

## **SPECIAL CONDITIONS OF EARTH WORK**

1. Entire TFTR works are categorized into following categories

- a) Cess side earthwork to make up the full cess width and toe banks
- b) Cess side earthwork to make up the full cess width and toe banks and non cess side i.e. between tracks earthwork which would involve track crossing making temporary level crossing
- c) Cess side earthwork to make up the full cess width and toe banks; non cess side i.e. between tracks earthwork which would involve track crossing making temporary level crossing and provision of central drains.
- d) Cess side earthwork to make up the full cess width and toe banks ; non cess side i.e. between tracks earthwork which would involve track crossing making temporary level crossing; provision of central drains and provision of cross drains in embankment using pipe jacking techniques.
- e) At zero embankment location, replacement of natural black cotton soil with SQ2 soil along the track from toe of ballast and beyond infringing dimensions for 3m perpendicular to track to a depth of 1m. This work has to be executed duly barricading the track and under suitable speed restriction. The excavation length at a given location shall not exceed 50m.

**NOTE:** All location details are attached in the annexure. The engineer in charge may, at their discretion, decide on new locations if required, similar to the ones mentioned above.

2. Work site protection as per IRPWM chapter 8 to be adhered at all times.

3. The Railway administration will not be responsible for the safety of contractor's labour engaged for their work and should be ensured that all the labour are medically fit with good eye sight so that they can safe guard themselves.

4. Contractors must personally visit each location for understanding the site before quoting for the tender since in some of the locations earth work has to be carried out in between the running lines involving track crossings through temporary level crossings.

5. Rate to be quoted by the contractors should be inclusive of Royalty, seignorages, taxes etc., complete as applicable is to state concern. Any increase or decrease will be compensated.

6. The contractor must lay temporary ramps at suitable locations, using their own earth, for vehicles and machinery to cross the track and perform work on the non-cess side or between two tracks. Upon completion of the work, the temporary ramps must be dismantled. The dismantled earth may then be re used for laying the toe bank, etc. No extra payment shall be paid for making the ramps / temporary LCs.

7. No work shall be done without railway supervisor.

8. Upon completion of the cross-drain work, the contractor must hand over the structural fabricated steel to the railways.

9. Quality of Earth works should follow RDSO guide lines / specifications vide no. RDSO /2020/GE:IRS-0004,Sept.-2020

10. Compacting of cess widening, toe bank, and side slopes will be done using vibratory rollers/compactors to achieve the Maximum Dry Density (MDD) as per Appendix E, pages 138 and 139 of RDSO guidelines/specifications, RDSO/2020/GE:IRS-0004, Sept. 2020."
11. SSE/P.Way / SSE/Works should maintain compaction registers. For every 500m, the soil test reports and dry density certificates should be submitted. If there is a change of quarry, irrespective of the quantity, the soil test report should be submitted. If these documents are not submitted along with the bill, the entire quantity of earth will be summarily rejected.
12. Additional width of embankment should be carried out at high bank locations, curves whenever required prior approval should be obtained from Sr.DEN / DEN.
13. Toe bank should be provided at locations approved by Sr.DEN. ADEN & SSE/P.Way should ensure side slopes of 2:1, if side slopes are below 2:1 slopes quantity of earth work should be summarily rejected.
14. The cess work will be carried out at the locations as indicated in the name of the works, if any change of quantity/location is required shall obtain prior approval of concerned Sr.DEN/ DEN before operation of this item and reasons for change of location shall be kept on record.
15. The Contractors are advised to inspect the site and availability of road facility / approaches before quoting their rate.
16. No extra payment will be made for jungle clearance and repairs to service road or for formation of road if required for leading/transporting of earth to cess location.
17. Payment for the earth work will be made to the quantity arrived based on cross sectional measurements duly deducting as per specifications.
18. Contractor required to quote the rate duly considering the royalty, seignorage charges as applicable in Telangana, Andhara Pradesh, Karnataka & Maharastra state and revision thereof from time to time.
19. Approval of Soil Samples: The earthwork in both the cases for widening / toe bank has to be done with SQ2 quality soils (**Soils containing fines from 12% to 50%**) to be used and use of expansive soil is prohibited. The successful contractor is required to submit samples of SQ2 soil as per specification GE-004 within 15 days after issue of acceptance letter. Each sample shall be submitted in three wide mouthed sealed jars containing the representative sample approximately 0.0035cum (1/8 cft) in each bottle. Those soils which are approved shall only be used at site. No work should start until soil sample is approved. Any delay in submission /approval of soil sample will not be compensated. It is the responsibility of the agency to study necessary specification for soil and to submit soil sample which will confirm to the specifications.

- (i) Each layer should be compacted with recommended type of roller up to required level of compaction, commencing from the sides, before putting the next upper layer.
- (ii) Extra embankment width of 500mm on either side shall be rolled / compacted to ensure proper compaction at the edges. The extra soil should be cut and dressed mechanically to achieve regular side slope and the slope shall be compacted with 6-8 passes of slope compactors (10-20 ton capacity).

**20. Before executing the work, the concerned ADEN/SSE (Works/P.Way) should submit the numbered level books from the Divisional Office and obtain the numbering and signature of the concerned Sr. DEN/DEN. Only after this should the initial levels be recorded in the level books and submitted to the Divisional Office, along with the initial and proposed levels, as well as the graph sheets duly signed by the concerned SSE (Works/P.Way), ADEN, and Contractor.**

**21. After completion of earth work, new level books should be collected from Divisional office and final levels should be recorded and the same should be submitted to Divisional office along with graph sheets duly signed by SSE(Works/P.Way), ADEN and Contractor.**

**22. The soft copy of graph sheets and calculations must also be submitted in Excel format to the Divisional office, along with the hard copy.**

**23. Concerned SSE (Works/P.Way) has to certify on each graph sheet that the slope provided is 2:1.**

**24. If level books not submitted vide above note No.21, 22 & 23, the bills cannot be considered by Divisional office.**

**Sr.DEN/DEN**