



## Letter of Transmittal

**Date: Friday March 8<sup>th</sup>, 2019**

**To: Kip Morais / SLO County Planning Department**

**From: Kirk Consulting / Francisco Vargas**

**RE: Information Hold Response Farm Worker Housing- DRC2018-00001**

---

Please find the following materials for information hold response DRC2018-00001- Farm Worker Housing Minor Use Permit.

- One Copy of the Updated Supplemental Development Statement- prepared by Kirk Consulting (One Copy)
- Information Hold Response (one copy)
- Fire Master Protection Plan Report dated 12-12-18- (Collings & Associates) (Two Copies)
- San Joaquin Kit Fox Report- (Kevin Merk) (Two Copies)

Plans:

- Preliminary Utility Plans: Water & Septic (Wallace Group)
- Preliminary Grading Plans: Utilities, Access Road(s) and Development Pad. (Tom Howell)
- Preliminary Fire Master Protection Plan (Collings & Associates)
  - Four (4) Full Size 24 x 36
  - One (1) Reduced Size 11X17
  - One (1) Reduced Size 8.5 x 11

Note: CD contains digital copies of the materials submitted in this packet.

**Cordially,**

**Francisco Vargas**

**[francisco@kirk-consulting.net](mailto:francisco@kirk-consulting.net)**

**Phone: (805)461-5765, Ext 19**

**Fax: (805) 462-9466**



*A California Corporation*

## Transmittal Memorandum

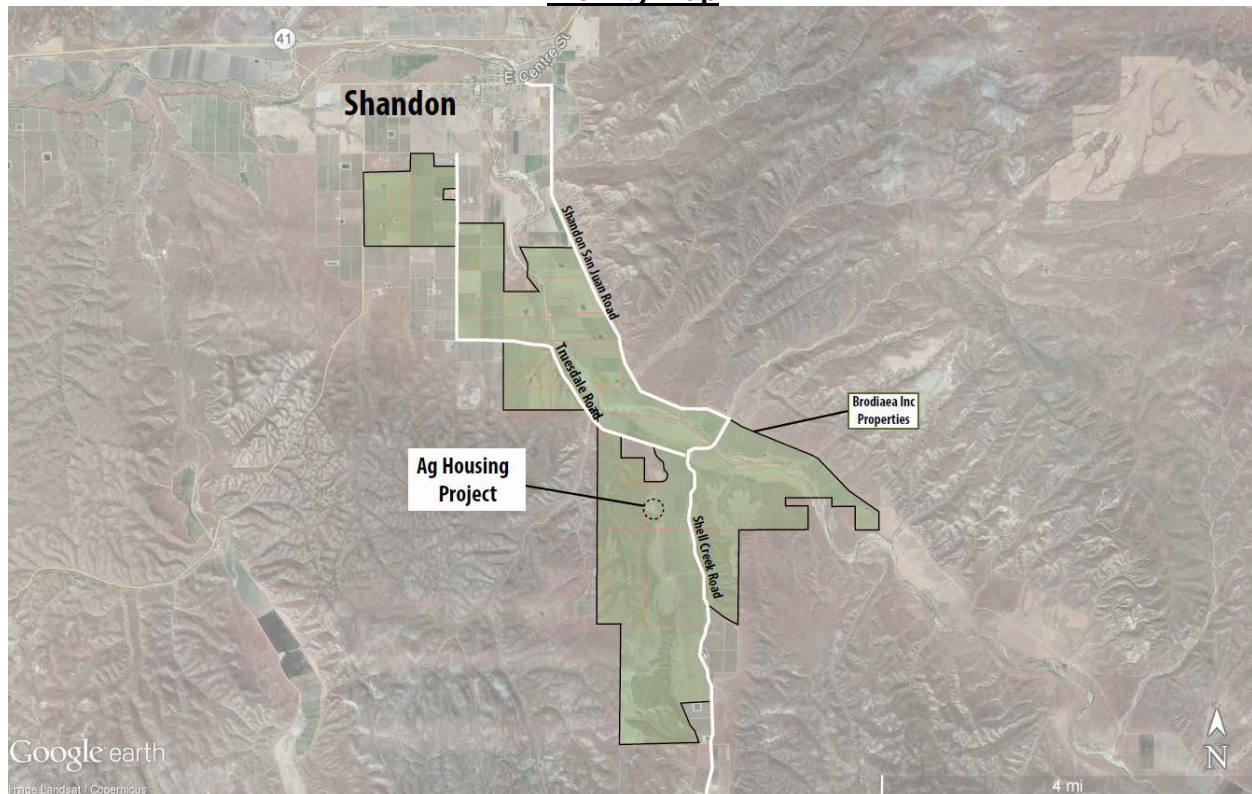
**Date:** March 7, 2019  
**To:** San Luis Obispo Planning and Building  
**From:** Kirk Consulting – Francisco Vargas  
**Subject:** Farm Worker Housing Project DRC2018-00001  
**Planning Area:** North County Planning Area, Shandon-Carrizo Sub Area

---

### **Project Site:**

The application is a request for a Minor Use Permit approval to allow the Phased Construction of a Farm Worker Housing project for up to 240 workers per the Farm Support Group Quarters provisions contained in LUO Section 22.30.480. The proposed construction site for the Farm Worker Housing project is located approximately 4.2 miles south of the Community of Shandon, on a 172-acre parcel off of Shell Creek Road (CO 79-138) owned by Brodiaea Inc (Brodiaea). The parcel for which the housing project is being proposed is within a larger group of properties owned by Brodiaea. The contiguous properties owned by Brodiaea total approximately 5,600 acres. The vicinity map below demonstrates the location of the Farm Worker Housing project proposed within the greater boundaries of the site owned by Brodiaea (green area).

### **Vicinity Map**



**Compliant with H-2A Farm Worker Agricultural Guest Worker Program:**

The housing development will be **compliant** with the H-2A Farm Worker Agricultural Guest Worker Federal requirements, if/when the employer determines to participate in this program. The proposed housing may or may not be used for farm workers that are participating in the H-2A program and will largely depend on local labor availability. In other words, housing will first be offered to the local population, however, if insufficient labor is acquired locally, the foreign guest workers will be required.

The H-2A agricultural worker program is a Federal program that allows employers to apply to hire workers from other countries on temporary work permits to fill agricultural jobs that can last up to ten (10) months. Prior to approval for the H-2A Program, the employer must demonstrate to the U.S. Department of Labor (DOL) and U.S. Citizenship and Immigration Services (USCIS) that there is a shortage of US workers and that seasonal workers from another Country are required. One of the requirements from the DOL is that the employer provide housing at no cost to the H-2A workers whether it is “employer-provided housing” onsite or “rental” and/or “public accommodations”.

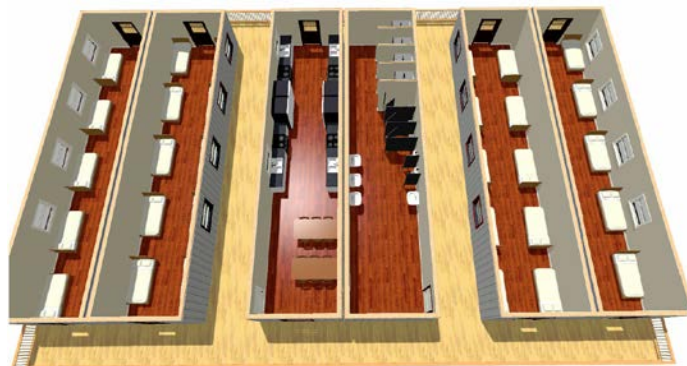
**Farm Labor Support Overview:**

Brodiaea has retained Mesa Vineyard Management Inc to manage the farm labor needs of the property. Mesa Vineyard Management Inc., a full service management company, focuses on the management of +/- 3,200 acres of vineyards on the 5,600 acre property. The Mesa Vineyard Team and Brodiaea have both determined that increased farm labor will be required in the near future in order to properly maintain the existing 3,200 acres of vineyards and future farming operations. As part of their service, Mesa Vineyard Management Inc. will be the employer under the H-2A program and they are recommending Brodiaea to provide housing on site in order to best support the labor needs for farming activities on the property. Housing will be in the form of clustered custom modular units and will be designed to meet H-2A DOL Occupational Safety and Health Administration (OSHA) standards set forth per 29 CFR 1910.142. The subsequent sections provide more details regarding labor demand and the proposed housing project.

**Proposed Project:**

Project components include six (6) phases of construction. Each of the six (6) phases will accommodate 40 persons each for a total of 240 persons at full build out. Each phase will contain three (3) doublewide modular structures as shown below; two of the modular structures will be used for sleeping and one modular unit will contain a designated kitchen area, storage area, showers and restrooms. A total of 18 individual doublewide modular structures will be installed in order to develop six (6) separate phases. Below is a preliminary floor plan rendering of a single housing phase. Note that both of the outer units contain 20 beds each for a total of 40 persons per phase.

**Preliminary Floor Plan**



**Agricultural Activities:**

The farm worker housing project will support farm labor needs on approximately 5,600 acres which contain 3,200 acres of existing vineyards. Work includes planting, trellis and irrigation system installation & repairs, pruning, suckering and canopy management, crop thinning, disease & pest control and harvest. As previously mentioned, Mesa Vineyard Management Inc. is anticipating increased labor demand for farming operations in the near future. In order to continue to maintain the vineyard, additional labor is required. Actual farm worker demand may vary based on a given crop year therefore Mesa Vineyard Management is proposing phased construction of the H-2A Housing project to enable increments of 40 farm workers per phase as needed.

**Labor Demand: Maximum Occupancy Capacity**

The number of employees for which housing is proposed is consistent with the allowable density table in Subsection C.4 of Title 22 Section 22.30.480. Based on the Maximum Occupant Capacity table below, one person per one acre of irrigated vineyard is the maximum capacity allowed (1:1). The site contains approximately 3,200 acres of existing vineyards therefore the maximum occupant capacity is 3,200 workers. The proposed number of occupants (240 persons) is well below that maximum occupant capacity of 3,200 persons/workers.

**Maximum Occupant Capacity**

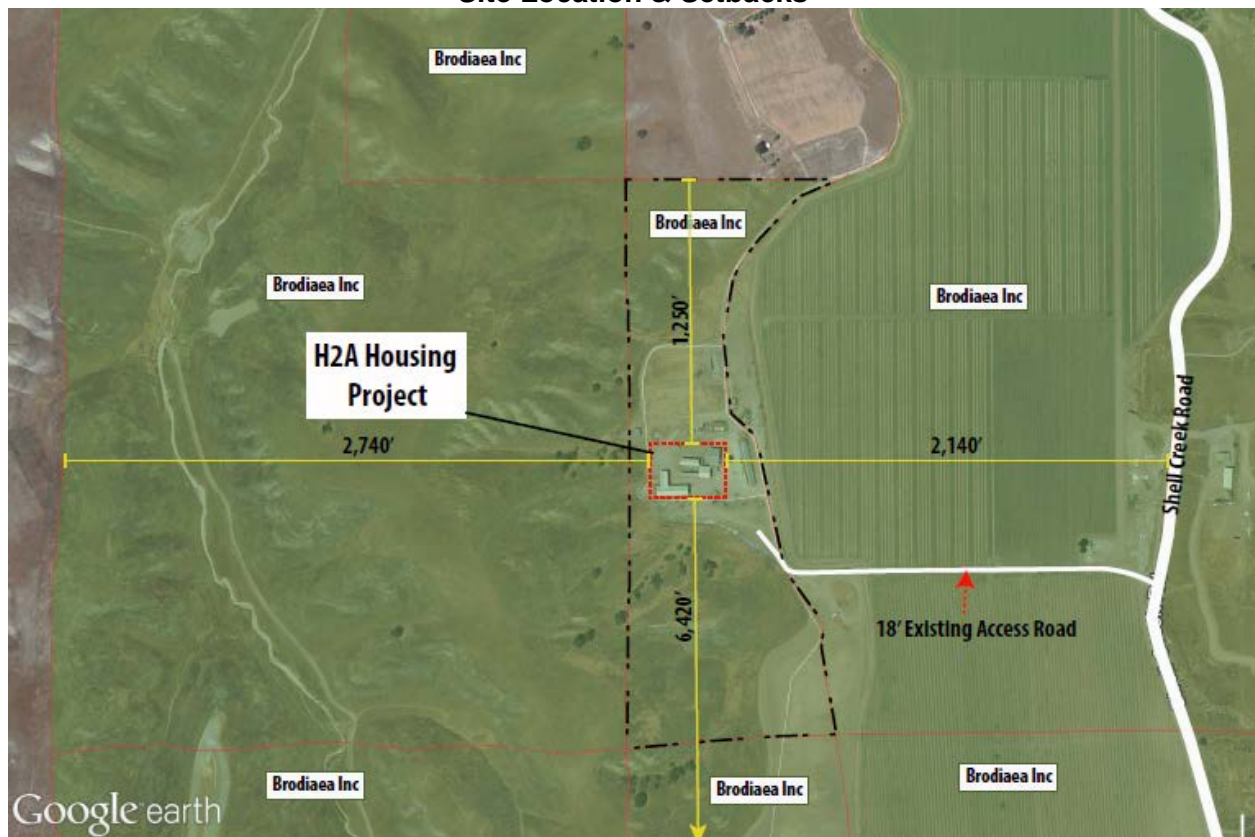
Maximum Occupant Capacity of Group Quarters Structures Used as Farm Support Quarters	
Agricultural Land Use	Maximum Capacity in Persons (1) (2) (3)
Beef and dairy feedlots	One person per 50 dairy cows, or one person per 100 beef cattle
Fowl and poultry ranches	One person per 20,000 broiler chickens, or one person per 15,000 egg-laying hens, or one person per 3,000 turkeys
Hog ranches	One person per 50 hogs
Horse ranches and equestrian facilities	One person per 15 brood mares, or one person per 30 horse boarding stalls
Kennels	Not allowed
Animal hospitals and veterinary facilities	Not allowed
Nurseries	Not allowed
Irrigated row crops, specialty crops, orchards and vineyards	One person per acre in crops
Irrigated pasture, field crops, grain and hay	One person per 15 acres in crops
Dry farm orchards, vineyards, beans and specialty field crops	One person per 20 acres in crops
Grazing	One person per 320 acres grazing land



### **Setbacks**

The Farm Worker Housing project will meet the required setbacks set forth by LUO Title 22 Section 22.30.480 (C.5). Below is a site plan that demonstrates the preliminary location of the housing development. No part of the proposed housing will be closer than 50 ft. to any street property line, 60 ft. from any other property line, or 75 ft. to any barns, pens, or other facilities for livestock or poultry, or 100 ft. from the centerline of streams shown on USGS Topographic maps with blue lines.

#### **Site Location & Setbacks**



## **Phased Construction**

The H-2A housing project will be constructed in six (6) phases. Each phase will house 40 farm workers. The septic and leach field system required at full buildout will be constructed during phase 1. The entire project footprint (buildout area) will be graded during phase 1 to facilitate future phases. Access road, parking area will be constructed/improved during phase 1. All utilities will be installed and stubbed during phase 1. Refer to phasing breakdown and exhibit below.

### **Phase 1:**

- Installation of two (2) modular bedroom units and one (1) kitchen/bath modular unit
- Domestic water connection to existing water tanks
  - Stubs for full buildout
- Construction of septic and leach field
  - Stubs for full buildout
- Electrical connections to existing power supply
  - Stubs for full buildout
- Fire water storage- Installation of 36,000 gallon tank or equivalent
- Grading of entire project area
  - Construction pad for full buildout
  - Access road improvement (all-weather) per Cal Fire if needed
  - Parking area

### **Phase 2 through Phase 6:**

- Installation of two (2) modular bedroom units and one (1) kitchen/bath modular unit per phase
- Connection to utilities stubbed in phase 1



**Grading:**

As previously mentioned, most of the disturbance will occur during phase 1 in order to facilitate the future installation of each unit in the future. Below are the earthwork quantities estimated for all components of this project (construction pad, access road(s) and utilities). Note that the existing access roads **may** not require improvements if Cal Fire determines existing access is adequate (Site visit to be scheduled). However, the estimated grading quantities if road improvements from Cal Fire are required are included in the grading plans for planning and informational purposes. The grading quantities are summarized below and are on the coversheet of the Grading & Drainage Plans prepared by Tom Howell.

**Pad Report**

Top of pad elevation range: 1157.40 to 1165.28

Pad slope percent: 2.000%

Pad slope azimuth: 32°11'45"

Pad Slope North Component: 1.692%

Pad Slope East Component : 1.066%

Cut Swell Factor: 1.00

Fill Shrink Factor: 1.30

**Pad Earthwork Volumes**

Bank Cut : 10,112.68 C.Y.

Bank Fill: 7,781.69 C.Y.

Adjusted Cut : 10,112.68 C.Y.

Adjusted Fill: 10,116.20 C.Y.

Area: 155,400 sf, 3.57 Acres

**Road Quantities****Road A**

Bank Cut: 444 cy

Bank Fill: 444 c

Area: 63,160 SF, 1.45 Acres

**Road B**

Bank Cut: 570 cy

Bank Fill: 570 cy

Area: 94,850 sf, 2.18 Acres

**Water System Quantities****Tank Location**

Bank Cut: 125 cy

Bank Fill: 125 cy

Area: 3,100 sf 0.07 Acres

**Piping**

Bank Cut: 375 cy

Bank Fill: 375 cy

Area, 14,750 sf, 0.34 Acres

A construction SWPPP will be required for the grading activities and will be provided at the time of the issuance of the grading permit.

### **Water Demand & Wastewater**

Water will be provided by an on-site well. The farm worker housing project, at full buildout, is anticipated to use approximately 45 gallons per bed per day. This value considers estimated water use from restrooms, kitchen and laundry, etc. Using this value, approximately 12.10 AFY is the estimated gross water demand for the project at full buildout. Approximately 80% of the total water will be recycled/recharged through the leach field system resulting in a **net water demand of only 2.42 AFY**. The net water demand of 2.42 AFY is proposed to be offset at 1:1 by eliminating 1.94 acres (2.42 AFY) of approved vineyard allowed to be planted on site per a previously approved agricultural offset clearance application ZON2015-00480.

Based on the results of the percolation test performed by Geosolutions and further Water and Wastewater Analysis and Design conducted by Wallace Group, the size of the leach field system required for buildout is approximately 2/3 acre. Refer to Utility Plans from Wallace Group dated 11/26/18 for more details.

Wallace Group is currently working with the Regional Water Quality Control Board on the Water Supply Public Water System permits.

### **Parking:**

A designated area for parking has been identified in order to provide a ratio of at least one parking space per four persons per 22.30.480 (C.6). The project site will provide parking for approximately 60 vehicles. Refer to site plan for location of designated parking areas.

### **Minimum Site Area.**

The subject parcel is 172 acres therefore meets the minimum site area of 20 acres per LUO title 22 Section 22.30.480 (C.7)

### **Archaeological:**

Refer to email from Michael Conger, Former County Planner, confirming that the tribal representatives were satisfied with previous Archaeological Phase 1 surveys prepared adjacent to the project site and no further study is required. Email dated 5-22-18.

### **Fire Protection:**

A Master Fire Protection Plan (MFPP) dated November 21, 2018 was prepared by Collings & Associates (Fire Protection Engineer) and is included in this packet. The report summarizes their findings, and includes recommendations for fire flow water storage, hydrant requirements, and fire sprinkler system requirements. In general, a 36,000 gallon water tank is required for fire protection and is proposed approximately 1,200 feet from the housing project at higher elevation to eliminate the need for a fire pump. The proposed modular structures are recommended to be equipped with a commercial fire sprinkler system. Refer to the Master Fire Protection Plan and Summary Report dated December 12, 2018 and MFPP prepared by Collings & Associates for more details.



## **Environmental Review:**

### **San Joaquin Kit Fox:**

A San Joaquin Kit Evaluation (SJKF) dated March 4, 2019 was prepared by Kevin Merk Associates. In summary, the report confirms that the proposed Farm Worker Housing Development affects an area that currently supports agricultural buildings with little to no vegetation and only temporary impacts to annual grassland habitat will occur during installation of water lines (1,200 linear feet) from the proposed fire protection water tank.

In total, 3.98 acres will be disturbed by the proposed housing project and utilities. The concentrated housing area is proposed to affect 3.57 acres of Urban and Barren habitat. Within this area are roughly 0.49 acre of existing buildings for a total impact of 3.08 acre of Barren land. Construction of the pad to support the water tank will affect approximately 0.07 acre of grassland on the hilltop to the south. Installation of pipes running from the water tank to the housing development will be installed underground and will temporarily affect 0.34 acre of grassland habitat that would be restored with a suitable grassland seed mix post construction.

Two separate evaluations were prepared: one for the clustered housing area and one for the fire tank and water line installation. Based on the completion of the SJKF Habitat Evaluations, the farm worker housing project as shown on the plans prepared by Tom Howell, scored 61 points out of 100 in both evaluations. This equates to 2:1 mitigation ratio requirements rather than 4:1 mitigation ratio mapped on the current SJKF Mitigation Ratio Map maintained by SLO County. Assuming the total project impacts to potential kit fox habitat are 3.49 acres (i.e., 3.08 acre of barren land for the housing project and 0.41 acre to annual grassland for the water tank and pipeline), a mitigation fee in the amount of \$17,450 would be required. The 0.49 acre of existing building removal is not expected to trigger the mitigation fee.

### **Federal Requirements for H2A Housing: OSHA**

- 100 SF for each occupant
- Ceiling must be minimum 7 ft. Tall
- Area for storing clothing and personal articles must be provided
- One bed for each worker
- Minimum of 3 ft in between each bed. (4 ft for bunk beds)
- Floors should be wood or concrete. Wood floors must be elevated at least 1 ft above grade.
- Windows and doors should equal 10% of floor area.
- Windows should be designed to open at least half way for ventilation.
- At least one window used for ventilation should be capable of being used as emergency exit in case of fire.
- Exterior doors should have screen door with self-closing device.
- One Working stove for each ten people.
- One refrigerator per six workers.
- Adequate heating system i.e. 70 degrees for October 1 - April 1.
- One Toilet and one showerhead for each 10 occupants.
- Minimum of two garbage receptacles. Emptied at least once per week.

## **LUO Title 22 Farm Worker Housing Requirements**

Currently, San Luis Obispo County does not have a Farmworker Housing Ordinance which inadvertently creates barriers for developing farm worker housing in the County. It is anticipated that in the near future an Ordinance will be in place that will remove barriers and incentivize development of farm worker housing within the County.

The Farm Support Group Quarters provisions contained in LUO Section 22.30.480 have been used as a general guide to develop the project description. The project is subject to a Minor Use Permit because it will exceed 20 persons (farm workers) (Section 22.30.480 C.4).

**Thank you,**

**Francisco Vargas**  
**francisco@kirk-consulting.net**  
**Phone: (805)461-5765, Ext 19**  
**Fax: (805)462-9466**



## Transmittal Memorandum

**Date: March 7, 2019**

**To: Kip Morais, County of SLO Department of Planning and Building**

**From: Kirk Consulting / Francisco Vargas**

**RE: Info Hold Response: DRC2018-00001**

---

Please review the following responses for the information hold items requested for the above-mentioned project (Information Hold Letter dated March 12, 2018). A revised project description and grading/site plan have been provided to support the responses provided herein. Additional materials are provided in this packet (i.e. Fire Master Protection Plan per Cal Fire, Preliminary Utility Plans & San Joaquin Kit Fox Evaluation). This information hold response summarizes the status of each item and serves as a recap that all items have been addressed individually.

### **Items Required for Acceptance**

#### **1. A revised site plan:**

- a. Provide an exhibit showing the location of the farmworker housing relative to the boundaries of the legal lot of record, Parcel C of [Parcel Map CO79-138](#). The map is available on the Public Works map files website, as well as attached to this document.

**Corrected. Please see Sheet C-2 "Overall Layout" – plans prepared by Tom Howell, Civil Engineer.**

- b. Per attached Public Works memo: "Provide a site plan showing access to, and the location of the proposed residential structures, and that the structures will be located outside the 100-year flood zone." Identify the 100-year flood hazard boundary on the site plan.

**The site plan showing access to the residential structures is provided on sheet C-4 "Access Road"- plans prepared by Tom Howell, Civil Engineer. All proposed structures will be located outside the 100 year flood zone. Refer to sheets C-2 through C-4.**

- c. Show the location of all utility line connections.

Water System and Septic System plans were prepared by Wallace Group. Refer to Sheets U-1.0 and U-2.0. Existing electrical meter & connection on site- refer to sheet C-3 of the plans prepared by Tom Howell, Civil Engineer.

- d. Indicate the location of the well that serves the site.

An existing domestic well will be used to serve the proposed project. Refer to the Water System Plan (Sheet U-1.0) prepared by Wallace Group for location of the well.

- e. Identify the location and extent of all elements of the wastewater treatment  
Refer to the "Septic System Plan" (Sheet U-2.0) prepared by Wallace Group.

- f. Identify the location of waste collection facilities, per 22.10.150.B. Solid Waste Collection and Disposal.

The Waste Collection facilities will be behind the structures, hidden from public view. Please see Sheet C-3 of plans prepared by Tom Howell, Civil Engineer, for location of the Solid Waste Disposal.

- g. Identify the location of recycling collection facilities per Ordinance 2008-3 of the San Luis Obispo County Integrated Waste Management Authority (mandatory recycling for residential, commercial and special events).

The Recycling Collection Facilities will be located behind the structures, hidden from public view. Please see Sheet C-3 in plans prepared by tom Howell, Civil Engineer, for location of the recycling facilities.

- 2. Proposed phasing plan:** Please update the Project Description as described in the *Kirk Consulting Transmittal Memo* to include a detail phasing plan. For each phase, please be sure to include:

- a. A timeline of when the phase will be initiated and completed.

There is a shortage of farm labor in the area that may continue to increase. The owners anticipate they will build the project incrementally based on labor demand shortage which could change from one year to another.

The owners are seeking to begin construction of phase 1 as soon as possible. Phase 1 will consist of two (2) modular bedroom units and one (1) modular kitchen/bath unit for no more than 40 employees total. The first phase will be constructed upon approval of the Minor Use Permit and Construction Permits along with the



necessary improvements; access, utilities, fire suppression storage, etc. For the subsequent phases, the intent is to build incrementally by constructing two (2) modular bedroom units with one (1) kitchen/bath modular unit at a time for a total of 6 phases.

b. The number of employees to be housed.

The maximum buildout will be 240 employees (40 employees per phase).

c. Which structures will be constructed.

The proposed project will consist of twelve (12) modular bedroom units and six (6) modular kitchen/bathroom units. Each modular bedroom unit will house 20 workers.

d. What grading or site work will take place.

The grading work during phase 1 will include all grading required for the construction of the (18) modular structures at full build out. Several existing pole barns and sheds will need to be removed. Existing primary access road will be improved, if necessary, to meet Cal Fire Standards. The secondary access does not require improvement to meet Cal Fire Standards. A site visit will be scheduled with Cal Fire soon to confirm extent of improvements required. The surface of the pad, parking area and primary access road will be improved with class 2 base material spread and compacted per the grading plan details. A single 14' X 8' concrete pad will be constructed for the waste and recycling containers. The intent is to balance the earthwork on site with no import or export required. The building pad area is entirely out of the FEMA 100 year flood hazard zone.

e. What infrastructure and utilities will be constructed.

Phase 1:

- Installation of two (2) modular bedroom units and one (1) kitchen/bath modular unit
- Domestic water connection to existing water tanks (two 10,000 gallon tanks)
  - o Stubs for full buildout
- Construction of septic and leach field
  - o Stubs for full buildout
- Electrical connections to existing power supply (Existing Phase 3 Power on site)
  - o Stubs for full buildout

- Fire suppression storage- Installation of 36,000 Gallon Tank or equivalent
  - o Waterline installation and fire hydrant
- Grading of entire project area
  - o construction pad for full buildout
  - o access road improvement (all-weather) per Cal Fire
  - o parking area

Phase 2 through Phase 6:

- Installation of two (2) modular bedroom units and one (1) kitchen/bath modular unit per phase
- Connections to utility hookups stubbed in phase 1

f. Estimated water demand and wastewater flows.

Refer to water and wastewater system plans prepared by Wallace Group (Sheets U-1.0 & U-2.0)

### **Public Works (letter dated 3/13/18)**

#### **Public Works Comments:**

- A. The proposed parcel is within the 100-year flood zone. The applicant should be prepared to determine the 100-year base flood elevation and comply with County requirements for flood hazard.

Development is outside the 100 year flood zone. Please see sheets C-2 through C-4- Plans prepared by Tom Howell.

### **Shandon Advisory Council meeting 5/2/18:**

We presented the original project to the Shandon Advisory Group in May 2, 2018. The main concern expressed by the members was related to fire protection. Since the meeting we have engaged Collings & Associates, Fire Protection Engineer, to prepare Master Fire Protection Plan (MFPP). The MFPP recommends the project install 36,000 gallons of water storage on site for fire protection. Installation of (3) new draft fire hydrants and potential improvement to existing access roads to be capable of supporting 75,000 lbs. emergency vehicles.

**Cal Fire (letter dated 4/3/18):**

All initial comments received from Cal Fire in the letter dated April 3, 2018 were considered in the redesign of the project. The redesign was a direct result of recommendations included in the Master Fire Protection Plan (MFPP) including separation, orientation and vehicular access to the proposed modular structures. A site visit will be scheduled with Cal Fire to determine the extent of access road improvements required since portions of the existing access road are already compacted/improved.

Thank you,

**Francisco Vargas**

**[francisco@kirk-consulting.net](mailto:francisco@kirk-consulting.net)**

**Phone: (805) 461-5765**

**From:** [Michael Conger](#)  
**To:** [Francisco Vargas](#)  
**Subject:** DRC2018-00001 - Brodiaea - Tribal Consultation  
**Date:** Tuesday, May 22, 2018 3:32:02 PM  
**Attachments:** [Outlook-1485218626.png](#)  
[Outlook-1485218626.png](#)  
[Outlook-1485218626.png](#)  
[Outlook-1485218626.png](#)

---

FYI...

The tribal representatives are satisfied with the existing Phase 1 surface survey and are not requesting further study.

Thanks,

**Michael T. Conger**  
Planner III  
(p) 805-781-5136  
(f) 805-781-4365  
[mconger@co.slo.ca.us](mailto:mconger@co.slo.ca.us)



**COUNTY OF SAN LUIS OBISPO**  
**DEPARTMENT OF PLANNING & BUILDING**

[www.slocounty.ca.gov](http://www.slocounty.ca.gov)

---

**From:** info@salinantribe.com <info@salinantribe.com>  
**Sent:** Monday, May 21, 2018 3:58 PM  
**To:** Michael Conger  
**Subject:** RE: Fw: DRC2018-00001 BRODIAEA INC, North County E Referral, Minor use Permit, Shandon, APN(s): 037-291-038

Greetings Michael, I am satisfied with the results and recommendations for the project.

Thank You,

Patti Dunton, Tribal Administrator

----- Original Message -----

Subject: Fw: DRC2018-00001 BRODIAEA INC, North County E Referral, Minor use Permit, Shandon, APN(s): 037-291-038  
From: Michael Conger <[mconger@co.slo.ca.us](mailto:mconger@co.slo.ca.us)>  
Date: Wed, May 16, 2018 3:51 pm  
To: "[info@salinantribe.com](mailto:info@salinantribe.com)" <[info@salinantribe.com](mailto:info@salinantribe.com)>



Hi, Ms. Dunton...

I wanted to check in to see if the existing Phase-1 archaeological report for the adjacent reservoir was sufficient for your needs. Please let me know if you feel additional study is warranted.

Thanks much,

**Michael T. Conger**  
Planner III  
(p) 805-781-5136  
(f) 805-781-4365  
[mconger@co.slo.ca.us](mailto:mconger@co.slo.ca.us)



**COUNTY OF SAN LUIS OBISPO**  
**DEPARTMENT OF PLANNING & BUILDING**

[www.slocounty.ca.gov](http://www.slocounty.ca.gov)

---

**From:** Michael Conger  
**Sent:** Wednesday, April 4, 2018 2:57 PM  
**Cc:** Kyle W. Jordan  
**Subject:** Fw: DRC2018-00001 BRODIAEA INC, North County E Referral, Minor use Permit, Shandon, APN(s): 037-291-038

Hi, Ms. Dunton...

Here's an additional piece of information. This is a phase-one surface survey that was done for a proposed agricultural reservoir just to the north of the site where the farm support housing is proposed.

Thanks,

**Michael T. Conger**  
Planner III  
(p) 805-781-5136  
(f) 805-781-4365  
[mconger@co.slo.ca.us](mailto:mconger@co.slo.ca.us)



COUNTY OF SAN LUIS OBISPO  
DEPARTMENT OF PLANNING & BUILDING

[www.slocounty.ca.gov](http://www.slocounty.ca.gov)

---

**From:** Michael Conger  
**Sent:** Tuesday, April 3, 2018 2:43 PM  
**To:** [info@salinatribe.com](mailto:info@salinatribe.com)  
**Cc:** Kyle W. Jordan  
**Subject:** Re: DRC2018-00001 BRODIAEA INC, North County E Referral, Minor use Permit, Shandon, APN(s): 037-291-038

Hi, Ms. Dunton

We have not yet requested a phase-one surface survey on this project for a couple of reasons. The site where the farm support housing is proposed to go is largely disturbed, as it serves as an equipment storage area for a 3,000 acre ranch. Much of the area is based and there are several pole barns. As a result, we felt that a surface survey would have little likelihood of findings. I'm attaching a photo from the site and an aerial image so you know what I'm referring to. Additionally, based on a review of our County records, we showed no archaeological reports with findings (3 with no findings) within a 3-mile radius.

If you do believe that a surface survey is warranted, please let us know your thoughts. We have no concerns with requesting a phase-one surface survey if that will provide useful information.

Thanks much,

**Michael T. Conger**  
Planner III  
(p) 805-781-5136  
(f) 805-781-4365  
[mconger@co.slo.ca.us](mailto:mconger@co.slo.ca.us)



COUNTY OF SAN LUIS OBISPO  
DEPARTMENT OF PLANNING & BUILDING

[www.slocounty.ca.gov](http://www.slocounty.ca.gov)

---

**From:** [info@salinatribe.com](mailto:info@salinatribe.com) <[info@salinatribe.com](mailto:info@salinatribe.com)>

**Sent:** Saturday, March 24, 2018 6:03 PM

**To:** Kyle W. Jordan; Michael Conger

**Subject:** DRC2018-00001 BRODIAEA INC, North County E Referral, Minor use Permit, Shandon, APN(s): 037-291-038

Greetings Kyle and Michael, I have reviewed the proposed project and request that a phase I archaeological survey be done and depending on the results I may have more comments and concerns.

Thanks so much,

Patti Dunton, Tribal Administrator



Kevin Merk Associates, LLC | PO Box 318, San Luis Obispo, CA 93406 | 805.748.5837

March 4, 2019

Mr. Fritz Helzer  
Mesa Vineyard Management, Inc.  
P.O. Box 789  
Templeton, CA 93465

**Subject: San Joaquin Kit Fox Habitat Evaluations for the Truesdale Vineyard Farmworker Housing and Fire Suppression Water Tank Projects, San Luis Obispo County, California**

Dear Mr. Helzer:

Kevin Merk Associates, LLC (KMA) at your request conducted a San Joaquin kit fox (*Vulpes macrotis mutica*; SJKF) habitat evaluation for the proposed Truesdale Vineyard Farmworker Housing project to be located on the Truesdale Vineyard property in northern San Luis Obispo County, California. Two habitat evaluation forms were prepared for this project since the housing project is located in disturbed urban and barren areas and is permanent in nature. The required 36,000 gallon fire suppression water tank would be sited on a hillside in grassland habitat, and the impacts associated with pipeline installation would be temporary. The proposed project site is located west of Shell Creek Road on a property identified by Assessors Parcel Number 037-291-038. The project site is located on the United States Geological Survey Camatta Canyon 7.5-minute topographic quadrangle at 35° 35' 23.22"N 120° 20' 41"W.

The purpose of the habitat evaluation process is to characterize the extent of onsite habitat for the federal Endangered and state Threatened SJKF potentially affected by the construction of the housing and water tank projects on the property. In addition, the habitat evaluation process is needed to confirm whether the current mitigation ratio developed by the County of San Luis Obispo for this area is appropriate. Following are the methods and results of the SJKF Habitat Evaluations for the Truesdale Vineyard Farmworker Housing and Fire Suppression Water Tank project site.

## **Methods**

This investigation generally followed the Early Evaluation requirements established by the U.S. Fish and Wildlife Service in their San Joaquin Kit Fox Survey Protocol for the Northern Range (June 1999). Prior to field work, previous biological reports were reviewed, including the Continental Vineyards SJKF Early Evaluation and Northern Range Protocol Surveys, and the San Miguel Ranch SJKF Early Evaluation and Northern Range Protocol Surveys (both conducted in 2006), as well as numerous SJKF habitat evaluation forms prepared by Kevin Merk Associates for winery and development projects in the greater northern San Luis Obispo County region. The California Natural Diversity Database maintained by the California Department of Fish and Wildlife (2003, updated January 2019; CNDDB) was queried for SJKF occurrences within three and ten miles of the site. Classification of the on-site plant communities was based generally on the California Wildlife Habitat Relationship (CWHR) system (Mayer and Laudenslayer, 1988)



and was compared to Sawyer, Keeler-Wolf and Evens' Manual of California Vegetation (2009) and Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California (1986) for consistency with the SJKF Habitat Evaluation Form.

KMA biologist, Kevin Merk, conducted the field work for this investigation in October 2018 and again in January 2019 to cover additional area for the fire suppression water tank. Project site plans prepared by Tom A. Howell, (January 10, 2019) and aerial imagery obtained from Google Earth (2018 and 2019) were used in the field.

The project site was accessed via public and private roads, and the proposed disturbance areas were inspected and surveyed on foot. In addition, the margins of the active farming area and neighboring grasslands were also inspected at select locations or vantage points to characterize the features and search for potential den sites and SJKF prey base. The area proposed for water line installation and the placement of the fire suppression water tank, as well as two existing water tanks, were also inspected. Photos of the areas proposed for construction were taken, and a photo plate is included as an attachment to this report. Dominant plant communities in the site vicinity were recorded onto the aerial photograph. Driving surveys of the surrounding area (Shell Creek Road, Truesdale Road, San Juan Road, Camatta-Shandon Road, Highways 41, 46 and 58, and existing ranch roads) were conducted to characterize regional habitat within a ten-mile study area.

## **Results**

The project site lies within an agricultural area of northern San Luis Obispo County with the majority of gentle slopes planted with grapes. The subject property includes portions of the San Juan Creek and Shell Creek corridors, but only a small subset was included in the project study area where construction of the farmworker housing would be located. Vineyards comprise a significant portion of the landscape surrounding the site, and are the primary agricultural crop on the property, but grazed grasslands are present along with periodic occurrences of blue oak trees (*Quercus douglasii*).

The housing project footprint is located in disturbed bare soil areas from ongoing agricultural activities such as equipment storage. Agricultural structures including barns and storage sheds were also present. The fire water tank would be situated to the south of the housing project on a hill within grassland habitat, and a water line would be trenched into the ground and the area allowed to revert to grassland once construction is complete. Access to the housing project and water tank would utilize existing roads.

Other than agriculture, dominant habitat types, or plant communities, within the ten-mile radius of the project site included annual grassland interspersed with patches of coyote brush (*Baccharis pilularis*) and blue oak trees, as well as willow-cottonwood riparian forest along the San Juan Creek corridor. Ruderal (disturbed) areas dominated by weedy vegetation are present along road edges such as Shell Creek Road, adjacent to agricultural fields, pastures, and in the vicinity of residential development.

Please refer to the attached figures included as supporting information: Figure 1 - a Site Location Map, Figure 2 - Aerial Overview Map, and Figure 3 - SJKF Occurrence Map. Also attached are the two SJKF Habitat Evaluation forms (one for the housing development and one for the fire water tank and pipeline) and a photo plate.

## **Conclusion**

The proposed Truesdale Vineyard Farmworker Housing project affects an area that currently supports agricultural buildings and little to no vegetation. It is consistent with the Urban and Barren land use types described in the Wildlife Habitat Relationship system. The fire water tank will be sited on a hilltop to the south outside the vineyard footprint in annual grassland. Water lines will be installed underground, and will temporarily impact annual grassland habitat. The study area as shown on Figure 2 was developed to cover the housing project footprint and the fire water tank and associated pipes. The housing project is proposed to affect 3.57 acres of Urban and Barren habitat. Within this area are roughly 0.49 acre of existing buildings for a total impact of 3.08 acre of Barren land. Construction of the pad to support the water tank will affect 0.07 acre of grassland on the hilltop to the south. Installation of pipes running from the water tank to the housing development will be installed underground and will temporarily affect 0.34 acre of grassland habitat that would be restored with a suitable grassland seed mix post construction.

No evidence of small mammal activity in the form of gopher or ground squirrel burrows was observed at the site during KMA's site visits in October 2018 and January 2019. While historically the SJKF has been known to occur in the immediate area, there have not been any recorded observations of this species within three miles of the site in the last ten years, with the last recorded sighting from 1975. Please refer to the attached Habitat Evaluation forms for each component of the project and maps for further detail.

Based on the completion of the SJKF Habitat Evaluation Process, the Truesdale Farmworker Housing project, as shown on the project plans prepared by Mr. Howell, scored 61 points out of 100. The fire suppression water tank component of the project also scored 61 points out of 100. Assuming the 1:1 mitigation ratio score is from 50-59 points, the score of 61 for this project would equate to a 2:1 mitigation ratio rather than the 4:1 mitigation ratio mapped on the current San Joaquin Kit Fox Mitigation Ratio Areas Map maintained by the County of San Luis Obispo (2007). The 2:1 mitigation ratio would equate to an in-lieu fee of \$5,000/acre. Assuming total project impacts to potential kit fox habitat are 3.49 acres (i.e., 3.08 acre of barren land for the housing project and 0.41 acre to annual grassland for the water tank and pipeline), a mitigation fee in the amount of \$17,450 would be required. The 0.49 acre of existing building removal is not expected to trigger the mitigation fee. The County of San Luis Obispo will request a review of the information contained herein by the CDFW. Following their review, payment arrangements can be made through the County either with an approved in-lieu fee program or by purchasing credits from an approved conservation bank.

It may be possible that the in-lieu fees for the project could be reduced if habitat restoration or enhancement activities were proposed along the perimeter of the vineyard outside the regular disturbance footprint. A set of farm management guidelines could also be developed for the property that would be consistent with endangered species protection measures. Future operations and management of the ranch should attempt to promote a permeable vineyard that would allow future passage of SJKF using this area as a corridor between core and subpopulations in the region. By working with the California Department of Fish and Wildlife and County of San Luis Obispo, the in-lieu mitigation fees shown above could be applied to habitat restoration and enhancement activities on the property to ensure SJKF movement in the area is maintained following construction of the farmworker housing project. Finally, by implementing avoidance measures detailed in the U.S. Fish and Wildlife Services' *Standardized*

*Recommendations For Protection of the Endangered San Joaquin Kit Fox Prior To Or During Ground Disturbance* (2011; please see attached), the potential for adverse impacts to SJKF from the proposed projects would be avoided.

## References

- California Department of Fish and Game. 2001. Fish and Game Code of California, Section 3503.5. Gould Publications, Altamonte Springs, FL.
- California Department of Fish and Game. 2003. California Natural Diversity Database, Rarefind 5. Queried October 2018 and January 2019.
- County of San Luis Obispo. 2007. San Joaquin Kit Fox Standard Mitigation Ratio Areas Map. Geographic Technology and Design, Department of Planning and Building.  
<http://www.sloplanning.org/gis/mapimagepdf/kitfox.pdf>
- Holland, R.F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. California Department of Fish and Game, Sacramento.
- Mayer, K. and W. Laudenslayer. 1988. *A guide to wildlife habitats of California*. State of California, The Resources Agency, Department of Forestry and Fire Protection, Sacramento, CA.
- Sawyer, J. O., T. Keeler-Wolf, and J.M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, CA.
- Williams, D.F., E.A. Cypher, P.A. Kelly, K.J. Miller, N. Norvell, S.E. Phillips, C.D. Johnson, and G.W. Colliver. 1998 Recovery Plan for Upland Species of the San Joaquin Valley, California. Region 1, U.S. Fish and Wildlife Service, Portland, Oregon.



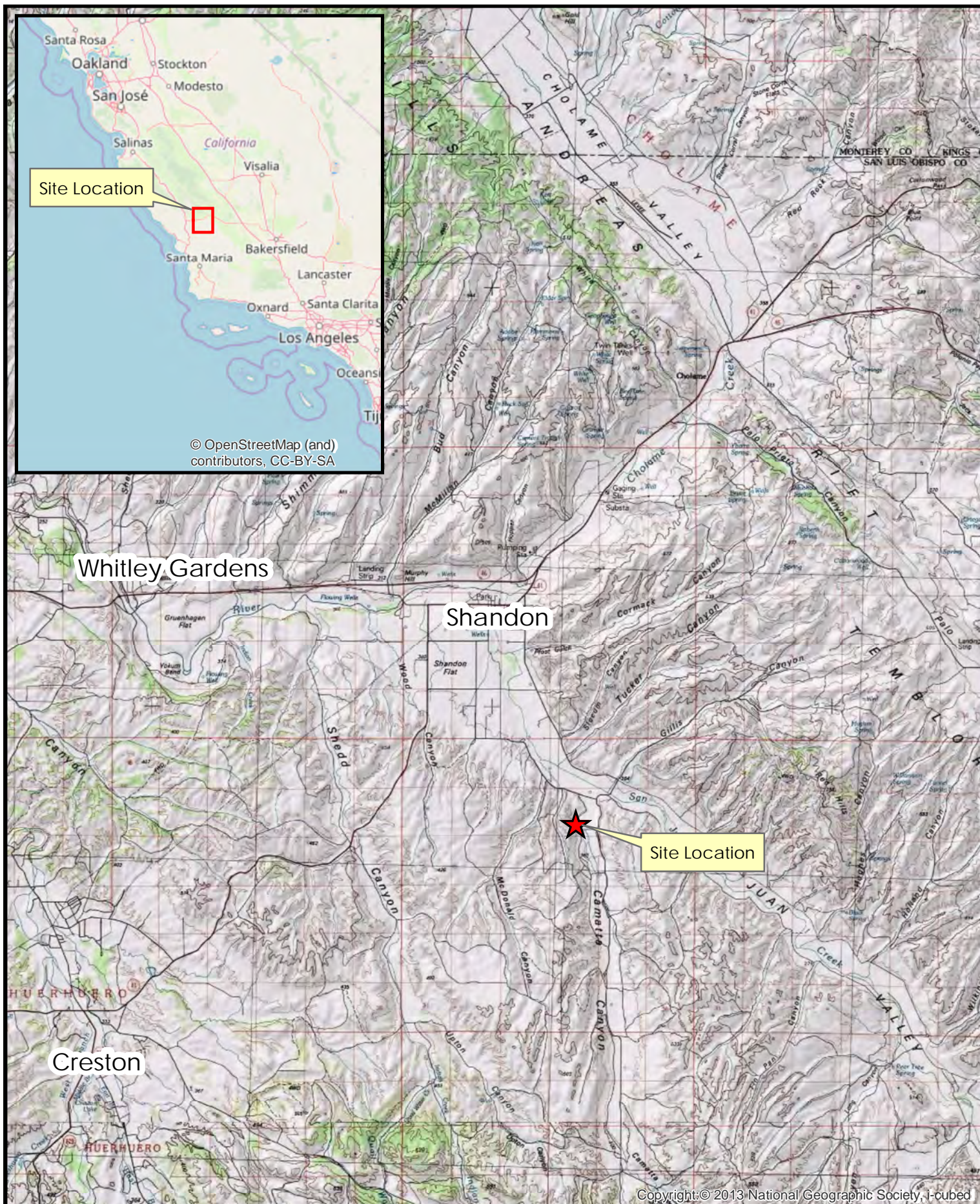
Thank you for the opportunity to provide environmental consulting services for this project. I trust the above information is sufficient at this time to support your reporting requirements for the proposed project. Please call me directly if you have any questions or need any additional information.

Sincerely,  
**Kevin Merk Associates, LLC**

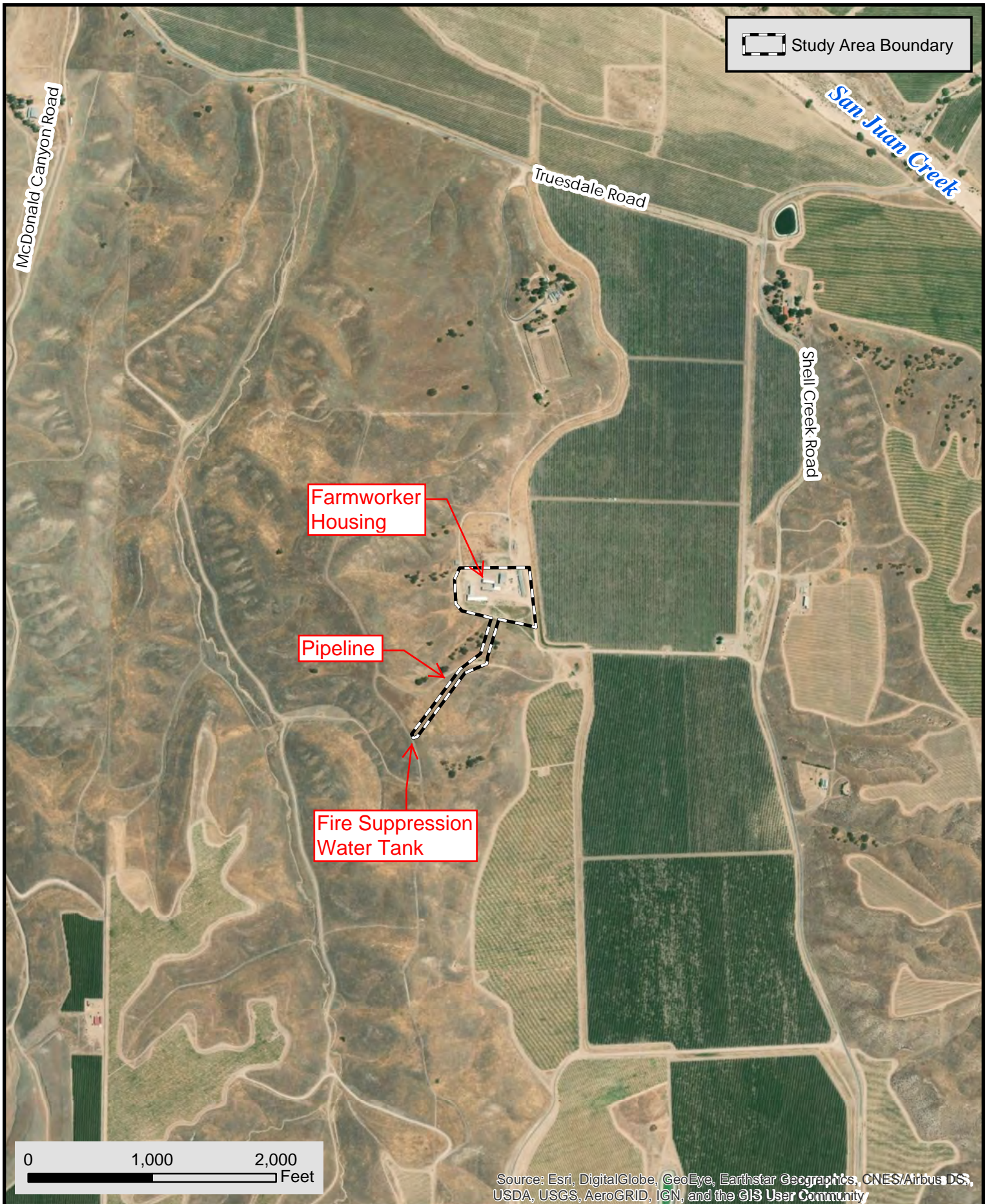
Kevin Merk  
Principal Biologist

*Attachments: Figure 1 – Site Location Map  
Figure 2 – Aerial Overview Map  
Figure 3 – CNDDB SJKF Occurrence Map  
Kit Fox Habitat Evaluation Forms (one for housing and one for water tank and pipeline)  
Photo Plate  
USFWS Standardized Recommendations For Protection of the Endangered San Joaquin Kit Fox Prior To Or During Ground Disturbance (January 2011)*

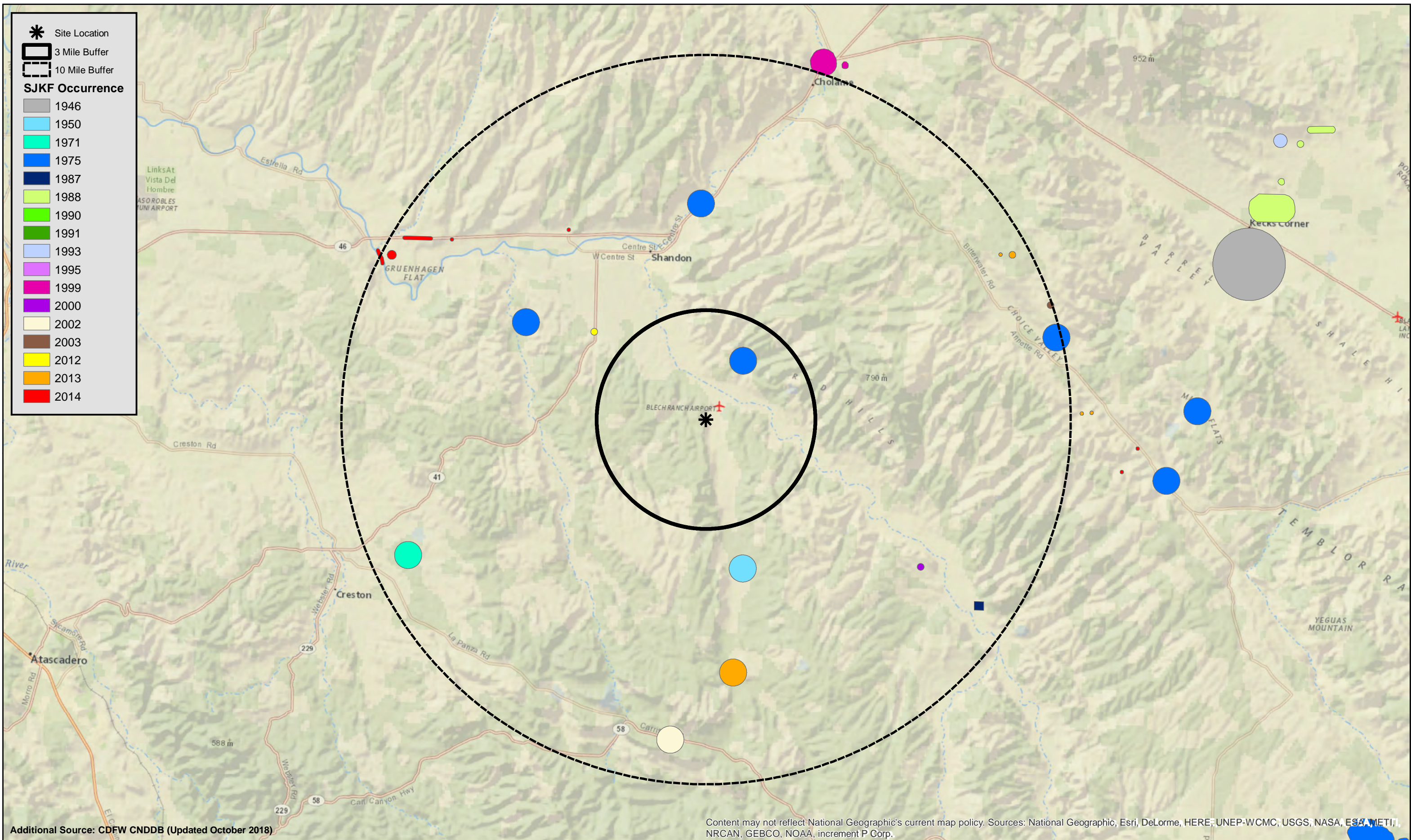














## Kit Fox Habitat Evaluation Form

### Cover Sheet

**Project Name** Truesdale Vineyard Farmworker Housing Project **Date** March 3, 2019

**Project Location\*** Shell Creek Road, Shandon, CA 93461 (South of Shandon, East of Paso Robles), APN 037-291-038

\*Please refer to the Site Vicinity Map on U.S.G.S. 7.5-minute topographic quadrangle.

**U.S.G.S. Quad Map Name** Camatta Canyon

**Lat/Long or UTM coordinates (if available)**

Latitude 35° 35' 23.22" N Longitude -120° 20' 41" W

**Project Description:** Construct farmworker housing in an area of agricultural structures and bare soils (i.e., ruderal/disturbed habitat). Water tank for fire suppression is also required and will be installed on hilltop comprised of grassland vegetation. Pipes from water tank to housing development area will be installed underground and will temporarily affect grassland habitat. A separate Habitat Evaluation Form was prepared for the water tank and water line components of the project since they are in a grassland area that has not been affected by agriculture and existing development.

**Project Size** 4.0 Acres **Amount of Kit Fox Habitat Affected** approx. 3.08 Acres

**Quantity of WHR Habitat Types Impacted** (i.e. - 2 acres annual grassland, 3 acres blue oak woodland)

WHR type BAR – BARREN 3.08 Acres

WHR type URB - URBAN 0.49 Acres

WHR type \_\_\_\_\_ Acres

WHR type \_\_\_\_\_ Acres

**Comments:** Area proposed for the housing project consists of approximately 3.57 acres of developed urban area surrounded with bare ground. Within this area, existing buildings proposed for removal comprise approximately 0.49 acre, so new development would equate to 3.08 acre. The site is currently used for agricultural activities and storage with buildings (several pole barns, a barn, shed, etc.) that would be removed to construct the project. Site access would be via an existing agricultural road from Shell Creek Road to the east. Impacts are related to removal of buildings followed by grading and construction of farmworker housing. A fire water tank is also required and will affect 0.07 acre of annual grassland and pipeline installation will temporarily affect 0.34 acre of annual grassland, and a separate evaluation form was prepared for that project component.

Form Completed By: Kevin Merk, Kevin Merk Associates LLC.



## San Joaquin Kit Fox Habitat Evaluation form

Is the project area within 10 miles of a recorded San Joaquin kit fox observation or within contiguous suitable habitat as defined in question 2 (A-E)

**Yes - Continue with evaluation form**

**No - Evaluation form/surveys are not necessary**

1. Importance of the project area relative to Recovery Plan for Upland Species of the San Joaquin Valley, California (Williams et al., 1998)

A. Project would block or degrade an existing corridor linking core populations or isolate a subpopulation (20)

B. Project is within core population (15)

C. Project area is identified within satellite populations (12)

D. Project area is within a corridor linking satellite populations (10)

E. Project area is not within any of the previously described areas but is within known kit fox range (5)

2. Habitat characteristics of project area.

A. Annual grassland or saltbush scrub present >50% of site (15)

B. Grassland or saltbush scrub present but comprises <50% of project area (10)

C. Oak savannah present on >50% of site (8)

D. Fallow ag fields or grain/alfalfa crops (7)

E. Orchards/vineyards (5)

F. Intensively maintained row crops or suitable vegetation absent (0)

3. Isolation of project area.

A. Project area surrounded by contiguous kit fox habitat as described in Question 2a-e (15)

B. Project area adjacent to at least 40 acres of contiguous habitat or part of an existing corridor (10)

C. Project area adjacent to <40 acres of habitat but linked by existing corridor (i.e., river, canal, aqueduct) (7)

D. Project area surrounded by ag but less than 200 yards from habitat (5)

E. Project area completely isolated by row crops or development and is greater than 200 yards from potential habitat (0)

4. Potential for increased mortality as a result of project implementation. Mortality may come from direct (e.g., - construction related) or indirect (e.g., - vehicle strikes due to increases in post development traffic) sources.

A. Increased mortality likely (10)

B. Unknown mortality effects (5)

C. No long-term effect on mortality (0)

5. Amount of potential kit fox habitat affected.

- A. >320 acres (10)
- B. 160 - 319 acres (7)
- C. 80 - 159 acres (5)
- D. 40 - 79 acres (3)
- E. < 40 acres (1)

6. Results of project implementation.

- A. Project site will be permanently converted and will no longer support foxes (10)
- B. Project area will be temporarily impacted but will require periodic disturbance for ongoing maintenance (7)
- C. Project area will be temporarily impacted and no maintenance necessary (5)
- D. Project will result in changes to agricultural crops (2)
- E. No habitat impacts (0)

7. Project Shape

- A. Single Block (10)
- B. Linear with > 40 foot right-of-way (5)
- C. Linear with < 40 foot right-of-way (3)

8. Have San Joaquin kit foxes been observed within 3 miles of the project area within the last 10 years?

- A. Yes (10)
- B. No (0)

Scoring

Recovery importance	<u>20</u>
Habitat condition	<u>0</u>
Isolation	<u>15</u>
Mortality	<u>5</u>
Quantity of habitat impacted	<u>1</u>
Project results	<u>10</u>
Project shape	<u>10</u>
Recent observations	<u>0</u>

TOTAL 61 equates to a 2:1 mitigation ratio for the housing development footprint

## **Explanations for San Joaquin Kit Fox Habitat Evaluation Form**

### **1. Importance of the project area relative to Recovery Plan for Upland Species of the San Joaquin Valley, California (Williams et al., 1998)**

The Truesdale Farmworker Housing project involves the construction of a series of buildings on an approximate 3.57 acre site on a portion of the Truesdale Vineyard property located approximately 2,000 feet west of Shell Creek Road, and 0.6 mile southwest of the intersection of Truesdale Road and Shell Creek Road, east of Shandon, California. The project site is situated approximately 4.5 miles south of the town of Shandon in San Luis Obispo County, on the outer limits of the movement corridor between a core population on the Carrizo Plain and an historic satellite population on Camp Roberts. The Camp Roberts population is severely impacted, and it does not appear that any kit foxes are present on the base (pers. Comm. Michael Moore, 2018). Several kit fox sightings have been reported in the last ten years in the Shandon, Whitley Gardens area and Estrella River Corridor (CNDDDB, 2018). In 2013, a scat study identified potential kit fox occurrences along the Highway 46 corridor. A kit fox sighting near Shell Creek Road was reported to the CNDDDB in 2013, which is approximately eight miles southeast of the project site. In 2012, a kit fox sighting was reported to the CNDDDB on Highway 41 five miles northwest of the project site. Other kit fox sightings within ten miles of the project site are mostly over ten years ago, with observations between five and 10 miles from the site in the 1970's. Only one kit fox sighting has been recorded within a three mile radius of the project site, in 1975.

### **2. Habitat characteristics of project area.**

The area proposed for construction is currently bare ground disturbed by ongoing agricultural operations. Farm buildings and associated infrastructure are also present in the area, as this site is currently an agricultural storage area. No ground squirrel holes or evidence of small mammal activity were seen at the housing project footprint during site visits in October 2018 and again in January 2019. A separate kit fox habitat evaluation form was completed for the water tank component of the project since it will have temporary impacts from pipeline installation occurring in annual grassland on a hillside to the south.

### **3. Isolation of project area.**

Rolling hills covered with annual grassland habitat and dotted with scant shrubs such as coyote brush (*Baccharis pilularis*) and blue oaks (*Quercus douglasii*) border the immediate western side of the project area. These hills wrap around to the north side within a few hundred feet of the project area, and on the south side within 500 feet of the project area. On the east of the project area, actively farmed vineyards cover the land up to Shell Creek Road, beyond which extend a mixture of grazing lands and vineyards. Irrigated row crops are also present to the east but the majority of agricultural activities in the area are vineyard.

With respect to the project area and its connectivity to SJKF habitat and movement corridors, as noted above, the project site is located on the outer edge of the historic migration corridor from the Carrizo Plain's core population to the Camp Roberts satellite population. The annual grasslands on low rolling hills in proximity to much of the proposed project site are a potential kit

fox habitat type, but become steep terrain which is less conducive to kit fox movement, foraging and denning activities. In addition, coyotes are very common in the area, further reducing kit fox movement opportunities on this site. The vineyards located on the site's eastern side are a habitat type known to allow kit fox movement and provide limited foraging opportunities due to the regular small mammal abatement efforts. Therefore, contiguous kit fox habitat surrounds the project area.

#### **4. Potential for increased mortality as a result of project implementation.**

The proposed project consists of the construction of a series of structures to provide farm worker housing adjacent to existing vineyards. There would be a brief period of increased vehicle and heavy equipment activity while the project is being constructed, but the vineyards and agricultural activities occurring on the site already provide a regular cycle of disturbance reducing the wildlife habitat value. The applicant will be required to implement the USFWS *Standardized Recommendations For Protection of the Endangered San Joaquin Kit Fox Prior To Or During Ground Disturbance* (January 2011), and with these precautions, take of kit fox would not be expected during the course of project construction. Overall, an unknown increase in mortality effects is expected.

#### **5. Amount of potential kit fox habitat affected.**

The project will disturb roughly 3.08 acres of bare ground that is already actively disturbed by farming. Existing structures within the study area account for approximately 0.49 acre of the 3.57 acre development area. An existing entrance road will be used to access the site from Shell Creek Road, and no additional disturbance is anticipated in this area. A fire water suppression tank will be installed on the hill to the south and associated pipes will be installed underground. A separate kit fox habitat evaluation form was prepared for that activity since it is occurring in grassland habitat and the impact from pipeline installation will be temporary in nature, with the exception being the water tank.

#### **6. Results of project implementation.**

The area proposed for the housing project is currently bare ground with barns and various structures, which provide limited movement opportunities to kit fox. The site does abut grassland habitat and vineyards, and is of marginal quality given the lack of cover onsite and regular human presence and disturbance. The project will be permanently converted and will no longer support kit foxes post construction.

#### **7. Project shape**

The proposed project consists of a square-shaped (single block) site.

#### **8. Have San Joaquin kit foxes been observed within 3 miles of the project area within the last 10 years?**

No recorded occurrences of kit fox were identified in the CNDDDB or our records within three miles of the site in the last 10 years. There has been only one reported kit fox sighting within three miles of the project site recorded in the CNDDDB; this sighting occurred over forty years ago, in 1975.

## Kit Fox Habitat Evaluation Form

### Cover Sheet

**Project Name** Truesdale Vineyard Farmworker Housing - Fire Suppression Tank and Pipeline

**Date** March 3, 2019

**Project Location\*** Shell Creek Road, Shandon, CA 93461 (South of Shandon, East of Paso Robles), APN 037-291-038

\*Please refer to the Site Vicinity Map on U.S.G.S. 7.5-minute topographic quadrangle.

**U.S.G.S. Quad Map Name** Camatta Canyon

**Lat/Long or UTM coordinates (if available)**

Latitude 35° 35' 23.22" N Longitude -120° 20' 41" W

**Project Description:** Farmworker housing project requires a 36,000 gallon water tank for fire suppression to be installed on hilltop south of the development area in annual grassland Habitat. A separate Habitat Evaluation Form was prepared for the housing project since it is urban and barren lands.

**Project Size** 0.65 Acres      **Amount of Kit Fox Habitat Affected** approx. 0.41 Acres

**Quantity of WHR Habitat Types Impacted** (i.e. - 2 acres annual grassland, 3 acres blue oak woodland)

WHR type AGS – ANNUAL GRASSLAND      0.41 Acres

WHR type \_\_\_\_\_ Acres

WHR type \_\_\_\_\_ Acres

WHR type \_\_\_\_\_ Acres

**Comments:** A fire water tank will be located on 0.07 acre of annual grassland and pipeline installation will temporarily affect 0.34 acre of annual grassland from equipment access and construction.

Form Completed By: Kevin Merk, Kevin Merk Associates LLC.

## San Joaquin Kit Fox Habitat Evaluation form

**Is the project area within 10 miles of a recorded San Joaquin kit fox observation or within contiguous suitable habitat as defined in question 2 (A-E)**

**Yes - Continue with evaluation form**

**No - Evaluation form/surveys are not necessary**

1. Importance of the project area relative to Recovery Plan for Upland Species of the San Joaquin Valley, California (Williams et al., 1998)

A. Project would block or degrade an existing corridor linking core populations or isolate a subpopulation (20)

B. Project is within core population (15)

C. Project area is identified within satellite populations (12)

D. Project area is within a corridor linking satellite populations (10)

E. Project area is not within any of the previously described areas but is within known kit fox range (5)

2. Habitat characteristics of project area.

A. Annual grassland or saltbush scrub present >50% of site (15)

B. Grassland or saltbush scrub present but comprises <50% of project area (10)

C. Oak savannah present on >50% of site (8)

D. Fallow ag fields or grain/alfalfa crops (7)

E. Orchards/vineyards (5)

F. Intensively maintained row crops or suitable vegetation absent (0)

3. Isolation of project area.

A. Project area surrounded by contiguous kit fox habitat as described in Question 2a-e (15)

B. Project area adjacent to at least 40 acres of contiguous habitat or part of an existing corridor (10)

C. Project area adjacent to <40 acres of habitat but linked by existing corridor (i.e., river, canal, aqueduct) (7)

D. Project area surrounded by ag but less than 200 yards from habitat (5)

E. Project area completely isolated by row crops or development and is greater than 200 yards from potential habitat (0)

4. Potential for increased mortality as a result of project implementation. Mortality may come from direct (e.g., - construction related) or indirect (e.g., - vehicle strikes due to increases in post development traffic) sources.

A. Increased mortality likely (10)

B. Unknown mortality effects (5)

C. No long-term effect on mortality (0)

5. Amount of potential kit fox habitat affected.

- A. >320 acres (10)
- B. 160 - 319 acres (7)
- C. 80 - 159 acres (5)
- D. 40 - 79 acres (3)
- E. < 40 acres (1)

6. Results of project implementation.

- A. Project site will be permanently converted and will no longer support foxes (10)
- B. Project area will be temporarily impacted but will require periodic disturbance for ongoing maintenance (7)
- C. Project area will be temporarily impacted and no maintenance necessary (5)
- D. Project will result in changes to agricultural crops (2)
- E. No habitat impacts (0)

7. Project Shape

- A. Single Block (10)
- B. Linear with > 40 foot right-of-way (5)
- C. Linear with < 40 foot right-of-way (3)

8. Have San Joaquin kit foxes been observed within 3 miles of the project area within the last 10 years?

- A. Yes (10)
- B. No (0)

Scoring

Recovery importance	<u>20</u>
Habitat condition	<u>15</u>
Isolation	<u>15</u>
Mortality	<u>0</u>
Quantity of habitat impacted	<u>1</u>
Project results	<u>7</u>
Project shape	<u>3</u>
Recent observations	<u>0</u>

TOTAL 61 for the fire suppression water tank and pipeline equates to a 2:1 ratio

## **Explanations for San Joaquin Kit Fox Habitat Evaluation Form**

### **1. Importance of the project area relative to Recovery Plan for Upland Species of the San Joaquin Valley, California (Williams et al., 1998)**

The Truesdale Farmworker Housing project is located on a portion of the Truesdale Vineyard property located approximately 2,000 feet west of Shell Creek Road, and 0.6 mile southwest of the intersection of Truesdale Road and Shell Creek Road, east of Shandon, California. The project site is situated approximately 4.5 miles south of the town of Shandon in San Luis Obispo County, on the outer limits of the movement corridor between a core population on the Carrizo Plain and an historic satellite population on Camp Roberts. The Camp Roberts population is severely impacted, and it does not appear that any kit foxes are present on the base (pers. Comm. Michael Moore, 2018). Several kit fox sightings have been reported in the last ten years in the Shandon, Whitley Gardens area and Estrella River Corridor (CNDDDB, 2018). In 2013, a scat study identified potential kit fox occurrences along the Highway 46 corridor. A kit fox sighting near Shell Creek Road was reported to the CNDDDB in 2013, which is approximately eight miles southeast of the project site. In 2012, a kit fox sighting was reported to the CNDDDB on Highway 41 five miles northwest of the project site. Other kit fox sightings within ten miles of the project site are mostly over ten years ago, with observations between five and 10 miles from the site in the 1970's. Only one kit fox sighting has been recorded within a three mile radius of the project site, in 1975.

### **2. Habitat characteristics of project area.**

The housing project requires a 36,000 gallon water tank be installed for fire suppression. The location of the tank is on a hill to the south of the housing project. The tank pad and associated pipeline are located in annual grassland. A separate kit fox habitat evaluation form was completed for the housing project since it will have permanent impacts occurring in urban and barren areas of the site.

### **3. Isolation of project area.**

Rolling hills covered with annual grassland habitat and dotted with scant shrubs such as coyote brush (*Baccharis pilularis*) and blue oaks (*Quercus douglasii*) border the immediate western side of the project area. These hills wrap around to the north side within a few hundred feet of the project area, and on the south side within 500 feet of the project area. On the east of the project area, actively farmed vineyards cover the land up to Shell Creek Road, beyond which extend a mixture of grazing lands and vineyards. Irrigated row crops are also present to the east but the majority of agricultural activities in the area are vineyard.

With respect to the project area and its connectivity to SJKF habitat and movement corridors, as noted above, the project site is located on the outer edge of the historic migration corridor from the Carrizo Plain's core population to the Camp Roberts satellite population. The annual grasslands on low rolling hills in proximity to much of the proposed project site are a potential kit fox habitat type, but become steep terrain which is less conducive to kit fox movement, foraging



and denning activities. In addition, coyotes are very common in the area, further reducing kit fox movement opportunities on this site. The vineyards located on the site's eastern side are a habitat type known to allow kit fox movement and provide limited foraging opportunities due to the regular small mammal abatement efforts. Therefore, contiguous kit fox habitat surrounds the project area.

#### **4. Potential for increased mortality as a result of project implementation.**

The proposed project consists of the placement of a 36,000 gallon water tank and the installation of a waterline underground. The tank pad is estimated at 0.07 acre and the pipeline is expected to temporarily impact 0.34 acre. There would be a brief period of increased vehicle and heavy equipment activity while the project is being constructed, but then only periodic maintenance would be required. The applicant will be required to implement the USFWS *Standardized Recommendations For Protection of the Endangered San Joaquin Kit Fox Prior To Or During Ground Disturbance* (January 2011), and with these precautions, take of kit fox would not be expected during the course of project construction. Other than the 0.07 acre footprint of the water tank, this part of the project will temporarily impact grassland habitat, and then will be allowed to revert to pre-project conditions. While maintenance may not be required for some time, it was estimated that at least some level of maintenance and associated disturbance may be required.

#### **5. Amount of potential kit fox habitat affected.**

The project will disturb roughly 0.41 acre of annual grassland. The water tank will be sited on about 0.07 acre and the pipeline installation will affect 0.34 acre of grassland. A separate kit fox habitat evaluation form was prepared for the housing project since it is occurring in urban and barren lands.

#### **6. Results of project implementation.**

The area proposed for the water tank and pipeline is annual grassland, and only 0.07 acre would be permanently lost. This portion of the project is surrounded by grassland habitat, but no small mammal burrows or potential dens were observed in the proposed disturbance footprint. The water tank is located adjacent to an existing dirt road. Other than the tank pad, the area will be temporarily impacted during construction of the water line and then will be allowed to revert to annual grassland. Periodic maintenance may be required.

#### **7. Project shape**

The proposed project consists of a linear alignment with less than 40 feet of right of way.

#### **8. Have San Joaquin kit foxes been observed within 3 miles of the project area within the last 10 years?**

No recorded occurrences of kit fox were identified in the CNDDDB or our records within three miles of the site in the last 10 years. There has been only one reported kit fox sighting within three miles of the project site recorded in the CNDDDB; this sighting occurred over forty years ago, in 1975.

**Photo Plate**

**Photo 1.** Northerly view of project site showing disturbed bare soils and existing structures in the location proposed for housing construction.



**Photo 2.** Westerly view of site showing bare soils, equipment storage and proximity to annual grassland on neighboring hills.



**Photo 3.** Southerly view of western limits of project site with pole barns proposed for removal. Existing water tanks can be seen on hillside in distance.



**Photo 4.** Easterly view of existing access roads and surrounding vineyards. Shell Creek Road is present in the distance.





**Photo 5.** View from existing water tanks looking down the proposed pipeline installation route.



**Photo 6.** Westerly view of existing water tanks and hillside in the distance where the 36,000 gallon fire suppression water tank will be installed. The pipeline would generally follow the road to the existing tanks and then head downslope to the housing project.

**U.S. FISH AND WILDLIFE SERVICE  
STANDARDIZED RECOMMENDATIONS  
FOR PROTECTION OF THE ENDANGERED SAN JOAQUIN KIT FOX  
PRIOR TO OR DURING GROUND DISTURBANCE**

Prepared by the Sacramento Fish and Wildlife Office  
January 2011

## INTRODUCTION

The following document includes many of the San Joaquin kit fox (*Vulpes macrotis mutica*) protection measures typically recommended by the U. S. Fish and Wildlife Service (Service), prior to and during ground disturbance activities. **However, incorporating relevant sections of these guidelines into the proposed project is not the only action required under the Endangered Species Act of 1973, as amended (Act) and does not preclude the need for section 7 consultation or a section 10 incidental take permit for the proposed project.** Project applicants should contact the Service in Sacramento to determine the full range of requirements that apply to your project; the address and telephone number are given at the end of this document. Implementation of the measures presented in this document may be necessary to avoid violating the provisions of the Act, including the prohibition against "take" (defined as killing, harming, or harassing a listed species, including actions that damage or destroy its habitat). These protection measures may also be required under the terms of a biological opinion pursuant to section 7 of the Act resulting in incidental take authorization (authorization), or an incidental take permit (permit) pursuant to section 10 of the Act. The specific measures implemented to protect kit fox for any given project shall be determined by the Service based upon the applicant's consultation with the Service.

The purpose of this document is to make information on kit fox protection strategies readily available and to help standardize the methods and definitions currently employed to achieve kit fox protection. The measures outlined in this document are subject to modification or revision at the discretion of the Service.

## IS A PERMIT NECESSARY?

**Certain acts need a permit from the Service which includes destruction of any known (occupied or unoccupied) or natal/pupping kit fox dens.** Determination of the presence or absence of kit foxes and /or their dens should be made during the environmental review process.

All surveys and monitoring described in this document must be conducted by a qualified biologist and these activities do not require a permit. A qualified biologist (biologist) means any person who has completed at least four years of university training in wildlife biology or a related science and/or has demonstrated field experience in the identification and life history of the San Joaquin kit fox. In addition, the biologist(s) must be able to identify coyote, red fox,

gray fox, and kit fox tracks, and to have seen a kit fox in the wild, at a zoo, or as a museum mount. Resumes of biologists should be submitted to the Service for review and approval prior to any survey or monitoring work occurring.

### **SMALL PROJECTS**

Small projects are considered to be those projects with small foot prints, of approximately one acre or less, such as an individual in-fill oil well, communication tower, or bridge repairs. These projects must stand alone and not be part of, or in any way connected to larger projects (i.e., bridge repair or improvement to serve a future urban development). The Service recommends that on these small projects, the biologist survey the proposed project boundary and a 200-foot area outside of the project footprint to identify habitat features and utilize this information as guidance to situate the project to minimize or avoid impacts. If habitat features cannot be completely avoided, then surveys should be conducted and the Service should be contacted for technical assistance to determine the extent of possible take.

Preconstruction/preactivity surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance and/or construction activities or any project activity likely to impact the San Joaquin kit fox. Kit foxes change dens four or five times during the summer months, and change natal dens one or two times per month (Morrell 1972). Surveys should identify kit fox habitat features on the project site and evaluate use by kit fox and, if possible, assess the potential impacts to the kit fox by the proposed activity. The status of all dens should be determined and mapped (see Survey Protocol). Written results of preconstruction/preactivity surveys must be received by the Service within five days after survey completion and prior to the start of ground disturbance and/or construction activities.

**If a natal/pupping den is discovered within the project area or within 200-feet of the project boundary, the Service shall be immediately notified and under no circumstances should the den be disturbed or destroyed without prior authorization. If the preconstruction/preactivity survey reveals an active natal pupping or new information, the project applicant should contact the Service immediately to obtain the necessary take authorization/permit.**

If the take authorization/permit has already been issued, then the biologist may proceed with den destruction within the project boundary, except natal/pupping den which may not be destroyed while occupied. A take authorization/permit is required to destroy these dens even after they are vacated. Protective exclusion zones can be placed around all known and potential dens which occur outside the project footprint (conversely, the project boundary can be demarcated, see den destruction section).

## OTHER PROJECTS

It is likely that all other projects occurring within kit fox habitat will require a take authorization/permit from the Service. This determination would be made by the Service during the early evaluation process (see Survey Protocol). These other projects would include, but are not limited to: Linear projects; projects with large footprints such as urban development; and projects which in themselves may be small but have far reaching impacts (i.e., water storage or conveyance facilities that promote urban growth or agriculture, etc.).

The take authorization/permit issued by the Service may incorporate some or all of the protection measures presented in this document. The take authorization/permit may include measures specific to the needs of the project and those requirements supersede any requirements found in this document.

## EXCLUSION ZONES

In order to avoid impacts, construction activities must avoid their dens. The configuration of exclusion zones around the kit fox dens should have a radius measured outward from the entrance or cluster of entrances due to the length of dens underground. The following distances are **minimums**, and if they cannot be followed the Service must be contacted. Adult and pup kit foxes are known to sometimes rest and play near the den entrance in the afternoon, but most above-ground activities begin near sunset and continue sporadically throughout the night. Den definitions are attached as Exhibit A.

Potential den**	50 feet
Atypical den**	50 feet
Known den*	100 feet
Natal/pupping den (occupied <u>and</u> unoccupied)	Service must be contacted

**\*Known den:** To ensure protection, the exclusion zone should be demarcated by fencing that encircles each den at the appropriate distance and does not prevent access to the den by kit foxes. Acceptable fencing includes untreated wood particle-board, silt fencing, orange construction fencing or other fencing as approved by the Service as long as it has openings for kit fox ingress/egress and keeps humans and equipment out. Exclusion zone fencing should be maintained until all construction related or operational disturbances have been terminated. At that time, all fencing shall be removed to avoid attracting subsequent attention to the dens.

**\*\*Potential and Atypical dens:** Placement of 4-5 flagged stakes 50 feet from the den entrance(s) will suffice to identify the den location; fencing will not be required, but the exclusion zone must be observed.

Only essential vehicle operation on existing roads and foot traffic should be permitted. Otherwise, all construction, vehicle operation, material storage, or any other type of surface-disturbing activity should be prohibited or greatly restricted within the exclusion zones.

## **DESTRUCTION OF DENS**

Limited destruction of kit fox dens may be allowed, if avoidance is not a reasonable alternative, provided the following procedures are observed. The value to kit foxes of potential, known, and natal/pupping dens differ and therefore, each den type needs a different level of protection.

**Destruction of any known or natal/pupping kit fox den requires take authorization/permit from the Service.**

Destruction of the den should be accomplished by careful excavation until it is certain that no kit foxes are inside. The den should be fully excavated, filled with dirt and compacted to ensure that kit foxes cannot reenter or use the den during the construction period. If at any point during excavation, a kit fox is discovered inside the den, the excavation activity shall cease immediately and monitoring of the den as described above should be resumed. Destruction of the den may be completed when in the judgment of the biologist, the animal has escaped, without further disturbance, from the partially destroyed den.

**Natal/pupping dens:** Natal or pupping dens which are occupied will not be destroyed until the pups and adults have vacated and then only after consultation with the Service. Therefore, project activities at some den sites may have to be postponed.

**Known Dens:** Known dens occurring within the footprint of the activity must be monitored for three days with tracking medium or an infra-red beam camera to determine the current use. If no kit fox activity is observed during this period, the den should be destroyed immediately to preclude subsequent use.

If kit fox activity is observed at the den during this period, the den should be monitored for at least five consecutive days from the time of the observation to allow any resident animal to move to another den during its normal activity. Use of the den can be discouraged during this period by partially plugging its entrances(s) with soil in such a manner that any resident animal can escape easily. Only when the den is determined to be unoccupied may the den be excavated under the direction of the biologist. If the animal is still present after five or more consecutive days of plugging and monitoring, the den may have to be excavated when, in the judgment of a biologist, it is temporarily vacant, for example during the animal's normal foraging activities.



**The Service encourages hand excavation, but realizes that soil conditions may necessitate the use of excavating equipment. However, extreme caution must be exercised.**

Potential Dens: If a take authorization/permit has been obtained from the Service, den destruction may proceed without monitoring, unless other restrictions were issued with the take authorization/permit. If no take authorization/permit has been issued, then potential dens should be monitored as if they were known dens. If any den was considered to be a potential den, but is later determined during monitoring or destruction to be currently, or previously used by kit fox (e.g., if kit fox sign is found inside), then all construction activities shall cease and the Service shall be notified immediately.

## **CONSTRUCTION AND ON-GOING OPERATIONAL REQUIREMENTS**

Habitat subject to permanent and temporary construction disturbances and other types of ongoing project-related disturbance activities should be minimized by adhering to the following activities. Project designs should limit or cluster permanent project features to the smallest area possible while still permitting achievement of project goals. To minimize temporary disturbances, all project-related vehicle traffic should be restricted to established roads, construction areas, and other designated areas. These areas should also be included in preconstruction surveys and, to the extent possible, should be established in locations disturbed by previous activities to prevent further impacts.

1. Project-related vehicles should observe a daytime speed limit of 20-mph throughout the site in all project areas, except on county roads and State and Federal highways; this is particularly important at night when kit foxes are most active. Night-time construction should be minimized to the extent possible. However if it does occur, then the speed limit should be reduced to 10-mph. Off-road traffic outside of designated project areas should be prohibited.
2. To prevent inadvertent entrapment of kit foxes or other animals during the construction phase of a project, all excavated, steep-walled holes or trenches more than 2-feet deep should be covered at the close of each working day by plywood or similar materials. If the trenches cannot be closed, one or more escape ramps constructed of earthen-fill or wooden planks shall be installed. Before such holes or trenches are filled, they should be thoroughly inspected for trapped animals. If at any time a trapped or injured kit fox is discovered, the Service and the California Department of Fish and Game (CDFG) shall be contacted as noted under measure 13 referenced below.
3. Kit foxes are attracted to den-like structures such as pipes and may enter stored pipes and become trapped or injured. All construction pipes, culverts, or similar structures with a diameter of 4-inches or greater that are stored at a construction site for one or more overnight periods should be thoroughly inspected for kit foxes before the pipe is subsequently buried, capped, or otherwise used or moved in any way. If a kit fox is

discovered inside a pipe, that section of pipe should not be moved until the Service has been consulted. If necessary, and under the direct supervision of the biologist, the pipe may be moved only once to remove it from the path of construction activity, until the fox has escaped.

4. All food-related trash items such as wrappers, cans, bottles, and food scraps should be disposed of in securely closed containers and removed at least once a week from a construction or project site.
5. No firearms shall be allowed on the project site.
6. No pets, such as dogs or cats, should be permitted on the project site to prevent harassment, mortality of kit foxes, or destruction of dens.
7. Use of rodenticides and herbicides in project areas should be restricted. This is necessary to prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend. All uses of such compounds should observe label and other restrictions mandated by the U.S. Environmental Protection Agency, California Department of Food and Agriculture, and other State and Federal legislation, as well as additional project-related restrictions deemed necessary by the Service. If rodent control must be conducted, zinc phosphide should be used because of a proven lower risk to kit fox.
8. A representative shall be appointed by the project proponent who will be the contact source for any employee or contractor who might inadvertently kill or injure a kit fox or who finds a dead, injured or entrapped kit fox. The representative will be identified during the employee education program and their name and telephone number shall be provided to the Service.
9. An employee education program should be conducted for any project that has anticipated impacts to kit fox or other endangered species. The program should consist of a brief presentation by persons knowledgeable in kit fox biology and legislative protection to explain endangered species concerns to contractors, their employees, and military and/or agency personnel involved in the project. The program should include the following: A description of the San Joaquin kit fox and its habitat needs; a report of the occurrence of kit fox in the project area; an explanation of the status of the species and its protection under the Endangered Species Act; and a list of measures being taken to reduce impacts to the species during project construction and implementation. A fact sheet conveying this information should be prepared for distribution to the previously referenced people and anyone else who may enter the project site.
10. Upon completion of the project, all areas subject to temporary ground disturbances, including storage and staging areas, temporary roads, pipeline corridors, etc. should be

re-contoured if necessary, and revegetated to promote restoration of the area to pre-project conditions. An area subject to "temporary" disturbance means any area that is disturbed during the project, but after project completion will not be subject to further disturbance and has the potential to be revegetated. Appropriate methods and plant species used to revegetate such areas should be determined on a site-specific basis in consultation with the Service, California Department of Fish and Game (CDFG), and revegetation experts.

11. In the case of trapped animals, escape ramps or structures should be installed immediately to allow the animal(s) to escape, or the Service should be contacted for guidance.
12. Any contractor, employee, or military or agency personnel who are responsible for inadvertently killing or injuring a San Joaquin kit fox shall immediately report the incident to their representative. This representative shall contact the CDFG immediately in the case of a dead, injured or entrapped kit fox. The CDFG contact for immediate assistance is State Dispatch at (916)445-0045. They will contact the local warden or Mr. Paul Hoffman, the wildlife biologist, at (530)934-9309. The Service should be contacted at the numbers below.
13. The Sacramento Fish and Wildlife Office and CDFG shall be notified in writing within three working days of the accidental death or injury to a San Joaquin kit fox during project related activities. Notification must include the date, time, and location of the incident or of the finding of a dead or injured animal and any other pertinent information. The Service contact is the Chief of the Division of Endangered Species, at the addresses and telephone numbers below. The CDFG contact is Mr. Paul Hoffman at 1701 Nimbus Road, Suite A, Rancho Cordova, California 95670, (530) 934-9309.
14. New sightings of kit fox shall be reported to the California Natural Diversity Database (CNDDDB). A copy of the reporting form and a topographic map clearly marked with the location of where the kit fox was observed should also be provided to the Service at the address below.

Any project-related information required by the Service or questions concerning the above conditions or their implementation may be directed in writing to the U.S. Fish and Wildlife Service at:

Endangered Species Division  
2800 Cottage Way, Suite W2605  
Sacramento, California 95825-1846  
(916) 414-6620 or (916) 414-6600

**EXHIBIT “A” - DEFINITIONS**

"Take" - Section 9 of the Endangered Species Act of 1973, as amended (Act) prohibits the "take" of any federally listed endangered species by any person (an individual, corporation, partnership, trust, association, etc.) subject to the jurisdiction of the United States. As defined in the Act, take means " . . . to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct". Thus, not only is a listed animal protected from activities such as hunting, but also from actions that damage or destroy its habitat.

"Dens" - San Joaquin kit fox dens may be located in areas of low, moderate, or steep topography. Den characteristics are listed below, however, the specific characteristics of individual dens may vary and occupied dens may lack some or all of these features. Therefore, caution must be exercised in determining the status of any den. Typical dens may include the following: (1) one or more entrances that are approximately 5 to 8 inches in diameter; (2) dirt berms adjacent to the entrances; (3) kit fox tracks, scat, or prey remains in the vicinity of the den; (4) matted vegetation adjacent to the den entrances; and (5) manmade features such as culverts, pipes, and canal banks.

"Known den" - Any existing natural den or manmade structure that is used or has been used at any time in the past by a San Joaquin kit fox. Evidence of use may include historical records, past or current radiotelemetry or spotlighting data, kit fox sign such as tracks, scat, and/or prey remains, or other reasonable proof that a given den is being or has been used by a kit fox. The Service discourages use of the terms "active" and "inactive" when referring to any kit fox den because a great percentage of occupied dens show no evidence of use, and because kit foxes change dens often, with the result that the status of a given den may change frequently and abruptly.

"Potential Den" - Any subterranean hole within the species' range that has entrances of appropriate dimensions for which available evidence is insufficient to conclude that it is being used or has been used by a kit fox. Potential dens shall include the following: (1) any suitable subterranean hole; or (2) any den or burrow of another species (e.g., coyote, badger, red fox, or ground squirrel) that otherwise has appropriate characteristics for kit fox use.

"Natal or Pupping Den" - Any den used by kit foxes to whelp and/or rear their pups. Natal/pupping dens may be larger with more numerous entrances than dens occupied exclusively by adults. These dens typically have more kit fox tracks, scat, and prey remains in the vicinity of the den, and may have a broader apron of matted dirt and/or vegetation at one or more entrances. A natal den, defined as a den in which kit fox pups are actually whelped but not necessarily reared, is a more restrictive version of the pupping den. In practice, however, it is difficult to distinguish between the two, therefore, for purposes of this definition either term applies.

"Atypical Den" - Any manmade structure which has been or is being occupied by a San Joaquin kit fox. Atypical dens may include pipes, culverts, and diggings beneath concrete slabs and buildings.



December 12, 2018

Mr. Dana Merrill  
Mesa Vineyard Management, Inc.  
P.O. Box 789  
Templeton, CA 93465

Re: Fire Protection Engineering Master Plan Summary Report \_ Rev. 1  
APN# 037-291-038  
Farmworkers Housing Project  
Shell Creek Road, Shandon, California

Dear Mr. Merrill:

Per your request, we have conducted an evaluation of the fire protection requirements for the proposed Farmworkers Housing Project in San Luis Obispo County, CA. This report summarizes our findings, and includes recommendations for fire flow water storage, fire sprinkler systems, and hydrant flow requirements. Our analysis and recommendations are based upon the documentation provided to our office by your firm, research of applicable codes /standards, review of the proposed building use, and CAL FIRE/San Luis Obispo County Fire Department requirements.

This analysis employs a “performance based” design approach. The report is divided into the following sections:

- I. Introduction
- II. Project Data
- III. Fire Sprinkler System Requirements
- IV. Fire Flow and Water Storage Analysis
- V. Summary Recommendations

The following reference materials were utilized in the assembly of this report:

- CAL FIRE/San Luis Obispo County Standards
- 2016 California Fire Code (CFC)
- 2016 Edition of NFPA 13
- 2017 Edition of NFPA 1142
- Collings & Associates Master Fire Protection Plan Drawings, Sheets MFPP-1 and MFPP-2, dated 12/12/18.

## **I. Introduction:**

The proposed project includes the construction of (18) new modular building housing units for farmworkers at the site. The proposed farmworker housing project will consist of (12) bedroom units and (6) kitchen / bathroom units.

The project is not served by a water purveyor but is served by an on-site well with new water storage tank, 6" underground fire service, and new hydrants.

Per the provided documentation, fire protection water storage, hydrants, fire department emergency access, fire sprinkler and fire alarm systems will be required per CAL FIRE/San Luis Obispo County Fire Department standards.

This report summarizes our findings, and includes recommendations for fire flow water storage, hydrant requirements, and fire sprinkler system requirements.

## **II. Project Data**

The proposed buildings project parameters are as follows:

Occupancy:	R-2
Construction Type:	V-B
Stories:	One
Modular Building Area:	1,250 sf (18 total modular units)
Fire Hazard Severity Zone:	High

Building exposure issues to adjacent properties are minimal. Agricultural parcels will be located around the buildings, located as shown on the architectural plans.

## **III. Fire Sprinkler System Requirements:**

Based on the requirements of the CAL Fire / San Luis Obispo County Fire Department, the proposed structures associated with project are to be provided with a commercial fire sprinkler system. The applicable standard for commercial fire sprinkler systems is NFPA 13.

Per the guidelines of NFPA 13, the fire sprinkler system occupancy classification is driven by the operations to be conducted within the buildings, the types of commodities and products utilized in the buildings, and the storage arrangement within the buildings.

Based on the information provided, as outlined in Section I of this report, the modular buildings will be utilized for housing purposes. Based on the requirements of NFPA 13, the basis of design for the Bedroom Unit fire sprinkler systems will be for a Light Hazard Occupancy as defined in Section 5.2.

- Light Hazard Fire Sprinkler System: 0.10 gpm / sf over the entire area  
(This does not include the area reduction permitted per NFPA 13 Section 11.2.3.2.3)
- Quick response fire sprinklers to be installed
- 100 gpm hose demand

Based on the requirements of NFPA 13, the basis of design for the Kitchen / Bathroom Units fire sprinkler systems will be for an Ordinary Group I Occupancy as defined in Section 5.3.

- Ordinary Group I Fire Sprinkler System: 0.15 gpm / sf over the kitchen area  
(Bathroom areas to be protected for Light Hazard)
- Quick response fire sprinklers to be installed
- 250 gpm hose demand

The maximum expected sprinkler demand for the Kitchen / Bathroom modular buildings will be approximately 190 gpm which includes a 20% hydraulic design cushion. Additional combined hose stream demand would be 250 gpm based upon the requirements of Table 11.2.3.1.2 of NFPA 13.

#### **IV. Fire Flow and Water Storage Analysis:**

Cal Fire/San Luis Obispo County Fire Department *Standard 1* specifies the minimum requirements for fire protection water storage and provides guidance in determining the minimum water storage required for commercial buildings in rural locations.

*Standard 1* indicates that for buildings protected by fire sprinkler systems that are located in rural areas without water purveyors, apply the provisions of NFPA 13, and size the storage for a combination of the fire sprinkler and hose demand requirements. In addition, the hose demand is doubled for every additional 10,000 sf of building area, or portion thereof. Based on a building area of 1,250 sf, the required hose demand will be 250 gpm.

Two sets of fire flow storage calculations are permitted by the NFPA 13, both of which are contingent upon the installation of a central station fire alarm system. An un-monitored system requires a 90-minute fire flow water storage, and a monitored system requires a 60-minute duration. If the sprinkler system is monitored by a central station alarm firm, it is anticipated that the local fire department will be quickly notified in the event of a fire and be able to attack the fire at an earlier stage of fire growth. Per the requirements of the CFC, a monitored fire sprinkler system will be installed for the proposed buildings, allowing the 60-minute duration calculation.

Assuming a fire sprinkler system discharge demand of 190 gpm for the worst-case fire sprinkler demand, and a hose stream of 250 gpm for a 60-minute duration, a minimum of 26,400 gallons of stored fire protection water would be required.



Per the requirements of 2017 NFPA 1142 Section 4.6, the minimum water delivery rate (fire flow) required is to be per Table 4.6.1. As outlined in this table, a minimum of 1,000 gpm will be required. Per Section A4.4, a reduction in this fire flow of 75% is permitted when the building is protected throughout by an approved automatic fire sprinkler system, which utilizes quick response sprinklers throughout. Additionally, this section states that the resulting fire flow should not be less than 600 gpm. Per the requirements of 2017 NFPA 1142, a 600 gpm fire flow will be required for the buildings provided quick response fire sprinklers are installed.

Based on preliminary calculations performed utilizing 104 psi at the source, the proposed draft hydrants will be capable of providing a 600 gpm fire flow at 20 psi for 60 minutes.

In summary, following are fire flow water storage requirements / recommendations for the dedicated on-site fire water storage for the proposed buildings are as follows:

- Required: 36,000 gallons dedicated fire protection water storage.

The proposed fire sprinkler system would be supplied by a single new steel water storage tank dedicated for fire protection purposes. The tank is to be filled via the existing well on site. The tank is to be elevated approximately 241'-0" above the Farmworker Housing pad. The pressure available at the supply is 104 psi.

- Water Storage Tank Elevation: 1,405'-0"
- Farmworker Housing Pad Elevation: 1,164'-0"
- Elevation Difference: 241'-0"

***Please note:***

- **The Cal Fire staff must approve the water storage values. Typical CFC requirements are for minimum on-site water storage of 120,000 gallons.**

The general fire protection system elements described above are indicated schematically on the Collings & Associates "Master Fire Protection Plan", Sheets MFPP-1 and MFPP-2.

**V. Recommendations:**

Based upon the above analysis, we recommend the following:

1. Install (1) new steel water storage tank to provide a minimum of 36,000 gallons of dedicated fire protection water storage. The required minimum fire protection water storage supply is to be maintained at all times in accordance with CAL FIRE / San Luis Obispo County requirements.

The installation of (2) or more interconnected tanks will require specific CAL FIRE approval and would be required to be interconnected using flexible fittings. All piping, valves and fittings are to be steel; no plastic devices are permitted.

New tank is to be provided with automatic fill and will serve as supply for on-site fire hydrants & new building fire sprinkler system. Tank must be installed in accordance with the provisions of NFPA 22.

Tank elevation to be +241'-0 above the proposed buildings pad

Subject Buildings Pad: 1,164'-0 elev.

Water Storage Tank: 1,405'-0 minimum elev.

104.0 psi available at source

Note: Domestic water to be provided by existing water storage tanks. See civil drawings for details.

2. Install new automatic wet fire sprinkler systems in the proposed farm workers buildings. The systems are to be designed and installed in complete accordance with the provisions of the 2016 edition of NFPA 13, the San Luis Obispo County Fire Department, and in accordance with the following design requirements:

Bedroom Units:

Light Hazard:	0.10 gpm / sf over entire area
Hose Stream :	100 gpm
Fire Sprinklers:	Quick Response

Kitchen / Bath Units:

Ordinary Hazard Group I:	0.15 gpm / sf over entire area
Hose Stream:	250 gpm
Fire Sprinklers:	Quick Response
Note:	Bathroom areas: Protected for Light Hazard

3. A fire sprinkler fire alarm monitoring system, which has central station water flow alarm monitoring service, must be installed and maintained for automatic fire department notification in the event of a flow switch activation.
4. Install (3) new draft fire hydrants as shown, located per the direction of San Luis Obispo County Fire Department Development Standards. Minimum fire flow to be 600 gpm at 20 psi without sprinkler demand.
5. Smoke Alarm and Fire Alarm systems are to be installed per the requirements of the 2016 Edition of the California Fire Code and installed in accordance with the provisions of the 2016 Edition of NFPA 72.
6. The fire sprinkler systems and new hydrants are to be connected to the supply via minimum 4" and 6" diameter C900 DR18 supply piping (approved for fire service). All underground fire service piping materials and installation are to comply with the provisions of NFPA 24.
7. The access roads must meet CAL FIRE/SLOCFD emergency access requirements, including the following (See C&A Sheets MFPP-1 and MFPP-2):

- Fire access road to be minimum 24 feet in width, with minimum 13'-6" vertical clearance.
- Fire access to be provided within 150 feet of outside building perimeter.
- Fire access road to be able to support 75,000-pound emergency vehicles.
- Install Knox box with proper access at the main entrance gate as required by CAL FIRE/SLOCFD standards

**Note:** Specific CAL FIRE / San Luis Obispo County Fire Department approval will be required for any access roads not meeting the above conditions.

Note: Interior access roads to be a minimum of 20'-0. See MFPP-2.

8. New on-site underground fire service lines must be inspected, flushed and tested in accordance with the provisions of NFPA 24, prior to connecting the system to the new water tanks, hydrants, and fire pumps. Any failures discovered during this process must be corrected and the system must be brought into compliance with the provisions of NFPA 24.
9. Install fire extinguishers in the building in accordance with the CFC and CAL FIRE / SLOCFD standards.
10. Provide fire department Knox box at all fire department access gates and provide address per CAL FIRE / SLOCFD standards.
11. Setback / separation distance requirements for the modular buildings:
  - Per the requirements of CBC Table 602, exterior walls are to be one-hour fire rated for the proposed separation distance of 8'-0 between the modular buildings.
  - Per the requirements of CBC Table 705.8, the maximum area of unprotected wall openings is 25%

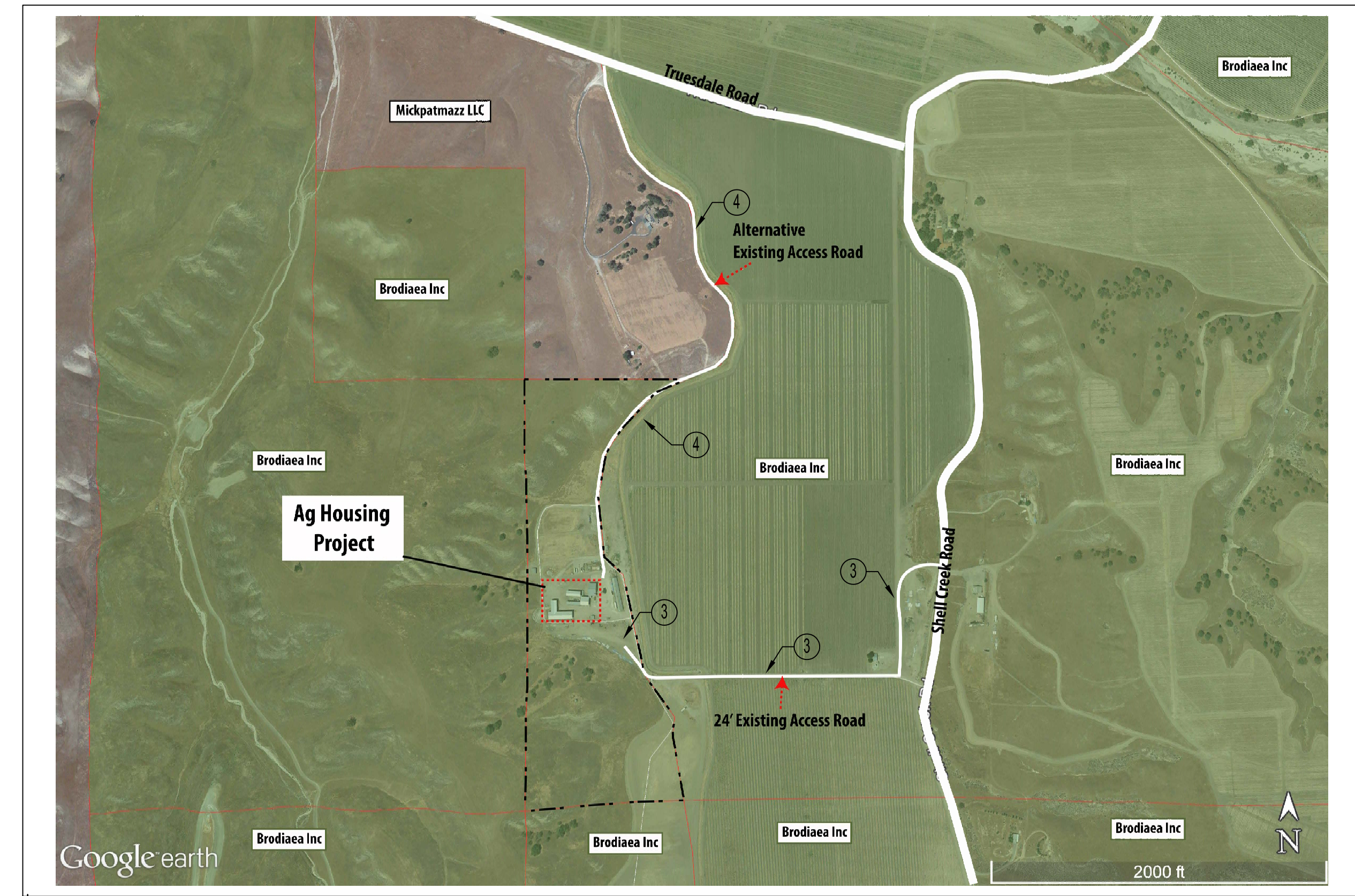
Thank you for the opportunity to provide this evaluation. Please call our office with any questions, or if you require additional information.

Sincerely,



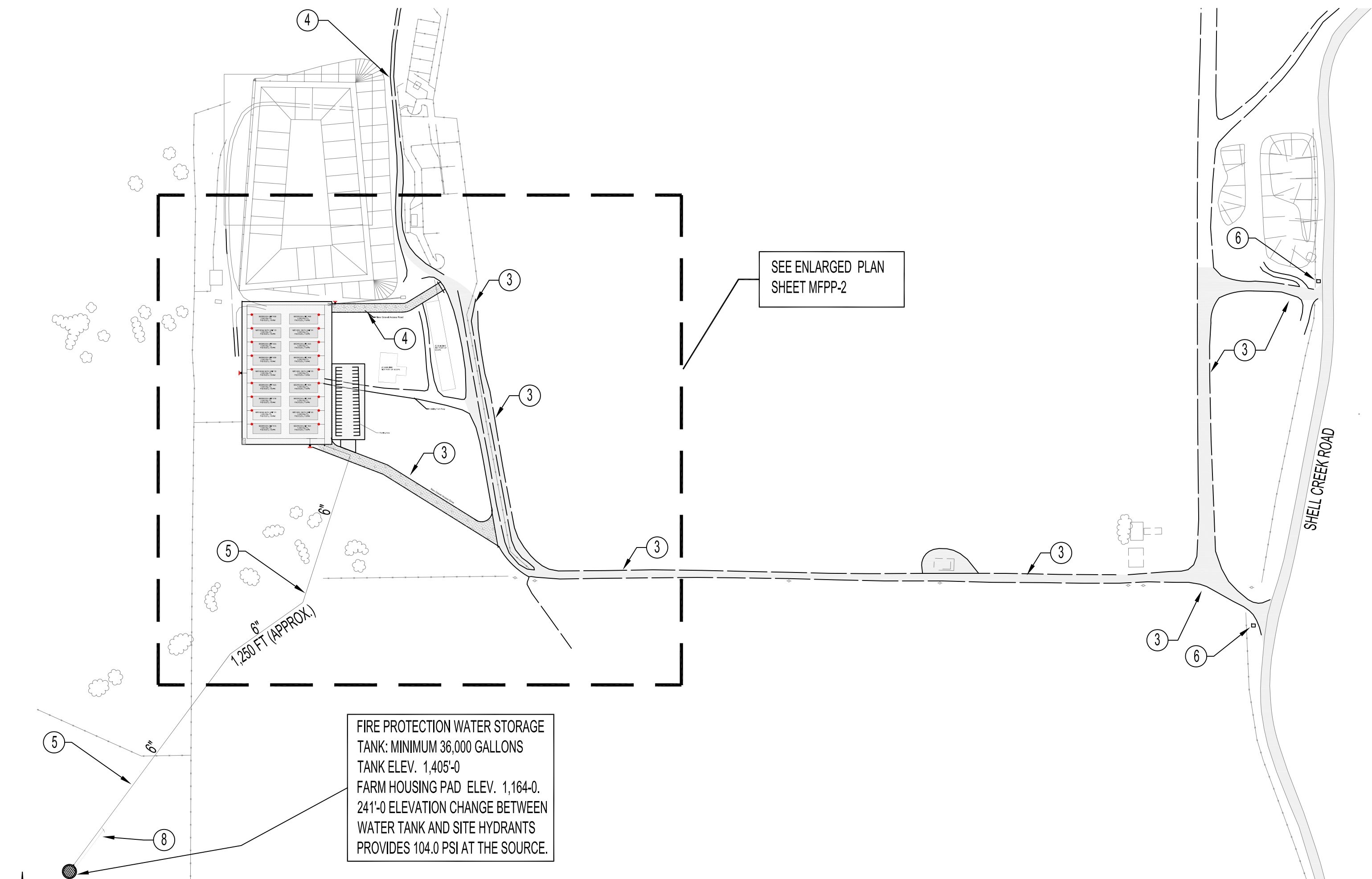
Paul Trutner, F.P.E.  
Fire Protection Engineer





## EXISTING SITE ACCESS ROADS

N O SCALE



## MASTER FIRE PROTECTION PLAN

1" = 200'-0"

### KEY NOTES:

1. INSTALL NEW STEEL WATER STORAGE TANK TO PROVIDE A MINIMUM OF 36,000 GALLONS OF DEDICATED FIRE PROTECTION WATER STORAGE. THE REQUIRED MINIMUM FIRE PROTECTION WATER STORAGE SUPPLY IS TO BE MAINTAINED AT ALL TIMES IN ACCORDANCE WITH CAL FIRE / SAN LUIS OBISPO COUNTY REQUIREMENTS.

THE INSTALLATION OF (2) OR MORE INTERCONNECTED TANKS WILL REQUIRE SPECIFIC CAL FIRE APPROVAL AND WOULD BE REQUIRED TO BE INTERCONNECTED USING FLEXIBLE FITTINGS. ALL PIPING, VALVES AND FITTINGS ARE TO BE STEEL; NO PLASTIC DEVICES ARE PERMITTED.

TANK IS TO BE PROVIDED WITH AUTOMATIC FILL AND WILL SERVE AS SUPPLY FOR ON-SITE FIRE HYDRANTS & NEW BUILDING FIRE SPRINKLER SYSTEM. TANK MUST BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF NFPA 22.

TANK ELEVATION TO BE +241'-0" ABOVE THE PROPOSED BUILDINGS FINISHED FLOOR  
SUBJECT BUILDINGS PAD: 1,164'-0 ELEV.  
WATER STORAGE TANK: 1,405'-0 MINIMUM ELEV.  
104.0 PSI AVAILABLE AT SOURCE

NOTE: DOMESTIC WATER TO BE PROVIDED BY EXISTING WATER STORAGE TANKS. SEE CIVIL DRAWINGS FOR DETAIL. DOMESTIC WATER IS NOT PART OF THIS MFPP.

2. INSTALL (3) NEW DRAFT FIRE HYDRANTS AS REQUIRED TO COMPLY WITH CAL FIRE / SLO COUNTY FIRE DEPT. STANDARD, EXH. 7. PROVIDE ISOLATION VALVE. HYDRANT TO BE WET BARREL COMMERCIAL GRADE, AND SHALL HAVE ONE 4" AND TWO 2-1/2" OUTLETS.

MINIMUM FIRE FLOW: 600 GPM AT 20 PSI

INSTALL PROTECTIVE BOLLARDS PER CAL FIRE STANDARDS. INSTALL BLUE REFLECTORS PER CAL FIRE STANDARDS.

3. PRIMARY FIRE DEPARTMENT ACCESS ROAD:  
PRIMARY ACCESS 24'-0" MINIMUM WIDTH  
13'-6" MINIMUM CLEAR HEIGHT  
ALL WEATHER SURFACE  
75,000 LB. EMERGENCY VEHICLE ROAD CAPACITY / 40'-0" TURN RADIUS  
ROAD TO COMPLY WITH CFC/SLO COUNTY FIRE STANDARD 4 "ACCESS ROADS AND DRIVEWAYS".

4. SECONDARY FIRE DEPARTMENT ACCESS ROAD:  
PRIMARY ACCESS 24'-0" MINIMUM WIDTH  
13'-6" MINIMUM CLEAR HEIGHT  
ALL WEATHER SURFACE  
75,000 LB. EMERGENCY VEHICLE ROAD CAPACITY / 40'-0" TURN RADIUS  
ROAD TO COMPLY WITH CFC/SLO COUNTY FIRE STANDARD 4 "ACCESS ROADS AND DRIVEWAYS".

- NOTE: SPECIFIC CAL FIRE / SLOCFD APPROVAL WILL BE REQUIRED FOR ANY ACCESS ROADS NOT MEETING THE ABOVE CONDITIONS.

5. NEW 6" C900 DR18 UNDERGROUND FIRE SERVICE LINE TO THE NEW SITE HYDRANTS AND NEW BUILDING FIRE SPRINKLER SYSTEMS.

6. PROVIDE FIRE DEPT. KNOX BOX AT ANY F.D. ACCESS GATES. PROVIDE ADDRESS PER CAL FIRE / SLOCFD STANDARDS.

7. (N) FIRE SPRINKLER SYSTEM RISER.

8. FIRE WATER STORAGE TANK FILL LINE FROM EXISTING ON-SITE WELL.

### DEFERRED SUBMITTAL & FIELD NOTES:

1. PROPOSED FIRE SPRINKLER SYSTEM INSTALLATION DETAILS, UNDERGROUND FIRE SERVICE PIPING INSTALLATION DETAILS, HYDRANT INSTALLATION DETAILS, THRUST BLOCK DETAILS, AND GENERAL INSTALLATION DETAILS ARE TO BE SUBMITTED WITH SHOP DRAWINGS FOR APPROVAL AND PERMIT BY INSTALLING CONTRACTOR(S).

2. CONTRACTOR(S) TO PERFORM A SITE SURVEY AND FIELD WALK PRIOR TO SUBMITTING BID PROPOSAL FOR THE PROPOSED WORK, TO CONFIRM SITE CONDITIONS WITH RESPECT TO THE INSTALLATION OF THE SITE FIRE PROTECTION SYSTEMS. CONTRACTOR(S) WILL BE RESPONSIBLE FOR COORDINATION OF ALL PIPING INSTALLATION BASED UPON THE FIELD WALK AND THESE PLANS, REGARDLESS OF REQUIRED CHANGES IN PIPE ROUTING, WITHOUT ADDITIONAL COST TO OWNER.

### THE FOLLOWING CONDITIONS MUST BE MET PRIOR TO BUILDING CONSTRUCTION:

1. CREATE A DEFENSIBLE SPACE OF 100 FEET (OR PER CAL FIRE / SAN LUIS OBISPO COUNTY DIRECTION) AROUND THE PROPOSED STRUCTURES ON THIS PROPERTY. REMOVAL DOES NOT APPLY TO SINGLE SPECIMEN TREES, ORNAMENTAL SHRUBBERY OR SIMILAR PLANTS THAT ARE USED AS GROUND COVER IS THEY DO NOT FORM A MEANS OF RAPIDLY TRANSMITTING FIRE FROM THE NATIVE GROWTH TO ANY STRUCTURE.

2. FIRE DEPARTMENT EMERGENCY ACCESS SHALL BE INSTALLED AND MADE SERVICEABLE. ROADWAY PLANS, ACCEPTABLE TO THE FIRE DEPARTMENT, SHALL BE SUBMITTED FOR APPROVAL PRIOR TO ANY WORK BEING UNDERTAKEN.

### PROPOSED SCOPE OF WORK:

THIS MASTER FIRE PROTECTION PLAN ADDRESSES THE FIRE PROTECTION REQUIREMENTS FOR THE CONSTRUCTION OF THE FOLLOWING:

PROJECT: FARM WORKERS HOUSING  
SHELL CREEK RD.  
SHANDON, CA

OCCUPANCY: R-2

TYPE OF CONSTRUCTION: V-B

FARM WORKER HOUSING UNITS: 1,250 SF

### MASTER FIRE PROTECTION PLAN SCOPE OF WORK

THIS MASTER FIRE PROTECTION PLAN INCLUDES THE INSTALLATION OF THE FOLLOWING FIRE PROTECTION SYSTEMS IN SUPPORT OF THE NEW FARM WORKERS HOUSING PROJECT LOCATED AT SHELL CREEK RD., SHANDON CA.

1. FIRE DEPARTMENT APPARATUS ACCESS ROAD DESIGN AND CONSTRUCTION TO COMPLY WITH THE PROVISIONS OF SAN LUIS OBISPO COUNTY FIRE DEPARTMENT STANDARDS. A 24'-0" WIDE ALL WEATHER ACCESS ROAD AND 13'-6" MINIMUM CLEAR HEIGHT TO BE PROVIDED AND MAINTAINED AT ALL TIMES FOR EMERGENCY ACCESS. ROAD TO BE CAPABLE OF SUPPORTING 75,000 LB. EMERGENCY VEHICLE

2. NEW 4" AND 6" C900 DR18 UNDERGROUND FIRE SERVICE LINES TO SUPPLY SITE HYDRANTS AND NEW BUILDINGS FIRE SPRINKLER SYSTEMS. FIRE SERVICE TO BE INSTALLED AND INSPECTED PER NFPA 24 REQUIREMENTS.

3. INSTALL (3) NEW DRAFT FIRE HYDRANTS AS SHOWN, LOCATED PER THE DIRECTION OF SAN LUIS OBISPO COUNTY FIRE DEPARTMENT DEVELOPMENT STANDARDS. MINIMUM FIRE FLOW TO BE 600 GPM AT 20 PSI WITHOUT SPRINKLER DEMAND.

4. UNDERGROUND FIRE SERVICE PIPING TO HAVE THRUST BLOCKS, VALVES AND ALL APPURTENANCES TO BE INSTALLED PER THE REQUIREMENTS OF NFPA 24.

5. INSTALL NEW AUTOMATIC WET FIRE SPRINKLER SYSTEMS IN THE PROPOSED FARM WORKERS BUILDINGS. THE SYSTEMS ARE TO BE DESIGNED AND INSTALLED IN COMPLETE ACCORDANCE WITH THE PROVISIONS OF THE 2016 EDITION OF NFPA 13, THE SAN LUIS OBISPO COUNTY FIRE DEPARTMENT, AND IN ACCORDANCE WITH THE FOLLOWING DESIGN REQUIREMENTS:

BEDROOM UNITS:  
LIGHT HAZARD: 0.10 GPM / SF OVER ENTIRE AREA  
HOSE STREAM: 100 GPM  
FIRE SPRINKLERS: QUICK RESPONSE

KITCHEN / BATH UNITS:  
ORDINARY HAZARD GROUP I: 0.15 GPM / SF OVER ENTIRE AREA  
HOSE STREAM: 250 GPM  
FIRE SPRINKLERS: QUICK RESPONSE  
NOTE: BATHROOM AREAS TO BE PROTECTED FOR LIGHT HAZARD

6. INSTALL NEW STEEL WATER STORAGE TANK TO PROVIDE A MINIMUM OF 36,000 GALLONS OF DEDICATED FIRE PROTECTION WATER STORAGE. THE REQUIRED MINIMUM FIRE PROTECTION WATER STORAGE SUPPLY IS TO BE MAINTAINED AT ALL TIMES IN ACCORDANCE WITH CAL FIRE / SAN LUIS OBISPO COUNTY REQUIREMENTS.

THE INSTALLATION OF (2) OR MORE INTERCONNECTED TANKS WILL REQUIRE SPECIFIC CAL FIRE APPROVAL AND WOULD BE REQUIRED TO BE INTERCONNECTED USING FLEXIBLE FITTINGS. ALL PIPING, VALVES AND FITTINGS ARE TO BE STEEL; NO PLASTIC DEVICES ARE PERMITTED.

TANK IS TO BE PROVIDED WITH AUTOMATIC FILL AND WILL SERVE AS SUPPLY FOR ON-SITE FIRE HYDRANTS & NEW BUILDING FIRE SPRINKLER SYSTEM. TANK MUST BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF NFPA 22.

TANK ELEVATION TO BE +241'-0" ABOVE THE PROPOSED BUILDINGS FINISHED FLOOR  
SUBJECT BUILDINGS PAD: 1,164'-0 ELEV.  
WATER STORAGE TANK: 1,405'-0 MINIMUM ELEV.  
104.0 PSI AVAILABLE AT SOURCE

NOTE: DOMESTIC WATER TO BE PROVIDED BY EXISTING WATER STORAGE TANKS. SEE CIVIL DRAWINGS FOR DETAIL. DOMESTIC WATER IS NOT PART OF THIS MFPP.

7. INSTALL FIRE EXTINGUISHERS IN ACCORDANCE WITH THE CALIFORNIA FIRE CODE, AND SLOCFD REQUIREMENTS.

8. PROVIDE FIRE DEPARTMENT KNOX BOX AT ALL FIRE DEPARTMENT ACCESS GATES AND PROVIDE ADDRESS PER CAL FIRE / SLOCFD STANDARDS.

9. A FIRE SPRINKLER FIRE ALARM MONITORING SYSTEM, WHICH HAS CENTRAL STATION WATER FLOW ALARM MONITORING SERVICE, MUST BE INSTALLED AND MAINTAINED FOR AUTOMATIC FIRE DEPARTMENT NOTIFICATION IN THE EVENT OF A FLOW SWITCH ACTIVATION.

10. SMOKE ALARM AND FIRE ALARM SYSTEMS ARE TO BE INSTALLED PER THE REQUIREMENTS OF THE 2016 EDITION OF THE CALIFORNIA FIRE CODE AND INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THE 2016 EDITION OF NFPA 72.

IT IS THE CLIENT'S RESPONSIBILITY PRIOR TO OR DURING CONSTRUCTION TO NOTIFY THE ENGINEER IN WRITING OF ANY PERCEIVED ERRORS OR OMISSIONS IN THE PLANS AND SPECIFICATIONS OF WHICH A CONTRACTOR THOROUGHLY KNOWLEDGEABLE WITH THE BUILDING CODES AND METHODS OF CONSTRUCTION SHOULD REASONABLY BE AWARE. WRITTEN INSTRUCTIONS ADDRESSING SUCH PERCEIVED ERRORS OR OMISSIONS SHALL BE RECEIVED FROM THE ENGINEER PRIOR TO THE CLIENT OR CLIENT'S SUBCONTRACTORS PROCEEDING WITH THE WORK. THE CLIENT WILL BE RESPONSIBLE FOR ANY DEFECTS IN CONSTRUCTION IF THESE PROCEDURES ARE NOT FOLLOWED.

NOTE: THE FOLLOWING REFERENCES ARE MANDATORY SUPPORTING DOCUMENTS TO THIS MFPP:

COLLINGS AND ASSOCIATES MFPP SUMMARY REPORT, DATED 12/12/18.

REVISION	DESCRIPTION	DATE	BY
1	REVIEW COMMENTS	12/12/18	P.T.
2			
3			
4			
5			

**Collings & Associates, LLC**  
Fire Protection Engineering  
260 Maple Court, Suite 241, Ventura, Ca 93003  
Phone: (805) 658-0003 Fax: (805) 658-0044  
www.collingsandassociates.com



PROJECT: **FARM WORKERS HOUSING**

SHELL CREEK ROAD  
SHANDON, CA  
APN# 037-291-038

SHEET TITLE: **MASTER FIRE PROTECTION PLAN (MFPP)**

DRAWN: P.T.

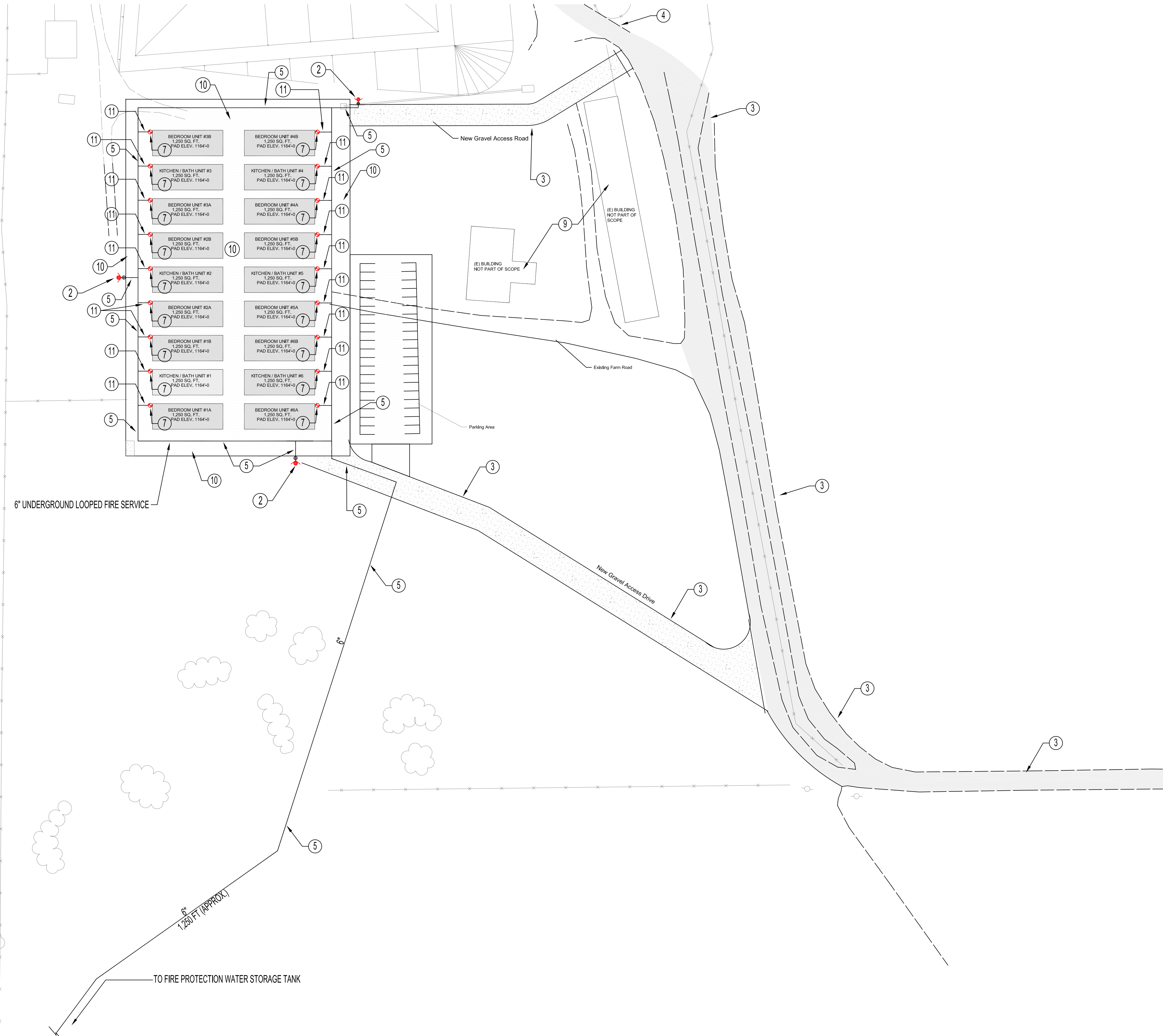
CHECKED: J.C.

SCALE: AS SHOWN

DATE: 11/21/18

SHEET **MFPP-1**





- KEY NOTES:
1. INSTALL NEW STEEL WATER STORAGE TANK TO PROVIDE A MINIMUM OF 36,000 GALLONS OF DEDICATED FIRE PROTECTION WATER STORAGE. THE REQUIRED MINIMUM FIRE PROTECTION WATER STORAGE SUPPLY IS TO BE MAINTAINED AT ALL TIMES IN ACCORDANCE WITH CAL FIRE / SAN LUIS OBISPO COUNTY REQUIREMENTS.
  2. THE INSTALLATION OF (2) OR MORE INTERCONNECTED TANKS WILL REQUIRE SPECIFIC CAL FIRE APPROVAL AND WOULD BE REQUIRED TO BE INTERCONNECTED USING FLEXIBLE FITTINGS. ALL PIPING, VALVES AND FITTINGS ARE TO BE STEEL; NO PLASTIC DEVICES ARE PERMITTED.
  3. TANK IS TO BE PROVIDED WITH AUTOMATIC FILL AND WILL SERVE AS SUPPLY FOR ON-SITE FIRE HYDRANTS & NEW BUILDING FIRE SPRINKLER SYSTEM. TANK MUST BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF NFPA 22.
  4. TANK ELEVATION TO BE +241'-0" ABOVE THE PROPOSED BUILDINGS FINISHED FLOOR  
SUBJECT BUILDINGS PAD: 1,164'-0" ELEV.  
WATER STORAGE TANK: 1,405'-0" MINIMUM ELEV.  
104.0 PSI AVAILABLE
  5. NOTE: DOMESTIC WATER TO BE PROVIDED BY EXISTING WATER STORAGE TANKS. SEE CIVIL DRAWINGS FOR DETAIL. DOMESTIC WATER IS NOT PART OF THIS MFPP.
  6. INSTALL (3) NEW DRAFT FIRE HYDRANTS AS REQUIRED TO COMPLY WITH CAL FIRE / SLO COUNTY FIRE DEPT. STANDARD, EXH. 7. PROVIDE ISOLATION VALVE. HYDRANT TO BE WET BARREL, COMMERCIAL GRADE, AND SHALL HAVE ONE 4" AND TWO 2-1/2" OUTLETS.
  7. MINIMUM FIRE FLOW: 600 GPM AT 20 PSI
  8. INSTALL PROTECTIVE BOLLARDS PER CAL FIRE STANDARDS. INSTALL BLUE REFLECTORS PER CAL FIRE STANDARDS.
  9. PRIMARY FIRE DEPARTMENT ACCESS ROAD:  
PRIMARY ACCESS 24'-0" MINIMUM WIDTH  
13'-6" MINIMUM CLEAR HEIGHT  
ALL WEATHER SURFACE  
75,000 LB. EMERGENCY VEHICLE ROAD CAPACITY / 40'-0" TURN RADIUS  
ROAD TO COMPLY WITH CFC/SLO COUNTY FIRE STANDARD 4 "ACCESS ROADS AND DRIVEWAYS".
  10. SECONDARY FIRE DEPARTMENT ACCESS ROAD:  
PRIMARY ACCESS 24'-0" MINIMUM WIDTH  
13'-6" MINIMUM CLEAR HEIGHT  
ALL WEATHER SURFACE  
75,000 LB. EMERGENCY VEHICLE ROAD CAPACITY / 40'-0" TURN RADIUS  
ROAD TO COMPLY WITH CFC/SLO COUNTY FIRE STANDARD 4 "ACCESS ROADS AND DRIVEWAYS".
  11. NOTE: SPECIFIC CAL FIRE / SLOCFD APPROVAL WILL BE REQUIRED FOR ANY ACCESS ROADS NOT MEETING THE ABOVE CONDITIONS.
  12. NEW 6" C900 DR18 UNDERGROUND FIRE SERVICE LINE TO THE NEW SITE HYDRANTS AND NEW BUILDING FIRE SPRINKLER SYSTEMS.
  13. PROVIDE FIRE DEPT. KNOX BOX AT ANY F.D. ACCESS GATES. PROVIDE ADDRESS PER CAL FIRE / SLOCFD STANDARDS
  14. (N) FIRE SPRINKLER SYSTEM RISER.
  15. FIRE WATER STORAGE TANK FILL LINE FROM EXISTING ON-SITE WELL. SEE MFPP-1.
  16. (E) BUILDING TO REMAIN: NOT PART OF SCOPE
  17. INTERIOR ACCESS / FIRE LANES:  
20'-0" MINIMUM WIDTH  
ALL WEATHER SURFACE
  18. NEW 4" C900 DR18 UNDERGROUND FIRE SERVICE LINE TO NEW BUILDING FIRE SPRINKLER SYSTEM RISERS.

DEFERRED SUBMITTAL & FIELD NOTES:

1. PROPOSED FIRE SPRINKLER SYSTEM INSTALLATION DETAILS, UNDERGROUND FIRE SERVICE PIPING INSTALLATION DETAILS, HYDRANT INSTALLATION DETAILS, THRUST BLOCK DETAILS, AND GENERAL INSTALLATION DETAILS ARE TO BE SUBMITTED WITH SHOP DRAWINGS FOR APPROVAL AND PERMIT BY INSTALLING CONTRACTOR(S).
2. CONTRACTOR(S) TO PERFORM A SITE SURVEY AND FIELD WALK PRIOR TO SUBMITTING BID PROPOSAL FOR THE PROPOSED WORK, TO CONFIRM SITE CONDITIONS WITH RESPECT TO THE INSTALLATION OF THE SITE FIRE PROTECTION SYSTEMS. CONTRACTOR(S) WILL BE RESPONSIBLE FOR COORDINATION OF ALL PIPING INSTALLATION BASED UPON THE FIELD WALK AND THESE PLANS, REGARDLESS OF REQUIRED CHANGES IN PIPE ROUTING, WITHOUT ADDITIONAL COST TO OWNER.



# MASTER FIRE PROTECTION PLAN

1" = 50'-0"

IT IS THE CLIENTS RESPONSIBILITY PRIOR TO OR DURING CONSTRUCTION TO NOTIFY THE ENGINEER IN WRITING OF ANY PERCEIVED ERRORS OR OMISSIONS IN THE PLANS AND SPECIFICATIONS OF WHICH A CONTRACTOR THOROUGHLY KNOWLEDGEABLE WITH THE BUILDING CODES AND METHODS OF CONSTRUCTION SHOULD REASONABLY BE AWARE. WRITTEN INSTRUCTIONS ADDRESSING SUCH PERCEIVED ERRORS OR OMISSIONS SHALL BE RECEIVED FROM THE ENGINEER PRIOR TO THE CLIENT OR CLIENTS SUBCONTRACTORS PROCEEDING WITH THE WORK. THE CLIENT WILL BE RESPONSIBLE FOR ANY DEFECTS IN CONSTRUCTION IF THESE PROCEDURES ARE NOT FOLLOWED.

NOTE: THE FOLLOWING REFERENCES ARE MANDATORY SUPPORTING DOCUMENTS TO THIS MFPP:

COLLINGS AND ASSOCIATES MFPP SUMMARY REPORT, DATED 12/12/18.

REVISION	DESCRIPTION	DATE	BY
1	REVIEW COMMENTS	12/12/18	P.T.
2			
3			
4			
5			

**Collings & Associates, LLC**  
Fire Protection Engineering  
260 Maple Court, Suite 241, Ventura, Ca 93003  
Phone: (805) 658-0003 Fax: (805) 658-0044  
www.collingsandassociates.com



PROJECT: **FARM WORKERS HOUSING**

SHELL CREEK ROAD  
SHANDON, CA  
APN# 037-291-038

SHEET TITLE: **MASTER FIRE PROTECTION PLAN (MFPP)**

DRAWN: **P.T.**

CHECKED: **J.C.**

SCALE: **AS SHOWN**

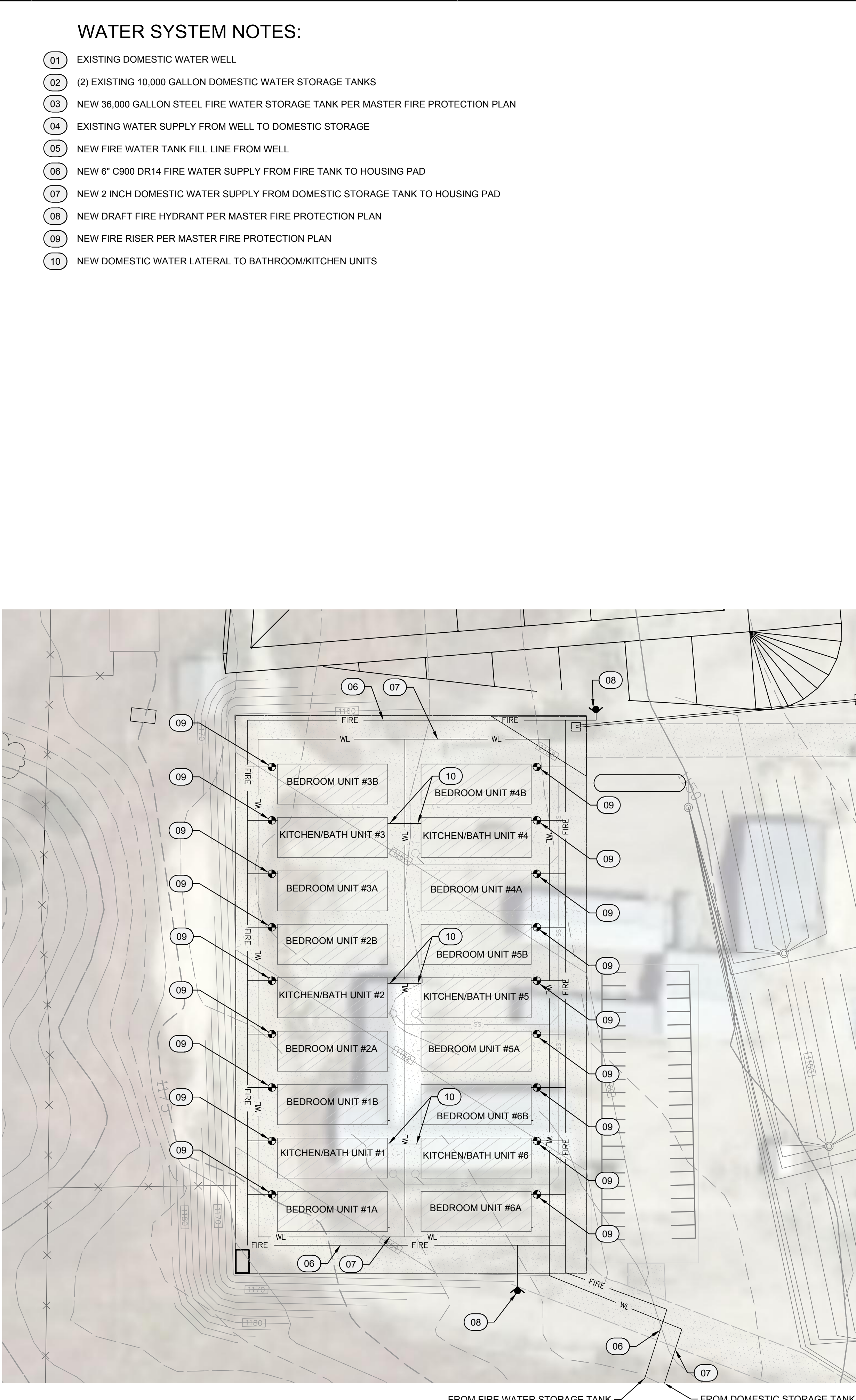
DATE: **11/21/18**

SHEET **MFPP-2**



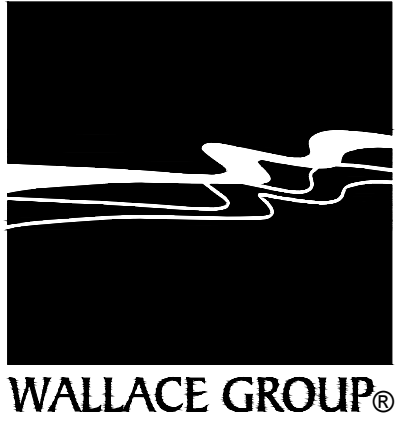


A WATER SYSTEM OVERVIEW



B WATER SYSTEM DETAIL

- WATER SYSTEM NOTES:
- 01 EXISTING DOMESTIC WATER WELL
  - 02 (2) EXISTING 10,000 GALLON DOMESTIC WATER STORAGE TANKS
  - 03 NEW 36,000 GALLON STEEL FIRE WATER STORAGE TANK PER MASTER FIRE PROTECTION PLAN
  - 04 EXISTING WATER SUPPLY FROM WELL TO DOMESTIC STORAGE
  - 05 NEW FIRE WATER TANK FILL LINE FROM WELL
  - 06 NEW 6" C900 DR14 FIRE WATER SUPPLY FROM FIRE TANK TO HOUSING PAD
  - 07 NEW 2 INCH DOMESTIC WATER SUPPLY FROM DOMESTIC STORAGE TANK TO HOUSING PAD
  - 08 NEW DRAFT FIRE HYDRANT PER MASTER FIRE PROTECTION PLAN
  - 09 NEW FIRE RISER PER MASTER FIRE PROTECTION PLAN
  - 10 NEW DOMESTIC WATER LATERAL TO BATHROOM/KITCHEN UNITS



CIVIL AND TRANSPORTATION ENGINEERING  
CONSTRUCTION MANAGEMENT  
LANDSCAPE ARCHITECTURE  
MECHANICAL ENGINEERING  
PLANNING  
PUBLIC WORKS ADMINISTRATION  
SURVEYING / GIS SOLUTIONS  
WATER RESOURCES

612 CLARION COURT  
SAN LUIS OBISPO, CA 93401  
T 805 544-4011 F 805 544-4294  
www.wallacegroup.us

SIGNATURE

DATE SIGNED

These plans and specifications, and the ideas and designs incorporated herein, are instruments of service prepared for the construction of work shown hereon and shall not be used in whole or in part for any other project without written authority of Wallace Group, a California Corporation.

Copyright © 2009 Wallace Group, a California Corporation. All rights reserved. Copies of this drawing shall have this notice.

BRODIAEA FARMWORKER HOUSING  
SHELL CREEK RD, SHANDON APN: 037-291-038  
WATER SYSTEM PLAN

JOB #: 1226-003  
DESIGNERS: SJ  
DRAWN BY: SJ  
DATE: 11/28/18  
DRAWING NO.

U-1.0  
1 OF 2 SHEETS





CIVIL AND TRANSPORTATION ENGINEERING  
CONSTRUCTION MANAGEMENT  
LANDSCAPE ARCHITECTURE  
MECHANICAL ENGINEERING  
PLANNING  
PUBLIC WORKS ADMINISTRATION  
SURVEYING / GIS SOLUTIONS  
WATER RESOURCES

612 CLARION COURT  
SAN LUIS OBISPO, CA 93401  
T 805 544-4011 F 805 544-4294  
[www.wallacegroup.us](http://www.wallacegroup.us)

SIGNATURE

DATE SIGNED \_\_\_\_\_

These plans and specifications, and the ideas and designs incorporated herein, are instruments of service prepared for the construction of work shown hereon and shall not be used in whole or in part for any other project without written authority of Wallace Group, a California Corporation.

Copyright © 2009 Wallace Group, a California Corporation. All rights reserved. Copies of this drawing shall have this notice.

NTS

BRODIAEA FARMWORKER HOUSING

SHELL CREEK RD, SHANDON APN: 037-291-038

# SEPTIC SYSTEM PLAN

JOB #: 1226-003

DESIGNERS: SJ

DRAWN BY: SJ

DATE: 11/26/18

DRAWING NO.

U-2.0

2 OF 2 SHEETS

SEPTIC NOTES:

- 01 SIX (6) LEACHLINES @ 94.0' LONG (EACH) FOR TOTAL OF 564 LINEAR FEET.
- 02 SIX (6) OUTLET HYDROSPPLITTER JUNCTION BOX, ORENCO OR EQUAL.
- 03 EIGHT (8) OUTLET ROTATING SOLENOID VALVE
- 04 25,000 GALLON XERXES FIBERGLASS SEPTIC TANK W/ EFFLUENT DOSING PUMP
- 05 4 INCH SEWER CLEANOUT
- 06 4 INCH PVC SEWER LINE; MIN 2% SLOPE
- 07 1.5 INCH PVC PRESSURIZED EFFLUENT DOSING LINE
- 08 SEPTIC SYSTEM OUTSIDE 100-YEAR FLOOD ELEVATION

SEPTIC SYSTEM DESIGN CRITERIA:

TOTAL POPULATION:	240 BEDS
WASTEWATER FLOW:	45 GPD/BED
TOTAL WASTEWATER FLOW:	10,800 GPD (45 x 240)

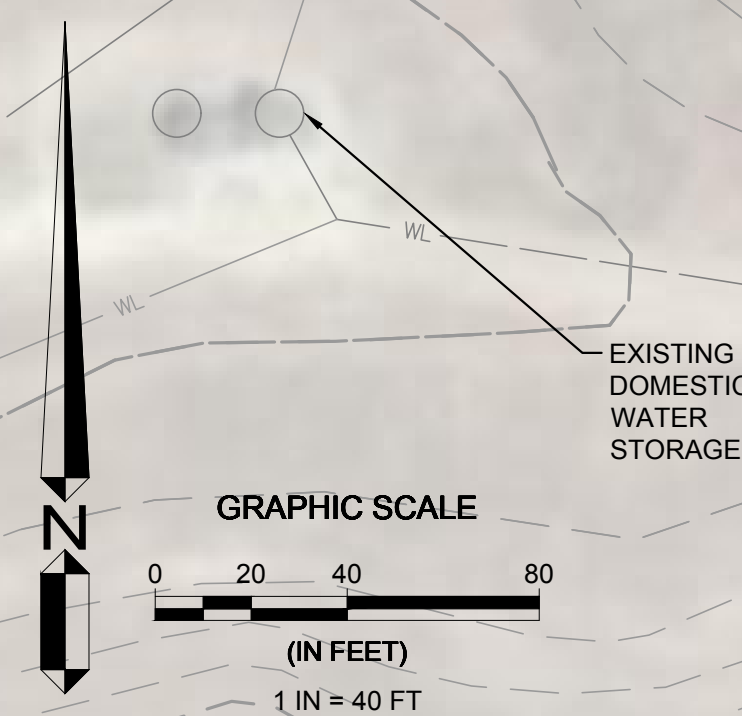
SEPTIC TANK PROVIDED: 25,000 GALLONS CAPACITY

PERCOLATION TEST: 27 MIN/INCH (AVE. 4 TESTS)  
APPLICATION RATE: 0.6 GPSFD

REQUIRED AREA:	18,000 SF
LEACHFIELD TRENCH:	3 FEET WIDE X 3 FEET DEEP OF ROCK
APPLICATION RATE:	4 SF/LF

REQUIRED LINEAR FOOTAGE: 18,000 SF / 4 SF/LF = 4,500 LINEAR FEET  
(100% SYSTEM)

TOTAL LINEAR FOOTAGE PROVIDED: 94.0' X 6 LINES X 8 FIELDS = 4,512 LF





Grading Notes:

1. All grading construction shall conform to the applicable codes and to the Soil Report #SL10300-1 prepared by Geosolutions, Inc on July 26, 2017 for this project.
2. Dust control is to be maintained at all times during construction.
3. Areas of fill shall be overexcavated to a depth of four (4) feet to a limit of three feet outside the proposed fill then scarified and moisture conditioned prior to compacting to 90% of maximum density. All areas shall be observed by a Soils or Civil Engineer prior to placing fill.
4. Fill materials shall be compacted to 90% of maximum density or as specified in the soil report.
5. Remove any deleterious material encountered before placing fill.
6. No cut or fill slopes shall exceed two horizontal to one vertical (2:1) or as specified in the soil report.
7. All disturbed areas shall be hydro-seeded or planted with an approved erosion control material as soon as possible after construction.
8. Minimum setbacks to creeks and bluffs shall be maintained. Minimum setbacks of two feet from all property lines shall be maintained.
9. Minimum slope away from the toe of slope shall be 2% for the first five feet around the perimeter.
10. An approved erosion control plan will be required to be submitted, approved and implemented should grading occur between October 15 and April 15.
11. Soils Engineer shall determine if the soil is suitable to support the intended structure. A formal report including progress and/or compaction reports shall be submitted to the County Field Inspector prior to final inspection. When a Soils Report is obtained the County policy regarding pad certification shall be followed. When applicable the Engineer of Record shall observe the grading operations and provide the field inspector with the required compaction reports and a report stating that the grading has been observed and is in conformance with the UBC and County Ordinances.

Erosion Control Notes:

1. Erosion control measures shall be implemented on all projects and shall include source control, including protection of stockpiles, protection of slopes, protection of all disturbed areas, and protection of accesses. In addition, perimeter containment measures shall be placed prior to the commencement of grading and site disturbance activities unless the Public Works Department determines temporary measures to be unnecessary based upon location, site characteristics or time of year. The intent of the erosion control measures shall be to keep all sediment from entering a swale, drainage way, watercourse or onto adjacent properties.
2. Site inspections and appropriate maintenance of erosion control devices shall be conducted and documented prior to, during, and after rain events.
3. The developer shall be responsible for the placement and maintenance of all erosion control devices as specified by the approved plan until such time that the project is accepted as complete by the Public Works Department. Erosion control devices may be relocated, deleted or additional items may be required depending on the actual soil conditions encountered. Additional erosion control shall be placed at the discretion of the Engineer of Work, County Inspector, SWPPP Monitor or RWQCB Inspector. Guidelines for determining appropriate erosion control devices are included in the appendix of the Public Improvement Standards.
4. All erosion control devices shall be the first order of work and shall be in place between October 15 and April 15 or anytime when the rain probability exceeds 30%. This work shall be installed or applied after each area is graded and no longer than five (5) working days after the completion of each area.
5. The Engineer of Work and the Public Works Department shall be notified before October 15 for inspection of installed erosion control devices.
6. A standby crew for emergency work shall be available at all times during the rainy season (October 15 through April 15). Necessary materials shall be available and stockpiled at convenient locations to facilitate rapid construction or maintenance of temporary devices when rain is imminent.
7. Permanent erosion control shall be placed and established with 90% coverage on all disturbed surfaces other than paved or gravel surfaces prior to final inspection. Permanent erosion control shall be fully established prior to final inspection. Temporary erosion control measures shall remain in place until permanent measures are established.
8. In the event of a failure, the developer and/or his representative shall be responsible for cleanup and all associated costs or damages. In the event that damage occurs within the right of way and the County is required to perform cleanup, all work shall cease on the project until cleanup costs are fully paid.
9. If any work is not in compliance with the plans or permits approved for the project, the Department shall revoke all active permits and recommend that County Code Enforcement provide a written notice or stop work order in accordance with Section 22.52.140 (23.10) of the Land Use Ordinance.
10. All projects involving site disturbance of one acre or greater shall comply with the requirements of the National Pollutant Discharge Elimination System (NPDES). The developer shall submit a Notice of Intent (NOI) to comply with the General Permit for Construction Activity with the Regional Water Quality Control Board (RWQCB). The Developer shall provide the County with the Waste Discharge Identification Number (WDID) or with verification that an exemption has been granted by RWQCB.  
WDID# Exempt -----
11. Person to contact 24 hours a day in the event there is an erosion control/sedimentation problem  
Officer) Name Fritz Heltzer  
Local Phone 835-1442 -----

Project Air Quality Control Notes:

During Construction the contractor shall designate a person or persons to monitor the Dust Control Program and to order increases measures as necessary to prevent the transport of dust off-site. Their duties shall include holiday and weekend periods when work may or may not be in progress. The name and telephone number for such persons shall be provided to the APCD prior to the commencement of construction.

The measures for dust control are as follows but not limited to:

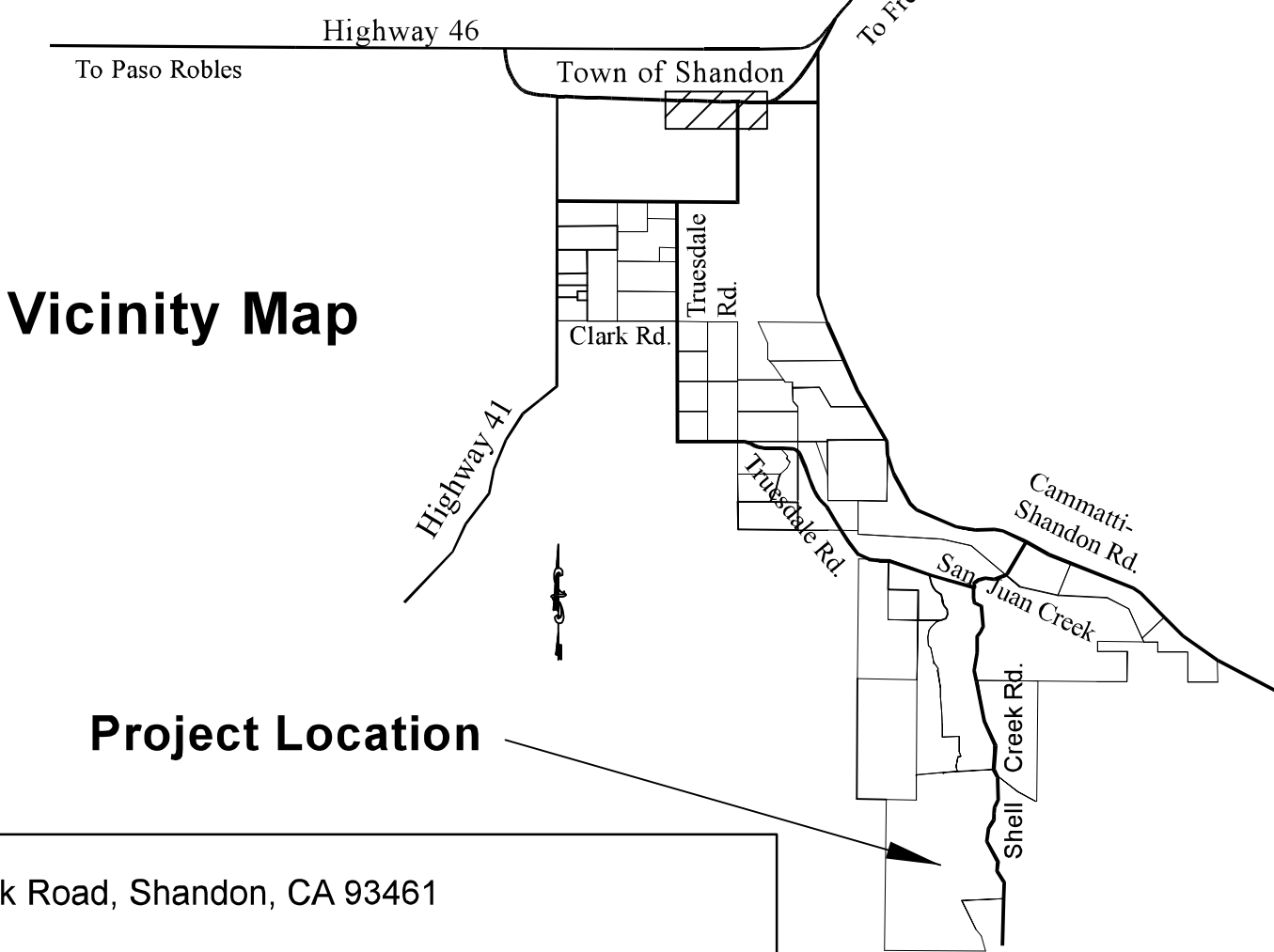
- Reduce the amount of disturbed area where possible.
1. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15mph. Reclaimed (non-potable) water should be used whenever possible.
  2. All dirt stockpile areas shall be sprayed daily as needed.
  3. Exposed ground areas that are planned to be reworked at dates later than one month after initial grading should be seeded with a fast germinating native grass seed and watered until vegetation is established.
  4. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the ACCD.
  5. All external slopes shall be hydroseeded as soon as possible upon completion.
  6. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site.
  7. All trucks hauling dirt, sand, soil, or other loose material are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114.
  8. Install wheel washers where vehicles enter and exit paved roads and streets, or wash off trucks and equipment leaving the site.
  9. Prior to final inspection all disturbed areas shall be vegetated with a fast-growing, native seed mix.

General Notes

1. No construction shall be started without plans approved by the County Planning Department. The Planning Department shall be notified at least 24 hrs prior to the start of construction and the time and location for the preconstruction conference.
2. All construction work and installations shall conform to the County Standards and Specifications.
3. Soils tests shall be done in accordance with the County Standards and Specifications Sections 11-351.1403 and Section 11.351-1404. The test results shall clearly indicate the location and source of materials.
4. Compaction tests shall be made on all embankment materials, subgrades and ditch backfill.
5. There will be no need for special concrete inspection. Concrete for the Waste Disposal and Recycle pad shall be 2000 psi.
6. The Engineer of Record shall certify that the improvements when completed are in accordance to the plans prior to the request for Final Inspection. As-built plans are to be prepared after construction is completed. The Engineer certifying the improvements shall be present at the Final Inspection.
7. Final Reports for grading and earthwork shall be prepared in accordance with the requirements of the UBC, Chapter 33.
8. Upon completion of the work, the Geotechnical Engineer shall submit to the Engineer of Record a complete summary of all testing done during the project.
9. The Construction Contractor shall maintain a current, complete and accurate record of all changes which deviate from the approved plans. No changes shall be made without the prior approval of the Engineer of Record and the County.
10. The site shall be posted for a construction speed limit of 25 mph to protect the San Joaquin Kit Fox.

Truesdale Vineyard Farmworker Housing

APN 037-291-038



Vicinity Map

Project Location

Address: 4343 Shell Creek Road, Shandon, CA 93461  
APN 037-291-038  
Legal Description: Within Parcel C of Map C079-138  
Lot size Acres: 43.89  
Zoning AG  
Project Description: Construct a pad for Farmworker Housing Modular Units

Kit Fox Special Requirements

BR-3 Prior to the issuance of grading and/or construction permits, the applicant shall clearly delineate as a note on the Project Plans, that "Speed signs of 25mph Maximum (or lower) shall be posted for all construction traffic, to minimize the probability of road mortality of the San Joaquin kit fox." Speed limit signs shall be installed on the project site within 30 days prior to the initiation of site disturbance and/or construction.

BR-4 During site disturbance and/or construction phase, grading and construction activities after dusk shall be prohibited unless coordinated through the County, during which additional kit fox mitigation measures may be required.

BR-5 Prior to issuance of grading and/or construction permit and within 30 days prior to initiation of site disturbance and/or construction, all personnel associated with the project shall attend a worker education training program, conducted by a qualified biologist, to avoid or reduce impacts on sensitive biological resources (ie. San Joaquin kit fox). At a minimum, as the program relates to the kit fox, the training shall include the kit fox's life history, all mitigation measures specified by the county, as well as any related biological report(s) prepared for the project. The applicant shall notify the County shortly prior to this meeting. A kit fox fact sheet shall also be developed prior to the training program, and distributed at the training program to all contractors, employers and other personnel involved with the construction of the project.

BR-6 During the site disturbance and/or construction phase, to prevent entrapment of the San Joaquin kit fox, all excavation, steep walled holes or trenches in excess of two feet in depth shall be covered at the close of each working day by plywood or similar materials, or provided with one or more escape ramps constructed of earth fill or wooden planks. Trenches shall be inspected for entrapped kit fox each morning prior to onset of field activities and immediately prior to covering with plywood at the end of each working day. Before such holes or trenches are filled, they shall be thoroughly inspected for entrapped kit fox. Any kit fox so discovered shall be allowed to escape before field activities resume, or removed from the trench or hole by a qualified biologist and allowed to escape unimpeded.

BR-7 During the site disturbance and/or construction phase, any pipes, culverts, or similar structures with a diameter of four inches or greater, stored overnight at the project site shall be thoroughly inspected for trapped San Joaquin kit foxes before the subject pipe is subsequently buried, capped, or otherwise used or moved in any way. If during the construction phase a kit fox is discovered inside a pipe, that section of pipe will not be moved, or if necessary, be moved only once to remove it from the path of activity, until the kit fox has escaped.

BR-8 During the site disturbance and/or construction phase, all food related trash items such as wrappers, cans, bottles, and food scraps generated shall be disposed of in closed containers only and regularly removed from the site. Food items may attract San Joaquin kit foxes onto the project site, consequently exposing such animals to increased risk of injury or mortality. No deliberate feeding of wildlife shall be allowed.

BR-9 Prior to, during and after the site disturbance and/or construction phase, use of pesticides or herbicides shall be in compliance with all local, state and federal regulations. This is necessary to minimize the probability of primary or secondary poisoning of endangered species utilizing adjacent habitats, and the depletion of prey upon which San Joaquin kit foxes depend.

BR-10 During the site disturbance and/or construction phase, any contractor or employee that inadvertently kills or injures a San Joaquin kit fox or who finds any such animal either dead, injured, or entrapped shall be required to report the incident immediately to the applicant and County. In the advent that any observations are made of injured or dead kit fox, the applicant shall immediately notify the U.S. Fish and Wildlife Service and Department by telephone (see contact information below). In addition, formal notification shall be provided in writing within three working days of the finding of any such animal(s). Notification shall include the date, time, location and circumstances of the incident. Any threatened or endangered species found dead or injured shall be turned over immediately to Department for care, analysis, or disposition.

BR-11 Prior to final inspection, or occupancy, whichever comes first, should any long internal or perimeter fencing be proposed or installed, the applicant shall do the following to provide for kit fox passage:  
a. If a wire strand/pole design is used, the lowest strand shall be no closer to the ground than 12".  
b. If a more solid wire mesh fence is used, 8"x12" openings near the ground shall be provided every 100 yards. Upon fence installation, the applicant shall notify the County to verify proper installation. Any fencing constructed after issuance of a final permit shall follow these guidelines.

Table 1705.6

Required Verification and Inspection of Soils

Verification and Inspection Task	Continuous During Task Listed	Periodically During Task Listed
1. Verify materials below embankments are adequate to achieve the design capacity	—	X
2. Verify excavations are extended to proper depth and have reached proper material.	—	X
3. Perform classification and testing of controlled filled materials.	—	X
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill.	X	—
5. Prior to placement of controlled fill, observe subgrade		X

GeoSolutions shall perform all special inspections for the earthwork for this project.

Call 24 hours prior to inspection to set up an appointment.

Scope of Work

The work consists of constructing a new engineered pad for constructing modular housing units for Farmworker Housing. The area is the site of an abandoned feedlot and sits approximately one half mile west of Shell Creek Road. Several Pole Barns and sheds will need to be demolished and hauled to an approved landfill during the clearing and grubbing. Access is by way of an existing farm roads from Shell Creek Road and Truesdale Road. These existing roads shall be brought up to standards acceptable to Cal Fire. The surface of the pad as well as the parking area and entrance road shall have a 2 base material spread and compacted per the plan details. A single 14'x8' concrete pad shall be constructed for waste and recycle containers. It is the intent to balance the earthwork with no import or export required. The pad area is entirely out of the FEMA 100 year flood hazard zone.

Benchmark and Basis of Bearing

Benchmark is a metal Triangulation Monument on the top of the bluff just east of the paved farm road.

N 2402435.13

E 5865106.77

Elev = 1454.72

Basis of Bearing is line between control points 709 and 711

Pre-construction Meeting

Prior to construction a pre-construction meeting is required with the inspector to go over the special inspection reporting requirements, final and progress reports, & erosion control.

Call SLO County Building Dept 781-5600 and North County Inspector at 781-2076

Reports Required

Upon the completion of Construction the Engineer of Record shall prepare and submit to the County of SLO a Final Report stating that the work is in substantial conformance with the approved plans. Progress Reports are required by the Engineer of Record to the grading inspection as determined during the pre-construction meeting.

Special Inspections

1. No special inspections will be required for this project
2. GeoSolutions shall inspect all earthwork. Contact 24 hours prior to inspection at (805) 543-8539.

Project Information

Contacts:

Owner:

Matt Turrentine  
444 Higuera St Suite 202  
San Luis Obispo, CA 93401  
805 312-1828

Engineer:

1812 N Vine  
Santa Maria, CA 93454  
805 925-5311

Geotechnical Engineer: GeoSolutions, Inc

Kraig Crozier  
220 High Street  
San Luis Obispo, CA 93401  
805 543-8539

Grapevine Land Management

Tom A Howell

Engineer's Certificate

I, Tom A Howell, RCE 27037, Engineer of Record, hereby certify that these plans are in

accordance with the following codes: \_\_\_\_\_ Date: \_\_\_\_\_

2013 California Energy Codes  
2016 California Building Code Vols 1 & 2  
2016 California Electrical Code  
2016 California Energy Code  
2016 California Fire Code  
2016 California Green Building Code  
2016 California Mechanical Code  
2016 California Plumbing Code  
2016 Reference Standards Code  
County Building and Construction Ordinance Title 19  
County Coastal Zone Land Use Ordinance Title 23  
County Fire Code Ordinance Title 16  
County Land Use Ordinance Title 22

Geotechnical Engineer's Certificate

I have reviewed the plans and specifications and have found them to be in

substantial conformance with the recommendations as found in my Soil Investigation.

\_\_\_\_\_  
Date: \_\_\_\_\_

Pad Report

Top of pad elevation range: 1157.40 to 1165.28  
Pad slope percent: 2.000%  
Pad slope azimuth: 32°11'45"  
Pad Slope North Component: 1.692%  
Pad Slope East Component : 1.066%  
Cut Swell Factor: 1.00  
Fill Shrink Factor: 1.30

Pad Earthwork Volumes  
Bank Cut : 10,112.68 C.Y.  
Bank Fill: 7,781.69 C.Y.  
Adjusted Cut : 10,112.68 C.Y.  
Adjusted Fill : 10,116.20 C.Y.  
Area: 155,400 sf, 3.57 Acres

Road Quantities

Road A  
Bank Cut: 444 cy  
Bank Fill: 444 c  
Area: 63,160 SF, 1.45 Acres  
Road B  
Bank Cut: 570 cy  
Bank Fill: 570 cy  
Area: 94,850 sf, 2.18 Acres

Water System Quantities

Tank Location  
Bank Cut: 125 cy  
Bank Fill: 125 cy  
Area: 3,100 sf 0.07 Acres  
Piping  
Bank Cut: 375 cy  
Bank Fill: 375 cy  
Area: 14,750 sf, 0.34 Acres

Sheet Index

Sheet C-1: Front sheet, notes and title

Sheet C-2: Overall Layout

Sheet C-3: Grading Plan

Sheet C-4: Access Road Improvements

Sheet C-5: Erosion & Sedimentation Control

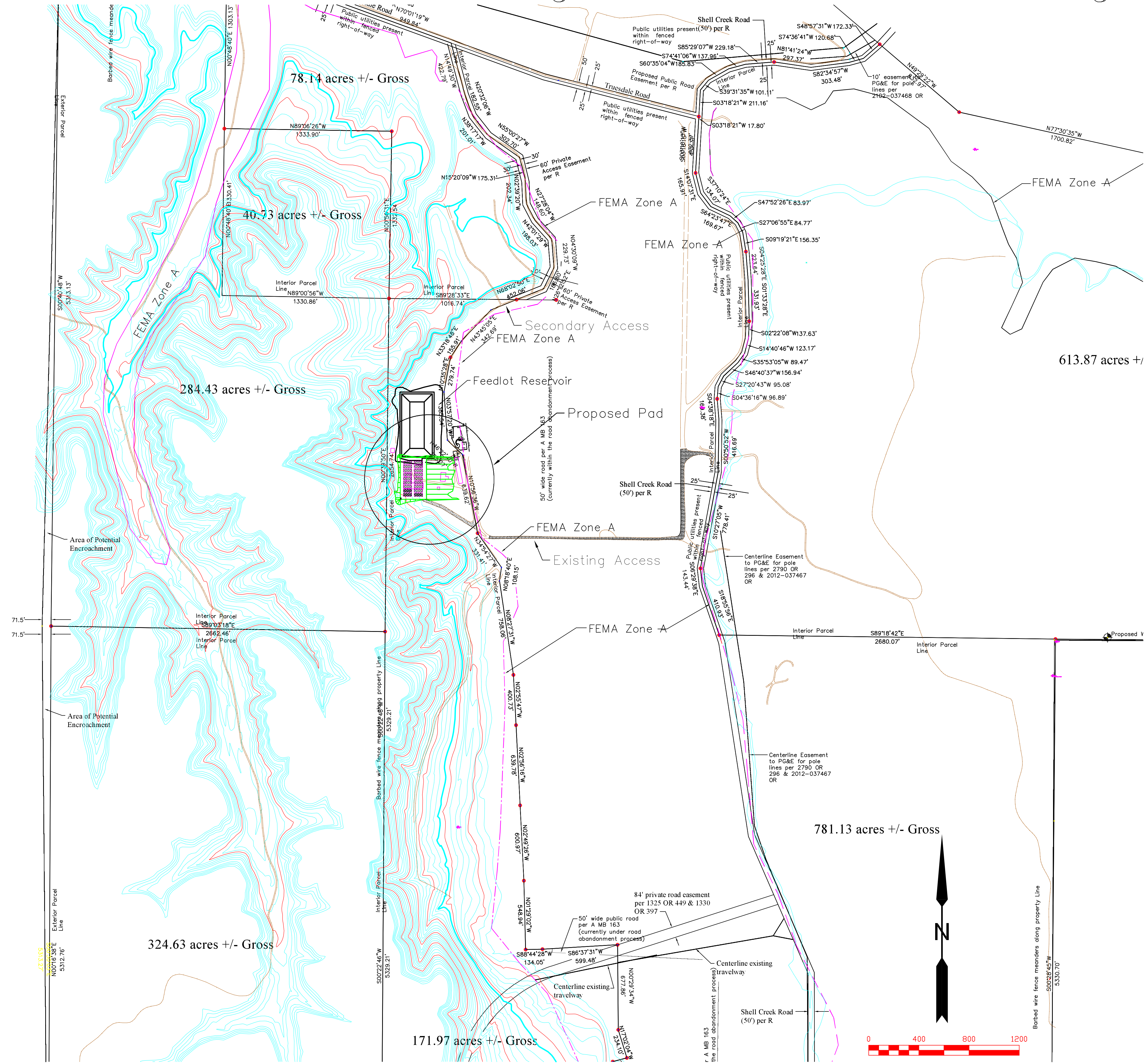
Sheet C-6: BMP's



Truesdale Vineyard		
DRAWN TH	DATE 1/10/19	Farmworker Housing 4343 Shell Creek Rd
APPROVED	DATE	Shandon
SCALE	SHEET C-1	PROJECT NO. 170728



Truesdale Vineyard Farmworker Housing



Legend

- Existing Contour 988
- Flood Hazard Limit
- Property Line
- Easement



Truesdale Vineyard		
DRAWN TH	DATE 1/10/19	Farmworker Housing Overall View
APPROVED	DATE	Flood Zone
SCALE 1"=400'	SHEET C-2	PROJECT NO. 170726





Notes:  
1: Elevations derived from aerial survey performed by Golden State Aerial Surveys, Inc, on may 14, 2014.

Legend

Finish Contour

Existing Contour

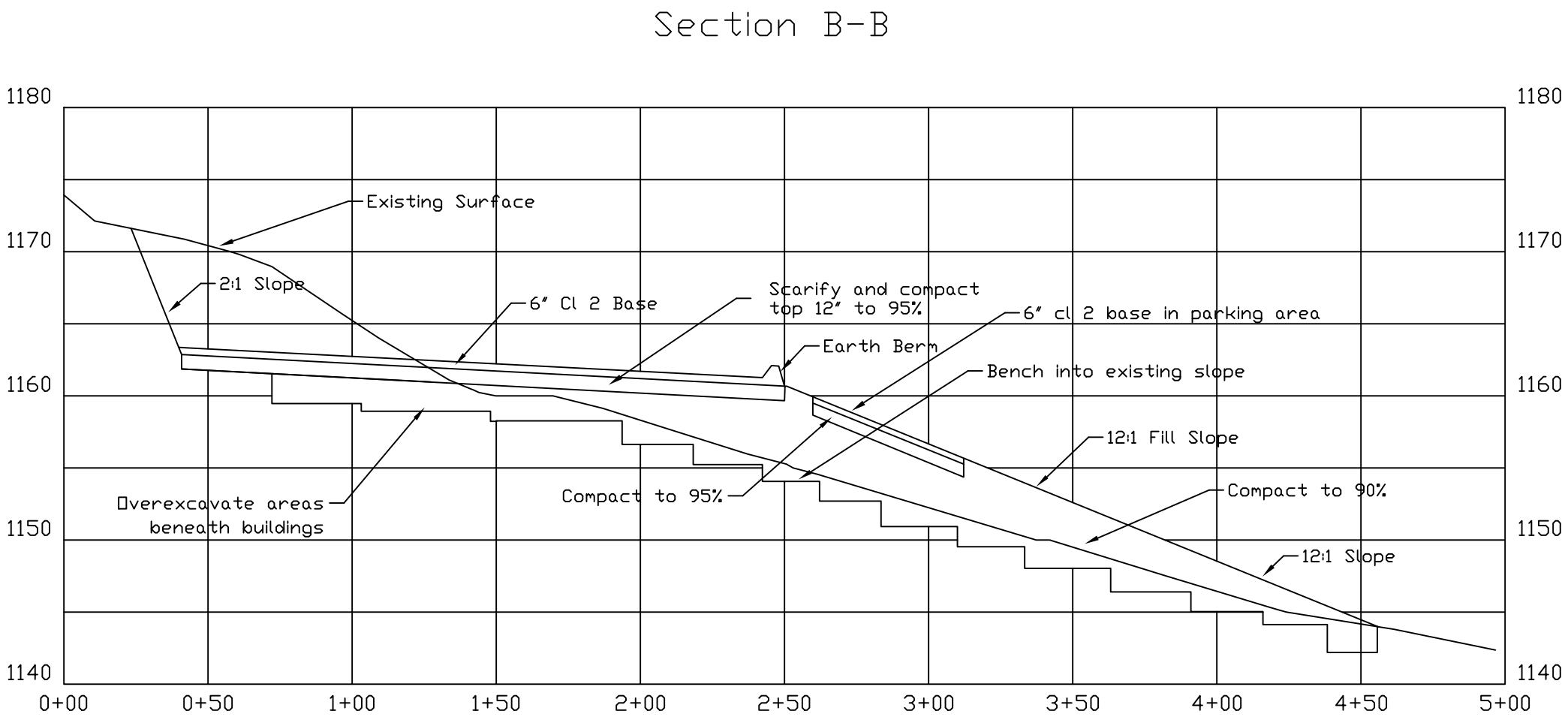
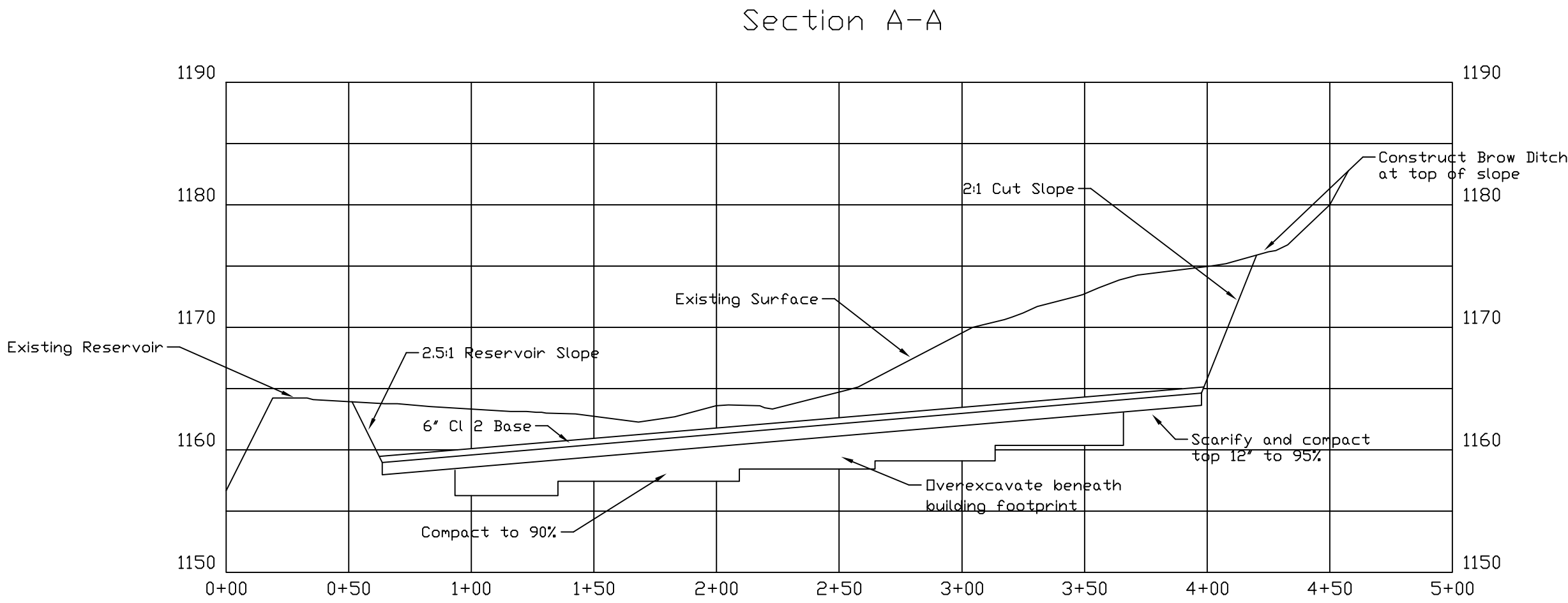
Flood Hazard Limit

Property Line

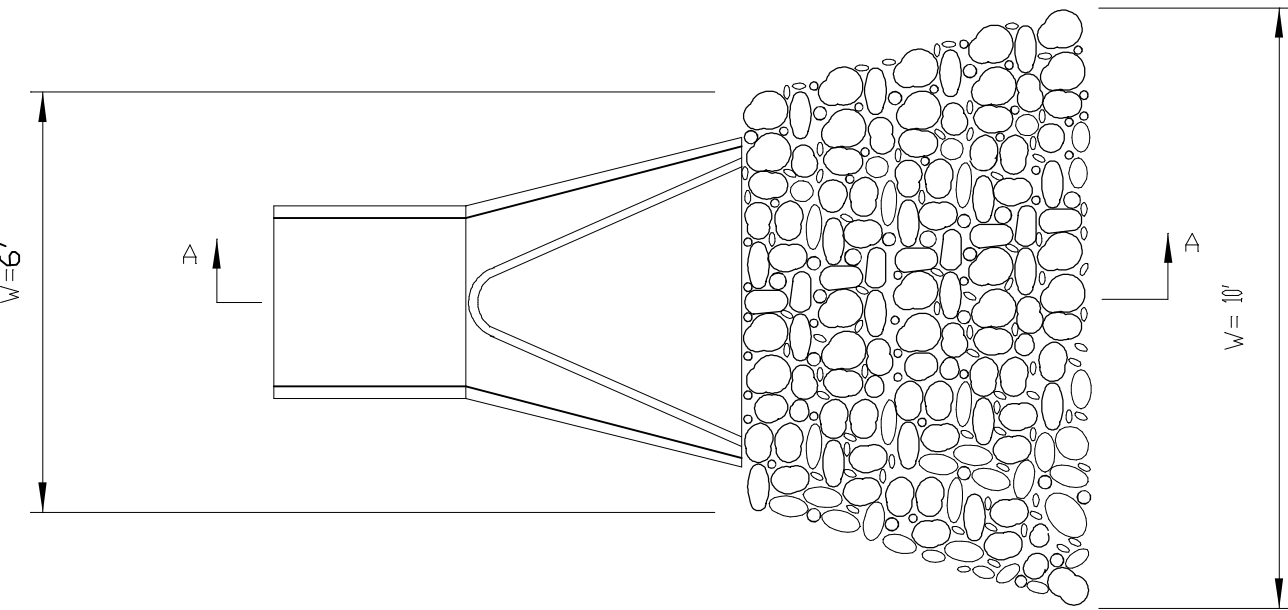
Easement

Pad Report  
Top of pad elevation range= 1157.40 to 1165.28  
Pad slope percent: 2.000%  
Pad slope azimuth: 32°11'45"  
Pad Slope North Component: 1.692%  
Pad Slope East Component: 1.066%  
Cut Swell Factor: 1.00  
Fill Shrink Factor: 1.30  
  
Pad Earthwork Volumes  
Bank Cut: 10,112.68 C.Y.  
Bank Fill: 7,781.69 C.Y.  
Adjusted Cut: 10,112.68 C.Y.  
Adjusted Fill: 10,116.20 C.Y.  
Area: 155,401.7 Sq Ft, 3.568 Acres  
Disturbed area in pad: 279,200 sf, 6.4 acres  
Disturbed area of road and driveway: 1.42 acres

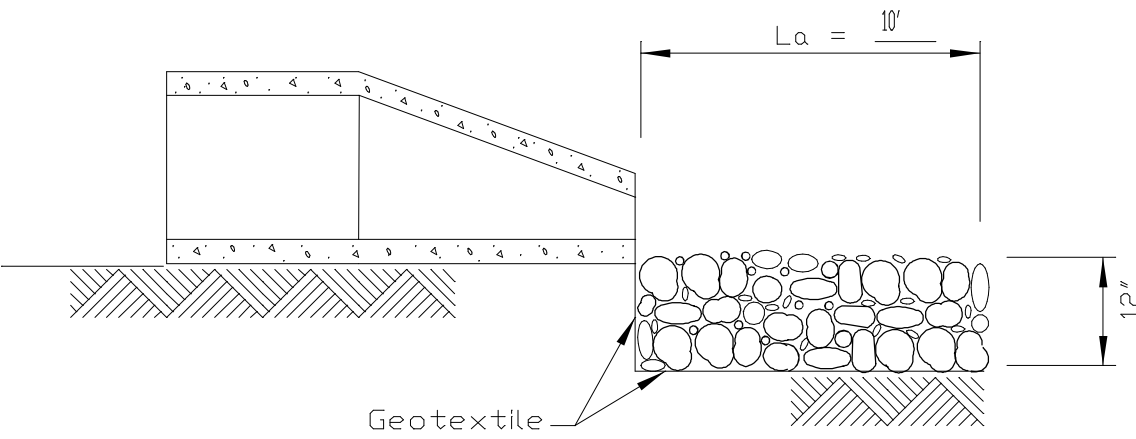
CONTROL POINTS					
Point	Northing	Eastng	Elevation	CP Pole	Description
700	2409672.680	5865705.170	1147.86	CP Pole	
701	2413916.980	5865558.440	1120.25	CP North	
702	2414354.670	5862822.310	1116.80	AT OLD	
703	2414781.210	5861623.650	1116.93	AT 1	
704	2411728.430	5869883.220	1123.75	AT 2	
705	2409594.980	5873872.510	1146.48	AT 3	
706	2414054.050	5869006.970	1162.17	AT	
707	2406328.530	5864763.830	1188.08	AT 4	
708	2398023.740	5863718.700	1164.30	CP	
709	2402435.340	5865106.770	1454.72	CP TRIANGULATION	
710	2402579.130	5862826.780	1423.45	AT 5	
711	2407534.300	5869304.050	1367.38	CP TRIANGULATION	
712	2407807.310	5869532.610	1346.21	AT 7	
713	2402435.330	5865106.810	1454.72	CP TRIANGULATION	
714	2398023.790	5863718.740	1164.13	CP SPK	
715	2395402.570	5862761.920	1191.34	AT 7	
716	2398100.950	5866172.700	1192.60	MDN	
717	2398094.570	5866118.750	1193.97	AT 8	
718	2402446.480	5869483.080	1320.37	AT	
719	2402622.190	5872356.900	1487.86	AT	



Rock Energy Dissipater



- Notes:
1. Rock shall be 6" to 12" diameter
  2. Minimum diminsion shall be 6' x 10' x 12'



SECTION A-A



Truesdale Vineyard

DRAWN  
TH

DATE  
1/10/19

Farmworker Housing  
Grading Plan

APPROVED

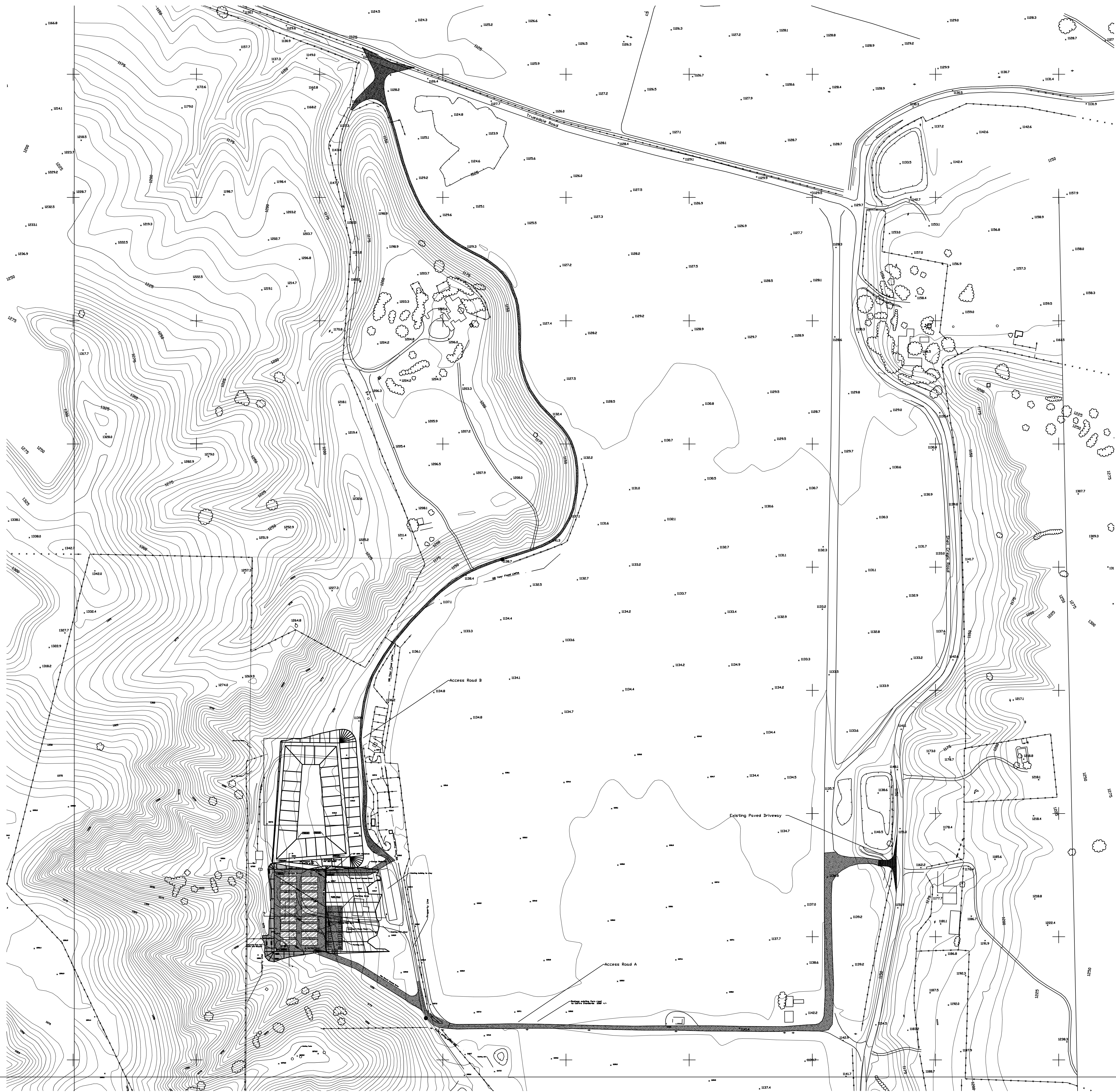
DATE

SCALE  
1"=50'

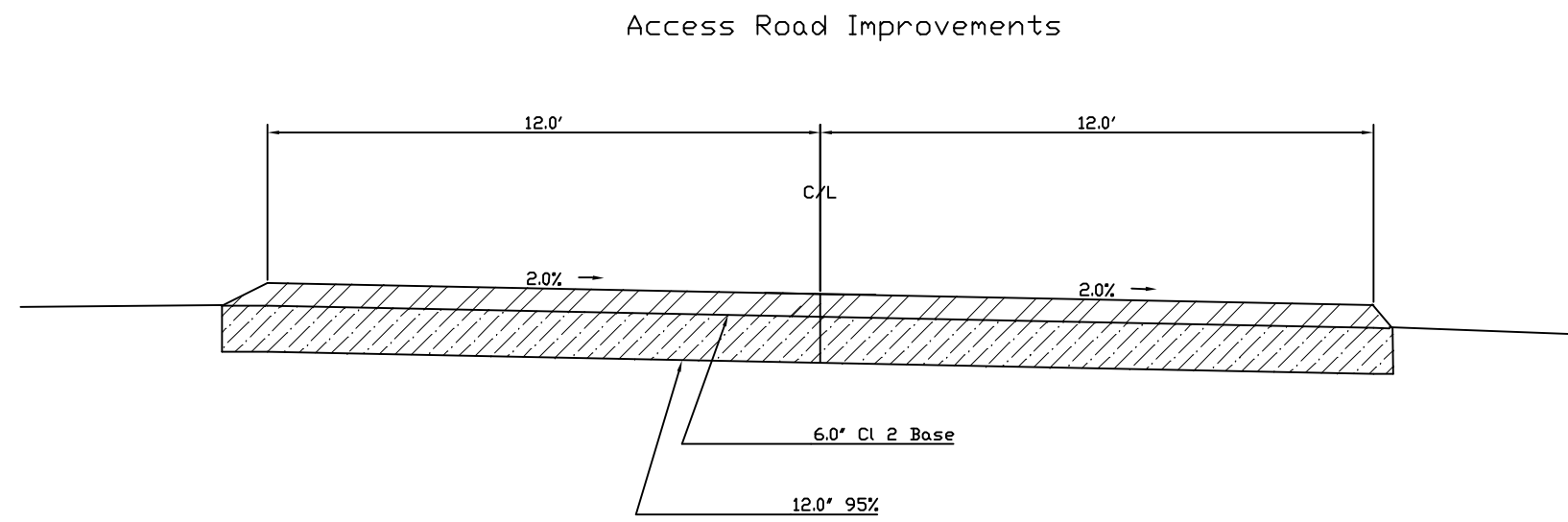
SHEET  
C3

PROJECT NO.





- Notes:
1. The existing access off of Shell Creek Road currently varies in width with a topography that gently drains to the north.
  2. A new rural driveway approach off of Shell Creek Road has been previously approved by SLD County Public Works Department.
  3. The section of existing farm roads to the Farmworker Housing site will need to be improved to CalFire codes. This work consists mainly of scarifying and compacting the top 12" of the existing surface then adding 6" of compacted class 2 base material. The surface shall be twenty four feet wide and slope to the north at 2% cross slope.
  4. No import or export will be required. There are no fills nor cuts except as needed to assure a constant 2% cross slope.



Truesdale Vineyard		
DRAWN TH	DATE 1/10/19	Access Road B Improvements
APPROVED	DATE	
SCALE 1"=200'	SHEET C-4	PROJECT NO.







Erosion Control Notes:

1. Erosion control measures shall be implemented on all projects and shall include source control, including protection of stockpiles, protection of slopes, protection of all disturbed areas, and protection of accesses. In addition, perimeter containment measures shall be placed prior to the commencement of grading and site disturbance activities unless the Engineer determines temporary measures to be unnecessary based upon location, site characteristics or time of year. The intent of the erosion control measures shall be to keep all sediment from entering a swale, drainage way, watercourse or onto adjacent properties. An approved Erosion Control and Sedimentation Control Plan will require County approval
2. Site inspections and appropriate maintenance of erosion control devices shall be conducted and documented prior to, during, and after rain events.
3. The developer shall be responsible for the placement and maintenance of all erosion control devices as specified by the approved plan until such time that the project is accepted as complete by the Engineer. Erosion control devices may be relocated, deleted or additional items may be required depending on the actual soil conditions encountered. Additional erosion control shall be placed at the discretion of the Engineer of Work, Engineer, SWPPP Monitor or RWQCB Inspector. Guidelines for determining appropriate erosion control devices are included in the appendix of the Public Improvement Standards.
4. All erosion control devices shall be the first order of work and shall be in place between October 15 and April 15 or anytime when the rain probability exceeds 30%. This work shall be installed or applied after each area is graded and no longer than five (5) working days after the completion of each area.
5. The Engineer of Work and the Engineer shall be notified before October 15 for inspection of installed erosion control devices.
6. A standby crew for emergency work shall be available at all times during the rainy season (October 15 through April 15). Necessary materials shall be available and stockpiled at convenient locations to facilitate rapid construction or maintenance of temporary devices when rain is imminent.
7. Permanent erosion control shall be placed and established with 70% coverage on all disturbed surfaces other than paved or gravel surfaces prior to final inspection. Permanent erosion control shall be fully established prior to final inspection. Temporary erosion control measures shall remain in place until permanent measures are established. A water truck shall be used to water areas hydroseeded until the planting is established. In the event of a failure, the developer and/or his representative shall be responsible for cleanup and all associated costs or damages.
8. In the event of a failure, the developer and/or his representative shall be responsible for cleanup and all associated costs or damages.
9. Slurry Mix: The slurry mix shall be composed of the following materials:

Bromus carinatus (California brome)	5 pounds per acre
Vulpia microstachys (six weeks fescue)	10
Stipia pulchra (purple needlegrass)	3
Trifolium wildenovi (tomcat clover)	2

(Seed availaibale at S&S Seeds (805) 684-0436

Other Materials:

100% Wood fiber mulch (green)	1600 pounds per acre
Commercial Fertilizer (16-20-0)	400
"M-Binder" (stabilizing emulsion) or equal	120
Water (as needed for application and as specified by manufacturer)	

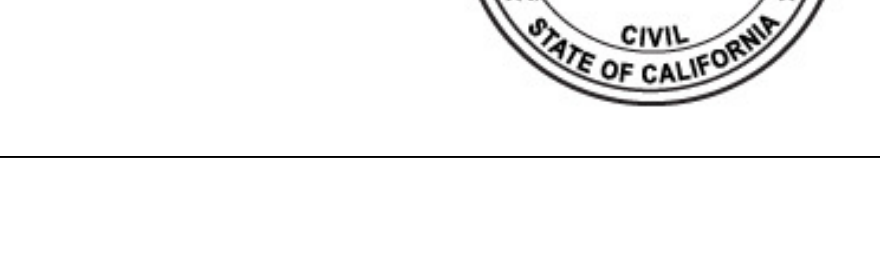
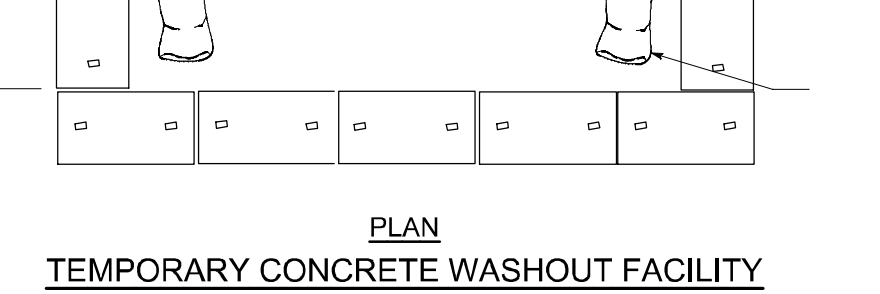
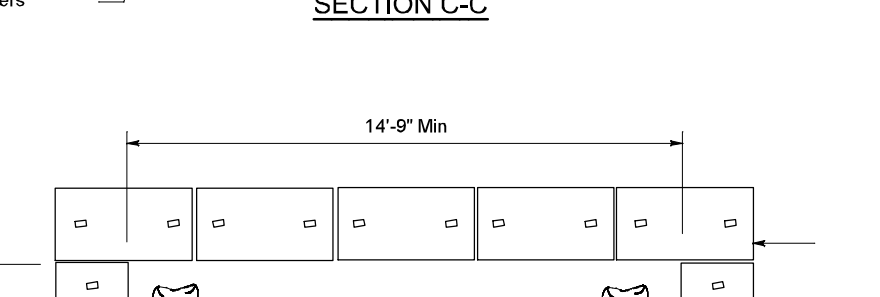
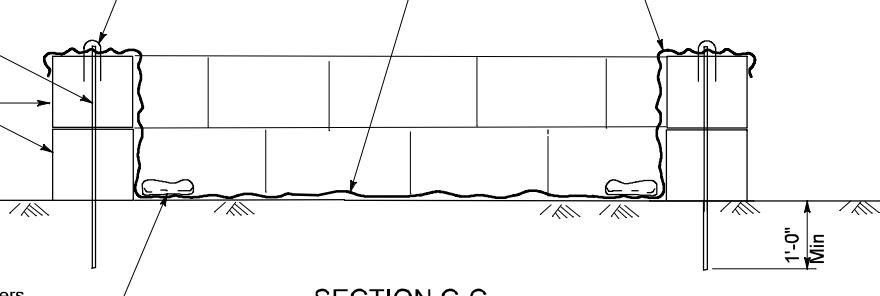
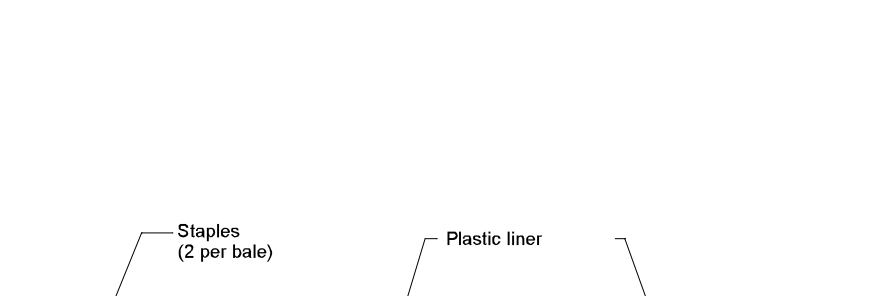
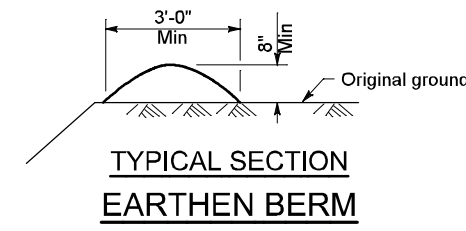
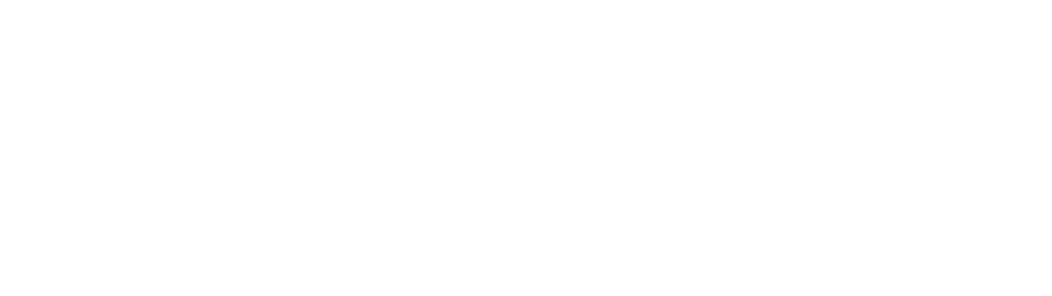
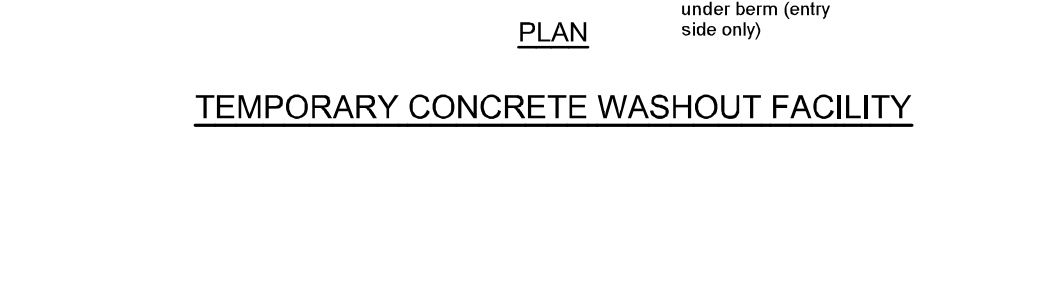
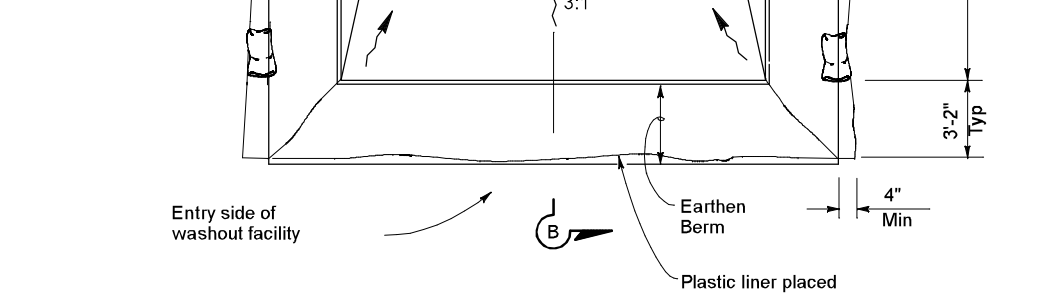
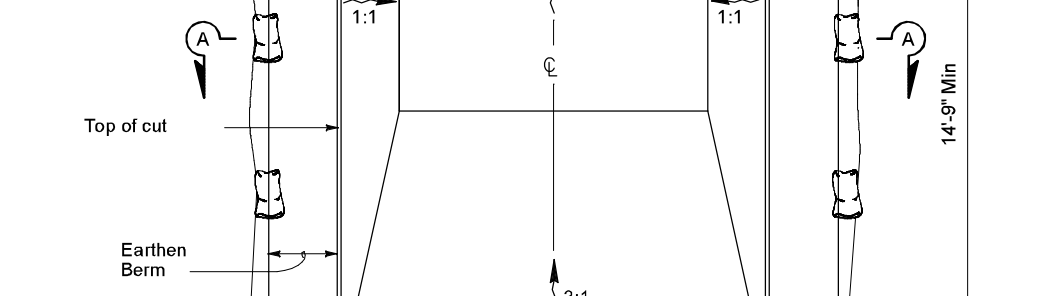
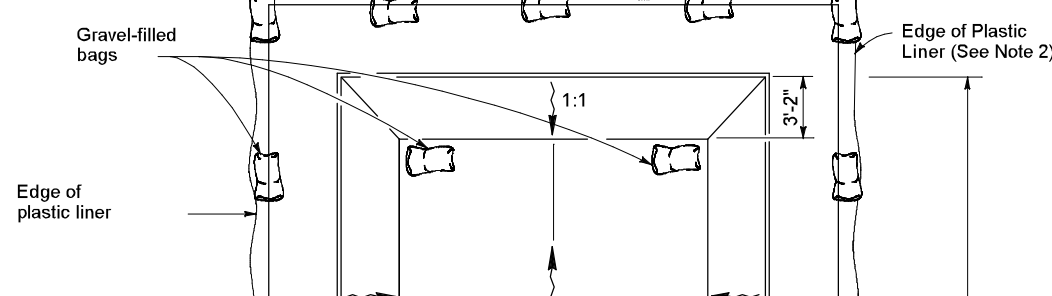
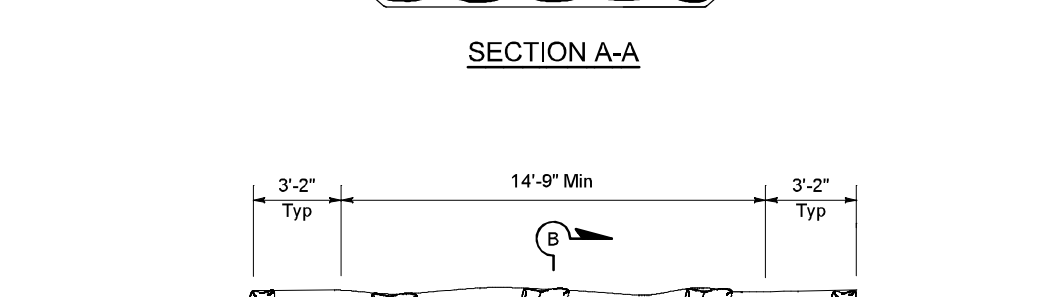
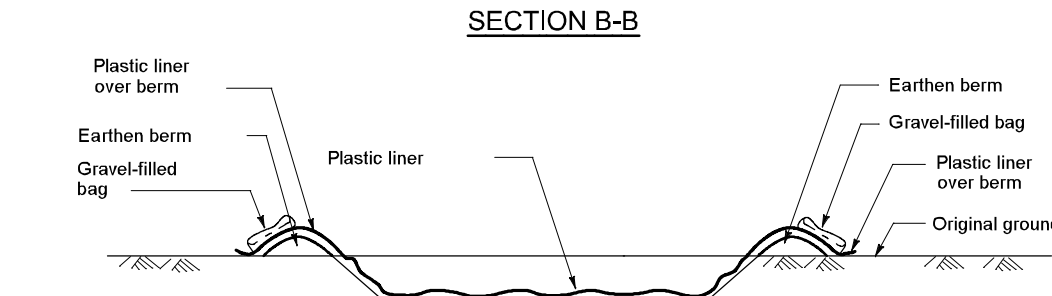
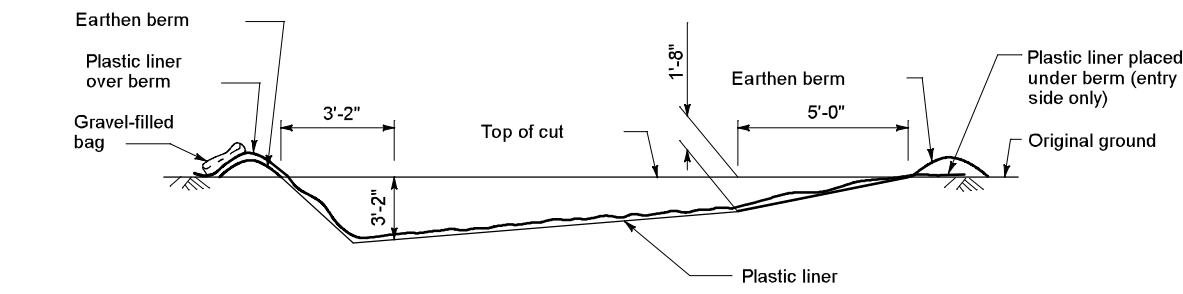
10. Application: The slurry preparation shall take place at the site and in the presence of the Engineer. Spraying of the slurry shall be done by an experienced hydroseeding company and commence within five minutes after all the materials have been mixed thoroughly.
11. The hydroseeded areas shall be watered with a fine mist on a daily basis until the seed begins to germinate then every other day until the roots are established and 70% of the area is covered. Do not use the side spray of a watertruck but instead use a nozzle adjusted to spray a fine mist attached to a hose.
12. BMP's to be constructed include but are not limited to:

a: Silt Fence

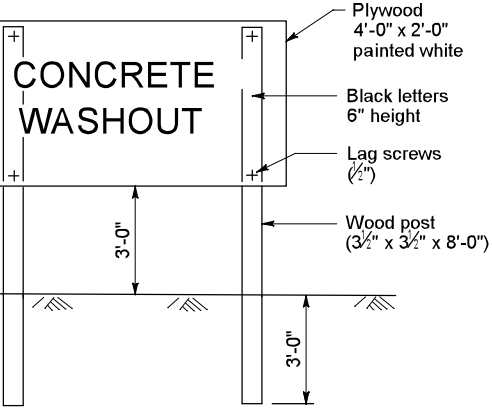
b: Stabilized Construction entrance

c: Concrete washout area

d: Fueling area

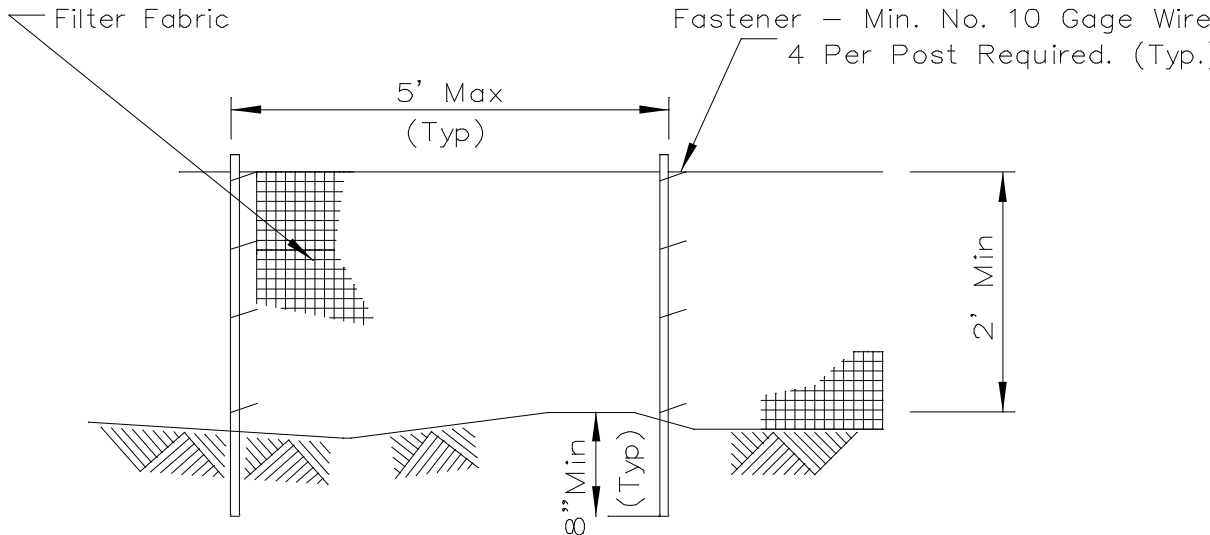


- NOTES:
1. The concrete washout sign shall be installed within 35'-10' of the temporary concrete washout facility.
2. Plastic liner shall be anchored with gravel-filled bags for below grade concrete washout facility.

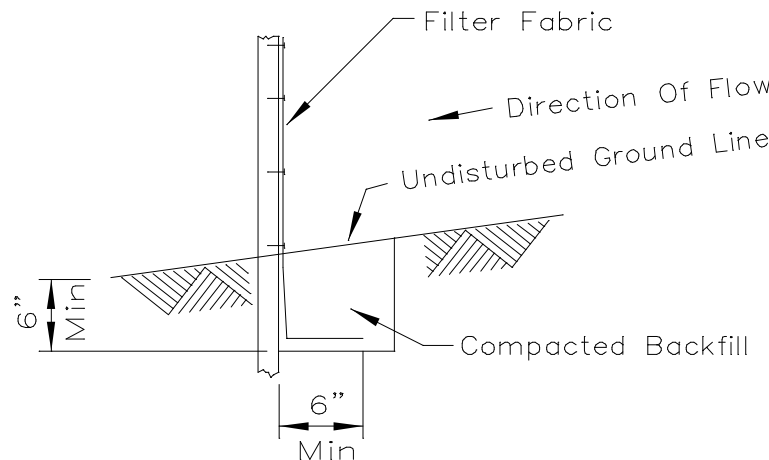


CONCRETE WASHOUT SIGN DETAIL

SILT FENCE PLAN



ELEVATION



FABRIC ANCHOR DETAIL

- NOTES:
1. Temporary sediment fence shall be installed prior to any grading work in the area to be protected. They shall be maintained throughout the construction period and removed in conjunction with the final grading and site stabilization.



Truesdale Vineyard		
DRAWN	DATE	Farmworker Housing
TH	1/10/19	Erosion Plan
APPROVED	DATE	Details
SCALE	SHEET	PROJECT NO.
varies	C-6	