METAMORPHOSIS WINES LLC
OVID VINEYARDS

EROSION CONTROL PLAN

PPI
ENGINEERING

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METAMORPHOSIS WINES LLC
OVID VINEYARDS

EROSION CONTROL PLAN

REVISED DECEMBER 2018

PREPARED BY:

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METAMORPHOSIS WINES LLC
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EROSION CONTROL PLAN

NARRATIVE

1. The nature and purpose of the land disturbing activity and the amount of grading involved.

a) This ECP addresses the development of approximately 31.5 net acres (38.9 gross acres) of proposed vineyard at Ovid Vineyards located at 255 Long Ranch Road in St. Helena. The ranch is located on APNs 032-030-065 and -066 which consists of approximately 73.59 acres per the Napa County Assessor's Office.

b) Activities to be accomplished include removal of brush and trees within the proposed clearing limits, ripping, blasting, rock removal, cultivating the soil to prepare for planting, seeding cover crop, mulching, trenching for irrigation pipelines, installation of trellis system and deer fence, laying out the vine rows, and installing erosion control measures.

c) Ripping will not occur outside clearing limits. The average depth of ripping will be 4' with maximum ripping depths up to 6' depending on site conditions.

2. General description of existing site conditions, including topography, vegetation and soils.

a) The site is located in the Lake Hennessey and Vinehill Creek Watersheds.

b) The elevations in the vineyard area range from approximately 1150 to 1322 feet above mean sea level per topographic mapping. Ground slopes within the project boundary range between 9 and 24 percent. There are small pockets of areas with slope over 30% in Blocks 1, 2, and 5 which total approximately 0.2 acres, please see Sheet 2 for the locations.

c) Topographic mapping was provided by American Aerial Mapping, flown on October 2, 2017.

d) Existing vegetation consists of orchard, grass, and brush. Please see biological report prepared by WRA dated June 2018.

e) Please see Appendix C for Vegetation Retention Calculations based on the existing vegetation and parcel configuration in 1993. This project proposes to retain 81% of the tree canopy and 50% of the brush and open (grass) cover that existed on the portion of the property in a municipal watershed in 1993.

f) There are structures on the property. Please see Historical Resources Study prepared by Tom Origer & Associates dated March 27, 2017.

g) The property is currently deer fenced. Some deer fence will be realigned. Please see Figure 4 in Appendix E.

h) A site visit of the property was performed by Jim Bushey and Annalee Sanborn of PPI Engineering on Wednesday, December 13, 2017 to evaluate the vineyard development area and to collect photographic documentation. Photographs of pre-project conditions can be found in Appendix A.

3. Natural and man-made features onsite including streams, lakes, reservoirs, roads, drainage, and other areas that may be affected by the proposed activity.

a) No natural or man-made features are expected to be adversely affected by this project. The existing reservoir in the vicinity will not be affected by the project.

b) One drainage on the property that meets the Napa County definition of a stream has the appropriate setbacks, determined by slope as outlined in Napa County Conservation Regulation 18.108.025, shown on Sheet 2. Prior to construction the Engineer shall stake the appropriate stream setbacks adjacent to vineyard blocks based on in-field determination of the top of bank and slope. All Waters of the U.S. not requiring a Napa County stream setback have been avoided with a minimum 50' buffer, which includes a 24' vegetated turnaround avenue and a 26' undisturbed filter strip.

c) In this ECP all wetlands are avoided with a minimum 50' buffer, which includes a 24' vegetated turnaround avenue and a 26' undisturbed filter strip.

d) There is an existing network of ranch roads throughout the property. Please see Appendix F for the Road Plan and a map of roads on the property.

4. Location and source of water for irrigation or other uses.

a) The proposed water source is existing wells. Please see the Vicinity Map for the location. Please see WAA prepared by Summit Engineering dated June 2018.

5. Soil types/soil series identified in the Soil Conservation Service (SCS) Napa County Soil Survey.

a) The USDA – NRCS Web Soil Survey maps the soil within the project boundary as Rock Outcrop-Hambright with 50 to 75 percent slopes.

b) Some rock is expected to be generated as a result of this project. Rock generated will be used to construct erosion control features such as rock-filled avenues that will help

retain sediment as well as disperse runoff from vineyard blocks. Rock-filled avenues shall be located as shown on the Plan Sheet and at the downslope edge of vineyard blocks and as determined by the Engineer in the field at the time of construction. The toe of the rock avenue fill slope shall not extend past the proposed clearing limits. Because of the nature of the rock-filled avenues, the proposed block boundary location is conceptual and not exact. Rock not used immediately will be stockpiled for future use inside the proposed clearing limits. Stockpiles are expected to be less than 20 feet in height. Rock may be crushed and used on the existing roads where needed. Rock staging areas shall be located inside of proposed clearing limits. Temporary rock stockpiles shall also be located inside of proposed clearing limits. No grading activities, ground disturbance or rock storage will occur outside of the proposed clearing limits.

6. Critical areas, if any, within the development site that have serious erosion potential or problems.

a) There are no areas with serious erosion potential or problems. Please see geology report prepared by Gilpin Geosciences dated June 12, 2018.

7. Erosion calculations

a) Universal Soil Loss Equation (USLE) spreadsheets for this project are in Appendix B of this report. Please see Soil Loss Memorandum prepared by PPI Engineering dated July 2018.

8. Proposed erosion control methods including:

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.

1. Straw wattles shall be installed the year of construction in the approximate locations shown on the Site Plan. Additional temporary erosion control measures shall be installed as needed.

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.

1. Disturbed areas shall be seeded as described below. Straw mulch shall be applied to all disturbed areas at a rate of 3,000 lbs/acre prior to September 15 of the year of construction in Block 5.

   Straw mulch shall be applied to all disturbed areas at a rate of 3,000 lbs/acre prior to October 15 of the year of construction in Blocks 1-4.

2. A permanent cover crop strategy will be utilized. The permanent cover crop will be generated the first year by seeding with the following mix: Dwarf Barley at 50 pounds per acre, Blando Brome at 8 pounds per acre, Zorro Fescue at 12 pounds per acre, and Crimson Clover at 6 pounds per acre. A pre-approved alternative seed mix may be allowed.

   The permanent cover crop will be managed each year such that any areas which have less than 75% vegetative cover will be reseeded and mulched until adequate coverage is achieved. The permanent cover crop shall be mowed only and not disked.

3. In Blocks 1, 2A, 3, and 4 the owner has the option of using a Dwarf Barley (or a pre-approved alternative) cover crop in the first three years that the block is planted to aid with vineyard establishment. If this option is used, seed shall be applied at a rate of 120 pounds per acre if broadcast or at a rate of 60 pounds per acre if drilled. The cover crop within the vineyard may be disked each spring after April 1 for the first three years. An alternative cover crop seed mix may be used upon prior approval. Each year the owner chooses to disk, the area shall be straw mulched at a rate of 3,000 pounds per acre and straw wattles installed prior to October 15. The permanent seed mix will be seeded prior to October 15 of the fourth (or earlier) year.

4. In Blocks 2B, 2C, and 5 the permanent cover must be established the first year. Disking for the first three years to aid with vineyard establishment is not permitted due to the site conditions.

5. No pre-emergent herbicides will be used for weed management. Contact or systemic herbicides may be applied in spring (typically no earlier than February 15th to ensure adequate vegetative cover in the spray strips for the remainder of the rainy season). The width of the spray strip shall be no wider than 1.5' in order to achieve 75% vegetative cover.

6. Fertilizer shall be applied as necessary by vineyard management personnel for both the vineyard and to ensure specified percent vegetative cover crop is achieved. Site specific soil analysis should be performed.

7. The vineyard avenues shall be mowed only and shall not be disked. Unless otherwise noted, all avenues shall conform to the natural grade. Vineyard avenues shall be seeded and mulched prior to September 15 of the year of construction in Block 5 and prior to October 15 of the year of construction in Blocks 1-4 and in subsequent years in bare or disturbed areas. The cover crop will be managed each year such that any avenues that have less than 75% vegetative cover will be reseeded and mulched until adequate coverage is achieved. Seeding and mulching is not required on avenues and roads properly surfaced with gravel.

8. The proposed vine by row spacing is expected to be 3 feet by 7 feet, however in areas where cross-slope exceeds 15% the owner shall increase the row spacing as needed to ensure there is adequate room for equipment. Width of tillage equipment shall be no more than 75% of row width to allow for bench formation and to minimize erosion.

9. The owner has the freedom to further subdivide vineyard blocks within the footprint of the proposed vineyard for irrigation and viticulture purposes. The proposed vinerow directions shall not be altered without an approved modification from Napa County.

10. Irrigation pipelines shall be located within existing roadways, vineyards and vineyard avenues, and/or within proposed clearing limits. Regardless of pipeline location, pipeline trenches located on ground slopes greater than 15% shall be backfilled using imported or select native granular material to a depth of 6 inches above the pipelines such that voids do not form below haunches of pipe. Backfill shall be wheel rolled or otherwise compacted to reduce settlement. Final grading over trenches shall be mounded and water-barred such that water is directed away from trenches.

11. As stated in the Napa County Protocol for Re-Planting/Renewal of Approved Non-Tilled Vineyard Cover Crops dated March 23, 2004, when it becomes necessary, either by routine or emergency, to re-establish or renew vineyard cover crop 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-year period.
    - Tillage and re-seeding should be conducted in the following manner:
        - In year 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 3,000 lbs./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 2, till to prepare seed bed and sow desired cover crop in "odd" rows.
        - In year 2, leave "even" rows untilled and mowed only.
        - Mulch rows tilled in year 2 as specified above.
        - Put all re-establishment measures in place by September 1/October 15
        - In year 3, return all rows to non-tilled culture.

9. Stormwater stabilization measures, if the development of the site will result in increased peak rates of runoff that may cause flooding or channel degradation downstream.

a) No significant increase in quantity or rate of runoff is expected as a result of this project.

b) Please see hydrology report prepared by PPI Engineering dated July 2018.

10. An implementation schedule showing the following:

a) The proposed clearing, grading, and/or construction schedule.

DATE	DESCRIPTION
April 1:	Commence clearing and tillage operations.
September 1 in Block 5:	All tillage and erosion control completed.
September 15 in Block 5:	All winterization complete, including seeding, straw mulching, and straw wattle installation.
October 1 in Blocks 1-4:	All tillage and erosion control completed. This shall include complete construction of all structural measures required in these blocks which could include diversion ditches, drop inlets, surface drainage pipelines, subsurface drainage pipelines, level spreaders, rock aprons, sediment basins, gravel berms, etc.
October 15 in Blocks 1-4:	All winterization complete, including seeding, straw mulching, and straw wattle installation.

b) The proposed schedule for winterizing the site (generally by October 15 of each year the permit is in effect.)

The site shall be winterized and all necessary erosion control measures described in the Erosion Control Plan shall be installed by September 15 in Block 5 and October 15 in Blocks 1-4.

c) The proposed schedule of installation of all interim erosion and sediment control measures, including the stage of completion of such devices at the end of the grading season (generally October 15) of each year the permit will be in effect.

See Item 10a).

d) The schedule for installation of permanent erosion and sediment control devices where required.

See Item 10a).

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

Typical costs for installing erosion control measures as described in this plan range from $1,000 to $2,000 per acre.

METAMORPHOSIS WINES LLC
OVID VINEYARDS

EROSION CONTROL PLAN

S T A N D A R D P R O V I S I O N S

SECTION 1 - SCOPE OF WORK

These specifications cover the construction of the erosion control measures for approximately 31.5 acres of vineyard to be developed by Metamorphosis Wines LLC.

The drawing numbered 11712801B, Sheets 1 through 2, and these Specifications describe in detail the construction of the complete erosion control system. Requests for further information or clarification of the work to be done can be made to Jim Bushey or Matt Bueno at the Napa office of PPI Engineering, phone (707) 253-1806.

All costs for the complete construction of the erosion control system must be included in the bid items, since no other payment will be made outside of the bid items. This includes all costs for moving onto and off of the job site, all equipment, tools, materials, labor, fuel, taxes, and incidentals for furnishing and installing the erosion control system.

Surveying adequate for construction will be provided by the Owner, at the Owner's expense. The Contractor will be responsible for preserving construction survey stakes and markers for the duration of their intended use. Any restaking costs or additional survey work requested by the Contractor shall be deducted from the final payment to the Contractor. The Owner does not guarantee that the project being bid will be awarded. The Owner also reserves the right to change the quantities of actual work performed as needed with payment made according to the new quantities at the unit price bid.

SECTION 2 - AUTHORITY OF OWNER AND ENGINEER

The property is owned by Metamorphosis Wines LLC. Metamorphosis Wines LLC or the appointed representative shall have the final say in the event of a dispute with the Contractor.

The Owner shall appoint PPI Engineering (PPI) as the Engineer to perform periodic review of the work. PPI Engineering shall report any unsatisfactory work to the Owner. The Contractor shall be responsible for any engineering fees or repair costs associated with bringing the unsatisfactory work into compliance with the Plans and Specifications.

SECTION 3 - CHANGES IN WORK

Materials and the manner of performance of the work performed in this contract shall be according to the Plans and Specifications. Modifications to the Plans or Specifications shall be agreed upon in writing by the Contractor, Owner, and Engineer before the work in question is performed. Materials and construction methods shall be as specified on the Plans and Specifications. The burden of proof that a given material or method constitutes an equivalent to the one specified will rest with the Contractor.

SECTION 4 - UTILITIES

At least two working days prior to beginning any excavation on the project, the Contractor shall contact Underground Service Alert (USA) at 1-800-642-2444 and request field location of all existing utilities.

Certain facilities at the site are existing. The Contractor shall be careful to avoid damaging existing facilities and shall notify the Owner immediately if any damage does occur. The cost of repairing any damage shall be the sole responsibility of the Contractor.

SECTION 5 - PROSECUTION OF THE WORK

Unless otherwise provided, the contract time shall commence upon issuance of a Notice to Proceed by the Owner. The work shall start within ten days thereafter and be diligently prosecuted to completion within the time specified in the Contractor's bid. If weather conditions prevent completion of the project within the specified amount of time, the Owner may extend the completion date of the project.

SECTION 6 - RESPONSIBILITIES OF THE CONTRACTOR

The Contractor agrees that in accordance with generally accepted construction practices, Contractor will be required to assume sole and complete responsibility for job site conditions during the course of construction of the project, including the safety of all persons and property. This requirement shall be made to apply continuously and not be limited to normal working hours. Contractor further agrees to defend, indemnify and hold design professional harmless from any and all liability, real or alleged, in connection with the performance of the work on this project, excepting liability arising from the sole negligence of design professional.

The Contractor shall be responsible for controlling dust and mud generated from construction activities. The Contractor shall not allow dust or mud to obstruct vehicular traffic on County roads or State Highways. The Contractor shall be responsible for cleaning all vehicles prior to leaving the site as required by the California Highway Patrol. The Contractor, at their own expense, shall provide adequate dust control and prevention of mud tracking on roads, and take other preventative measures as directed by the Owner.

The Contractor shall be responsible for following all safety laws that may be applicable. Of particular concern are the trench safety regulations issued by CAL-OSHA. The Contractor alone shall be responsible for the safety of their equipment and methods and for any damage or injury which may result from their failure, improper construction, maintenance, or operation.

The Contractor shall be responsible for installing necessary sediment retention measures to keep sediment from leaving the site if construction activities continue beyond October 1.

The Contractor shall keep the work site clean and free of rubbish and debris throughout the project. Materials and equipment shall be removed from the site as soon as they are no longer necessary or the project is completed.

The Contractor shall also be responsible for ensuring that all permits which are necessary for construction have been obtained and that copies of these permits are maintained onsite at all times.

The Contractor shall, at their own expense, furnish all necessary light, power, pumps, and water necessary for the work.

SECTION 7 - MEASUREMENT AND PAYMENT

Payment shall be made at the unit prices bid according to the actual quantities installed. Measurement of the final quantities shall be the responsibility of the Owner's Engineer.

The Engineer shall periodically observe the project during construction and upon completion of the project any unfinished or unacceptable work observed will be brought to the Contractor’s attention verbally and in writing. Final payment will be made upon satisfactory completion of all work items required by these Plans and Specifications.

SECTION 8 - GUARANTEE

In addition to the guarantees from suppliers, the Contractor shall guarantee the work he performs for a period of two years. Any repairs needed to the system within two years of completion due to faulty workmanship or materials shall be promptly repaired at no expense to the Owner. Any costs incurred by the Owner and/or Engineer within two years of completion due to rubbish or debris placed in a trench or other excavation shall be paid by the Contractor.

Unless otherwise provided in writing, payment by the Owner to the Contractor for installation of this system shall constitute acceptance of all provisions in this document by the Contractor.

METAMORPHOSIS WINES LLC
OVID VINEYARDS

EROSION CONTROL PLAN

SPECIAL PROVISIONS

SECTION 1 – ROCK-FILLED AVENUE/LEVEL SPREADER

1.1 GENERAL:

Rock-filled avenues will be constructed as shown in Detail 1, Sheet 2 along the field edges from excess fieldstone as staked in the field by the Engineer. Additional locations will be determined in the field by the Engineer during construction.

1.2 MATERIALS:

Rock used in the construction of the rock-filled avenue/level spreader shall be field rock generated onsite and shall be well-graded to prevent large voids within the structure. Smaller (3-inch minus) field rock and ¾-inch minus gravel will be used to line the trough of the spreader. Gravel may be crushed rock generated onsite but should contain sufficient fines to reduce the overall permeability of the spreader and cause water to flow laterally along the length of the structure (generally equivalent to Cal –Trans Class II Aggregate Base).

1.3 INSTALLATION:

The rock-filled avenue/level spreader shall be constructed as shown on Detail 1, Sheet 2 and as staked in the field by the engineer. A bench shall be cut along the outboard toe for placement of rock. Care shall be taken to remove as much of the fine material (clay and silt size) as possible prior to placing the rock. The rock-filled avenue/ level spreader shall be parallel to the contour to ensure the water is evenly distributed, and the ends shall be turned uphill at least 2 feet in elevation to prevent water from running around the end. The spreader shall be constructed of large, well-graded rock to a finished cross-section with a trough depth of at least 3 feet. A layer of 3-inch minus field rock shall be spread 6-inches thick within the trough and a 6-inch layer of gravel applied over the smaller rock. Finished depth of the trough shall be at least 2 feet.

SECTION 2 – ROCKED CROSSING

2.1 GENERAL:

A rocked crossing shall be constructed as shown on Detail 2, Sheet 2 in locations shown on Sheet 2 and as staked in the field by the Engineer.

2.2 MATERIALS & INSTALLATION:

Excavate subgrade to a depth of 6" - 8". Place filter fabric (Mirafi 1100N or equal) under rock. Place clean 6-8" field rock in excavated roadway, on grade with natural ground surface.

Care should be taken to not disturb the surrounding area any more than is necessary for rocked crossing and road construction. All disturbed areas shall be seeded and mulched.

SECTION 3 - TEMPORARY MEASURES

3.1 GENERAL:

Temporary erosion control measures shall be constructed by the Owner. These measures can include water bars, straw wattles, straw mulching, straw bale dikes, and other practices as needed. The measures shall be constructed in conformance with the detail drawings and maintained in a functional condition throughout the rainy season.

SECTION 4 - MAINTENANCE

4.1 GENERAL:

The erosion control measures described in these Specifications and shown on the Plans and Details require regular maintenance in order to function as intended. Vineyard management personnel shall assure that the erosion control measures are monitored throughout the rainy season each year and necessary repairs and/or maintenance are performed immediately. Maintenance operations shall include, but not be limited to the following activities.

APPENDIX A

PHOTOGRAPHIC DOCUMENTATION

Photo 1 12/13/2017

Photo 2 12/13/2017

APPENDIX B

USLE CALCULATIONS

PPI Engineering

Napa County
Maximum Length of Slope
for a soil loss of 3 tons per acre

NAME: Ovid Vineyards DATE: 10/6/17

Cover Type: Permanent Cover Crop
Soil Unit No. (100-182)--- 176 -K= 0.10
Soil Name Rock Outcrop-Hambright -R= 85
-T= 1

Percent Cover		65% Up & Down Hill	70% Up & Down Hill	75% Up & Down Hill	80% Up & Down Hill	85% Up & Down Hill	90% Up & Down Hill
		C= 0.058 P= 1.0	C= 0.046 P= 1.0	C= 0.034 P= 1.0	C= 0.022 P= 1.0	C= 0.015 P= 1.0	C= 0.010 P= 1.0
PERCENT SLOPE	2	8,690,210	18,819,027	51,545,778	219,978,341	788,528,584	3,046,405,547
	4	90,449	161,466	343,778	1,020,749	2,659,179	7,327,836
	6	8,210	13,052	23,892	57,064	122,751	276,189
	8	3,781	6,010	11,002	26,277	56,525	127,182
	10	2,017	3,207	5,869	14,019	30,156	67,851
	12	1,221	1,941	3,552	8,484	18,250	41,062
	14	800	1,273	2,329	5,564	11,968	26,928
	16	557	885	1,621	3,871	8,327	18,736
	18	406	645	1,180	2,819	6,063	13,643
	20	306	487	891	2,128	4,578	10,300
	22	238	378	693	1,655	3,559	8,009
	24	190	302	552	1,319	2,837	6,382
	26	154	245	449	1,073	2,308	5,193
	28	128	203	372	889	1,912	4,301
	30	108	171	313	748	1,608	3,618
	32	92	146	267	638	1,371	3,086
	34	79	126	230	550	1,184	2,664
	36	69	110	201	480	1,033	2,324
	38	61	97	177	423	910	2,048
	40	54	86	157	376	809	1,820
	42	48	77	141	337	725	1,630
	44	44	70	127	304	654	1,471
	46	40	63	116	276	594	1,337
	48	36	58	106	252	543	1,222
	50	33	53	97	232	499	1,123

NOTES:
C=Cover and Management Factor
P=Practice Factor

PPI Engineering

Napa County
Maximum Length of Slope
for a soil loss of 3 tons per acre

NAME: Ovid Vineyards DATE: 10/6/17

Cover Type: Permanent Cover Crop
Soil Unit No. (100-182)--- 176 -K= 0.10
Soil Name Rock Outcrop-Hambright -R= 85
-T= 1

Percent Cover		65% Cross-Slope	70% Cross-Slope	75% Cross-Slope	80% Cross-Slope	85% Cross-Slope	90% Cross-Slope
		C= 0.058 P= 0.6	C= 0.046 P= 0.6	C= 0.034 P= 0.6	C= 0.022 P= 0.6	C= 0.015 P= 0.6	C= 0.010 P= 0.6
	2	47,700,769	103,298,079	282,935,988	1,207,466,291	4,328,251,951	16,721,791,733
	4	324,360	579,033	1,232,822	3,660,504	9,536,070	26,278,320
	6	22,806	36,257	66,366	158,511	340,974	767,192
	8	10,502	16,696	30,561	72,992	157,014	353,282
	10	5,603	8,907	16,304	38,941	83,767	188,475
	12	3,391	5,390	9,867	23,566	50,693	114,060
P	14	2,224	3,535	6,471	15,455	33,244	74,800
E	16	1,547	2,460	4,502	10,753	23,130	52,043
R	18	1,127	1,791	3,278	7,830	16,843	37,896
C	20	850	1,352	2,475	5,911	12,716	28,610
E	22	661	1,051	1,924	4,596	9,887	22,247
N	24	527	838	1,534	3,663	7,879	17,728
T	26	429	682	1,248	2,980	6,411	14,424
	28	355	565	1,034	2,469	5,310	11,948
S	30	299	475	869	2,077	4,467	10,051
L	32	255	405	741	1,771	3,810	8,572
O	34	220	350	640	1,529	3,288	7,399
P	36	192	305	558	1,334	2,869	6,456
E	38	169	269	492	1,175	2,528	5,688
	40	150	239	437	1,044	2,247	5,055
	42	135	214	392	936	2,013	4,529
	44	121	193	354	844	1,816	4,087
	46	110	175	321	767	1,650	3,713
	48	101	160	294	701	1,508	3,394
	50	93	147	270	644	1,386	3,119

NOTES:
C=Cover and Management Factor
P=Practice Factor

PPI Engineering

Napa County
Maximum Length of Slope
for a soil loss of 3 tons per acre

NAME: Ovid Vineyards DATE: 10/6/17

Cover Type: Permanent Cover Crop
Soil Unit No. (100-182)--- 176 -K= 0.10
Soil Name Rock Outcrop-Hambright -R= 85
-T= 1

Percent Cover		65% Semi-Benched	70% Semi-Benched	75% Semi-Benched	80% Semi-Benched	85% Semi-Benched	90% Semi-Benched
		C= 0.058 P= 0.5	C= 0.046 P= 0.5	C= 0.034 P= 0.5	C= 0.022 P= 0.5	C= 0.015 P= 0.5	C= 0.010 P= 0.5
	2	87,591,628	189,683,463	519,547,685	2,217,237,618	7,947,851,726	30,705,772,857
	4	511,659	913,390	1,944,704	5,774,229	15,042,588	41,452,498
	6	32,841	52,210	95,567	228,255	491,003	1,104,756
	8	15,123	24,042	44,007	105,109	226,101	508,727
	10	8,068	12,826	23,478	56,075	120,624	271,405
	12	4,882	7,762	14,208	33,935	72,999	164,247
P	14	3,202	5,090	9,318	22,255	47,872	107,712
E	16	2,228	3,542	6,483	15,484	33,308	74,943
R	18	1,622	2,579	4,721	11,275	24,253	54,570
C	20	1,225	1,947	3,564	8,512	18,311	41,199
E	22	952	1,514	2,771	6,619	14,238	32,035
N	24	759	1,206	2,208	5,274	11,346	25,529
T	26	617	982	1,797	4,292	9,232	20,771
	28	511	813	1,488	3,555	7,647	17,205
S	30	430	684	1,252	2,990	6,433	14,474
L	32	367	583	1,068	2,550	5,486	12,343
O	34	317	504	922	2,201	4,735	10,654
P	36	276	439	804	1,921	4,132	9,296
E	38	243	387	709	1,692	3,640	8,190
	40	216	344	630	1,504	3,235	7,280
	42	194	308	564	1,347	2,899	6,522
	44	175	278	509	1,216	2,616	5,885
	46	159	253	462	1,105	2,376	5,346
	48	145	231	423	1,010	2,172	4,887
	50	134	212	389	928	1,996	4,492

NOTES:
C=Cover and Management Factor
P=Practice Factor

PPI Engineering

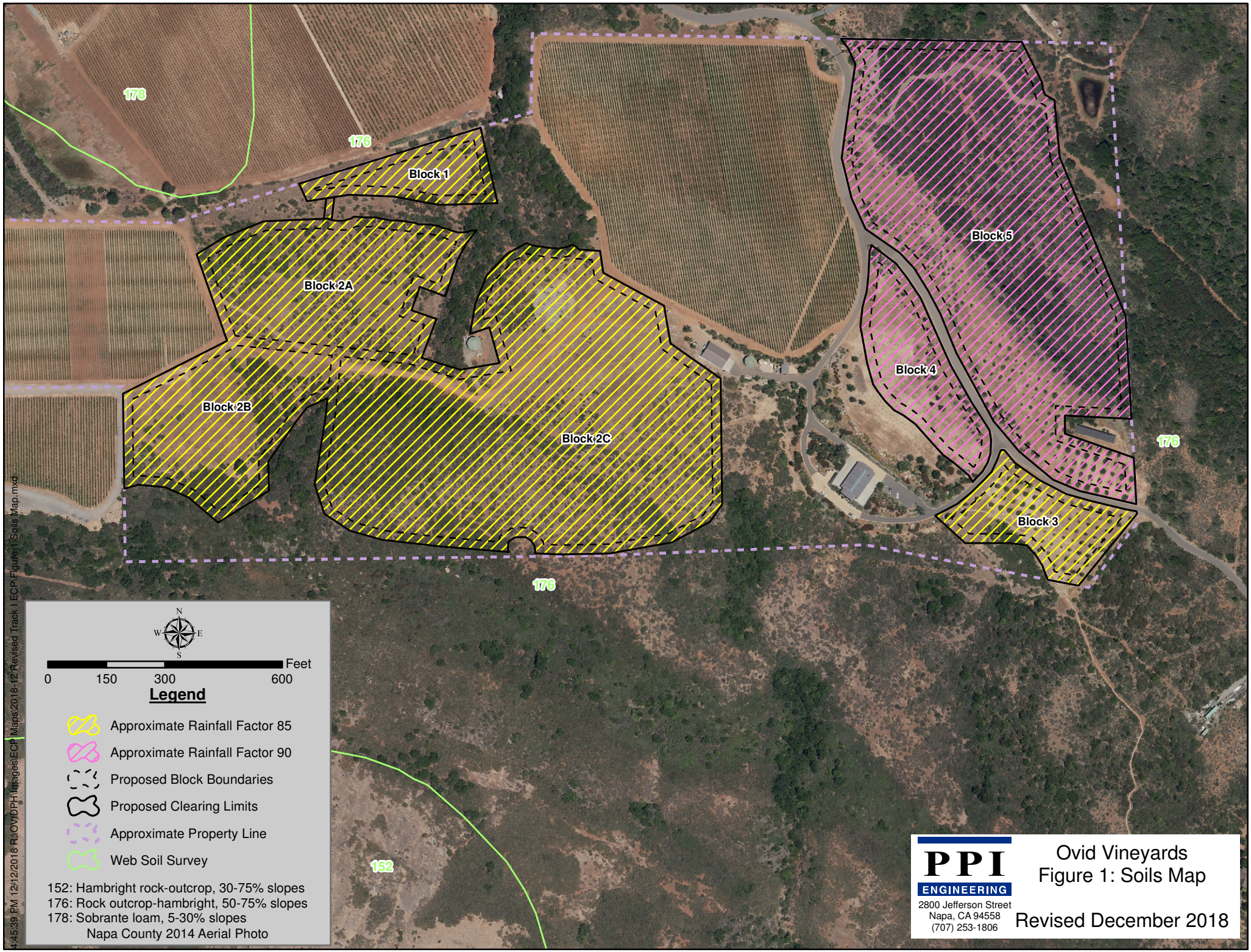
Napa County
Maximum Length of Slope
for a soil loss of 3 tons per acre

NAME: Ovid Vineyards DATE: 10/6/17

Cover Type: Permanent Cover Crop
Soil Unit No. (100-182)--- 176 -K= 0.10
Soil Name Rock Outcrop-Hambright -R= 90
-T= 1

Percent Cover		65% Up & Down Hill	70% Up & Down Hill	75% Up & Down Hill	80% Up & Down Hill	85% Up & Down Hill	90% Up & Down Hill
		C= 0.058 P= 1.0	C= 0.046 P= 1.0	C= 0.034 P= 1.0	C= 0.022 P= 1.0	C= 0.015 P= 1.0	C= 0.010 P= 1.0
PERCENT SLOPE	2	7,182,656	15,554,353	42,603,757	181,817,100	651,736,801	2,517,923,442
	4	78,406	139,966	298,002	884,830	2,305,094	6,352,092
	6	7,323	11,642	21,311	50,900	109,491	246,354
	8	3,372	5,361	9,813	23,439	50,419	113,443
	10	1,799	2,860	5,235	12,504	26,898	60,522
	12	1,089	1,731	3,168	7,567	16,278	36,626
	14	714	1,135	2,078	4,963	10,675	24,019
	16	497	790	1,446	3,453	7,427	16,712
	18	362	575	1,053	2,514	5,408	12,169
	20	273	434	795	1,898	4,083	9,187
	22	212	338	618	1,476	3,175	7,144
	24	169	269	492	1,176	2,530	5,693
	26	138	219	401	957	2,059	4,632
	28	114	181	332	793	1,705	3,837
	30	96	153	279	667	1,434	3,228
	32	82	130	238	569	1,223	2,752
	34	71	112	206	491	1,056	2,376
	36	62	98	179	428	921	2,073
	38	54	86	158	377	812	1,826
	40	48	77	140	335	721	1,623
	42	43	69	126	300	646	1,454
	44	39	62	114	271	583	1,312
	46	35	56	103	246	530	1,192
	48	32	51	94	225	484	1,090
	50	30	47	87	207	445	1,002

NOTES:
C=Cover and Management Factor
P=Practice Factor


178
176
Block 1
Block 2A
Block 2B
Block 2C
Block 5
Block 4
Block 3
176
176
152
N
W
E
S
Feet
0
150
300
600
Legend
Approximate Rainfall Factor 85
Approximate Rainfall Factor 90
Proposed Block Boundaries
Proposed Clearing Limits
Approximate Property Line
Web Soil Survey
152: Hambright rock-outcrop, 30-75% slopes
176: Rock outcrop-hambright, 50-75% slopes
178: Sobrante loam, 5-30% slopes
Napa County 2014 Aerial Photo
4:45:39 PM 12/12/2018 R:\OVID\PH\Images\ECP Maps\2018-12 Revised Track I ECP\Figure 1 Soils Map.mxd
PPI
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2800 Jefferson Street
Napa, CA 94558
(707) 253-1806
Ovid Vineyards
Figure 1: Soils Map
Revised December 2018

APPENDIX C

VEGETATION RETENTION CALCULATIONS

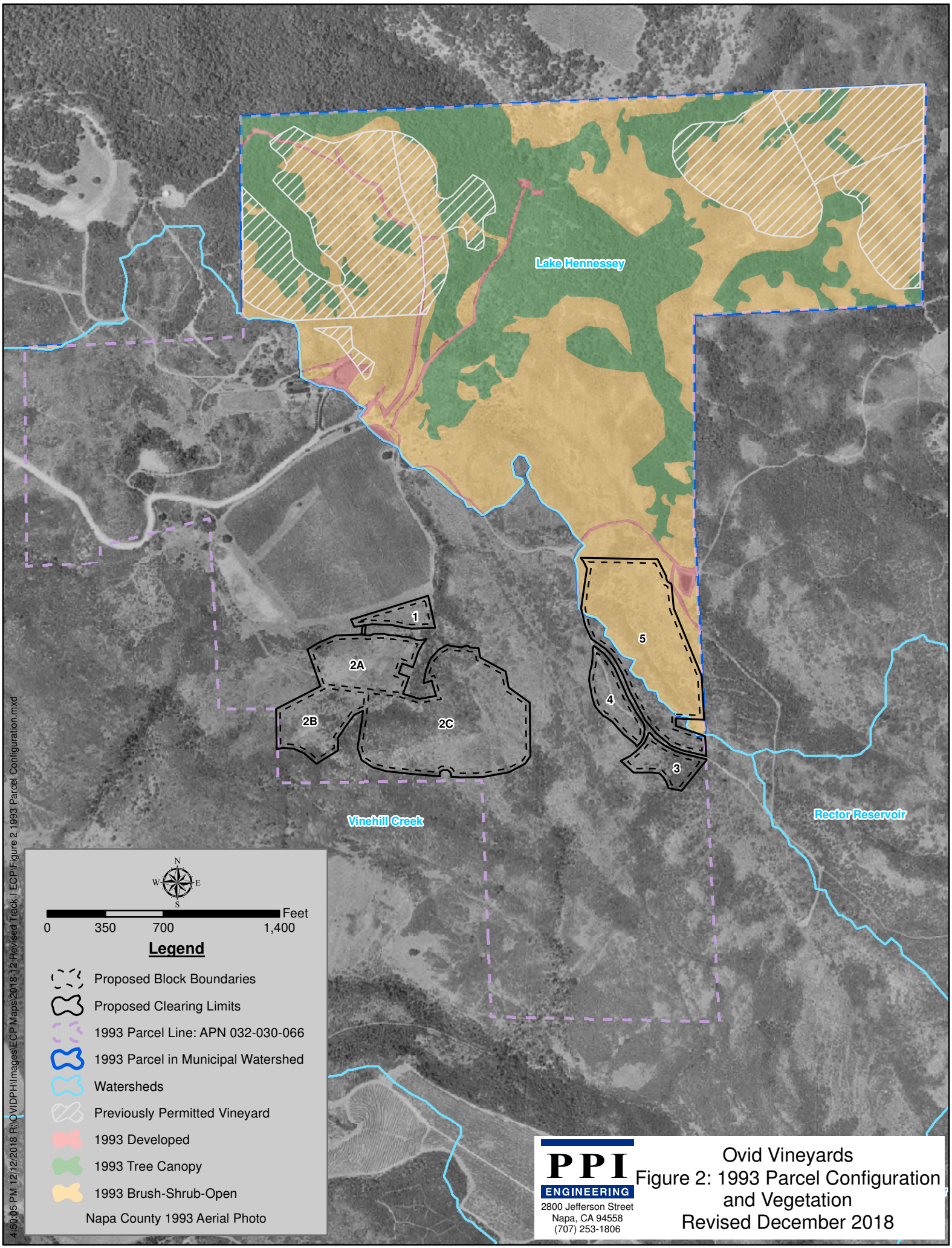
OVID VINEYARDS
VEGETATION RETENTION CALCULATIONS
BASED ON 1993 PARCELS AND VEGETATION
WITHIN MUNICIPAL WATERSHED

Parcel	Acres
032-030-066 in 1993	381.6
1993 Parcel within Lake Hennessey Watershed	190.4
1993 Developed Area	5.0
Currently Developed	38.8
Permitted but Undeveloped ECPs*	28.0

	Tree Canopy Cover (acres)	Brush/Shrub/Open Cover (acres)
Existing in 1993	68.5	116.9
Total Allowed to be Removed	27.4	70.1
Acres Removed Post-1993	9.2	25.7
Acreage Allowed to be Removed under Previously Approved ECPs	4.0	23.7
Current ECP Proposed to be Removed by this ECP	0.0	9.2
To be Retained (Current and Permitted ECPs)	81%	50%

*This is the remaining area that has been previously approved by Napa County under #98328-ECPA and #P06-01007-ECPA. Data obtained from Napa County GIS Department.

Note: some rounding may occur



4:50:05 PM 12/12/2018 R:\OVIDPH\Images\ECP Maps\2018-12 Revised Track I ECP\Figure 2 1993 Parcel Configuration.mxd

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Ovid Vineyards
Figure 2: 1993 Parcel Configuration and Vegetation
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APPENDIX D

SLOPE CALCULATIONS

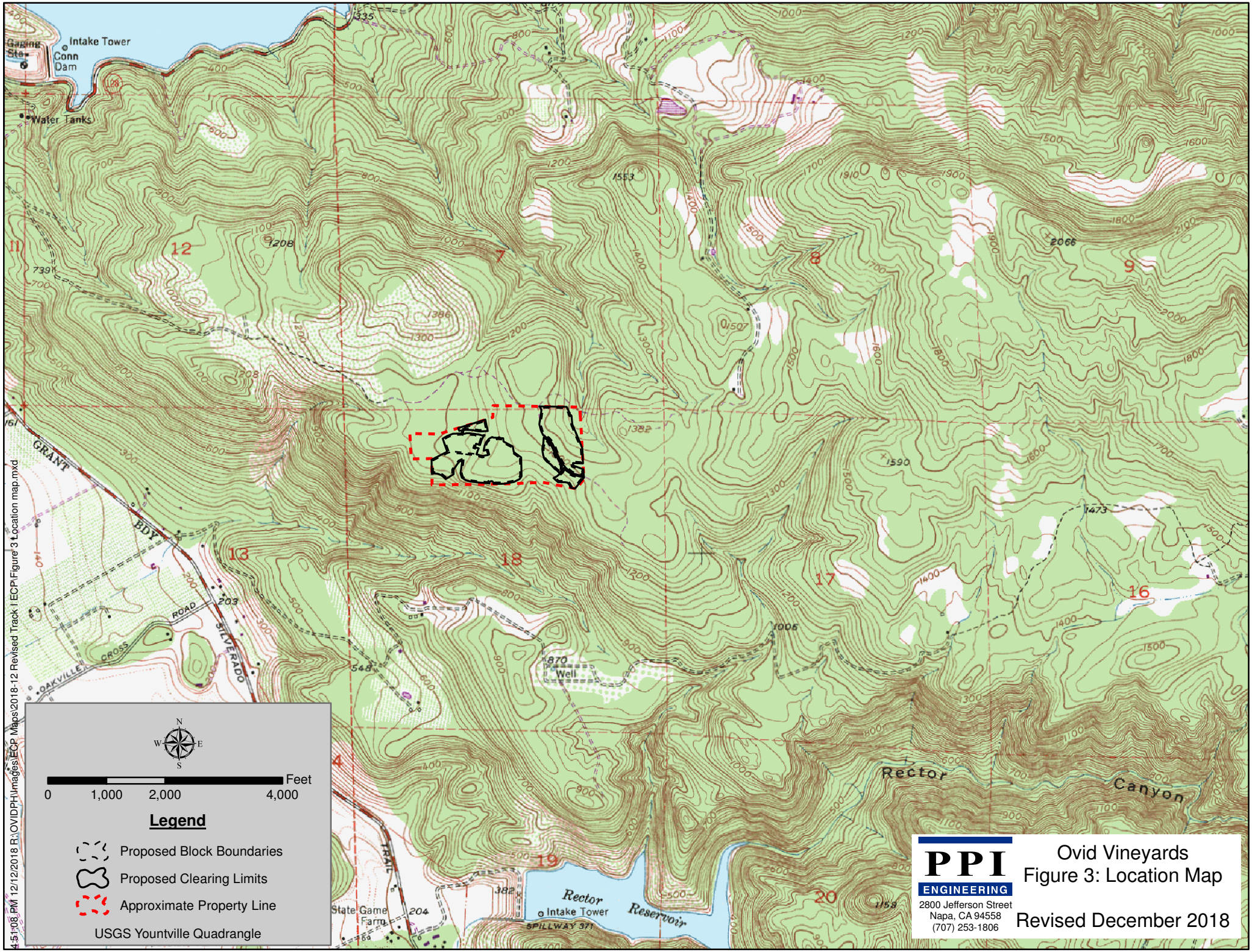
METAMORPHOSIS WINES LLC
OVID VINEYARDS

Average Slope Of Proposed Vineyard Blocks

Block	Gross Acres	Net Acres	Slope #1	Slope #2	Average Slope
1	1.3	0.7	16%		16%
2A	21.7	3.5	9%	14%	12%
2B		3.0	11%	18%	15%
2C		11.8	11%	23%	17%
3	1.8	1.2	14%	20%	17%
4	2.1	1.3	9%		9%
5	11.9	10.0	14%	24%	19%
Avenues	0.1				
Total	**38.9**	**31.5**			**15%**

APPENDIX E

SUPPORTING FIGURES



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2800 Jefferson Street
Napa, CA 94558
(707) 253-1806

Ovid Vineyards
Figure 3: Location Map

Revised December 2018

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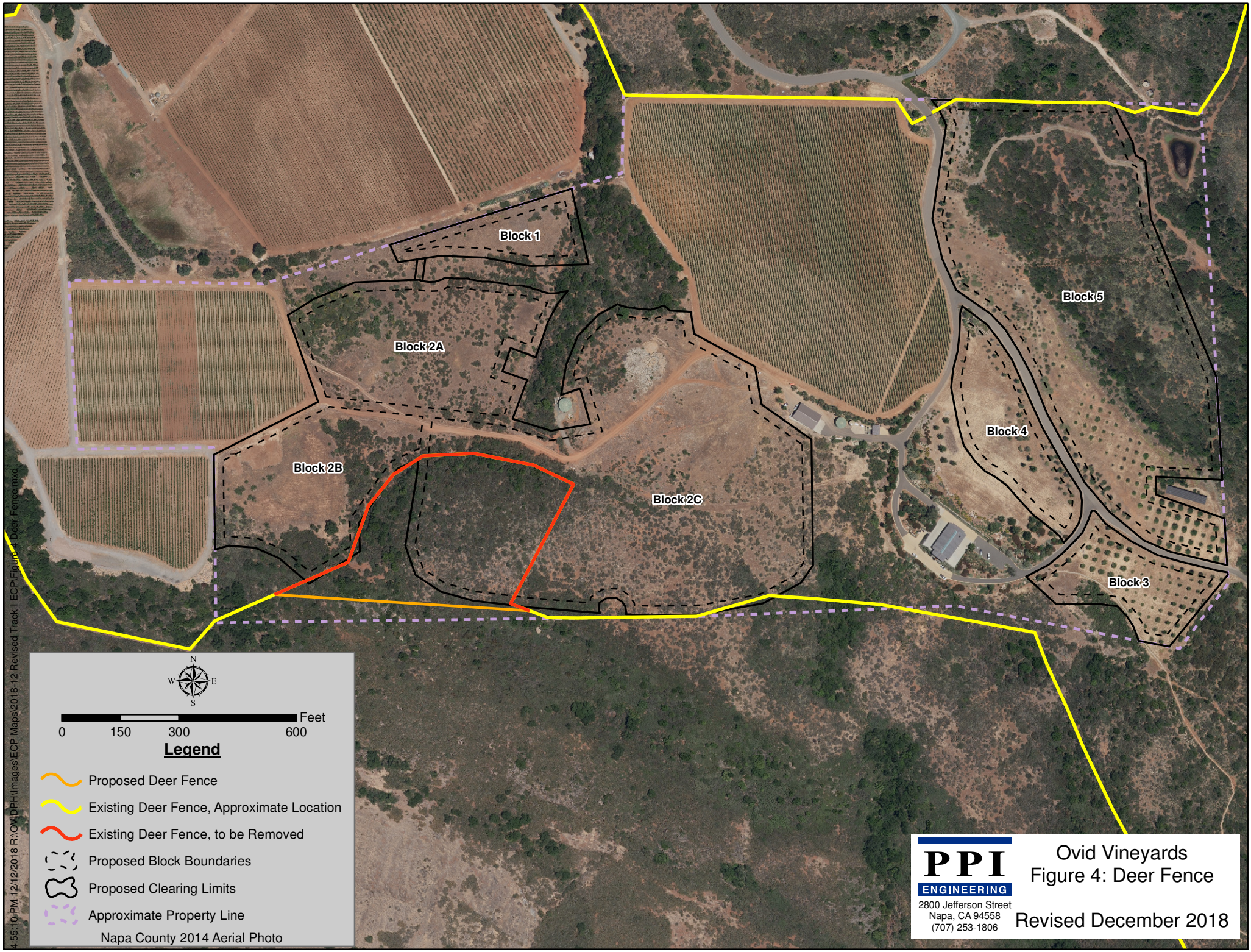
Block 1
Block 2A
Block 2B
Block 2C
Block 3
Block 4
Block 5
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W
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Feet
0
150
300
600
Legend
Proposed Deer Fence
Existing Deer Fence, Approximate Location
Existing Deer Fence, to be Removed
Proposed Block Boundaries
Proposed Clearing Limits
Approximate Property Line
Napa County 2014 Aerial Photo
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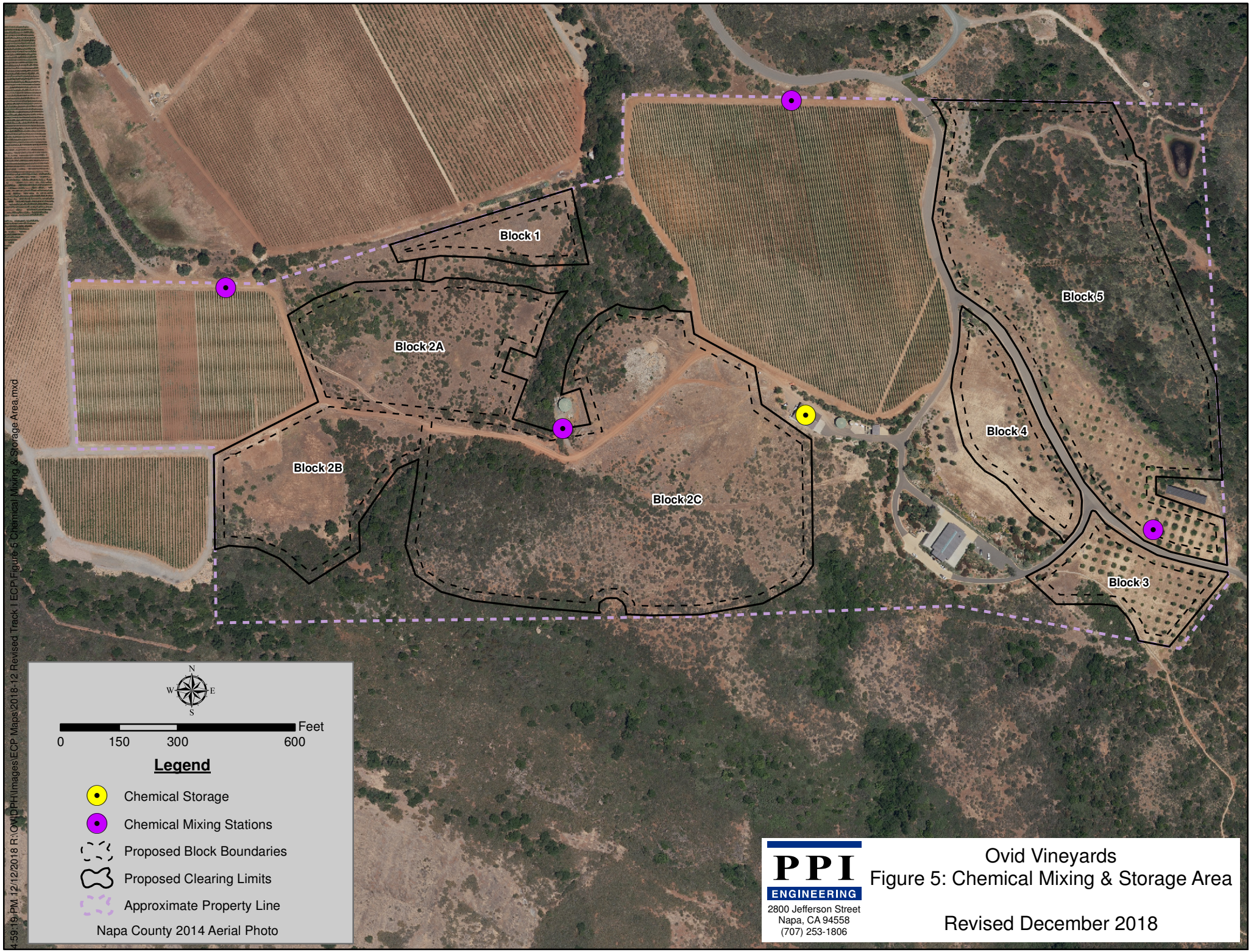
Napa, CA 94558
(707) 253-1806
Ovid Vineyards
Figure 4: Deer Fence
Revised December 2018
4:55:10 PM 12/12/2018 R:\OVID\PH\Images\ECP Maps\2018-12 Revised Track I ECP\Figure 4 Deer Fence.mxd


Block 1
Block 2A
Block 2B
Block 2C
Block 3
Block 4
Block 5
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Legend
Chemical Storage
Chemical Mixing Stations
Proposed Block Boundaries
Proposed Clearing Limits
Approximate Property Line
Napa County 2014 Aerial Photo
PPI
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2800 Jefferson Street
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Ovid Vineyards
Figure 5: Chemical Mixing & Storage Area
Revised December 2018
4:59:19 PM 12/12/2018 R:\OVID\PH\Images\ECP Maps\2018-12 Revised Track I ECP\Figure 5 Chemical Mixing & Storage Area.mxd

APPENDIX F

ROAD PLAN

METAMORPHOSIS WINES LLC
OVID VINEYARDS

EROSION CONTROL PLAN

R O A D P L A N

SECTION 1 - INTRODUCTION

Road systems can be a significant but easily controlled source of sediment production and delivery to stream channels (Napolitano et. al. 2009). The recommendations contained within this Road Plan are consistent with recent road management plans prepared by the Napa County Resource Conservation District (RCD) and with guidance presented within the Mendocino County RCD's *Forest and Ranch Roads Handbook* (Weaver, W.E., and Hagans, D.K. 2014).

The Ovid Vineyards property contains an existing road network of paved and dirt roads and vegetated vineyard avenues throughout the property at Assessor's Parcel Numbers (APNs) 032-030-065 and -066. This plan addresses road improvements associated with the proposed new vineyard blocks requested in this Track I Erosion Control Plan (ECP).

The roads that provide access from Long Ranch Road to the existing vineyard blocks and winery are shown as "Existing Paved Roads" or "Existing Dirt Roads" on Figure 6 of this ECP. The paved roads are in excellent condition and will continue to be maintained in their current state, and no changes or improvements to the paved roads are required as a result of this project. The existing dirt roads provide the primary access points to the existing and proposed vineyard blocks. These existing dirt roads are used during ongoing vineyard operation and maintenance on the property. Section 2 below discusses proposed improvements and recommendations to ensure that the increased usage of these existing roads does not increase erosion or sedimentation to local waterways.

SECTION 2 - PROPOSED IMPROVEMENTS

2.1 ROCK-FILLED AVENUE/LEVEL SPREADER

Rock-filled avenues will be constructed along the field edges of certain vineyard blocks from excess fieldstone as shown on the Plans and as staked in the field by the Engineer. These upgraded avenues are typically on the downslope side of a vineyard block and will function as a stabilization and dispersal method to slow down runoff and encourage infiltration back onto the native ground surface. The rock-filled avenue is shown in Detail 1, Sheet 2 of this ECP.

2.2 ROCKED CROSSING

There is a mapped water of the U.S. between Block 1 and Block 2A that returns to sheet flow and terminates as shown on Sheet 2. Access to Block 1 will be at the location where there are no mapped bed or banks on this small drainage. In this location, a rocked crossing is proposed to

ensure that vineyard traffic does not cause erosion or stability issues. The Forest and Ranch Roads Handbook recommends the use of rocked crossings for "ephemeral and intermittent streams when the majority of traffic will be crossing during low flow or dry conditions." Although this is not a mapped stream, rocking this section of road will ensure the continued stability of this area and minimize sedimentation caused by vineyard traffic. The rocked crossing is shown on Detail 2 on Sheet 2 of this ECP, and the specifications are discussed in Section 2 of the Special Provisions.

2.3 VEGETATED AVENUES

In addition to the paved and graveled primary roads on the property, there is also a network of vegetated vineyard avenues that surround vineyard blocks and provide access for farming equipment and workers. These avenues are used less frequently than the paved and dirt roads and are reseeded as needed to ensure appropriate levels of vegetative cover are maintained as required in the engineered Erosion Control Plans that cover these avenues. Per the *Forest and Ranch Roads Handbook*, "[v]egetation protects erodible soil from raindrop impact and soil particle detachment, increases surface roughness and reduces surface runoff velocity." Section 8b of the ECP Narrative discusses the percent vegetative cover that is required for each vineyard avenue associated with the proposed vineyard blocks within this ECP.

2.4 DECOMMISSIONED ROADS

Portions of existing roads will be decommissioned by incorporating them into vineyard blocks. In those locations, the access roads will be realigned to the outer vineyard avenue. When the decommissioned road becomes part of the vineyard block it will be required to maintain the same percentage of vegetative cover as the surrounding vineyard.

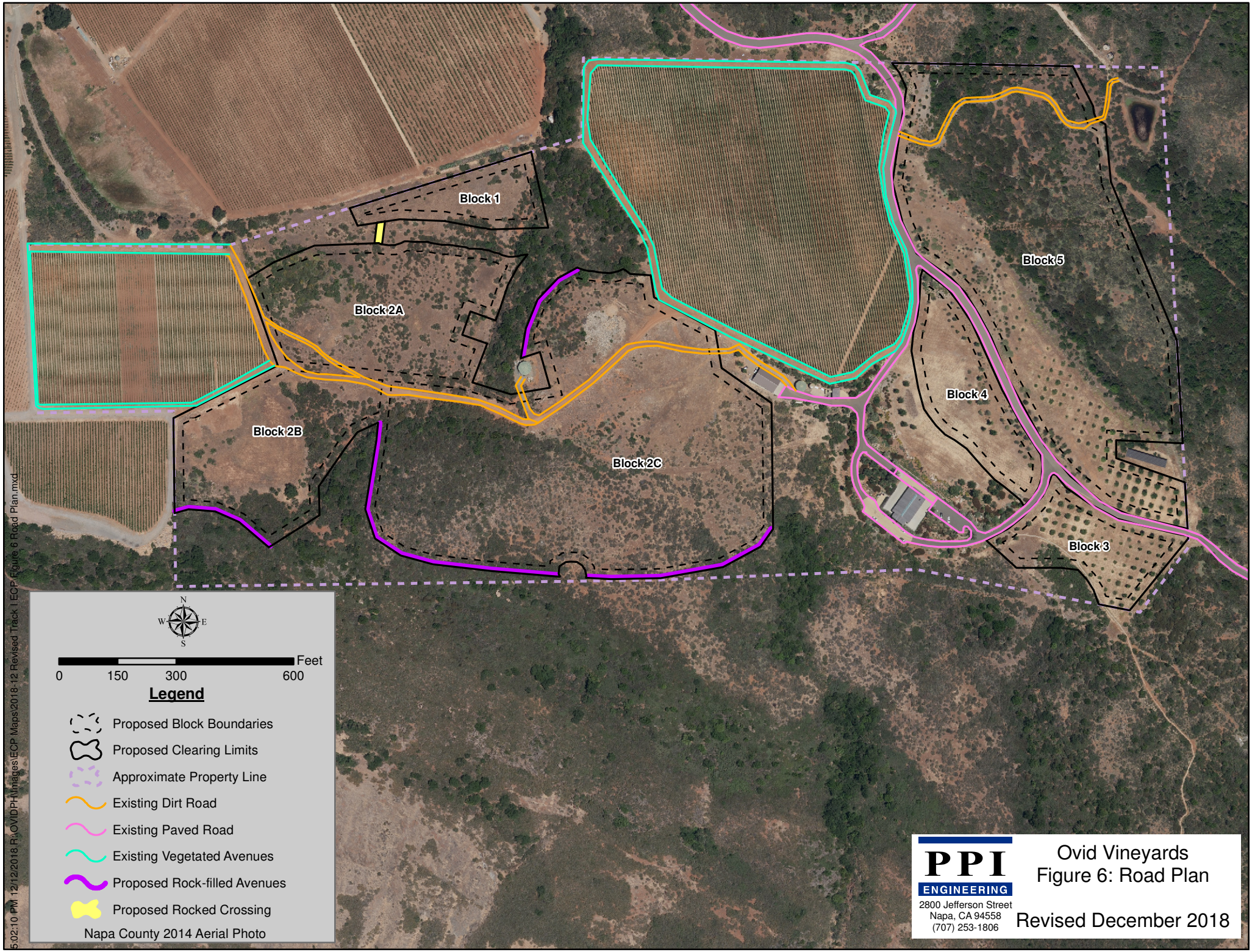
SECTION 3 - CONCLUSIONS

Road-related sediment can be prevented from entering the stream system through a variety of best management practices and erosion prevention treatments that generally involve dispersing road runoff and disconnecting road surface and ditch drainage. The recommendations in this Road Plan are consistent with guidance from the Napa County RCD and the Handbook for Forest and Ranch Roads and will ensure that the existing road network will be upgraded as necessary to minimize potential for erosion and sediment delivery to local drainages.

SECTION 4 - REFERENCES

Napolitano, Potter, Whyte 2009. *Napa River Sediment TMDL and Habitat Enhancement Plan.* California Regional Water Quality Control Board, San Francisco Bay Region.

Weaver, W.E., and Hagans, D.K., 2014, *Handbook for Forest and Ranch Roads*: A Guide for Planning, Designing, Constructing, Reconstructing, Maintaining and Closing Wildland Roads: Ukiah, CA, Mendocino County Resource Conservation District.


Block 1
Block 2A
Block 2B
Block 2C
Block 3
Block 4
Block 5
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Legend
Proposed Block Boundaries
Proposed Clearing Limits
Approximate Property Line
Existing Dirt Road
Existing Paved Road
Existing Vegetated Avenues
Proposed Rock-filled Avenues
Proposed Rocked Crossing
Napa County 2014 Aerial Photo
5:02:10 PM 12/12/2018 R:\OVID\PH\Images\EOP Maps\2018-12 Revised Track I EOP\Figure 6 Road Plan.mxd
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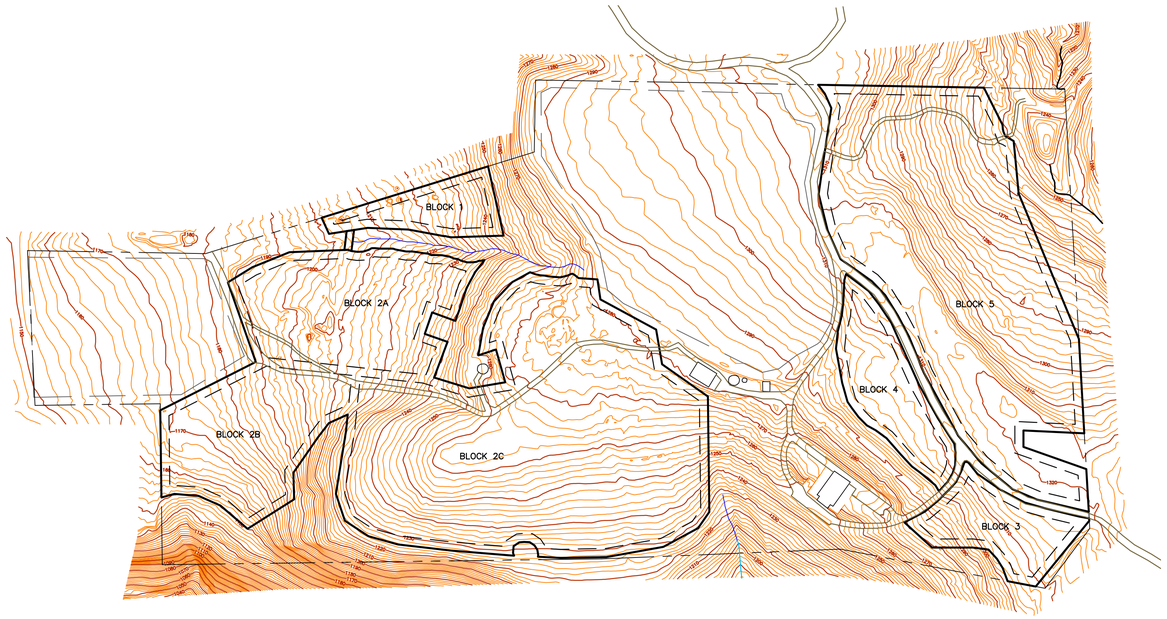
Ovid Vineyards
Figure 6: Road Plan
Revised December 2018

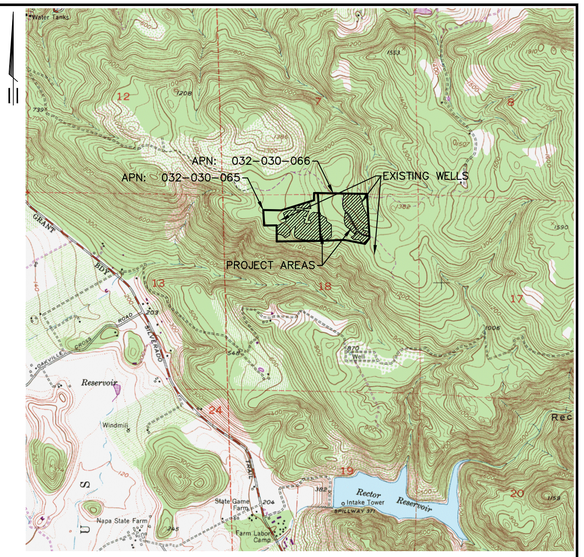


TOPOGRAPHIC MAPPING PROVIDED BY AMERICAN AERIAL MAPPING, INC. OCTOBER 2017. 2' CONTOUR INTERVAL.

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

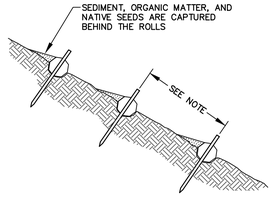


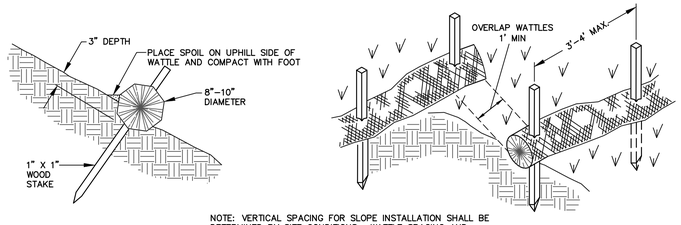
VICINITY MAP

USGS YOUNTVILLE QUADRANGLE
TOWNSHIP 7 N., RANGE 4 W.
SCALE: 1" = ±2000'

LEGEND

- APPROXIMATE PROPERTY LINE LOCATION
- EXISTING VINEYARD AREA
- U.S.G.S BLUE LINE STREAM
- EPHEMERAL STREAM, MAPPED BY WRA
- EPHEMERAL STREAM, ASSUMED LOCATION BY PPI
- EXISTING ROAD
- EXISTING BUILDING
- PROPOSED VINEYARD DEVELOPMENT AREA
- PROPOSED VINEYARD BLOCK BOUNDARY





NOTE: VERTICAL SPACING FOR SLOPE INSTALLATION SHALL BE DETERMINED BY SITE CONDITIONS. WATTLE SPACING AND LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

1/1 STRAW WATTLE INSTALLATION
N.T.S.

NOTES:

1. OWNER: METAMORPHOSIS WINES LLC
   SITE ADDRESS: 255 LONG RANCH ROAD
   APN: 032-030-065 & 032-030-066
2. ACCESS TO PROJECT IS FROM LONG RANCH ROAD. THE SITE IS GATED AND LOCKED. ADMITTANCE IS AVAILABLE UPON REQUEST.
3. EXISTING VEGETATION CONSISTS OF ORCHARD, GRASS, AND BRUSH.
4. DISTURBED AREAS SHALL BE SEEDED AS DESCRIBED BELOW. STRAW MULCH SHALL BE APPLIED TO ALL DISTURBED AREAS AT A RATE OF 3,000 POUNDS PER ACRE PRIOR TO SEPTEMBER 15 OF THE YEAR OF CONSTRUCTION IN BLOCK 5. STRAW MULCH SHALL BE APPLIED TO ALL DISTURBED AREAS AT A RATE OF 3,000 POUNDS PER ACRE PRIOR TO OCTOBER 15 OF THE YEAR OF CONSTRUCTION IN BLOCKS 1-4.
5. PERMANENT COVER CROP (NO-TILL):
   A PERMANENT COVER CROP STRATEGY WILL BE UTILIZED. THE PERMANENT COVER CROP WILL BE GENERATED THE FIRST YEAR BY SEEDING WITH THE FOLLOWING MIX:

VARIETY	RATE (LBS/ACRE)
DWARF BARLEY	50
BLANDO BROME	8
ZORRO FESCUE	12
CRIMSON CLOVER	6

   A PRE-APPROVED ALTERNATIVE SEED MIX MAY BE ALLOWED.

   THE PERMANENT COVER CROP WILL BE MANAGED EACH YEAR SUCH THAT ANY AREAS WHICH HAVE LESS THAN 75% VEGETATIVE COVER WILL BE RESEEDED AND MULCHED UNTIL ADEQUATE COVERAGE IS ACHIEVED. THE PERMANENT COVER CROP SHALL BE MOWED ONLY AND NOT DISKED.
6. IN BLOCKS 1, 2A, 3, AND 4 THE OWNER HAS THE OPTION OF USING A DWARF BARLEY (OR A PRE-APPROVED ALTERNATIVE) COVER CROP IN THE FIRST THREE YEARS THAT THE BLOCK IS PLANTED TO AID WITH VINEYARD ESTABLISHMENT. IF THIS OPTION IS USED, SEED SHALL BE APPLIED AT A RATE OF 120 POUNDS PER ACRE IF BROADCAST OR AT A RATE OF 60 POUNDS PER ACRE IF DRILLED. THE COVER CROP WITHIN THE VINEYARD MAY BE DISKED EACH SPRING AFTER APRIL 1 FOR THE FIRST THREE YEARS. AN ALTERNATIVE COVER CROP SEED MIX MAY BE USED UPON PRIOR APPROVAL. EACH YEAR THE OWNER CHOOSES TO DISK, THE AREA SHALL BE STRAW MULCHED AT A RATE OF 3,000 LBS/ACRE AND STRAW WATTLES INSTALLED PRIOR TO OCTOBER 15. THE PERMANENT SEED MIX WILL BE SEEDED PRIOR TO OCTOBER 15 OF THE FOURTH (OR EARLIER) YEAR.
7. IN BLOCKS 2B, 2C, AND 5 THE PERMANENT COVER MUST BE ESTABLISHED THE FIRST YEAR. DISKING FOR THE FIRST THREE YEARS TO AID WITH VINEYARD ESTABLISHMENT IS NOT PERMITTED DUE TO THE SITE CONDITIONS.
8. NO PRE-EMERGENT HERBICIDES WILL BE USED FOR WEED MANAGEMENT. CONTACT OR SYSTEMIC HERBICIDES MAY BE APPLIED IN SPRING (TYPICALLY NO EARLIER THAN FEBRUARY 15TH TO ENSURE ADEQUATE VEGETATIVE COVER IN THE SPRAY STRIPS FOR THE REMAINDER OF THE RAINY SEASON). THE WIDTH OF THE SPRAY STRIP SHALL BE NO WIDER THAN 1.5' IN ORDER TO ACHIEVE 75% VEGETATIVE COVER.
9. FERTILIZER SHALL BE APPLIED AS NECESSARY BY VINEYARD MANAGEMENT PERSONNEL FOR BOTH THE VINEYARD AND TO ENSURE SPECIFIED PERCENT VEGETATIVE COVER CROP IS ACHIEVED. SITE-SPECIFIC SOIL ANALYSIS SHOULD BE PERFORMED.
10. THE VINEYARD AVENUES SHALL BE MOWED ONLY AND SHALL NOT BE DISKED. UNLESS OTHERWISE NOTED, ALL AVENUES SHALL CONFORM TO THE NATURAL GRADE. VINEYARD AVENUES SHALL BE SEEDED AND MULCHED PRIOR TO SEPTEMBER 15 OF THE YEAR OF CONSTRUCTION IN BLOCK 5 AND PRIOR TO OCTOBER 15 OF THE YEAR OF CONSTRUCTION IN BLOCKS 1-4 AND IN SUBSEQUENT YEARS IN BARE OR DISTURBED AREAS. THE COVER CROP WILL BE MANAGED EACH YEAR SUCH THAT ANY AVENUES THAT HAVE LESS THAN 75% VEGETATIVE COVER WILL BE RESEEDED AND MULCHED UNTIL ADEQUATE COVERAGE IS ACHIEVED. SEEDING AND MULCHING IS NOT REQUIRED ON AVENUES AND ROADS PROPERLY SURFACED WITH GRAVEL.
11. THE PROPOSED VINE BY ROW SPACING IS 3' BY 7', HOWEVER IN AREAS WHERE CROSS-SLOPE EXCEEDS 15% THE OWNER SHALL INCREASE THE ROW SPACING AS NEEDED TO ENSURE THERE IS ADEQUATE ROOM FOR EQUIPMENT. WIDTH OF TILLAGE EQUIPMENT SHALL BE NO MORE THAN 75% OF ROW WIDTH TO ALLOW FOR BENCH FORMATION AND TO MINIMIZE EROSION.
12. THE OWNER HAS THE FREEDOM TO FURTHER SUBDIVIDE VINEYARD BLOCKS WITHIN THE FOOTPRINT OF THE PROPOSED VINEYARD FOR IRRIGATION AND VITICULTURE PURPOSES. THE PROPOSED VINEROW DIRECTIONS SHALL NOT BE ALTERED WITHOUT AN APPROVED MODIFICATION FROM NAPA COUNTY.
13. THE LOCATION OF THE EXISTING WELLS, THE PROPOSED WATER SOURCE, IS SHOWN ON THE VICINITY MAP.
14. THE PROPERTY IS CURRENTLY DEER FENCED. SOME DEER FENCE WILL BE REALIGNED, SEE FIGURE 4.
15. REQUESTS FOR FURTHER INFORMATION, CLARIFICATION OF WORK TO BE DONE, OR INSPECTION INFORMATION CAN BE MADE TO JIM BUSHEY OR MATT BUENO AT PPI ENGINEERING IN NAPA, (707) 253-1806.
16. PROPERTY LINES AS SHOWN ARE APPROXIMATE. OWNER SHALL BE RESPONSIBLE FOR SURVEYING PROPERTY LINE(S) AS NECESSARY PRIOR TO ANY SITE DISTURBANCE. SETBACKS SHALL BE MAINTAINED AS REQUIRED BY APPENDIX J OF THE CALIFORNIA BUILDING CODE.
17. THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS.
18. AT LEAST 48 HOURS PRIOR TO EXCAVATING, THE CONTRACTOR SHALL CALL UNDERGROUND SERVICES ALERT (U.S.A.) AT 1-800-642-2444 IN ORDER TO LOCATE EXISTING UTILITIES. IT IS THE OWNER'S RESPONSIBILITY TO LOCATE ANY ADDITIONAL UNDERGROUND UTILITIES THAT MAY HAVE BEEN INSTALLED "IN-HOUSE" OR BY PRIVATE CONTRACTORS AND THEREFORE MAY NOT BE LOCATED THROUGH UNDERGROUND SERVICE ALERT.
19. IT IS THE OWNER'S RESPONSIBILITY TO INSTALL ALL STRUCTURAL MEASURES AS SHOWN ON THE SITE PLAN AND DETAILS AND AS DESCRIBED IN THE SPECIFICATIONS WITHIN THE TIME FRAMES SPECIFIED FOR THIS PROJECT. ANY DEVIATION FROM THESE PLANS MUST BE REVIEWED AND APPROVED BY NAPA COUNTY PLANNING, BUILDING AND ENVIRONMENTAL SERVICES DEPARTMENT. IT IS THE OWNER'S RESPONSIBILITY TO INITIATE THIS MODIFICATION PROCESS. PPI ENGINEERING MUST BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF CONSTRUCTION IN ORDER TO SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE OWNER/MANAGER AND CONTRACTOR(S). FOR ONGOING MULTI-YEAR PROJECTS PPI ENGINEERING MUST BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF RESUMING CONSTRUCTION EACH YEAR.

REGISTERED PROFESSIONAL ENGINEER
JAMES C. BUSHEY
No. 49931
EXPIRES: 9-30-20
Civil
STATE OF CALIFORNIA

REV. NO.	DESCRIPTION	BY	DATE
1	THIS DRAWING SUPERSEDES DRAWING 11712801A. INCORPORATED CHANGES BASED ON NAPA COUNTY COMMENTS.	JCJ	12-12-18

PPI ENGINEERING
2800 JEFFERSON STREET
NAPA, CA 94558
707/253-1806 FAX 707/253-1604

METAMORPHOSIS WINES LLC
OVID VINEYARDS

EROSION CONTROL PLAN

SITE PLAN

DESIGN ENGINEER: J. BUSHEY

JOB NO: 11712801
DWG. NO: 11712801B

SCALE:	DRAWN BY:	DATE:	SHEET:	OF:
AS SHOWN	JCJ	12-12-18	1	2

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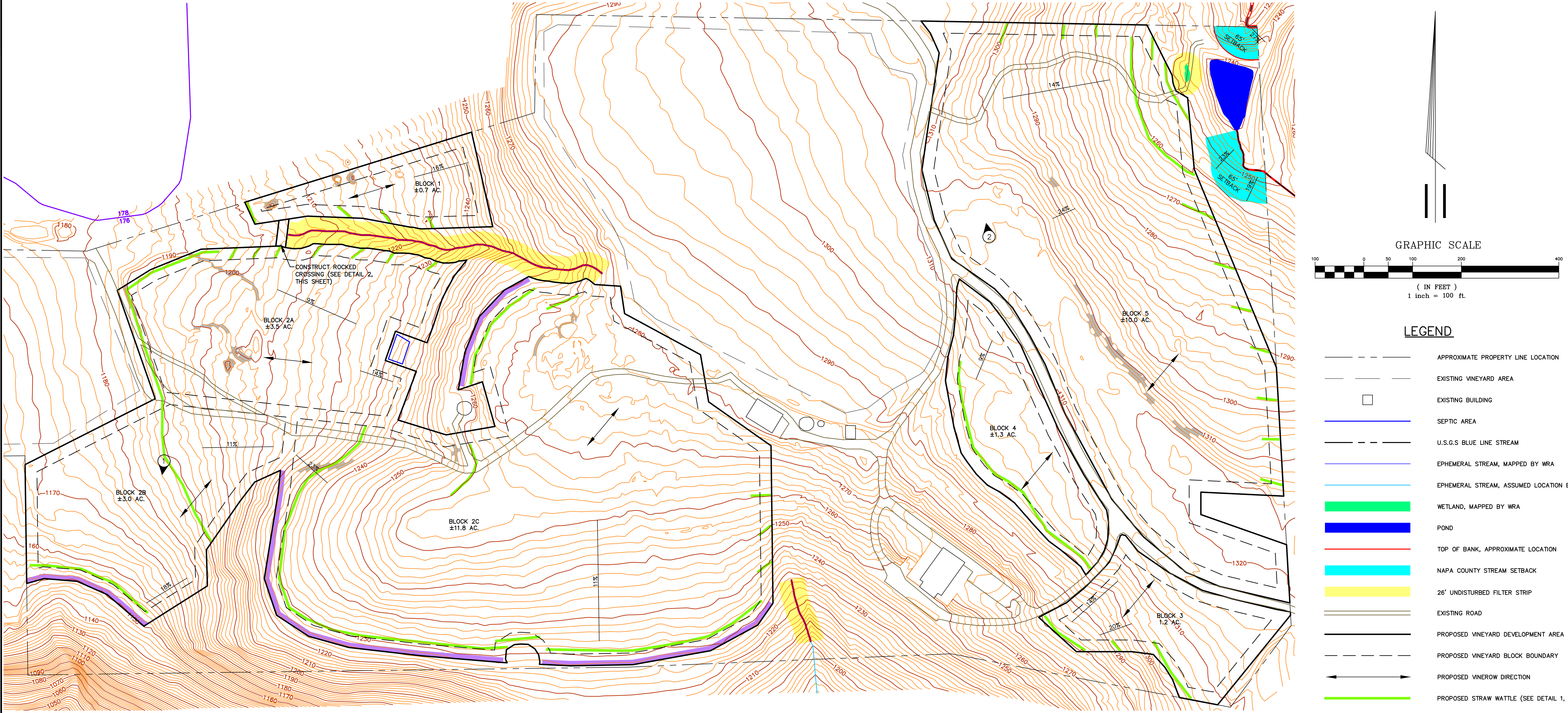


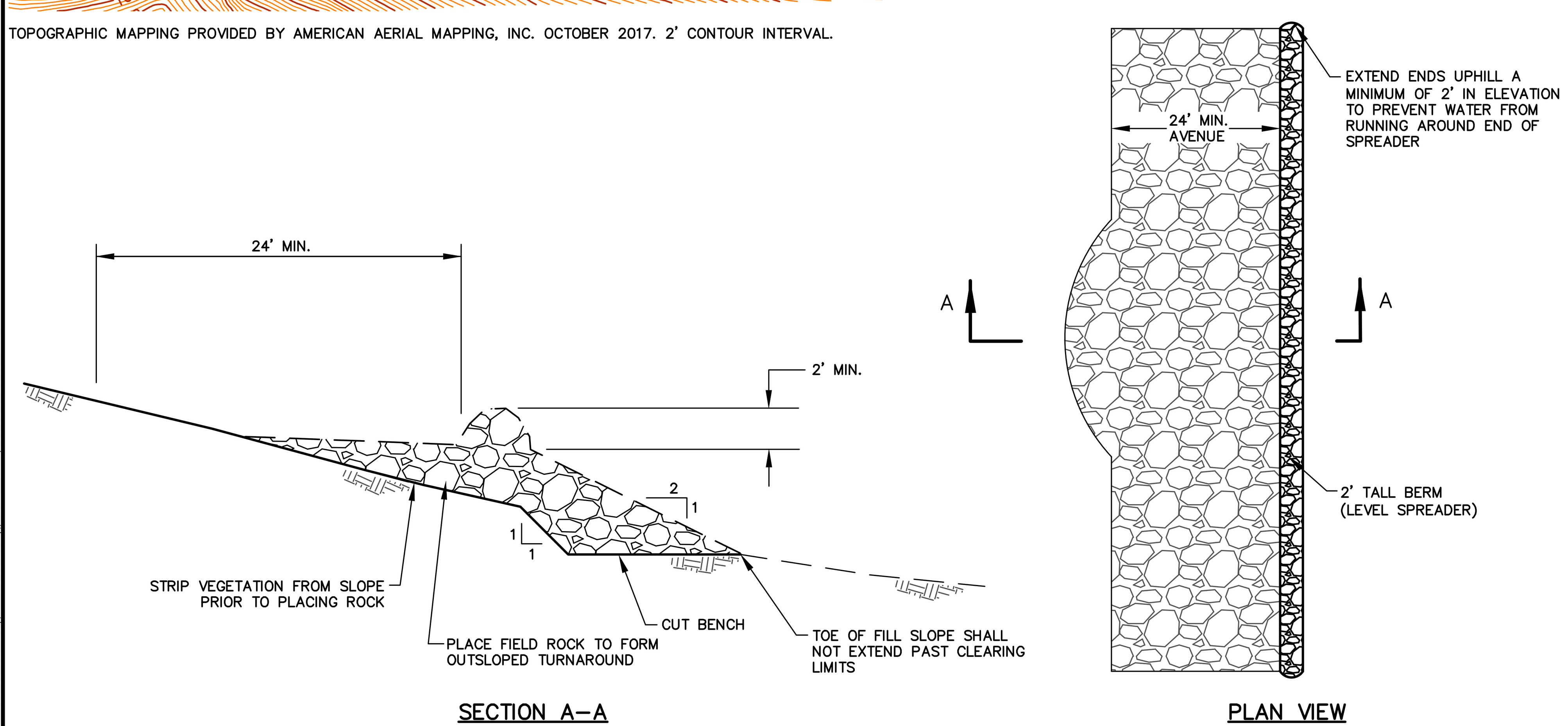
TOPOGRAPHIC MAPPING PROVIDED BY AMERICAN AERIAL MAPPING, INC. OCTOBER 2017. 2' CONTOUR INTERVAL.

LEGEND

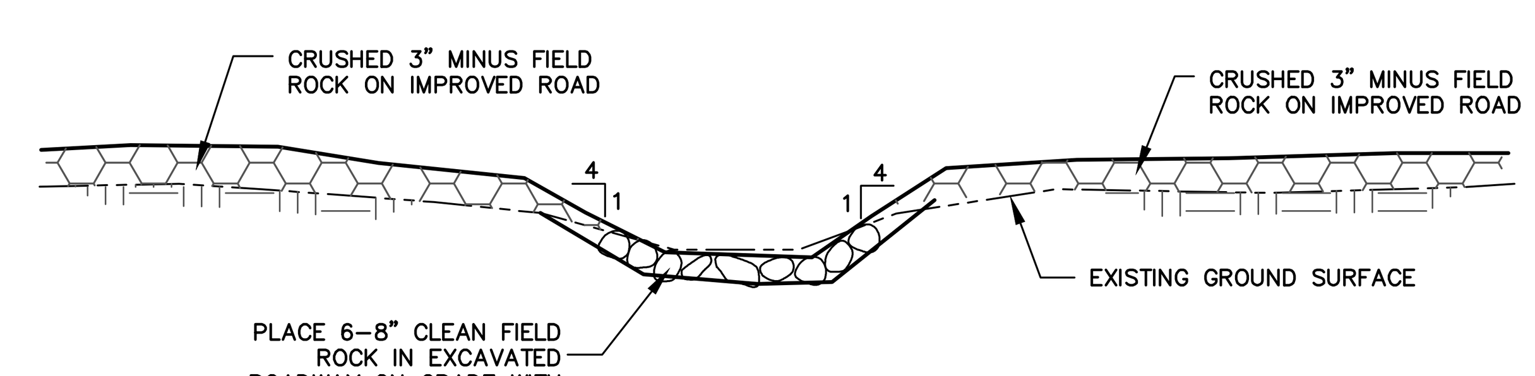
- APPROXIMATE PROPERTY LINE LOCATION
- EXISTING VINEYARD AREA
- EXISTING BUILDING
- SEPTIC AREA
- U.S.G.S BLUE LINE STREAM
- EPHEMERAL STREAM, MAPPED BY WRA
- EPHEMERAL STREAM, ASSUMED LOCATION BY PPI
- WETLAND, MAPPED BY WRA
- POND
- TOP OF BANK, APPROXIMATE LOCATION
- NAPA COUNTY STREAM SETBACK
- 26' UNDISTURBED FILTER STRIP
- EXISTING ROAD
- PROPOSED VINEYARD DEVELOPMENT AREA
- PROPOSED VINEYARD BLOCK BOUNDARY
- PROPOSED VINEROW DIRECTION
- PROPOSED STRAW WATTLE (SEE DETAIL 1, SHEET 1)
- PROPOSED ROCK FILLED AVENUE/LEVEL SPREADER (SEE DETAIL 1, THIS SHEET)
- AREA WHERE GROUND SLOPE IS 30 PERCENT OR GREATER
- PHOTO POINT NUMBER & LOCATION (SEE APPENDIX A)
- X% AVERAGE SURFACE SLOPE
- 178/176 SOIL TYPE BOUNDARY

USDA SOIL CLASSIFICATIONS:

- 176 ROCK OUTCROP-HAMBRIGHT COMPLEX, 50 TO 75 PERCENT SLOPES
- 178 SOBRANTE LOAM 5–30% SLOPE



1/2 ROCK–FILLED AVENUE/LEVEL SPREADER
N.T.S.



NOTE:
IF SUBGRADE IS NOT BEDROCK PLACE FILTER FABRIC (MIRAFI 1100N OR EQUAL) UNDER ROCK.

2/2 ROCKED CROSSING
N.T.S.

REGISTERED PROFESSIONAL ENGINEER JAMES R. BUSHEY No. 49931 EXPIRES: 9-30-20 Civil STATE OF CALIFORNIA

REV. NO.	DESCRIPTION	BY	DATE
1	THIS DRAWING SUPERSEDES DRAWING 11712801A. INCORPORATED CHANGES BASED ON NAPA COUNTY COMMENTS.	JCJ	12–12–18

PPI ENGINEERING
2800 JEFFERSON STREET
NAPA, CA 94558
707/253–1806 FAX 707/253–1604

JOB NO: 11712801
DWG. NO: 11712801B

METAMORPHOSIS WINES LLC
OVID VINEYARDS

EROSION CONTROL PLAN
BLOCKS 1–5

DESIGN ENGINEER: J. BUSHEY

SCALE:	DRAWN BY:	DATE:	SHEET:
AS SHOWN	JCJ	12–12–18	2 OF: 2