TRINITY VALLEY
CONSULTING ENGINEERS, INC

Joshua T. McKnight PE 60687

12812

Site Management Plan

Ambiguity Farms, LLC
Tooby Ranch, California
County of Humboldt
APN: 223-011-007/-009
WDID: 1_12CC419563

Prepared for:

North Coast Regional Water Quality Control Board (NCRWQCB)
5550 Skylane Boulevard Suite A
Santa Rosa, California 95403-1072

Date of Preparation:

May 2020

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General Site Information

Discharger: Michael Linde; Ambiguity Farms, LLC

Landowner: Ambiguity Farms Trust

Site Address: Tooby Ranch, Garberville, California

Mailing Address: PO Box 132, Alderpoint, California 95551

Assessor's Parcel No.: 223-011-007/-009

WDID: 1_12CC419563

General Plan Designation: Agricultural (AG)

Zoning: Agricultural Exclusive (AE-B-5(160))

Parcel Size: 36/146 = 182 combined acreage

HUC12 Watershed: 180101060202 Lower East Branch South Fork Eel River

Water Source: Spring Source/Onstream Pond on Class III watercourse

Cultivation Area: 43,650 SF Type 3 Outdoor; 22,000 SF Type 3B Mixed Light

Disturbed Area: 3.34 acres (Cultivation Area Related); 1.09 acres (Onstream Pond)

Number of Stream Crossings: 13

Average Slope within Parcel: Less than 15 to greater than 50 %

Annual Water Usage: 511,000 gallons (domestic/cultivation use) estimate

Tier Level: Tier 2

Risk Designation: Moderate Risk

1. Introduction

This management plan was prepared by Trinity Valley Consulting Engineers, Inc. (TVCE) for Michael Linde of Ambiguity Farms, LLC (discharger) related to cannabis cultivation activities as required by the State Water Resource Control Board (SWRCB) Order WQ 2017-0023-DWQ. The purpose of the Statewide Order is to provide a regulatory structure for cannabis cultivation-related activities that reduces contributions to existing water quality issues and prevents additional adverse impacts to natural resources throughout California. The mandated Site Management Plan is to identify and document existing conditions present within the project parcel that may pose a threat to natural resources and establish a timeline to meet requirements set forth within the Order.

Trinity Valley Consulting Engineers (TVCE) conducted an initial site assessment of the project parcel by desktop reconnaissance (e.g., USGS National Geologic Map Database, USDA Web Soil Survey, USGS Streamstats, Calfire Forest Practice Watershed Mapper, County of Humboldt Web GIS) and site visitation on January 26, 2019. Data was gathering utilizing a Trimble Geo7x GPS data collector (submeter accuracy) to document existing conditions, this includes roads, buildings, cultivation areas, watercourses, and areas requiring remediation. A Location and Site Map (**Attachment 1** and **2**) can be located in the Attachments sections and will be referenced throughout the remainder of the document. Photo documentation of site conditions taken and are provided in **Attachment 3 (Photo Log)**.

2. Site Characteristics

2.1 General

The site project site is located in Tooby Ranch area, approximately 4.82 miles from the unincorporated community of Garberville located in rural southern Humboldt County. The site can be accessed from Tooby Ranch Road from Alderpoint Road. The project site elevation ranges from approximately 1,560 to 2,280 feet above sea level. Located on a mid-slope bench, the slopes within the parcel range from less than 15 to greater than 50 percent slope. Multiple watercourses bisect and originate on the project parcel(s) that are tributaries to Squaw Creek.

The Eel River HU, South Fork HU is on the SWRCB 303(d) list for impairment to water quality associated with Aluminum, Sedimentation/Siltation and Temperature. The Eel River is known to host several State and Federally-listed endangered and threatened species. Geologically, the site is located with a large amphitheater-style dormant Quaternary-age Landslide deposit that sits aerially to mélange of the Central Belt (McLaughlin et al., 2000). This area is mapped by the Humboldt County General Plan GIS tool as an area of high slope instability. The project location is adjacent to private parcels.

2.2 Site Overview

The approximate 182-acre parcel(s) has a several outbuildings, where water is provided by a pre-1914 claim spring (domestic/husbandry; S015419) and an onstream pond (cultivation; H500875) that has a small irrigation use registration (SIUR). Cultivation activities are located within two primary areas of the parcel There are several watercourses and wetlands present within the project parcel. There is one main access road and several seasonal roads within the parcel(s) boundary. The total area disturbance is approximately ~4 acres, due the development of the cultivation area, pond development, vegetation removal and exposed earth adjacent to the cultivation area. A majority of this area has stabilized with vegetation regrowth and does not show signs of instabilities. The total cultivation area is approximately 75,560 SF, where 43,560 SF is full season outdoor cultivation and 22,000 SF is mixed light, in greenhouses. All disturbed area is

well outside of any riparian area, with the exception of one cultivation area (mixed light), where slopes on average range from less than 15% and cultivation area is just within 50 feet. Adherence to the erosion and sediment control measures specified in the *Sediment Erosion Prevention and Sediment Capture* section of this report to ensure disturbed areas have been adequately stabilized.

There are several locations throughout the subject parcel where Best Practical Treatment and Controls (BPTC) measures are recommended. The descriptions that follow describe treatments that have been applied throughout the site. For site specific measures, please see the summary table included in the Remediation Summary in Section 10.

Table 1: Cultivation area synopsis

Cultivation Type	Cultivation Area (SF)	Slope (%)	Nearest Distance to Watercourse (ft)	Watercourse Classification	Description of Activity
Outdoor	43,560	Less than 15% to 50%	~100 (Class II) ~50 (Class III)	Class II/III	Two areas within the parcel; Location #1: 40.0879, -123.7084; Location #2: 40.0859, -123.7054
Mixed Light	22,000	Less than 15%	<50	Class III	All within one area; 10 greenhouses
Nursery	2,450	Less than 15%	>100	Class III	Located in the same area as the mixed light cultivation; Both outdoor and greenhouse (1)

2.3 Access Roads

The subject site has 4,100 feet of permanent access road and 3,750 feet of seasonal access roads. Both the permanent and seasonal roads dirt roads with minor gravel placement. It is recommended, that all regularly traveled roads be at minimum surfaced with two (2) inches of 1 ½ inch gravel, however to adequately provide drainage and vehicle support, four (4) inches of 2 to 3-inch rock base should be installed prior to the surfacing rock. These materials should be compacted by a vibratory roller to ensure compaction and embedment.

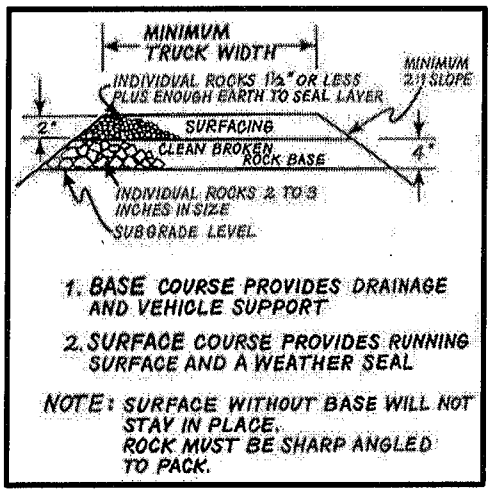


Figure 1: Cross section diagram showing typical base-course and surface application (Weaver et al., 2015)

Due to the lack of wet season use and low average daily traffic, seasonal roads shall be monitored to ensure that deleterious effects from high intensity rain events do not cause erosion and sedimentation. Use during the wet season shall be limited or avoided on seasonal roads to reduce damage to the roadbed (e.g., windrowing). If these roads become regularly used during the wet season, these roads shall be upgraded as described above.

Below is a discussion of existing conditions and prescribed modifications by road point to minimize erosion and sedimentation from access roads within the project area.

Typical spacing of road drainage features vary depending on soil erodibility and road gradient.

Table 2: Road Gradient and Drainage Structure Spacing (Weaver et al, 2015).

Soil erodibility	Road gradient (%) and drainage structure spacing (feet)				
	0–3	4–6	7–9	10–12	>12
High to moderate	260	160	130	115	100
Low	400	300	250	200	160

[a]Based on Keller and Sherar, 2003. Also suggested by California Board of Forestry and Fire Protection in Technical Rule Addendum No. 5 (see Appendix C).
[b]Table distances are designed to prevent ditch erosion, not to eliminate hydrologic connectivity. If road surface drainage is hydrologically connected to a stream crossing, install first a rolling dip and/or ditch relief culvert close to the crossing, but such that it drains onto the fill slope or hillslope and will not deliver runoff to the watercourse. The next (second) drainage structure should be placed so that it too will not discharge to the stream. Add additional drainage relief treatments along the road according to the approximate spacing recommended in this table.

At some road points it will be required to install rocked rolling dips to eliminate hydrologic connectivity of sheet flow on roads.

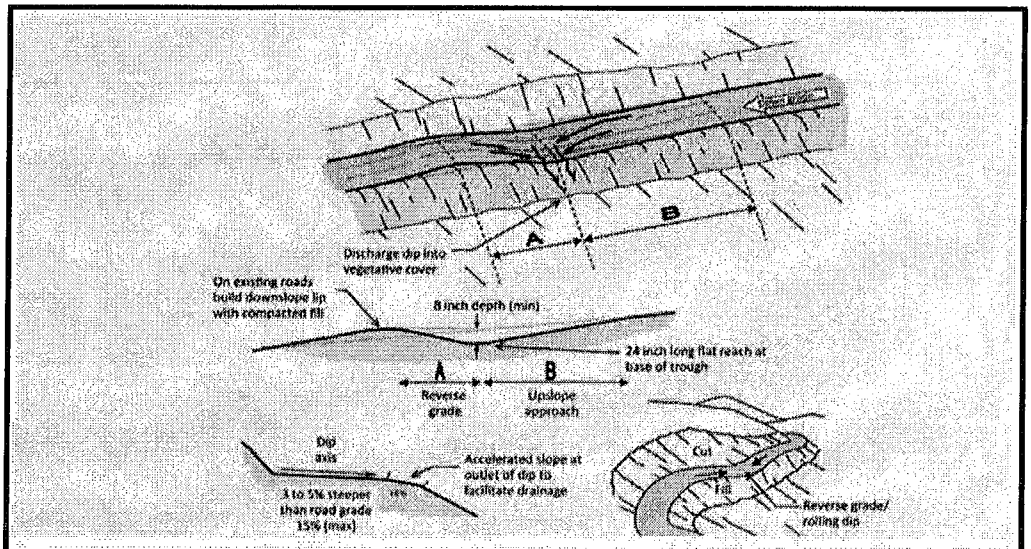


FIGURE 34. *A classic Type I rolling dip, where the excavated up-road approach (B) to the rolling dip is several percent steeper than the approaching road and extends for 60 to 80 feet to the dip axis. The lower side of the structure reverses grade (A) over approximately 15 feet or more, and then falls down to rejoin the original road grade. The dip must be deep enough that it is not obliterated by normal grading, but not so deep that it is difficult to negotiate or a hazard to normal traffic. The outward cross-slope of the dip axis should be 3% to 5% greater than the up-road grade (B) so it will drain properly. The dip axis should be out-sloped sufficiently to be self-cleaning, without triggering excessive downcutting or sediment deposition in the dip axis (Modified from Best, 2013).*

Figure 2: Type 1 rolling dip (Weaver et al., 2015).

At some road points it will be required to install water bars to eliminate hydrologic connectivity of sheet flow on roads.

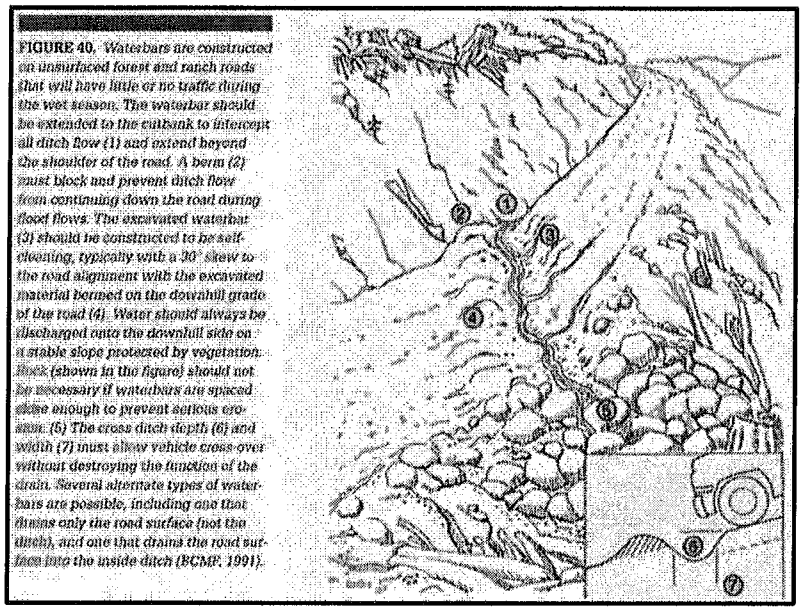


FIGURE 40. *Waterbars are constructed on unsurfaced forest and ranch roads that will have little or no traffic during the wet season. The waterbar should be extended to the cutbank to intercept all ditch flow (1) and extend beyond the shoulder of the road. A berm (2) must block and prevent ditch flow from continuing down the road during flood flows. The excavated waterbar (3) should be constructed to be self-cleaning, typically with a 30° skew to the road alignment with the excavated material formed on the downhill grade of the road (4). Water should always be discharged onto the downhill side on a stable slope protected by vegetation. Rock (shown in the figure) should not be necessary if waterbars are spaced close enough to prevent serious erosion. (5) The cross ditch depth (6) and width (7) must allow vehicle cross-over without destroying the function of the drain. Several alternate types of waterbars are possible, including one that drains only the road surface (not the ditch), and one that drains the road surface into the inside ditch (BCMF, 1991).*

Figure 3: Water bar description (Weaver et al., 2015).

During the site investigation visit, TVCE observed several locations that require modification to reduce hydrologic connectivity along access roads. There are ten (10) road points that need treatment within the project limits. Secondary roads that access cultivation sites and other portions of the parcel shall be outsloped and water bars placed in strategic locations to discourage hydrologic connectivity to watercourses and reduce erosion/sedimentation as discussed above. Below is a discussion of existing conditions and prescribed modifications.

Road Point #1 (RP1) (40.089844 N, -123.701215 W)

Install rocked rolling dip to ensure surface water discharge of the moderately sloping road segment that has the potential to deliver sediment to a Class II watercourse. Follow the prescription described in Figure 2 (Weaver et al, 2015).

Road Point #2 (RP2) (40.088392 N, -123.702494 W)

This segment of roadway shall be rocked armoring in accordance with Figure 1 (Weaver et al, 2015) over a 100 ft section that is approximately 12 ft in width. A modification of the rock base prescription, rather than 2 to 3 inch rock, use a mixture of 2 to 6 inch rock, subjacent to surfacing rock. This segment of road has potential to deliver sediment to a headwater of a Class III watercourse.

Road Point #3 (RP3) (40.087353 N, -123.703371 W)

Install rocked rolling dip to ensure surface water discharge of the moderately sloping road segment that has the potential to deliver sediment to a Class III watercourse. Follow the prescription described in Figure 2 (Weaver et al, 2015).

Road Point #4 (RP4) (40.086799 N, -123.703141 W)

Install rocked rolling dip to ensure surface water discharge of the moderately sloping road segment that has the potential to deliver sediment to a Class III watercourse. Follow the prescription described in Figure 2 (Weaver et al, 2015).

Road Point #5 (RP5) (40.087540 N, -123.706007 W)

Install rocked rolling dip to ensure surface water discharge of the moderately sloping road segment that has the potential to deliver sediment to a Class III watercourse. Follow the prescription described in Figure 2 (Weaver et al, 2015).

Road Point #6 (RP6) (40.089336 N, -123.706976 W)

Install rocked rolling dip to ensure surface water discharge of the moderately sloping road segment that has the potential to deliver sediment to a Class II watercourse. Follow the prescription described in Figure 2 (Weaver et al, 2015).

Road Point #7 (RP7) (40.089707 N, -123.707359 W)

Install rocked rolling dip to ensure surface water discharge of the moderately sloping road segment that has the potential to deliver sediment to a Class II watercourse. Follow the prescription described in Figure 2 (Weaver et al, 2015).

Road Point #8 (RP8) (40.089925 N, -123.706952W)

Install rocked rolling dip to ensure surface water discharge of the moderately sloping road segment that has the potential to deliver sediment to a Class II watercourse. Follow the prescription described in Figure 2 (Weaver et al, 2015).

Road Point #9 (RP9) (40.090310 N, -123.706392 W)

Install rocked rolling dip to ensure surface water discharge of the moderately sloping road segment that has the potential to deliver sediment to a Class II watercourse. Follow the prescription described in Figure 2 (Weaver et al, 2015).

Road Point #10 (RP10) (40.090860 N, -123.706936 W)

Install rocked rolling dip to ensure surface water discharge of the moderately sloping road segment that has the potential to deliver sediment to a Class III watercourse, a short distance from a Class II watercourse. Follow the prescription described in Figure 2 (Weaver et al, 2015).

2.4 Stream Crossings

During the site investigation visit, TVCE observed several watercourses (Class II/III) and wetted areas throughout the project area. There are thirteen (13) culverts within the project limits. Below is a discussion of existing conditions and prescribed modifications/mitigations. Hydraulic calculations can be found in **Attachment 4**. Before instream work can commence it will be required to acquire a CDFW 1602 LSA Agreement, SWRCB 401 Water Quality Certification and a USACE 404 Permit.

Culvert shall be designed to withstand a 100-year flood event by a qualified professional. All construction work shall be monitored by qualified professional knowledgeable in culvert installation. These structures shall be aligned and at grade with the stream segment in which they will be installed. Useful information regarding culvert installation can be found in Weaver et al. (2015) *Handbook for Forest, Ranch and Rural Roads: A guide for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing wildland roads.*

All culverts shall be armored sufficiently to minimize erosion and sedimentation.

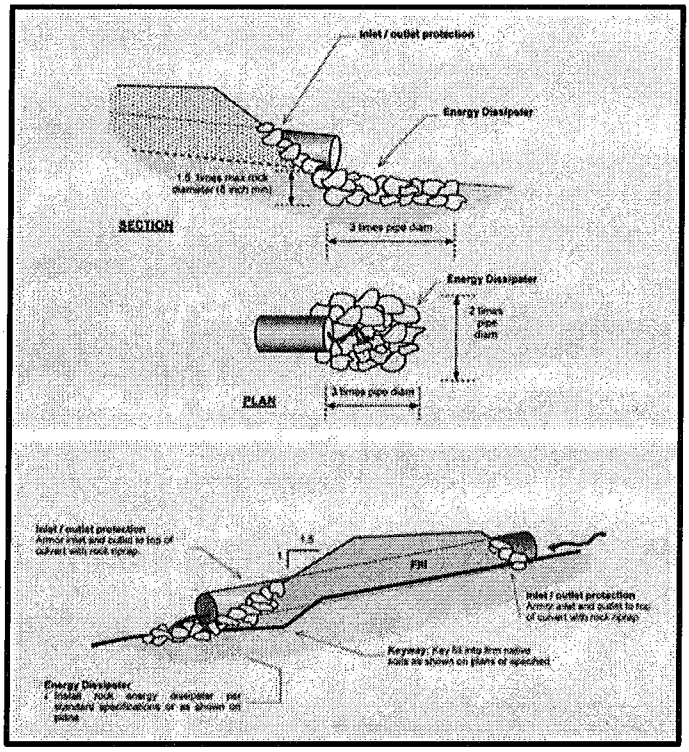


Figure 4: Diagram showing riprap as inlet protection and outlet energy dissipation (Weaver et al., 2015).

In addition to sufficient armoring, each crossing shall have a critical dip to prevent stream diversion and washout or severe erosion of road prism fill.

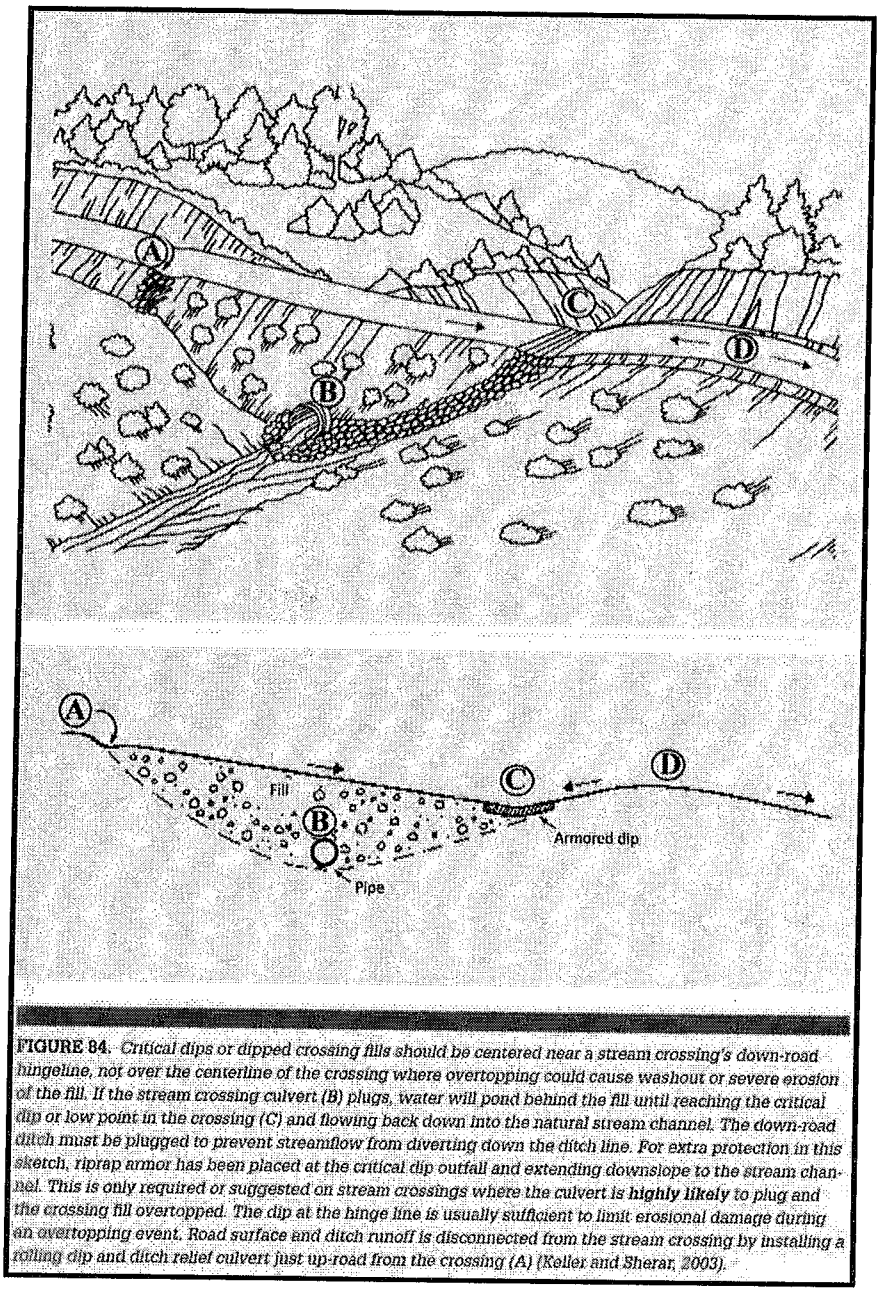


FIGURE 84. *Critical dips or dipped crossing fills should be centered near a stream crossing's down-road hingeline, not over the centerline of the crossing where overtopping could cause washout or severe erosion of the fill. If the stream crossing culvert (B) plugs, water will pond behind the fill until reaching the critical dip or low point in the crossing (C) and flowing back down into the natural stream channel. The down-road ditch must be plugged to prevent streamflow from diverting down the ditch line. For extra protection in this sketch, riprap armor has been placed at the critical dip outfall and extending downslope to the stream channel. This is only required or suggested on stream crossings where the culvert is* ***highly likely*** *to plug and the crossing fill overtopped. The dip at the hinge line is usually sufficient to limit erosional damage during an overtopping event. Road surface and ditch runoff is disconnected from the stream crossing by installing a rolling dip and ditch relief culvert just up-road from the crossing (A) (Keller and Sherar, 2003).*

Figure 5: Diagram illustrating critical dip placement (Weaver et al., 2015).

Stream Crossing #1 (SC1) (40.090989 N, -123.698648 W)

The existing 18-inch plastic corrugated culvert that is 20 LF was originally installed during the development of an access road to a landing that contains two (2) 50,000-gallon storage tanks sometime between 2009 and 2010 (Google Earth). The culvert is slightly off grade and does not have sufficient velocity dissipation at the outlet or armoring at the inlet (Armoring existing is 6″ to 18″ diameter). Less than 2 CY of materials have been scoured at the inlet/outlet. Overall, the culvert is good condition. Based on the expected Q_{100} for

the Class III watercourse (~13.9 cfs), the culvert monograph indicates the crossing should have a 27 to 30-inch diameter culvert (HW/D = 1) at this location (See **Attachment 4** – *Hydraulic Calculations*).

Based on the hydraulic calculations and field observations, it is recommended at 24-inch culvert (20 LF) with a critical rocked dip (adjacent) set to grade be installed at this location. There will be 260 SF (32 LF; 10-15 CY) of temporary disturbance, associated with access for installation and culvert installation. The proposed permanent disturbance will be 48 SF (12 LF) relating to placement of armor (~3 Cubic Yards of 8 to 18 inch angular RSP) at both the inlet and outlet of the crossing as recommended by Weaver et al. (2015) *Handbook for Forest, Ranch and Rural Roads: A guide for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing wildland roads (Figures 78-79).* It is also recommended to place rocked critical dip adjacent of the culvert, and the outfall should be rocked extending down to the stream channel with mixed diameter rock ranging from 4 to 18-inch rock (~2-2.5 cubic yards).

The installation of the proposed culvert will require the removal native grasses. Erosion and sediment control measures and best management practices are described later in the notification. A native seed mix shall be used when revegetating this area subsequent of construction.

Stream Crossing #2 (SC2) (40.091567 N, -123.698648 W)

The existing 18-inch plastic corrugated culvert that is 20 LF was originally installed during the development of an access road to a landing that contains two (2) 50,000-gallon storage tanks sometime between 2009 and 2010 (Google Earth). The culvert is slightly off grade and does not have sufficient velocity dissipation at the outlet or armoring at the inlet (Armoring existing is 6″ to 18″ diameter). Less than 0.5 CY of materials have been scoured at the inlet/outlet. Overall, the culvert is good condition. Based on the expected Q_{100} for the Class III watercourse (~1.9 cfs), the culvert monograph indicates the crossing should have a 12-inch diameter culvert (HW/D = 1) at this location (See **Attachment 4** – *Hydraulic Calculations*).

Based on the hydraulic calculations and field observations, the existing culvert is adequately sized. Additional armoring will be required at the outlet and inlet. There will be 240 SF (30 LF; 1 CY of soil) of temporary disturbance, associated with access for installation of armoring. The proposed permanent disturbance will be 27 SF (9 LF) relating to placement of armor (1.5 Cubic Yards of 8 to 18 inch angular RSP) at both the inlet and outlet of the crossing as recommended by Weaver et al. (2015) *Handbook for Forest, Ranch and Rural Roads: A guide for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing wildland roads (Figures 78-79).* It is also recommended to place rocked critical dip adjacent of the culvert, and the outfall should be rocked extending down to the stream channel with mixed diameter rock ranging from 4 to 18-inch rock (~2-2.5 cubic yards).

The installation of the proposed armoring will require the removal native grasses. Erosion and sediment control measures and best management practices are described later in the notification. A native seed mix shall be used when revegetating this area subsequent of construction.

Stream Crossing #3 (SC3) (40.089979 N, -123.701130 W)

The existing 36-inch corrugated metal pipe culvert that is 20 LF was originally installed prior to 2004 (Google Earth). The culvert is slightly off grade, shotgunned, and does not have sufficient velocity dissipation at the outlet or armoring at the inlet (Armoring existing is 6″ to 24″ diameter). Approximately 5-10 CY of materials have been scoured at the inlet/outlet. Above the crossing, three (3) watercourses confluence prior to entering the inlet. Overall, the culvert is poor condition. Based on the expected Q_{100} for the Class II watercourse (~63 cfs), the culvert monograph indicates the crossing should have a 48-inch diameter culvert (HW/D = 1) at this location (See **Attachment 4** – *Hydraulic Calculations*).

Based on the hydraulic calculations and field observations, it is recommended at 48-inch culvert (20 LF) with a critical rocked dip (adjacent) set to grade be installed at this location. There will be 280 SF (35 LF; ~20 CY excavated) of temporary disturbance, associated with access for installation and culvert installation. The proposed permanent disturbance will be 192 SF (24 LF) relating to placement of armor (~14 Cubic Yards of 8 to 24 inch angular RSP) at both the inlet and outlet of the crossing as recommended by Weaver et al. (2015) *Handbook for Forest, Ranch and Rural Roads: A guide for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing wildland roads (Figures 78-79).* It is also recommended to place rocked critical dip adjacent of the culvert, and the outfall should be rocked extending down to the stream channel with mixed diameter rock ranging from 4 to 18-inch rock (~2-2.5 cubic yards).

The installation of the proposed culvert will require the removal native grasses a bay laurel. Erosion and sediment control measures and best management practices are described later in the notification. A native seed mix shall be used when revegetating this area subsequent of construction. The removal of laurel shall be replaced with *Salix spp.* within the area of disturbance.

Stream Crossing #4 (SC4) (40.087152 N, -123.703362 W)

The existing 18-inch plastic corrugated culvert that is 20 LF was originally installed during the development of the access road prior to 2004 (Google Earth). The culvert is not to grade, acts a ditch relief culvert, shotgunned and does not have sufficient velocity dissipation at the outlet or armoring at the inlet. Less than 2 CY of materials have been scoured at the inlet/outlet. Overall, the culvert is good condition, however scores poorly due to being shotgunned. Based on the expected Q_{100} for the Class III watercourse (~1.6 cfs), the culvert monograph indicates the crossing should have at minimum a 12-inch diameter culvert (HW/D = 1) at this location (See **Attachment 4** – *Hydraulic Calculations*).

Based on the hydraulic calculations and field observations, the existing culvert is adequately sized, however needs to be set to grade. There will be 240 SF (30 LF; ~12 CY excavated) of temporary disturbance, associated with access and culvert excavations. The proposed permanent disturbance will be 27 SF (9 LF) relating to placement of armor (~1.5 Cubic Yards of 8 to 18 inch angular RSP) at both the inlet and outlet of the crossing as recommended by Weaver et al. (2015) *Handbook for Forest, Ranch and Rural Roads: A guide for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing wildland roads (Figures 78-79).* It is also recommended to place rocked critical dip adjacent of the culvert, and the outfall should be rocked extending down to the stream channel with mixed diameter rock ranging from 4 to 18-inch rock (~2-2.5 cubic yards).

The installation of the proposed armoring will require the removal native grasses. Erosion and sediment control measures and best management practices are described later in the notification. A native seed mix shall be used when revegetating this area subsequent of construction.

Stream Crossing #5 (SC5) (40.086625 N, -123.703132 W)

At this location, the seasonal road diverts a Class III watercourse from the original course into an inboard ditch that contributes watershed to an "onstream" pond that is at the terminus of the inboard ditch. This diversion including the watershed captured from SC6 creates an approximate 460 feet channel that discharges into the onstream pond. The road was constructed sometime between the mid 1980's and before 1993, during the time of Tooby Ranch parcels development within the area and based on review of historical imagery (Google Earth; USGS Earthexplorer). We estimate during the last 28 years, approximately 600 to 800 CY of material have been eroded from this channel. The channel has mostly eroded to bedrock

(argillite/metasandstone), however in the upper reach of this channel where both SC5 and SC6 junction with this inboard channel there are still minor streambank stability issues.

Based on the expected Q_{100} for the Class III watercourse (~2.6 cfs), the culvert monograph indicates the crossing at this location if installed should have at minimum a 15-inch diameter culvert (HW/D = 1) at this location (See **Attachment 4** – *Hydraulic Calculations*).

There are two alternatives for mitigation at this site. The first, is to return the watercourse back into the original channel, by filling in the inboard ditch and placing a new culvert at this crossing. The second option is to keep the present-day orientation and utilize bioengineering techniques to minimize further erosion of the inboard ditch as the channel stabilizes. We are proposing an alternative mitigation strategy as included in the CDFW 1602 LSA Notification, as required by Mr. Ryan Borque of CDFW.

Mitigation Alternative #1 – Culvert Installation:

Based on the hydraulic calculations and field observations, it is recommended at 18-inch culvert (20 LF) with a critical rocked dip (adjacent) set to grade be installed at this location. There will be 280 SF (35 LF; ~10 CY excavated) of temporary disturbance, associated with access for installation and culvert installation. The proposed permanent disturbance will be 100 SF (30 LF; 5 CY fill) relating to culvert installation, fill placement and placement of armor (approximately 27 SF; ~2 Cubic Yards of 8 to 18 inch angular RSP) at both the inlet and outlet of the crossing as recommended by Weaver et al. (2015) *Handbook for Forest, Ranch and Rural Roads: A guide for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing wildland roads (Figures 78-79).* It is also recommended to place rocked critical dip adjacent of the culvert, and the outfall should be rocked extending down to the stream channel with mixed diameter rock ranging from 4 to 18-inch rock (~2 cubic yards).

The installation of the proposed culvert will require the removal native grasses. Erosion and sediment control measures and best management practices are described later in the notification. A native seed mix shall be used when revegetating this area subsequent of construction.

Mitigation Alternative #2 – Bioengineering/Bank Stabilization:

Alternatively, bioengineering techniques can be implemented by planting *Salix spp.* and/or *Populus trichocarpa* as dominate bank stabilizing species at three (3) feet on center on the banks of the inboard ditch from SC5 to the onstream pond. This would equate to approximately 3,900 SF of mitigated watercourse. The palate of species that can used are the following:

Trees	Shrubs	Herbs
California buckeye (*Aesculus californica*) Oregon ash (*Fraxinus latifolia*) Oregon white oak (*Quercus garryana*) Black cottonwood (*Populus trichocarpa*) Shining Pacific willow (*Salix lasiandra*) Arroyo willow (*Salix lasiolepis*) Sitka willow (*Salix sitchensis*	Coyotebrush (*Baccharis pilularis*) Deer brush (*Ceanothus integerrimus*) Toyon (*Heteromeles arbutifolia*) Oceanspray (*Holodiscus discolor*) Pink honeysuckle (*Lonicera hispidula*) Dwarf woodland rose (*Rosa gymnocarpa*) Nootka rose (*Rosa nutkana*) White-stemmed raspberry (*Rubus leucodermis*) Thimbleberry (*Rubus parviflorus*)	Common yarrow (*Achillea millefolium*) Common ladyfern (*Athyrium filix-femina*) Hairy wonder woman sedge (*Carex gynodynama*) Soaproot (*Chlorogalum pomeridianum*) Miner's lettuce (*Claytonia perfoliata*) Yerba buena (*Clinopodium douglasiana*) Hound's tongue (*Cynoglossum grande*) Tall cyperus (*Cyperus eragrostis*) California oatgrass (*Danthonia californica*) Pacific bleeding hearts (*Dicentra formosa*) Coastal wood fern (*Dryopteris arguta*) Yellow monkey flower (*Erythranthe guttata*) California fescue (*Festuca californica*)

		Spreading rush (*Juncus patens)* Pacific pea *(Lathyrus vestitus)* Snow-white meadowfoam *(Limnanthes douglasii ssp. nivea)* Miniature lupine (*Lupinus bicolor)* Baby blue eyes *(Nemophila menziesii)* Western swordfern *(Polystichum munitum)* Small fruited bulrush (*Scirpus microcarpus)* Blue-eyed grass (*Sisyrinchium bellum*) Stinging nettle (*Urtica dioica)*

These starts shall be planted at the beginning of the wet season, prior to the first frost, and monitored for a minimum of three-years to insure an 80% establishment success rate. Supplemental watering during the two-year period of plant establishment may be required. An annual monitoring report shall be submitted to SWRCB/CDFW by a qualified biologist each January 1st of each year of the three-year monitoring period. This shall describe the survival of the replantings, and adaptive management used to improve performance during this period. A final report on the restoration project will be submitted at the end of the three-year monitoring period.

There may be some minor grading on the stream bank to remove undermined banks to have a more workable surface may be required. Most work can be accomplished with hand tools. Any materials removed will placed outside of any riparian/wetland areas. Compaction of graded surfaces will be accomplished by mechanical compaction.

Erosion and sediment control measures and best management practices are described later in the notification. A native seed mix shall be used when revegetating this area subsequent of construction.

Stream Crossing #6 (SC6) (40.086446 N, -123.703135 W)

At this location, the seasonal road diverts a Class III watercourse from the original course into an inboard ditch that contributes watershed to an "onstream" pond that is at the terminus of the inboard ditch. This diversion including the watershed captured from SC5 creates an approximate 460 feet channel that discharges into the onstream pond. The road was constructed sometime between the mid 1980's and before 1993, during the time of Tooby Ranch parcels development within the area and based on review of historical imagery (Google Earth; USGS Earthexplorer). We estimate during the last 28 years, approximately 600 to 800 CY of material have been eroded from this channel. The channel has mostly eroded to bedrock (argillite/metasandstone), however in the upper reach of this channel where both SC5 and SC6 junction with this inboard channel there are still minor streambank stability issues.

Based on the expected Q_{100} for the Class III watercourse (~5.3 cfs), the culvert monograph indicates the crossing at this location if installed should have at minimum a 18-inch diameter culvert (HW/D = 1) at this location (See **Attachment 4** – *Hydraulic Calculations*).

There are two alternatives for mitigation at this site. The first, is to return the watercourse back into the original channel, by filling in the inboard ditch and placing a new culvert at this crossing. The second option is to keep the present-day orientation and utilize bioengineering techniques to minimize further erosion of the inboard ditch as the channel stabilizes. We are proposing an alternative mitigation strategy as included in the CDFW 1602 LSA Notification, as required by Mr. Ryan Borque of CDFW.

Mitigation Alternative #1 – Culvert Installation:

Based on the hydraulic calculations and field observations, it is recommended at 18-inch culvert (20 LF) with a critical rocked dip (adjacent) set to grade be installed at this location. There will be 280 SF (35 LF; ~10 CY excavated) of temporary disturbance, associated with access for installation and culvert installation. The proposed permanent disturbance will be 100 SF (30 LF; 5 CY fill) relating to culvert installation, fill placement and placement of armor (approximately 27 SF; ~2 Cubic Yards of 8 to 18 inch angular RSP) at both the inlet and outlet of the crossing as recommended by Weaver et al. (2015) *Handbook for Forest, Ranch and Rural Roads: A guide for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing wildland roads (Figures 78-79).* It is also recommended to place rocked critical dip adjacent of the culvert, and the outfall should be rocked extending down to the stream channel with mixed diameter rock ranging from 4 to 18-inch rock (~2 cubic yards).

The installation of the proposed culvert will require the removal native grasses. Erosion and sediment control measures and best management practices are described later in the notification. A native seed mix shall be used when revegetating this area subsequent of construction.

Mitigation Alternative #2 – Same as previous section.

Stream Crossing #7 (SC7) (40.085278 N, -123.704378 W)

At this location there is an existing 18-inch plastic corrugated culvert that is 20 LF was originally installed during the development of the access road prior to 2004 (Google Earth). The culvert is at grade and does have sufficient armoring at the inlet and outlet (Armoring existing is 6" to 18" diameter). Less than 0.5 CY of materials have been scoured at the inlet/outlet. Overall, the culvert is good condition. Based on the expected Q_{100} for the Class III watercourse (~6.6 cfs), the culvert monograph indicates the crossing should have a 12-inch diameter culvert (HW/D = 1) at this location (See **Attachment 4** – *Hydraulic Calculations*).

Based on the hydraulic calculations and field observations, the existing culvert is adequately sized. It is recommended to place rocked critical dip adjacent of the culvert, and the outfall should be rocked extending down to the stream channel with mixed diameter rock ranging from 4 to 18-inch rock (~2-2.5 cubic yards). This site shall be monitored and maintained.

The installation of the critical dip will require the removal native grasses. Erosion and sediment control measures and best management practices are described later in the notification. A native seed mix shall be used when revegetating this area subsequent of construction.

Stream Crossing #8 (SC8) (40.086522 N, -123.706015 W)

The existing 18-inch plastic corrugated culvert that is 20 LF was originally installed prior to 2004 (Google Earth). At this location there is a confluence of two Class III watercourses. The culvert is not to grade, shotgunned, and does not have sufficient armoring at the inlet and outlet. Approximately 2-3 CY of materials have been scoured at the outlet and 2-3 CY materials deposited at the inlet. Overall, the culvert pipe is in good condition, however considering the other factors it places the culvert in poor condition. Based on the expected Q_{100} for the Class III watercourse (~14.2 cfs), the culvert monograph indicates the crossing should have a 24 to 27-inch diameter culvert (HW/D = 1) at this location (See **Attachment 4** – *Hydraulic Calculations*).

Based on the hydraulic calculations and field observations, it is recommended at 24-inch culvert (30 LF) with a critical rocked dip (adjacent) set to grade be installed at this location. There will be 340 SF (42 LF;

~20 CY excavated) of temporary disturbance, associated with access for installation, removal of fill at the inlet and culvert installation. The proposed permanent disturbance will be 68 SF (22 LF) relating to increased culvert size (20 SF) and placement of armor (approximately 48 SF; ~3 Cubic Yards of 8 to 18 inch angular RSP) at both the inlet and outlet of the crossing as recommended by Weaver et al. (2015) *Handbook for Forest, Ranch and Rural Roads: A guide for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing wildland roads (Figures 78-79).* It is also recommended to place rocked critical dip adjacent of the culvert, and the outfall should be rocked extending down to the stream channel with mixed diameter rock ranging from 4 to 18-inch rock (~2-2.5 cubic yards).

The installation of the proposed culvert will require the removal native grasses and an white oak tree. Erosion and sediment control measures and best management practices are described later in the notification. A native seed mix shall be used when revegetating this area subsequent of construction. The removal of oak be replaced with *similar species* within the area of disturbance.

Stream Crossing #9 (SC9) (40.088649 N, -123.706022 W)

At this location, there is an existing 12-inch corrugated metal pipe culvert that is 20 LF was originally installed prior to 2004 (Google Earth) related to the main access road to the area of development. The culvert is not to grade, shotgunned, and does not have sufficient armoring at the inlet and outlet. Approximately 1 CY of materials have been scoured at the outlet and inlet. Overall, the culvert pipe is in poor condition. Based on the expected Q_{100} for the Class III watercourse (~6.1 cfs), the culvert monograph indicates the crossing should have an 18-inch diameter culvert (HW/D = 1) at this location (See **Attachment 4** – *Hydraulic Calculations*).

Based on the hydraulic calculations and field observations, it is recommended at 18-inch culvert (20 LF) with a critical rocked dip (adjacent) set to grade be installed at this location. There will be 240 SF (30 LF; ~12 CY excavated) of temporary disturbance, associated with access for installation, removal of fill at the inlet and culvert installation. The proposed permanent disturbance will be 27 SF (9 LF) relating to placement of armor (approximately 27 SF; ~1.5 Cubic Yards of 8 to 18 inch angular RSP) at both the inlet and outlet of the crossing as recommended by Weaver et al. (2015) *Handbook for Forest, Ranch and Rural Roads: A guide for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing wildland roads (Figures 78-79).* It is also recommended to place rocked critical dip adjacent of the culvert, and the outfall should be rocked extending down to the stream channel with mixed diameter rock ranging from 4 to 18-inch rock (~2-2.5 cubic yards).

The installation of the proposed culvert will require the removal native grasses and a white oak. Erosion and sediment control measures and best management practices are described later in the notification. A native seed mix shall be used when revegetating this area subsequent of construction. The removal of oak be replaced with *similar species* within the area of disturbance.

Stream Crossing #10 (SC10) (40.089247 N, -123.706658 W)

The existing 84-inch corrugated metal pipe culvert that is 40 LF was originally installed prior to 2004 (Google Earth). The culvert is slightly shotgunned. Approximately 3-5 CY of materials have been scoured at the inlet/outlet. Overall, the culvert is good condition, but undersized. Based on the expected Q_{100} for the Class II watercourse (~653 cfs), the culvert monograph indicates the crossing should have a 120-inch diameter culvert (HW/D = 1) at this location (See **Attachment 4** – *Hydraulic Calculations*).

Based on the hydraulic calculations and field observations, it is recommended to monitor and maintain this culvert location. It is also recommended to place two rocked critical dips at the hinge line of the culvert,

and the outfall should be rocked extending down to the stream channel with mixed diameter rock ranging from 4 to 24-inch rock (~4-5 cubic yards). This should provide relief to the culvert should it be actually at capacity during a 100-year flow event. It also recommended to add addition armoring at the outlet on the river-left side of the culvert as there is inadequate armoring. This require placement of 4-5 CY of 12 to 24-inch RSP.

The installation of the proposed critical dips will require the removal native grasses and shrubs. Erosion and sediment control measures and best management practices are described later in the notification. A native seed mix shall be used when revegetating this area subsequent of construction. The removal of vegetation shall be replaced with *Salix spp.* and or shrubs mentioned above within the area of disturbance to armor the embankment.

Stream Crossing #11 (SC11) (40.089365 N, -123.707538 W)

This location is associated an existing 18-inch corrugated metal pipe culvert that is 20 LF was originally installed prior to 2004 (Google Earth). At this location, the culvert acts a ditch relief culvert that gathers overland flow from 375 LF of inboard ditch and upland area. The culvert is not to grade, shotgunned, and does not have sufficient armoring at the inlet and outlet. Approximately 8-10 CY of materials have been scoured at the outlet. Overall, the culvert pipe is in poor condition. Based on the expected Q_{100} for the Class III watercourse (~1.7 cfs), the culvert monograph indicates the crossing should have a 12-inch diameter culvert (HW/D = 1) at this location (See **Attachment 4** – *Hydraulic Calculations*).

Based on the hydraulic calculations and field observations, it is recommended at 18-inch culvert (20 LF). There will be 240 SF (30 LF; ~12 CY excavated) of temporary disturbance, associated with access for installation and culvert installation. The proposed permanent disturbance will be 27 SF (9 LF) relating to placement of armor (~2 Cubic Yards of 8 to 18 inch angular RSP) at both the inlet and outlet of the crossing as recommended by Weaver et al. (2015) *Handbook for Forest, Ranch and Rural Roads: A guide for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing wildland roads (Figures 78-79).*
The installation of the proposed culvert will require the removal native grasses. Erosion and sediment control measures and best management practices are described later in the notification. A native seed mix shall be used when revegetating this area subsequent of construction. The removal of oak be replaced with *similar species* within the area of disturbance.

Stream Crossing #12 (SC12) (40.090874 N, -123.707879 W)

The existing 84-inch corrugated metal pipe culvert that is 40 LF was originally installed prior to 2004 (Google Earth). At this location there is a confluence of a Class II and III watercourse. The culvert is embedded and in good condition. Based on the expected Q_{100} for the Class II watercourse (~273 cfs), the culvert monograph indicates the crossing should have a 84-inch diameter culvert (HW/D = 1) at this location (See **Attachment 4** – *Hydraulic Calculations*).

Based on the hydraulic calculations and field observations, it is recommended to monitor and maintain this culvert location. It is also recommended to place two rocked critical dips at the hinge line of the culvert, and the outfall should be rocked extending down to the stream channel with mixed diameter rock ranging from 4 to 24-inch rock (~4-5 cubic yards). This should provide relief to the culvert should it be actually at capacity during a 100-year flow event.

The installation of the proposed critical dips will require the removal native grasses. Erosion and sediment control measures and best management practices are described later in the notification. A native seed mix shall be used when revegetating this area subsequent of construction.

Stream Crossing #13 (SC13) (40.090892 N, -123.703534 W)

There is an existing 18-inch corrugated metal pipe culvert that is 35 LF was originally installed prior to 2004 (Google Earth) related to the main access road to the area of development. The culvert is undersized. Based on the expected Q_{100} for the Class III watercourse (~22.5 cfs), the culvert monograph indicates the crossing should have an 30-inch diameter culvert (HW/D = 1) at this location (See **Attachment 4** – *Hydraulic Calculations*).

Based on the hydraulic calculations and field observations, it is recommended at 30-inch culvert (35 LF) with a critical rocked dip (adjacent) set to grade be installed at this location. There will be 400 SF (50 LF; ~20 CY excavated) of temporary disturbance, associated with access for installation and culvert installation. The proposed permanent disturbance will be 75 SF (15 LF) relating to placement of armor (~4 Cubic Yards of 8 to 18 inch angular RSP) at both the inlet and outlet of the crossing as recommended by Weaver et al. (2015) *Handbook for Forest, Ranch and Rural Roads: A guide for planning, designing, constructing, reconstructing, upgrading, maintaining, and closing wildland roads (Figures 78-79).* It is also recommended to place rocked critical dip adjacent of the culvert, and the outfall should be rocked extending down to the stream channel with mixed diameter rock ranging from 4 to 18-inch rock (~3 cubic yards).

The installation of the proposed culvert will require the removal native grasses. Erosion and sediment control measures and best management practices are described later in the notification. A native seed mix shall be used when revegetating this area subsequent of construction.

2.5 Legacy Waste Discharge Issues

Outbuildings (OBs):

OBs is located on the area of the property known as 223-011-009. The Outbuildings are located adjacent to the greenhouse area and is within the riparian buffer of two different Class III watercourses. The structures are located at the top of the bank and disperse any overland flow to the adjacent Class III stream. The OBs are located within the Streamside Management Area/riparian buffer near SC8. Technically, the Outbuildings, and any other structure which is nexus to cultivation on the property, should be located outside the buffer area. However, this structure was constructed previous to 2004, and has been located at this location for several decades. The landowner is currently seeking a Streamside Management Permit from Humboldt County Building and Planning Department to allow this structure to remain.

OBs are located on relatively stable soil, on a slope of less than 15%, however the area where these structures have been slightly modified (very minor) for footings lies 10 feet from the class III watercourse. The area surrounding OBs are grassy fields and oak woodlands, dominated by montane and emergent wetland/riparian species. The outbuildings comprises 1500 sq. ft. of disturbed area. To remediate the QH area, 1500 sq. ft. and approximately 10-20 cubic yards of soil will be disturbed, with a potential to deliver 5 cubic yards of sediment to the receiving waters below. The amount of temporary impacts that will be created to remove OBs and remediate the site are greater than leaving OBs in place for the next 50 years. These estimates do not take into account the other environmental impacts that removing OBs will cause, including increased, localized hardship of the farm for loss of use of the OBs, nor the cost burden to remediate OBs, or replace OBs with other outbuildings in another location on the property.

The relative ability for the surrounding area to provide canopy shade, temperature controls, sediment filtration, and relative storm water infiltration is not substantially changed by the presence of a 1500 square foot structures and disturbed area. The current flora regime is sufficient to provide necessary hydrological functionality of the landscape, and endangered plant species are not impacted by the ongoing presence of the OBs. Animal species are similarly not impacted by the presence of OBs, and more than the continuing presence of the seasonal road adjacent to OBs which sees continual vehicle traffic. Given the increased temporary impacts that will be created by removing and remediating OBs, the relative low ongoing permeant impacts of outbuildings current status, and the financial burden to remove, remediate and replace the OBs, the most effective option is to leave OBs in place. This description serves as a formal request for a regulatory exception from the Water Board for the OBs.

Greenhouse (GH):

GH is located on the area of the property known as 223-011-009. The southernmost greenhouse is located adjacent to an aggregate of other greenhouse located within the parcel and is within the riparian buffer of a Class III watercourse. The GH is located at the top of the bank of a compacted landing and may disperse any overland flow to the adjacent Class III stream. The GH encroaches five (5) feet into the Streamside Management Area/riparian buffer. Technically, the GH, and any other structure which is nexus to cultivation on the property, should be located outside the buffer area. However, this landing that contains the GH and other greenhouse structures was constructed in 2010, and has been located at this location for four to five years. The landowner is currently seeking a Streamside Management Permit from Humboldt County Building and Planning Department to allow this structure to remain.

GH is located on relatively stable soil, on a slope of less than 15%, however the area where the GH has been installed, the southeast corner lies within 45 feet from the class III watercourse. The area surrounding the GH are grassy fields, dominated by montane and emergent wetland/riparian species. The disturbed area associated with the landing is fully revegetated. We recommend installing a vegetative strip of native species to filter overland flow from this location rather than requiring a full relocation. Given the increased temporary impacts that will be created by removing and remediating GH, the relative low ongoing permanent impacts of GH current status, and the financial burden to remove, remediate and replace the GH, the most effective option is to leave GH in place. This description serves as a formal request for a regulatory exception from the Water Board for the GH.

Spillway (Onstream Pond) (40.085346 N, -123.703534 W)

At this location an onstream pond is located on a Class III watercourse. The pond was constructed between 2009 and 2010 based on aerial photography (Google Earth). Earthwork quantities from the ±1.09 acres of disturbance from the existing grading is approximately ±3760 cubic yards (CY) of materials. Both cut and fill slopes range between greater than 5:1 to no steeper than 2.5:1. The approximate capacity of the pond is 628,000 gallons and is 18 feet deep at the deepest location of the pond. During the site visit, this location appeared to be stable with no visible differential settling or slope failure within the embankment area. The disturbed area associated with the grading of this pond appeared to be well vegetated and stable under static conditions. At the spillway of the pond, approximately 20-30 CY of materials have been eroded from the embankment from outflow of the pond. Concrete sacks, precast piers and mix diameter angular boulders have been placed within the eroded channel to reduce head cutting of the spillway.

There is a need to modifying the spillway to stabilize the spillway embankments and reduce head cutting (See **Attachment 5** – TVCE Grading and Erosion Control Plan). Based on the expected Q_{100} for the Spillway (~8.3 cfs), the culvert monograph indicates the spillway should have a 21-inch diameter culvert (HW/D = 1) equivalent at this location (See **Attachment 4** – *Hydraulic Calculations*).

It is proposed to grade the existing spillway and layback the existing over steepened bank slopes to 1.5:1 (h:v) and armor with planted rock revetment, that will be comprised of 65.5 CY of mixed diameter RSP (6" to 18" diameter) with native *Salix spp.* and/or *Populus spp.* stakes planted throughout at three (3) feet on center placement. The channel streambed shall be armored with 7.5 CY of mixed diameter RSP (3" to 12" diameter). The overall permanent disturbance will be less than 870 SF (50 LF) associated with armoring of the spillway. Temporary disturbance includes site access and spillway improvement (1,100 SF). Any excavated soil from spillway modification will be incorporated.

The pond may need to be dewatered or a clear water diversion may be required for spillway upgrades. Due to water quality concerns, impounded water will need to be discharged by irrigating nearby vegetated slopes, away from watercourses to insure indirect discharge. Review **Attachment 5** – TVCE Grading Plan/Soil Report for additional information.

3. Erosion Prevention and Sediment Capture

Disturbed areas observed during the site investigation consisted of the cultivation area and surrounding cleared areas containing bare earth, soil piles, and unstable road segments as shown on **Attachment 2** – *Site Map.*

3.1 Erosion Prevention

Areas requiring erosion control measures include the cultivation area and the disturbed road segments. During the site investigation, the cultivation area was found to be moderately vegetated within the perimeter and upland cleared area. To further minimize erosion potential, mulch (2 ton/acre) at 2 to 3 inches depth and/or a native seed mix shall be applied within the cultivation area and perimeter areas. Prohibited plant species can be identified in the California Invasive Pest Plant Council (http://www.cal-ipc.org/paf/).

Road segments indicated on the *Site Map* as "Deteriorated Road" require drainage and surfacing treatment. These roads shall be outsloped (3 to 5%), where applicable, to optimize drainage into an adjacent vegetated area and discourage road surface runoff connectivity. These segments shall also be resurfaced as prescribed in Figure 1.

As indicated in the prior section, all season and permeant access roads are adequately surfaced, outsloped and/or crowned per the recommendations in terms 15, 17, 22-24, and 26.

3.2 Sediment Control

No evidence of significant transport were observed during the site investigation. Implementation of the prescribed modifications in the previous section will be sufficient in controlling sediment. If road drainage improvements are not obtainable by the following wet-season, sediment control BMPs (i.e., fiber rolls, hay bales) may be substituted as a short-term measure to manage stormwater runoff and sediment capture. Sediment control mechanisms for these sites are described above, and include specifications on the measures implemented, as well as references to BPTC requirements.

3.3 Maintenance Activities for Erosion and Sediment Control

All erosion prevention and sediment control BPTC measures, as described in the preceding sections, are monitored by the landowner at regular intervals. Prior to any rain event forecasted to produce greater than 2" in a 24 hour period, the landowner will check to ensure that all stream crossings, water bars, and road

surfaces are adequately functioning and prepared for the ensuing storm event. The landowner will also monitor all disturbed areas to ensure that mulch and native seed mixtures are still adequately covering the disturbed ground and ready to prevent erosion due to the oncoming rain event. If any of the features listed above, or in this section, are not functioning or adequately installed, the landowner will remediate the sites immediately to the standards listed in the previous sections, and will ensure that all culverted stream crossings are clear of debris and ready to accept any incoming stream and debris flow. Any sediment that is captured within the cultivation area should be absorbed by the vegetation that will crop up from the native seed mixture. If there is any excess sediment buildup within this area, the sediment will be redistributed in the adjacent field, outside of the riparian setback, and at a quantity no more than 2 inches deep across the landscape.

The only interim measure for stabilizing the site for erosion control is the use of straw mulch and a native seed mix to stabilize the disturbed area associated with cultivation. In some areas, the native seed mixture is expected to take hold and no further action is required. In other locations, where cultivation will occur annually, and thus create annual disturbance of the site, mulch and seed mixture will be applied annually, creating a permeant, temporary BPTC solution. As indicated above, this site will be monitored prior to each significant rain event for adequacy of installation and function, and reapplication will be executed as necessary.

4. Water Use

The subject parcel employs the use of two distinct water sources which are described below:

POD (Spring/Domestic Use) (40.1187 N, -123.7002 W)

The existing point of diversion for domestic use is associated with a spring that is located off the project parcel. This spring is a Pre-1914 claim that is associated with Buck Mountain Ranch, LTD that the applicant is 25% owner. The latest Initial Statement for Water Diversion and Use (ISWDU) has been filed with the SWRCB on 3/21/2019. This claim has been assigned an identification number S015419 (See **Attachment 5** – Water Information). Spring water is drawn from a two (2) inch perforated pipe that is embedded into a hillslope where the spring originates. The water from the spring is conveyed to the project parcel by a 2-inch PVC pipe that draws water by gravity. The approximate diversion rate is 2.77 gallons per minute. Currently the applicant does not use a meter to monitor use. The applicant currently uses approximately 400 gallons/day. The applicant shall install a water meter this summer. Water is diverted for immediate use.

Water use is primarily used at the on-site residence (5-persons) and for livestock and poultry.

POD (Onstream Pond/Cultivation Use) (40.085346 N, -123.703410 W)

This location is associated with Violation #12. Presently the existing water source at this site for cultivation is an onstream pond (described in the previous section) that provides water for existing 43,560 SF of cannabis gardens (greenhouses/outdoor). An Initial Statement for Water Diversion and Use (ISWDU) has been filed with the SWRCB on 10/31/2017. This claim has been assigned an identification number S027605 (See **Attachment 5** – Water Information). The water from the pond is conveyed to the cultivation area by a 2.5-inch poly pipe that draws water by gravity. Currently the applicant does not use a meter to monitor use. The applicant shall install a water meter this summer.

Presently water is transferred to several holding tanks on site. The water storage is as follows:

8x 2,500 gallon plastic tanks

2x 50,000 gallon steel tanks
1x 7,500 gallon plastic tank
Equating to 127,500 gallons of storage (not including the 628,000 gallons of onstream storage).

The applicant intends to install a intake screen with round openings that shall not exceed 3/32-inch diameter; a screen with square openings shall not exceed 3/32-inch diameter; and a screen with slotted openings that shall not exceed 0.069 inches in width (slots must be evenly distributed across the screened area. To minimize adverse impacts to native pond breeding amphibians the following diversion minimizations shall apply: 1) From November 1 to March 31, the applicant shall divert water at a rate no greater than the rate of water flowing into the pond; 2) From April 1 to September 30, when native larval amphibians are present, the applicant shall cease diverting water once the pond volume is one third of the maximum pond volume. To comply, the applicant will install a fixed visual marker (i.e. Stage Plate) in the pond as a reference for water level thresholds.

A Small Irrigation Use Registration (SIUR) registration for the onstream pond is H500875.

Table 2: Summary of water use

Water Use (gallons)													
Use	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Domestic (Spring)	12,400	11,200	12,400	12,000	12,400	12,000	12,400	12,400	12,000	12,400	12,000	12,400	146,000
Cultivation (Instream Pond)	10,000	15,000	20,000	35,000	35,000	35,000	50,000	50,000	50,000	30,000	20,000	15,000	365,000

5. Fertilizers, Pesticides and Herbicides

5.1 Application, Storage and Disposal

All fertilizers, pesticides, herbicides, if used, will be prepared and administered in locations where they cannot enter a waterbody (surface or groundwater). Fertilizers, pesticides and herbicides shall be applied at agronomic rates as specified. The enrollee will keep a log of fertilizer, pesticide and herbicide use for annual reporting to the appropriate agencies. All liquid chemicals will be stored within secondary containment. Both liquid and dry chemicals shall be stored within an enclosed weatherproof area to minimize the likelihood of wildlife tampering and must be locked when not in use. No fertilizers, pesticides or herbicides or applicators shall be left outside when not in use. The disposal of unused product must be disposed of at a licensed facility that receives such items. No restricted materials or pesticides shall be used or stored onsite. A summary of fertilizers, pesticides, and herbicides used annuals are listed below:

Table 3: Overview of annual chemical use

Product Name	Chemical Type	N-P-K or Active Ingredient	Annual Use (lbs. or gallons)
Re-Amendo	Fertilizer	Feather meal, fishbone meal, basalt, bat guano, composted chicken manure, kelp meal (5.3-5.4-0.8)	1000 lbs
Paleo Bloom	Fertilizer	Soft Rock Phosphate, Langbeinite, Potassium sulfate, Iron II Citrate, and Manganese Sulfate (0.0-4.7-1.5)	6 gallons
Baseline	Fertilizer	Liquid Humic Acid	20 gallons

Tappin' Roots Essential Grow	Fertilizer	NON-GMO soybean meal, Soft rock phosphate, sulfate of potash, plant extract, seabird guano, potassium-magnesium-sulfate, feather meal, fish meal (6-1.5-1.3)	5 gallons
Cal-Mag Vital Garden Products	Fertilizer	Calcium Carbonate, Magnesium Sulfate and Soy Protein Hydrolysate	3.25 gallons
Eco-Nutrients Eco-Hydro Fish	Fertilizer	Fish Hydrolysate, Phosphoric Acid (1.5-3-0.2)	330 gallons
Alaska Fish Fertilizer	Fertilizer	Fish Hydrolysate, Phosphoric Acid (5-1-1)	25 gallons
Eco-Nutrients Eco-Nereo Kelp	Fertilizer	Kelp, Humic Acid	40 gallons
Sea Green	Fertilizer	(1-0.3-4)	3 gallons
Chicken Manure	Fertilizer	(3-2-2)	625 lbs
Soluble Seaweed Powder	Fertilizer	(1-0-12)	32 lbs
Primordial Solutions – True Bloom	Fertilizer	(0.1-0.1-0.1)	1 gallon
Molasses	Fetilizer	(1-0.1-3)	50 gallons
Dr. Earth Bud and Bloom	Fertilizer	(3-9-4)	500 lbs
All Purpose Fertilizer	Fertilizer	Unknown	150 lbs
Liquid Bone Meal	Fertilzer	(0-12-0)	70 gallons

Agricultural chemicals will not be applied within 48-hours of a predicted rain event with a 50% or greater chance of 0.25 inches.

5.2 Spill Prevention and Clean-up

A spill cleanup kit shall be kept onsite where agricultural chemicals or petroleum products are stored. In case of a major spill of fertilizers or petroleum products, the discharger shall immediately notify the County of Humboldt Department of Environmental Health Certified Unified Program Agency (CUPA) at (707) 445-6215 and California Office of Emergency Services at (800) 852-7550 and initiate cleanup activities for all spills that could enter surface waters or degrade groundwater.

6. Petroleum and Petroleum Products

6.1 Use, Storage, and Disposal

The site is powered by gasoline and diesel-powered portable generators. Generators, along with fuel canisters and petroleum products (lubricants, petroleum based chemicals, etc.) were observed within the storage building above the cultivation area, near RP1 and SC3. All products must be stored in a secure area that is enclosed that is separate from fertilizers, pesticides, and herbicides. All onsite equipment contain petroleum products must be regularly inspected for leaks and drip pans used when necessary.

7. Cultivation Waste, Trash/Refuse and Domestic Wastewater

7.1 Cultivation Waste

Cultivation waste was observed within the compost area of the adjacent to existing cultivation area (greenhouses). All waste must cleaned up immediately and be disposed of at licensed disposal facility. All spent growth medium (i.e. soil) must be reused, disposed of at a licensed disposal facility, or spread out within the project limits and planted with native vegetation. A vegetation compost area is located near the greenhouse cultivation area. The compost area is located greater than 100 feet from a Class III watercourse.

7.2 Trash/Refuse Overview

Minimal trash/refuse was observed within the project parcels. Any materials must be collected immediately and disposed of at a license facility. A dedicated enclosed refuse area must be identified to meet State and Local requirements. Refuse must be stored in an enclosed structure that is both damper- and weatherproof. Refuse must be disposed of at a licensed facility.

7.3 Domestic Wastewater BPTC Measures

The site presently only has a composting toilet. Due to County of Humboldt Department of Environmental Health and North Coast Regional Water Quality Control Basin Plan requirements, consultation with these agencies will be required to determine whether the existing system is adequate. It is recommended that a qualified professional investigate the existing system to determine whether it is adequate for State and Local licensing/permitting requirements.

8. Winterization Measures

8.1 Summary

It is required that winterization measures be completed annually before the onset of the winter season. The SWRCB has defined the winter season as beginning November 1st through April 1st. Winterization measures are intended to prepare the site for an extended rainy season and heavy precipitation during which frequent access, monitoring and maintenance can be challenging or infeasible. The intention is to reduce erosion and prevent delivery of sediment or chemicals to sensitive waterways.

Techniques of winterization include stabilizing all bare soils with cover crop and/or native seed and straw (mulch). No heavy machinery or vehicles shall be driven on seasonal roads to avoid degradation of saturated roadways and unstable surfaces. Any stockpiles shall be covered (6 mil plastic sheeting or mulch) and perimeter controls (i.e. fiber roll/straw bales) applied. All trash and refuse must be thoroughly be cleaned up before the winter season. All fertilizers, both liquid and solids and petroleum/petroleum containing machinery shall be placed in the appropriate location as described in the previous section and placed in secondary containment when necessary.

9. Monitoring

This site is considered a "low risk" site, monitoring is limited to an annual Facility Status Report. All reporting will be submitted the NCRWQCB and is due March 1st every year of operation. The annual reporting shall include the information described in *Table 4* – Facility status monitoring requirements as well as the name and contact information for person responsible for operation, maintenance and monitoring.

Reporting documents may be emailed to northcoast@waterboards.ca.gov or mailed to:

North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Table 4: Facility Status Monitoring Requirements

Monitoring Requirements	Description
Winterization Measures Implemented	Report winterization procedures implemented, any outstanding measures, and schedule for completion
Tier Status Confirmation	Report any changes to tier designation (Stabilization of disturbed areas may change the tier status of a facility. Contact the Regional Board if change in status is appropriate)
Third Party Designation	Report any change in third party status as appropriate

10. Remediation Summary

Table 5: Summary of required remediation measures with expected completion dates

Map Point (MP)	Map Point Description	Associated BPTC Requirement	Temporary BMP	Permanent BPTC	Expected Completion Date	Actual Completion Date
Access Roads	Road Segments(s) with sediment delivery potential	17,24	Monitor	Outslope where possible and resurface main access roads	10/15/2020	
Cultivation Area	Erosion Control	8,9,14	Plant native grass and mulch with straw	Monitor and Maintain	Immediately	
RP1	(P) Rocked Rolling Dip	26	N/A	Install feature	10/15/2020	
RP2	Rock Road Segment	17,24	Monitor/Minimize Use	Place appropriate road armoring	10/15/2020	
RP3	(P) Rocked Rolling Dip	26	N/A	Install feature	10/15/2020	
RP4	(P) Rocked Rolling Dip	26	N/A	Install feature	10/15/2020	
RP5	(P) Rocked Rolling Dip	26	N/A	Install feature	10/15/2020	
RP6	(P) Rocked Rolling Dip	26	N/A	Install feature	10/15/2020	
RP7	(P) Rocked Rolling Dip	26	N/A	Install feature	10/15/2020	
RP8	(P) Rocked Rolling Dip	26	N/A	Install feature	10/15/2020	
RP9	(P) Rocked Rolling Dip	26	N/A	Install feature	10/15/2020	
RP10	(P) Rocked Rolling Dip	26	N/A	Install feature	10/15/2020	
SC1	(E) 18" PCC	38-41,48-56	Monitor and Maintain	Replace/Install 24" culvert	10/15/2022	
SC2	(E) 18" PCC	38-41,48-56	Monitor and Maintain	Armor Inlet and Outlet	10/15/2022	
SC3	(E) 36" CMP	38-56	Monitor and Maintain	Replace/Install 48" culvert	10/15/2022	

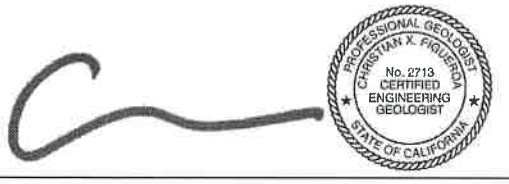
SC4	(E) 18" PCC	38-41,48-56	Monitor and Maintain	Reset and Place Armoring	10/15/2022	
SC5	Potential Culvert Location/ Bioengineering	38-41,48-56	Monitor and Maintain	Install 18" culvert/Bioengineer/ Revegetation/ Stabilize	10/15/2022	
SC6	Potential Culvert Location/ Bioengineering	38-41,48-56	Monitor and Maintain	Install 18" culvert/Bioengineer/ Revegetation/ Stabilize	10/15/2022	
SC7	(E) 18" PCC	38-41,48-56	Monitor and Maintain	Install critical dip/armor outlet	10/15/2022	
SC8	(E) 18" PCC	38-41,48-56	Monitor and Maintain	Replace/Install 24" culvert	10/15/2022	
SC9	(E) 12" PCC	38-41,48-56	Monitor and Maintain	Replace/Install 18" culvert	10/15/2022	
SC10	(E) 84" CMP	38-41,48-56	Monitor and Maintain	Install critical dip/armor outlet	10/15/2022	
SC11	(E) 18" CMP	38-41,48-56	Monitor and Maintain	Replace/Install 18" culvert	10/15/2022	
SC12	(E) 84" CMP	38-41,48-56	Monitor and Maintain	Install critical dip	10/15/2022	
SC13	(E) 18" CMP	38-41,48-56	Monitor and Maintain	Replace/Install 30" culvert	10/15/2022	
OWTS	OWTS	124	Needs Evaluation	Upgrade system	Immediately	
OBs	OBs	1-7, 63-64	N/A	Exemption Approval	N/A	
GH	GH	1-7, 63-64	N/A	Exemption Approval	N/A	
Spillway	Spillway	1-14, 38-41,	Monitor and Maintain	Upgrade Spillway	10/15/2022	

11. Certification and Notification

11.1 Site Management Plan Developer

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name: Christian Figueroa, PG, CEG, QSD Title: Professional Geologist

Signature:  Date: 5/14/2020

11.2 Discharger

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachment and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, include the possibility of fine and imprisonment."

Legally Responsible Person: Michael M. Linde Date: 6-01-20

Attachment 1

Location Map

TRINITY VALLEY CONSULTING ENGINEERS, INC.
67 WALNUT WAY
POST OFFICE BOX 1567
WILLOW CREEK, CALIFORNIA 95573

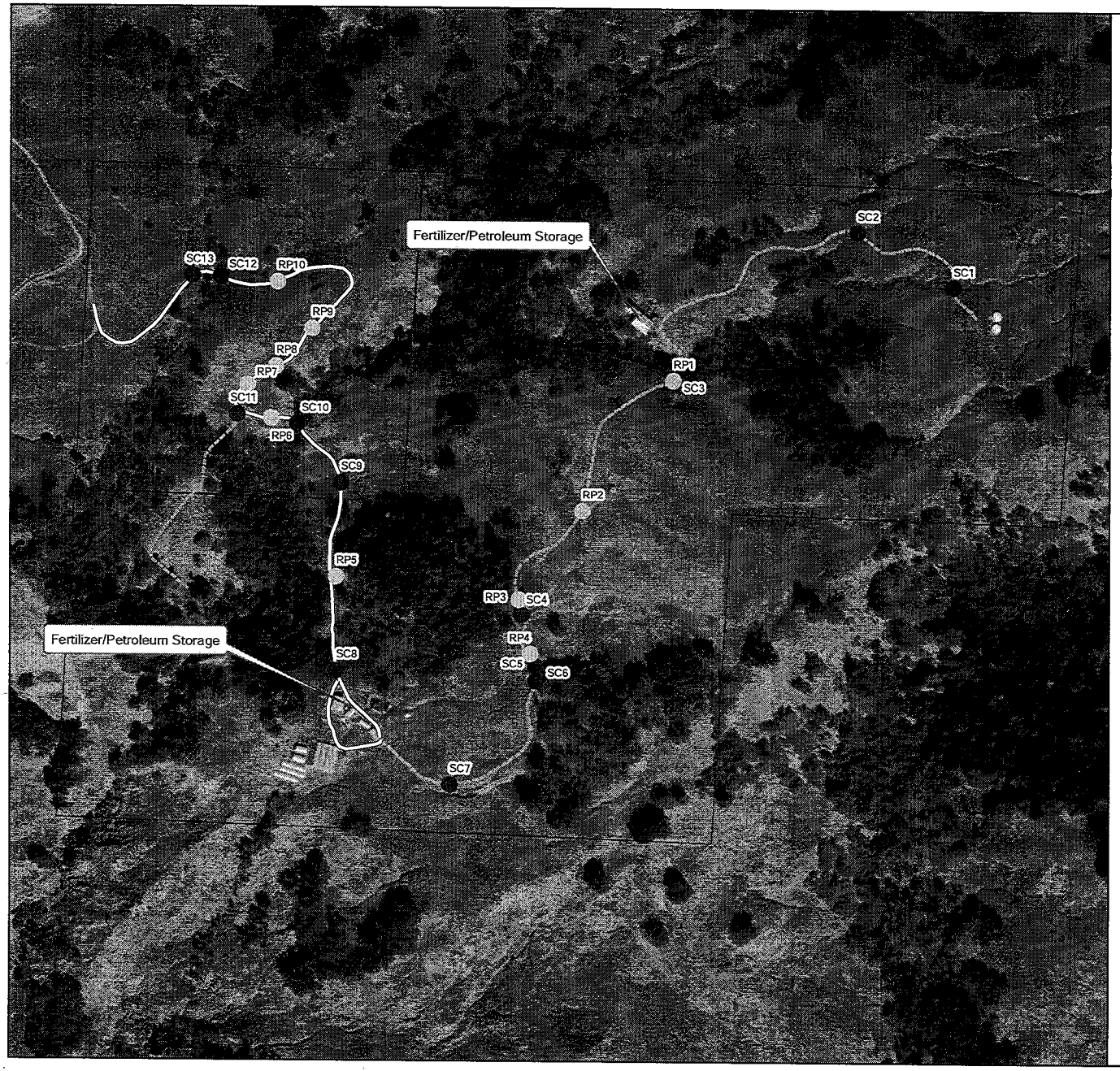
Ambiguity Farms Trust
APN:223-011-007/-009
Site Management Plan
Tooby Ranch Road
Garberville, Humboldt County, California

Figure 1

Location Map

Attachment 2

Site Map



EXPLANATION

- Road Point
- Stream Crossing
- Access Road
- Class II Watercourse
- Class III Watercourse
- Seasonal Road
- Bank Stabilization
- Project_Parcel
- Spillway

IMAGE SOURCE: ESRI;
PARCEL BOUNDARY FROM RECORD;
HILLSHADE AND ELEVATION DATA SOURCE: USGS (2013)

N

1 " = 400 '

0 205 410
Feet

Figure 2
Stream Crossings/
Road Points/
Streambed Alterations

Ambiguity Farms Trust
APN:223-011-007/-009
Site Management Plan
Tooby Ranch Road
Garberville, Humboldt County, California

TRINITY VALLEY CONSULTING ENGINEERS, INC.
67 WALNUT WAY
POST OFFICE BOX 1567
WILLOW CREEK, CALIFORNIA 95573

EXPLANATION

- Stream Crossing
- Seasonal Road
- Class III Watercourse
- Bank Stabilization
- Spillway

IMAGE SOURCE: ESRI;
PARCEL BOUNDARY FROM RECORD;
HILLSHADE AND ELEVATION DATA SOURCE: USGS (2013)

N

1 " = 60 '

0 30 60
Feet

TRINITY VALLEY CONSULTING ENGINEERS, INC.
67 WALNUT WAY
POST OFFICE BOX 1567
WILLOW CREEK, CALIFORNIA 95573

Ambiguity Farms Trust
APN:223-011-007/-009
Site Management Plan
Tooby Ranch Road
Garberville, Humboldt County, California

Figure 3
Culverts/
Streambed Alterations

TRINITY VALLEY CONSULTING ENGINEERS, INC.
67 WALNUT WAY
POST OFFICE BOX 1567
WILLOW CREEK, CALIFORNIA 95573

Ambiguity Farms Trust
APN:223-011-007/-009
Site Management Plan
Tooby Ranch Road
Garberville, Humboldt County, California

Figure 4
Water Diversion/
Well Locations

TRINITY VALLEY CONSULTING ENGINEERS, INC.
67 WALNUT WAY
POST OFFICE BOX 1567
WILLOW CREEK, CALIFORNIA 95573

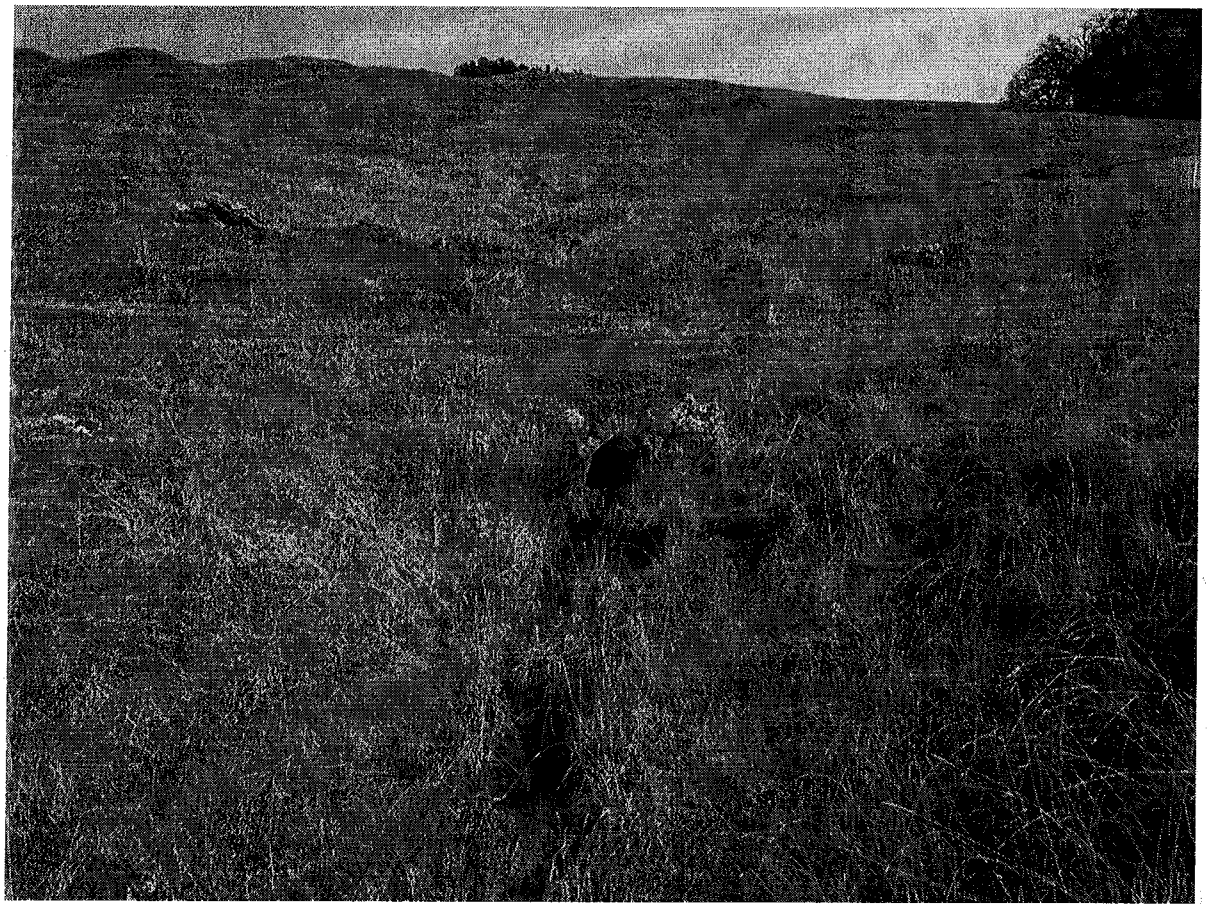
Ambiguity Farms Trust
APN:223-011-007/-009
Site Management Plan
Tooby Ranch Road
Garberville, Humboldt County, California

Figure 5
Cultivation Area/
Disturbed Area/
Et Cetera

Attachment 3

Photo Log

Photographs – Additional Information



Photograph #1 - View of the Stream Crossing #1 looking upstream.

Photographs – Continued

Photograph #2 – View of Stream Crossing #1 looking downstream

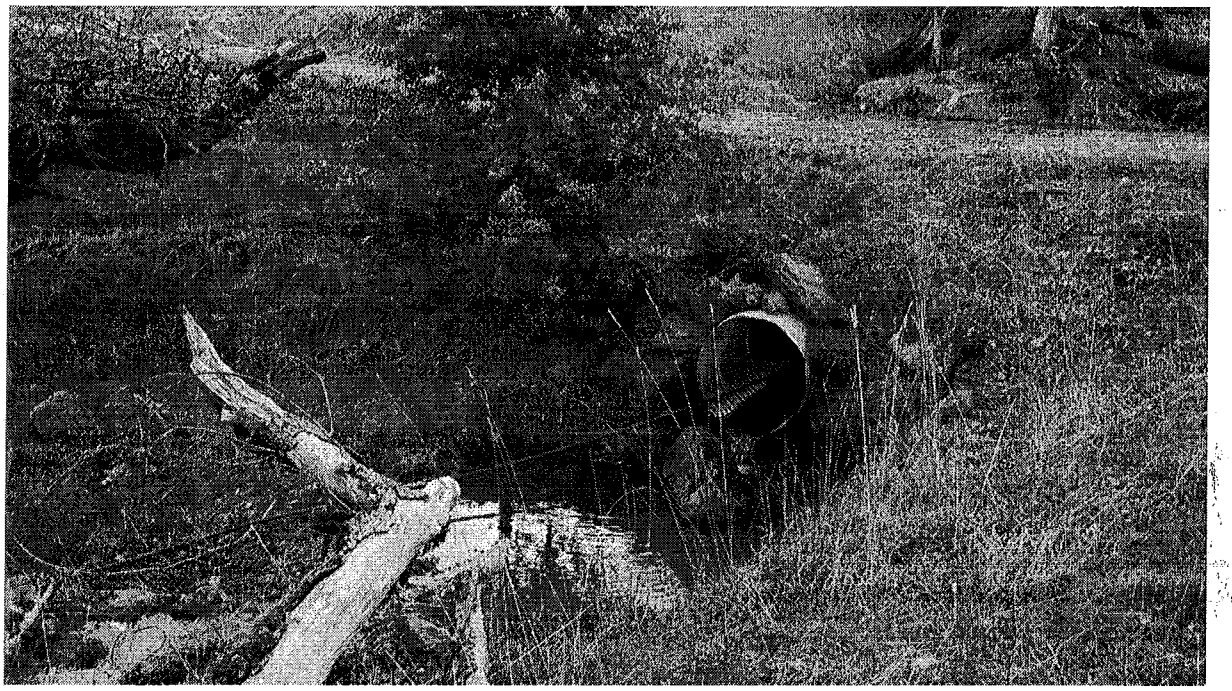
Photographs – Continued

Photograph #3 – View of Stream Crossing #2 looking upstream

Photographs – Continued

Photograph #4 – View of Stream Crossing #2 looking downstream.

Photographs – Continued

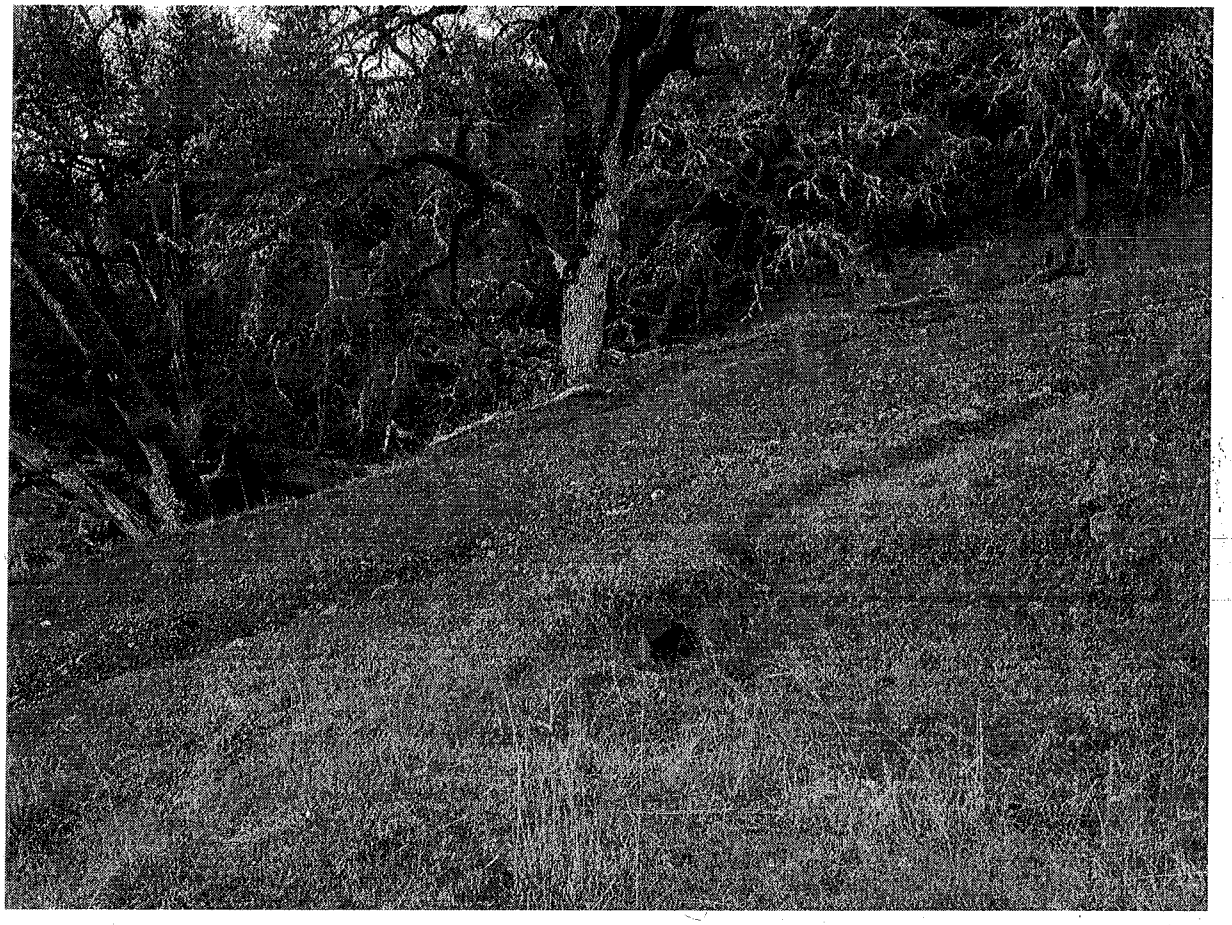


Photograph #5 – View of Stream Crossing #3 looking upstream

Photographs – Continued

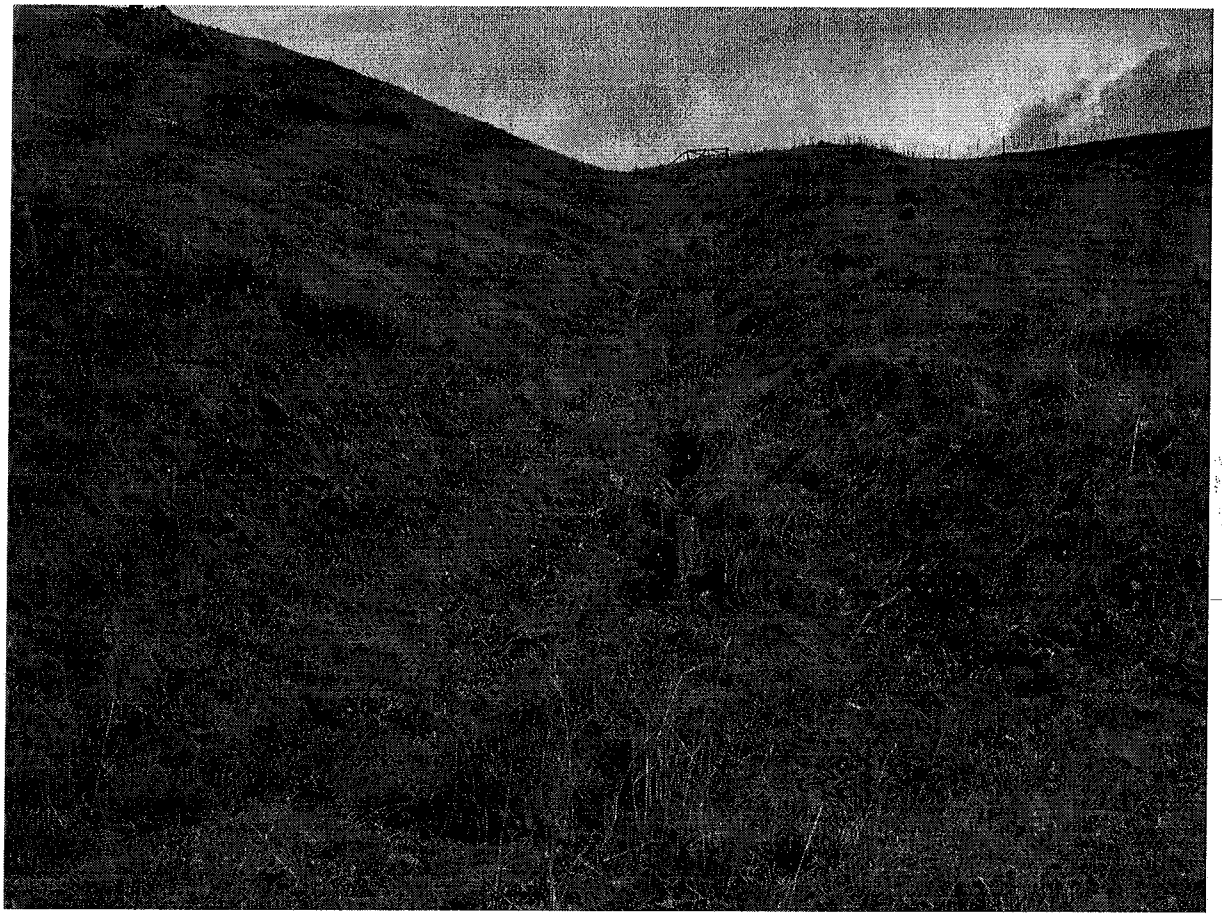
Photograph #6 – View of Stream Crossing #3 looking downstream

Photographs – Continued



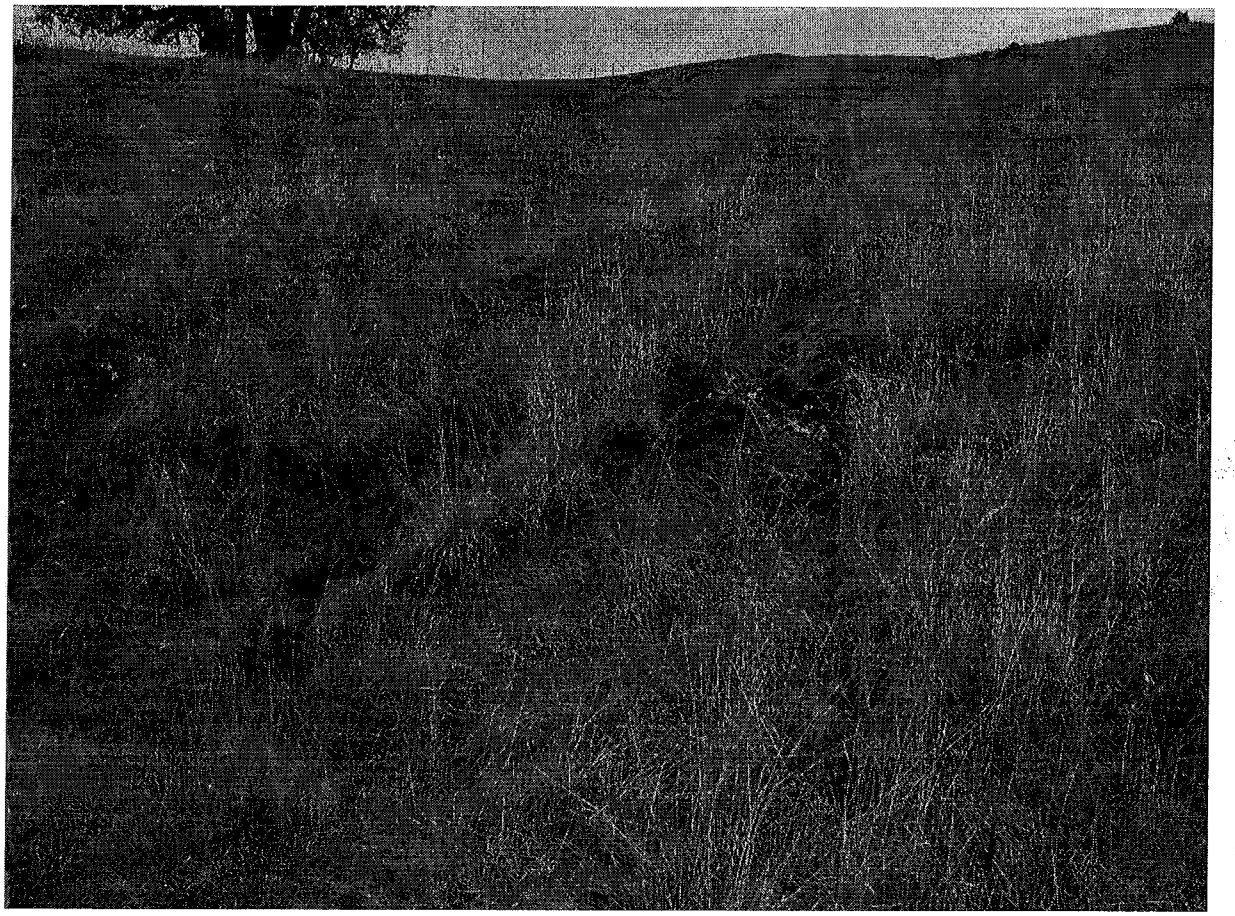
Photograph #7 – View of Stream Crossing #4 looking downstream

Photographs – Continued



Photograph #8 – View looking upstream at Stream Crossing #4

Photographs – Continued

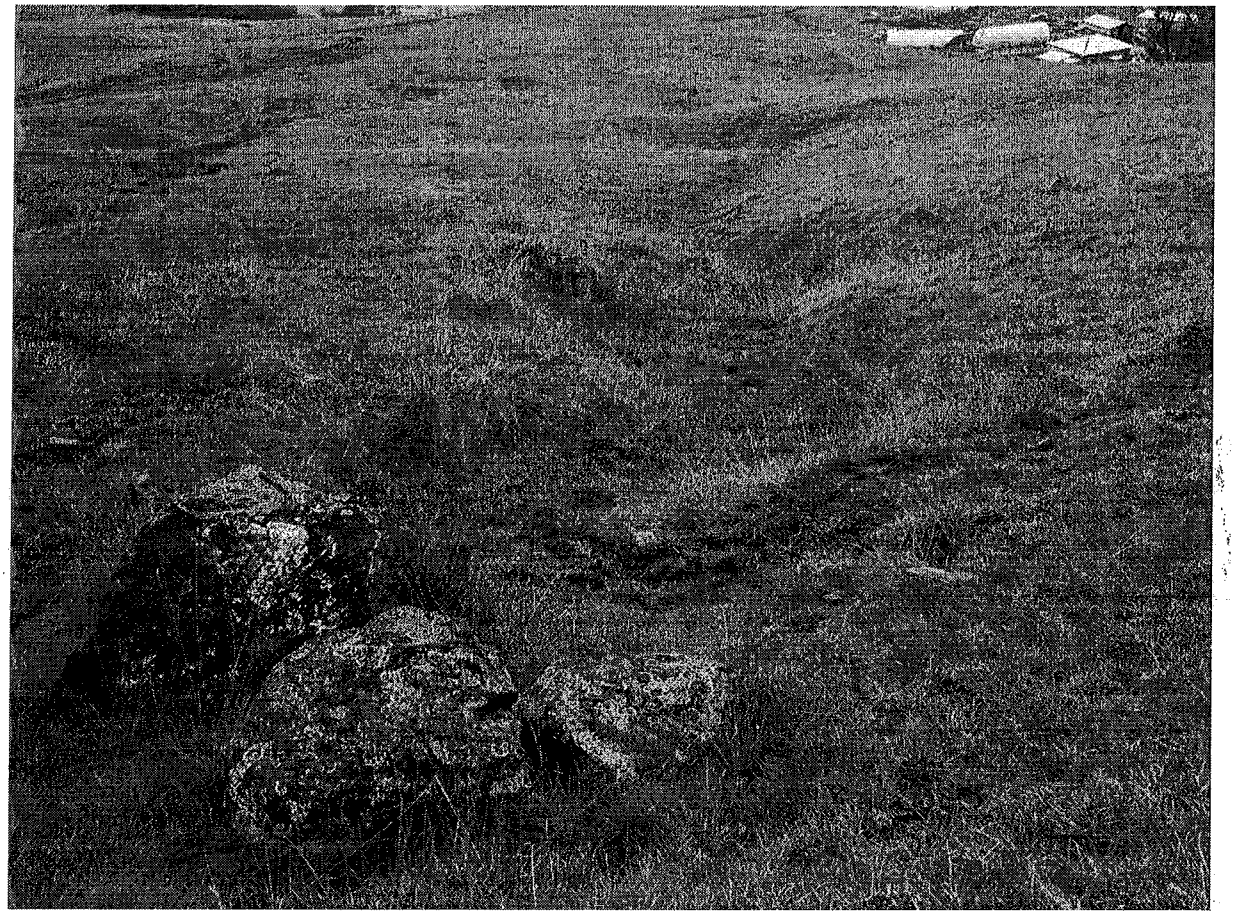


Photograph #9 – View of Stream Crossing #5 looking upstream, watercourse diverted by inboard ditch

Photographs – Continued

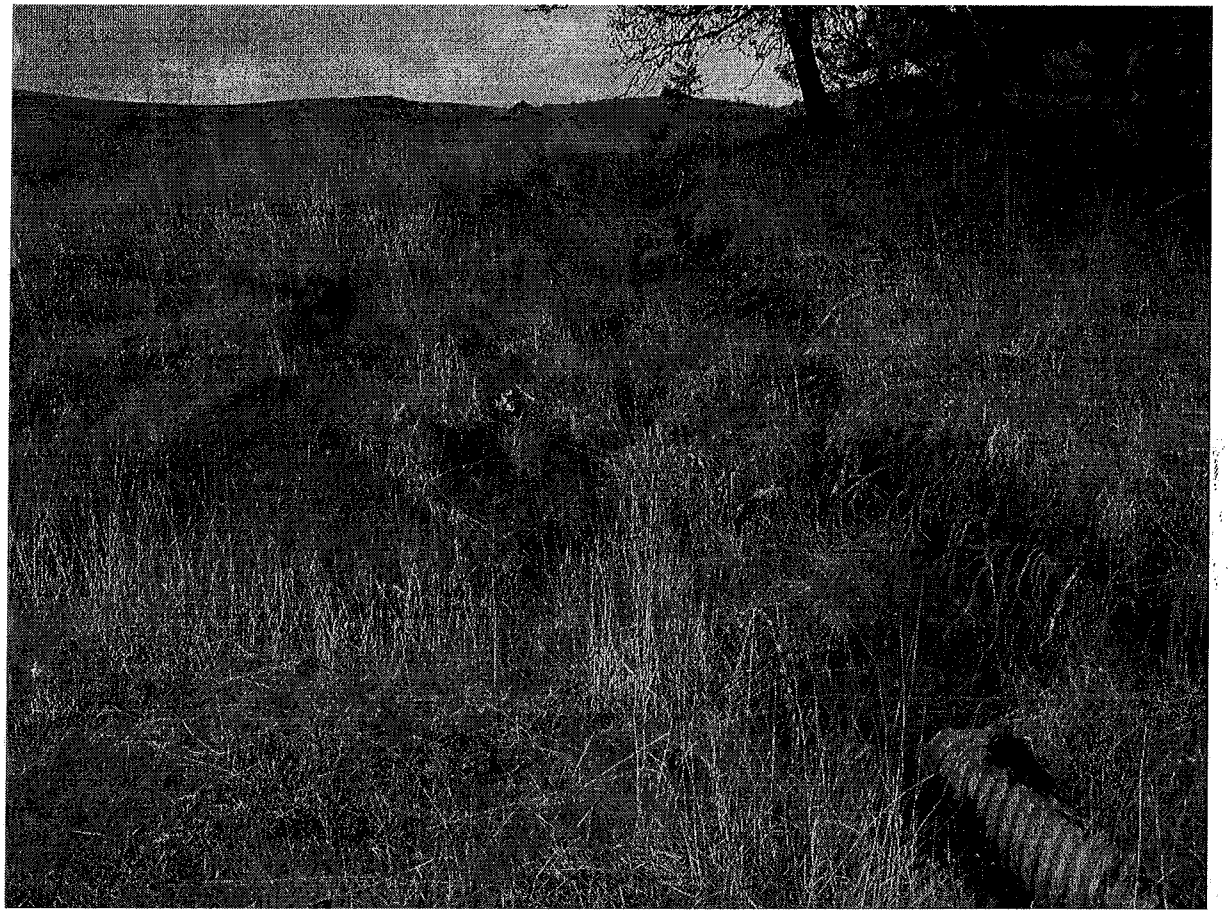
Photograph #10 – At Stream Crossing #5 and diversion via inboard ditch

Photographs – Continued



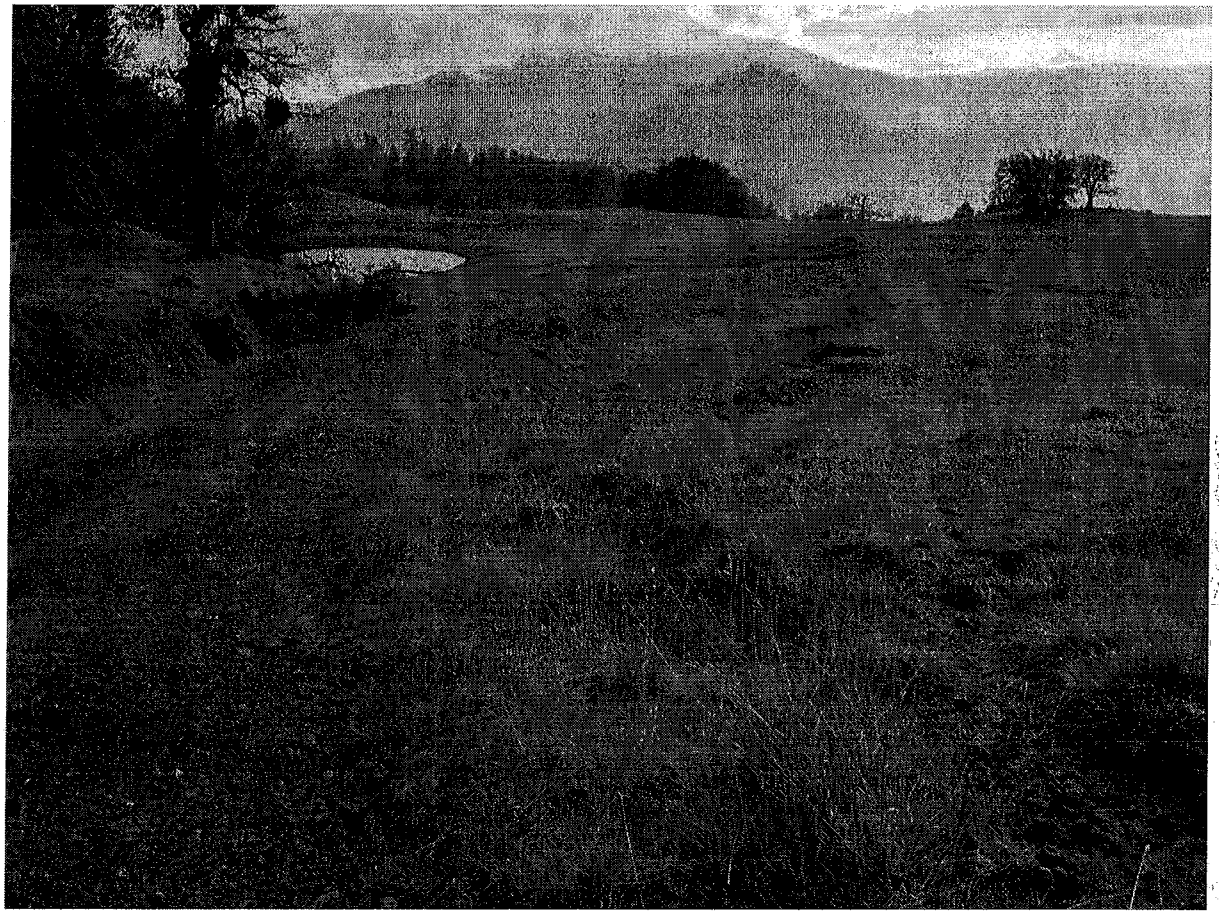
Photograph #11 – At Stream Crossing #5 and view of downstream

Photographs – Continued



Photograph #12 – At Stream Crossing #6 view upstream; culvert unrelated to previous crossing structure and inboard ditch in foreground

Photographs – Continued



Photograph #13 – At Stream Crossing #6 view downstream and inboard ditch diversion (photo left)

Photographs – Continued

Photograph #14 – At Stream Crossing #7 view upstream; downstream of Stream Crossing #6

Photographs – Continued

Photograph #15 – At Stream Crossing #7 view downstream

Photographs – Continued

Photograph #16 – At Stream Crossing #8 view upstream; downstream of Stream Crossings #4 and #5

Photographs – Continued

Photograph #17 – At Stream Crossing #8 at inlet

Photographs – Continued

Photograph #18 – At Stream Crossing #8 looking downstream at inlet of 18" PCC

Photographs – Continued

Photograph #19 – At Stream Crossing #9 view upstream

Photographs – Continued

Photograph #20 – At Stream Crossing #9 view downstream

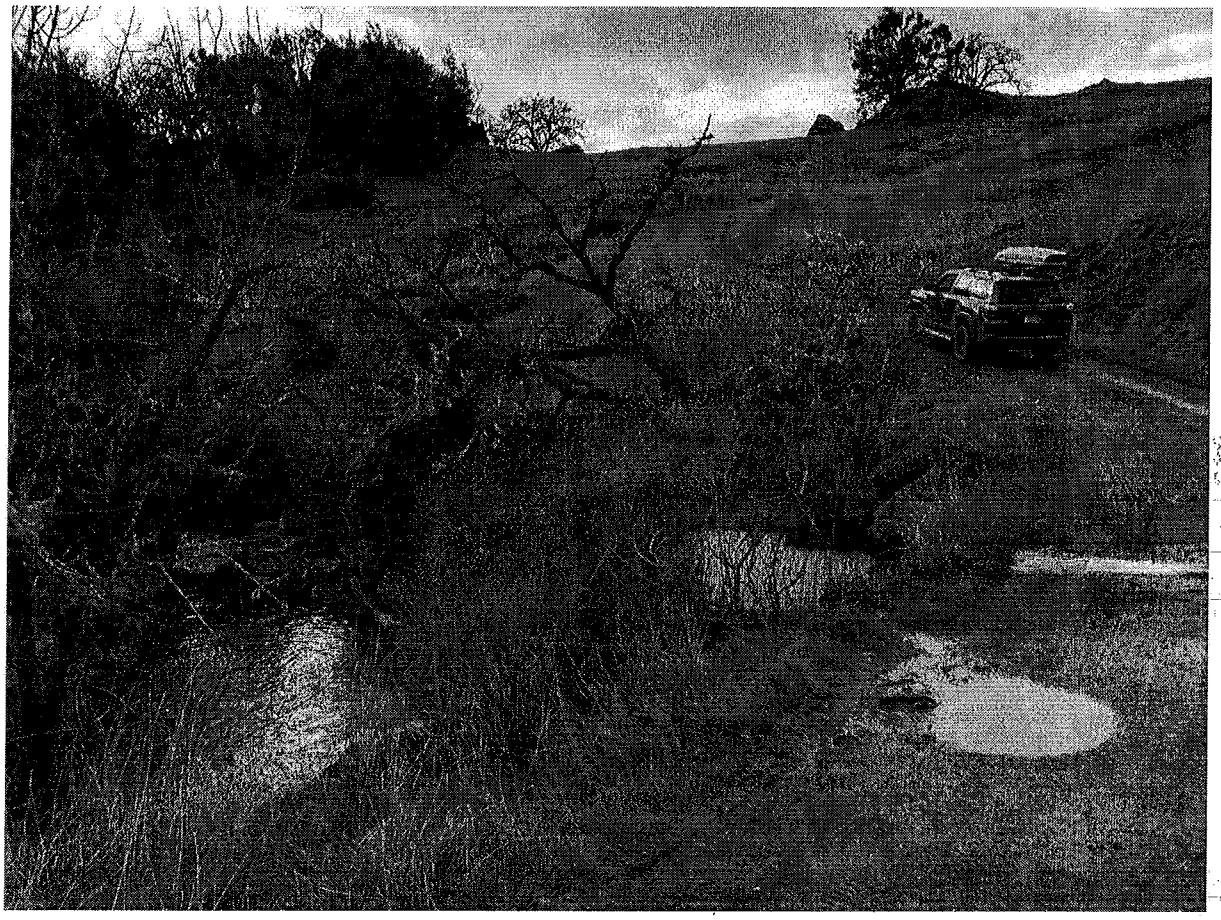
Photographs – Continued

Photograph #21 – At Stream Crossing #10 view downstream

Photographs – Continued

Photograph #22 – At Stream Crossing #10 view upstream

Photographs – Continued



Photograph #23 – At Stream Crossing #10 view downstream and access road

Photographs – Continued

Photograph #24 – At Stream Crossing #11 view upstream; inboard ditch (spring) relief culvert that is hydrologically connected to watercourse associated with Stream Crossing #10

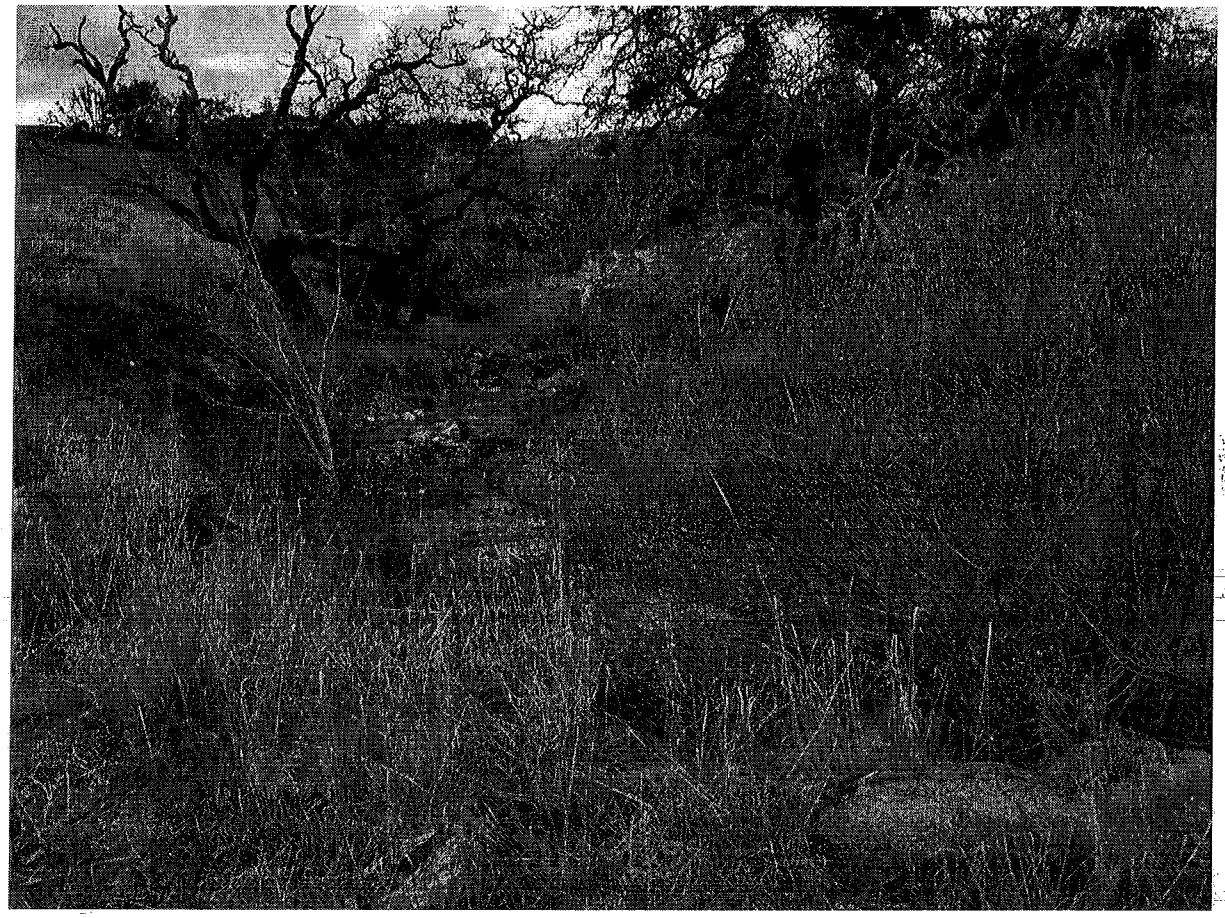
Photographs – Continued

Photograph #25 – At Stream Crossing #11 view downstream; culvert inlet

Photographs – Continued

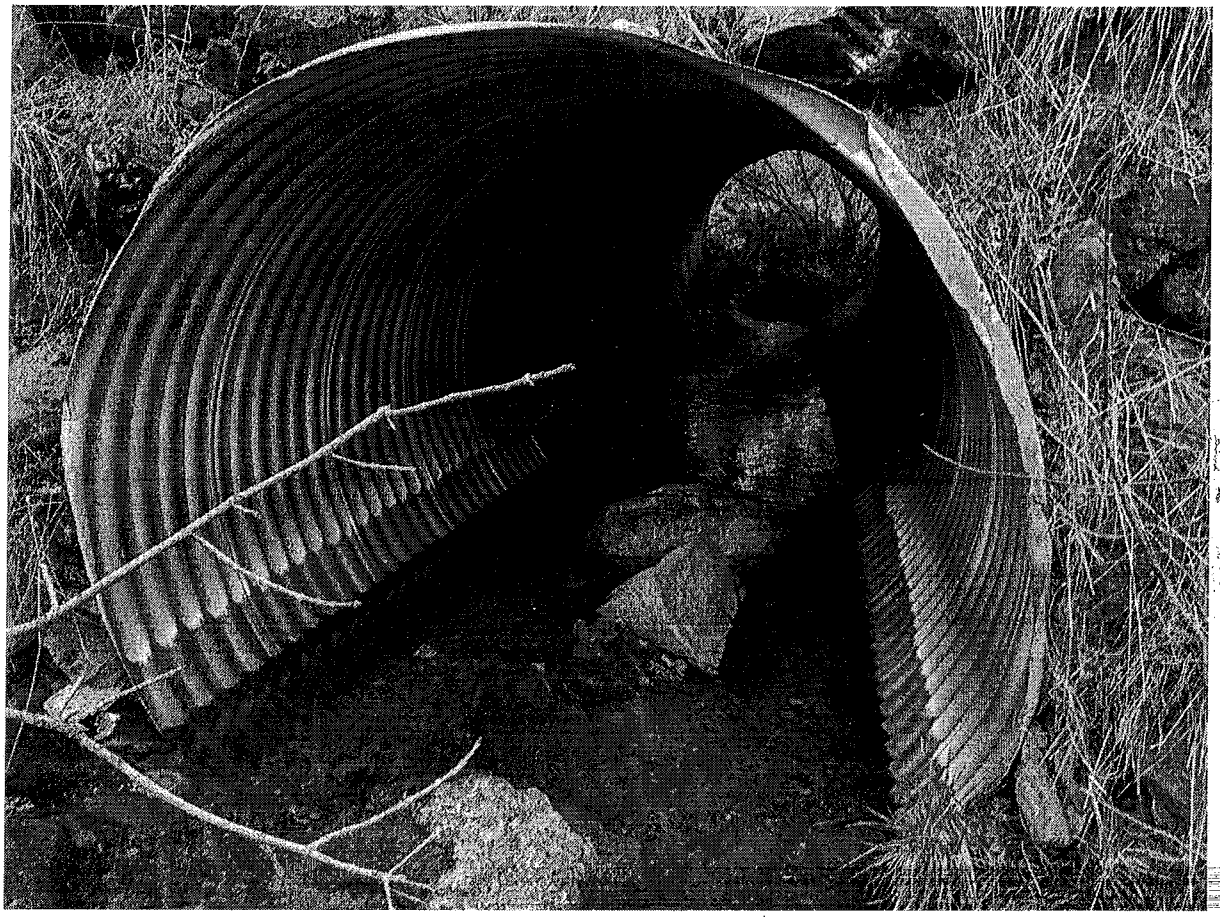
Photograph #26 – At Stream Crossing #12 view upstream; invert embedded

Photographs – Continued



Photograph #27 – At Stream Crossing #12 view upstream of inlet

Photographs – Continued

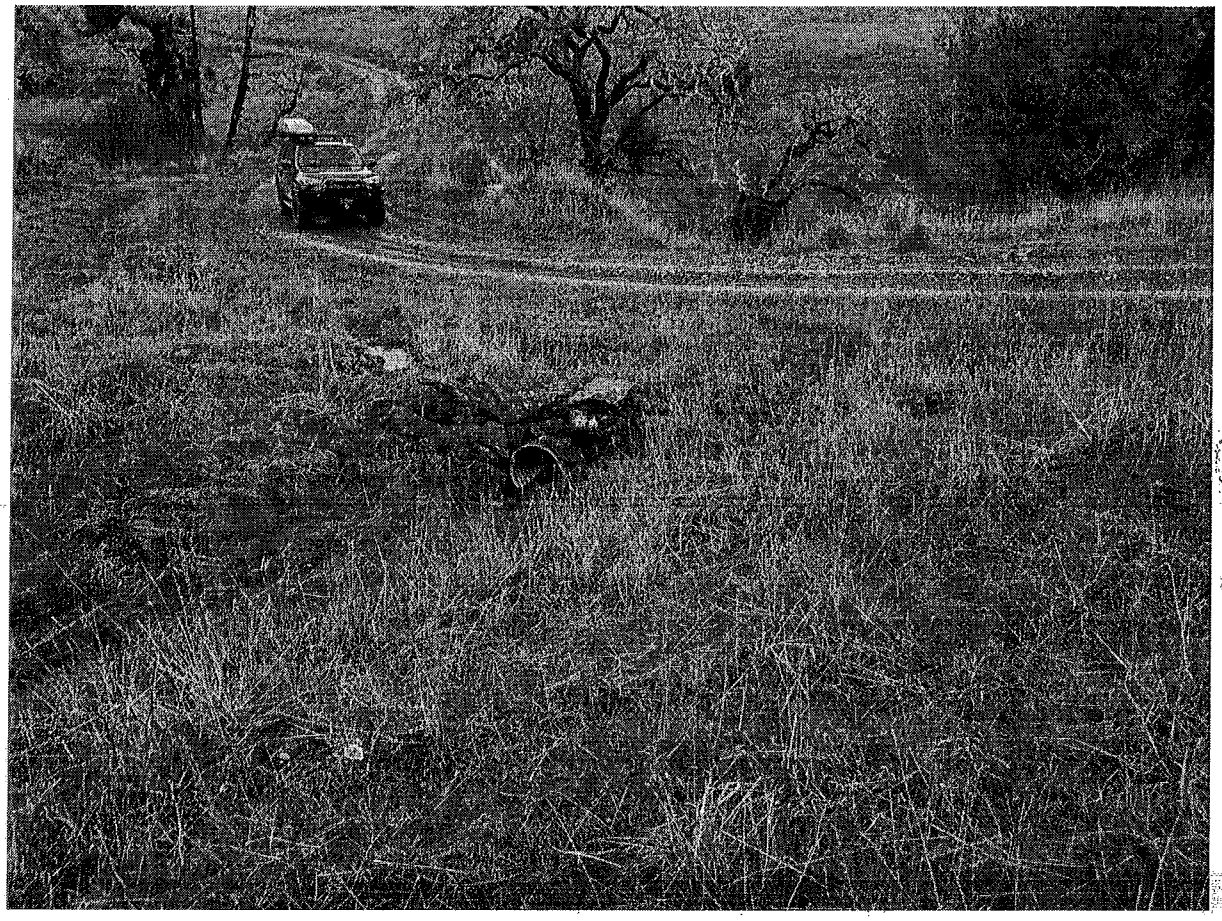


Photograph #28 – At Stream Crossing #12 view upstream of embedded invert

Photographs – Continued

Photograph #29 – At Stream Crossing #13 view upstream

Photographs – Continued



Photograph #30 – At Stream Crossing #13 view downstream

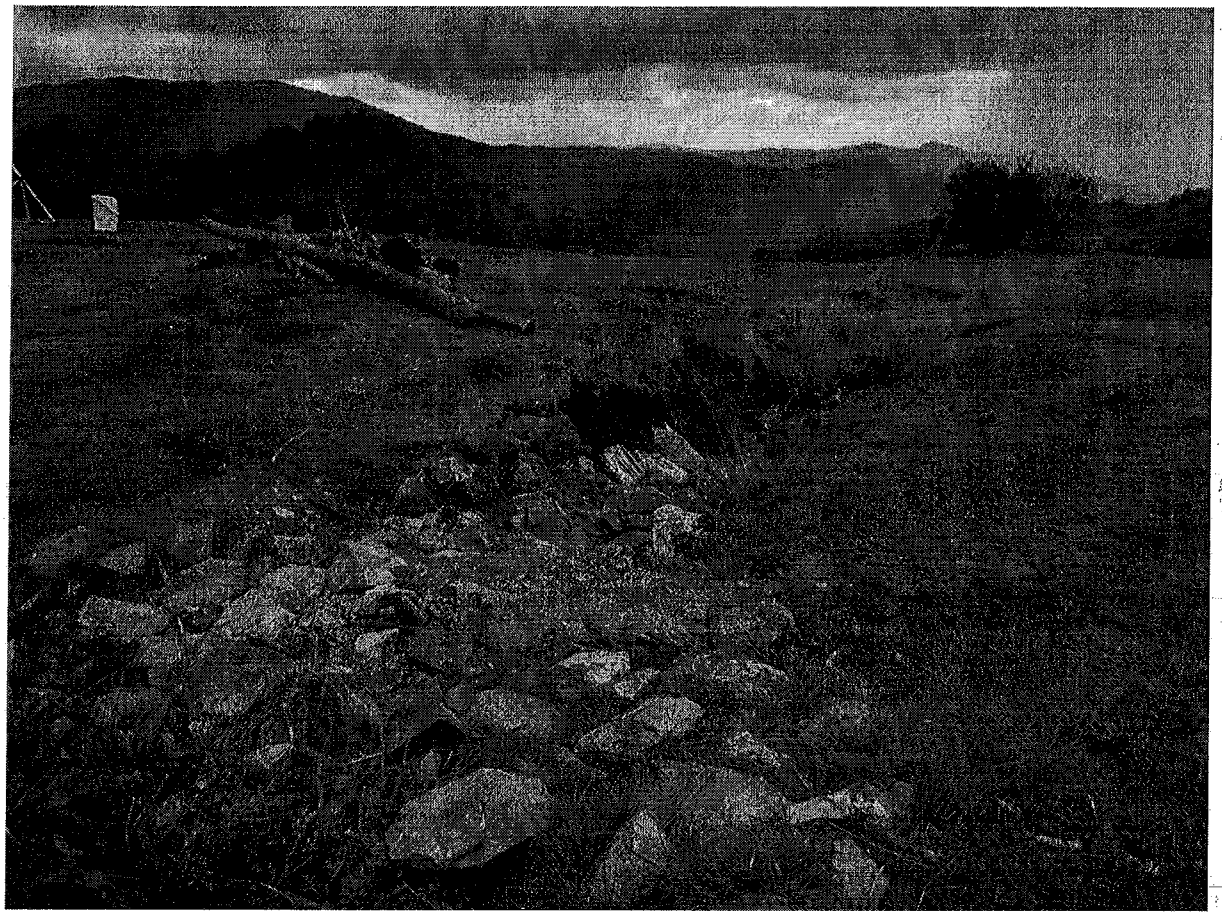
Photographs – Continued

Photograph #31 – Onstream pond associated with inboard ditch that is fed by watercourses associated with Stream Crossings #5 and #6 and location of Point of Diversion related to cannabis cultivation irrigation (1.5" PVC – direct diversion)

Photographs – Continued

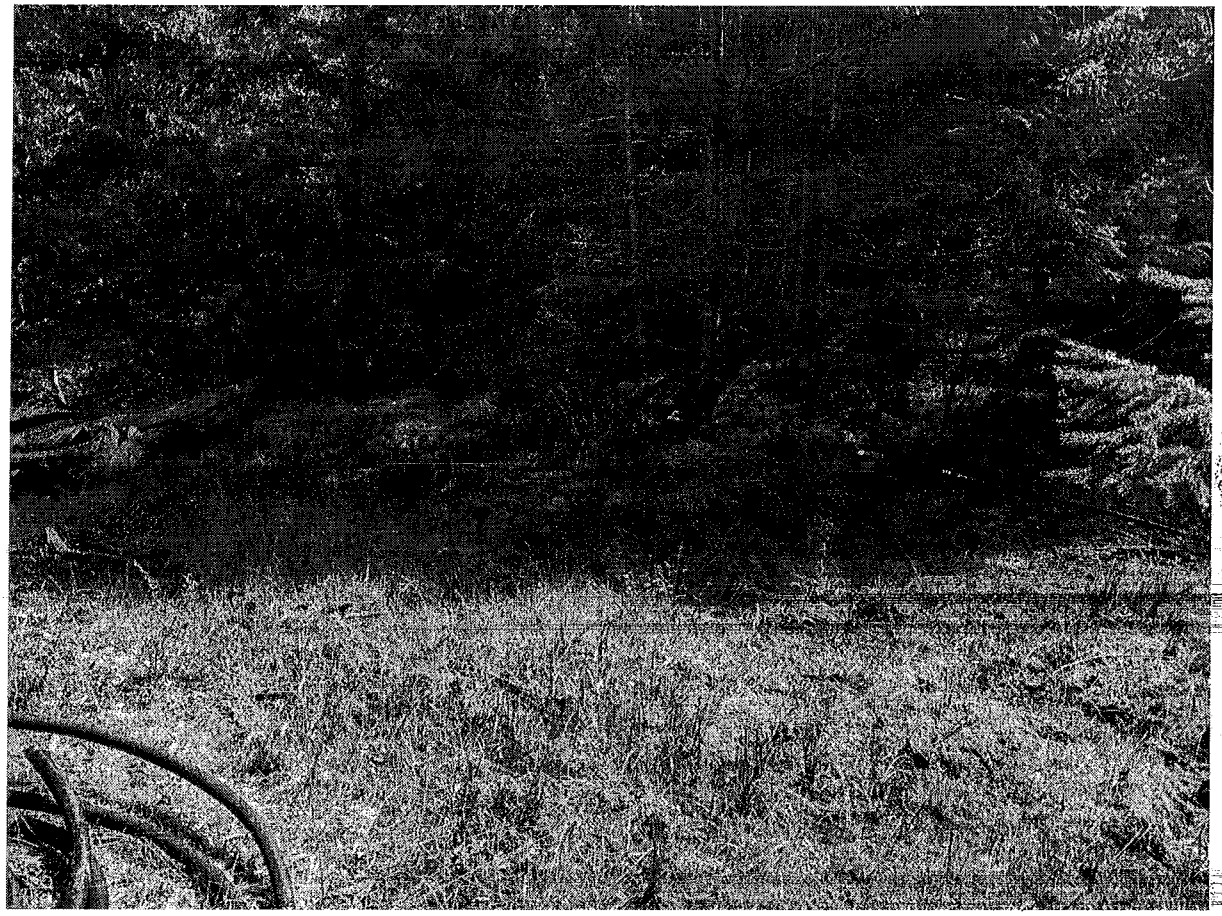
Photograph #32 – View of spillway associated with onstream pond

Photographs – Continued



Photograph #33 – View of spillway looking downstream

Photographs – Continued

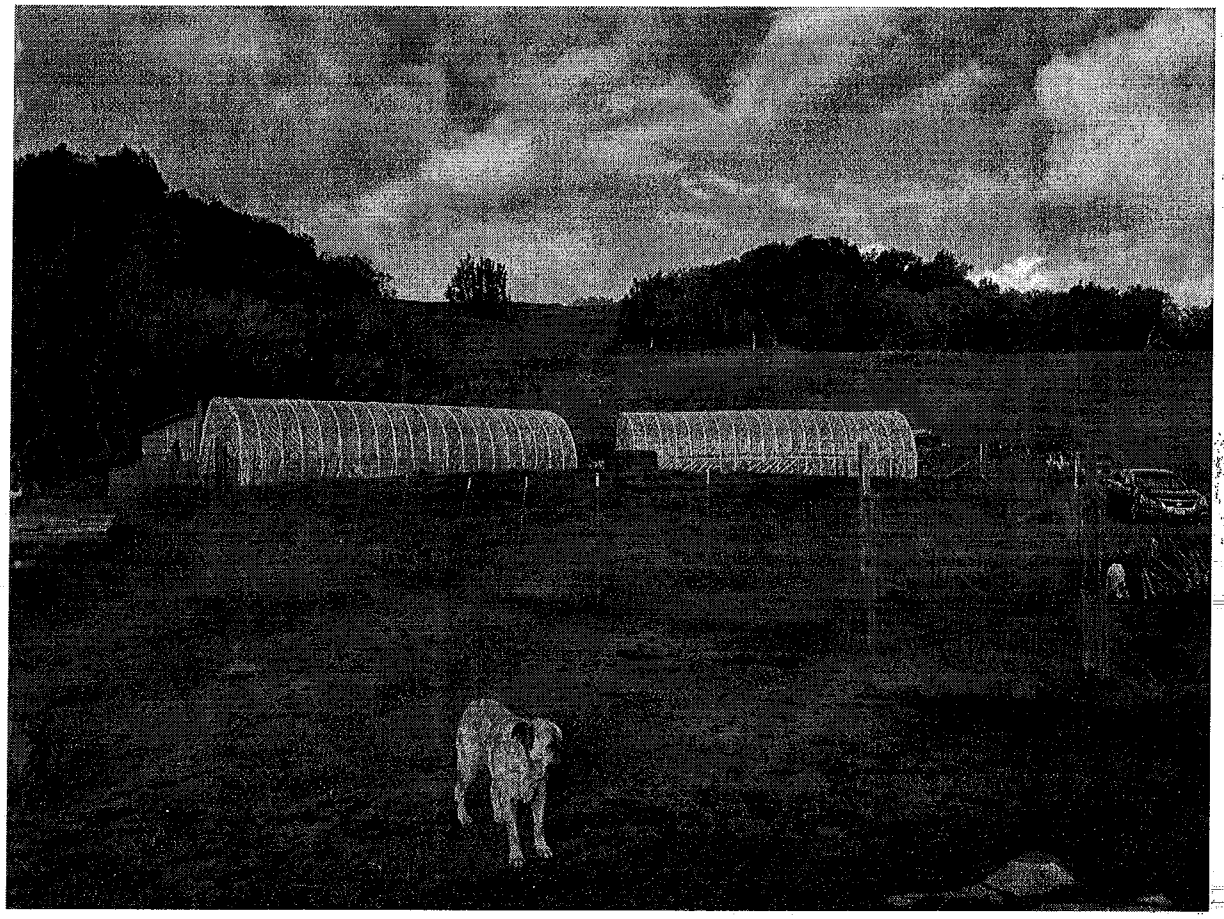


Photograph #34 – View of Point of Diversion (POD) and spring associated with domestic use (Direct Diversion)

Photographs – Continued

Photograph #35 – Wetted area adjacent to POD associated with domestic use

Photographs – Continued

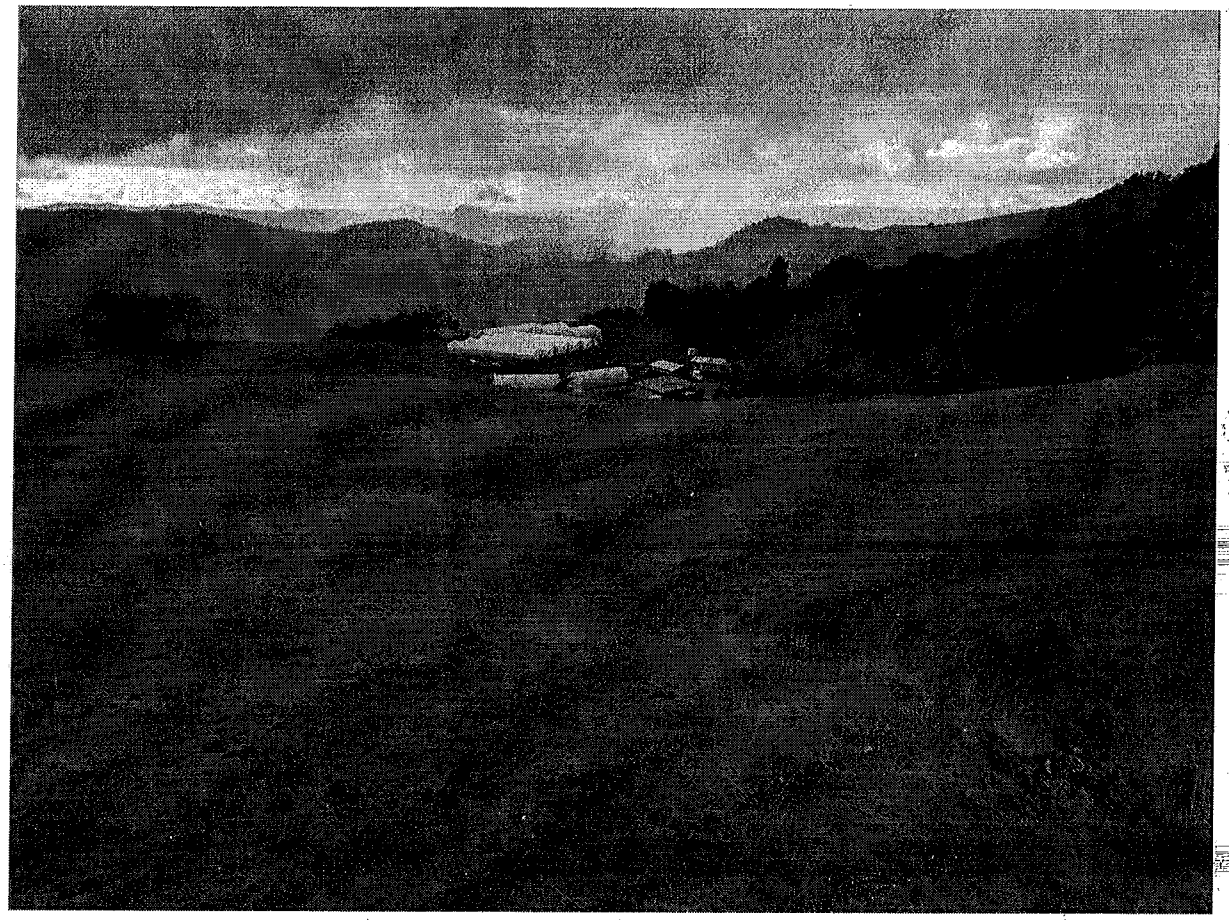


Photograph #36 – Area of water use for cannabis cultivation and domestic use

Photographs – Continued

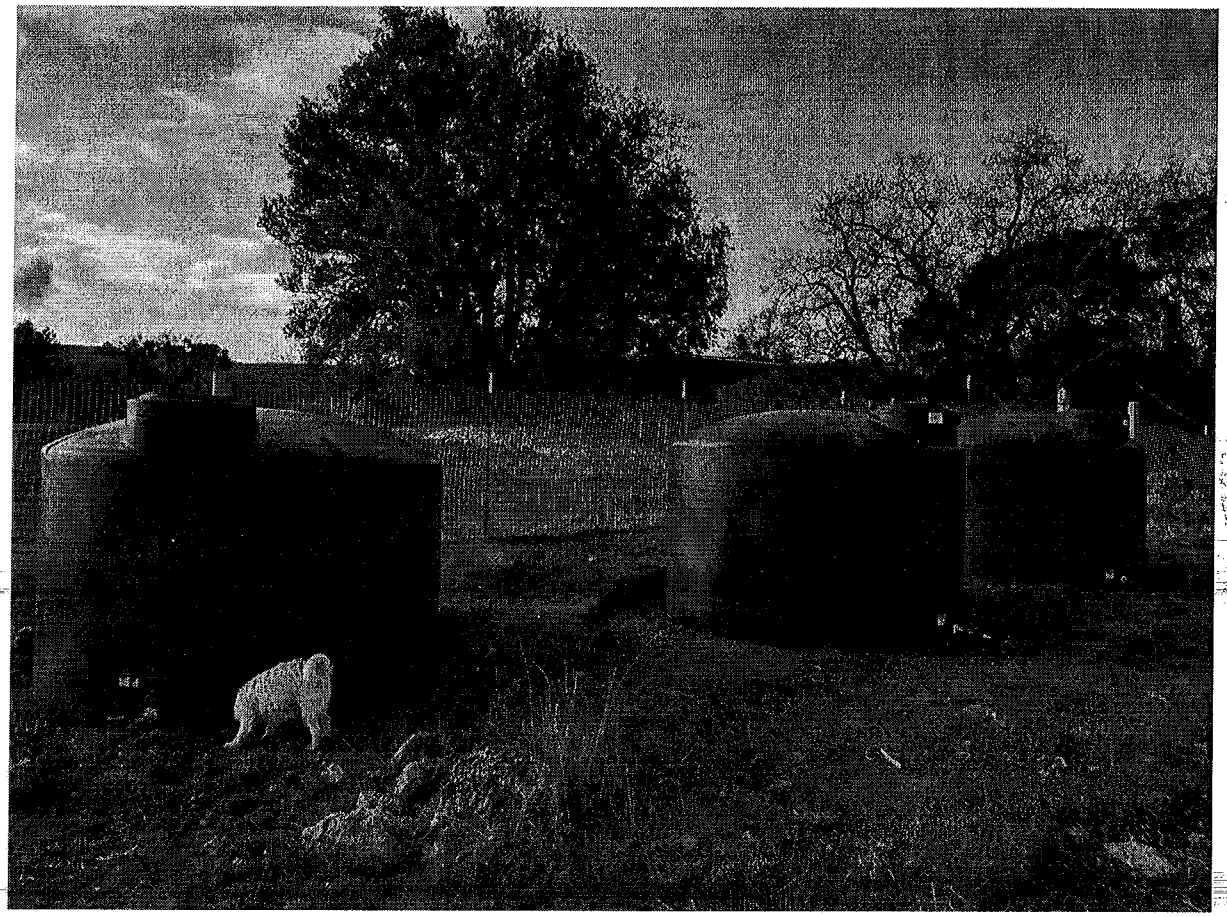
Photograph #37 – Additional water storage (2x 50,000 gallon tanks) and groundwater well in foreground

Photographs – Continued



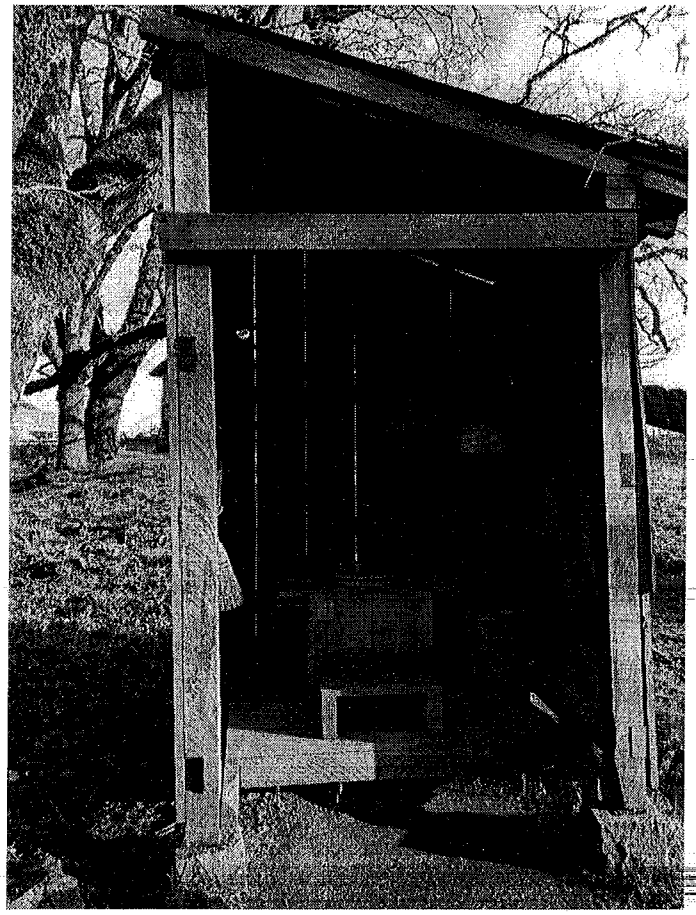
Photograph #38 – Area of water use; Cultivation and domestic activities

Photographs – Continued



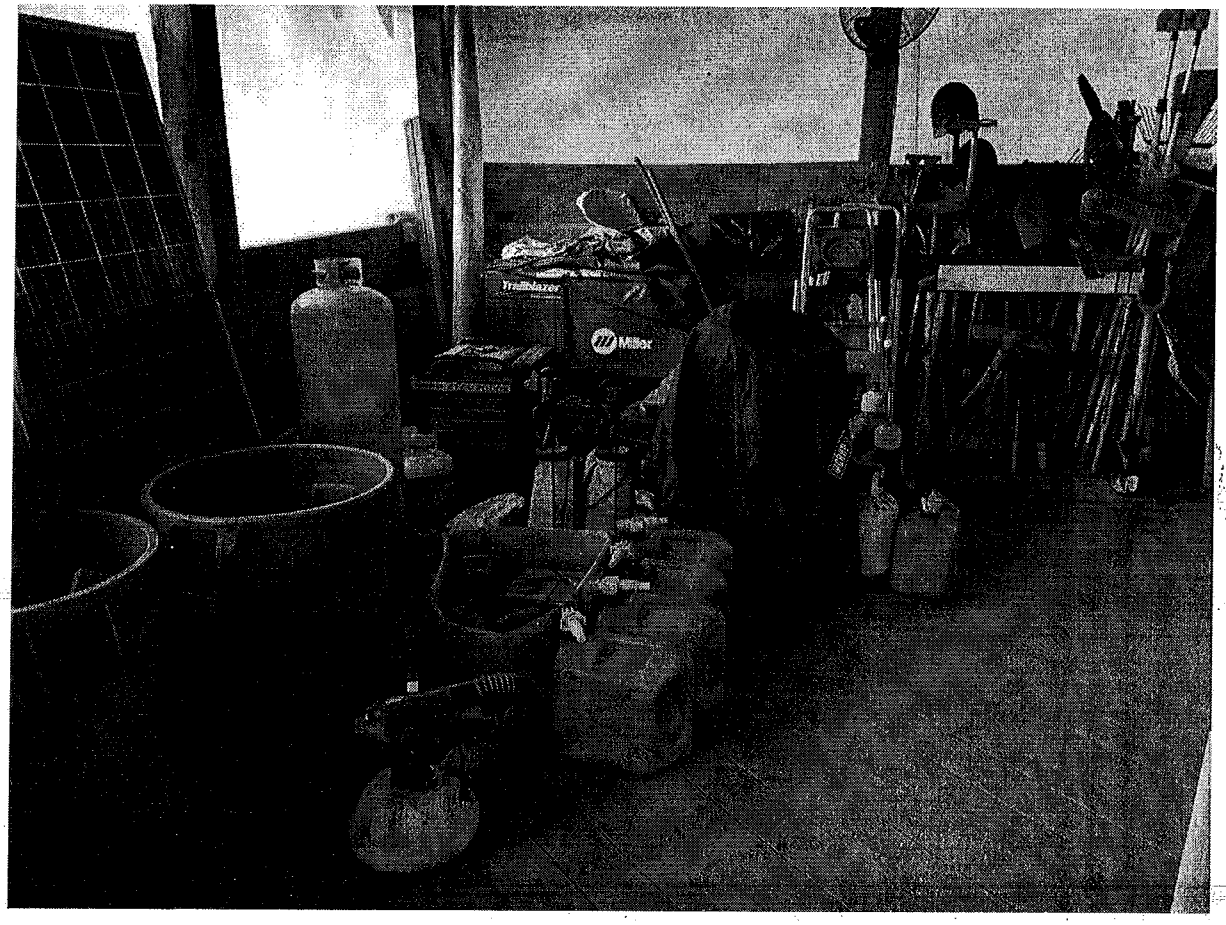
Photograph #39 – Additional water storage on site

Photographs – Continued



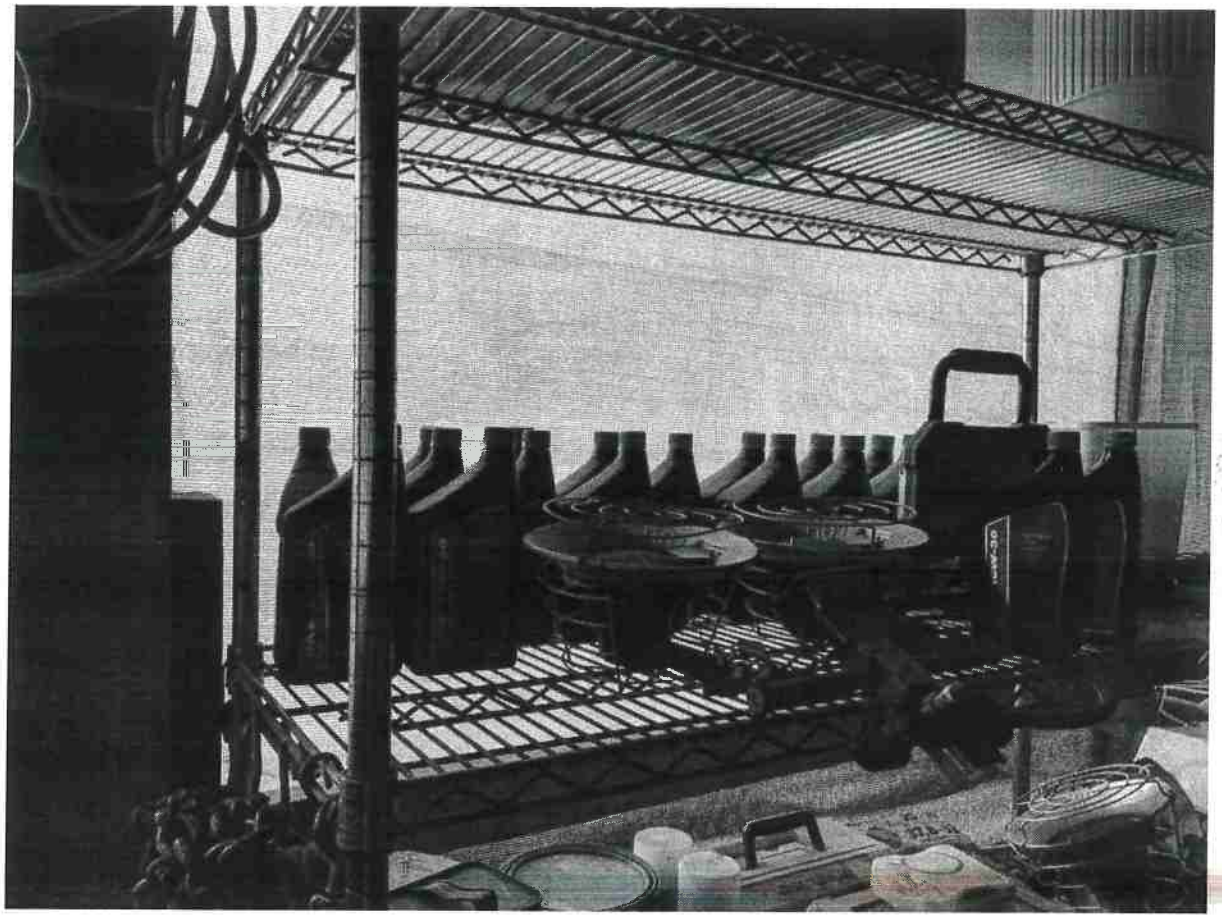
Photograph #40 – Composting Toilet

Photographs – Continued



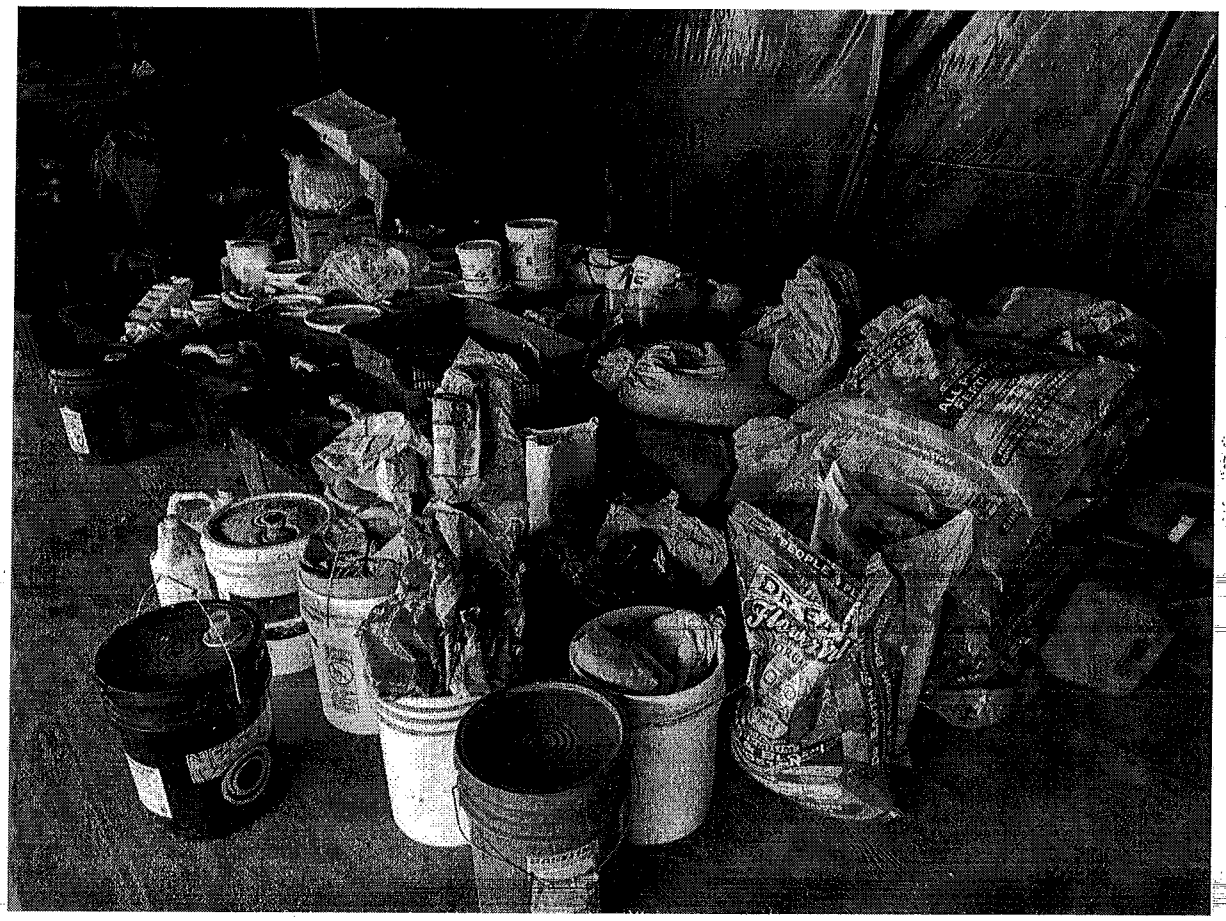
Photograph #41– Fuel Storage within enclosed and secure structure adjacent to greenhouse area

Photographs – Continued



Photograph #42– Oil used for generators; Stored within an enclosed and secure structure adjacent to greenhouse area

Photographs – Continued



Photograph #43– Active fertilizer storage area; Structure adjacent to RP1 and SC3

Photographs – Continued

Photograph #44– Oil and other chemicals used for generators and vehicles; Stored within an enclosed and secure structure adjacent to RP1 and SC3

Photographs – Continued

Photograph #45– Structure within Class III watercourse riparian area; Upstream of SC8; Further consultation with county and state agencies to determine variance options

Photographs – Continued

Photograph #46– Outdoor cultivation area out beyond season road where SC11 is located

Photographs – Continued

Photograph #47– Outdoor area adjacent to greenhouses

Attachment 4

Hydraulic Calculations

Determination of 100-Year Flood Flow

Location: THP

(Enter data in fields with red-colored headings. Other data fields will be calculated automatically.)

Magnitude and Frequency Method for 100-year flood flow (A > 50 acres)

No.	Crossing	Area (acres) A	Basin maximum elevation (ft)	Crossing elevation (ft)	Area (mi^2) A	Avg. Annual Precipitation (in/yr) P	Average Basin Elevation H	100-yr flood flow Q_{100} (cfs) North Coast[1] (NC)	Sierra[2] (S)	North-east[3] (NE)	Central Coast[4] (CC)
1	*SC-1*	12.2	2551	2173	0.019	70	2362	***16.7***	***18.0***	***29.8***	***27.0***
2	*SC-2*	1.63	2198	2110	0.003	70	2154	***2.9***	***3.2***	***6.8***	***5.0***
3	*SC-3*	55.9	2551	1989	0.087	70	2270	***62.3***	***68.8***	***90.7***	***96.8***
4	*SC-4*	1.45	2016	1925	0.002	70	1970.5	***2.6***	***2.9***	***6.3***	***4.5***
5	*SC-5*	2.26	2039	1890	0.004	70	1964.5	***3.9***	***4.3***	***8.7***	***6.5***
6	*SC-6*	4.65	2077	1879	0.007	70	1978	***7.2***	***8.1***	***14.7***	***12.0***
7	*SC-7*	5.78	2077	1803	0.009	70	1940	***8.7***	***9.8***	***17.3***	***14.4***
8	*SC-8*	12.5	2036	1764	0.020	70	1900	***17.0***	***19.4***	***30.3***	***27.5***
9	*SC-9*	5.34	1964	1774	0.008	70	1869	***8.2***	***9.3***	***16.3***	***13.5***
10	*SC-10*	841.9	3804	1783	1.315	70	2793.5	***652.7***	***698.8***	***658.4***	***945.0***

See below for M&F equations

Rational Method for 100-year flood flow (A < 200 acres, best < 100 acres)

No.	Crossing	$T_c = 60((11.9 \times L^3)/H)^{0.385}$ Channel length (to top of basin) (mi) L	Elevation difference (ft) H	Concentration time (min) Tc	$Q_{100} = CIA$ Runoff coefficient C	100-year Return-Period Precipitation (in/hr) I*	Area (acres) A	100-yr flood flow (cfs) Q100
1	*SC-1*	0.35	378	*5*	0.3	3.79	12.2	***13.9***
2	*SC-2*	0.09	88	*2*	0.3	3.79	1.63	***1.9***
3	*SC-3*	0.57	562	*7*	0.3	3.79	55.9	***63.6***
4	*SC-4*	0.09	91	*2*	0.3	3.79	1.45	***1.6***
5	*SC-5*	0.12	149	*2*	0.3	3.79	2.26	***2.6***
6	*SC-6*	0.19	198	*3*	0.3	3.79	4.65	***5.3***
7	*SC-7*	0.29	274	*4*	0.3	3.79	5.78	***6.6***
8	*SC-8*	0.26	272	*4*	0.3	3.79	12.5	***14.2***
9	*SC-9*	0.14	190	*2*	0.3	3.79	5.34	***6.1***
10	*SC-10*	1.97	2021	*18*	0.3	2.87	841.9	***724.9***

**Use 100-yr precipitation of duration similar to Tc or for 10 min, whichever is larger; convert to in/hr for input as "I"*

Magnitude & Frequency Q_{100} equations

NC (1) $Q_{100} = 48.5(A)^{0.866}(P)^{0.556}$

S (2) $Q_{100} = 20.6\,(A)^{0.874}(P)^{1.24}(H)^{-0.250}$

NE (3) $Q_{100} = 0.713\,(A)^{0.731}(P)^{1.56}$

CC (4) $Q_{100} = 11.0\,(A)^{0.84}(P)^{0.994}$

Determination of 100-Year Flood Flow

Location: THP

(Enter data in fields with red-colored headings. Other data fields will be calculated automatically.)

Magnitude and Frequency Method for 100-year flood flow (A > 50 acres)

No.	Crossing	Area (acres) A	Basin maximum elevation (ft)	Crossing elevation (ft)	Area (mi^2) A	Avg. Annual Precipitation (in/yr) P	Average Basin Elevation H	100-yr flood flow Q_{100} (cfs) North Coast[1] (NC)	Sierra[2] (S)	North-east[3] (NE)	Central Coast[4] (CC)
1	*SC-11*	1.51	1896	1816	0.002	70	1856	*2.7*	*3.1*	*6.5*	*4.7*
2	*SC-12*	307	3023	1866	0.480	70	2444.5	*272.5*	*299.2*	*314.9*	*405.0*
3	*SC-13*	19.8	2181	1871	0.031	70	2026	*25.4*	*28.6*	*42.5*	*40.5*
4	*Spillway*	7.3	2012	1825	0.011	70	1918.5	*10.7*	*12.1*	*20.5*	*17.5*
5					0.000		0	*0.0*	*#DIV/0!*	*0.0*	*0.0*
6					0.000		0	*0.0*	*#DIV/0!*	*0.0*	*0.0*
7					0.000		0	*0.0*	*#DIV/0!*	*0.0*	*0.0*
8					0.000		0	*0.0*	*#DIV/0!*	*0.0*	*0.0*
9					0.000		0	*0.0*	*#DIV/0!*	*0.0*	*0.0*
10					0.000		0	*0.0*	*#DIV/0!*	*0.0*	*0.0*

See below for M&F equations

Rational Method for 100-year flood flow (A < 200 acres, best < 100 acres)

No.	Crossing	$T_c = 60((11.9 \times L^3)/H)^{0.385}$ Channel length (to top of basin) (mi) L	Elevation difference (ft) H	Concentration time (min) Tc	$Q_{100} = CIA$ Runoff coefficient C	100-year Return-Period Precipitation (in/hr) I*	Area (acres) A	100-yr flood flow (cfs) Q100
1	*SC-11*	0.07	80	*1*	0.3	3.79	1.51	*1.7*
2	*SC-12*	1.2	1157	*13*	0.3	3.5	307	*322.4*
3	*SC-13*	0.41	310	*6*	0.3	3.79	19.8	*22.5*
4	*Spillway*	0.16	187	*3*	0.3	3.79	7.3	*8.3*
5			0	*#DIV/0!*			0	*0.0*
6			0	*#DIV/0!*			0	*0.0*
7			0	*#DIV/0!*			0	*0.0*
8			0	*#DIV/0!*			0	*0.0*
9			0	*#DIV/0!*			0	*0.0*
10			0	*#DIV/0!*			0	*0.0*

**Use 100-yr precipitation of duration similar to Tc or for 10 min, whichever is larger; convert to in/hr for input as "I"*

Magnitude & Frequency Q_{100} equations

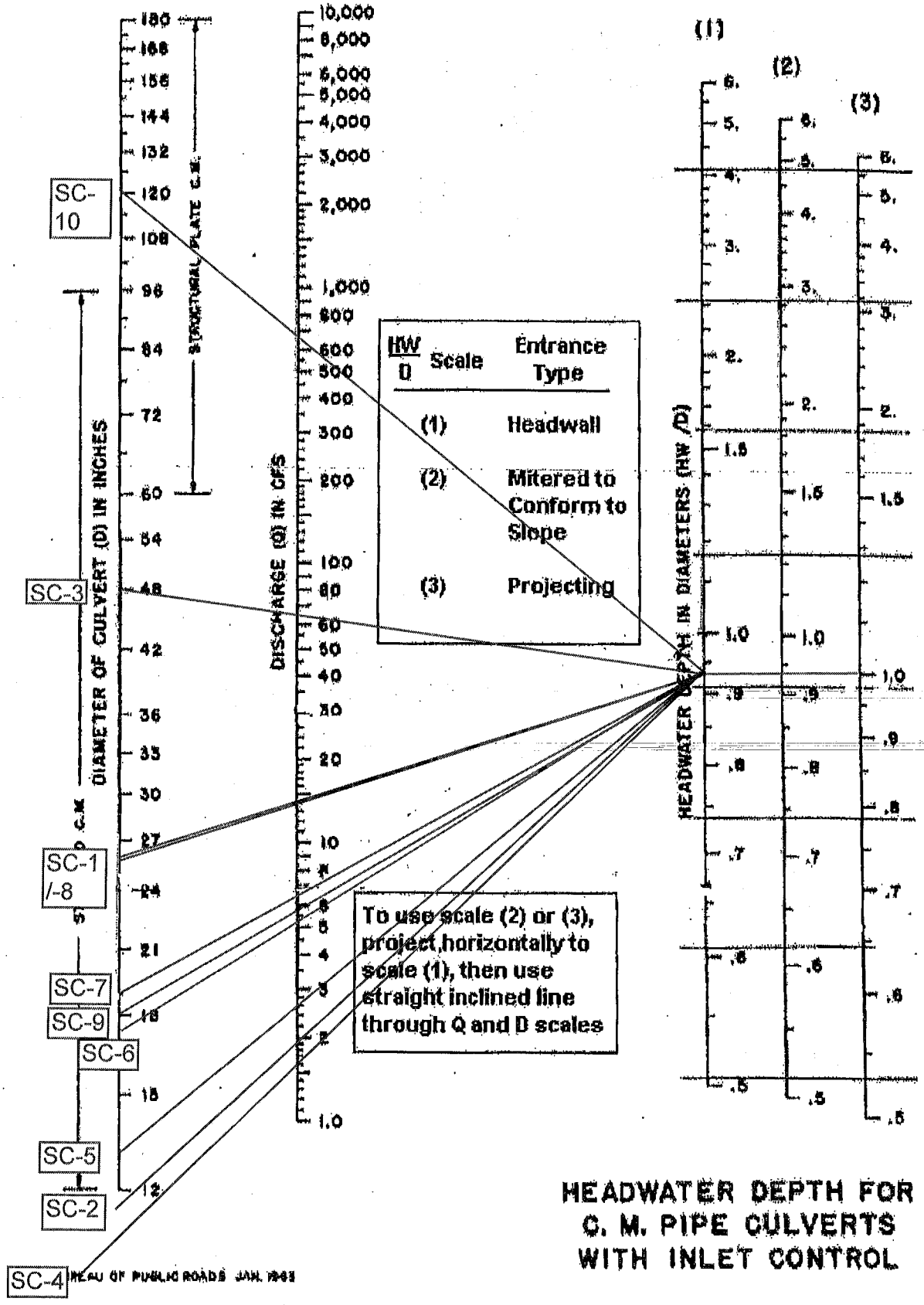
NC (1) $Q_{100} = 48.5(A)^{0.866}(P)^{0.556}$

S (2) $Q_{100} = 20.6\,(A)^{0.874}(P)^{1.24}(H)^{-0.250}$

NE (3) $Q_{100} = 0.713\,(A)^{0.731}(P)^{1.56}$

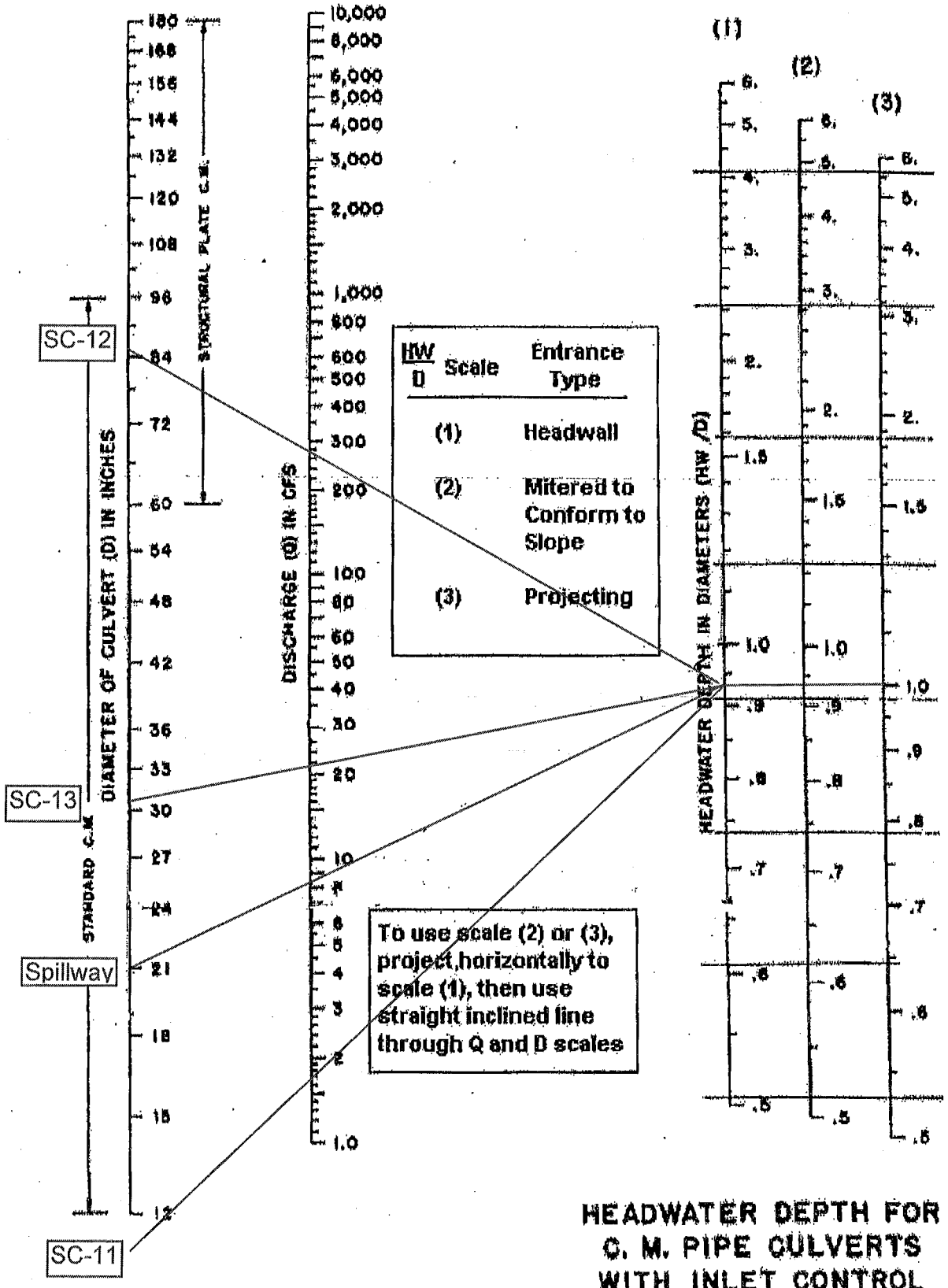
CC (4) $Q_{100} = 11.0\,(A)^{0.84}(P)^{0.994}$

Ambiguity Farms
SC-1 to SC-10



HEADWATER DEPTH FOR C. M. PIPE CULVERTS WITH INLET CONTROL

BUREAU OF PUBLIC ROADS JAN. 1963



HEADWATER DEPTH FOR C. M. PIPE CULVERTS WITH INLET CONTROL

BUREAU OF PUBLIC ROADS JAN. 1963

Precipitation Frequency Data Server

NOAA Atlas 14, Volume 6, Version 2
Location name: Garberville, California, USA*
Latitude: 40.0881°, Longitude: -123.7034°
Elevation: 1970.66 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	2.46 (2.20-2.84)	2.94 (2.58-3.36)	3.54 (3.11-4.08)	4.06 (3.53-4.72)	4.79 (4.00-5.78)	5.36 (4.37-6.65)	5.98 (4.73-7.62)	6.62 (5.08-8.74)	7.56 (5.52-10.5)	8.32 (5.83-12.0)
10-min	1.78 (1.57-2.04)	2.11 (1.85-2.41)	2.54 (2.23-2.92)	2.91 (2.53-3.38)	3.43 (2.87-4.15)	3.85 (3.13-4.76)	4.28 (3.39-5.46)	4.75 (3.64-6.26)	5.42 (3.95-7.49)	5.96 (4.18-8.58)
15-min	1.44 (1.26-1.64)	1.70 (1.49-1.94)	2.05 (1.80-2.36)	2.35 (2.04-2.72)	2.76 (2.31-3.34)	3.10 (2.53-3.84)	3.45 (2.74-4.40)	3.83 (2.94-5.04)	4.37 (3.19-6.04)	4.81 (3.37-6.92)
30-min	0.996 (0.878-1.14)	1.18 (1.04-1.35)	1.42 (1.25-1.63)	1.63 (1.42-1.89)	1.92 (1.60-2.32)	2.15 (1.75-2.66)	2.39 (1.90-3.05)	2.66 (2.04-3.50)	3.03 (2.21-4.19)	3.33 (2.34-4.80)
60-min	0.684 (0.603-0.783)	0.808 (0.712-0.927)	0.976 (0.857-1.12)	1.12 (0.972-1.30)	1.32 (1.10-1.59)	1.48 (1.20-1.83)	1.65 (1.30-2.10)	1.83 (1.40-2.40)	2.08 (1.52-2.88)	2.29 (1.61-3.30)
2-hr	0.544 (0.480-0.622)	0.644 (0.567-0.738)	0.777 (0.682-0.894)	0.888 (0.772-1.03)	1.04 (0.872-1.26)	1.17 (0.950-1.44)	1.29 (1.02-1.65)	1.43 (1.09-1.88)	1.62 (1.18-2.24)	1.77 (1.24-2.55)
3-hr	0.487 (0.430-0.558)	0.576 (0.507-0.661)	0.696 (0.610-0.799)	0.793 (0.689-0.921)	0.928 (0.776-1.12)	1.03 (0.843-1.26)	1.15 (0.907-1.46)	1.28 (0.967-1.66)	1.43 (1.04-1.97)	1.56 (1.09-2.24)
6-hr	0.394 (0.348-0.451)	0.466 (0.411-0.535)	0.562 (0.493-0.646)	0.640 (0.557-0.744)	0.747 (0.625-0.903)	0.831 (0.678-1.03)	0.917 (0.727-1.17)	1.01 (0.772-1.33)	1.13 (0.827-1.57)	1.23 (0.865-1.77)
12-hr	0.295 (0.260-0.337)	0.352 (0.310-0.404)	0.427 (0.375-0.492)	0.489 (0.426-0.568)	0.574 (0.480-0.694)	0.640 (0.522-0.793)	0.707 (0.560-0.902)	0.778 (0.596-1.02)	0.876 (0.640-1.21)	0.963 (0.669-1.37)
24-hr	0.215 (0.193-0.244)	0.260 (0.233-0.296)	0.319 (0.285-0.364)	0.367 (0.326-0.423)	0.433 (0.373-0.514)	0.484 (0.408-0.586)	0.536 (0.442-0.664)	0.591 (0.475-0.750)	0.666 (0.515-0.878)	0.725 (0.543-0.966)
2-day	0.150 (0.134-0.170)	0.183 (0.164-0.208)	0.226 (0.202-0.259)	0.260 (0.230-0.299)	0.306 (0.263-0.363)	0.340 (0.287-0.412)	0.375 (0.310-0.465)	0.411 (0.330-0.522)	0.459 (0.355-0.606)	0.497 (0.372-0.677)
3-day	0.120 (0.108-0.136)	0.147 (0.132-0.168)	0.182 (0.162-0.208)	0.209 (0.186-0.241)	0.246 (0.211-0.292)	0.273 (0.230-0.330)	0.300 (0.248-0.372)	0.329 (0.264-0.416)	0.365 (0.282-0.481)	0.393 (0.294-0.535)
4-day	0.101 (0.091-0.115)	0.124 (0.111-0.141)	0.153 (0.137-0.175)	0.176 (0.156-0.203)	0.207 (0.178-0.245)	0.229 (0.193-0.277)	0.252 (0.208-0.312)	0.274 (0.220-0.348)	0.304 (0.235-0.402)	0.327 (0.245-0.446)
7-day	0.071 (0.064-0.081)	0.087 (0.078-0.100)	0.107 (0.096-0.123)	0.123 (0.109-0.142)	0.144 (0.124-0.171)	0.159 (0.134-0.193)	0.174 (0.144-0.216)	0.190 (0.152-0.241)	0.210 (0.162-0.277)	0.225 (0.169-0.307)
10-day	0.058 (0.052-0.066)	0.070 (0.063-0.080)	0.086 (0.077-0.098)	0.099 (0.087-0.113)	0.115 (0.099-0.136)	0.127 (0.107-0.153)	0.138 (0.114-0.171)	0.150 (0.121-0.190)	0.165 (0.128-0.218)	0.177 (0.132-0.241)
20-day	0.039 (0.035-0.044)	0.047 (0.042-0.054)	0.058 (0.052-0.066)	0.066 (0.058-0.076)	0.076 (0.065-0.090)	0.083 (0.070-0.100)	0.090 (0.074-0.111)	0.097 (0.078-0.123)	0.105 (0.081-0.139)	0.111 (0.083-0.151)
30-day	0.032 (0.028-0.036)	0.039 (0.035-0.044)	0.047 (0.042-0.054)	0.054 (0.047-0.062)	0.061 (0.053-0.073)	0.067 (0.056-0.081)	0.072 (0.059-0.089)	0.077 (0.062-0.097)	0.083 (0.064-0.109)	0.087 (0.065-0.118)
45-day	0.027 (0.024-0.031)	0.033 (0.030-0.038)	0.040 (0.036-0.046)	0.045 (0.040-0.052)	0.052 (0.044-0.061)	0.056 (0.047-0.068)	0.060 (0.049-0.074)	0.063 (0.051-0.080)	0.068 (0.052-0.089)	0.071 (0.053-0.096)
60-day	0.024 (0.021-0.027)	0.029 (0.026-0.033)	0.036 (0.032-0.041)	0.040 (0.035-0.046)	0.045 (0.039-0.053)	0.049 (0.041-0.059)	0.052 (0.043-0.064)	0.054 (0.044-0.069)	0.058 (0.045-0.076)	0.060 (0.045-0.082)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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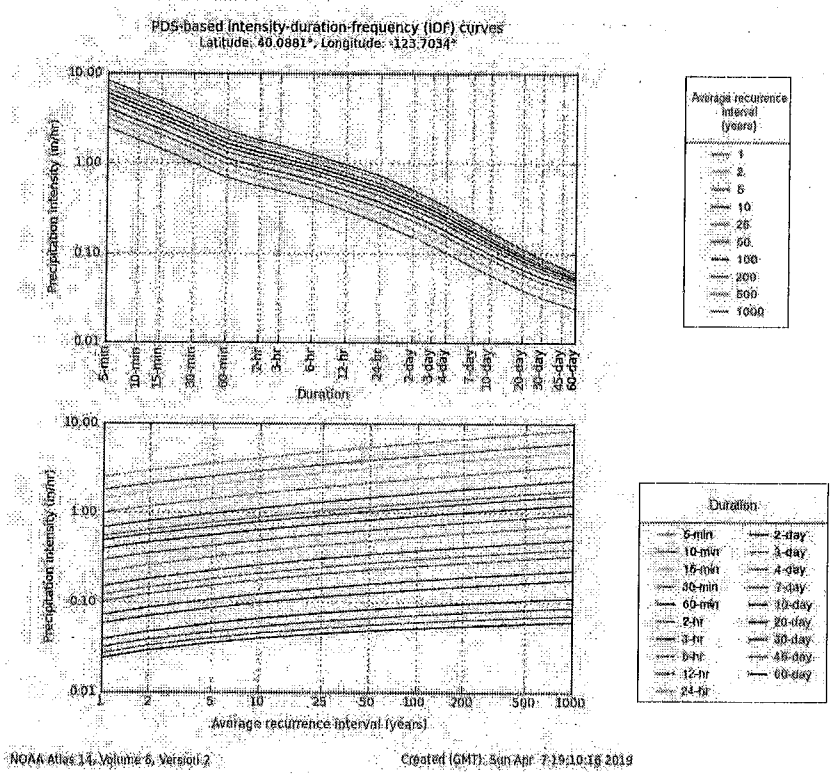
PF graphical



NOAA Atlas 14, Volume 6, Version 2 Created (GMT): Sun Apr 7 19:10:16 2019

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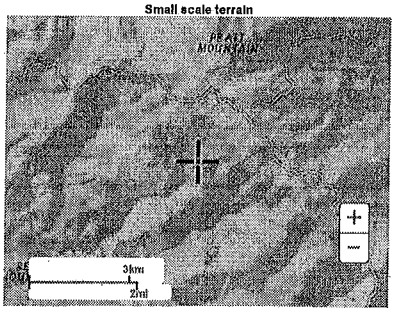
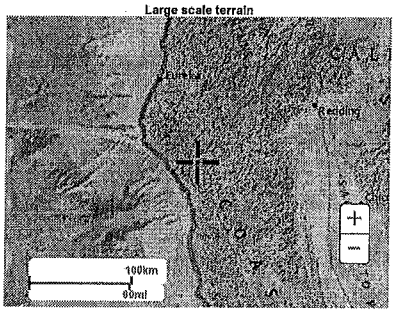
Maps & aerials

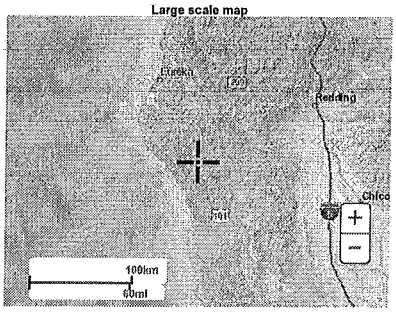
Small scale terrain



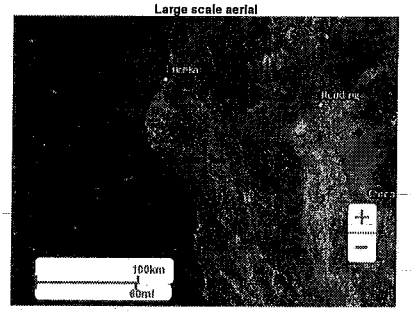
Large scale terrain



Large scale map



Large scale aerial



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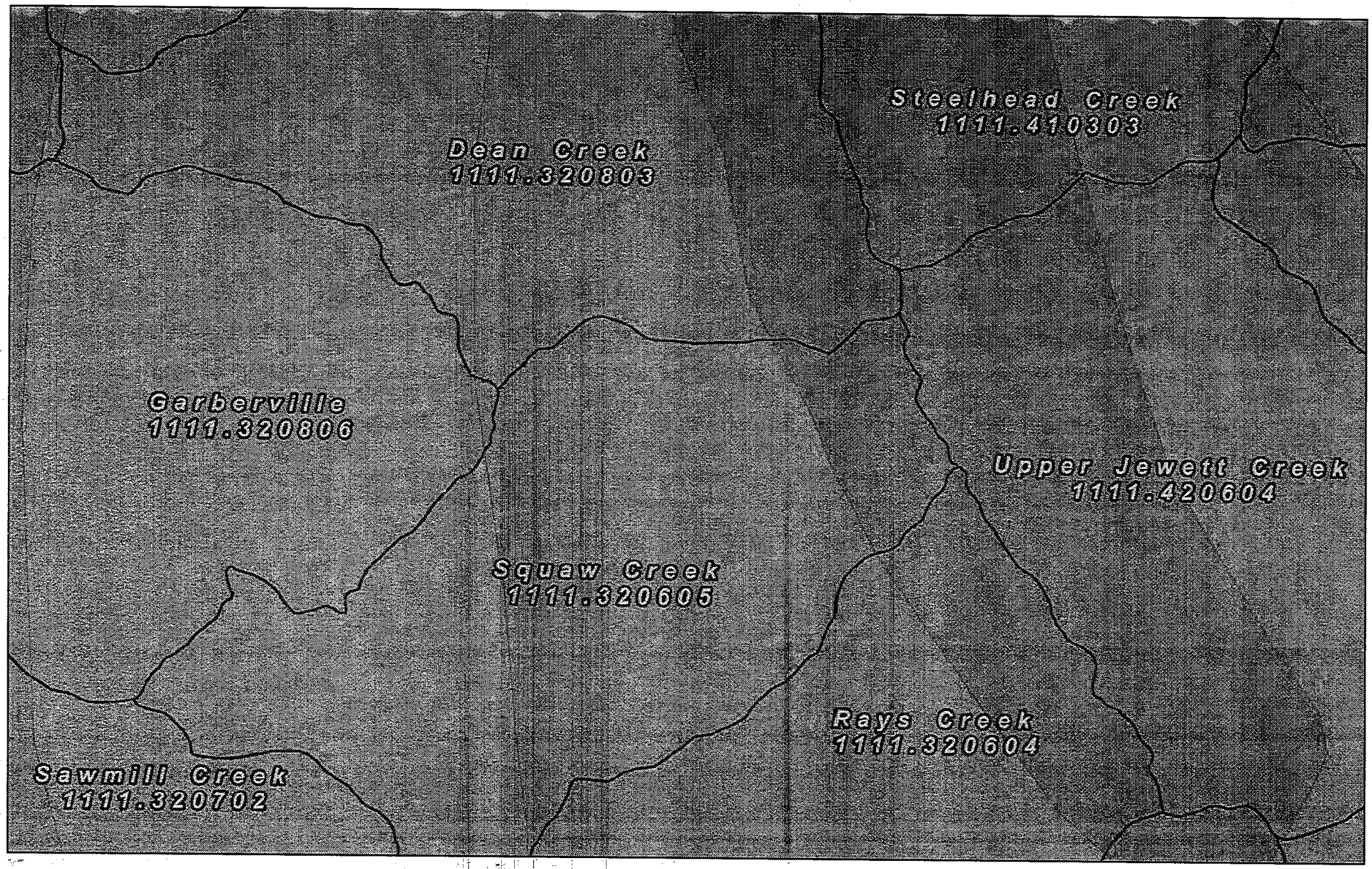
US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Ambiugity Farms



April 7, 2019

Calwater – Planning Watersheds

1:82,869

0 0.5 1 2 mi

0 1 2 4 km

Attachment 5

TVCE Grading and Erosion Control Plan

GRADING & EROSION CONTROL PLAN

FOR
AMBIGUITY FARM TRUST
TOOBY RANCH ROAD, GARBERVILLE, CA
APN: 223-011-009

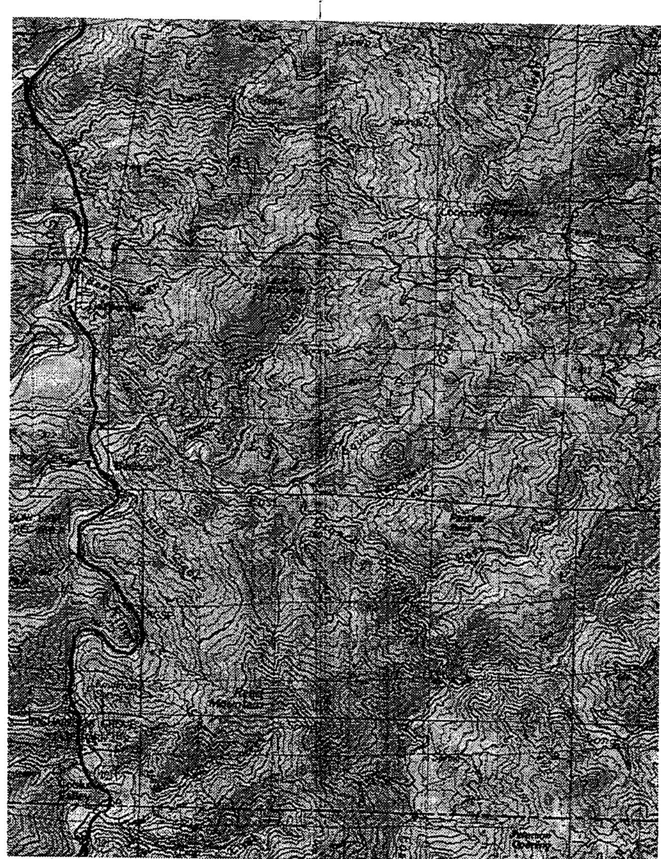
LEGEND

PROPOSED / EXISTING

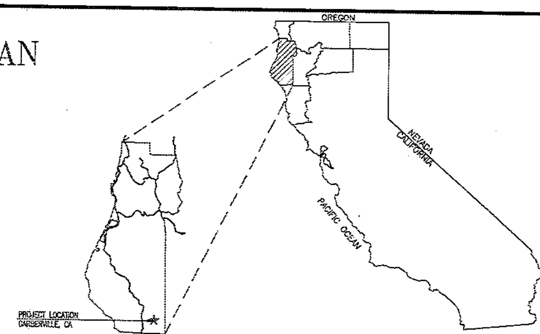
- CABLE TV OVERHEAD
- POWER OVERHEAD
- TELEPHONE OVERHEAD
- TELEPHONE UG
- POWER (UNDERGROUND) UG
- GAS LINE
- ANCHOR/GUY WIRE
- SEWER MANHOLE
- SEWER LINE
- FLUSHING BRANCH/CLEANOUT
- SEWER SERVICE
- STORM DRAIN MANHOLE
- STORM DRAIN PIPE
- STORM DRAIN INLET
- WATER LINE
- WATER VALVE
- REDUCER
- BLOW OFF ASSEMBLY
- AIR RELIEF VALVE
- FIRE HYDRANT ASSEMBLY
- R.P. BACKFLOW PREVENTER
- DRIVE WAY
- SIDEWALK RAMP
- BARRICADE
- SURVEY MONUMENT
- CENTERLINE
- RIGHT OF WAY LINE
- PROPERTY LINE
- EASEMENT LINE
- EDGE OF PAVEMENT
- RIDGE LINE
- FENCE LINE
- CONTOUR LINE
- SIDEWALK
- STREET LIGHT
- STREET NAME SIGN
- SIGN

ABBREVIATIONS

AC = ASPHALTIC CONCRETE
AB = AGGREGATE BASE
A.D. = ALGEBRAIC DIFFERENCE
BC, PC = BEGIN CURVE
CO = CLEAN OUT
CL = CENTER LINE
CMP = CORRUGATED METAL PIPE
CPCT. = COMPACT
D = DELTA
DET = DETAIL
DRN = DRAIN
<X> = EXISTING
EC = END CURVE
EG = EXISTING GROUND
EP = EDGE OF PAVEMENT
FF = FINISH FLOOR
FG = FINISH GRADE
FH = FIRE HYDRANT
FL = FLOW LINE
GA = GUY ANCHOR
GV = GATE VALVE
HC = HANDICAPPED
HDPE = HIGH DENSITY POLYETHYLENE PIPE
INV = INVERT
(INT-X) = INTERSECTION
K = SIGHT DISTANCE
LAT = LATERAL
LD. = LOCAL DEPRESSION
LF. = LINEAR FEET
LF. = SEWER LEACH FIELD
LT. = LEFT
MAS. = MASONRY
MI = MILES
MSE = MECHANICALLY STABILIZED EARTH
(N) = NEW
NTS = NOT TO SCALE
O.C. = ON CENTER
PG&E = PACIFIC GAS & ELECTRIC
(P) = PROPOSED
PP = POWER POLE
PRC = POINT OF REVERSE CURVE
PT = POINT
PVI = POINT OF VERTICAL INTERSECTION
PVT = PRIVATE
RT = RIGHT
RTN = RETURN
SB = SET BACK
SDMH = STORM DRAIN MAN HOLE
SHT = SHEET
SD = STORM DRAIN
STA = STATION
STD. = STANDARD
TC = TOP OF CURB
TBC = TOP BACK OF CURB
TFC = TOP FACE OF CURB
TOB = TOP OF BANK
TEL = TELEPHONE
TP = TOP OF PAVEMENT
TVCE = TRINITY VALLEY CONSULTING ENGINEERS
TW = TOP OF WALL
(TYP) = TYPICAL
UG = UNDERGROUND
W = WATER
WV = WATER VALVE



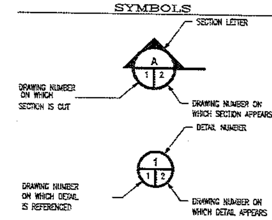
LOCATION MAP
NTS



VICINITY MAP
NTS

AREA MAP
NTS

SYMBOLS



SHEET INDEX

DRAWING #	TITLE	REVISION	DATE
T01	TITLE SHEET	0	06/04/19
C01	PLOT PLAN	0	06/04/19
C02.1	EXISTING GRADING & DRAINAGE PLAN	0	06/04/19
C02.2	PROPOSED GRADING & DRAINAGE PLAN	0	06/04/19
C03.1	SITE SECTIONS & DETAILS	0	06/04/19
C03.2	SITE SECTIONS & DETAILS	0	06/04/19
C04	EROSION CONTROL PLAN & DETAILS	0	06/04/19
C05	TEMPORARY CLEAR WATER DIVERSION	0	06/04/19

REGISTERED PROFESSIONAL ENGINEER
JOSHUA T. McKNIGHT
RCE 60687
EXP. 12/31/20
CIVIL
STATE OF CALIFORNIA

ENGINEERING NOTES

ALL REQUIREMENTS FROM THE SOILS REPORT HAVE BEEN INCORPORATED INTO THESE PLANS.

THE ENGINEER OF RECORD SHALL INSPECT ALL SITE GRADING.

SURVEY NOTES

FIELD SURVEY FOR TOPOGRAPHIC PURPOSES WAS PERFORMED BY TVCE ON MARCH 31, 2019.

A BOUNDARY SURVEY WAS NOT CONDUCTED BY TVCE.

CONTRACTOR ALERT!

CONTRACTOR MUST CONTACT USA DIG AT 800-227-2600 AT LEAST 72 HOURS BEFORE ANY EARTHWORK OR ACTIVITIES THAT MAY IMPACT EXISTING UNDERGROUND UTILITIES.

EXISTING UTILITY ALIGNMENTS BOTH HORIZONTALLY AND VERTICALLY MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES.

TVCE
67 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
PHONE (530) 629-3000
FAX (530) 629-3011

REV	DATE	DESCRIPTION	DWN BY	DES BY	CKD BY	APP BY
			ETE	JTM	JTM	TVCE

AMBIGUITY FARM TRUST

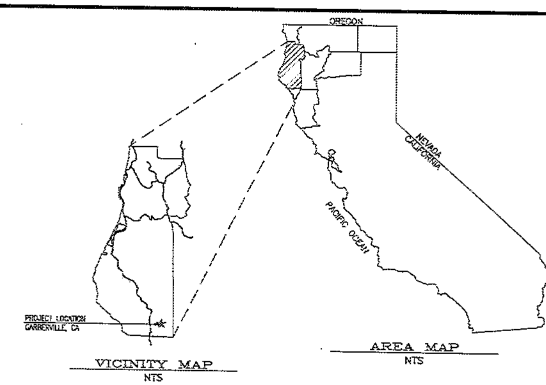
TITLE SHEET

TOOBY RANCH ROAD, GARBERVILLE, CA
APN: 223-011-009

DRAWN BY: H. NAVARRO
DESIGNED BY: JTM
CHECKED BY: J. McKNIGHT
APPROVED BY: TVCE
DATE OF ISSUE: JUNE 2019
SCALE: AS SHOWN
PROJECT NO: 1351
DRAWING NO: T01

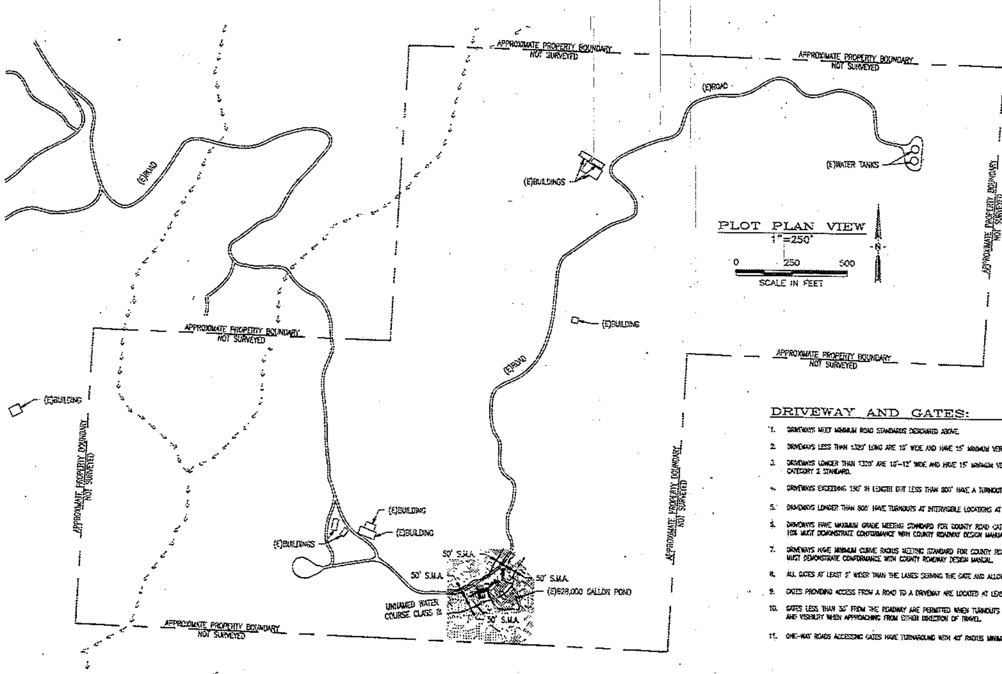
PLOT PLAN

FOR
AMBIGUITY FARM TRUST
TOOBY RANCH ROAD, GARBERVILLE
APN: 223-011-009



VICINITY MAP
NTS

AREA MAP
NTS



GENERAL NOTES

WATER: CSD
WASTEWATER: TBD
POWER: PG&E
PHONE: VERIZON
CREEKS/STREAMS: SQUAW CREEK
TREES TO BE REMOVED: NONE
GRADING: SEE GRADING PLAN

SRA REQUIREMENTS

PROVIDE ADEQUATE WATER STORAGE AND DELIVERY AS OUTLINED BY SRA ORDINANCE AND CALFIRE REQUIREMENTS

PROVIDE ADEQUATE TURN AROUND AND PULLOUTS AS OUTLINED BY SRA ORDINANCE REQUIREMENTS AND CALFIRE REQUIREMENTS

DOMESTIC EMERGENCY WATER SUPPLY SYSTEM

1. THE MINIMUM EMERGENCY WATER STORAGE VOLUME OF 2,500 GALLONS EASILY AVAILABLE FOR FIRE USE.
2. THE EMERGENCY SUPPLY MAY BE SEPARATE FROM THE DOMESTIC SUPPLY OR IT MAY BE SHARED. WHEN SHARED, AND IF THE REFILLING SUPPLY SOURCE (WELL, ETC.) CANNOT KEEP UP WITH THE DAILY DOMESTIC USE; THE AMOUNT STORED SHOULD BE INCREASED SO THAT 2,500 GALLONS ARE AVAILABLE FOR FIRE USE ANY TIME OF DAY.
3. THE WATER HYDRANT OR PLACE FOR WATER SUCTION MUST NOT BE FURTHER THAN 1/2 MILE FROM THE DWELLING, OR CLOSER THAN 50 FEET TO THE BUILDING USING ROAD MEASUREMENTS. PARCELS 10 ACRES OR LESS MUST HAVE THE HYDRANT/SUCTION WITHIN 500 FEET; AND IF THIS IS PHYSICALLY IMPOSSIBLE, WITHIN 1,000 FEET.
4. ALL HYDRANT AND WATER SUCTION LOCATIONS MUST PROVIDE A ROAD STANDARD TURNOUT OR TURNAROUND.
5. ALL WATER SUPPLY HYDRANTS AND SUCTION LOCATIONS MUST BE IDENTIFIED WITH A 3 INCH REFLECTORIZED BLUE DOT LOCATED 3 TO 5 FEET ABOVE THE GROUND ON A POST THAT IS WITHIN 3 FEET OF THE HYDRANT. IF LOCATED OFF A DRIVEWAY, ANOTHER BLUE DOT MUST BE ATTACHED TO THE DRIVEWAY ADDRESS SIGN. ROAD SIGNS STATING "FIRE WATER" ARE AN ACCEPTABLE ALTERNATIVE.
6. ALL EXPOSED PLUMBING SHOULD HAVE FREEZE PROTECTION AND CRASH BARRIERS AS NEEDED TO PREVENT DAMAGE.
7. ALL PIPES SUPPLYING WATER TO HYDRANTS MUST BE AT LEAST 3 INCHES IN DIAMETER. SMALLER DESIGNS MUST PROVE THEMSELVES ABLE TO PROVIDE A 200 GPM FLOW FROM THE HYDRANT CONNECTION.
8. ALL HYDRANTS MUST BE 18 INCHES ABOVE GROUND, AT LEAST 8 FEET FROM FLAMMABLE VEGETATION, AT LEAST 4 FEET FROM THE PARKING SURFACE WHERE THE FIRE EQUIPMENT WILL BE WHEN USING IT AND NO MORE THAN 12 FEET FROM THE PARKING SURFACE.
9. ALL HYDRANTS MUST HAVE A 2-1/2 INCH, MALE NATIONAL HOSE CONNECTION WITH CAP.
10. ALL HYDRANTS/VALVES AND CONNECTIONS MUST BE MADE OF BRASS OR OTHER CORROSION RESISTANT MATERIAL.
11. A WET HYDRANT USED WITH A GRAVITY SUPPLY OR PRESSURE SYSTEM MUST HAVE A 2-1/2 INCH VALVE.
12. A DRY HYDRANT USED FOR WATER SUCTION DOES NOT NEED A VALVE, BUT DOES REQUIRE A STRAINER (PERFORATED PIPE LENGTH) AT THE END OF THE SUCTION PIPE. THE STRAINER MUST BE AT LEAST 3 FEET LONG.
13. WHERE A PUMP IS RELIED UPON TO DELIVER WATER TO THE HYDRANT (NOT GRAVITY AND NOT SUCTION); IT MUST DELIVER 200 GALLONS PER MINUTE TO THE HYDRANT. IF IT IS AN ELECTRICALLY POWERED PUMP, IT MUST HAVE A FUELED ENGINE BACKUP (OR GENERATOR). ALSO, A STRAINER IS REQUIRED.
14. WHERE GRAVITY IS USED TO GET THE WATER TO THE HYDRANT, THE SOURCE (TANK) MUST AT LEAST BE HIGHER THAN THE HYDRANT SO THAT ALL 2,500 GALLONS CAN DRAIN OUT WITHOUT SUCTION. ALSO, THE TANK SHOULD BE NO MORE THAN 600 FEET ABOVE THE HYDRANT, OR HAVE A PRESSURE REDUCER RESTRICTING TO 250 PSI.
15. WHERE SUCTION IS NEEDED TO GET THE WATER UP OUT OF A SOURCE (BY HOSE, DRY HYDRANT OR PUMP) FROM A NATURAL POND, UNDERGROUND TANK, SWIMMING POOL, ETC., THE END OF THE HOSE OR DRY HYDRANT PIPE STRAINER MUST HAVE 2 FEET OF WATER ABOVE IS AT ALL TIMES TO PREVENT CAVITATION (A VORTEX FUNNEL THAT ALLOWS AIR TO BE SUCKED IN). ALSO, THE END OF THE SUCTION HOSE OR DRY HYDRANT PIPE STRAINER MUST BE HELD 1 FOOT OFF THE BOTTOM OF STORAGE THAT CAN ACCUMULATE DEBRIS. THIS MEANS THAT THE BOTTOM 3 FEET OF STORAGE AT THE SUCTION POINT IS UNUSABLE AND AT LEAST 2,500 GALLONS MUST BE AVAILABLE 3 FEET ABOVE THE BOTTOM WHEN THE WATER IS AT THE LOWEST LEVER OF THE YEAR.
16. WHERE SUCTION THROUGH A DRY HYDRANT PIPE IS USED TO GET WATER UP TO A FIRE ENGINE, THE LEVEL WHERE THE SUCTION PIPE STRAINER IS MUST BE NO MORE THAN 15 FEET LOWER THAN THE HYDRANT CONNECTION.
17. WHERE A FIRE ENGINE SUCTION HOSE IS NEEDED TO GET WATER (NO DRY HYDRANT), THE LEVEL WHERE THE STRAINER END OF THE SUCTION HOSE MUST GO CAN BE NO MORE THAN 10 FEET LOWER THAN THE SURFACE WHERE THE ENGINE PARKS. ALSO, THE TOTAL REACH FROM THE EDGE OF THE PARKING SURFACE TO WHERE THE END OF THE SUCTION HOSE MUST BE CAN REQUIRE NO MORE THAN 15 FEET OF SUCTION HOSE AND NO SHARP BENDS. THIS MEANS THAT A TANK WITH NO DRY HYDRANT WILL HAVE TO BE BELOW THE PARKING AREA, OR HAVE A LOW SIDE WALL, BECAUSE IT COULD TAKE MORE THAN 15 FEET OF HOSE TO REACH UP TO THE TOP OF [illegible] THE BOTTOM; AND COULD REQUIRE A VERY SHARP BEND.

DRIVEWAY AND GATES:

1. DRIVEWAYS MEET MINIMUM ROAD STANDARDS DESCRIBED ABOVE.
2. DRIVEWAYS LESS THAN 1320' LONG ARE 10' WIDE AND HAVE 15' MINIMUM VERTICAL CLEARANCE AND ARE BUILT TO COUNTY ROAD CATEGORY 1 STANDARD.
3. DRIVEWAYS LONGER THAN 1320' ARE 10'-12' WIDE AND HAVE 15' MINIMUM VERTICAL CLEARANCE WITH INTERVISIBLE TURNOUTS AND ARE BUILT TO COUNTY ROAD CATEGORY 2 STANDARD.
4. DRIVEWAYS EXCEEDING 150' IN LENGTH BUT LESS THAN 800' HAVE A TURNOUT NEAR THE MIDPOINT
5. DRIVEWAYS LONGER THAN 800' HAVE TURNOUTS AT INTERVISIBLE LOCATIONS AT APPROXIMATELY 400' INTERVALS
6. DRIVEWAYS HAVE MAXIMUM GRADE MEETING STANDARD FOR COUNTY ROAD CATEGORY 1: 7%- 12% (NORMAL); 11%- 16% (TOLERABLE). GRADE IN EXCESS OF 16% MUST DEMONSTRATE CONFORMANCE WITH COUNTY ROADWAY DESIGN MANUAL.
7. DRIVEWAYS HAVE MINIMUM CURVE RADIUS MEETING STANDARD FOR COUNTY ROAD CATEGORY 1: 120' (NORMAL; 50' (TOLERABLE). CURVE RADIUS LESS THAN 50' MUST DEMONSTRATE CONFORMANCE WITH COUNTY ROADWAY DESIGN MANUAL.
8. ALL GATES AT LEAST 2' WIDER THAN THE LANES SERVING THE GATE AND ALLOW A VEHICLE TO STOP WITHOUT BLOCKING TRAFFIC.
9. GATES PROVIDING ACCESS FROM A ROAD TO A DRIVEWAY ARE LOCATED AT LEAST 30' FROM THE ROADWAY EXCEPT AS PROVIDED BELOW.
10. GATES LESS THAN 30' FROM THE ROADWAY ARE PERMITTED WHEN TURNOUTS ARE CONSTRUCTED NEXT TO THE TRAVEL LANES WITH SAFE TURNING MOVEMENTS AND VISIBILITY WHEN APPROACHING FROM EITHER DIRECTION OF TRAVEL.
11. ONE-WAY ROADS ACCESSING GATES HAVE TURNAROUND WITH 40' RADIUS MINIMUM.

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REV	DATE	DESCRIPTION	DWN BY	DES BY	CKK BY	APP BY
			EEK	JTM	JTM	TVCE

AMBIGUITY FARM TRUST

PLOT PLAN

TOOBY RANCH ROAD, GARBERVILLE, CA
APN: 223-011-009

DRAWN BY: H NAVARRO
DESIGNED BY: JTM
CHECKED BY: J. McKNIGHT
APPROVED BY: TVCE
DATE OF ISSUE: JUNE 2019
SCALE: AS SHOWN
PROJECT NO: 1361
DRAWING NO: C01

1" 1/2" 0" 1"

TRINITY VALLEY CONSULTING ENGINEERS, INC.

LEGEND:

- → → EXISTING FLOWLINE
- EXISTING RSP

PRE–EARTHWORK QUANTITIES

(E) CUT (CY):	3,761.22
(E) FILL (CY):	3,761.22

NOTE:
CUT AND FILL QUANTITIES ONSITE TO BE PERMANENT

PRE–GRADING ACTIVITY:

TOTAL ACREAGE:	164.88± Ac
ACRES DISTURBED:	1.09± Ac
ACRES UNDISTURBED:	163.79± Ac
PERCENTAGE OF DISTURBED AREA:	0.66 %

GRADING NOTES:

1. ALL EARTHWORK, INCLUDING BUT NOT LIMITED TO, SITE CLEARING, GRUBBING, STRIPPING, AND GRADING WILL BE CONDUCTED DURING DRY WEATHER CONDITIONS. (TYPICALLY APRIL 15 TO OCTOBER 15)
2. STRIP AND REMOVE ALL TOPSOIL AND VEGETATION FROM THE PROJECT AREA, AND FOR A MINIMUM OF THREE FEET TO THE OUTSIDE OF THE WORKING AREA.
3. ANY UNDOCUMENTED FILL SOILS, FINE–GRAINED RESIDUAL SOILS, AND ANY OTHER DEBRIS ENCOUNTERED AT OR BELOW THE EXISTING GROUND SURFACE SHALL BE REMOVED AT THE LOCATIONS RECEIVING ANY POTENTIAL FILLS.
4. THE SITE SHOULD BE GRADED TO PROVIDE ADEQUATE DRAINAGE SUCH THAT NO WATER IS ALLOWED TO POND ANYWHERE ON THE SITE OR MIGRATE BENEATH PROPOSED DEVELOPMENTS.
5. ALL FILL MATERIAL SHALL BE PLACED IN HORIZONTAL LIFTS NOT TO EXCEED EIGHT INCHES (8") IN DEPTH AND SHALL BE COMPACTED MECHANICALLY.
6. ALL FILL MATERIAL SHALL BE FREE OF ORGANICS, ROCKS LARGER THAN 3"Ø, WOODY DEBRIS, ROOTS, AND INORGANIC MATERIAL.
7. ALL FILL MATERIAL SHALL HAVE A UNIFORM MOISTURE CONTENT AT OR NEAR OPTIMUM MOISTURE CONTENT AS DETERMINED BY TESTING AND APPROVED BY THE ENGINEER.
8. NON–STRUCTURAL FILL SHALL BE COMPACTED TO A FIRM UNYIELDING SURFACE AS APPROVED BY THE ENGINEER.
9. IT IS RECOMMENDED THAT ANY MATERIAL PROPOSED FOR STRUCTURAL FILL MATERIAL TO SUPPORT ANY FOUNDATIONS OR STRUCTURAL BUILDING ELEMENT AND ASSOCIATED UTILITIES BE COMPACTED AS OUTLINED IN THE SOILS REPORT.
10. ALL FINAL SLOPES SHALL BE TO A SMOOTH AND EVEN GRADE, SHALL BE SURFACE TRACKWALKED, AND FINAL GRADED NOT TO EXCEED 1.5:1 (h:V).
11. SUFFICIENT TESTING AND INSPECTION SHOULD BE PERFORMED TO MONITOR THE SUITABILITY OF FILL MATERIALS AND ASSURE COMPLIANCE WITH THE RECOMMENDED COMPACTION STANDARDS.
12. AGGREGATE BASE MATERIAL MAY BE USED FOR PAVEMENT SUBGRADE, PLACED BENEATH FOOTINGS OR FLOOR SLABS, OR USED AS TRENCH BACKFILL. THIS MATERIAL SHOULD MEET THE REQUIREMENTS IN THE CALTRANS STANDARD SPECIFICATIONS FOR 3/4"–CLASS 2 AGGREGATE BASE.

CLEARING, GRUBBING, & DEMOLITION NOTES:

1. TREES SCHEDULED TO BE REMOVED SHALL BE REMOVED COMPLETELY INCLUDING STUMPS, ROOTS, BRANCHES, WOODY DEBRIS, BARK, AND FLESH. TREES SHALL BE REMOVED FROM THE SITE AND DEPOSITED IN LOCATIONS DESIGNATED BY THE OWNER.
2. VEGETATION AND WOODY DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE LAWS AND REGULATIONS.
3. ALL GENERATED AND ACCUMULATED CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A MANNER CONSISTENT WITH APPLICABLE LAWS AND REGULATIONS.
4. FOUNDATION CONCRETE SCHEDULED FOR REMOVAL SHALL BE COMPLETELY REMOVED INCLUDING STEM WALL AND FOOTING.
5. ALL AREAS WITH GENERATED VOIDS FROM DEMOLITION ACTIVITIES SHALL BE BACKFILLED WITH NATIVE SOIL TO FINISH GRADE IN 1' MAXIMUM VERTICAL LIFTS SUFFICIENTLY COMPACTED TO ELIMINATE SUBSIDENCE.
6. DUST CONTROL SHALL BE MAINTAINED DURING DEMOLITION PRACTICES.
7. TRACKING OF MATERIAL FROM THE SITE ONTO EXISTING ROADWAYS WILL NOT BE TOLERATED. TEMPORARY CONSTRUCTION SITE ENTRANCES SHOULD BE BUILT AT POINTS OF INTERSECTION TO EXISTING ROADWAYS AND PRACTICES SHOULD BE IMPLEMENTED TO REMOVE CONSTRUCTION MATTER FROM VEHICLES AND EQUIPMENT PRIOR TO LEAVING THE CONSTRUCTION SITE.
8. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED FOR THE SITE AS SOON AS PRACTICAL AND SHALL BE IN PLACE PRIOR TO EXECUTION OF MAJOR DEMOLITION OPERATIONS.

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REV	DATE	DESCRIPTION	DWN BY	DES BY	CKD BY	APP BY
			EEX	JTM	JTM	TVCE

AMBIGUITY FARM TRUST

EXISTING GRADING & DRAINAGE PLAN

TOOBY RANCH ROAD, GARBERVILLE, CA
APN: 223–011–009

DRAWN BY: H. NAVARRO
VERIFIED BY: JTM
CHECKED BY: J. McKNIGHT
APPROVED BY: TVCE

REGISTERED PROFESSIONAL ENGINEER
JOSHUA T. McKNIGHT
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DATE OF ISSUE: JUNE 2019
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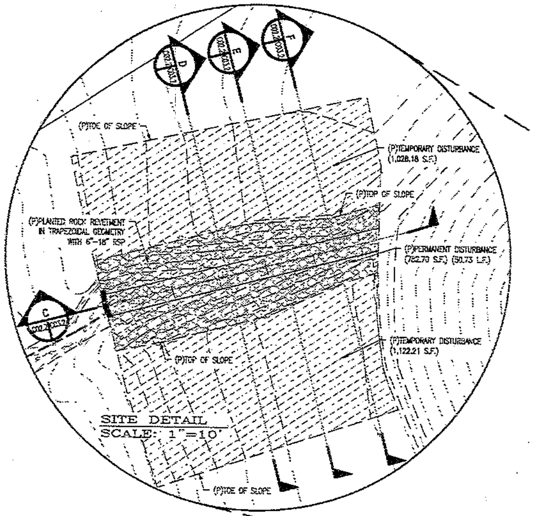

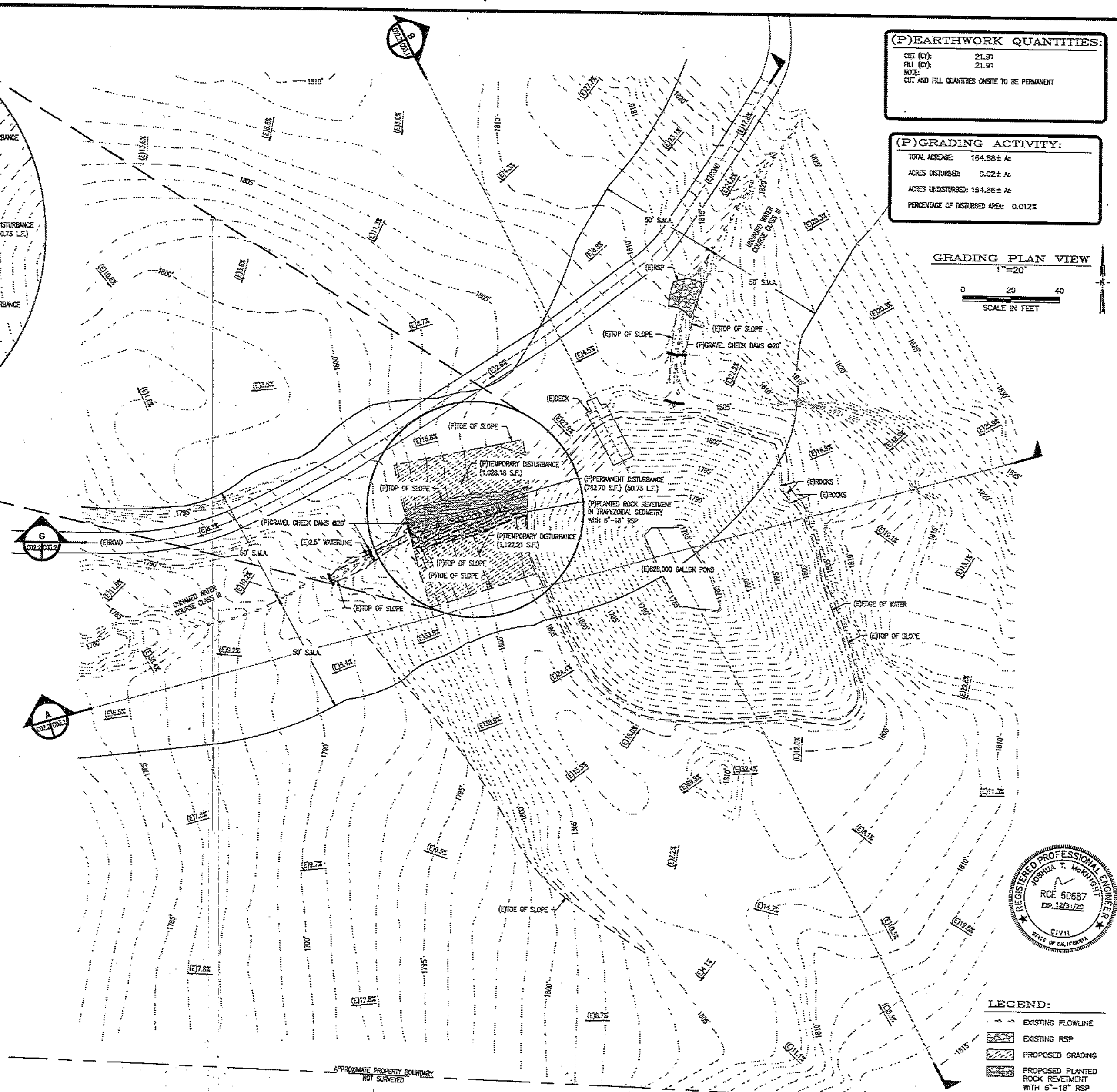

(P)EARTHWORK QUANTITIES:

CUT (CY):	21.91
FILL (CY):	21.91

NOTE:
CUT AND FILL QUANTITIES ONSITE TO BE PERMANENT

(P)GRADING ACTIVITY:

TOTAL ACREAGE:	154.88± Ac
ACRES DISTURBED:	0.02± Ac
ACRES UNDISTURBED:	154.86± Ac
PERCENTAGE OF DISTURBED AREA:	0.012%

(P)ROCK QUANTITIES:

PLANTED ROCK REVETMENT:	65.52 CUBIC YARDS
RSP:	7.52 CUBIC YARDS
TOTAL:	73.04 CUBIC YARDS

GRADING NOTES:

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8. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED FOR THE SITE AS SOON AS PRACTICAL AND SHALL BE IN PLACE PRIOR TO EXECUTION OF MAJOR DEMOLITION OPERATIONS.

LEGEND:

- EXISTING FLOWLINE
- EXISTING RSP
- PROPOSED GRADING
- PROPOSED PLANTED ROCK REVETMENT WITH 6"-18" RSP

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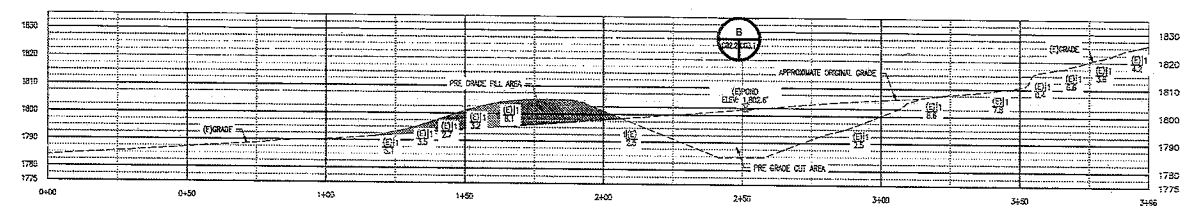
AMBIGUITY FARM TRUST

PROPOSED GRADING & DRAINAGE PLAN

TODBY RANCH ROAD, GARBERVILLE, CA
APN: 223-011-009

DRAWN BY:	H. NAVARRO
DESIGNED BY:	JTM
CHECKED BY:	J. MCKNIGHT
APPROVED BY:	TVCE
DATE OF ISSUE:	JUNE 2019
SCALE:	AS SHOWN
PROJECT NO:	1361
DRAWING NO:	C02.2

REV.	DATE	DESCRIPTION	DWN BY	DES BY	CKD BY	APP BY



SITE
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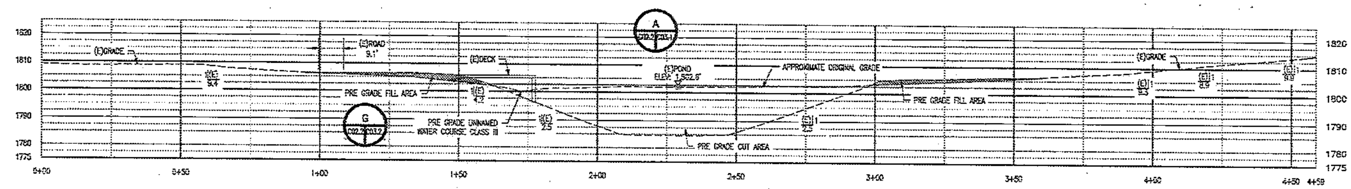

SITE
SECTION B
1"=20'

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REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
			ETX	JTM	JTM	TVCE

AMBIGUITY FARM TRUST

SITE SECTIONS & DETAILS

TOOBY RANCH ROAD, GARBERVILLE, CA
APN: 223-011-009

DRAWN BY: H. NAVARRO
DESIGNED BY: JTM
CHECKED BY: J. McKNIGHT
APPROVED BY: TVCE
DATE OF ISSUE: JUNE 2019
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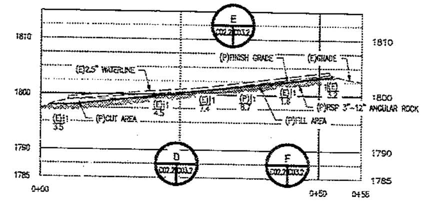
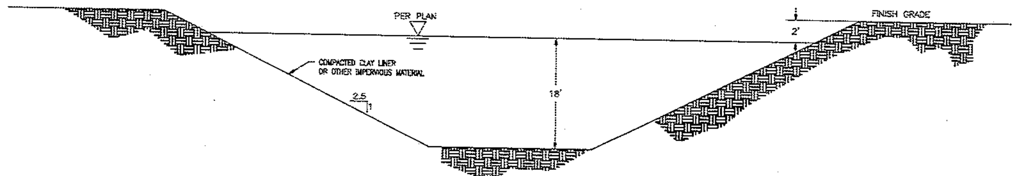
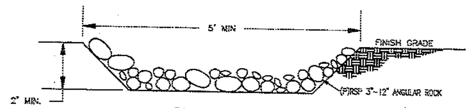
PROJECT NO: 1361
DRAWING NO: C03.1



SITE
SECTION C
1"=10'



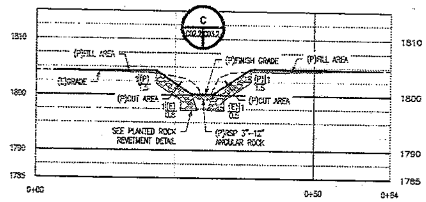
TYPICAL
DETAIL 1
NTS



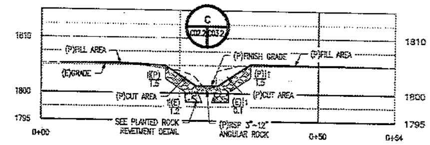
ROCKLINED DITCH
DETAIL 2
1"=1'

COMPACTION STANDARDS

FILL PLACEMENT LOCATION	COMPACTION RECOMMENDATIONS (ASTM D 1557-MODIFIED PROCTOR)	MOISTURE CONTENT (PERCENT OPTIMUM)
STRUCTURAL FILL SUPPORTING FOOTINGS	90%	-1 TO +3 PERCENT
STRUCTURAL FILL SUPPORTING FOOTINGS SLABS-ON-GRADE	90%	-1 TO +3 PERCENT
STRUCTURAL FILL PLACED WITHIN 3 FEET BEYOND THE PERIMETER OF THE BUILDING PAD	90%	-1 TO +3 PERCENT
UTILITY TRENCHES WITHIN BUILDING AND ANY PAVEMENT AREAS	95%	-1 TO +3 PERCENT
UTILITY TRENCHES BENEATH LANDSCAPE AND GRASS AREAS	90%	-1 TO +3 PERCENT
STRUCTURAL FILL FOR POND CONSTRUCTION	90%	-1 TO +3 PERCENT



SITE
SECTION D
1"=10'



SITE
SECTION E
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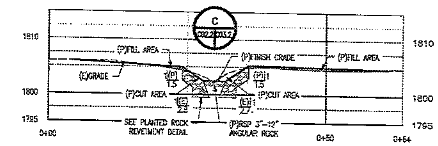
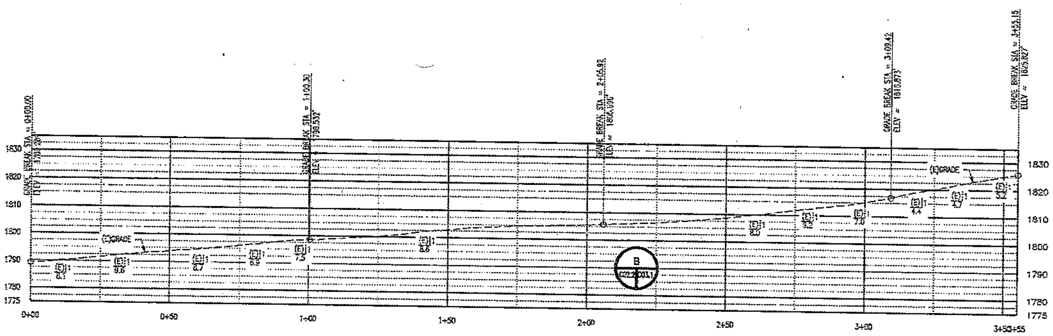
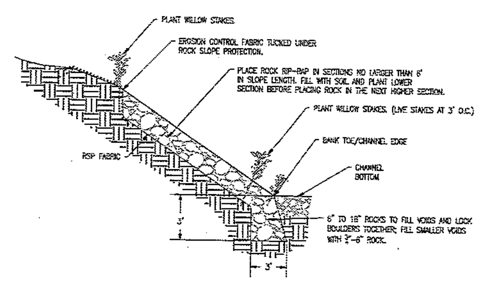


SITE
SECTION F
1"=10'



SITE
SECTION G
1"=20'



PLANTED ROCK REVETMENT
DETAIL 3
NTS

REGISTERED PROFESSIONAL ENGINEER
JOSHUA T. McKNIGHT
RCE 60687
EXP. 12/31/20
CIVIL
STATE OF CALIFORNIA

TVCE
67 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
PHONE (530) 629-3000
FAX (530) 629-3011

AMBIGUITY FARM TRUST
SITE SECTIONS & DETAILS
TOOBY RANCH ROAD, GARBERVILLE, CA
APN: 223-011-009

DRAWN BY: H. NAVARRO
DESIGNED BY: JTM
CHECKED BY: J. McKNIGHT
APPROVED BY: TVCE
DATE OF ISSUE: JUNE 2019
SCALE: AS SHOWN
PROJECT NO: 1361
DRAWING NO: C03.2

TRINITY VALLEY CONSULTING ENGINEERS, INC.

EROSION CONTROL PLAN

1"=40'

0 40 80 SCALE IN FEET

(P)ESTIMATE LINEAR FEET:

SILT FENCE (FEET):	123.57
FIBER ROLLS (FEET):	77.93

NOTE:

1. CONTRACTOR MAY SUBSTITUTE TEMPORARY SILT FENCES FOR STRAW AND FIBER ROLLS AND VICE VERSA

BMP MAINTENANCE NOTES:

1. ALL OF THE IMPLEMENTED BMPS SHALL BE INSPECTED AND CORRECTED AS NEEDED PRIOR TO, DURING, AND DIRECTLY FOLLOWING ANY STORM EVENT, OR WHENEVER PRACTICAL.

STRAW MULCH NOTES:

1. STRAW SHALL BE DERIVED FROM WHEAT, RICE, OR BARLEY. WHERE REQUIRED BY THE PLANS, SPECIFICATIONS, PERMITS, OR ENVIRONMENTAL DOCUMENTS, NATIVE GRASS STRAW SHALL BE USED.
2. A TACKIFIER IS THE PREFERRED METHOD FOR ANCHORING STRAW MULCH TO THE SOIL ON SLOPES.
3. CRIMPING, PUNCH ROLLER-TYPE ROLLERS, OR TRACK WALKING MAY ALSO BE USED TO INCORPORATE STRAW MULCH INTO THE SOIL ON SLOPES. TRACK WALKING SHALL ONLY BE USED WHERE OTHER METHODS ARE IMPRACTICAL.
4. AVOID PLACING STRAW ONTO ROADS, SIDEWALKS, DRAINAGE CHANNELS, SOUND WALLS, EXISTING VEGETATION, ETC.
5. STRAW MULCH WITH TACKIFIER SHALL NOT BE APPLIED DURING OR IMMEDIATELY BEFORE RAINFALL.
6. APPLY STRAW AT A MINIMUM RATE OF 4,000 LB/ACRE, EITHER BY MACHINE OR BY HAND DISTRIBUTION.
7. ROUGHEN EMBANKMENTS AND FILL RILLS BEFORE PLACING THE STRAW MULCH BY ROLLING WITH A CRIMPING OR PUNCHING TYPE ROLLER OR BY TRACK WALKING.
8. EVENLY DISTRIBUTE STRAW MULCH ON THE SOIL SURFACE.
9. ON SMALL AREAS, A SPADE OR SHOVEL CAN BE USED TO PUNCH IN STRAW MULCH.
10. ON SLOPES WITH SOILS THAT ARE STABLE ENOUGH AND OF SUFFICIENT GRADIENT TO SAFELY SUPPORT CONSTRUCTION EQUIPMENT WITHOUT CONTRIBUTING TO COMPACTION AND INSTABILITY PROBLEMS, STRAW CAN BE "PUNCHED" INTO THE GROUND USING A KNIFE BLADE ROLLER OR A STRAIGHT BLADED COULTER, KNOWN COMMERCIALLY AS A "CRIMPER".
11. ON SMALL AREAS AND/OR STEEP SLOPES, STRAW CAN ALSO BE HELD IN PLACE USING PLASTIC NETTING OR JUTE. THE NETTING SHALL BE HELD IN PLACE USING 11 GAUGE WIRE STAPLES, GEOTEXTILE PINS OR WOODEN STAKES AS DESCRIBED IN EC-7, GEOTEXTILES AND MATS.
12. TACKIFIER ACTS TO GLUE THE STRAW FIBERS TOGETHER AND TO THE SOIL SURFACE. THE TACKIFIER SHALL BE SELECTED BASED ON LONGEVITY AND ABILITY TO HOLD THE FIBERS IN PLACE. A TACKIFIER IS TYPICALLY APPLIED AT A RATE OF 125 LB/ACRE. IN WINDY CONDITIONS, THE RATES ARE TYPICALLY 180LB/ACRE.

EROSION AND SEDIMENT CONTROL NOTES:

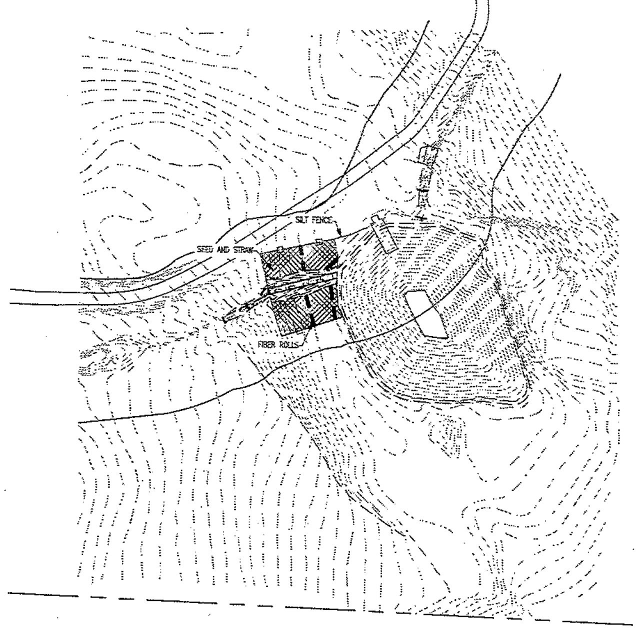
1. EROSION CONTROL BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE INSTALLED AND MAINTAINED DURING THE WET SEASON (OCTOBER 1 THROUGH APRIL 30). SEDIMENT CONTROL BMP'S SHALL BE INSTALLED AND MAINTAINED ALL YEAR.
2. ALL DRAINAGE INLETS IMMEDIATELY DOWNSTREAM OF THE WORK AREA AND WITHIN THE WORK AREA SHALL BE PROTECTED WITH SEDIMENT CONTROL AND INLET FILTER BAGS, YEAR ROUND.
3. ALL STABILIZED CONSTRUCTION ACCESS LOCATIONS SHALL BE CONSTRUCTED PER STANDARD DRAWING TC-1 WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES PAVED AREAS. THE STABILIZED ACCESS SHALL BE MAINTAINED ON A YEAR-ROUND BASIS UNTIL THE COMPLETION OF CONSTRUCTION.
4. ALL AREAS DISTURBED DURING CONSTRUCTION, BY GRADING, TRENCHING, OR OTHER ACTIVITIES, SHALL BE PROTECTED FROM EROSION DURING THE WET SEASON (OCTOBER 1 THROUGH APRIL 30). HYDROSEED, IF UTILIZED, MUST BE PLACED BY SEPTEMBER 15. HYDROSEED PLACED DURING THE WET SEASON SHALL USE A SECONDARY EROSION PROTECTION METHOD.
5. SENSITIVE AREAS AND AREAS WHERE EXISTING VEGETATION IS BEING PRESERVED SHALL BE PROTECTED WITH CONSTRUCTION FENCING. SEDIMENT CONTROL BMP'S SHALL BE INSTALLED WHERE ACTIVE CONSTRUCTION AREAS DRAIN INTO SENSITIVE OR PRESERVED VEGETATION AREAS.
6. SEDIMENT CONTROL BMP'S SHALL BE PLACED ALONG THE PROJECT PERIMETER WHERE DRAINAGE LEAVES THE PROJECT. SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED YEAR-ROUND UNTIL THE CONSTRUCTION IS COMPLETE OR THE DRAINAGE PATTERN HAS BEEN CHANGED AND NO LONGER LEAVES THE SITE.
7. ALL SLOPES GREATER THAN 1:1 SHALL RECEIVE SEED AND STRAW OR OTHER EROSION CONTROL.
8. ALL FENCING AND EROSION CONTROL METHODS SHALL BE MAINTAINED THROUGHOUT ALL ON-SITE CONSTRUCTION ACTIVITIES.
9. ALL BMPS SHALL BE INSTALLED AND FUNCTIONING PRIOR TO ANY ANTICIPATED STORM EVENT.

BMP INSTALLATION SCHEDULE

PHASE OF CONSTRUCTION	EROSION AND SEDIMENT CONTROL MEASURES (WET SEASON)		(WET AND DRY SEASON)								
	HYDROSEEDING/ MULCHING	PRESERVATION OF EXISTING VEGETATION	STRAW/ FIBER ROLLS	SILT FENCE	CHECK DAM	STABILIZED CONSTRUCTION ENTRANCE	CONTRACTOR EQUIPMENT CONTROLS	MATERIAL & WASTE DISPOSAL LOCATION	DUST CONTROL	DEWATERING OPERATIONS	CONCRETE WASHOUT
PRE-GRADING		●		●		●	●	●	●		
CUT AND FILL ACTIVITIES			●	●							
UNDERGROUND WORK											
STORM DRAIN IMPROVEMENTS											
OFFSITE IMPROVEMENTS											
COMPLETION OF PAVING											
POST-GRADING	●	●	●	●	●						

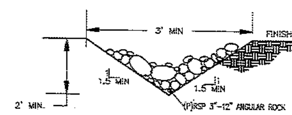
CONSTRUCTION NOTE:

POND MUST BE DRAWN DOWN TO NOT ALLOW DISCHARGE THROUGH SPILLWAY DURING CONSTRUCTION ACTIVITIES. A COFFER DAM MAY BE NECESSARY IN PROLONGED STORM EVENT.

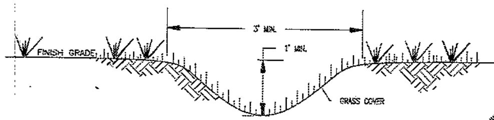


LEGEND:

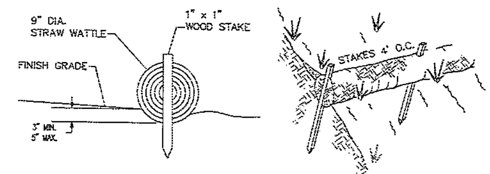
- ONSITE OVERLAND RELEASE PATH
- OFFSITE OVERLAND RELEASE PATH
- STRAW/FIBER ROLLS
- SILT FENCE
- SEED AND STRAW



INTERCEPTING DITCH
DETAIL
1":1'
4 / C02.2 C04



DRAINAGE SWALE
DETAIL
NTS
5 / C02.2 C04

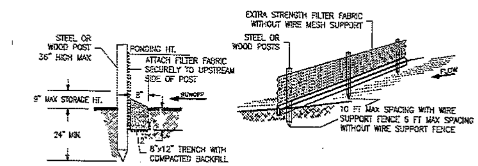


STRAW WATTLE NOTES:

1. STRAW WATTLES SHALL BE INSTALLED WITH 18 OR 24 INCH WOOD STAKES AT FOUR FEET ON CENTER. THE ENDS OF ADJACENT STRAW WATTLES SHALL BE ABUTTED TO EACH OTHER SNUGLY OR OVERLAPPED BY SIX INCHES.
2. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3"-5" DEEP. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND THE ROLL.

STRAW WATTLE INSTALLATION DETAIL

NTS

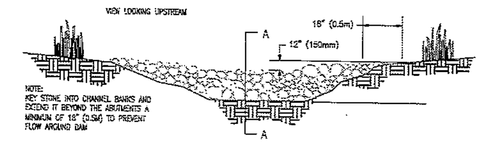


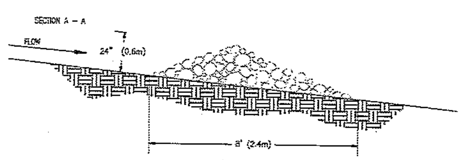
SILT FENCE NOTES:

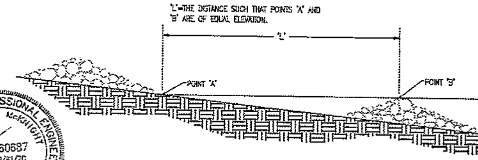
1. THE CONTRACTOR SHALL INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT.
2. CONTRACTOR SHALL REMOVE SEDIMENT AS NECESSARY. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND IN AN AREA THAT CAN BE PERMANENTLY STABILIZED.
3. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

SILT FENCE DETAILS

NTS







CHECK DAMS
DETAIL
NTS
6 / C02.2 C04

REGISTERED PROFESSIONAL ENGINEER
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FAX (530) 629-3011

REV	DATE	DESCRIPTION	DWN BY	DES BY	CKD BY	APP BY
				ETK	JTM	JTM	TVCE

AMBIGUITY FARM TRUST

EROSION CONTROL PLAN & DETAILS

TOOBY RANCH ROAD, GARBERVILLE, CA
APN: 223-011-009

DRAWN BY: H. NAVARRO
DESIGNED BY: JTM
CHECKED BY: J. McKNIGHT
APPROVED BY: TVCE
DATE OF ISSUE: JUNE 2019
SCALE: AS SHOWN
PROJECT NO: 1361
DRAWING NO: C04

TRINITY VALLEY CONSULTING ENGINEERS, INC.

GENERAL NOTES:

1. WHERE WORKING AREAS ENCROACH ON LIVE STREAMS, BARRIERS ADEQUATE TO PREVENT THE FLOW OF MUDDY WATER INTO STREAMS SHALL BE CONSTRUCTED AND MAINTAINED BETWEEN WORKING AREAS AND STREAMS. DURING CONSTRUCTION OF THE BARRIERS, MUDDYING OF THE STREAMS SHALL BE HELD TO A MINIMUM.
2. WHEN ANY ARTIFICIAL OBSTRUCTION IS BEING CONSTRUCTED, MAINTAINED, OR PLACED IN OPERATION, SUFFICIENT WATER SHALL BE ALLOWED TO PASS DOWNSTREAM TO MAINTAIN AQUATIC LIFE DOWNSTREAM.
3. DISTURBANCE OR REMOVAL OF VEGETATION SHALL NOT EXCEED THE MINIMUM NECESSARY TO COMPLETE OPERATIONS.
4. DISTURBED VEGETATION SHALL BE REPLACED WITH THE APPROPRIATE SOIL STABILIZATION MEASURES.
5. CONSTRUCT DIVERSION STRUCTURES WITH MATERIALS FREE OF POTENTIAL POLLUTANTS SUCH AS SOIL, SILT, SAND, CLAY, GREASE, OR OIL.

INSPECTION/ MAINTENANCE NOTES:

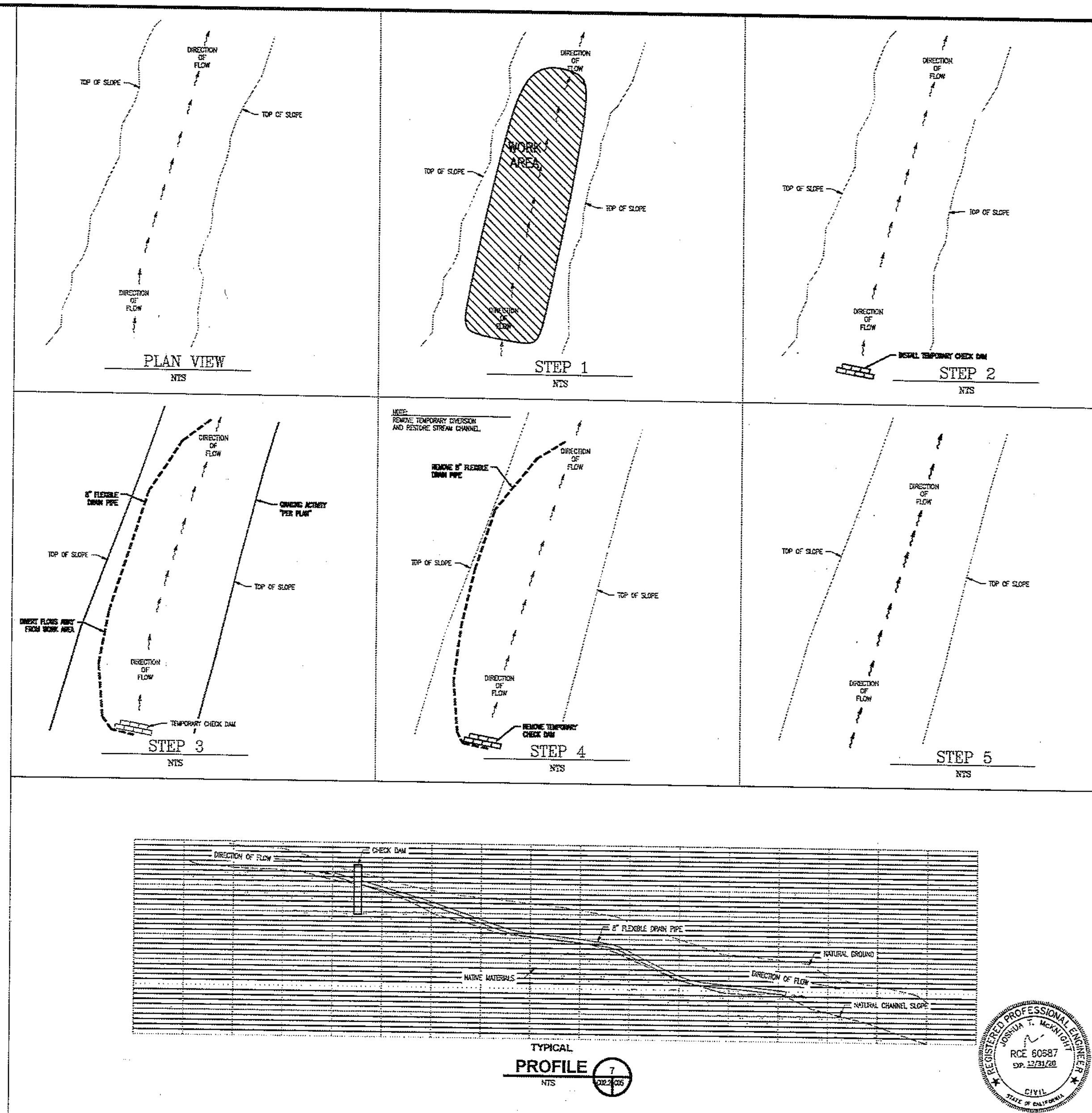
1. INSPECT DIVERSIONS/ ENCROACHMENT STRUCTURES BEFORE AND AFTER SIGNIFICANT STORMS, AND AT LEAST ONCE PER WEEK WHILE IN SERVICE. INSPECT DAILY DURING CONSTRUCTION PRACTICES.
2. INSPECT EMBANKMENTS AND DIVERSION CHANNELS BEFORE AND AFTER SIGNIFICANT STORMS, AND AT LEAST ONCE PER WEEK WHILE IN SERVICE FOR DAMAGE TO THE LININGS, ACCUMULATING DEBRIS, SEDIMENT BUILDUP, AND ADEQUACY OF THE SLOPE PROTECTION. REMOVE DEBRIS AND REPAIR LININGS AND SLOPE PROTECTION AS REQUIRED. REPAIR HOLES, GAPS, OR SCOUR.
3. SAMPLING FOR WATER QUALITY SHALL BE PERFORMED PER THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) DATED MARCH 26,2012
4. ALL OF THE IMPLEMENTED BMPS SHALL BE INSPECTED AND CORRECTED AS NEEDED PRIOR TO, DURING, AND DIRECTLY FOLLOWING ANY STORM EVENT.

CONSTRUCTION NOTES:

1. CONSTRUCT CLEAR WATER DIVERSION BEFORE CONSTRUCTION OF NEW CULVERT CROSSING BEGINS.
2. DIVERT WATER INTO THE EXISTING CULVERT PER NS-5
3. TEMPORARY PIPE SHALL BE ADEQUATELY SIZED FOR THE ANTICIPATED WATER FLOWS (TYPICALLY 6"-24").
4. CONSTRUCT DIVERSION OUTSIDE OF THE ANTICIPATED WORK AREA, TO AVOID CONFLICTS AND UNWANTED CONTAMINANTS FROM ENTERING THE WATER COURSE.
5. CONSTRUCT NEW CULVERT PER PLAN.
6. INSTALL ALL INLET AND OUTLET RSP PER PLAN PRIOR TO DIVERTING WATER INTO THE NEW CULVERT.
7. REMOVE OR ABANDON OLD CULVERT PER THE PLANS, SPECIFICATIONS, OR AS DIRECTED.
8. INSTALL TEMPORARY DIVERSION INTO NEW CULVERT AND CONSTRUCT HEADWALL PER PLAN
9. UPON COMPLETION OF WORK, REMOVE THE DIVERSION AND ALLOW STREAM TO FLOW FREELY THROUGH THE NEW CULVERT.
10. RESTORE THE STREAM CHANNEL PER PLAN.

EROSION AND SEDIMENT CONTROL NOTES:

1. EROSION CONTROL BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE INSTALLED AND MAINTAINED DURING THE WET SEASON (OCTOBER 1 THROUGH APRIL 30). SEDIMENT CONTROL BMP'S SHALL BE INSTALLED AND MAINTAINED ALL YEAR.
2. ALL DRAINAGE INLETS IMMEDIATELY DOWNSTREAM OF THE WORK AREA AND WITHIN THE WORK AREA SHALL BE PROTECTED WITH SEDIMENT CONTROL PRACTICES AND/OR INLET FILTER BAGS, YEAR ROUND.
3. ALL AREAS DISTURBED DURING CONSTRUCTION, BY GRADING, TRENCHING, OR OTHER ACTIVITIES, SHALL BE PROTECTED FROM EROSION DURING THE WET SEASON.
4. SENSITIVE AREAS AND AREAS WHERE EXISTING VEGETATION IS BEING PRESERVED SHALL BE PROTECTED WITH CONSTRUCTION FENCING. SEDIMENT CONTROL BMP'S SHALL BE INSTALLED WHERE ACTIVE CONSTRUCTION AREAS DRAIN INTO SENSITIVE OR PRESERVED VEGETATION AREAS.
5. SEDIMENT CONTROL BMP'S SHALL BE PLACED ALONG THE PROJECT PERIMETER WHERE DRAINAGE LEAVES THE PROJECT. SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED YEAR-ROUND UNTIL THE CONSTRUCTION IS COMPLETE OR THE DRAINAGE PATTERN HAS BEEN CHANGED AND NO LONGER LEAVES THE SITE.
6. ALL SLOPES GREATER THAN 10:1 SHALL RECEIVE HYDROSEEDING OR OTHER EROSION CONTROL.
7. ALL FENCING AND EROSION CONTROL METHODS SHALL BE MAINTAINED THROUGHOUT ALL ON-SITE CONSTRUCTION ACTIVITIES.
8. ALL BMPS SHALL BE INSTALLED AND FUNCTIONING PRIOR TO ANY ANTICIPATED STORM EVENT.



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REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY
			EEX	JTM	JTM	TVCE

AMBIGUITY FARM TRUST

TEMPORARY CLEAR WATER DIVERSION

TOOBY RANCH ROAD, GARBERVILLE, CA
APN: 223-011-009

DRAWN BY: H. NAVARRO
DESIGNED BY: JTM
CHECKED BY: J. McKNIGHT
APPROVED BY: TVCE

DATE OF ISSUE: JUNE 2019
SCALE: AS SHOWN
PROJECT NO: 1361
DRAWING NO: C05

TRINITY VALLEY CONSULTING ENGINEERS, INC.

Attachment 6

Water Information

State Water Resources Control Board

Division of Water Rights
1001 I Street, 14th Floor ♦ Sacramento, California 95814 ♦ 916.341.5300
P.O. Box 2000 ♦ Sacramento, California 95812-2000
Fax: 916.341.5400 ♦ www.waterrights.ca.gov

Linda S. Adams
Secretary for
Environmental Protection

Arnold Schwarzenegger
Governor

In Reply Refer
to:300:BR:S015419

Mailed
June 11, 2007

Buck Mountain Ranch
Robert C. McKee
P.O. Box 400
Whitethorn, CA 95589

STATEMENT OF WATER DIVERSION AND USE NO. S015419 FOR DIVERSION FROM PRATT MOUNTAIN SPRING TRIBUTARY TO DEAN CREEK IN HUMBOLDT COUNTY

A recent review of the Division of Water Right's (Division) records indicates that you might not have received acknowledgement of your Statement of Water Diversion and Use (Statement) filed on May 7, 2003. Your Statement has been assigned identification number S015419. This number should be referenced in all correspondence with the Division regarding the Statement. Please notify the Division of any change in ownership or mailing address.

A Supplemental Statement of Water Diversion and Use (Supplemental Statement) will be mailed to you every three years, and must be filed with the Division prior to July 1 of that year. There is no fee for filing a Supplemental Statement. The submittal of a Supplemental Statement is a record of your water use. It is used by the Division to verify existing data and to notify you of water right matters related to your [riparian, pre-1914] claim.

If you have questions or concerns regarding this matter, please contact me at (916) 341-5376 or at brigby@waterboards.ca.gov.

Sincerely,

ORIGINAL SIGNED BY:

Bill Rigby
Engineering Associate
Data Management Unit

Enclosure: Copy of First Statement

Brigby: 6/11/07
U:\Herdrv\DMU\STATEMENTS\Backlog\1st notices\00001-Bklg 1st Stmt ltr sample.doc

SURNAME
BR 6/11/07

State of California, State Water Resources Control Board
Division of Water Rights
P.O. Box 2000, Sacramento, CA 95812-2000
Info: (916) 341-5300, FAX: (916) 341-5400 Web: http://waterrights.ca.gov

S015419

2005, 2006, 2007

SUPPLEMENTAL STATEMENT OF WATER DIVERSION AND USE FORM

Owner(s) of Record:
BUCK MOUNTAIN RANCH

Notifying the Division of Water Rights of ownership or address changes is the responsibility of the claimant

Please Complete and Return This Form by JULY 1, 2008

Primary Contact:
BUCK MOUNTAIN RANCH
PO BOX 400
WHITETHORN, CA 95589

Phone No. 707-986-7412
Fax No.
E-mail Address:

Agent:
Address:

Phone No.
Fax No.
E-mail Address:

2008 MAY 16 PM 1:48
STATE WATER RESOURCES CONTROL BOARD
DIV OF WATER RIGHTS SACRAMENTO

Source Name: PRATT MOUNTAIN SPRING
Tributary To:
County: Humboldt
Diversion within: NW 1/4 of NE 1/4 Section 14, T 4 S, R 4 E, HB&M

Year of First Use: 1910
Name of Diversion works:
Assessor Parcel Number of the Diversion site: 223-013-02

A. **Water is Used Under:** Riparian claim ___ Pre-1914 claim X Court Decree No.:_____ Other (explain): _____

B. **Year of First Use:** (Please provide if missing in the Division of Rights database (ewrims)) 1910 ©

C. **Rate of Diversion:** The rate of diversion of water for each month used and entered in the table below is shown in units of:
Gallons per minute (gpm) 2.77 Gallons per day (gpd) 4000 Cubic feet per second (cfs)_____

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Average Rate
2005	120 M	"	"	"	"	"	"	"	"	"	"	"	120 M
2006	"												"
2007	"												"

D. **Quantity of Water Used:** The quantity of water used each month and entered in the table below is shown in units of:
Gallons _____ Million Gallons (MG) _____ Acre-feet (AF) _____

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total Annual
2005													
2006													1.44 M.G.
2007													

E. **Purpose of Use** – Specify number of acres irrigated, stock watered, persons served, etc.

Irrigation _____ acres; Stockwatering 1000 AC.; Domestic 1 home;
Other (specify) _____

Parcel Number(s) of Place of Use: 223-013-02

F. **Changes in Method of Diversion** – Describe any changes in your project since your previous statement was filed.
(New pump, enlarged diversion dam, location of diversion, etc.)

G. Please answer only those questions below which are applicable to your project.

1. Conservation of water

a. Are you now employing water conservation efforts? YES ___ NO ___
Describe any water conservation efforts you have initiated:_____

b. If you are claiming credit for water conservation under section 1011 of the Water Code for your claimed pre-1914 appropriative right, please show the amount of water conserved:

Reduction in Diversions:
Year ____ _____ (AF/MG) Year ____ _____ (AF/MG) Year ____ _____ (AF/MG)

© I TOOK OVER IN OCT. 2000

Reduction in consumptive use:
Year ____ _____ (AF/MG) Year ____ _____ (AF/MG) Year ____ _____ (AF/MG)

I have data to support the above surface water use reductions due to conservation efforts. YES _____ NO _____

2. Water quality and wastewater reclamation

a. Are you now or have you been using reclaimed water from a wastewater treatment facility, desalination facility or water polluted by waste to a degree which unreasonably affects such water for other beneficial uses? YES ____ NO ____.

b. If you are claiming credit due to the substitution of reclaimed water, desalinated water or polluted water in lieu of a claimed pre-1914 appropriative right under section 1010 of the Water Code, please show amounts of reduced diversions and amounts of substitute water supply used:

Amount of reduced diversion:
Year ____ _____ (AF/MG) Year ____ _____ (AF/MG) Year ____ _____ (AF/MG)

State the type of substitute water supply: _____

Amount of substitute water supply used:
Year ____ _____ (AF/MG) Year ____ _____ (AF/MG) Year ____ _____ (AF/MG)
I have data to support the above surface water use reductions due to the use of a substitute water supply. YES _____ NO _____.

3. Conjunctive use of surface water and groundwater

a. Are you now using groundwater in lieu of surface water? YES _____ NO _____.

b. If you are claiming credit due to the substitution of groundwater for a claimed pre-1914 appropriative right under section 1011.5 of the Water Code, please show the amounts of groundwater used:
Year ____ _____ (AF/MG) Year ____ _____ (AF/MG) Year ____ _____ (AF/MG)
I have data to support the above surface water use reductions due to the use of groundwater. YES _____ NO _____.

I understand that it may be necessary to document the water savings claimed in "F" above if credit under Water Code sections 1010 and 1011 is sought in the future.

I declare that the information in this report is true to the best of my knowledge and belief.

DATE: 5-13, 2008 at WHITETHORN, California

SIGNATURE: Robert McKee

PRINTED NAME: ROBERT (first name) C. (middle initial) McKEE (last name)

COMPANY NAME: BUCK MOUNTAIN RANCH

If there is insufficient space for your answers, please use the space provided below or add an attachment sheet.

ITEM	CONTINUATION

GENERAL INFORMATION PERTAINING TO WATER RIGHTS IN CALIFORNIA

There are two principal types of surface water rights in California. They are riparian and appropriative rights.

A riparian right enables an owner of land bordering a natural lake or stream to take and use water on his riparian land. Riparian land must be in the same watershed as the water source and must never have been severed from the sources of supply by an intervening parcel without reservation of the riparian right to the severed parcel. Generally, a riparian water user must share the water supply with other riparian users. Riparian rights may be used to divert the natural flow of a stream but may not be used to store water for later use or to divert water which originates in a different watershed, water previously stored by others, return flows from use of groundwater, or other "foreign" water to the natural stream system.

An appropriative right is required for use of water on non-riparian land and for storage of water. Generally, appropriative rights may be exercised only when there is a surplus not needed by riparian water users. After the formation of the California Water Commission back on December 19, 1914, new appropriators have been required to obtain a permit and license from the State. Appropriative rights can be granted to waters "foreign" to the natural stream system.

Statements of Water Diversion and Use must be filed by riparian and pre-1914 appropriative water users as set forth in Water Code section 5100 with specific exceptions. The filing of a statement (1) provides a record of water use, (2) enables the State to notify such users if someone proposes a new appropriation upstream from their diversions, and (3) assists the State to determine if additional water is available for future appropriators.

The above discussion is provided for general information. For more specific information concerning water rights, please contact an attorney or write to this office. We have several pamphlets available. They include: (1) Statements of Water Diversion and Use, (2) Information Pertaining to Water Rights in California, and (3) Appropriation of Water in California.

STATEMENT OF WATER DIVERSION & USE

CLAIMANT: Bulk Mountain Ranch - Robert C McKee General Partner

NAME INDEX(S): _____ FILE NUMBER: S015419

CLAIM(S) RECEIVED BY: MAIL ✓ OC ____ DATE REC'D: 5/7/03

ACCEPT: ✓ RETURN: _____ STREAMCODE: 1-012-57-00-0

QUAD MAP CODE: DD-039 QUAD MAP NAME: HARRIS

CALIF COORD: ZONE 1 N: 290750 E: 1524 850

REMARKS: _____

CS4/KSN

S015419

State of California
State Water Resources Control Board
DIVISION OF WATER RIGHTS
P.O. Box 2000, Sacramento, CA 95812-2000
Info: (916) 341-5300, FAX: (916) 341-5400, Web: http://www.waterrights.ca.gov

STATE WATER RESOURCES CONTROL BOARD
2003 MAY -7 PM 3:20
DIV. OF WATER RIGHTS SACRAMENTO

STATEMENT OF WATER DIVERSION AND USE

(This is not a Water Right)
This Statement should be typewritten or legibly written in ink and submitted to the address above.
A separate statement should be filed for each point of diversion. A duplicate copy will be returned for your file.

A. Name of person diverting water BUCK MOUNTAIN RANCH - ROBERT C. McKEE Co. ptnr.
Address P.O. BOX 400 WHITETHORN, CA. 95589
Telephone: (707) 986-7417

B. Water is used under: Riparian claim; _____ Pre 1914 right; X Other (explain) _____

C. Name of the body of water at the point of diversion
POINT OF DIVERSION IS A SPRING REFERRED TO AS THE PRATT MOUNTAIN SPRING
Tributary to DEAN CREEK

D. Point of diversion is located within HUMBOLDT County on Assessors Parcel # 223-013-02, being within the N/W 1/4 of N/E 1/4 of Section 14, of Township 4S, Range 4E, H B&M.
Name of works _____

E. Do you own the land at the point of diversion? Yes X NO ___ The name and address of the owner of the land is:

F. Capacity of diversion works _____ (cfs, gpm, or gpd) Capacity of storage tanks or reservoir 35000 (gallons or acre-feet)
Type of diversion facility: Gravity X Pump _____
Method of measurement: Weir _____ Flume _____ Electric Meter _____ Estimate X

G. Enter the amount (or approximate amount) of water used each month.
Amounts below are shown in: Gallons _____ Acre-feet _____ Other _____

Year	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total Annual
	120M	"	"	"	"	"	"	"	"	"	"	"	1,440M

H. Annual water use in recent years: Maximum _____ (gallons or acre-feet) Minimum _____ (gallons or acre-feet)
Year of first use (nearly as known) 1910

I. Purpose of use: What is the water being used for: (example, number of acres and type of crop irrigated, average number of persons served, number of stock watered, etc.) 1500 ACRES GRAZING LAND - POSSIBLE FUTURE HOMES (4) CURRENTLY 1 HOME AND 1 START

J. General description or location of place of use (example: 40 acres of pasture located 3 miles from Happyville on Alpha Road) _____
1000 ACRES SERVED BY TOOBY RANCH RD OFF COUNTY ROAD TO ALDERPOINT

K. Map: Please locate the point of diversion and place of use on a print of a USGS quad map, or make a sketch on the section grid provided on the reverse side of this form. The sketch should identify the section lines, prominent local landmarks and roads, your point of diversion, and your place of use (your house, acreage irrigated, etc.).

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demands and cut your energy costs, see our web-site at: http://waterrights.ca.gov.
Additional copies of this form and water right information can be obtained at www.waterrights.ca.gov.

STATEMENT (3-01)

S015419

L. Please answer only those questions below which are applicable to your project.

1. Conservation of water
   a. Describe any water conservation efforts you may have started: REPLACED 15,000 GAL IRON TANKS WITH 38,000 GAL POLY TANKS HOUSED INSIDE OF METAL BLDG.

2. Water quality and wastewater reclamation
   a. Are you now or have you been using reclaimed water from a wastewater treatment facility, desalination facility or water polluted by waste to a degree which unreasonably affects such water for other beneficial uses? YES __ NO X

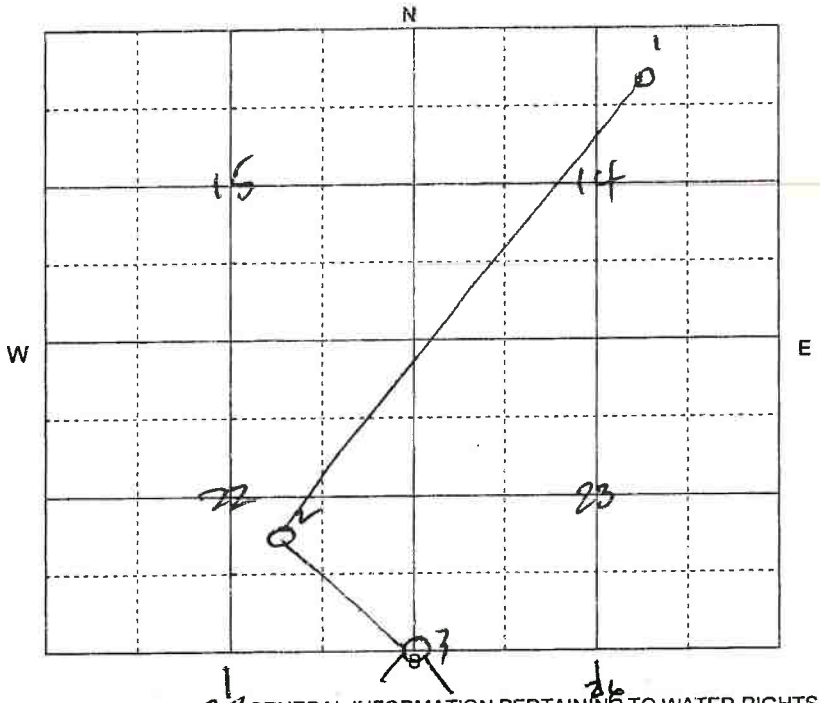
I declare under penalty of perjury that the information in this report is true to the best of my knowledge and belief.

DATE: 5-5-2003 at WHITETHORN, California

SIGNATURE: Robert C McKee

PRINTED NAME: ROBERT C. MCKEE
(first name) (middle init.) (last name)

COMPANY NAME: BUCK MOUNTAIN RANCH



The location of the diversion point and the place of use may be sketched on the section grid provided. If it is used, please enter the section(s), township, range and the base & merridian below. Also, show any streams or other landmarks that will assist in identifing the area.

Section(s) 14-22-26-27

Township 4S

Range 4E

H B&M

GENERAL INFORMATION PERTAINING TO WATER RIGHTS IN CALIFORNIA

There are two principal types of surface water rights in California. They are riparian and appropriative rights.

A riparian right enables an owner of land bordering a natural lake or stream to take and use water on his riparian land. Riparian land must be in the same watershed as the water source and must never have been severed form the source of supply by an intervening parcel without reservation of the riparian right to the severed parcel. Generally, a riparian water user must share the water supply with other riparian users. Riparian rights may be used to divert the natural flow of a stream but may not be used to 1) store water for later use 2) divert water which originates in a different watershed 3) divert water released from storage, or 4) divert return flows from groundwater use.

An appropriative right is required for use of water on nonriparian land and for storage of water. Generally, appropriative rights may be exercised only when there is a surplus not needed by riparian water users. Since 1914 new appropriators have been required to obtain a permit and license form the State.

Statements of Water Diversion and Use must be filed by a riparian and per-1914 appropriative water users. The filling of a statement (1) provides a record of water use, (2) enables the State to notify such users if someone proposes a new appropriation upstream from their diversion, and (3) assists the State to determine if additional water is available for future appropriators.

The above discussion is provided for general information. For more specific information concerning water rights, please contact an attorney or write to this office. We have several pamphlets available. They include: (1) Statements of Water Diversion and Use, (2) Information Pertaining to Water Right in California and (3) Appropriation of Water in California.

Addition to G & H

The maximum and minimum would be the same as the water has always been free to flow through the pipeline continuously.

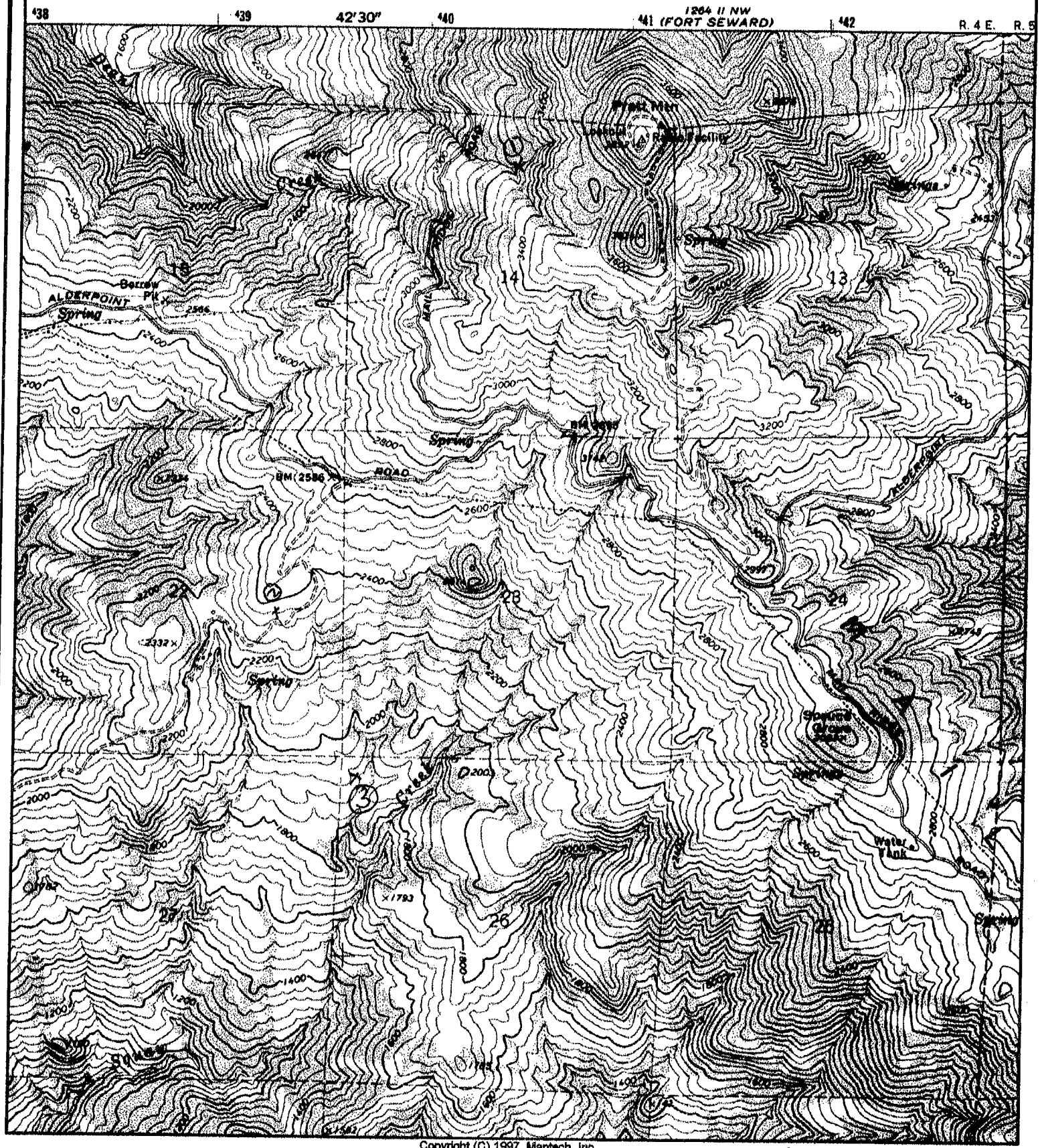
The year of 1910 is admittedly a self-serving guess. That would allow about 30 years of ownership before the pipeline was installed. The pipeline is entirely on the ranch property.

I do not know how much water runs through the pipe. It has run continuously and I have estimated that it would run as much as 4,000 gallons per day but would likely vary some from winter to summer.

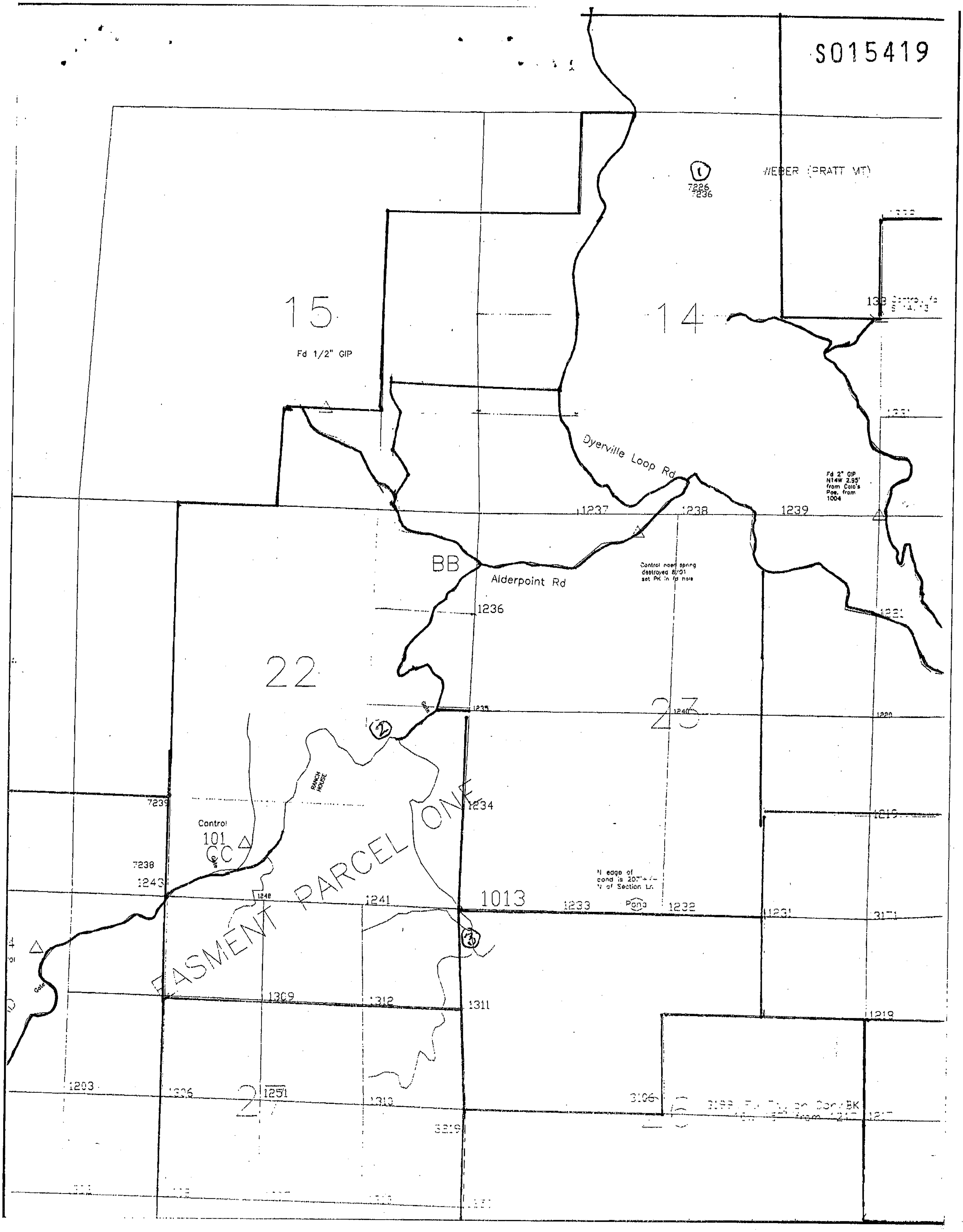
1 = SPRING HEAD
2 = 38,000 GAL STORAGE + WATER TO RANCH HOUSE
3 = MANIFOLD FOR WATER DISTRIBUTION (3 LINES)

S015419

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES



HARRIS QUAD-


S015419
WEBER (PRATT MT)
7226
7236
15
14
Fd 1/2" GIP
Dyerville Loop Rd
1237
1238
1239
BB
Alderpoint Rd
Control noted spring
destroyed 8/01
set PK in fd hole
1236
22
1240
1235
1234
RANCH HOUSE
7239
Control
101
CC
7238
1243
EASMENT PARCEL ONE
1248
1241
1013
1233
Pond
1232
1231
N edge of
cond is 207'+/-
N of Section Ln
1309
1312
1311
1203
1306
1251
1310
3219
3106

RECORDING REQUESTED BY

Humboldt Land Title Company
AND WHEN RECORDED MAIL TO

Name Michael Zevin and Michael Linde
Address P.O. Box 998
Redway, CA 95560

Order No.

2002-17695-5
Recorded — Official Records
Humboldt County, California
Carolyn Crnich, Recorder
Recorded by BUCK MOUNTAIN RANCH

Rec Fee	19.00
Doc Trf Tax	308.00
No PCOR	20.00
Survey Mon	10.00
Clerk: KJ Total:	357.00

Jun 11, 2002 at 11:08

SPACE ABO

GRANT DEED

THE UNDERSIGNED GRANTOR(s) DECLARE(s)
City of
Parcel No. Portion APN 223-011-01

Documentary Transfer Tax is $308.00
☑ computed on full value of interest or property conveyed, or
☐ full value less value of liens or encumbrances remaining at the time of sale

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,
BUCK MOUNTAIN RANCH LIMITED PARTNERSHIP, a California limited partnership
hereby GRANT(s) to
MICHAEL ZEVIN a single man, an undivided ½ interest; and
MICHAEL LINDE, a single man, an undivided ½ interest

the following real property in the unincorporated area of the County of **Humboldt**, State of **California:**
See Exhibit A attached hereto and made a part hereof.

Dated: **October 15, 2001**

STATE OF CALIFORNIA
COUNTY OF HUMBOLDT } S.S.

BUCK MOUNTAIN RANCH LIMITED PARTNERSHIP, a California limited partnership
By: BRICELAND CORPORATION, a California corporation, General Partner
BY: _____
Robert C. McKee, President

On June 11, 2002 before me,
the undersigned
a Notary Public in and for said County and State, personally appeared
Robert C. McKee

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies) and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s), acted, executed the instrument.

WITNESS my hand and official seal.
Signature _____
My Commission Expires: _____

SUE E. BOSCH
Comm. #1280097
NOTARY PUBLIC
HUMBOLDT COUNTY, CALIFORNIA
My commission expires Nov. 8, 2004

(This area for official notorial seal)

MAIL TAX STATEMENTS TO PARTY SHOWN ON THE FOLLOWING LINE; IF NO PARTY SHOWN, MAIL AS DIRECTED ABOVE

Name Street Address City & State

0

Exhibit A

DESCRIPTION

That real property situate in the County of Humboldt, State of California, described as follows:

PARCEL ONE:

The South Half of the Northwest Quarter, and the Northeast Quarter of the Northwest Quarter, and the Northwest Quarter of the Northeast Quarter of Section 26, Township 4 South, Range 4 East, Humboldt Meridian, as contained in the Patent recorded in Book 6 of Patents, Page 438, Humboldt County Records.

PARCEL TWO:

The Northwest Quarter of the Northwest Quarter of Section 26, Township 4 South, Range 4 East, Humboldt Meridian, as contained in the Patent, recorded in Book 16 of Patents, Page 570, Humboldt County Records.

PARCEL THREE:

A non-exclusive easement 70 feet in width for ingress and egress and public utilities in Sections 22 and 23 in Township 4 South, Range 4 East;
more particularly described as that portion of Parcel One of Tract B in the Partial Reconveyance recorded February 21, 2001, as Instrument No. 2001-4176-36, Humboldt County Records, which lies Northeasterly of the East line of the Northwest Quarter of the Southeast Quarter of said Section 22.

PARCEL FOUR:

Non-exclusive easements for ingress, egress and public utility purposes, described as Parcels One and Two of Exhibit B attached hereto.

RESERVING unto the grantor, its successors and assigns, non-exclusive easements for ingress, egress and public utility purposes across those portions of Parcel Two above which lie within the easements described as Parcels One and Two of Exhibit B attached hereto.

EXHIBIT B

ROAD EASEMENT DESCRIPTION #5 OVER THE TOOBY RANCH

****

PARCEL ONE

An unnamed road running southerly from the Tube Road in the Northeast ¼ of the Southeast ¼ of Section 22 in Township 4 South, Range 4 East, Humboldt Meridian.

A Easement 70 feet in width lying 35 feet on each side of the following described centerline in the East ½ Southeast ¼ of Sections 22, in Southwest ¼ of the Southwest ¼ of Section 23, in the Northwest ¼ of the Northwest ¼ of Section 26, and in the East ½ of the Northeast ¼ Sections 27 in Township 4 South, Range 4 East, Humboldt Meridian, in the County of Humboldt, State of California, more particularly described as follows:

COMMENCING at a point hereinafter referred to as Point "AA" which is marked by an aluminum cap in a well stamped "CA HPGN-DENSIFICATION STA. 01-KD 1993" located on the west side of State Highway 101 at the south end of the Town of Garberville established and published by the National Geodetic Survey of the National Ocean and Atmospheric Administration as a Densification Station of the High Precision Geodetic Network.

Thence N 82°16'48" E 29,448.21' to a 2" GIP marking the Northeast Corner of Section 23 of said Township 4 South, Range 4 East and shown as Note #37 on Book 32 of Records of Surveys at Page 116 and Note #10 on Book 38 of Records of Surveys at Page 1.

Thence S 65°15'09" W 7,129.69' to a point referred to as Point "QQ", said point is located at the easterly terminus of the thirty-second course described as N 83°17'31" W 121.103' in Tract "B" Parcel One and known as the Tube Road described in Document #2001-4176-36 Recorded February 21, 2001 and the POINT OF BEGINNING.

Thence along the center of an existing road the following courses.

Thence S 21°53'11" E	93.023'
Thence S 56°13'30" E	227.056'
Thence S 66°11'21" E	190.082'
Thence S 55°04'16" E	150.309'
Thence S 34°05'03" E	60.697'
Thence S 13°06'11" W	78.551'
Thence S 18°56'26" W	151.522'
Thence S 23°44'00" W	136.113'

ROAD EASEMENT DESCRIPTION #5 OVER THE TOOBY RANCH

Thence	S 45°34'30" W	133.535'	
Thence	S 86°52'16" W	70.336'	
Thence	N 62°50'39" W	70.130'	
Thence	S 59°59'26" W	51.471'	
Thence	S 18°52'42" E	82.263'	
Thence	S 11°18'53" E	83.655'	
Thence	S 01°56'36" E	300.688'	
Thence	S 07°46'44" E	157.303'	
Thence	S 24°16'17" E	217.069'	
Thence	S 35°25'36" E	206.118'	
Thence	S 35°23'44" E	120.000'	
Thence	S 37°28'13" E	77.191'	
Thence	S 53°24'07" E	234.008'	
Thence	S 31°08'26" E	165.670' to the North Line of Section 27	
Thence	S 31°08'26" E	76.838'	
Thence	S 48°43'33" E	122.450'	
Thence	S 48°43'33" E	21.023' to the East Line of Section 27	
Thence	S 23°53'19" E	79.482'	
Thence	S 10°16'33" W	56.849' to a point hereinafter referred to as Point "RR"	
Thence	S 00°46'13" W	72.440'	
Thence	S 10°02'29" E	189.242'	
Thence	S 27°07'49" W	73.081'	

ROAD EASEMENT DESCRIPTION #5 OVER THE TOOBY RANCH

Thence S 64°27'24" W 48.830'

Thence S 64°27'24" W 20.417' to the East Line of Section 27

PARCEL TWO

An unnamed road running westerly from Parcel One above described in the Sections 22, 26 and 27 in Township 4 South, Range 4 East, Humboldt Meridian.

A Easement 70 feet in width lying 35 feet on each side of the following described centerline in the Southeast ¼ of the Southeast ¼ of Sections 22, in the Northwest ¼ of the Northwest ¼ of Section 26, and in the Northeast ¼ of the Northeast ¼ Sections 27 in Township 4 South, Range 4 East, Humboldt Meridian, in the County of Humboldt, State of California, more particularly described as follows:

BEGINNING at a point referred to as Point "RR" in Parcel One above described, thence along the center of an existing road the following courses.

Thence S 80°49'54" W 40.660' to the East Line of Section 27

Kelly E. Sanders
Humboldt County
County Clerk-Recorder
825 Fifth Street, 5th Floor
Eureka, CA 95501
Recorder: (707) 445-7593
Vitals: (707) 445-7382
www.humboldtgov.org

Receipt: 16-18881

Product	Name	Extended
COPY	OR COPY	$6.00
	Transaction ID	SST257S19
	Document	2002-017695
	Document Number	2002-017695
	# of Pages	5
	# of Copies	1
	Requestor	peter
Total		$6.00
Tender (Cash)		$6.00
Paid By	PETER	

Please review all documents. All sales are final.

12/14/16 4:58 PM counter

State Water Resources Control Board

January 10, 2018

In Reply Refer to:
MK:**S027605**

PETER HUSON
705 US HIGHWAY 101
GARBERVILLE, CA 95542

Diverter of Record: **AMBIGUITY FARM LLC**

STATEMENT OF WATER DIVERSION AND USE (**S027605**) FOR DIVERSION FROM **UNNAMED OFF STREAM POND**, IN **HUMBOLDT** COUNTY

The State Water Resources Control Board, Division of Water Rights (Division), received your Initial Statement of Water Diversion and Use (Statement) filed on **10/31/2017** for the diversion site named **223-011-006/007/009**. This letter is confirmation that the Division has reviewed and processed the Statement related to your claim. Your Statement has been assigned identification number **S027605**. This number should be referenced in all correspondence with the Division regarding the Statement.

IMPORTANT: PLEASE NOTE BELOW

Beginning January 2016 and every year there after you will be required to file an on-line Supplemental Statement of Water Diversion and Use Report (Supplemental Statement). The Division will **NOT** notify you when the supplemental statement is due. If you would like to be notified when reporting is due and other reporting related material, please subscribe to our Lyris list (Water Rights Reporting Notification) at:

http://www.waterboards.ca.gov/resources/email_subscriptions/swrcb_subscribe.shtml.

All reports must be completed online through the State Water Board's Report Management System (RMS); Paper copies are not available.

To report online, go to **www.waterboards.ca.gov/rms** and login with your user ID and password. The information required to login and access your online Supplemental Statement is:

User ID (Statement ID): **S027605**
Password (Reporting Identifier): **R5YPCQ**

Please retain the User ID and Password for future reference.

If this water diversion was used for the purpose of cannabis cultivation and was not reported with your Initial Statement of Water Diversion and Use filing under the Special Use attachment, fill out the Special Use attachment contained in the Initial Statement of Water Diversion and Use

Attachment 7

SWRCB Notice of Applicability (NOA)

September 6, 2019 WDID:1_12CC419563

AMBIGUITY FARM LLC
ATTN: MICHAEL LINDE
TOOBY RANCH ROAD
GARBERVILLE, CA 95542

Subject: Notice of Applicability - Waste Discharge Requirements Water Quality Order WQ 2019-0001-DWQ

The attached Notice of Applicability provides notice that the requirements of the State Water Board *Cannabis Cultivation Policy- Principles and Guidelines for Cannabis Cultivation* (Policy), and the *General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities,* Order WQ 2019-0001-DWQ (General Order – previously WQ 2017-0023-DWQ, with updates and revisions effective April 16, 2019) are applicable to the site as described below. Based on the information provided, the Discharger self-certifies the cannabis cultivation activities are consistent with the requirements of the State Water Board Policy and General Order.

Please direct all submittals, discharge notifications, and questions regarding compliance and enforcement to the North Coast Regional Water Quality Control Board Cannabis Program at (707) 576-2676 or northcoast.cannabis@waterboards.ca.gov.

Sincerely,

Matthias St. John
Executive Officer
North Coast Regional Water Quality Control Board

190906_1L_1_12CC419563_1B16827CHUM_Ambiguity_Farm_NOA_TW

NOTICE OF APPLICABILITY – WASTE DISCHARGE REQUIREMENTS, WATER QUALITY ORDER WQ 2019-0001-DWQ, AMBIGUITY FARM LLC, HUMBOLDT COUNTY APN(s) 223-011-009

Ambiguity Farm LLC (hereafter "Discharger") submitted information through the State Water Resources Control Board's (State Water Board's) online portal on June 30, 2019, for discharges of waste associated with cannabis cultivation related activities. Based on the information provided, the Discharger self-certifies the cannabis cultivation activities are consistent with the requirements of the Policy and General Order. This letter provides notice that the Policy and General Order are applicable to the site as described below. You are hereby assigned waste discharge identification (WDID) number **1_12CC419563**. The original WDID assigned by the North Coast Regional Water Quality Control Board was 1B16827CHUM.

The Discharger is responsible for all the applicable requirements in the Policy, General Order, and this Notice of Applicability (NOA). This includes making any necessary changes to the enrollment, and the Discharger is the sole person or entity with legal authority to make those changes. The Discharger will be held liable for any noncompliance with the Policy, General Order, and the NOA.

1. FACILITY AND DISCHARGE DESCRIPTION

All dischargers enrolled under the North Coast Regional Water Board's Order (R1-2015-0023) or the Central Valley Regional Water Board's Order (R5-2015-0113) as of October 17, 2017, (the adoption date of the General Order) may retain the reduced setbacks applicable under the appropriate Regional Water Board order unless the Executive Officer for the appropriate Regional Board determines that the reduced setbacks applicable under their regional order are not protective of water quality. However, sites that expand their cannabis cultivation area or other cannabis related activities must comply with the riparian setbacks in the General Order.

The information submitted by the Discharger states the disturbed area is equal to or greater than 2,000 square feet and less than 1 acre (43,560 square feet) no portion of the disturbed area is within the setback requirements, no portion of the disturbed area is located on a slope greater than 30 percent, and the cannabis cultivation area is less than or equal to 1 acre.

Based on the information submitted by the Discharger, the cannabis cultivation activities are classified as Tier 1 Low Risk.

2. SITE-SPECIFIC REQUIREMENTS

The Policy and General Order are available on the Internet at:
https://www.waterboards.ca.gov/water_issues/programs/cannabis/cannabis_water_quality.html

The Discharger shall ensure that all site operating personnel know, understand, and comply with the requirements contained in the Policy, General Order, this NOA, and the Monitoring and Reporting Program (MRP, Attachment B of the General Order). Note that the General Order contains standard provisions, general requirements, and prohibitions that apply to all cannabis cultivation activities.

The application requires the Discharger to self-certify that all applicable Best Practicable Treatment or Control (BPTC) measures are being implemented, or will be implemented by the onset of the winter period (November 15 - April 1), following the enrollment date. Landowners of the cultivation site in the North Coast Region are required to submit and implement Site Management Plans that describes how BPTC measures are implemented property-wide, including BPTC measures implemented to address discharges from legacy activities (e.g. former timber harvest, road building, mining, etc.) at the site per Provision C.1.a. of the General Order. Dischargers that cannot implement all applicable BPTC measures by the onset of the winter period, following their enrollment date, shall submit to the appropriate Regional Water Board a *Site Management Plan* that includes a time schedule and scope of work for use by the Regional Water Board in developing a compliance schedule as described in Attachment A of the General Order.

The Policy and General Order require that, prior to conducting any work in streams or wetlands, the Discharger obtain water quality certification from the Water Boards and other required permits from other agencies (e.g. a Clean Water Act section 404 permit from the United States Army Corps of Engineers, a Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife, and other local permits). Enrollment in the General Order requires that the Discharger obtain water quality certification for any such work, but this NOA does not provide the necessary certification. If the Discharger proposes or requires work in streams or wetlands, they must apply for water quality certification separately by filling out and submitting a separate application for that work. The application is available for download at the following Regional Water Board website:
https://www.waterboards.ca.gov/northcoast/water_issues/programs/cannabis/

Currently, the direct link to that application is as follows:
https://www.waterboards.ca.gov/northcoast/water_issues/programs/cannabis/pdf/190403/180731_031616_401_WQ2017-0023-Application.pdf

Note: Water Quality Certifications require separate application and monitoring fees. A fee calculator and additional information are available at:
https://www.waterboards.ca.gov/northcoast/water_issues/programs/water_quality_certification/#401_calc

During reasonable hours, the Discharger shall allow the State Water Board or Regional Water Board (collectively Water Boards), California Department of Fish and Wildlife, CAL FIRE, and any other authorized representatives of the Water Boards upon presentation of a badge, employee identification card, or similar credentials, to:

i. enter premises and facilities where cannabis is cultivated; where water is diverted, stored, or used; where wastes are treated, stored, or disposed; or in which any records are kept;
i. access and copy, any records required to be kept under the terms and conditions of the Policy and General Order;
ii. inspect, photograph, and record audio and video, any cannabis cultivation sites, and associated premises, facilities, monitoring equipment or device, practices, or operations regulated or required by the Policy and General Order; and
iii. sample, monitor, photograph, and record audio and video of site conditions, any discharge, waste material substances, or water quality parameters at any location for the purpose of assuring compliance with the Policy and General Order.

3. TECHNICAL REPORT REQUIREMENTS

The following technical report(s) shall be submitted by the Discharger as described below:

A Site Management Plan, by September 27, 2019, consistent with the requirements of General Order Provision C.1.a., and Attachment A, Section 5. Attachment D of the General Order provides guidance on the contents of the Site Management Plan.

A Site Closure Report must be submitted 90 days prior to permanently ending cannabis cultivation activities and seeking to rescind coverage under the General Order. The *Site Closure Report* must be consistent with the requirements of General Order Provision C.1.e., and Attachment A, Section 5. Attachment D of the General Order provides guidance on the contents of the *Site Closure Report.*

4. MONITORING AND REPORTING PROGRAM

The Discharger shall comply with all provisions of the Monitoring and Reporting Program (MRP), which appears as Attachment B to the General Order. The Discharger shall also comply with all provisions of the *North Coast Regional Supplement to Annual Monitoring and Reporting Requirements for Statewide Cannabis General Order WQ 2017-0023-DWQ* (Regional Supplement), which independently appears as Investigative Order No. R1-2019-0023, issued by the Regional Water Board Executive Officer on March 22, 2019. Annual reports for both sets of requirements shall be submitted to the Regional Water Board in a combined report by March 1 following the year being monitored through the online portal (https://public2.waterboards.ca.gov/cgo). The Discharger shall not implement any changes to the MRP or to the Regional Supplement unless and until a revised MRP or Regional Supplement is issued by the Regional Water Board Executive Officer or the State Water Board Division of Water Quality Deputy Director, or the State Water Board Chief Deputy Director.

A copy of Attachment B to the General Order can be obtained online at the following location, or by contacting staff at the phone number and email address listed below. https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2019/wqo2019_0001_dwq.pdf#page=32.

A copy of the Regional Supplement can be obtained online at the following location, or by contacting staff at the phone number and email address listed below. https://www.waterboards.ca.gov/northcoast/board_decisions/adopted_orders/pdf/2019/19_0023_Regional%20Supplement%2013267%20Order.pdf.

5. ANNUAL FEE

According to the information submitted, the discharge is classified as Tier 1 Low Risk. The 2018-2019 annual fee for that tier and risk level was set at $600, but please note that the Fee Schedule is updated annually and future fees may be invoiced at different rates. Invoices are sent by the State Water Board at the beginning of each calendar year (generally in February). Do not submit payments without receiving an invoice. If you have questions or concerns about your fees please contact the Fee Branch at FeeBranch@waterboards.ca.gov or (916) 341-5247. The fee is due and payable on an annual basis until coverage under this General Order is formally rescinded. To rescind coverage, the Discharger must submit a Request for Termination in writing through the online portal (available at: https://public2.waterboards.ca.gov/cgo), including a Site Closure Report at least 90 days prior to termination of activities and include a final MRP report.

6. TERMINATION OF COVERAGE UNDER THE GENERAL ORDER & REGIONAL WATER BOARD CONTACT INFORMATION

Enrollees that propose to terminate coverage under the General Order must submit a Request for Termination in writing through the online portal (https://public2.waterboards.ca.gov/cgo). The Request for Termination consists of a formal statement regarding the reason for requesting termination (i.e. cultivation is no longer occurring, the property is being sold, etc.), documentation that the site is in compliance with the General Order, including dated photographs and a written discussion. If the site is not meeting the requirements of the General Order, then the enrollment cannot be terminated. Regional Water Board staff will review the Request for Termination for completeness before determining if a property inspection, enrollment termination, or a request for additional information is appropriate.

If the Discharger cannot comply with the General Order, or will be unable to implement an applicable BPTC measure contained in Attachment A by the onset of the winter period each year, the Discharger shall notify the North Coast Regional Cannabis Unit staff at (707) 576-2676 or northcoast.cannabis@waterboards.ca.gov so that a site-specific compliance schedule can be developed.

Cc: Kevin Porzio, State Water Resources Control Board,
dwq.cannabis@waterboards.ca.gov
Cheri Sanville, California Department of Fish and Wildlife,
cheri.sanville@wildlife.ca.gov
Cliff Johnson, Humboldt County Planning and Building,
cjohnson@co.humboldt.ca.us