



A) Financial Implication of Rehabilitation of Muck Disposal Site

The rehabilitation plan of muck dumping site includes engineering and biological measures. The project authorities would ensure that dumping yards blend with the natural landscape to develop the site for its maximum utilization and cover the rest area with greenery.

The following engineering and biological measures have been proposed for the development of spoiled areas.

1. Engineering Measures

For stacking of dumped material, gabion toe walls is proposed to be built before and during dumping of any material on the identified site. The road construction methodology comprises of developing the formation width in cutting and at spots in filling, so that the material obtained from cutting is utilized partially in filling. The excavation on hill side will be done to get a stable slope. At places Breast Wall & Gabion walls shall be done in natural slope to retain the filled material, particularly where there is problem of retaining the slope.

i) Retaining Wall, Breast Wall & Gabion Walls

The total area of dumping area is 0.24 Ha which can accommodate more than 0.0079 Mcum though the estimated muck to be disposed is 0.0037 Mcum. The Gabion Walls of 2 & 3 tier height will be constructed at different levels to form terraced pattern of dumping muck. Also Retaining wall of 3M height and Breast Wall of 2M height shall be constructed at different levels to avoid any spoilage of muck.

ii) Compaction

Compaction is an engineering measure which would reduce the bulk volume of the muck thereby optimising the use of muck disposal area and would make it suitable for future space utilization as Bus Stand.

The financial implication of engineering measures for the rehabilitation of Dumping Area is tabulated below

Sr. No.	Particular	Quantity	Rate	Cost
1.	Gabion Walls	200 Rm	4049.79	8.10
2.	R/Wall 3M Height	100 Rm	19079.50	19.08
3.	R&B Wall 2M Height	80 Rm	10421.14	8.34
4.	Compaction	3764.00 Cum	8.85	0.33
Total Cost in lacs				35.85 Lacs

2. Biological Measures

The surface area of dumping area is about 0.24 Ha. This area will be utilized as Bus Terminal and partly will be treated for the purpose of plantation. Vegetation cover controls the hydrological and mechanical effects on soils and slopes. Therefore biological measures to stabilize the loose slope are essential. To implement the biological measures in dumping area the following activities would be taken into account.

i) Soil Treatment

Muck dumped is not considered to be nutrient rich as it is excavated from the road cutting. In order to make it suitable for the plantation, it will provided bio treatment.

ii) Plantation

The selected species will be planted after their nurseries have been developed. Nearly 1-2 years old saplings would be used for the plantation. Grasses and herbaceous species would be used in the inter space of tree and shrub species. They will help in retaining the debris and thereby increasing the infiltration capacity of the area. After the compaction is



achieved, site will be available for plantation, in consultation with the horticulture as well as forest department.

The financial implication of biological measures for the rehabilitation of Dumping Area is as below.

S. No	Particulars	Quantity	Rate	Amount (in Lakhs)
1.	Manuring	-	Lump sum	1.00
2.	Raising of Plants (incl nursery cost, manure and transportation, etc.)	-	Lump sum	1.50