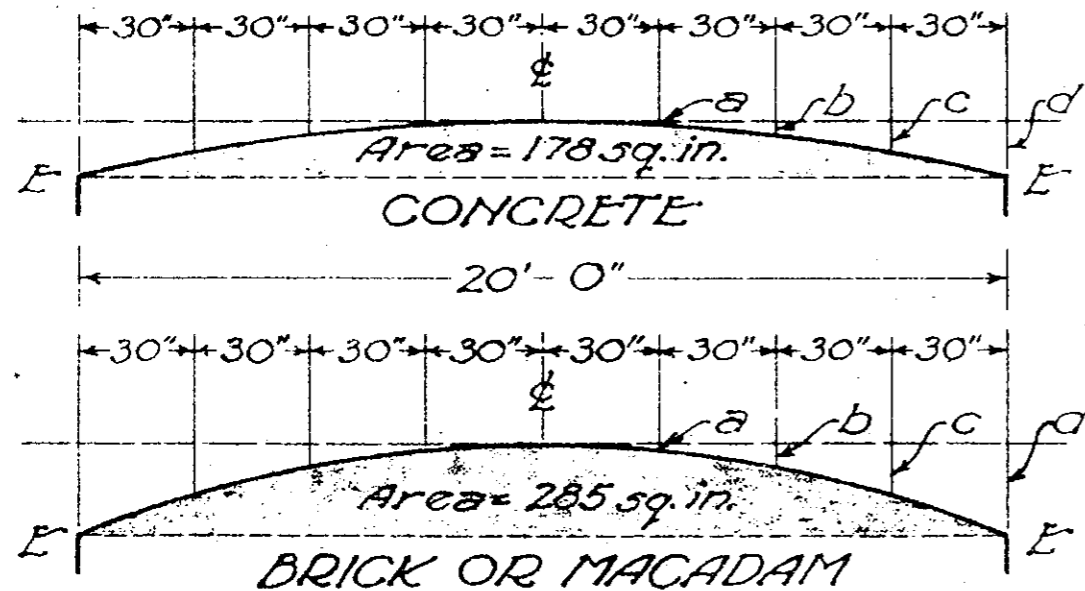
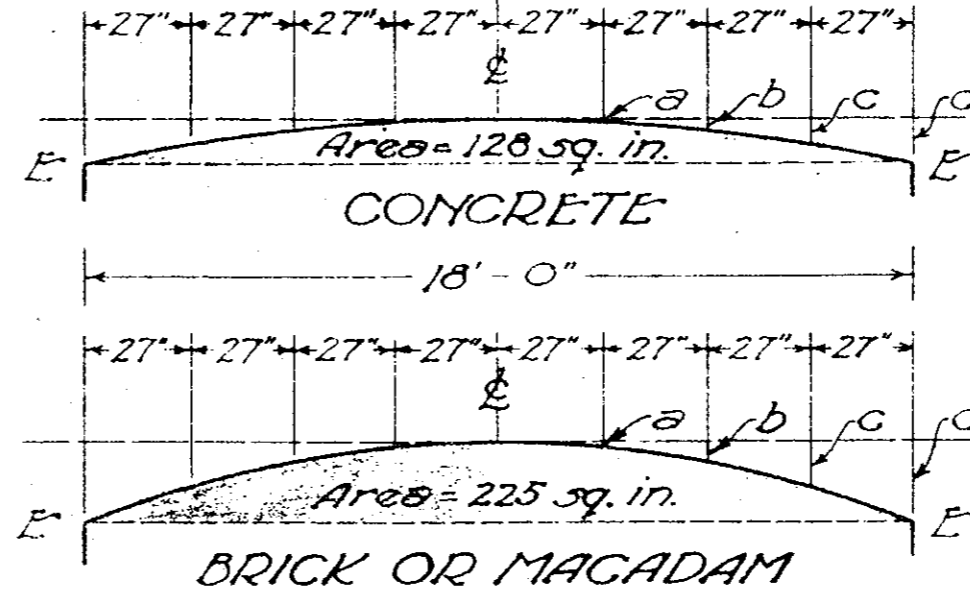


20' PAVEMENTS



Areas given above are end areas of pavement above the line "E-E".
"E" is the edge of pavement.

18' PAVEMENTS



CROWN INTERVALS

CONCRETE	
20'	18'
a	1/64" 9/64"
b	29/64" 23/64"
c	52/64" 41/64"
d	1 1/4" 1"
BRICK OR MACADAM	
20'	18'
a	9/32" 1/4"
b	23/32" 5/8"
c	1 9/32" 1 1/8"
d	2" 1 3/4"

ILLUSTRATIVE PROBLEM

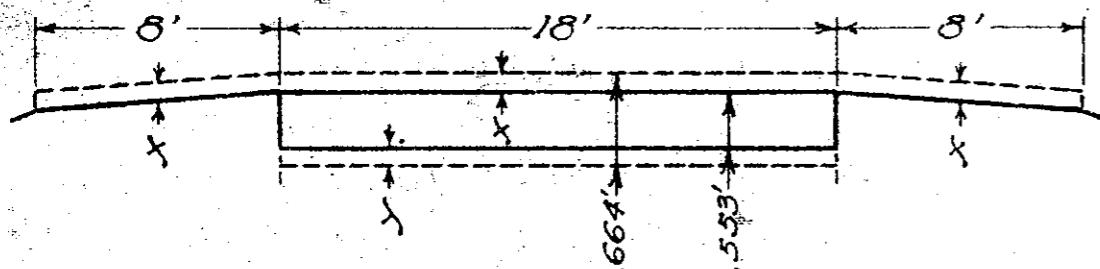
If cross-sections are based on 18' x (9"-7"-9") Concrete pavement, to determine how much the centerline grade should be changed for 18' x 9" Brick pavement so as to produce no change in yardage. First find average depth of each pavement below line "E-E".

BRICK

2.16" x 9" = 1944 sq. in. = Total end area.
1944 - 225 = 1719 sq. in. = End area below line "E-E".
1719 ÷ 2.16" = 7.96 in. = 0.664 ft. = Av. depth below "E-E".

CONCRETE

$2(\frac{9+7}{2} \times 24) + (7 \times 168) = 1560$ sq. in. = Total end area.
1560 - 128 = 1432 sq. in. = End area below line "E-E".
1432 ÷ 2.16" = 6.63 in. = 0.553 ft. = Av. depth below "E-E".



$$16x = 18y \text{ or } 16x - 18y = 0$$

$$x + .553 + y = 0.664 \text{ or } x + y = .111'$$

$$18x + 18y = 1.998$$

$$\frac{16x - 18y = 0000}{34x = 1.998 \text{ or } x = 0.0587'}$$

Then since the crown for Brick is (1 3/4" - 1") or 3/4" higher than for Concrete: 0.0587' + 3/4" = 0.0587' + 0.0625' = 0.1212' (Use 0.12').
Make centerline grade 0.12' higher for Brick than for Concrete.
In as much as the change of grade is rarely in excess of 0.12 of a foot the small triangle at the outer edge of the berms is ignored.

BUREAU OF CONSTRUCTION
OHIO
DEPARTMENT OF HIGHWAYS
GRADE DIFFERENTIALS
FOR EQUAL YARDAGE

STANDARD
CONSTRUCTION DRAWING 120
JAN. 24, 1930

APPROVED *R.B.* CHIEF ENGR. CONST.

REVISED