1. Staged construction (revised 2-2-2022)

Description. Staged construction of the embankments and bridge end bents between Stations 53+00 and 65+00 is required. This work requires pauses in embankment construction to allow settlement and excess pore water pressures to dissipate. The results of the Geotechnical Instrumentation and Monitoring Program will determine when work must stop on embankment construction and when work can resume for embankment construction. Staged construction requirements contained herein are estimated only. Actual results of the instrumentation and monitoring will be the controlling factor in the rate of staged construction components. Daily coordination between the Contractor, the Project Manager, and the MDT Geotechnical Section (or designated representative) concerning the results of instrumentation and monitoring is required to determine when construction can continue after embankment construction has been halted.

Materials. Vacant.

Construction. The requirements for staged construction of the embankments are outlined below:

Instrumentation will be installed to monitor the performance of the embankments during construction. The instrumentation will consist of the components listed in the Geotechnical Instrumentation and Monitoring Special Provision. The installation and monitoring; except as noted below; will be performed by the MDT Geotechnical Section or its designated representative(s).

Settlement instrumentation has been placed near Stations 55+50 and 62+00. These areas are marked with well casings. Before grading begins, trench in data transfer cables to a minimum depth of 2.0 feet for an approximate distance of 90 feet left of centerline at both stations.

Construct the data transfer cable trenches to a minimum width of 12 inches. Backfill the trenches with native material from the trench excavation. Compact the backfill with sufficient effort to reduce voids within the trench, producing a surface that is stable under foot traffic, or as directed by the Project Manager.

Contact the Project Manager and the Geotechnical Section at (406) 444-6281 a minimum of 5 working days prior to trench excavation to coordinate this work. Include all costs to perform this work in the cost of other items in this contract.

After instrumentation installation is complete, excavate for the embankment areas in accordance with the Modified Embankment Foundation Treatment Special.

Do not place fill prior to instrumentation installation in accordance with the Geotechnical Instrumentation and Monitoring Special Provision.

After completion of the instrumentation installation, construct embankment foundation treatments in accordance with the Modified Embankment Foundation Treatment Special Provision.

Construction equipment traversing these sections of embankment is limited to legal loads.

As necessary, discontinue construction of the embankments immediately in accordance with Section D.3 of the Geotechnical Instrumentation and Monitoring Special Provision, or as directed by the Project Manager and the MDT Geotechnical Section.

Stage 1: Construct the embankments to an elevation of 5368 feet, contingent upon results of the instrumentation data.

Waiting Period: Waiting periods may be required following completion of Stage 1 and prior to beginning Stage 2. The waiting periods are necessary for occurrence of settlement and pore pressure dissipation and are estimated to be as follows:

Stations 54+00 to 57+98 (+/-): up to 60 calendar days for Stage 1.

Stations 60+89 (+/-) to 65+00: up to 30 calendar days for Stage 1.

All times required for settlement and pore water pressure dissipation as specified in this Special Provision are estimated only and subject to change based upon the results of the instrumentation data.

Based on the results of the instrumentation and monitoring program, the Project Manager may modify the fill increments or the waiting period required between embankment construction stages at these locations.

Stage 2: Upon evaluation of the instrumentation and monitoring data and written approval by the Project Manager, complete the fill to planned subgrade elevation and dimensions. Once the embankments have been constructed to the design subgrade elevation, allow the embankment to settle over the winter shutdown period, or a minimum of 60 calendar days contingent upon results of the instrumentation data.

Method of Measurement. This item is not measured for payment.

Basis of Payment. No additional compensation is provided for completion of the work in accordance with this Special Provision.