TRINITY VALLEY
CONSULTING ENGINEERS, INC
Joshua T. McKnight CE 60687

HUMBOLDT COUNTY ROADWAY EVALUATION REPORT

FOR

SITE ACCESS ROAD

Private Drive
Garberville, California

CLIENT:
Attn: Steve Dodge
Post Office Box 1666
Redway, CA 95560

April, 2019
Josh McKnight, P.E.
Job #1363.01

Table of Contents

ATTACHMENTS:

HUMBOLDT COUNTY DEPARTMENT OF PUBLIC WORKS
ROAD EVALUATION REPORT

PART A: *Part A may be completed by the applicant*

Applicant Name: Steve dodge APN: 223-074-010

Planning & Building Department Case/File No.: SP17-174

Road Name: Little Buck Mountain Road *(complete a separate form for each road)*

From Road (Cross street): Alderpoint Road

To Road (Cross street): Private Drive

Length of road segment: 2.21 miles Date Inspected: 03/26/2019

Road is maintained by: ☐ County ☑ Other Private
(State, Forest Service, National Park, State Park, BLM, Private, Tribal, etc)

Check one of the following:

Box 1 ☐ The entire road segment is developed to Category 4 road standards (20 feet wide) or better. If checked, then the road is adequate for the proposed use without further review by the applicant.

Box 2 ☐ The entire road segment is developed to the equivalent of a road category 4 standard. If checked, then the road is adequate for the proposed use without further review by the applicant.

An equivalent road category 4 standard is defined as a roadway that is generally 20 feet in width, but has pinch points which narrow the road. Pinch points include, but are not limited to, one-lane bridges, trees, large rock outcroppings, culverts, etc. Pinch points must provide visibility where a driver can see oncoming vehicles through the pinch point which allows the oncoming vehicle to stop and wait in a 20 foot wide section of the road for the other vehicle to pass.

Box 3 ☑ The entire road segment is not developed to the equivalent of road category 4 or better. The road may or may not be able to accommodate the proposed use and further evaluation is necessary. Part B is to be completed by a Civil Engineer licensed by the State of California.

The statements in PART A are true and correct and have been made by me after personally inspecting and measuring the road.

Steve Dodge
Signature

4/3/19
Date

Steve Dodge
Name Printed

Important: Read the instructions before using this form. If you have questions, please call the Dept. of Public Works Land Use Division at 707.445.7205.

PART B: Only complete Part B if Box 3 is checked in Part A. *Part B is to be completed by a Civil Engineer licensed by the State of California. Complete a separate form for each road.*

Road Name: Little Buck Mountain Road Date Inspected: 03/26/2019 APN: 223-074-010

From Road: Alderpoint Road (Post Mile 0.00) Planning & Building Department Case/File No.:

To Road: Road A (Private Road) (Post Mile 2.21) SP17-174

1. What is the Average Daily Traffic (ADT) of the road (including other known cannabis projects)?

   Number of other known cannabis projects included in ADT calculations:
   (Contact the Planning & Building Department for information on other nearby projects.) Three

   ADT: 50 Date(s) measured: 03/26/2019

   Method used to measure ADT: ☐ Counters ☑ Estimated using ITE *Trip Generation* Book

   Is the ADT of the road less than 400? ☑ Yes ☐ No

   If **YES**, then the road is considered very low volume and shall comply with the design standards outlined in the American Association of State Highway and Transportation Officials (AASHTO) *Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT ≤400). Complete sections 2 and 3 below.*

   If **NO**, then the road shall be reviewed per the applicable policies for the design of local roads and streets presented in AASHTO *A Policy on Geometric Design of Highways and Streets*, commonly known as the "Green Book". Complete section 3 below.

2. Identify site specific safety problems with the road that include, but are not limited to: (Refer to Chapter 3 in AASHTO *Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT ≤400)* for guidance.)

   A. Pattern of curve related crashes.
   Check one: ☑ No. ☐ Yes, see attached sheet for Post Mile (PM) locations.

   B. Physical evidence of curve problems such as skid marks, scarred trees, or scarred utility poles
   Check one: ☑ No. ☐ Yes, see attached sheet for PM locations.

   C. Substantial edge rutting or encroachment.
   Check one: ☑ No. ☐ Yes, see attached sheet for PM locations.

   D. History of complaints from residents or law enforcement.
   Check one: ☑ No. ☐ Yes (☐ check if written documentation is attached)

   E. Measured or known speed substantially higher than the design speed of the road (20+ MPH higher)
   Check one: ☑ No. ☐ Yes.

   F. Need for turn-outs.
   Check one: ☑ No. ☐ Yes, see attached sheet for PM locations.

3. Conclusions/Recommendations per AASHTO. Check one:

   ☐ The roadway can accommodate the cumulative increased traffic from this project and all known cannabis projects identified above.

   ☑ The roadway can accommodate the cumulative increased traffic from this project and all known cannabis projects identified above, if the recommendations on the attached report are done. (☐ check if a *Neighborhood Traffic Management Plan* is also required and is attached.)

   ☐ The roadway cannot accommodate increased traffic from the proposed use. It is not possible to address increased traffic.

A map showing the location and limits of the road being evaluated in PART B is attached. The statements in PART B are true and correct and have been made by me after personally evaluating the road.

Signature of Civil Engineer Date 4/9/19

Important: Read the instructions before using this form. If you have questions, please call the Dept. of Public Works Land Use Division at 707.445.7205.

HUMBOLDT COUNTY DEPARTMENT OF PUBLIC WORKS
ROAD EVALUATION REPORT

PART A: *Part A may be completed by the applicant*

Applicant Name: Steve dodge APN: 223-074-010

Planning & Building Department Case/File No.: SP17-174

Road Name: Private Drive *(complete a separate form for each road)*

From Road (Cross street): Little Buck Mountain Road

To Road (Cross street): Project Location

Length of road segment: 0.27 miles Date Inspected: 03/26/2019

Road is maintained by: ☐ County ☑ Other Private
(State, Forest Service, National Park, State Park, BLM, Private, Tribal, etc)

Check one of the following:

Box 1 ☐ The entire road segment is developed to Category 4 road standards (20 feet wide) or better. If checked, then the road is adequate for the proposed use without further review by the applicant.

Box 2 ☐ The entire road segment is developed to the equivalent of a road category 4 standard. If checked, then the road is adequate for the proposed use without further review by the applicant.

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Box 3 ☑ The entire road segment is not developed to the equivalent of road category 4 or better. The road may or may not be able to accommodate the proposed use and further evaluation is necessary. Part B is to be completed by a Civil Engineer licensed by the State of California.

The statements in PART A are true and correct and have been made by me after personally inspecting and measuring the road.

Steve Dodge
Signature

4/3/19
Date

Steve Dodge
Name Printed

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PART B: Only complete Part B if Box 3 is checked in Part A. *Part B is to be completed by a Civil Engineer licensed by the State of California. Complete a separate form for each road.*

Road Name: Road A (Off Property) Date Inspected: 03/26/2019 APN: 223-074-010

From Road: Little Buck Mountain Road (Post Mile 0.00) Planning & Building Department Case/File No.:

To Road: Road B (On Property) (Post Mile 0.27) SP17-174

1. What is the Average Daily Traffic (ADT) of the road (including other known cannabis projects)?

   Number of other known cannabis projects included in ADT calculations:
   (Contact the Planning & Building Department for information on other nearby projects.) Two

   ADT: 30 Date(s) measured: 03/26/2019

   Method used to measure ADT: ☐ Counters ☑ Estimated using ITE *Trip Generation* Book

   Is the ADT of the road less than 400? ☑ Yes ☐ No

   If **YES**, then the road is considered very low volume and shall comply with the design standards outlined in the American Association of State Highway and Transportation Officials (AASHTO) *Guidelines for Geometric Design of Very Low-Volume Local Roads (ADT ≤400). Complete sections 2 and 3 below.*

   If **NO**, then the road shall be reviewed per the applicable policies for the design of local roads and streets presented in AASHTO *A Policy on Geometric Design of Highways and Streets*, commonly known as the "Green Book". Complete section 3 below.

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   A. Pattern of curve related crashes.
   Check one: ☑ No. ☐ Yes, see attached sheet for Post Mile (PM) locations.

   B. Physical evidence of curve problems such as skid marks, scarred trees, or scarred utility poles
   Check one: ☑ No. ☐ Yes, see attached sheet for PM locations.

   C. Substantial edge rutting or encroachment.
   Check one: ☑ No. ☐ Yes, see attached sheet for PM locations.

   D. History of complaints from residents or law enforcement.
   Check one: ☑ No. ☐ Yes (☐ check if written documentation is attached)

   E. Measured or known speed substantially higher than the design speed of the road (20+ MPH higher)
   Check one: ☑ No. ☐ Yes.

   F. Need for turn-outs.
   Check one: ☑ No. ☐ Yes, see attached sheet for PM locations.

3. Conclusions/Recommendations per AASHTO. Check one:

   ☐ The roadway can accommodate the cumulative increased traffic from this project and all known cannabis projects identified above.

   ☑ The roadway can accommodate the cumulative increased traffic from this project and all known cannabis projects identified above, if the recommendations on the attached report are done. (☐ check if a *Neighborhood Traffic Management Plan* is also required and is attached.)

   ☐ The roadway cannot accommodate increased traffic from the proposed use. It is not possible to address increased traffic.

A map showing the location and limits of the road being evaluated in PART B is attached. The statements in PART B are true and correct and have been made by me after personally evaluating the road.

Signature of Civil Engineer Date 4/9/19

Important: Read the instructions before using this form. If you have questions, please call the Dept. of Public Works Land Use Division at 707.445.7205.

Attachment 1:

Roadway Evaluation

April, 2019

Homegrown Farms, Inc
Attn: Steve Dodge
Post Office Box 1666
Redway, CA 95560

RE: Road Evaluation
Private Road
Garberville, California
APN: 223-074-010

Mr. Dodge:

Per your request, Trinity Valley Consulting Engineers conducted a site inspection of the access roadways for the at the above referenced location on March 26th, 2019. The purpose was perform an evaluation of the access roadways leading to the above referenced property. The following is a summary of the findings, recommendations and conclusions.

Findings

The following are two roadways, which were evaluated.

Little Buck Mountain Road

Little Buck Mountain Road intersects Alderpoint Road approximately 2.5 miles east of the community of Garberville and is the subject of this roadway evaluation (see **Attachment 2**, *Project Location*). Little Buck Mountain Road provide access to approximately 15 parcels and has an estimated ADT of 50. Alderpoint Road is the starting point of the roadway evaluation and provides access to Little Buck Mountain Road, which provides access to Road A, which is a private driveway providing access to the project site and two other cannabis projects.

The access roadway, Little Buck Mountain Road, needs a Humboldt County encroachment permit to pave the first 50 feet of access from Alderpoint Road. The roadway surface is approximately 2.21 miles with approximate widths between 12-24 feet. The roadway surface is gravel with a maximum slope of 18%. The section of roadway with a slope of approximately 18% has good visibility and turnouts on each side and is approximately 50 feet long. The roadway surface is mostly out-sloped. The roadway has several sections where inboard ditches need to be re-established.

The roadway has sections where the surface has potholes that needs to be regraded. There are eight stream crossings with culverts in good condition and three drainage relief culverts in good condition with one needing and extension. Two culverts have debris at the inlet that needs to be cleared (road points RP16 & 18). There are several sections of roadway where rolling dips need to be established to drain water off the roadway surface. Excessive water at an intersection (road points RP4 and 5) needs a culvert, a drainage relief culvert and rolling dip established. There is one culvert that has failed and needs to be replaced (road point RP27). There are several pullouts that need to be regraded and cleared where brush or trees have grown into pullouts (see **Attachment 3**, *Roads Map and* **Attachment 4**, *Photos and Road Point Descriptions*).

Road A (Private Drive)

Road A is approximately 0.27 miles long and provides access from Little Buck Mountain Road to the project site and to two Cannabis projects and has an estimated ADT of 30. The roadway surface gravel and has approximate widths between 14-24 feet. The roadway surface is gravel with a maximum slope of 16%. The roadway surface is mostly out-sloped. There is one drainage relief culvert in good condition. There is one sections of roadway where rolling dips need to be established to drain water off the roadway surface. Pullouts are adequately located (see **Attachment 3**, *Roads Map and* **Attachment 4**, *Photos and Road Point Descriptions*).

Recommendations

Specific areas identified for maintenance or repair are identified in **Attachment 3,** *Road Map and* are described in detail in **Attachment** 4, *Photos and Road Point Descriptions*. The following are general recommendations for continued use of these roadways:

> ***Access Roadways***: Use of these roadways will primarily be a function of continued maintenance. This is to include regular grading to remove ruts, addition of rock surfacing when needed to fill potholes, clearing or re-establishing inboard ditches and maintenance and or replacement of drainage structures and water breaks. Pullouts must be graded when the road is graded to prevent vegetation from growing and making the pullout unusable. Vegetation must be cleared so that turnouts views are not obstructed and so the roadway travel is not impeded. In general, the entire roadway surface should be graded annually with a grader.

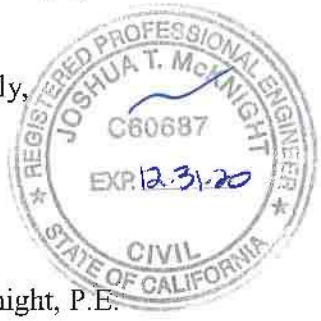
Any road improvement and stream crossing maintenance shall be in accordance with AASHTO, County of Humboldt Road Design Manual, Cafferata et al. (2017), and Weaver et al. (2015). The required permits must be obtained for work to be done on onstream culverts.

Conclusions

The subject roadway is adequate for the intended uses on this property, and the estimated uses for the other properties which this roadway will serve. Implementation of the above recommendations will provide for the intended use and limit the effects on water quality. Based on our site exploration and observations, it is in our opinion that if our recommendations are implemented as intended, then no further actions will be necessary.

If you have any questions or need additional information please feel free to contact.

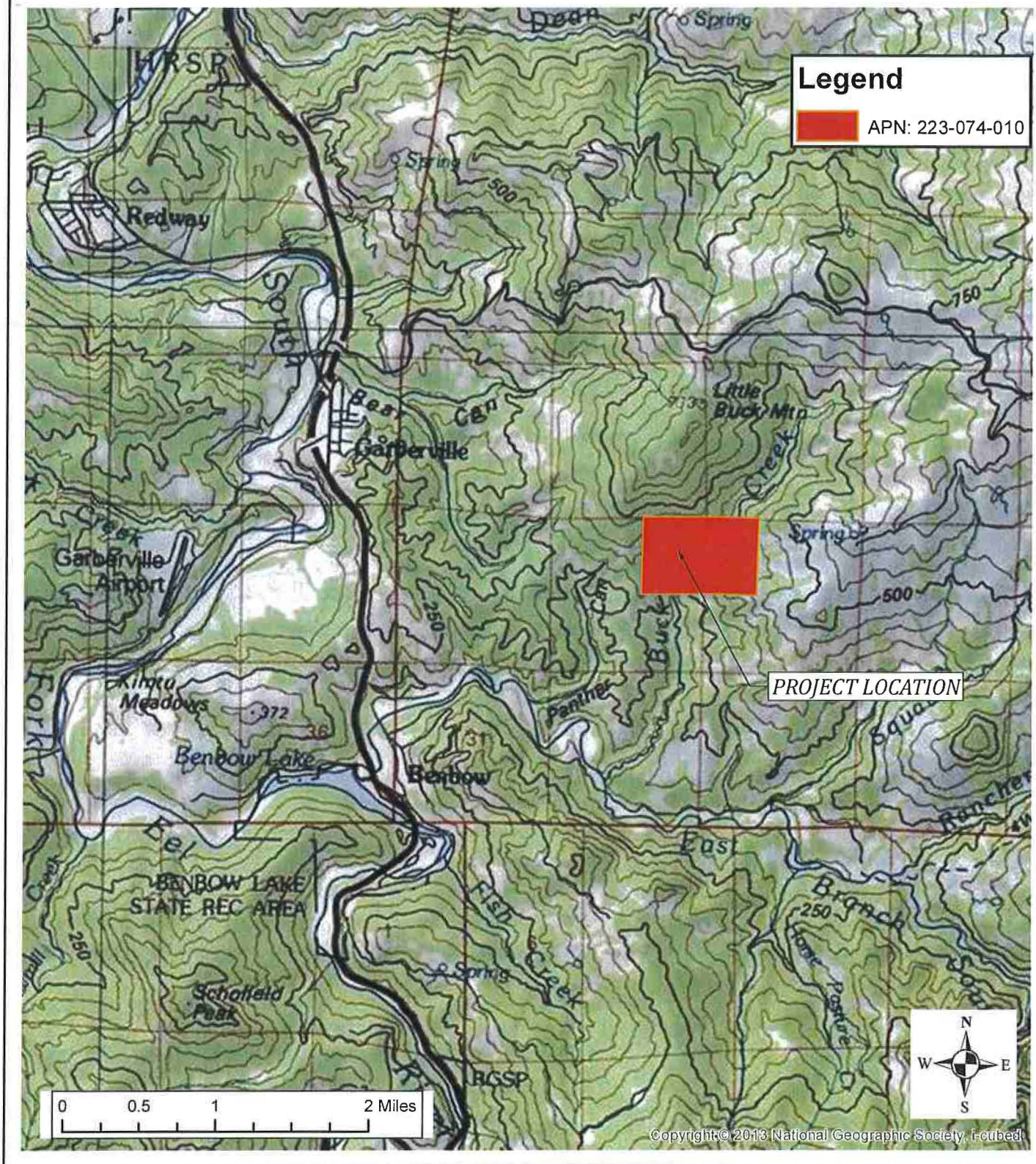
Respectfully,



Josh McKnight, P.E.

Attachment 2:

Location Map



TVCE
Trinity Valley Consulting Engineers Inc

PROJECT LOCATION MAP

APN: 223-074-010

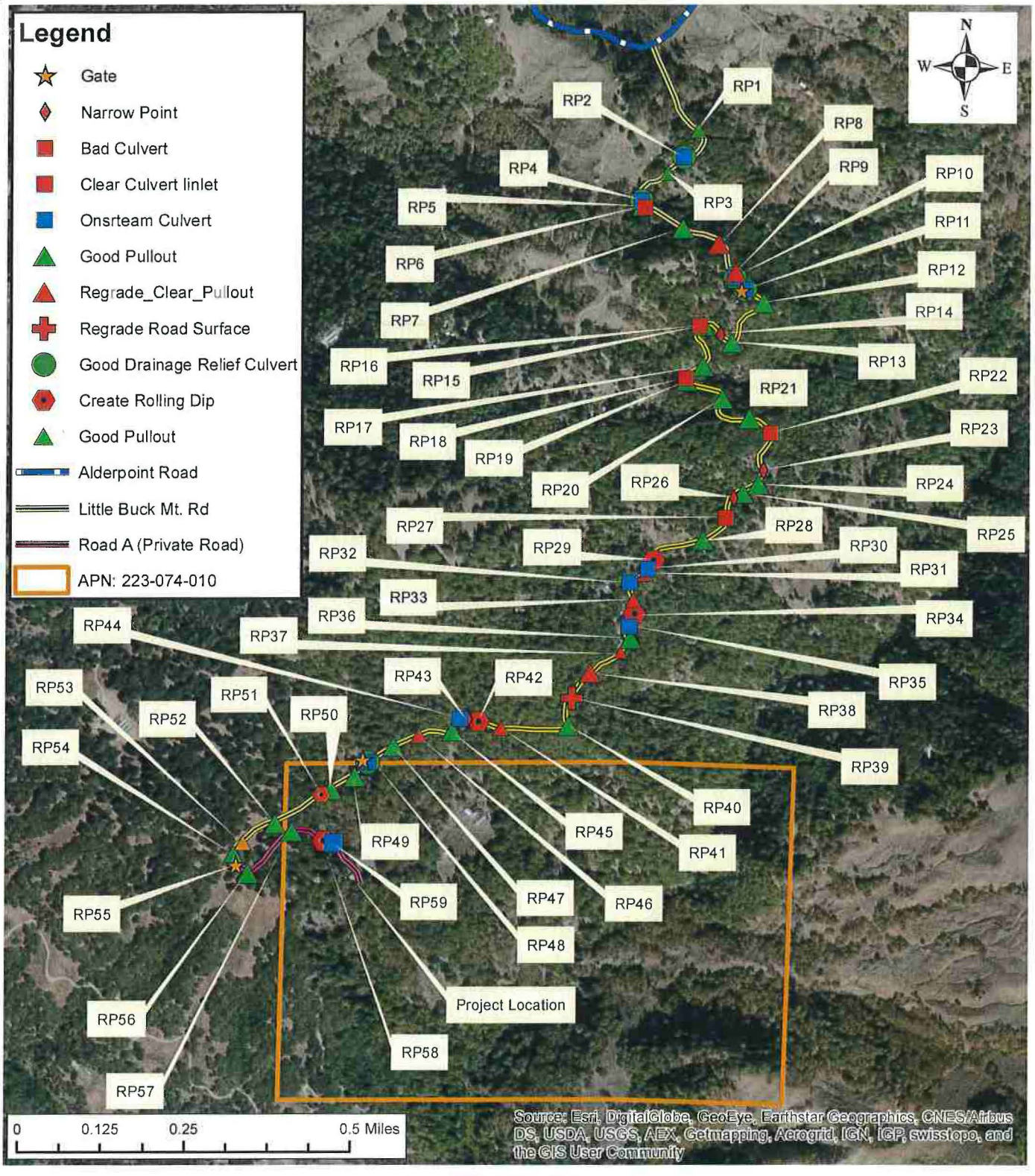
ESRI USGS SEAMLESS TOPOGRAPHICAL MAP FOR HUMBOLDT COUNTY

Project: 1363.01
Site Address:
Private Road
Garberville CA 95542

Mailling Address:
P.O. BOX 1666
Redway, CA 95560

Attachment 3:

Roads Map



TVCE
Trinity Valley Consulting Engineers Inc

Roads Map

APN: 223-074-010

ESRI USGS SEAMLESS TOPOGRAPHICAL MAP FOR HUMBOLDT COUNTY

Project: 1363.01
Site Address:
Private Road
Garberville CA 95542

Mailling Address:
P.O. BOX 1666
Redway, CA 95560

Attachment 4:

Photos and Road Point Descriptions

Map Point(s) Descriptions

Figures for associated Road Points can be viewed below with the associated descriptions and their locations can be referenced on **Attachment 2** (Project Roads Maps) and **Attachment 3** (Road Points Map).

Road Point(s) Descriptions for off property access road Gibney Drive: This road segment is the access road Alderpoint Road which is a Class II road and is the start of the roadway evaluation.

Figure 1. *Photograph showing the start of Little Buck Mountain Road at the intersection of Alderpoint Road. An encroachment permit is being obtained to pave the first 50 feet of Little Buck Mountain Road access.*

Figure 2. *Photograph showing road point RP1 which is a good turnout.*

Figure 3. *Photograph showing road point RP2 which is an onstream culvert in good condition. The inside ditch catches the class III stream and diverts it to the culvert.*

Figure 4. *Photograph showing the class three stream that is diverted to road point RP2 which is an onstream culvert in good condition. The inside ditch catches the class III stream and diverts it to the culvert. Future work on the culvert will need a CDFW permitting.*

Figure 5. *Photograph showing road point RP3 which is a good turnout.*

Figure 6. *Photograph showing road point RP4 which is at an intersection to a neighboring roadway. The neighboring access roadway lacks a proper drainage the start of a class three watercourse intersect the roadway at the intersection. A culvert needs to be installed at the start of the class III watercourse*

crossing both of the access roads and a drainage relief culvert needs to be installed below the intersection to catch the runoff from need to be installed rolling dip installed approximately 50' up the neighboring property. The roadways inside ditch need to be installed from the proposed drainage relief culvert to the inter Photograph showing road point RP5 which is at an intersection to a neighboring roadway. The neighboring access roadway lacks a proper drainage the start of a class three watercourse intersect the roadway at the intersection. A culvert needs to be installed at the start of the class III watercourse crossing both of the access roads and a drainage relief culvert needs to be installed below the intersection to catch the runoff from need to be installed rolling dip installed approximately 50' up the neighboring property. The roadways inside ditch need to be installed from the proposed drainage relief culvert to the intersection..

Figure 7. *Photograph showing road point RP5 which is at an intersection to a neighboring roadway. The neighboring access roadway lacks a proper drainage the start of a class three watercourse intersect the roadway at the intersection. A culvert needs to be installed at the start of the class III watercourse crossing both of the access roads and a drainage relief culvert needs to be installed below the intersection to catch the runoff from need to be installed rolling dip installed approximately 50' up the neighboring property. The roadways inside ditch need to be installed from the proposed drainage relief culvert to the intersection.*

Figure 8. *Photograph showing road point RP6 which is a drainage relief culvert..*

Figure 9. *Photograph showing road point RP7 which is turnout that needs to be regraded.*

Figure 10. *Photograph showing road point RP8 which is turnout that needs trees to be removed from the inboard ditch and to be regraded.*

Figure 11. *Photograph showing road point RP9 which is a pullout at an intersection that needs to be regraded to make the transition into the intersection smoother.*

Figure 12. *Photograph showing road point RP11 is a gate with pullout on either side. On the east side of the gate is drainage relief culvert that needs to be extended by approximately 10 ' (RP10)*

Figure 13. *Photograph showing road point RP12 which is a good pullout.*

Figure 14. *Photograph showing road point RP13 which is a a good pullout.*

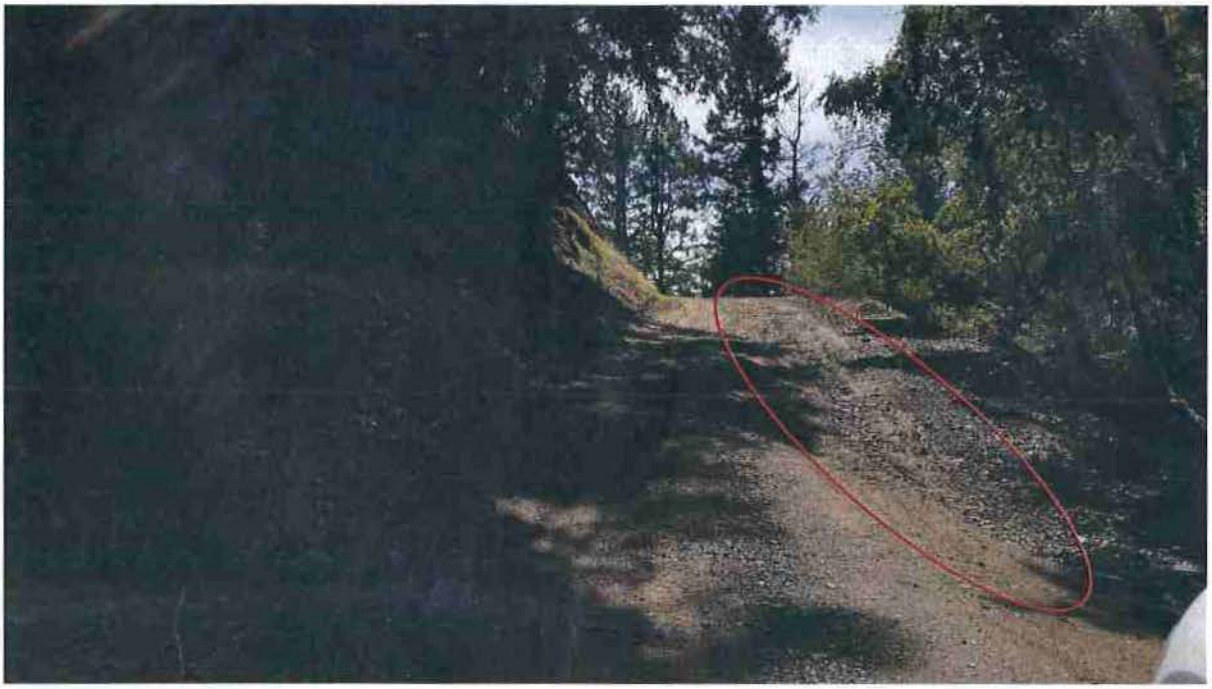


Figure 15. *Photograph showing road point RP14 which is a section of roadway that needs to regraded so the roadway is sloped to the outboard side.*

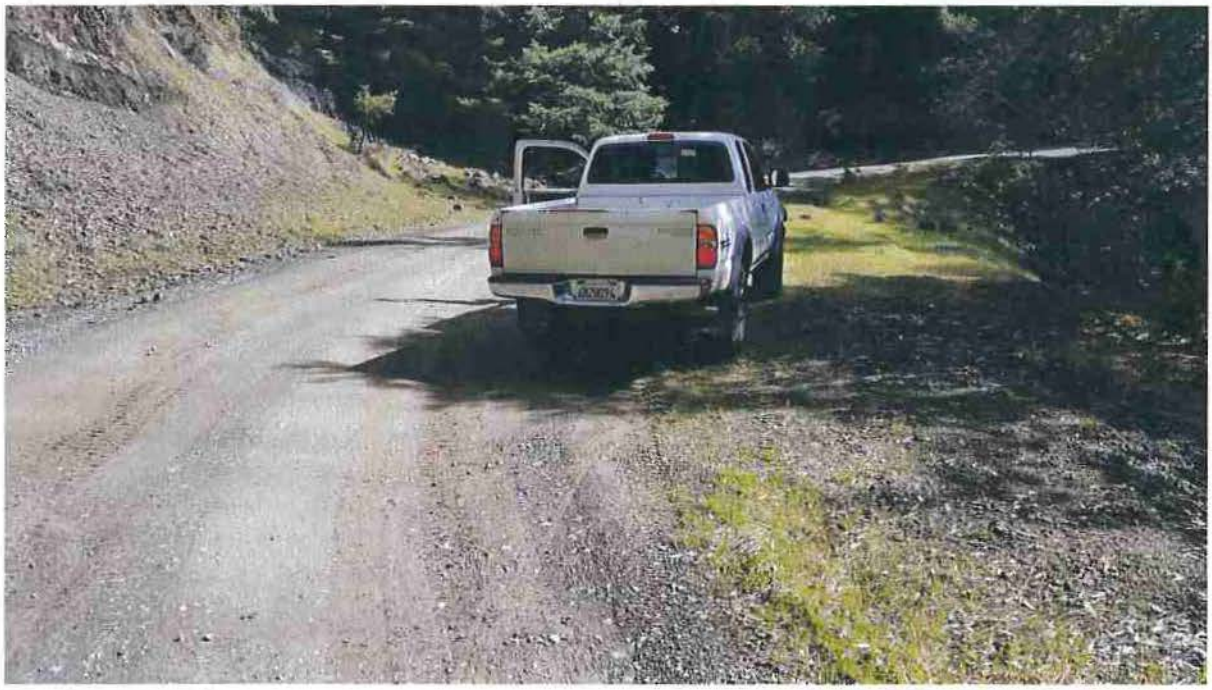


Figure 16. *Photograph showing road point RP15 which is a good pullout.*

Figure 17. *Photograph showing road point RP16 which is a 24 inch culvert on a class III watercourse that needs debris cleared from the inlet. The culvert is in good condition..*

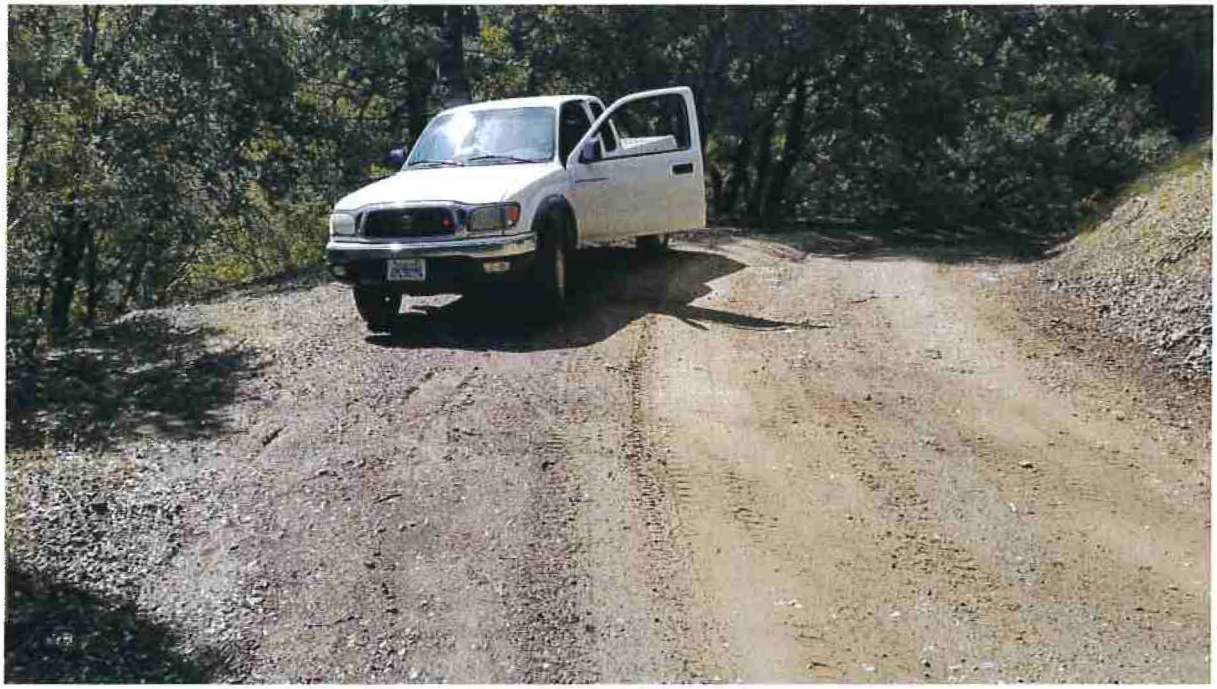


Figure 18. *Photograph showing road point RP17 which is a good pullout.*

Figure 19. *Photograph showing road point RP18 which is a 24 inch culvert on a class III watercourse that needs debris cleared from the inlet. The culvert is in good condition.*

Figure 20. *Photograph showing road point RP19 which a good pullout next to a class III watercourse.*

Figure 21. *Photograph showing road point RP20 which is a good pullout.*

Figure 22. *Photograph showing road point RP21 which is a 48 inch culvert on a class II watercourse in good condition.*

Figure 23. *Photograph showing road point RP22 which is a pullout that needs a two tree to be removed and to be regraded.*

Figure 24. *Photograph showing road point RP23 which is a section of roadway that needs to regraded. Regrading needs to widen the roadway and re-establish an inside ditch.*

Figure 25. *Photograph showing road point RP24 which is a pullout that needs brush to be cleared and to be regraded.*

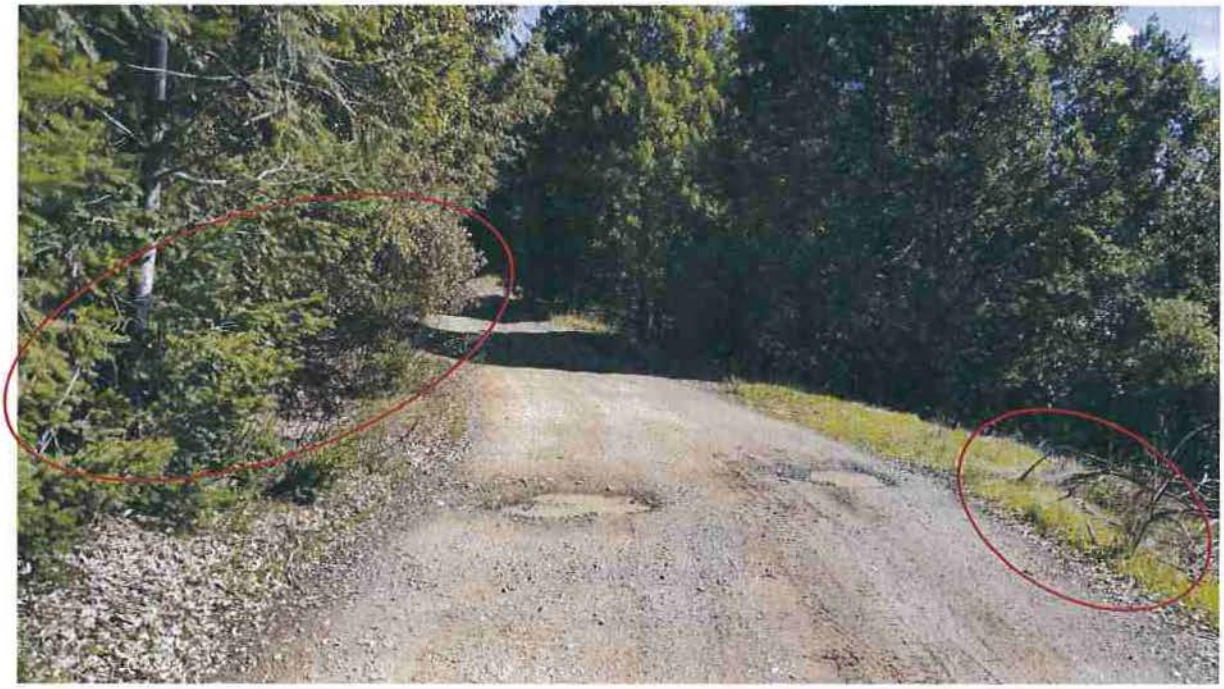


Figure 26. *Photograph showing road point which has brush debris in a good pullout along with brush on along the uphill bank that needs to be cleared.*

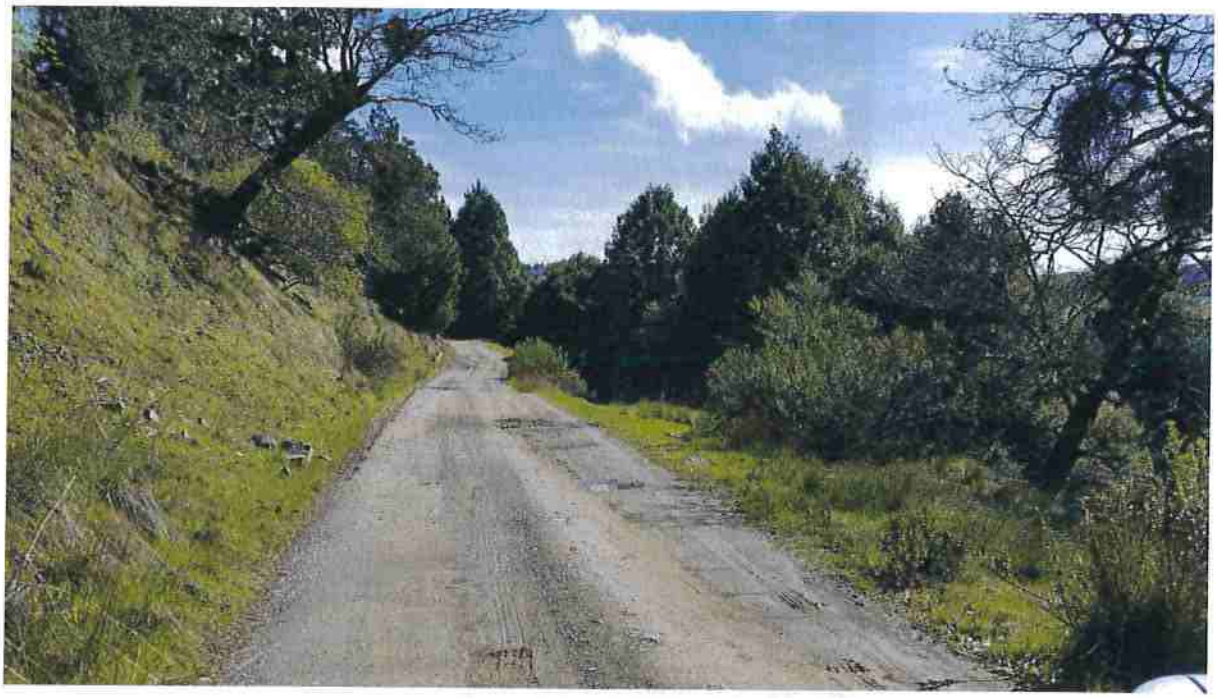


Figure 27. *Photograph showing road point RP25, a good pullout north-east of a narrow section fo roadway (RP26).*

Figure 28. *Photograph showing road point RP26 where the roadway has a narrow section. There is a good pullouts on both sides of the narrow section (RP25 and RP 28, each having good visibility of the roadway leading the narrow point.*

Figure 29. *Photograph showing road point RP27 which is a failing culvert that drains a class II stream/spring area below a water tank. The culvert needs to be replaced which will require a 1600 and additional permitting.*

Figure 30. *Photograph showing road point RP31 that is a pullout that needs brush to be cleared and regraded to create a turnout and a rolling dip to disconnect the roadway surface from the watercourse located at RP32.*

Figure 31. *Photograph showing road point RP32 showing a onstream culvert in good condition on a class II watercourse.*

Figure 32. *Photograph showing road point RP34 where water is channelizing on the roadway surface. A rolling dip needs to be created to divert the concentrated roadway runoff off of the roadway surface.*

***Figure** 33. Photograph showing road point RP35 is a 12" culvert in good condition on a class III watercourse*

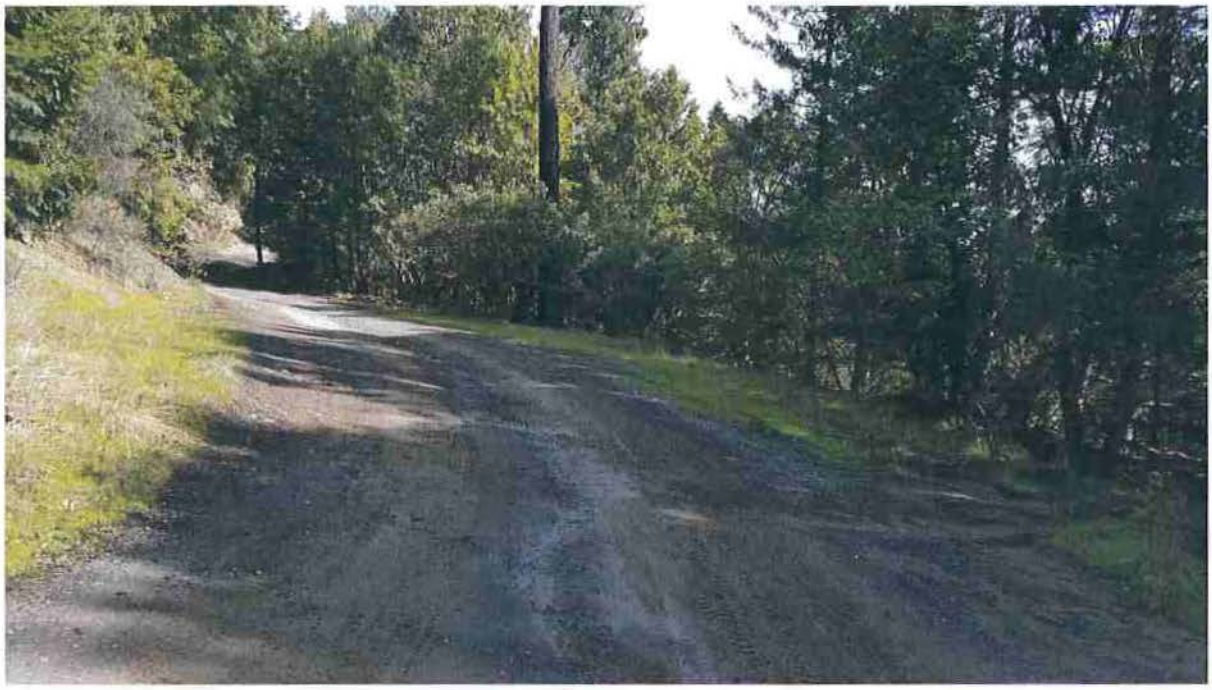


Figure 34. *Photograph showing road point RP36 where the roadway has pot-holes. The roadway surface needs to be regraded in this location.*

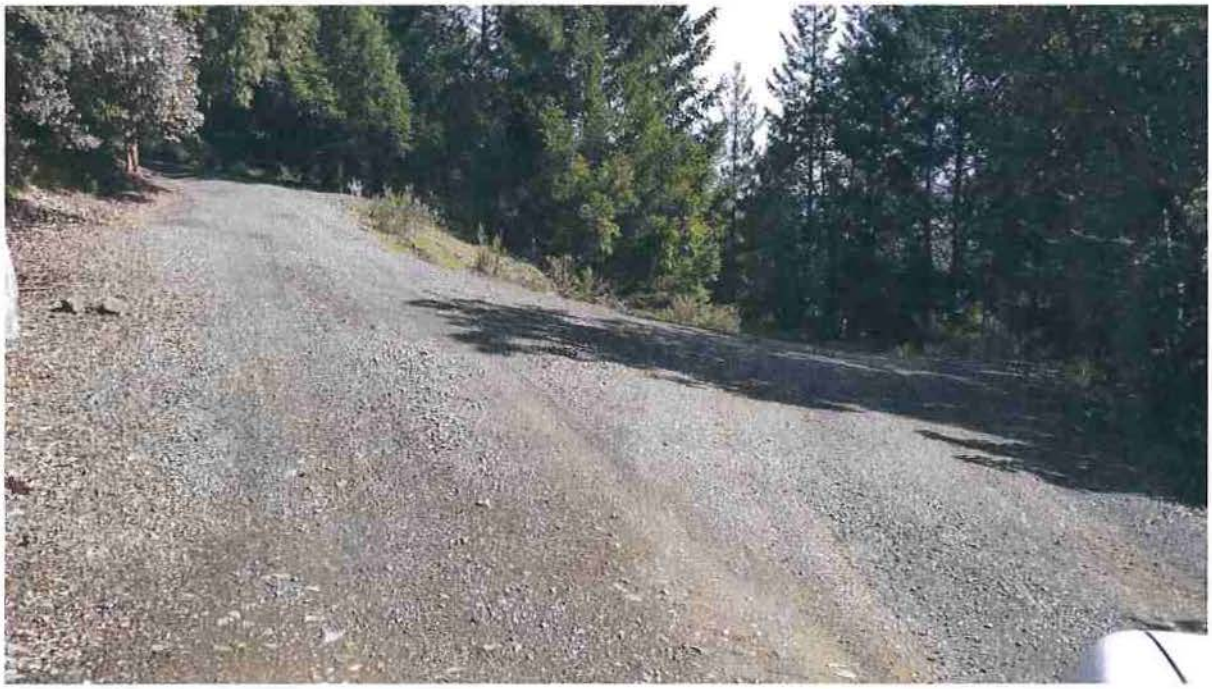


Figure 35. *Photograph showing road point RP37 which is a good pullout at intersection of a neighboring driveway.*

Figure 36. *Photograph showing road point RP38 where a pullout needs brush cleared.*

Figure 37. *Photograph showing road point RP39 where the roadway has pot-holes. The roadway surface needs to be regraded in this.*

Figure 38. *Photograph showing road point RP40 which is a good pullout.*

Figure 39. *Photograph showing road point RP41 where a pullout needs to be expanded by grading the outside berm back onto the roadway.*

Figure 40. *Photograph showing road point RP43 where a rolling dip needs to be created to disconnect the roadway surface from the watercourse approximately 100' south-west of RP43.*

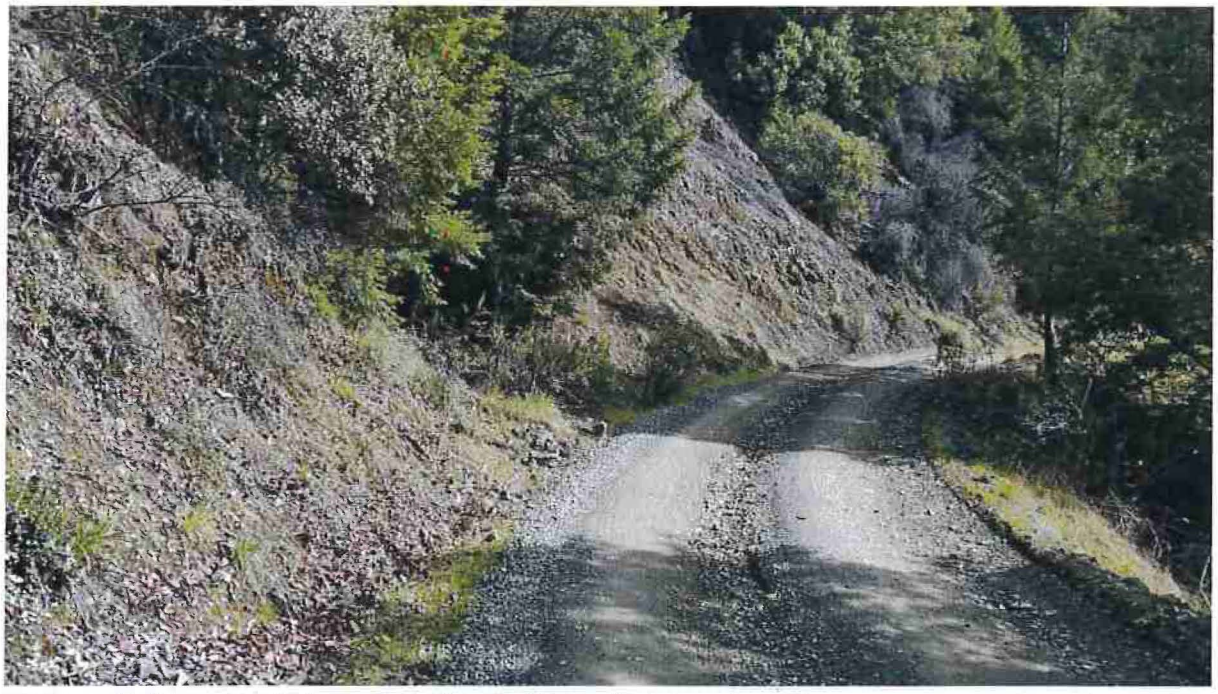


Figure 41. *Photograph showing road point RP44 which is a class III watercourse crossing. The road is narrow above the watercourse crossing and a rolling dip needs to be created to disconnect the roadway surface from the watercourse approximately 100' north-east of the watercourse at RP43.*

Figure 42. *Photograph showing a good pullout located at road point RP45.*

Figure 43. *Photograph showing narrow section of roadway located at RP46.*

Figure 44. *Photograph showing a pullout located at road points RP47with a rock that needs to be cleared from the pullout..*

Figure 45. *Photograph showing a pullout and gate located at road points RP50 and RP49.*

Figure 46. *Photograph showing a steep section of roadway where the road slope is between 16 and 20% Located between RP51 and RP50. The slope is short and there are good pullouts on either side of the steep short steep section. The pullout located at RP51 can be seen on the left just before the steep section.*

Figure 47. *Photograph showing a pullout located at road point RP52.*

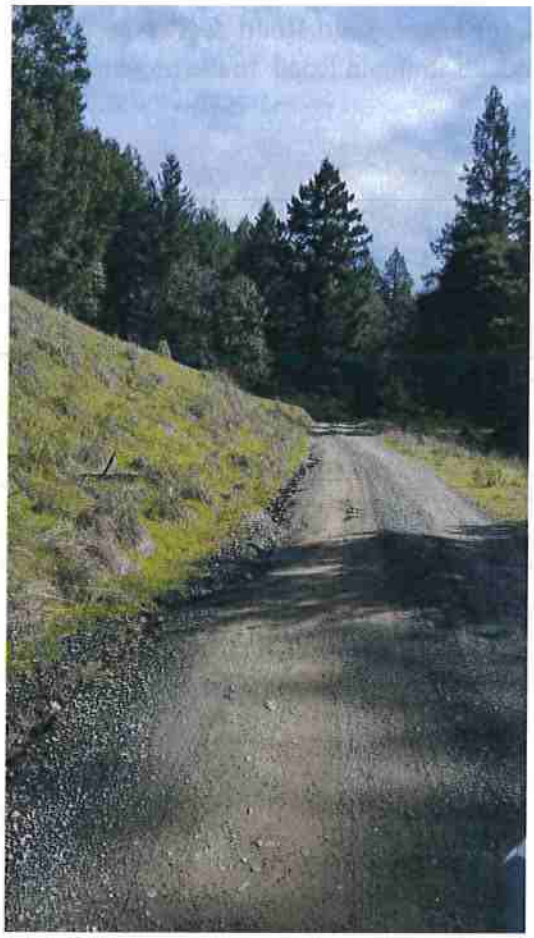


Figure 48. *Photograph showing a section of roadway that needs the inside ditch to be regraded and a rolling dip or drainage relief culvert is needs to be installed located at RP53.*

Road Point(s) Descriptions for access road Road A (Private Driveway): This road segment is the access road from Little Buck Mountain Road to the project site.

Figure 49. *Photograph showing a pullout above the gate at the intersection of Little Buck Mountain Road and the Private Driveway, located at road point RP54.*

Figure 50. *Photograph showing a pullout below the gate located at road point RP55.*

Figure 51. *Photograph showing a pullout at road point RP56.*

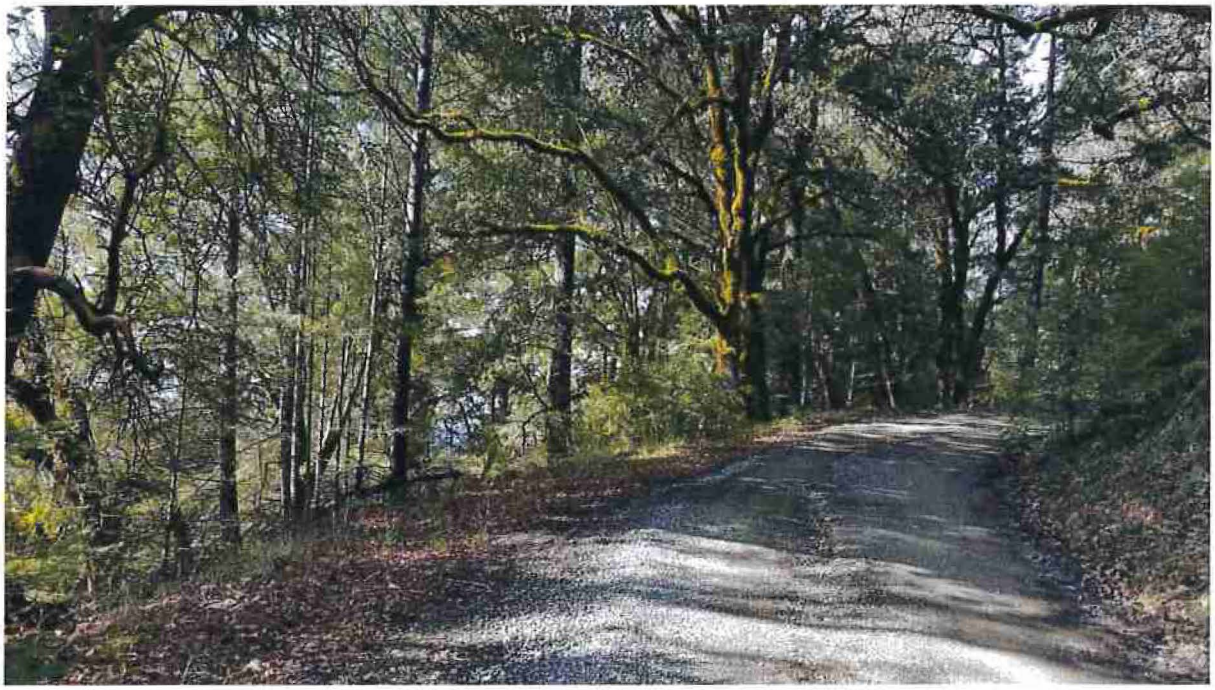


Figure 52. *Photograph showing a pullout at road point RP57.*

Figure 53. *Photograph showing concentrated flow on the roadway surface at road point RP58. A rolling dip need to be installed to prevent concentrated flow on the roadway surface.*

Figure 54. *Photograph showing a pullout at road point RP59.*