SECTION 63-BUILDING EMBANKMENTS

1319. Design of embankments is dealt with in Section 27.

1320. The normal sequence of operations is:

a. Drain water from hollows and from holes caused by grubbing, and dispose of sludge before filling begins,

b. Spread fill material in layers to suit soil type and compaction plant.

c. Compact each layer successively to maximum density.

1321. General rules:

a. Investigate ground conditions before plant and vehicles are allowed on the working site.

b. Provide for area drainage at the outset by placing culverts and cutting outfall ditches.

c. Lay out the base of the fill to correct width, allowing for slope of banks (normally 1 in 11).

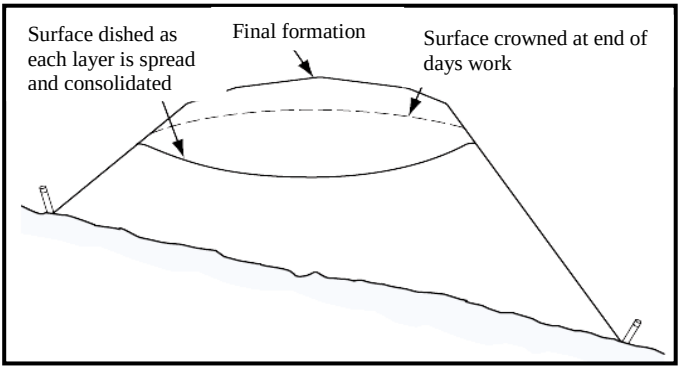
d. Check the suitability of the fill material as it arrives.

e. Keep fill material at the correct moisture content, place it is layers and compact each layer with the appropriate plant (see Table 11.5).

f. Keep the edges of the fill high during construction to prevent material sliding outwards and to safeguard plant.

g. Crown the fill at the end of each day's work to provide for surface drainage.

h. When filling over side-hill slopes, provide benching to key the fill into the natural ground.



\Figure 13-1: Building an Embankment

1322. Use of earth-moving plant, Normal applications in embankment work are:-

a. Transport of fill material- By Deauville light railway, trucks (preferably tippers), dumpers, scrapers, elevating graders, dozers, or tractors with shovels (short hauls only). If fill material is obtained from borrow pits, a dragline is very efficient, as it forms the bank while working: graders are also suitable for shallow banks so formed.

b. Forming the embankment (including cambering and battering). By graders, scrapers, dozers, and draglines (see (a) above).

c. Compaction- Dozers, scrapers, dumpers, and trucks all assist compaction. Special plant comprises steepsfoot rollers, and smooth wheeled rollers (see Table 13.1). Vibrating rollers and vibrating plate compactions are being introduced.

1324. Construction by hand labour. - Native labour, moving material by donkey or in head-load or baskets can if necessary build embankments up to about 2 ft high. The use of wheelbarrows greatly restricts the height of lift. Fill material is normally obtained from borrow pits, unless cuttings are being excavated very near the embankment. Unless rollers are available for compaction in layers, the embankment should be allowed to settle.