A plot of approximately one square mile was selected from the extensive kankar fields at Darbari in Bikaner for procurement of kanakar. A network of 2-feet gauge tramway track along with specially designed binchutes was constructed for gravity filling of wagons with kankar resulting in large savings in cost. Two trains, each containing about 16,000 cft. Kankar were despatched daily. Mesh screeing of kankar before loading to exclude dust resulted in 10% saving in carriage.

Manufacture of concrete and its cariage at site was planned in such a manner that machinery, lime kilns, godowns and stock of grit are placed in a limited space to save excessive carriage or handling. The whole length of the canal was divided into sections of about five miles long. In the centre of each section a "lining dump" was erected for concrete manufacture. The mixed concrete would then be railed out along the canal bed to the ramming face. There would be four such dumps in operation at one time. The kankar grit and ballast material would pass through a system of mesh and hopper for required grading and to mix in the correct quantity in the concrete mixers. The mixers are steam driven, with the mixing drum size of about 21 cft. concrete. This would be a convenient size considering the size of concrete wagons of one cubic yard capacity. The kankar is burnt in the kilns with railway refuse ashes. The lime kilns used are of the usual cylindrical continuous burning type, coned at the base and with two openings at the bottom from which the burned kankar can be withdrawn. All the machinery at the dump site is operated by steam 4NHP, 5NHP and 6NHP type engines. The haulage of the wagons in the dump area is done manually while the train loads of mixed concrete are propelled by light modern locos.

The excavation of the canal and dressing of the sides is done manually with care to attain a true level surface before concreting. Concrete is placed in position, is roughly dressed to a thickness of about 6.75 inches, and compacted by means of pneumatic rammers operated by three portable air compressors at each ramming face. The pneumatic type of rammers have been used for concrete compaction probably for the first time in India. Hand ramming was ruled out because of rather restricted area of consolidation and difficulty in ramming side slopes. Pneumatice ramming has turned out to be more effective and