LDSIB-02 - HOW TO PROCESS GEOTECHNICAL REPORT REQUIREMENTS

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This Information Bulletin provides guidelines to assist in the preparation of Geotechnical Reports for Building and Grading Permits. Reports must comply with the County of Ventura 2040 General Plan, Goals, Policy and Programs as well as provide the information required by the Ventura County Building Code, latest Edition.

1. **Purpose and Scope of Study**
   a. Proposed project description
   b. Site address, Assessor's Parcel Number (APN)
   c. Calculated earthwork quantity
   d. Scope of Work: Geotechnical Report, Fault Investigation, Soils Engineering Report
   e. Site inspection/investigation date, personnel performing inspection
   f. Signature, registration number of licensed professionals
2. **Site Conditions**
   a. Location description, site access, past site uses
   b. Site topography, relief, steepness, slope heights, Site Maps/Plans, aerial imagery, USGS Quad Map, Dibblee or USGS or CGS Regional Geologic Map, CGS Seismic Hazards Map
   c. Site drainage conditions, evidence of erosion
   d. Geologic hazards: A-P Fault Zones, faults, landslides, liquefaction, subsidence, rockfall, etc.
   e. FEMA floodplains
   f. Existing manmade features and improvement(s), performance or distress evaluation
   g. Adjacent properties: present use or boundary delineation, existing structures, etc.
3. **Planned Construction Parameters**
   a. Type(s) of construction, foundation and floor system(s), setbacks/distances to adjacent structures, property lines
   b. Number of stories, estimated structural loads
   c. Retaining wall type(s) and surcharge loads
   d. Swimming pool or other structures
4. **Geotechnical Data**
   a. Previous geotechnical data, referenced reports
   b. Field Investigation
      i. Investigation scope, date, sampling methods and location data and methodology, sample types, exploration logs and elevations, backfilling methods and future requirements
      ii. Site plan showing explorations, proposed improvements, terrain, manmade features, geologic hazard areas, proposed improvement access, cross-sections, geologic information, structural data
      iii. Groundwater conditions, depth encountered or researched historical high. Demonstrate groundwater table is greater than 5 feet to lowest below grade floor level (Sec. 1803.5.4)
   c. Laboratory Testing
      i. Laboratory testing procedures, test results, graphical laboratory test results, referenced laboratory test procedures (ASTM)
         1. Soil Classification, Grain Size Analysis justifying soil classification, Moisture Content and Dry Density for undisturbed samples, Expansion Index (VC Building Code), Shear Strength, Consolidation, R-value
         2. Corrosivity properties: sulfide-sulfate, chlorides, pH, and resistivity
      ii. Other material properties tests
   d. Analysis
      i. Foundation design criteria
         1. Foundation type, depth, width, bearing material, installation conditions and allowable loads, lateral pressures, coefficient of friction
         2. Estimated settlement, total, differential and rate
         3. For pile foundations:
            a. Point of Fixity or Depth to Fixity from ground surface
            b. Downward and Upward Capacity based on Skin Friction

c. Requirements for Restraint from all Four Directions (Sec. 1810.3.13)
d. Moment/Shear Diagram resulting from Lateral Loads based on Embedment Depth and Soil Type

ii. Expansive Soils
iii. Pavement design, R-value
iv. Hydrocollapse potential
v. Slope stability: cross-sections, gross/global (static and pseudo-static), surficial
vi. Retaining walls: static, seismic loads for walls over 6 feet high (Sec. 1803.5.12)
vii. Current CBC Seismic Analysis for structural design
viii. Liquefaction, in accordance with CGS SP 117A
ix. Surface displacement due to faulting or seismically induced lateral spreading
x. Temporary excavation slope stability, shoring system design
xi. Surface erosion resistance
xii. Geologic hazards

5. Recommendations

a. Conclusions
b. Geotechnical Engineering Recommendations.
c. Foundation Design, current CBC/ASCE-SEI seismic design parameters
d. Retaining Wall Design, including dynamic loads
e. Subdrain System Design
f. Slabs on Grade, Concrete Slabs, Pavements, Permeable Pavements
g. Mitigation of Geologic, Geotechnical, and Flood Hazard Risks
h. Grading Recommendations, including transition pads or other project requirements
i. List of References, any necessary addenda