

The depth to hard rock varies from about 10 to 15 feet in the southern half of the cut to only a few feet or less beyond Station 312+00. Most soils consist of stiff to hard sandy silt saprolite (A-4) overlying weathered rock. The shallow soil north of Station 312+00 is composed of stiff sandy clay with rock fragments. Those shallow soils directly overlie hard rock in some places.

The hard rock in this segment comprises a layered assemblage of felsic to mafic composition from Station 305+00 to 312+00 and coarse augen gneiss beyond Station 312+00. The augen gneiss includes some extremely tough, thick alaskite gneiss layers that are rich in coarse quartz and large feldspar augen. The rock is more or less fractured to a maximum depth of 70 feet near the center of the right side cut and as little as 10 feet or less near the ends of the cut. Foliation and layering dip eastward at angles of 60 to 70 degrees, favorable for the right side cut.

-L- Station 315+00 to 317+00

The alignment here crosses a steep ravine that is notable for its hard rock floor with cliffs and large loose boulders. The rock floor surface extends from the head of the ravine on the right side to the base of the slope on the left side where it is exposed beyond the margin of an existing roadway embankment. It has a slope of about 35 degrees.

Plans call for continuing the right side cut across the ravine and widening the existing embankment on the left by placing about thirty feet of new embankment material on the slope.

The rock is composed of fresh, sound augen gneiss. It has a thin, discontinuous colluvial soil overlying it that supports a few large trees.

-L- Station 317+00 to 323+00

A large through cut is proposed for this segment. The cut is to be about 100 feet deep at the left ditchline and 160 feet deep at the right ditchline.

There is virtually no overburden above hard rock in this segment. Numerous hard rock outcrops are surrounded by a thin, sandy gravelly soil that supports a mature, shallow-rooted forest. The lithology is augen gneiss, with foliation dipping eastward, favorable for the right side cut. A boring at the top of the ridge penetrated 30 feet of fractured hard rock overlying sound rock. A boring on the north side of the ridge encountered about 10 feet of fractured hard rock over sound rock.

-L- Station 323+00 to 329+50

A large fill across a valley is proposed for this segment. The maximum height of the fill is to be about 150 feet. The fill area lies within a horseshoe curve in the existing highway. It is bounded on three sides by existing embankment and floored by bouldery colluvial soil, by thin saprolite and weathered rock, and by hard rock outcrops. A bold spring rises near centerline in the center of the fill area, emerging at the contact between colluvium and the underlying bedrock.

The embankment soil is composed of moist, loose, silty coarse sand, gravel and boulders. Its maximum depth in the area of proposed new embankment is not more than about 10 feet. The embankment on the left side between Stations 323+00 and 325+00 is composed of all large, angular boulders.

Colluvial soil is composed of loose to medium dense silty sand, gravel and boulders. It has a maximum thickness of about 20 feet on the right side and much less on the left.

Saprolite, where present, consists of dense to very dense silty sand. The combined thickness of saprolite and weathered rock is probably not more than 10 feet. The underlying rock is predominantly coarse augen gneiss.

-L- Station 329+50 to 334+00

Plans call for a through cut in this segment. The maximum cut is 55 feet at the left ditchline and about 110 feet at the right ditchline.

The cut area is underlain by saprolite that is zero to less than 10 feet thick and by weathered rock estimated to be as thick as 20 to 25 feet near centerline. Borings made well to the right of centerline indicate that the soil and weathered rock thin dramatically in that direction. The underlying hard rock is predominantly coarse augen gneiss, with a few layers of fine chlorite greenstone and platy mylonite on shear zones. The foliation and layering dip eastward, favorable for the right side cut.

The extreme north end of the proposed cut encroaches into the floor of a ravine with bouldery colluvium estimated to be 10 to 20 feet thick to be exposed in the proposed cut face.

-L- Station 334+00 to 338+50

Proposed construction in this segment consists of an embankment to extend from the right side ditchline to the base of slope on the left. The maximum thickness of proposed new embankment is about 55 feet.

The proposed embankment area is partly underlain by an existing bouldery embankment that has an estimated maximum thickness of 15 to 20 feet.

Colluvial soil underlies part of the existing embankment and extends down slope to the left into the valley below the embankment. The colluvium is composed of brown, moist to wet, soft to medium stiff, sandy silt (A-4) and loose, silty sand (A-2-4, A-1-b) with cobbles and boulders. The maximum thickness of colluvium encountered in borings is about 30 feet. The colluvium is underlain by thin saprolite and weathered rock.

-L- Station 338+50 to 346+50

Plans call for a long, low cut on the right side in this segment. The maximum cut slope is to be about 50 feet. The existing embankment will be widened at a few places on the left with a maximum of 20 feet of new material.