CE 442
CONSTRUCTION AND MAINTENANCE OF HIGHWAYS AND AIRPORTS

HW No. 3

Given below are the ordinates of the mass diagram for a highway project. No haulage is possible past station 38 + 50, so this point may be considered the end of the project for this purpose. The free-haul distance is 500 ft. Draw the mass diagram, and determine:

(a) the volume of excavation and embankment

(b) the quantities of overhaul (station yards), waste, and borrow; and

(c) the distribution of haul.

Station	Mass Ordinate (cu yd)	Station	Mass Ordinate (cu yd)
0	0	23	−8,138
1	+481	24	−8,985
2	+982	25	−11,214
3	+1,343	26	−12,482
4	+2,022	27	−14,076
5	+3,589	28	−17,451
6	+5,567	29	−20,519
7	+7,810	30	−23,048
7 + 40	+8270	31	−25,110
8	+7,782	32	−27,397
9	+7,465	33	−29,025
10	+6,632	34	−26,991
11	+4,931	35	−24,018
12	+3,214	36	−18,212
13	+865	37	−12,222
14	−437	38	−7,537
15	−2,892	38 + 50	−4,238
16	−4,504		
17	−6,075		
18	−7,111		
19	−7,686		
20	−9,122		
21	−10,437		
22	−9,333		