SOIL PROPERTIES

Residual soils are the dominant soils on the project. They are derived from in-place weathering of the underlying Triassic sedimentary rocks. Most of these soils are medium stiff to hard, moist to wet, silty clay (A-7-5, A-7-6), sandy clay (A-6), and sandy silt (A-4). The sandy clays are slightly to moderately plastic. Silty clays are slightly to highly plastic. No highly plastic, residual clays were encountered ahead of -L- Station 37+50. Behind Station 37+50, the highly plastic clays tend to be concentrated near the ground surface. Plasticity typically decreases with depth, grading to moderately to slightly plastic within 3 to 5 feet of the surface. Sandy silt increases in abundance from west to east. Residual, loose, moist, silty sand (A-2-4) is also present, but rare.

Existing roadway embankment soils are the next most abundant soils on the project. These soils were not investigated in detail, as existing embankments are stable. Where drilled, these soils are medium stiff to very stiff, moist to wet, sandy silt (A-4) and slightly to moderately plastic, silty clay (A-7-6) and sandy clay (A-6).

Alluvial soils are present in the floodplains of the creeks that cross the project. A maximum thickness of 14 feet occurs in the floodplain of the creek that crosses -L- at Station 47+50. Alluvial soils are typically moist to wet, loose to dense, silty sand (A-2-4) and soft to stiff, sandy silt (A-4). Highly plastic, silty clay (A-7-6) is present, but less common than sand and silt.

Commercial drive embankments are connected to existing -L- at approximately Stations 26+30, 33+00, and 40+35. These embankments are classified as engineered, artificial fill. They were not investigated, as they appear stable and less than two feet of grade change is proposed at each location.

ROCK PROPERTIES

Triassic sedimentary rocks underlie the project area. Bedrock consists of interbedded sandstone, siltstone, and mudstone. Jar slake and slake durability tests were completed on representative samples of rock core recovered from nearby project R-2000AB. These test results indicate that the Triassic mudstones and siltstones are degradable. Core samples of mudstone and siltstone exhibited significant slaking when exposed to air and water, as well as very low to low durability values. Sandstone, as well as the more indurated siltstone samples, did not slake and had medium to high durability values. However, sandstone and siltstone have been included in this report as "degradable rock" because these rock types are commonly interbedded with degradable mudstone and siltstone layers.

Degradable rock is present in the unclassified excavation as noted above, in "Areas of Special Geotechnical Interest, Degradable Rock". Non-crystalline rock occurs above or within 6 feet below grade as noted above, in "Areas of Special Geotechnical Interest, Non-Crystalline Rock".

GROUNDWATER

The areas noted above in "Areas of Special Geotechnical Interest, Groundwater" were found to exhibit a high water table, seasonal high groundwater, or the potential for groundwater related construction problems. Groundwater occurred well below grade over the remainder of the project area.

BULK SAMPLES

The following bulk samples were taken for tests to determine the engineering properties of the soil.

Sample No.	Location	Depth (m)	Test
RT-1	-L- 52+50, 55' LT	1.0 – 6.0	Recompacted Triaxial CU
RT-2	-L- 51+50, 50' LT	4.0 – 8.0	Recompacted Triaxial CU
CBR-1	-L- 49+50, 35' LT	8.0 – 12.0	California Bearing Ratio

Respectfully submitted,

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