

Map source: U.S.G.S. maps. Healdsburg Quadrangle, California-Sonoma Counties
7.5 Minute series (topographic), 1993.

EXPLANATION

—— Property boundary



SITE LOCATION MAP
Windsor Oaks
Windsor California

By: _____ Date: 04/11/06 Project No. 9888.000

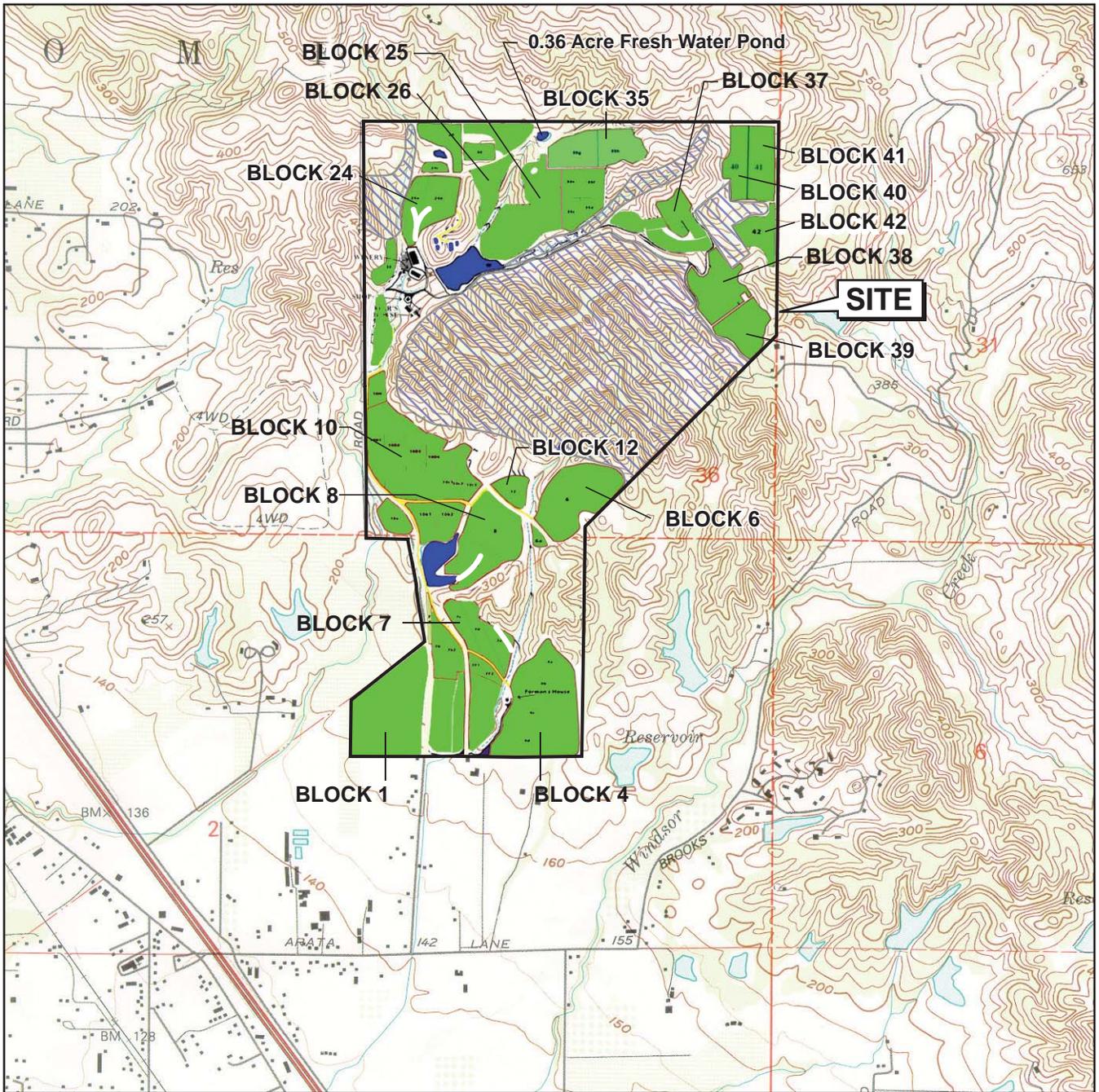


Geomatrix

Figure **1**

Note: Property boundary provided by Windsor Oaks Winery

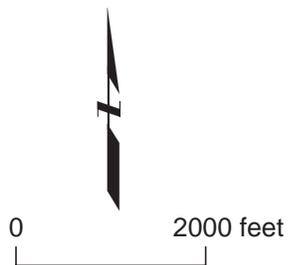
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Map source: U.S.G.S. maps. Healdsburg Quadrangle, California-Sonoma Counties
7.5 Minute series (topographic), 1993.

EXPLANATION

- Vineyards
- Affected areas
- Property boundary
- Forever Wild Open Space



IMPACTED AREAS
Windsor Oaks
Windsor, California

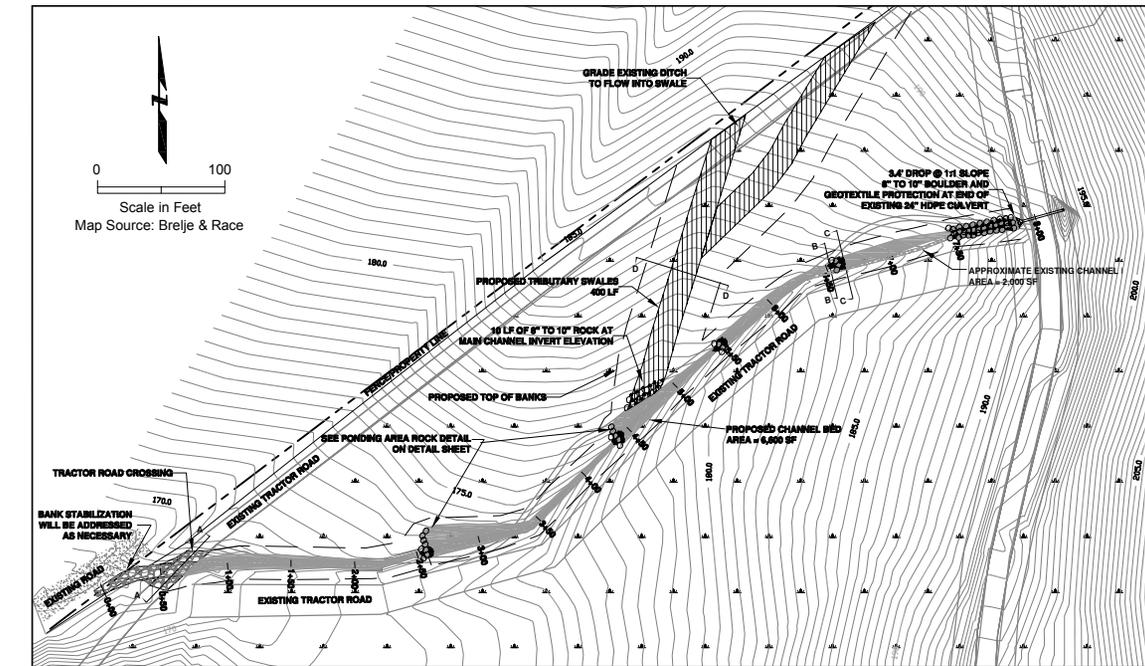
By: _____ Date: 04/11/06 Project No. 9888.000



Geomatrix

Figure **2**

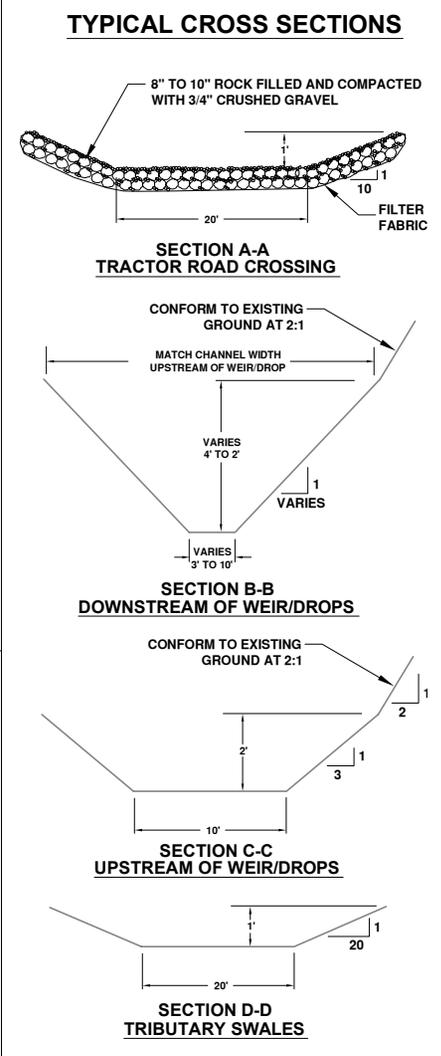
Note: Property boundary provided by Windsor Oaks Winery



EXPLANATION

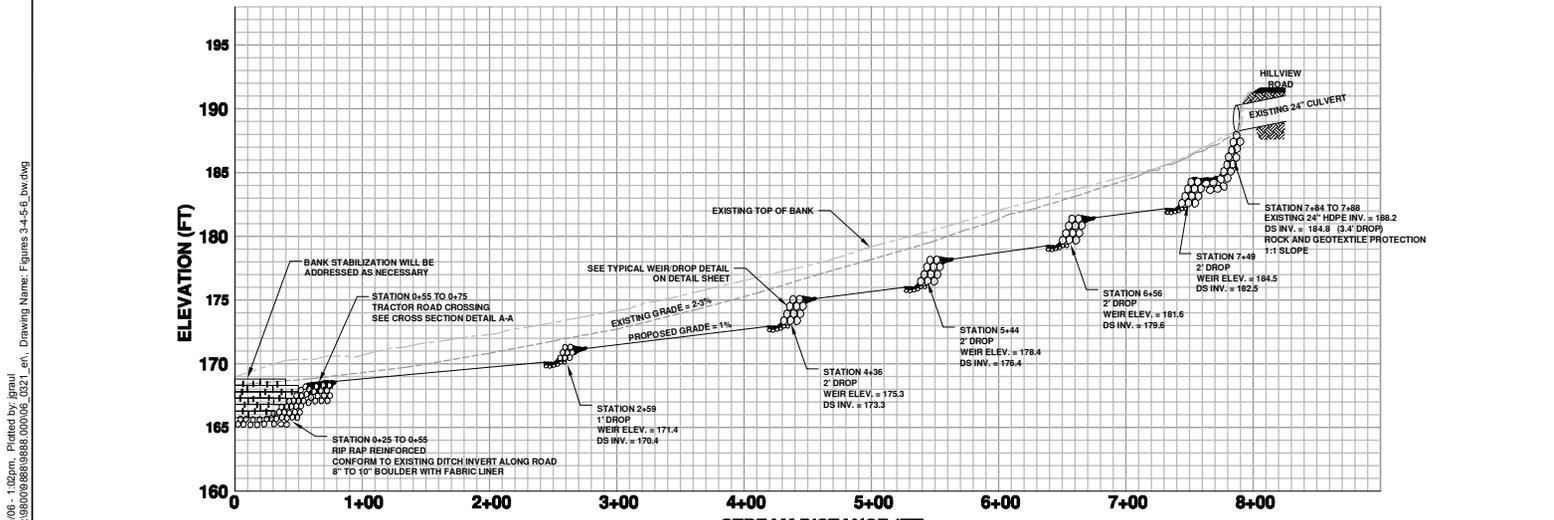
- xxx.x --- Topographic Contours (ft.)
- Roads
- ▨ Vineyard
- ▨ Existing Channel Bed (approximate)
- ▨ Proposed Channel Bed
- ▨ Proposed Tributary Swales
- - - Existing Top of Bank
- - - Proposed Top of Bank
- - - Existing Channel Invert
- - - Proposed Channel Invert
- ⊗ 8-10" Rock
- ⊗ 4" Rock

- NOTE:**
- The existing channel shall be widened to create at least 4,050-sf of new seasonal wetlands in the channel bed.
 - 400 lineal feet of tributary swale will be created.
 - Property boundary provided by Windsor Oaks Winery.
 - Sections, plan, and details provided by Schaaf & Wheeler, Consulting Civil Engineers.



BLOCK 1
SWALE ENHANCEMENT AND CREATION
 Windsor Oaks Winery
 Windsor, California

By: _____ Date: 06/30/06 Project No. 9888.000



NOTE:
 Existing grade of 2-3% was reduced to 1% to increase the residency time of flooding in the channel bed as well as stabilize the channel.

Plot Date: 06/30/06 - 1:02pm. Plotted by: jbraul
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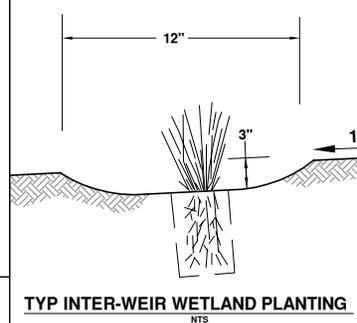
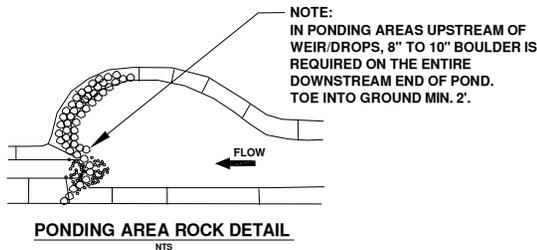
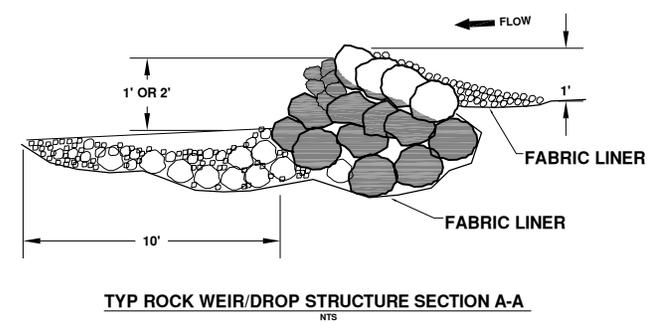
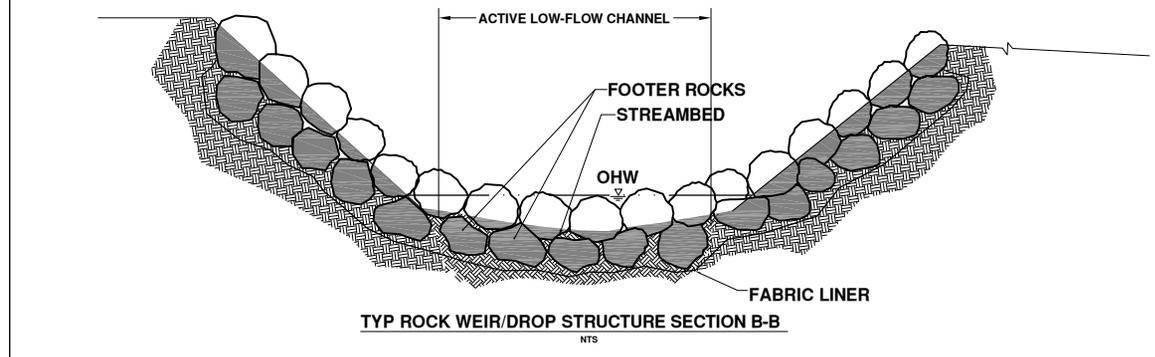
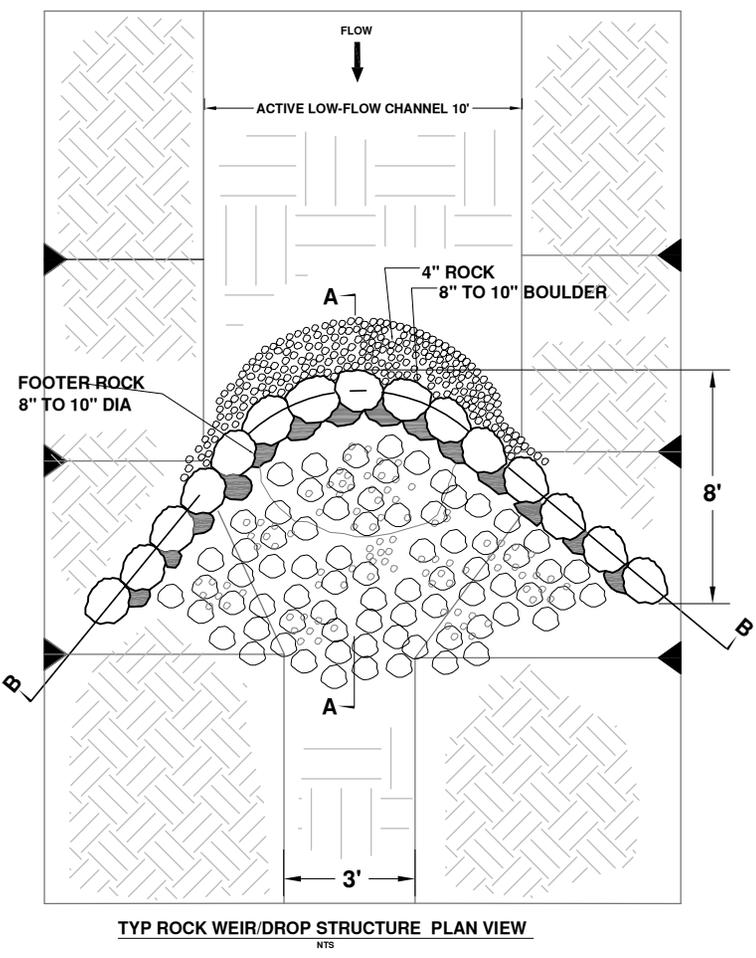


Table 1. Block 1 Ephemeral Wetland Swale Planting Palette

Common Name	Scientific Name	Persistency/ Growth Form	Moisture Gradient	Planting Location	Wetland Status	# Plants (3-ft O.C. spacing)	Percent Composition	Propagate Type
Grasses								
saltgrass	<i>Distichlis spicata</i>	per./mat-forming	mesic	lower reach bed	FACW+	100	10	plug
podding needle grass	<i>Nasella cernua</i>	per./mat-forming	mesic-xeric	swale banks	NI	100	10	plug
California melic	<i>Melica californica</i>	per./bunch-forming	mesic-xeric	swale banks	NI	100	10	plug
slender hairgrass	<i>Deschampsia elongata</i>	ann./clump-forming	mesic	swale banks	FACW	100	10	plug
meadow barley	<i>Hordeum brachyantherum</i>	ann./mat-forming	mesic	upper reach bed	FACW	100	10	plug
Rushes/Sedges								
Mexican juncus	<i>Juncus mexicanus</i>	per./bunch-forming	mesic-hydric	upper reach bed	FACW	30	3	supercell
soft rush	<i>Juncus effusus</i>	per./bunch-forming	hydric	lower reach bed	FACW+OBL	30	3	supercell
Baltic rush	<i>Juncus balticus</i>	per./bunch-forming	mesic-hydric	lower reach bed	FACW/OBL	30	3	supercell
spreading rush	<i>Juncus patens</i>	per./bunch-forming	mesic	bed and banks	FAC/FACW	30	3	supercell
scouring rush	<i>Equisetum hymale</i>	perennial	mesic-hydric	upper reach bed	FACW	30	3	1 gal
large-leaved sedge	<i>Carex ampifolia</i>	per./clusters	mesic-hydric	low flow channel	FACW+OBL	30	3	supercell
torrent sedge	<i>Carex nudata</i>	per./clusters	hydric	bed and banks	FACW	30	3	supercell
slender sedge	<i>Carex praegracilis</i>	per./clusters	mesic-hydric	bed and banks	FACW-	30	3	supercell
Forbs								
willow dock	<i>Rumex salicifolius</i>	perennial	hydric	bed	FAC/OBL	60	6	D-pot
blue-eyed grass	<i>Sisyrinchium bellum</i>	perennial	mesic	upper reach bed	FAC	60	6	D-pot
white yarrow	<i>Achillea millefolium</i>	perennial	mesic	lower reach bed	FACU	60	6	D-pot
California cone flower	<i>Rudbeckia californica</i>	perennial	mesic	swale banks	FACU+	60	6	D-pot
Total Plants Required						980		

Some plant species may be direct seeded



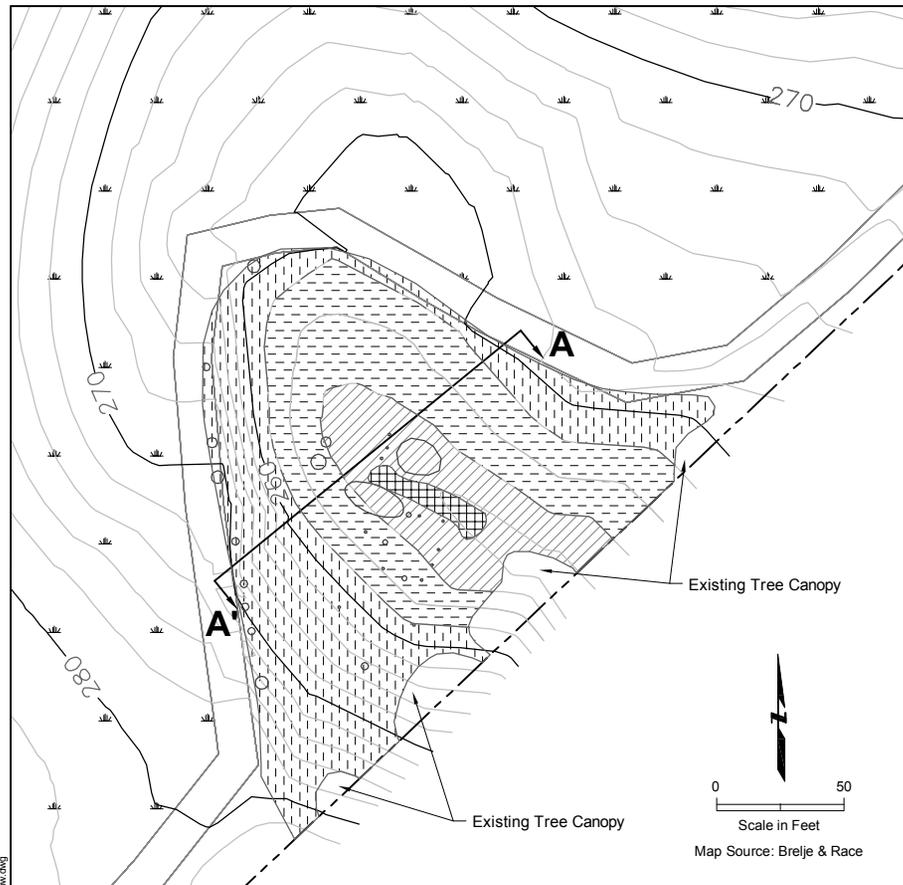
NOTE:
Details and chart provided by Schaaf & Wheeler,
Consulting Civil Engineers.

**BLOCK 1
SWALE ENHANCEMENT AND CREATION
DETAILS**
Windsor Oaks Winery
Windsor, California

By: _____ Date: 06/30/06 Project No. 9888.000

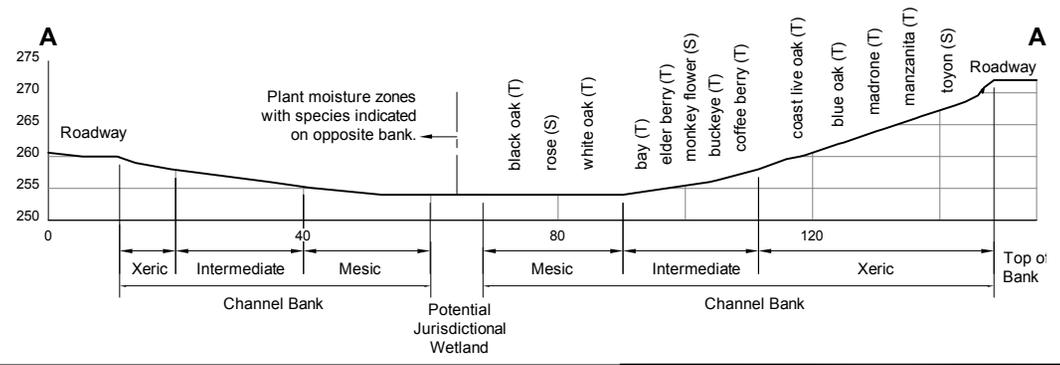
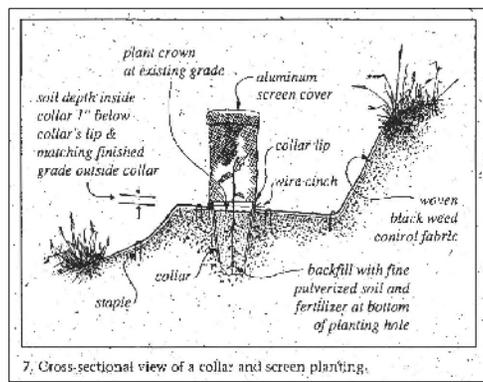
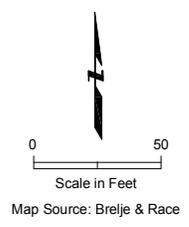
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- EXPLANATION**
- Topographic Contours (ft.)
 - Roads
 - Vineyard
 - Existing Plantings
 - Xeric Planting
 - Intermediate Planting
 - Mesic Planting
 - Potential Jurisdictional Wetland

Bank Position	Common Name	Scientific Name	Spacing (feet)	% of Canopy	% of Comp.	Mesic	Intermediate	Xeric	Container Size
Trees:									
Low	white oak	<i>Quercus garryana</i>	20	15%	3.8%	8			TP
Low	black oak	<i>Quercus kelloggii</i>	20	15%	3.8%	8			TP
Middle	California bay	<i>Umbellularia californica</i>	20	5%	1.3%		3		TP
Middle	California buckeye	<i>Aesculus californica</i>	20	10%	2.5%		5		TP
Upper	coast live oak	<i>Quercus agrifolia</i>	20	10%	2.5%			5	TP
Upper	blue oak	<i>Quercus douglasii</i>	20	40%	10.0%			22	TP
Upper	California madrone	<i>Arbutus menziesii</i>	20	5%	1.3%			3	TP
Tree Totals:						16	8	30	55
Shrubs:									
Low	California rose	<i>Rosa Californica</i>	10	10%	7.5%	16			DP
Middle	sticky monkey flower	<i>Mimulus aurantiacus</i>	10	20%	15.0%		33		DP
Middle	blue elderberry	<i>Sambucus mexicana</i>	10	10%	7.5%		16		DP
Middle	coffeeberry	<i>Rhamnus californica</i>	10	10%	7.5%		16		DP
Upper	common manzanita	<i>Arctostaphylos manzanita</i>	10	25%	18.8%			41	DP
Upper	toyon	<i>Heteromeles arbutifolia</i>	10	25%	18.8%			41	DP
Shrub Totals:						16	65	82	164
Planting Totals:						33	74	112	218



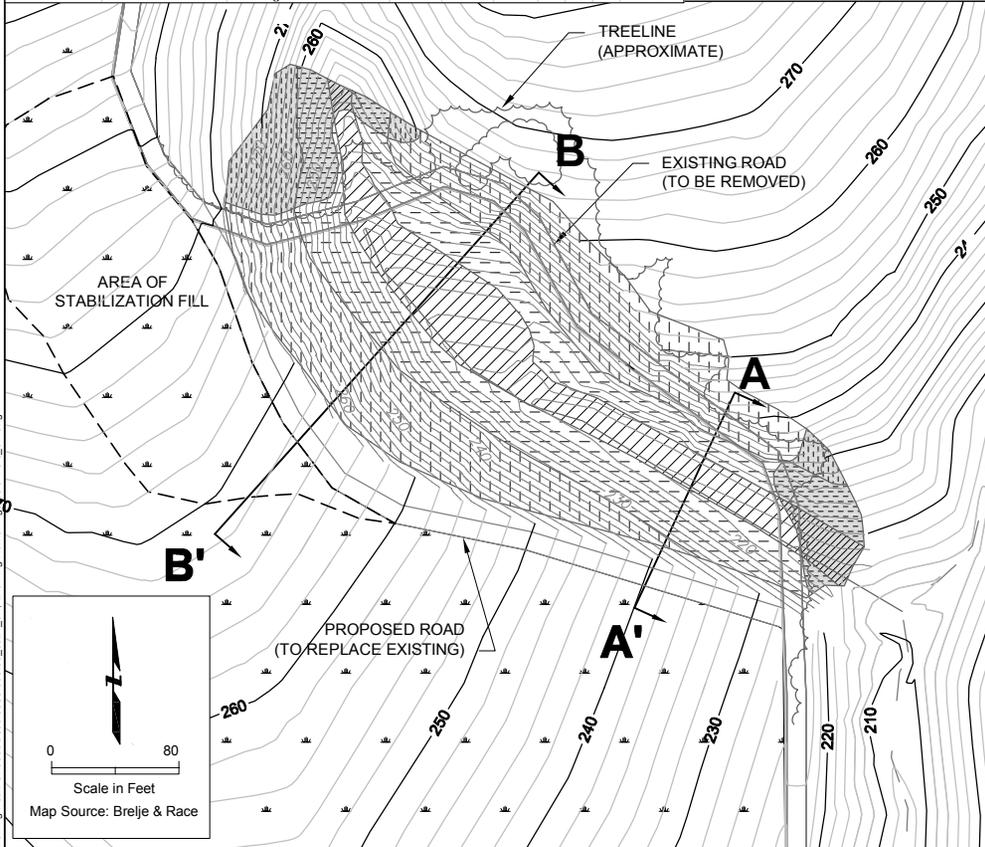
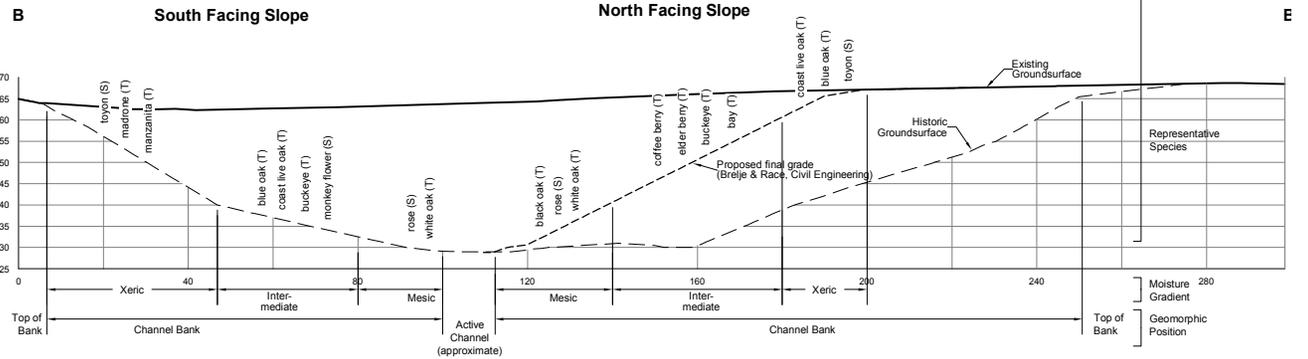
- NOTES:**
1. Section units in feet, (no vertical exaggeration).
 2. Section view is looking SE.
 3. Plant zones are approximate and will vary depending on field conditions.
 4. The 2,500 ft.² swale enhancement is the result of a 10:1 mitigation (actual 17,000 ft.² enhancement area) for impacts to Field 6.
 5. Property boundary provided by Windsor Oaks Winery.

**BLOCK 6
 SWALE ENHANCEMENT**
 Windsor Oaks Winery
 Windsor, California

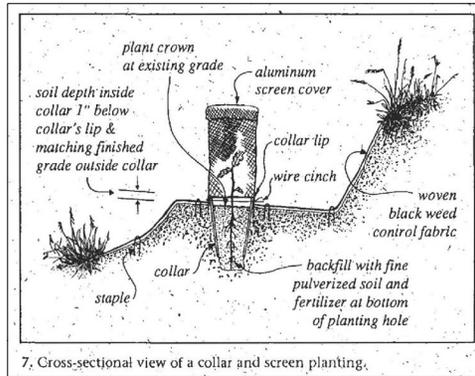
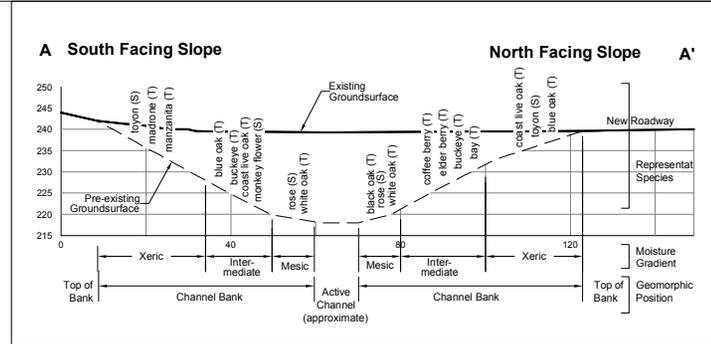
By: _____ Date: 06/30/06 Project No. 9888.000

Geomatrix Figure 4

Bank Position	Common Name	Scientific Name	Spacing (feet)	% of Canopy	% of Comp.	Mesic	Intermediate	Xeric	Container Size
Trees:									
Low	white oak	<i>Quercus garryana</i>	20	15%	3.8%	41			TP
Low	black oak	<i>Quercus kelloggii</i>	20	15%	3.8%	41			TP
Middle	California bay	<i>Umbellularia californica</i>	20	5%	1.3%		14		TP
Middle	California buckeye	<i>Aesculus californica</i>	20	10%	2.5%		27		TP
Upper	coast live oak	<i>Quercus agrifolia</i>	20	10%	2.5%			27	TP
Upper	blue oak	<i>Quercus douglasii</i>	20	40%	10.0%			109	TP
Upper	California madrone	<i>Arbutus menziesii</i>	20	5%	1.3%			14	TP
Tree Totals:						82	41	150	272
									0
Shrubs:									
Low	California rose	<i>Rosa Californica</i>	10	10%	7.5%	82			DP
Middle	sticky monkey flower	<i>Mimulus aurantiacus</i>	10	20%	15.0%		163		DP
Middle	blue elderberry	<i>Sambucus mexicana</i>	10	10%	7.5%		82		DP
Middle	coffeeberry	<i>Rhamnus californica</i>	10	10%	7.5%		82		DP
Upper	common manzanita	<i>Arctostaphylos manzanita</i>	10	25%	18.8%			204	DP
Upper	toyon	<i>Heteromeles arbutifolia</i>	10	25%	18.8%			204	DP
Shrub Totals:						82	327	408	817
Planting Totals:						163	368	558	1089



- EXPLANATION**
- Existing Topographic Contours (ft.)
 - Proposed Topographic Contours (ft.)
 - Roads
 - Vineyard
 - Existing Tree Canopy
 - Xeric Planting
 - Xeric Planting (understory)
 - Intermediate Planting
 - Intermediate Planting (understory)
 - Mesic Planting
 - Mesic Planting (understory)



- NOTE:**
1. Section units in feet, (no vertical exaggeration).
 2. Section view is down-stream.
 3. Plant zones are approximate and will vary depending on the as-built condition.
 4. The restoration of a 400 ft.-long ephemeral stream is the result of a 1:1 mitigation for impacts to Field 7.
 5. The fill material shown on this figure will be stabilized per the specifications of a licensed Geotechnical Engineer to provide for geotechnical stability of the proposed slope.

**BLOCK 7
EPHEMERAL STREAM REHABILITATION**
Windsor Oaks Winery
Windsor, California

By: _____ Date: 06/30/06 Project No. 9888.000

Geomatrix Figure 5

Drawing Path: S:\98000\9888\9888_000\06_0321_en_Drawing Name: F:\98000\9888\9888_3-4-5-6_bw.dwg