GEOLOGY, SOILS & MINERAL DEPOSITS SHENANDOAH RIDGE PROJECT

CEQA REPORT

AMADORCOUNTY

February 2007
GRD 060040

PREPARED BY:

GRD
Geotechnical Research and Development
30 Church Street
Sutter Creek, CA 95685

PREPARED FOR:

Reeder Sutherland, Inc.
5625 Red Valley Rd
Ione, CA 95640

Michael R. Flynn, CEG 1127
Engineering Geologist
Expires 02-28-09

Geotechnical Research & Development

February 27, 2007
GRD 060040

Reeder Sutherland, Inc.
5825 Red Valley Road
Ione, CA 95640

RE: Preliminary Geologic Report—Shenandoah Ridge Project

Gentlemen:

Pursuant to your request, GRD is pleased to present this report of geology underlying the proposed Shenandoah Ridge Project in Plymouth. As we have discussed, the report is geared toward its potential inclusion in an Environmental Impact Report. Accordingly, we have utilized a report format in which each subject item is presented in both text and maps (where appropriate). Following the subject discussion, potential impacts are presented along with proposed mitigation measures designed to reduce the impact.

The mapping basis for our work was the topography prepared by Toma and Anderson Land Surveying which also was used by them for preparation of a Tentative Subdivision Map. During the course of our work on this project, the tentative map has been changed several times in a cooperative effort to reduce anticipated impacts of the project on the environment.

Implementation of the project will result in a residential subdivision that will have public utilities. It is not the purpose of this report to discuss individual home sites but rather to concentrate on the implementation of the project phase related to the common roadways and preparation of utility trenching to the property lines within the roadway right of way. The geology and soils will be discussed however in a general manner which will allow for extrapolation resulting in a generalized understanding related to geologic challenges which may be present on an individual parcel.

If you should have questions after reviewing this report, please do not hesitate in contacting the undersigned. In addition, we would welcome the chance to comment on future project design changes as appropriate.

Respectfully submitted,

Michael R. Flynn, CEG 1127
Certified Engineering Geologist
Expires 02/28/09

INTRODUCTION

The Shenandoah Ridge Project is located to the north of downtown Plymouth in Amador County, California. It is located on Amador County Assessor's Parcel 08-03-32, a 148.033 acre parcel with anticipated access being gained from Highway 49 via a roadway easement across private lands for an extension of Miller Way. Each proposed parcel in the residential subdivision will be served with public water and sewer. It is the intention of the project proponent to develop the access and public service infrastructures prior to individual lot sales with lot development to be accomplished by the end user. The proposed development is shown on Tentative Subdivision Map Number 157 which is included as a part of this report by reference.

The scope of work performed resulting in this report included the following tasks:

A. Site visits including a preliminary visit to get the lay of the land and subsequent visits to confirm/revise existing geologic mapping.
B. Review of available geologic literature and mapping.
C. Review of State resources concerning mineral resource mapping
D. Review of State resources concerning seismicity.
E. Review of available Soil Conservation Service (now part of the High Sierra Resource and Development organization of the U.S. Department of Conservation) mapping for Amador County.
F. Site visit and conversations with the project proponent.
G. Review of the project tentative mapping.
H. Preparation of this report.

The purpose of the Geology and Soils section of an Environmental Impact Report is to evaluate whether the proposed project would create a physical change in surface or subsurface soil or rock characteristics, or would expose people or structures to major geotechnical hazards. Changes could also include the damage or destruction of unique geologic/physical features.

The purpose of the Mineral Resources section is to identify and evaluate the potential for the project to adversely affect the availability of known mineral resources. The mineral resources of concern include metals, industrial minerals (e.g., aggregate, sand and gravel), oil and gas, and geothermal resources that would be of value to the region and residents of the State.

It is the intent of this report to present information of a geologic and pedologic nature in a format commonly utilized in the preparation of environmental documents under the California Environmental Quality Act (CEQA). In doing so it is understood that changes in the project design will be subject to review during the design and implementation stages. In addition it is understood that this document is preliminary in nature and that once preliminary grading plans are prepared that additional geologic work, including subsurface exploration and laboratory testing of representative earth materials, will be appropriate measures for inclusion in the final design process.

GEOLOGIC SETTING

The Shenandoah Ridge Project is located in the west-central portion of the Sierra Nevada geomorphic province. Specifically, the project site lies within the northerly trending Melones Fault Zone which is bordered on the east by the Melones Fault and on the west by the Bear Mountain Fault Zone. Locally, the Melones Fault Zone has been classified as inactive. The rocks to the east of the Melones Fault belong to the Eastern Belt while those to the west of the Bear Mountain Fault belong to the Western Belt. The area between the two faults is divided into the Logtown Ridge – Mother Lode Belt adjacent to the Melones Fault and the Mélange Belt adjacent to the Bear Mountain Fault.

The rocks exposed on the project site lie within the Logtown Ridge – Mother Lode Belt. Three geologic map units are represented as indicated on Figure Two – Geology Map. Two of the geologic map units are fond within the Mariposa Formation (Jms and Jmc) while one geologic map unit is the Pokerville Member (Jlp) of the older Logtown Ridge Formation. The legend on Figure Two describes the rock types found within each geologic map unit.

The dominant rock type within the project boundaries is "greenstone" (Jlp) which forms the prominent ridge which trends in a northerly direction forming the topographic highlands of the project site and extending down the easterly facing slope almost to the eastern property line. The greenstone occurs as resistant outcroppings upon which a shallow soil profile has developed. Erosion over time has created a number of easterly flowing drainage channels which carry only storm water runoff for the most part. These channels drain into a southerly flowing intermittent drainage course which receives seasonal waters from both surface water runoff and low flow spring action near the contact of the greenstone ("Jlp" on the geologic map) and the younger Jmc and Jms geologic map units.

The black Clay Slate (Jms) and the included Pebble to Cobble Conglomerate (Jmc) form a lenticular band parallel and adjacent to the eastern property line. The northern and southern ends of this band are truncated by ancient faults which may be considered to be inactive.

SITE SEISMICITY

As mentioned in the previous section, the project site lies within the Melones Fault Zone. The Melones Fault was the fault along which the 1975 Oroville earthquake was recorded to have measured a magnitude of 5.7. Subsequent studies related to the Auburn Dam Project determined however that the Melones Fault in Amador County was inactive. Seismic shaking in the project vicinity will be, in all probability, related to fault activity in the San Francisco Bay area or along the eastern escarpment of the Sierra Nevada Mountains.

The California Geological Survey Probabilistic Seismic Hazards Mapping Ground Motion (Web) Page evaluates ground motions having a 10% probability of being exceeded in 50 years analysis for projects located utilizing site specific longitude and latitude measurements. Three values are presented for ground motion expressed in terms of acceleration due to gravity; peak ground acceleration (Pga), spectral acceleration (Sa) at short (0.2 second) and long periods (1.0 second). In addition the ground motions for each of the three values are given for differing ground conditions including firm rock, soft rock, and alluvial. Given that the values are interpolated on a grid spacing, the ground motions may not be totally

correct for a specific site and therefore should not be or at least used with caution with critical structures having a location specific ground motion study done. That being said, the generalized ground motions anticipated for the project due to a seismic event are as follows:

SEISMIC INDUCED GROUND MOTIONS

GROUND MOTION	FIRM ROCK	SOFT ROCK	ALLUVIUM
Pga	0.097g	0.106g	0.141g
Sa 0.2 second	0.224g	0.244g	0.326g
Sa 1.0 second	0.116g	0.146g	0.206g

The California Geological Survey is also responsible for implementing the Alquist-Priolo Earthquake Fault Zoning Act. The Act's purpose is to prevent the construction of buildings used for human occupancy across the trace of active faults. Accordingly, the Survey has prepared a series of maps showing areas of likely surface rupture along major faults. There are no Alquist-Priolo Earthquake Fault Maps prepared for Amador County.

The Uniform Building Code places the project site in Seismic Zone Three.

SOILS

The U.S. Department of Agriculture, Soil Conservation Service published a Soil Survey for the Amador Area in 1965. The onsite soils belong to two soil series namely the Auburn and Exchequer series. Figure 3 shows the surface distribution of the soil units while the following text details the properties of the individual soil units.

The Auburn series soils are well drained and shallow to moderately deep. The near surface soils generally exhibit a brown to red or yellow brown color and are slightly to moderately acid. The sub-surface soils generally consist of reddish brown to dark orange, loam or clay loam that overlie weathered bedrock at a depth of approximately ten to forty inches below the ground surface. The Auburn series soils are most commonly used for grazing cattle.

The Auburn silt loam, moderately deep, 3 to 16 percent slopes (ArC soil map unit) is found in swales and on moderately steep slopes. It is relatively free of bedrock outcroppings. The surficial soil thickness ranges from 7 to 15 inches while the subsoil, a light clay loam, is generally from 8 to 15 inches thick. The depth to weathered bedrock typically ranges from 20 to 30 inches.

The Auburn silt loam , moderately deep, 16 to 31 percent slopes (ArD soil map unit) is found on prominent hills with a soil profile similar to the ArC soils. Runoff from these soils is medium to rapid resulting in a moderate to severe erosion potential.

The Auburn-Argonaut very rocky silt loams, 3 to 31% slopes (AxD soil map unit) consists of a mixture of the Auburn very rocky silt loam and the Argonaut very rocky silt loam map units. Due to the surface soil textures of the soils and the moderately steep slopes and numerous surface rock outcroppings which form impervious areas, the erosion hazard for this soil unit is classified as moderate to severe.

The Exchequer series soils may be classified as being somewhat excessively drained, very rocky and very shallow soils that are slightly acid. The slopes underlying these soils range from gentle to steeply sloping. The surface soils are classified as granular, friable, slightly acid, very rocky, dark brown, silt loam. The color can range from the most typical dark brown to brown, gray brown or red brown through out the soil profile which is typically bottomed out on bedrock at about six inches below adjacent grade. Pockets of soil can be encountered reaching depths as deep as eighteen inches.

The Exchequer and Auburn very rocky loams, 31 to 51 percent slope (ExE) soil map unit is found on very steep slopes, commonly ending along creeks or being found along ridge lines. Rock outcroppings typically occupy 20 to 50 percent of the surface area within this map unit. Grazing values are limited with agricultural pursuits generally being limited to range.

MINERAL RESOURCES

The California Surface Mining and Reclamation Act of 1975 (SMARA) required the State Geologist to classify land based on the presence, absence, or potential occurrence of significant mineral deposits. In response to this requirement, the California Department of Conservation Division of Mines and Geology (CDMG) published DMG Open File Report 83-36, entitled Mineral Land Classification of the Sutter Creek 15 Minute Quadrangle, Amador and Calaveras Counties, California (1983) which covers the project site.

The goal of mineral land classification is to provide scientific information to land use agencies and mineral resource developers to assure that mineral potential and the significance of mineral deposits are recognized in land use decisions. It has been said that "if it can not be grown then it must be mined". Mineral resources are vital to our society yet compatibility of mineral resource extraction and refining operations with typical land development is oftentimes limited.

The CDMG document has a series of five plates, each plate representing a category of mineral deposits, which classify areas into Mineral Resource Zones (MRZ's) with respect to the presence, absence or likely occurrence of mineral deposits. Three of the plates have information related to the project site. A summary of the information is as follows:

Plate 2 Industrial Mineral deposits (clay, specialty sand, lignite carbonate rock, talc and asbestos). The project site contains an area classified as MRZ-$3a^{(i)}$ which is interpreted as "areas that may contain undiscovered industrial mineral resources that may occur either in known types of deposits in favorable geologic settings where mineral discoveries have not been made or in types of deposits as yet unrecognized for their economic potential (speculative resources).

Plate 3 Deposits formed by hydro-thermal processes (gold) and deposits formed by contact metasomatism (copper, gold). The project site contains an area classified as MRZ $3a^{(h)}$ which is interpreted as "areas underlain by geologic terranes within which undiscovered metallic deposits similar to known hydrothermal deposits in the same producing district or region may be reasonably expected to exist (hydrothermal resources). Such areas may include prospects of undetermined significance."

Plate 4 Deposits formed by volcanogenic processes (gold, copper, zinc). The project site contains an area classified as MRZ $3b^{(v)}$ which is interpreted as "areas that may contain undiscovered volcanogenic

base and precious metal resources that may occur either in known types of deposits in favorable geologic settings where mineral discoveries have not been made, nor in types of deposits as yet unrecognized for their economic potential (speculative resources)."

Plate 5 Deposits formed by magmatic concentrations (chromite). Two types of mineral classifications are noted within the project boundaries. The first is MRZ-$1^{(m)}$ which is interpreted as "areas where geologic information indicates there is little likelihood for the occurrence of significant deposits formed by magmatic concentration. These areas represent geologic terranes within which chromite bearing ultramafic rocks are not expected to be present at the surface or at reasonable depths." The second mineral land classification present is MRZ-$3a^{(m)}$ which is interpreted as "areas underlain by intrusive rocks within which undiscovered deposits in the same producing district or region may be reasonably to exist (hypothetical resources). Such areas may include prospects of undetermined significance.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Methodology

Data needed for impacts assessment were obtained from a combination of published mapping, reference to GRD files for previous projects conducted in the project area and from conversations with relevant agency representatives. The impact analysis assumes that the project applicant will conform to the responsible government agencies standards related to grading and erosion control in effect at the time of project implementation.

Significance Criteria

Impacts were assessed according to criteria developed based on State CEQA Guidelines, Appendices G and I, and professional standards commonly employed in Amador County. The project would result in a significant impact if it would:

- destroy, cover, or modify any unique geologic physical feature;
- expose people, structures, or property to major geologic hazards, including earthquakes and ground failure;
- be located in substrate that contains material subject to liquefaction or other secondary seismic Hazards from ground shaking;
- be located within Seismic Risk Zone II or III.
- result in disruptions, displacements, compaction, or over-covering of the soil;
- result in a change in topography or ground surface relief features;
- result in changes in siltation, deposition, or erosion that could modify the channel of a river or stream;
- increase wind or water erosion of soils, either on or off the site;

- be located in soils with shrink-swell potential
- result in the removal of mineral resources from future mining

The following text provides discussion of each of the above areas of potential impact and proposes suitable mitigation to reduce the project's impact insofar as possible.

- **Impact: Destroy, cover, or modify any unique geologic physical feature**

The field reconnaissance and literature search performed during the preparation of this report did not reveal any unique geologic physical features. The implementation of the project will result in a less than significant impact.

Mitigation Measure: None Required.

- **Impact: Expose people, structures, or property to major geologic hazards, including earthquakes and ground failure.** The project site is located within an area of low to moderate seismicity with the expected causative faulting taking place offsite. No active faults are located within the project boundaries. Fault rupture is not probable on site. No landslides were noted onsite. Exposure of people, structures, or property to major geologic hazards is a minor risk which equates to a potential significant impact. This impact may be reduced to a less than significant level through the implementation of the following mitigation measure:

Mitigation Measure: Conduct all site development activities in accordance with approved plans and City of Plymouth standards in effect at the time of construction. The City of Plymouth Public Works Department, the City Engineer and the City Building Department will be responsible for monitoring the success of this mitigation measure.

- **Impact: Be located in substrate that contains material subject to liquefaction or other secondary seismic hazards from ground shaking.** Liquefaction is the settlement of saturated, fine grained soil materials under load and/or due to the shock of a seismic event. Structures placed on an area of soils with liquefaction potential without proper foundation design and construction may be subject to differential settlement. In addition, areas subject to liquefaction may experience substantial alteration of surface topography due to seismic events.

The only areas of the project site which have soil and soil water conditions that may possibly be subject to liquefaction are located in the intermittent drainage ways and along the alignment of the extension of the Miller Way access where it crosses the headwaters of the reservoir located to the east of the project site. The questionable soils in these areas are anticipated to be shallow. The anticipated impact of the project implementation on the questionable soils is low.

Landsliding caused by seismic shaking generally takes place in areas of improperly constructed cut and/or fill slopes. The anticipated depth of soil is limited in the project areas proposed for grading of cut and/or fill slopes. The anticipated impact of the project implementation on the potential for project implementation is low to moderate.

The effect of seismic activity on the project implementation is considered potentially significant. This impact may be reduced to a less than significant level through the implementation of the following mitigation measure:

Mitigation Measure: Conduct all site development activities in accordance with approved plans and City of Plymouth standards in effect at the time of construction. The City of Plymouth Public Works Department, the City Engineer and the City Building Department will be responsible for monitoring the success of this mitigation measure.

■ **Impact: Be located within Seismic Risk Zone II or III.** The project site is in an area that experiences low level seismic activity from faults located offsite, mainly in the San Francisco Bay Area and along the eastern front of the Sierra Nevada Mountains. The significance of seismic activity on the project is potentially significant with the impact being reduced to less than significant through implementation of the following mitigation measure:

Mitigation Measure: Conduct all site development activities in accordance with approved plans and City of Plymouth standards, in accordance with the best seismic related engineering practices in effect at the time of construction. The City of Plymouth Public Works Department, the City Engineer and the City Building Department will be responsible for monitoring the success of this mitigation measure.

■ **Impact: Result in disruptions, displacements, compaction, or over-covering of the soil.** Grading operations conducted during project development will result in changes of the project topography from that which existed prior to development. The grading will result in soil disruptions, displacements, compaction and over-covering of pre development soils. This is an unavoidable impact of the project which results in a significant impact. The impact may be reduced to a less than significant impact through implementation of the following mitigation measure:

Mitigation Measure: Prepare and Implement a Detailed Grading Plan. The project applicant should prepare a detailed grading plan based on site specific geotechnical studies. The grading plan should include grading specifications, calculations of the volumes of cut and fill, and be accompanied by an erosion control plan. Given that the anticipated roadway alignments will pass in close proximity to and upslope of several water impoundments and defined wetlands, the grading plan should include appropriate storm water pollution prevention measures. The City of Plymouth Public Works Department, the City Engineer and the Community Development Department will be responsible for monitoring the success of this mitigation measure.

■ **Impact: Increase in a change in topography or ground surface relief features.** Project implementation will result in changes to the pre-construction topography. Road construction will require both cut and fill grading operations. The project has been designed to reduce the amount of grading necessary, however the site topography will be changed.

Because grading operations that are not conducted in accordance with accepted technology and without the foresight of good engineering practice have the potential to create hazardous conditions which might damage structures and threaten the safety of people, this impact is considered significant. This impact may be reduced to a less than significant level through the implementation of the following mitigation measure:

Mitigation Measure: Prepare and Implement a Detailed Grading Plan. The project applicant should prepare a detailed grading plan based on site specific geotechnical studies. The grading plan should include grading specifications, calculation of the volumes of cut and fill, and be accompanied by an erosion control plan. Given that the anticipated roadway alignments will pass in close proximity to and upslope of several water impoundments and defined wetlands, the grading plan should include appropriate storm water pollution prevention measures. The City of Plymouth Public Works Department, the City Engineer and the Community Development Department will be responsible for monitoring the success of this mitigation measure.

■ **Impact: Result in changes in siltation, deposition, or erosion that could modify the channel of a river or stream.** Grading activities will result in the disturbance of soil which will have the potential for erosion and subsequent deposits of soil into intermittent stream courses that are found on the eastern side of the ridgeline and from construction of Miller Way access easement which crosses the upper reaches of the reservoir impoundment located to the east of the project site. This impact is potentially significant. The impact can be reduced to less than significant through implementation of the following mitigation measure:

Mitigation Measure: Prepare and Implement a Detailed Grading Plan. The project applicant should prepare a detailed grading plan based on site specific geotechnical studies. The grading plan should be accompanied by an erosion control plan. The City of Plymouth Public Works Department, the City Engineer and the Community Development Department will be responsible for monitoring the success of this mitigation measure.

■ **Impact: Increased wind or water erosion of soils, either on or off the site.** Grading activities will expose soil to the potential for surface water erosion. Wind erosion will potentially take place from soils exposed during grading activities. The potential for on and/or offsite erosion related damage is considered potentially significant. The impact can be reduced to less than significant through implementation of the following mitigation measure:

Mitigation Measure: Implement a Detailed Grading Plan which includes both a short term, (construction) and long term erosion control elements. The City of Plymouth Public Works Department and the City Engineer will be responsible for monitoring the success of this mitigation measure.

■ **Impact: Be located in soils with shrink-swell potential.** The soil mapping indicates that the soils underlying the site consist of clay loams. It is expected that the clay content of the soils will be low with the corresponding shrink-swell potential also being low. However, local experience indicates that the transition between the surface soils and the underlying weathered bedrock may be marked by a clay layer that, while generally thin in thickness, nevertheless has the potential to be expansive and therefore subject to shrink-swell potential.

While remote in probability with respect to being potentially damage causing, the presence of the clays indicates that this impact is potentially significance. The impact can be reduced to a less than significant level by implementing the following mitigation measures:

Mitigation Measure: Cultural improvements encountering clay soils with shrink-swell potential at grade or in the foundation excavation shall be reviewed by an appropriately licensed professional for offsetting design modifications to allow for the shrink-swell potential of the clay soils. Such design modifications shall utilize both current best engineering practices and the guidance of the current (at the time of construction) edition of the Uniform Building Code.

■ **Impact: result in the removal of mineral resources from future mining.** Project implementation will preclude mining from being done on the property and may have an adverse effect on adjacent properties. The mineral land classification for the project site does not indicate that there are economic deposits within the project boundary. The potential for undiscovered mineral deposits within the project boundaries is low. Based on the mineral land classification and geology, the potential for the project to affect future removal of mineral resources is less than significant.

Mitigation Measure: None required.

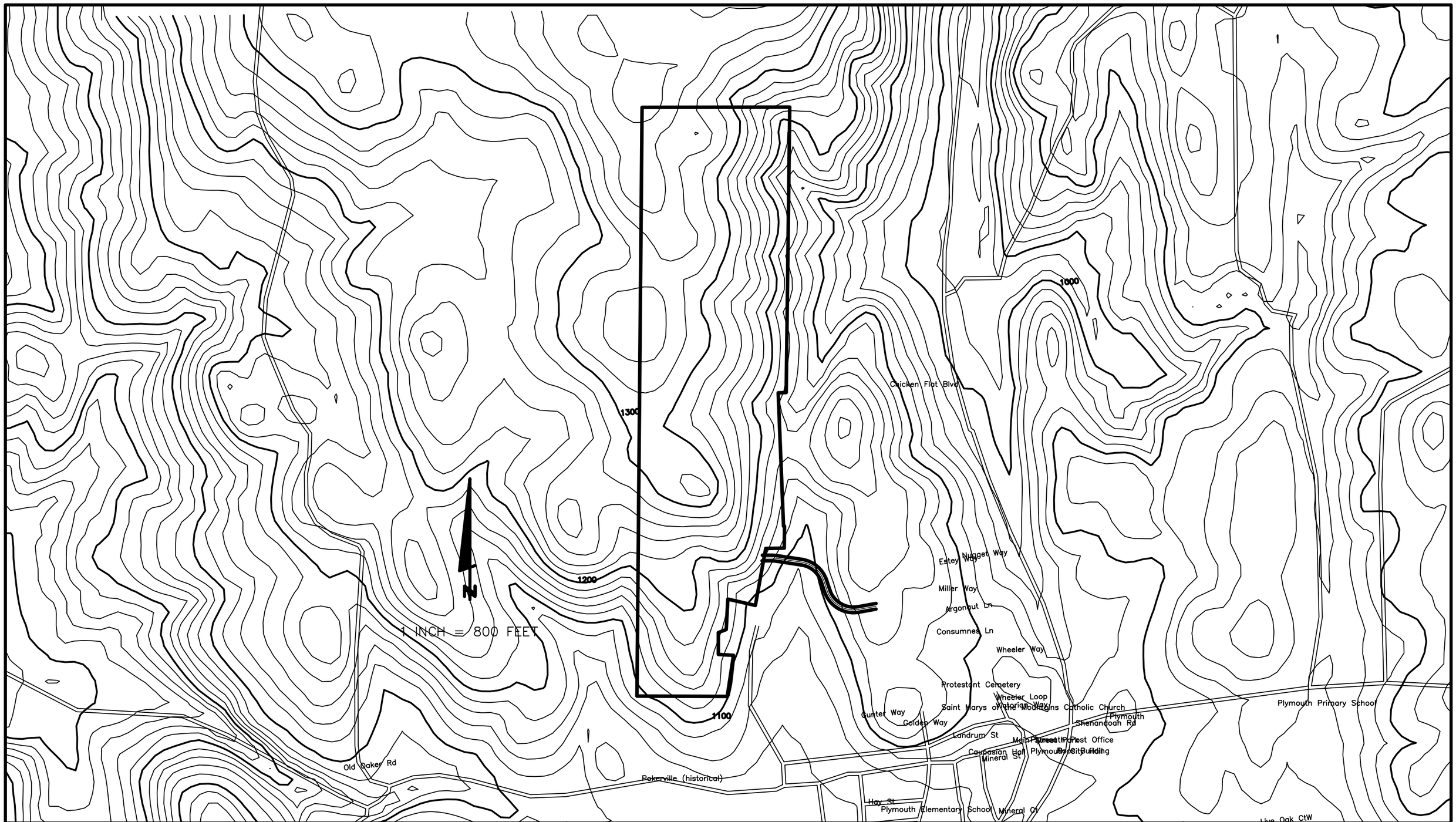
REFERENCES

Carlson, D.W., and Clark, W.B., 1945, Mines and mineral resources of Amador County, California: California Journal of Mines and Geology, v.50; pp. 149-285.

Clark, W.B., 1970, Gold Districts of California: California Division of Mines and Geology Bulletin 193.

Duffield, W.A., and Sharp, R. V., 1975, Geology of the Sierra Foothills mélange and adjacent areas, Amador County, California: U.S. Geological Survey Professional Paper 827.

Loyd, R.C., 1983, Mineral land classification of the Sutter Creek 15' quadrangle Amador and Calaveras Counties, California: California Division of Mines and Geology Open File Report 83-36.



REEDER/ SUTHERLAND

TOPOGRAPHY MAP
SHENANDOAH RIDGE PROJECT, AMADOR COUNTY, CALIFORNIA

JOB NO. 060040

DRAWN BY: JSZ

DATE: 01-29-06

FIGURE
1

GEOLOGIC MAP UNITS

LOGTOWN RIDGE – MOTHER LODE BELT

Mariposa Formation

Jms Black Clay Slate; locally thinly interbedded with graywacke
Jmc Pebble to Cobble Conglomerate with well-rounded clasts

Logtown Ridge Formation

Jlp Pokerville Member. Augite porphyry greenstone flows (locally pillow structured), breccia, and minor bedded tuffaceous greenstone

Jlp
Jms
Jmc
Jlp
Jms
Jlp
Jms
Jms
1300
1200
1100
1000
N
1 INCH = 800 FEET
Chicken Flat Blvd
Estey Way
Nugget Way
Miller Way
Argonaut Ln
Consumnes Ln
Wheeler Way
Protestant Cemetery
Wheeler Loop
Victorian Way
Saint Marys of the Mountains Catholic Church
Gunter Way
Golden Way
Plymouth
Shenandoah Rd
Landrum St
Main Street Post Office
Caucasian Hall
Plymouth City Building
Mineral St
Plymouth Primary School
Old Oaker Rd
Pokerville (historical)
Hay St
Plymouth Elementary School
Mineral Ct
Live Oak Ct W

REEDER/ SUTHERLAND GEOLOGY AFTER USGS PROFESSIONAL PAPER 827, PLATE I	GEOLOGY MAP SHENANDOAH RIDGE PROJECT, AMADOR COUNTY, CALIFORNIA	JOB NO. 060041 DRAWN BY: JSZ DATE: 01-29-06	FIGURE 2

Map Unit Symbol	Map Unit Name
ArC	Auburn silt loam, moderately deep, 3 to 16 percent slopes
ArD	Auburn silt loam, moderately deep, 16 to 31 percent slopes
AxD	Auburn-Argonaut very rocky silt loams, 3 to 31 percent slopes
ExE	Exchequer and Auburn very rocky loams, 31 to 51 percent slopes

AwC
AxD
ExE
EhD
Mn
WrD
ArC
AwC
ArD
PwE
PwD
1300
1200
1100
1000
N
1 INCH = 800 FEET
Chicken Flat Blvd
Estey Way
Nugget Way
Miller Way
Argonaut Ln
Consumnes Ln
Wheeler Way
Protestant Cemetery
Wheeler Loop
Victoria Way
Saint Marys of the Mountains Catholic Church
Plymouth
Shenandoah Rd
Plymouth Primary School
Gunter Way
Golden Way
Landrum St
Main Street Post Office
Caucasian Hall
Plymouth Fire Station
Mineral St
Old Baker Rd
Pokerville (historical)
Hwy 49
Plymouth Elementary School
Mineral Ct
Live Oak Ct

REEDER/ SUTHERLAND	SOILS MAP SHENANDOAD RIDGE PROJECT, AMADOR COUNTY, CALIFORNIA	JOB NO. 060040 DRAWN BY: JSZ DATE: 01-29-06	FIGURE 3