

NORTH EASTERN RAILWAY

CE Circular/100 of 2019

Sub: Guidelines for Cess Repair and Cess widening Work.

1.0 Introduction:

It has been observed during recent inspections that laid down procedures are not being observed in field during execution of work of Cess repair and Cess Widening. The proper adherence to laid down procedures becomes more important keeping the use of mechanized means being adopted for work in view. In light of above, it is essential that any cess repair or Cess widening work should be done strictly following the laid down procedures/stipulations of "Unified Standard specification for works & materials", "RDSO guidelines for Earthwork in Railway Projects" etc.

2.0 Stipulations of RDSO Guidelines for Earthwork in Railway Projects:

2.1 Para 6.1.3 : Selection of Borrow area:

Borrow area for earth work should be selected sufficiently away from the alignment, as far as possible at the extreme of Railway land but normally not less than 3 m plus height of the embankment (from toe of the bank) to prevent base failure due to lateral escapement of the soil.

3.0 Stipulations of Unified Standard Specifications for Works & Materials:

3.1 Para 1.2.7 : Borrow Pits:

The Engineer concerned will direct from where material is to be obtained and has the powers to refuse to allow any unsuitable material to be put into a bank.

No excavation for borrow pits shall be made within 2 m of the limits of acquired land.

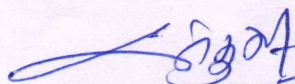
Borrow pits shall not be dug close to level crossings, bridges or culverts, telegraph poles, electric poles or close to inhabited areas, unless they can be properly drained to prevent water stagnating. Borrow pits within station limits shall be avoided as far as possible.

3.2 Para 1.2.7.1: During excavation, the contractor shall take particular care to avoid damage to drains, water mains, cables or other underground work. Should any damage be caused the Engineer shall be notified immediately and the damage shall be made good at the contractor's expense.

3.3 Para 1.2.7.2: Borrow pits shall be excavated within the limits of railway land as directed by the Engineer. The pits must be rectangular or conform to the land boundaries. The sides of the pits next to the toe of the bank are to be sloped down at 2:1 and elsewhere at a slope of 1:1 unless otherwise directed by the Engineer. Any pits wrongly excavated shall be refilled by the contractor at his own cost, and in such a manner as the Engineer directs.

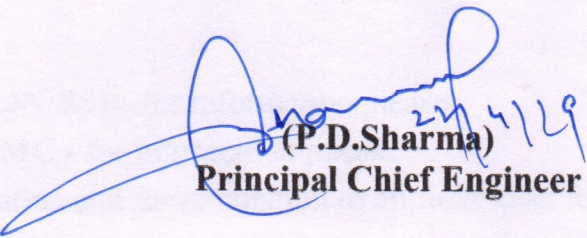
3.4 Para 1.2.7.3: Borrow pits are not to be made of uneven depth but the whole area of each pit is to be neatly excavated to the same level. The outer or the most distant half of the borrow-pits is to be excavated first, so that in the event of the pits being flooded by rain, there will still be ground available for work.

3.5 Para 1.2.7.4: A berm 15m wide is to be left untouched initially at every 85m between edges of borrow-pits, and is not to be encroached upon for any excavation except under the instructions of the Engineer. If it is necessary for drainage purposes to cut through the berm,


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the channel will be made on the side remote from the Bank.

- 3.6 Para 1.2.7.5: In sidelong ground, the borrow pits are to be dug on the upper side of the bank, and are to be continuous to serve as catch water drains and, if so ordered, the contractor shall get the earth for the bank exclusively from such pits till the catch water drain is complete to the required length, section and level as prescribed by the Engineer.
- 4.0 From above stipulations, it is clear that the borrow pits are normally to be located at extremes of Railway Boundary maintaining adequate safe distance for safety of existing bank.
- 4.1 Proper plan of proposed borrow pit duly indicating land boundary and height of existing bank along with the size of proposed borrow pit should be prepared by field units and same shall be got approved by Sectional Sr. DEN/DEN before commencement of Cess Repair or Cess widening works.
- 4.2 To ensure the compaction of new earthwork in cess repair or cess widening, suitable vibratory mechanized roller or vibratory plate compactor of suitable capacity depending upon site conditions shall be ensured. The methodology of compaction shall be submitted by contractor for approval by Engineer.
- 4.3 Making up of Cess shall be done in successive layers, not more than 30 cm in depth, over the whole width and slightly concave in section to as to retain water for subsidence. The subsequent layer shall be started only when the previous layer has been completed for a length not less than 30m along the embankment and is suitably compacted. All clods shall be broken up in the borrow pits or bank by labour specially deputed for this work.
- 4.4 In widening an existing bank, proper benching shall be done (steps of 30cm in height and approximately 60 cm wide) before the new earth is placed, to form a bond between the new and old earth work. Similar benching is to be provided in side-long ground of which the slope at right angles to the alignment of the banks is 3 Horizontal to 1 vertical or steeper or if ordered by the Engineer. The benching in side long ground will not be separately measured or paid for, but is deemed to be covered by the initial rate for earth work.
- 4.5 It shall be ensured that the earth moving machinery does not work close to track without proper protection. The safe distance shall be marked on ground with lime to be distinctly visible beyond which the machinery will move only under supervision of Railway Supervisor after protection of track as per stipulations of IRPWM.
- 5.0 In case where due to site constraints, it is not possible to follow any of the prescribed guidelines, the matter should be referred to Headquarter for specific approval before commencement of work.


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