



Civil Engineering

Surveying

Water Resources Management

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Landscape Architecture

Land Planning

Rural Property Services

March 22, 2017

TO: Mr. Patrick Murphy  
Emerald Family Farms, LLC  
131 Flower-McNeil Road  
Willow Creek, CA 95573

SUBJECT: Limited Scope Geologic Hazards Assessment  
131 Flower-McNeil Road  
Willow Creek, CA 95573  
APN 522-201-001

Dear Mr. Murphy:

I have reviewed the subject parcel in Willow Creek, California for a limited scope geo-hazard assessment for the proposed development proposed by Emerald Family Farms (see attached plot plan). The proposed project will be occupancy category II per the 2016 CBC.

The parcel is identified as Assessor Parcel Number 522-201-001 in Humboldt County California, and is approximately 41 acres in size. The parcel is located at 131 Flower-McNeil Road in Willow Creek, California. The parcel is developed with an existing warehouse, an office building and a single-family residence. The site has been used for various industrial uses and most of the site proposed for development has been previously disturbed with various grading activities. The project site is located on approximately a 20 acre flat adjacent to the Trinity River on the north and woodlands to the south.

The site soils were observed by digging two holes on the site. Test hole #A was located in the area of the proposed septic system expansion area. Test hole #A identified approximately 12-18" of disturbed/misc. fill soils underlain with native sand soils to the depth of the test hole, approximately 10 feet. Test hole #B was located in the area of the proposed rain catchment pond. Test hole #B identified approximately 8 feet of miscellaneous disturbed soils and fill material with native sand soils below. Bearing soils are classified as a light yellow brown sand with gravel (SP/GP). All foundations shall be founded a minimum of 24" below undisturbed native soils or structural fill compacted to 95% compaction per ASTM D1557. Prior to placement of structural fill, all disturbed soils and miscellaneous fills must be removed. Prior to construction activities specific building and pond foundation and fill design investigations and construction details should be developed to refine the required excavation of fill materials and placement of structural fill requirements

All structural design shall be in conformance with the requirements of the 2016 California Building Code for seismic design category (SDC) E.

Earthquakes capable of creating intense ground shaking and structural damage can be expected to occur within the expected life of the proposed project (50 years). This very high level of risk due to the seismic hazard is typical for Humboldt County, and residents assume this risk when they choose to build in this area. Residents should be aware of these associated risks and be aware that these risks cannot be completely remedied with engineered design.

### **LIQUEFACTION HAZARDS**

According to the Humboldt County web GIS map, the subject parcel is not located within a mapped potential liquefaction area.

### **SLOPE STABILITY**

The subject parcel is in an area mapped low instability per Humboldt County web GIS Hazard Mapping. To mitigate for hazards associated with slope stability all development should be set back a minimum of 20 feet from ascending and descending slopes greater than 15%. An engineer familiar with the area geology shall be retained to inspect the footings after they have been excavated and prior to the placement of forms or concrete or structural fill.

### **SURFACE RUPTURE**

Surface rupture due to faults or lateral spreading resulting from earthquake motion is not likely due to the distance to known fault locations. There is a very low risk that a new branch of the fault system could develop on the subject parcel.

### **FLOOD HAZARDS**

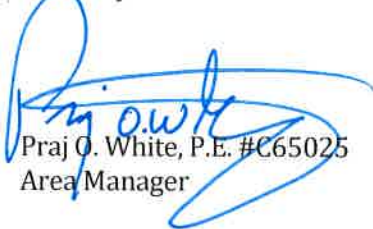
The project site is not located in a flood prone area.

In my opinion, the proposed development would be a suitable use for this site provided that the development conforms to all county, state, and local requirements and these recommendations.

Based upon my review of the site and surrounding terrain I feel that no further geological evaluation is required; therefore, no geological consultation is warranted. However, prior to construction permits a more detailed investigation should be conducted to detail proposed foundation and pond construction requirements.

If you have any questions regarding this matter, please call me at (707) 444-3800.

Sincerely,



Praj O. White, P.E. #C65025  
Area Manager



