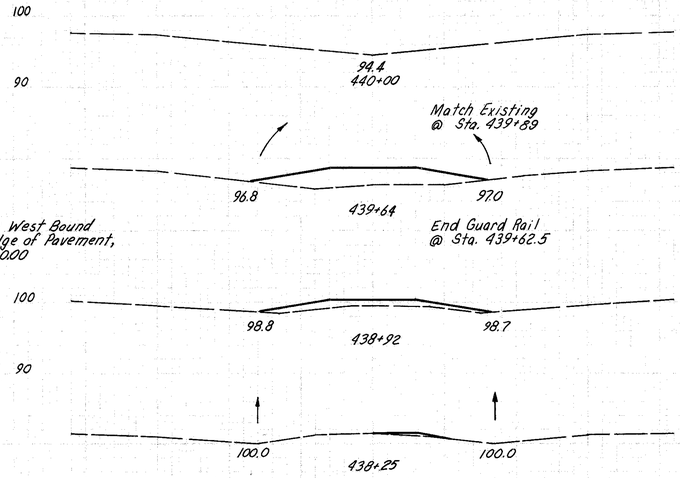
K&E 17 0483 8-69+

40 20 ℄ 20 40



Vol. Emb. = (0+68)25 / 54 = 31.5 Cu. Yds.

Vol. Emb. = (68+30)x72 / 54 = 131.0 Cu. Yds.

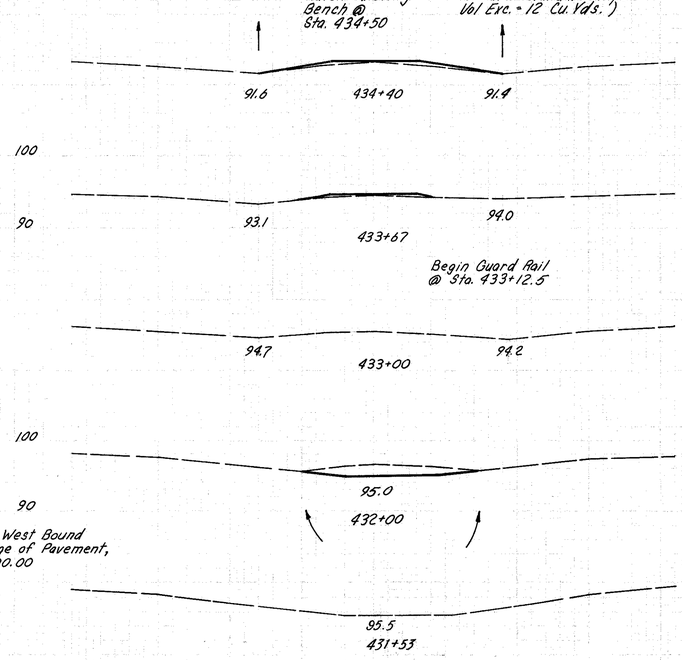
Vol. Emb. = (30+2)62 / 54 = 36.7 Cu. Yds

Vol. Emb. (2+0)x5 / 54 = 0.2 Cu. Yds.

B & O RR

Sta. 437+30, 19' Lt.
Std. No. 5 CB
T.G. = 85.4

Sta. 437+30, 19' Rt.
Std. No. 5 CB
T.G. = 85.4
* (Regrade Existing Mound
To match Standard Slope
Vol Exc. = 12 Cu. Yds.)



Vol. Exc. (10+0)x10 / 54 = 1.8 Cu. Yds.

Vol. Exc. = (10+4)73 / 54 = 18.9 Cu. Yds.

Vol. Emb. = (4+0)67 / 54 = 5.0 Cu. Yds.

Vol. Exc. = (0+33)100 / 54 = 61.1 Cu. Yds.

Vol. Exc. = (33+0)47 / 54 = 28.7 Cu. Yds.

TOTAL VOLUME
* Excavation = 101.8 Cubic Yards
Embankment = 225.1 Cubic Yards
Seeding & Mulching = 883.7 Sq. Yds.

(For Plan View See Sheets 18 & 19)

OLD SR 44

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY CLEVELAND NEW YORK

4-17-72 JEF
4-20-72 REM
4-20-72 REM
5-17-72 ERH

40 20 ℄ 20 40

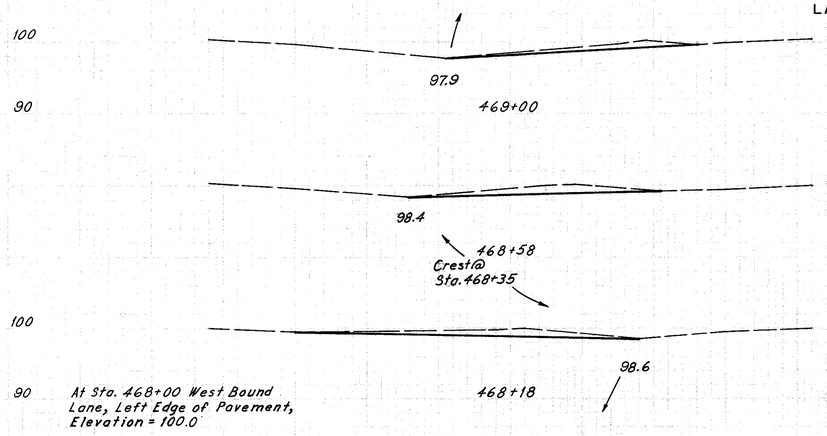
FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

75
111

LAKE COUNTY
LAK.-90-3.56.

QUANTITIES
Made: REM 4-20-72
Ckd: ERH 5-17-72

Match Existing @ Sta. 469+10



Vol. Exc. = (13+0)x10 / 54 = 2.4 Cu. Yds.

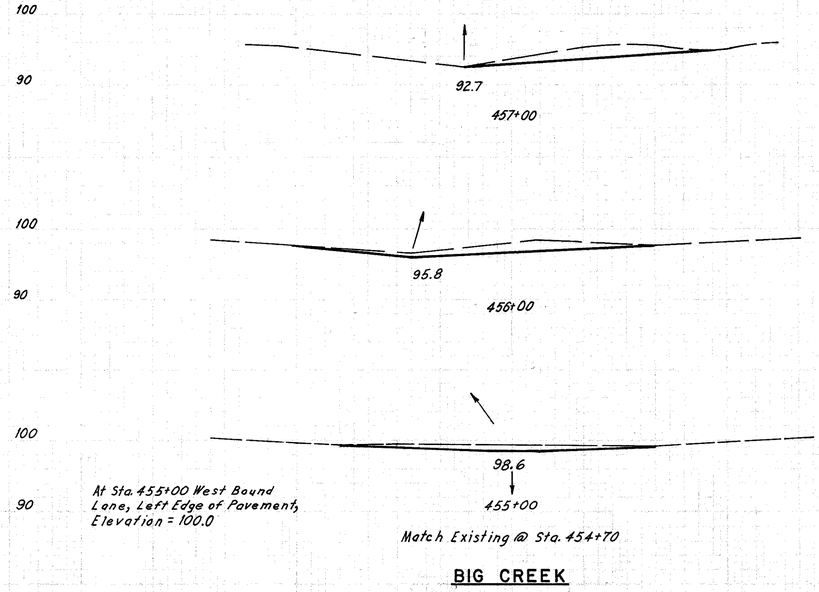
Vol. Exc. = (23+15)x42 / 54 = 28.0 Cu. Yds.

Vol. Exc. = (30+23)x40 / 54 = 39.3 Cu. Yds.

Vol. Exc. = (30+33)x118 / 54 = 137.7 Cu. Yds.

Vol. Exc. (33+0)x50 / 54 = 30.6 Cu. Yds.

Match Existing Ground @ Sta. 457+50
Begin Guard Rail Sta. 457+25



Vol. Exc. = (0+41)x50 / 54 = 38.0 Cu. Yds.

Vol. Exc. = (41+36)x100 / 54 = 142.6 Cu. Yds.

Vol. Exc. = (36+24)x100 / 54 = 111.1 Cu. Yds.

Vol. Exc. = (24+0)x30 / 54 = 13.3 Cu. Yds.

TOTAL VOLUME
Excavation = 543.0 Cubic Yards
Embankment = 0
Seeding & Mulching = 2193.9 Sq. Yds.

(For Plan View See Sheet 19.)

BIG CREEK

40 20 ℄ 20 40

OLD S.R. 44, B. & O. R.R. - BIG CREEK