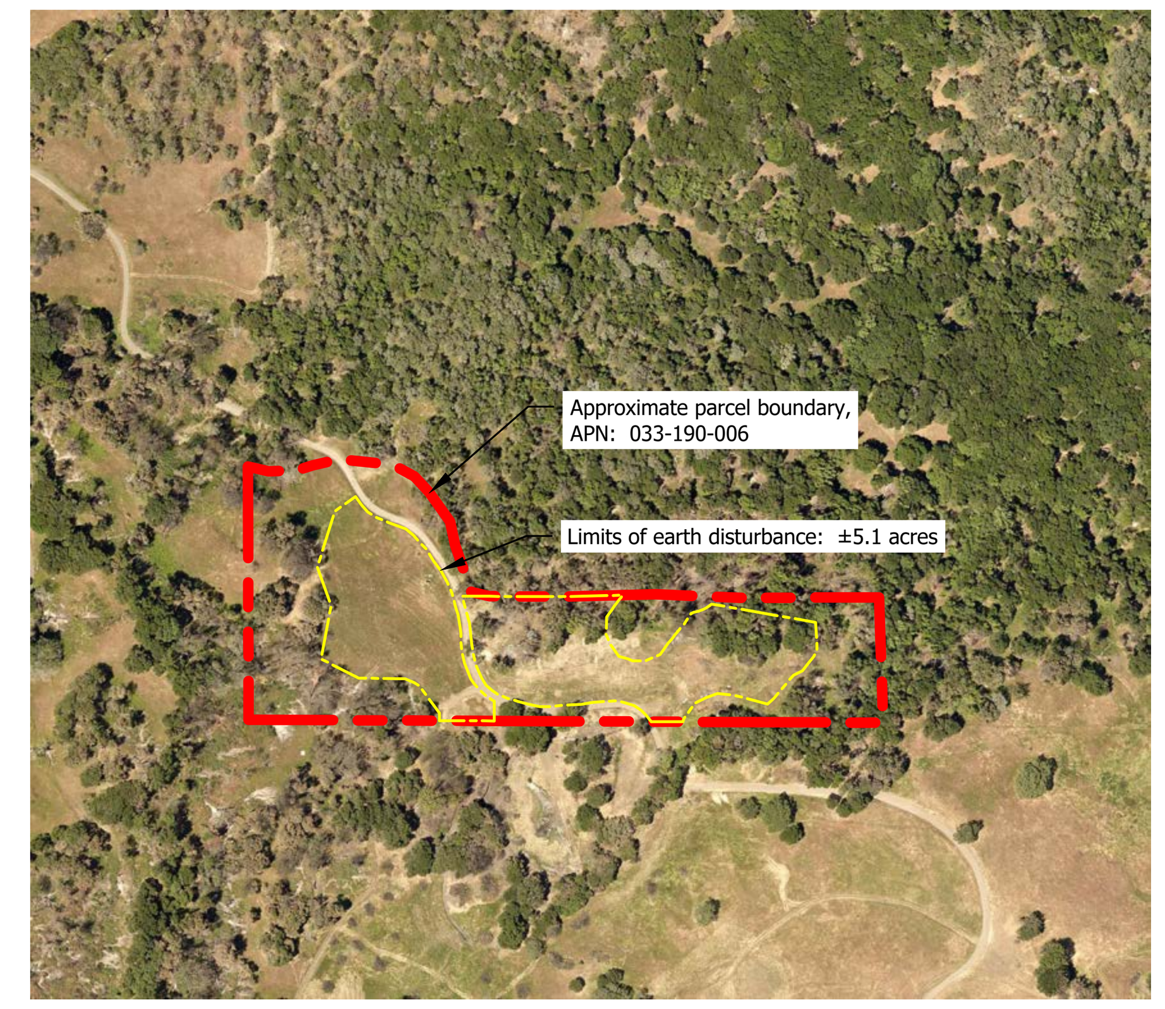
Estimated cost of erosion control and sediment control measures (in addition to those previously installed) is approximately $2,600.00 per acre.

Directions to the site:

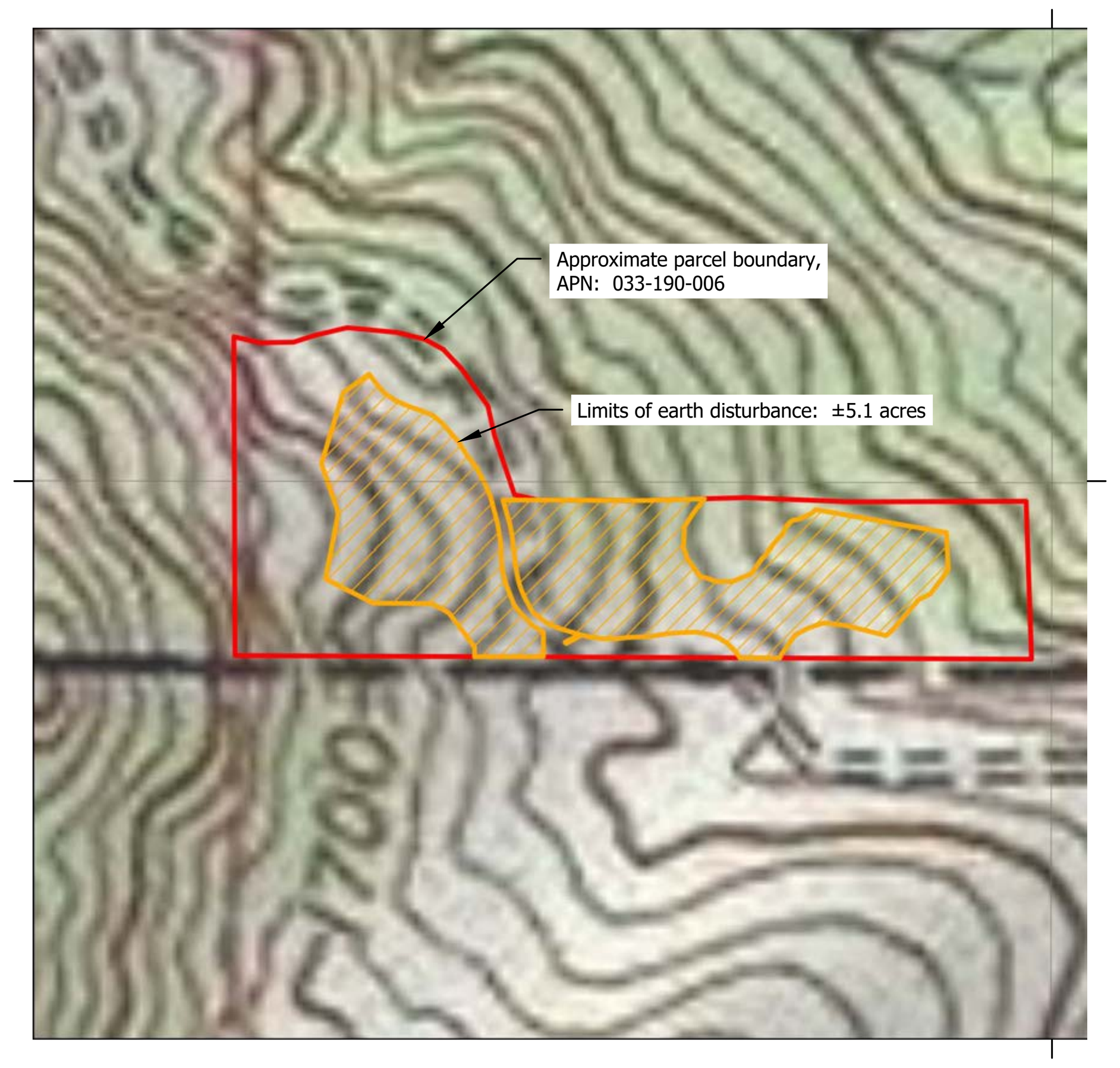
In order to reach the project site; from Napa, drive east on Third Street until you reach Silverado Trail. Continue straight onto Coombsville Road. Stay on Coombsville Road for approximately 2.5 miles. Coombsville Road becomes Wild Horse Valley Road. Continue onto Wild Horse Valley Road for approximately 3.5 miles. There will be an entrance gate along Wild Horse Valley Road, just north of Lake Madigan. To schedule a site visit please contact Omar Reveles of Acme Engineering Inc. at (707) 253-2263.

Other projects associated with this property:

There are no other projects associated with the subject parcel at this time.

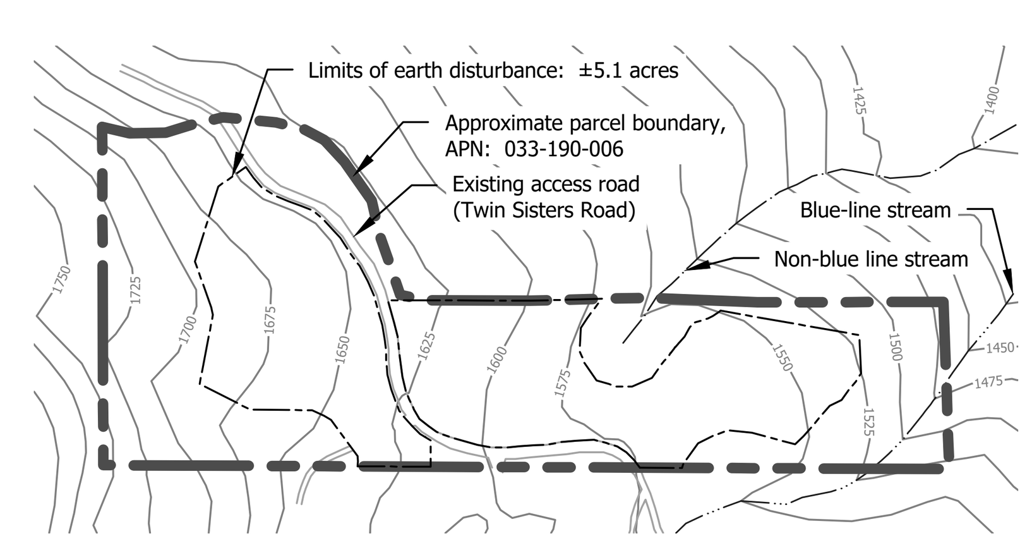


Aerial Image
Not to Scale

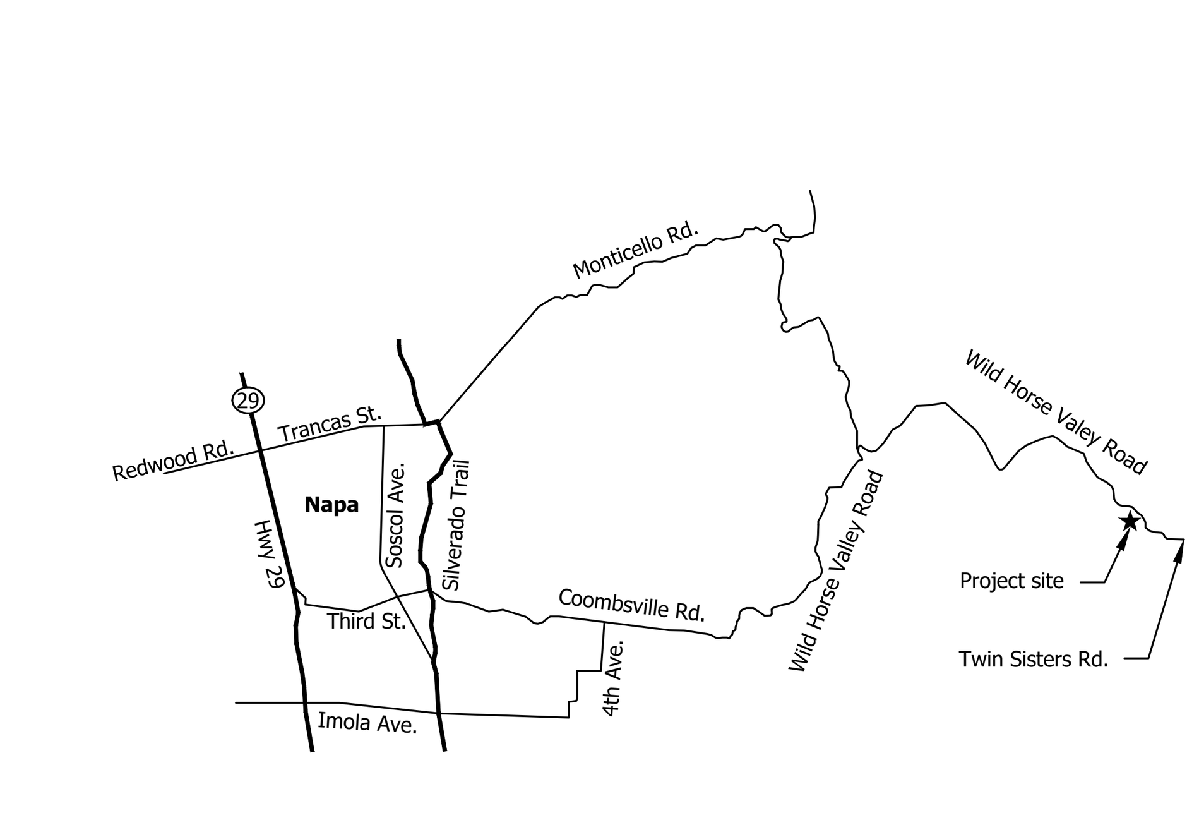


USGS Quad
Not to Scale

Existing Underground Utilities and Pipelines
Underground utilities and pipelines may exist within limits of development. All utilities and pipelines shall be identified and protected prior to site disturbance.



Overall Site Plan
Scale: 1" = 300'



Vicinity Map
Not to Scale

Site Information:

Property Owner:
Jeff Butler
255 North Sierra St #1906
Reno, Nv 89501

Contact Person:
Ryan Pierce
707-815-1393

Civil Engineer:
Acme Engineering Inc.
Omar Reveles, P.e. Rce 74723
1700 Soscol Avenue, Suite 9 Napa, Ca 94559
Phone: 707-253-2263
Fax: 707-253-2149

Initial Plan Preparation:
November 2020

Vineyard Site:
Blocks 1 & 2

Parcel Number:
033-190-006

Soil Types:
(HaFso) Hambright Loam - Napa County

Legend

Symbol	Description	Symbol	Description
1600	Major contour (25' interval)		Irrigation mainline trench path
	Minor contour (5' interval)		Subdrain lateral
	Approximate parcel boundary		Subdrain mainline
	Access road		Subdrain cleanout
			Concrete cutoff collar
HaFso / HaF	Soil type boundary		Waterbar
	Proposed development boundary		Runoff collector
	Proposed vineyard boundary		Straw roll
	Blue line stream		Rock wall
	Non-blue line stream		Rock apron
TOB TOB	Approximate top of bank	1	Photo location
SBK SBK	Setback	CPP	Corrugated plastic pipe
	Drainage swale	S/W	Single wall
	Temporary equipment staging and material storage area	PBES	Planning Building and Environmental Services
	Temporary stockpile area	CMP	Corrugated metal pipe
	Culvert	CPP	Corrugated plastic pipe
26%	Slope transect		

Sheet Index:

NOTES/ REMARKS:
1. 1/8/2021. Addressed comments from Application Completeness Determination Letter from Napa Co. PBES (12/17/2020).

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OR DRAWN BY
OR CHECKED BY

REGISTERED PROFESSIONAL ENGINEER OMAR REVELES No. C 74723 CIVIL STATE OF CALIFORNIA

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Ste. 9, Napa, CA 94559
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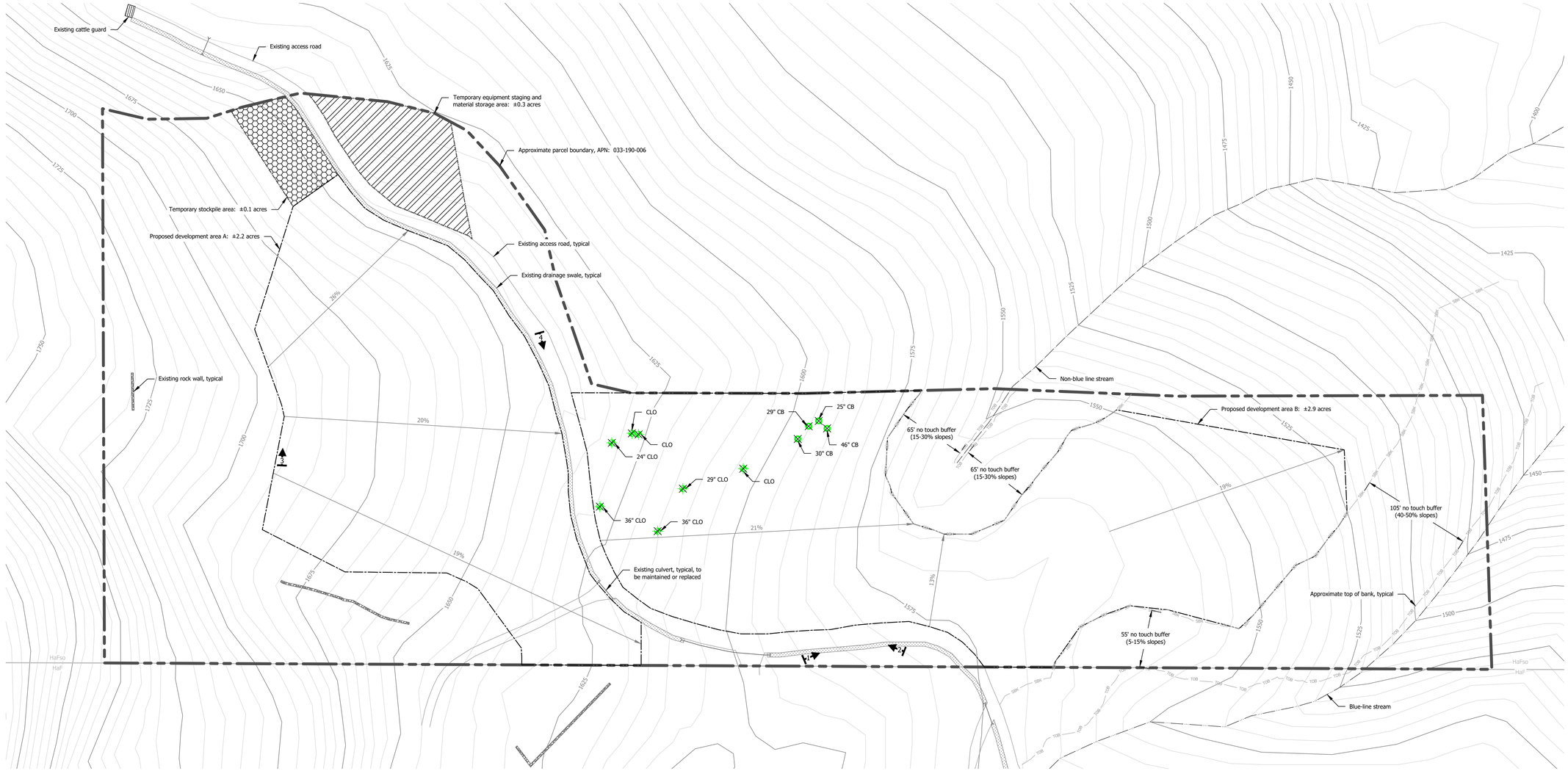
LANDS OF BUTLER
NEW VINEYARD DEVELOPMENT EROSION CONTROL PLAN
TITLE SHEET AND NARRATIVE

PROJECT NO. 180901-0121
DRAWING NO. 02 01
SCALE AS SHOWN
DATE 12/8/2020



Demolition Site Plan
Scale: 1" = 50'

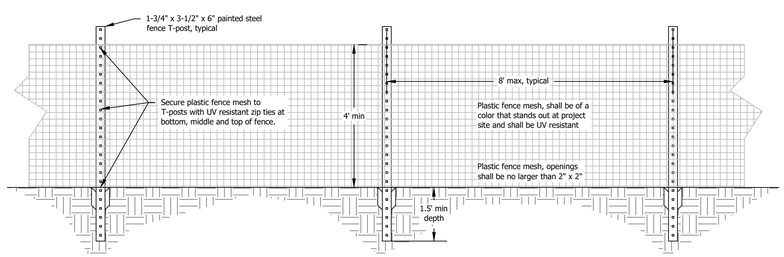
Notes:
1. Topographic information provided by Napa County GIS database from 2002.
2. Datum: North American Vertical Datum of 1988 (NAVD 88).
3. Ripping shall only occur within the limits of the proposed development.
4. Ripping depth shall not exceed 24" on slopes of 5:1 (H:V) and steeper, and 36" on all other areas.

Soil Types on Site:
(HaFso) Hambright Loam - Napa County

Tree Removal Table

Symbol	Acronym	Tree Species	Quantity
	CLO	California Live Oak	7
	CB	California Bay	4
		Total	**11**

Notes:
1. Tree data was provided by owner.



1/2 Protective Fence Detail
Not to Scale

Site Grading Notes:
Site grading within the proposed vineyard blocks will be generally limited to "ripping" to facilitate new vine growth, no significant new cut or fill slopes are planned. Large rocks that remain following ripping (if encountered) may also be removed. Thin local excavations and fills could be needed to better "blend" site grades. Site grading shall be performed in accordance with the recommendations from the geotechnical report prepared by Miller Pacific Engineering Group dated March 12, 2020.

1. Surface Preparation: Clear all oversized debris, grass, brush, roots, and other organic matter from areas where grading is planned. Any construction debris or abandoned utilities should be removed from the site. All excavations for removal of boulders, or root balls, or other materials shall be backfilled with compacted fill in accordance with subsequent sections.
2. Excavations: Subsurface conditions at the site will generally include at least two feet of clayey to gravelly soil, which in the eastern part of the site overlies variably-weathered volcanic bedrock. While most of the onsite excavations can likely be accomplished with "traditional" equipment, such as medium-size dozers and excavators, it is possible that portions of the development area (particularly in the eastern part of the site) will encounter harder or less-weathered rock that may require heavier equipment (such as large dozers) or special techniques (jackhammers or hoe rams) to excavate.
3. Fill Materials: Soil and rock mixtures generated from excavations in onsite soils may be suitable for re-use as new fill, provided it can be processed to meet the specifications presented below. Cobbles and boulders larger than about 18" should be removed and stockpiled for rip-rap armor or other use. All fill material should consist of soil and rock mixtures that: (1) are free of organic matter, and (2) have a maximum particle size of 18".
4. Fill Compaction and Soil Ripping: Relatively cursory compaction operations are sufficient for the majority of the work. To limit the potential for future erosion and slope instability; following rough grading, finish grading should include track-walking disturbed slopes in an upslope-downslope direction. Soil ripping should be performed in no more than two directions to avoid complete obliteration of soil structure in sloping areas. To reduce the risk of instability, soil ripping depth shall be limited to a depth of about 24" where slopes exceed 5:1, and a depth of about 36" in other areas. If sufficient water is available, a cover crop should be planted immediately following soil ripping; alternatively, erosion control mats or jute netting may be used to limit erosion in steeper areas.

NOTES/ REMARKS:
1. 1/8/2021: Addressed comments from Application Completeness Determination Letter from Napa Co. PBES (12/17/2020).

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CHECKED BY OR

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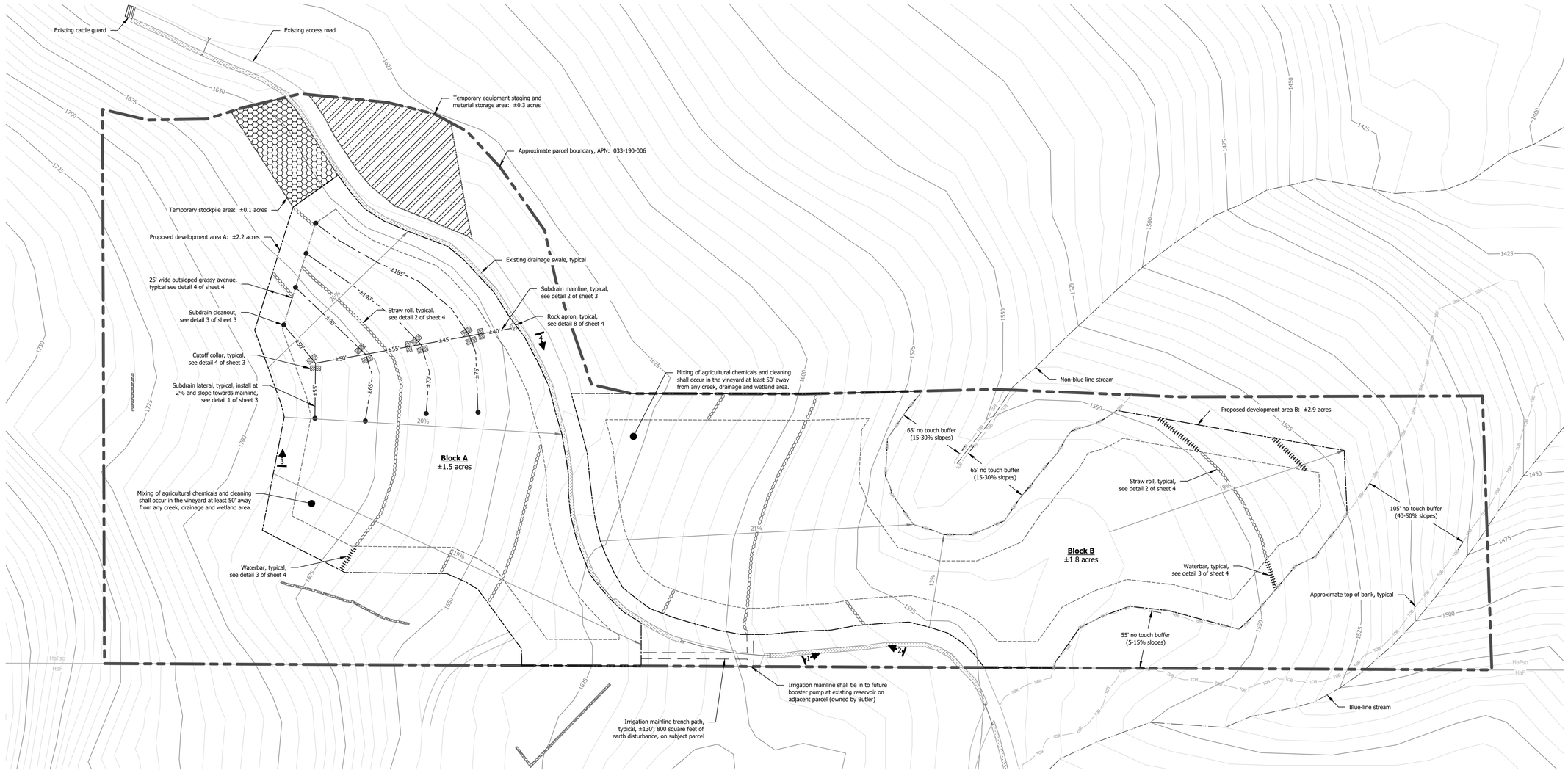
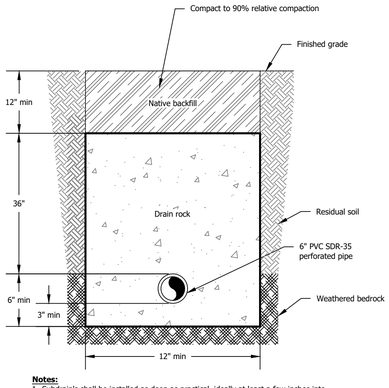
LANDS OF BUTLER
NEW VINEYARD DEVELOPMENT EROSION CONTROL PLAN
DEMOLITION SITE PLAN

PROJECT NO. 180901-0121
DRAWING NO. 02 02
SCALE 1" = 50'
DATE 12/8/2020
SHEET 2 OF 4



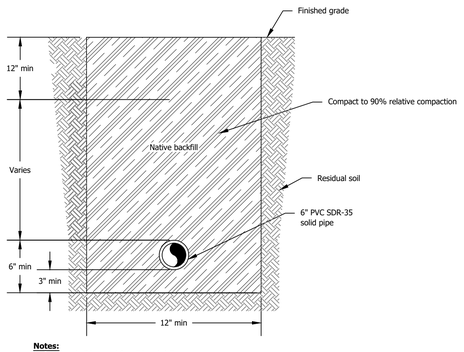
Erosion Control Site Plan
Scale: 1" = 50'



Notes:
1. Subdrain's shall be installed as deep as practical, ideally at least a few inches into competent bedrock. See geotechnical report prepared by Miller Pacific Engineering Group (Job No. 2980.001) and dated March 12, 2020.
2. Sweeps shall be used for all bends/elbows.
3. Filter material shall be Mirafi 140N filter fabric or equivalent.
4. Install at 2% minimum slope (downwards) towards mainline.

Section View

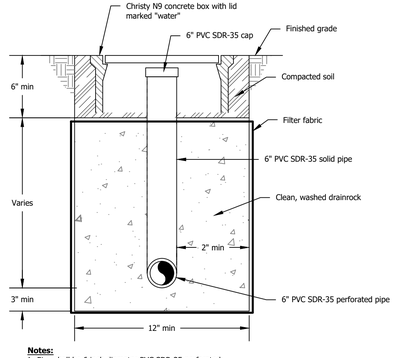
1/3 Subdrain Lateral
Not to Scale



Notes:
1. Sweeps shall be used for all bends/elbows.
2. Install at 2% minimum slope (downwards) towards outfall.

Section View

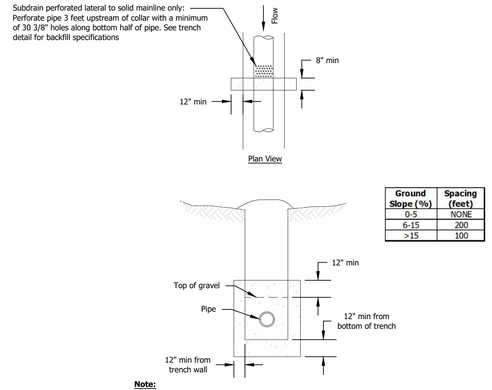
2/3 Subdrain Mainline
Not to Scale



Notes:
1. Pipe shall be 6 inch diameter PVC SDR-35 perforated.
2. Filter material shall be Mirafi 140N filter fabric or equivalent.

Section View

3/3 Subdrain Cleanout
Not to Scale



Ground Slope (%)	Spacing (feet)
0-5	NONE
6-15	200
>15	100

Note:
1. Cutoff collars shall be installed on surface and subsurface drainage lines.
2. Holes shall be drilled upstream above the concrete cutoff collars installed at the transition between subdrain perforated laterals and solid mainlines only.

Section View

4/3 Cutoff Collar
Not to Scale

N
True
Magnetic
0' 50' 100'

Notes:
1. Topographic information provided by Napa County GIS database from 2002.
2. Datum: North American Vertical Datum of 1988 (NAVD 88).
3. Recommendations in the following Miller Pacific Engineering Group Geotechnical Reports for 2980.001rpt.doc & 2980.001altr.doc are requirements for this project. The contractor shall comply with all requirements identified in the above reports.

Soil Types on Site:
(HaFso) Hambright Loam - Napa County

Roads and Vineyard Avenues:
1. Grassy vineyard avenues shall be closed during rainy periods of the year.
2. Paved and gravel roadways shall be all-season roads.

NOTES/ REMARKS:
1. 1/8/2021: Addressed comments from Application Completeness Determination Letter from Napa Co. PBES (12/17/2020).

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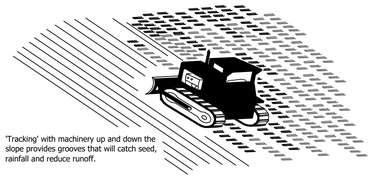
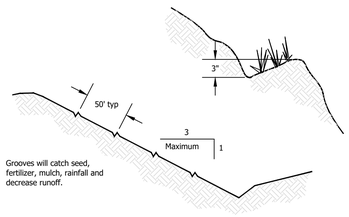
LANDS OF BUTLER
NEW VINEYARD DEVELOPMENT EROSION CONTROL PLAN
EROSION CONTROL SITE PLAN

PROJECT NO. 180901-0121
DRAWING NO. 02.03
SCALE 1" = 50'
DATE 12/8/2020

SHEET 3 OF 4

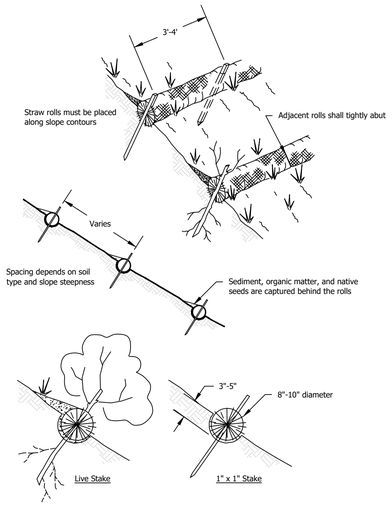


Tracking



Contour Furrows

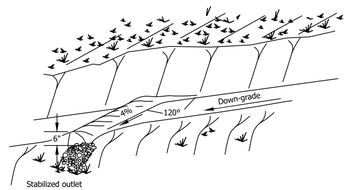
1/4 **Surface Roughening**
Not to Scale



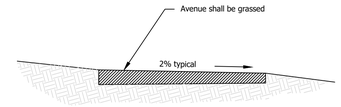
Note:
Straw roll installation requires the placement and secure staking of the roll in a trench, 3"-5" deep, dug on contour. Runoff must not be allowed to run under or around roll.

2/4 **Straw Roll**
Not to Scale

Guideline Interval Spacing for Waterbars	
Slope Gradient (%)	Spacing (ft)
0-15	None
15-25	100
25-35	75
35-40	50
>40	25
Or As Specified on Plan Sheet	

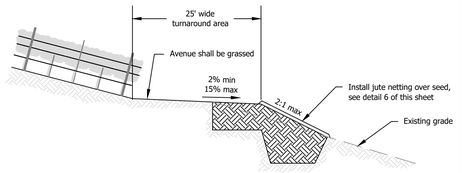


3/4 **Waterbar**
Not to Scale

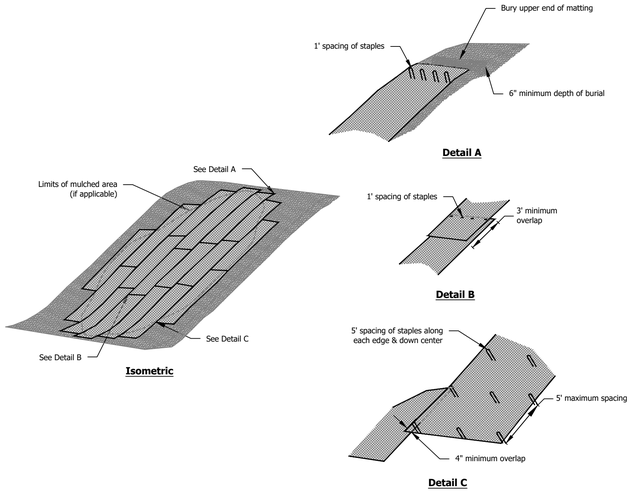


Section

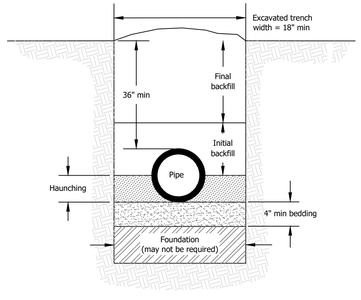
4/4 **Outsloped Grassy Avenue**
Not to Scale



5/4 **Outsloped Grassy Avenue - Bottom of Block**
Not to Scale

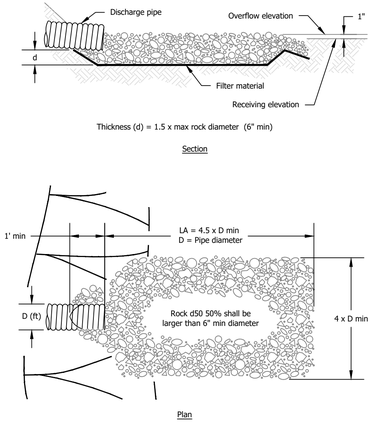


6/4 **Jute Netting**
Not to Scale



Notes:
1. Pipe shall be installed at sufficient depth below the ground surface to provide protection from hazards imposed by vehicular loading. Minimum depth of cover for pipe shall be 36 inches.
2. Backfill shall be free of rocks, debris and organic matter, 3/4 minus and compacted to 90% RH. In areas subject to vehicular traffic, compaction shall be 95% RC minimum. Native material may be used if appropriate. Support pipe uniformly along its length prior to initial backfill.
3. At low places on the ground surface, extra fill may be placed over pipeline to provide the minimum depth of cover. The top width of the fill shall be no less than 10 feet and the side slopes no steeper than 6:1. The fill material may be placed and compacted before the trench is excavated.
4. Trench spoils shall be mounded over trench for future settling.
5. Backfill shall be placed in 6" lifts in vineyard areas and compacted. No water jetting shall be used for backfill operations.

7/4 **Trench Detail**
Not to Scale



Notes:
1. Filter material shall be Mirafi 140n filter fabric or equivalent.
2. 'LA' = length of apron. Distance 'LA' shall be of sufficient length to dissipate energy.
3. Apron shall be set at a zero grade and aligned straight.
4. The diameter of the largest stone size shall be 1.5 times the d50 size.

8/4 **Rock Apron**
Not to Scale

NOTES/ REMARKS:
1. 1/8/2021: Addressed comments from Application Completeness Determination Letter from Napa Co. PBES (12/17/2020).

DESIGNED BY OR
DRAWN BY OR
CHECKED BY OR

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LANDS OF BUTLER
NEW VINEYARD DEVELOPMENT EROSION CONTROL PLAN
DETAILS

PROJECT NO. 180901-0121
DRAWING NO. 02 04
SCALE NOT TO SCALE
DATE 12/8/2020

SHEET 4 OF 4