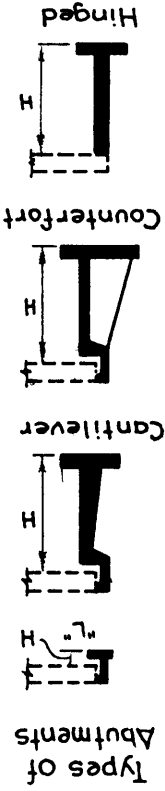


PRELIMINARY QUANTITY SURVEYS

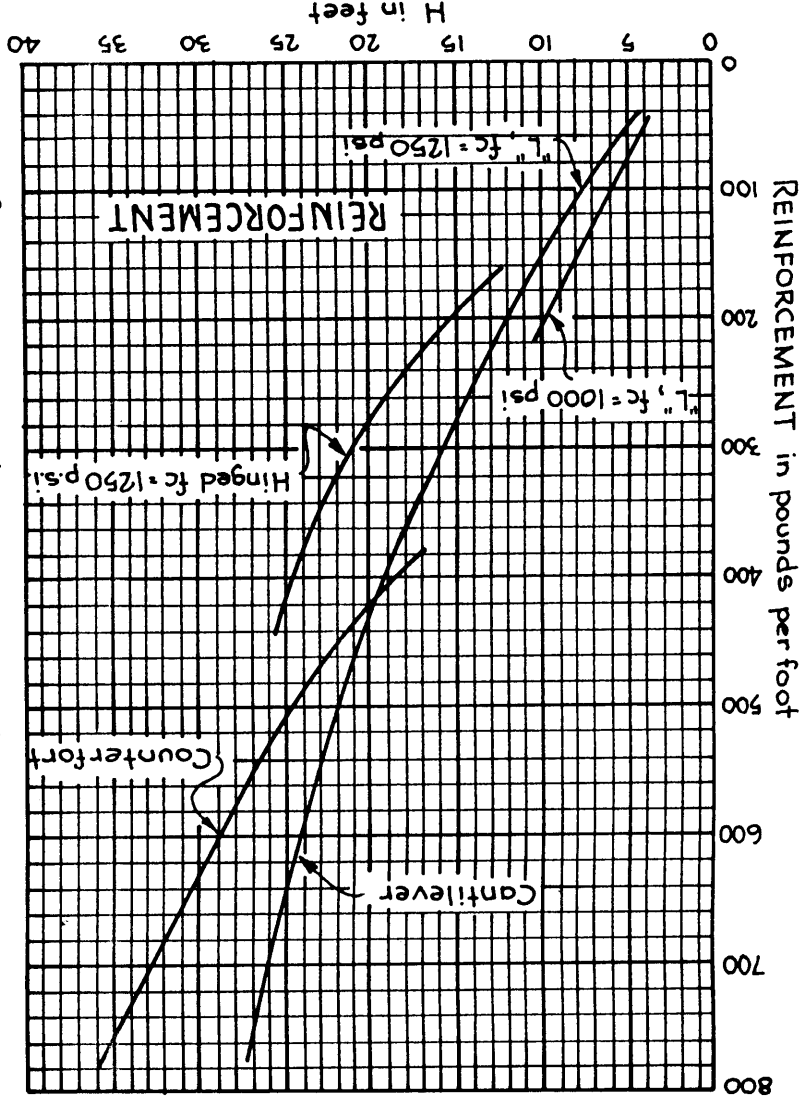
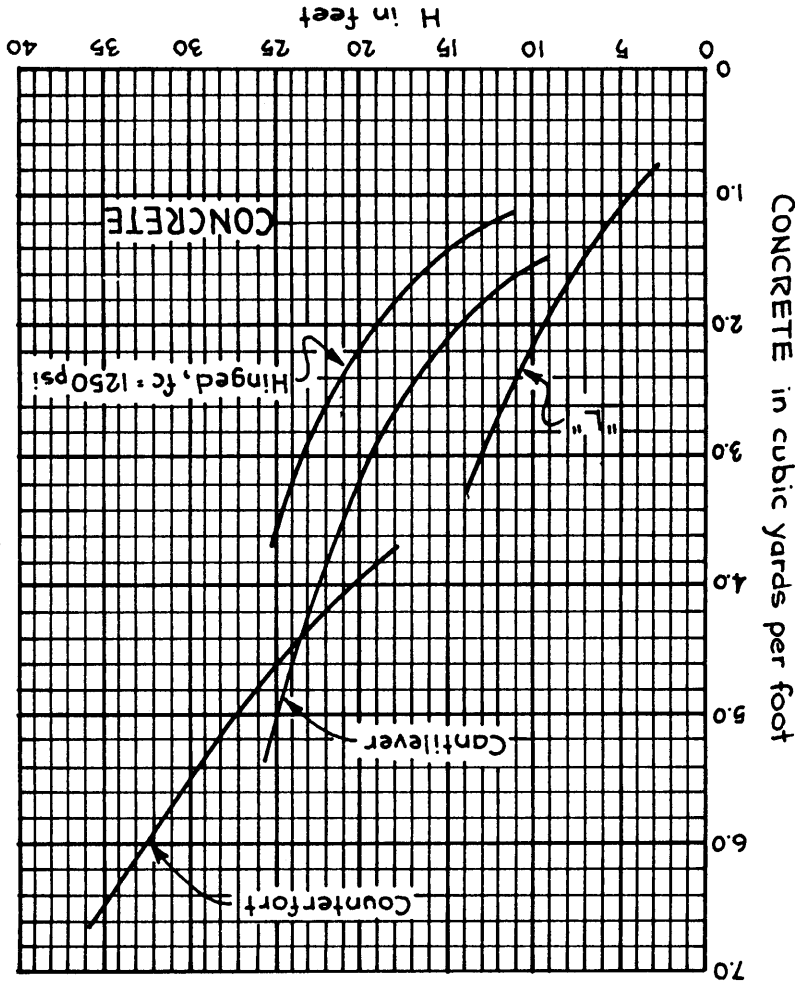
ABUTMENTS



1. To obtain the total quantity of concrete in cu. yds. and the total quantity of reinforcement in pounds for an abutment, multiply the values from the graphs by the rail to rail distance for the bridge in feet measured along the abutment layout line.
2. Footings and corner stub walls included. Tremie seals are not included.
3. "H" is the average value for the abutment.
4. Quantities good for spread and pile foundations. Use for T-beam and box girder.

NOTES

Loading: H20-S16-44.
 $f_s = 20,000$ p.s.i.
 $f_c =$ Curves for 1,000 p.s.i. and 1,250 p.s.i. unless noted.

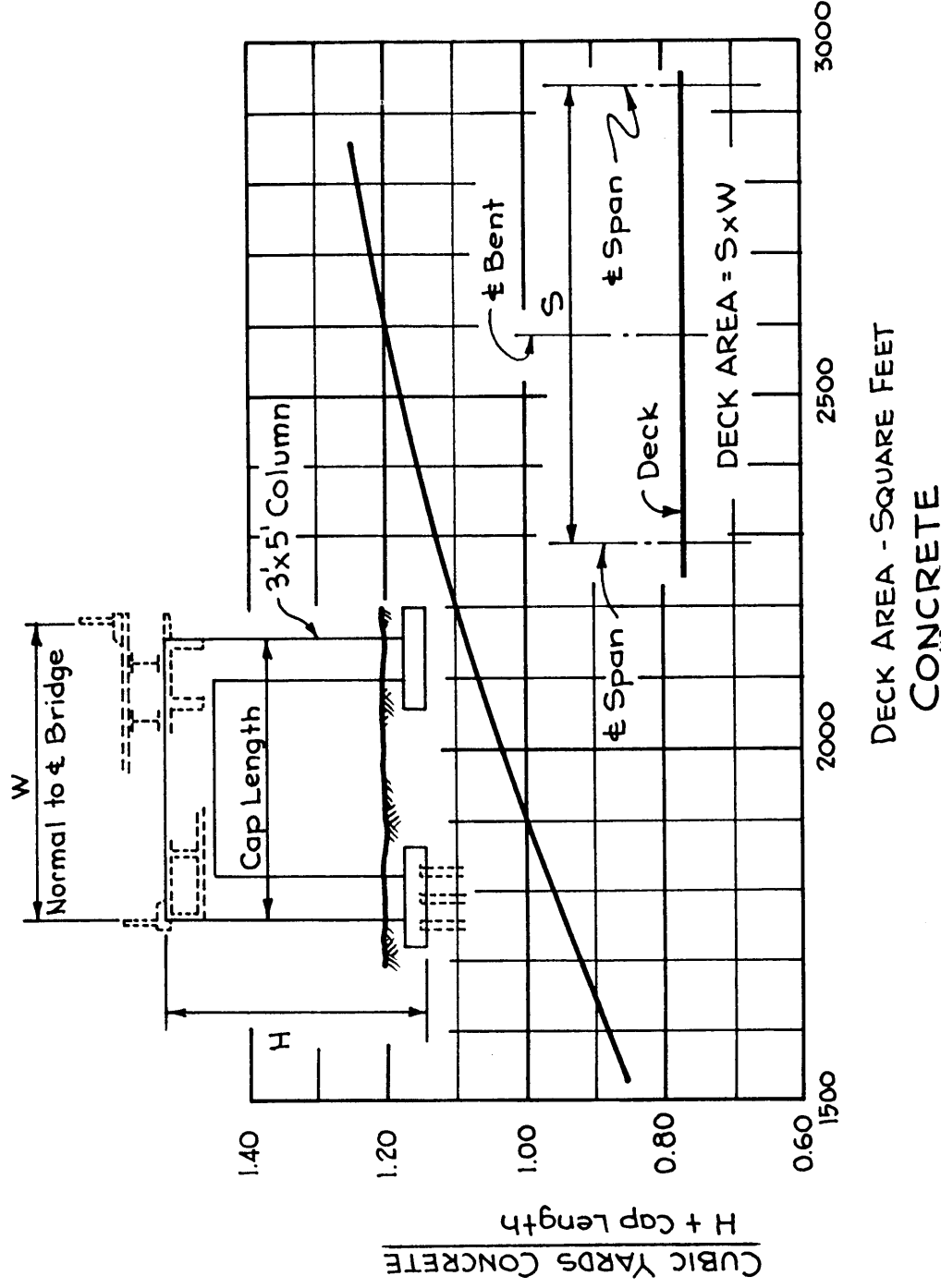


BRIDGE DESIGN PRACTICE

PRELIMINARY QUANTITY SURVEYS

BENTS

TEE BEAM-BOX GIRDER AND STEEL BEAM BRIDGES



Deck Area—Sq. Ft.

NOTES

Bent quantities are for tee beam, box girder and steel beam bridges only.
 Quantities are for one bent only.

Quantities include cap, columns and footings but not tremie seal.

To obtain the c.y. of concrete for bent, multiply the value from the graph by the sum of $H + \text{cap length}$.

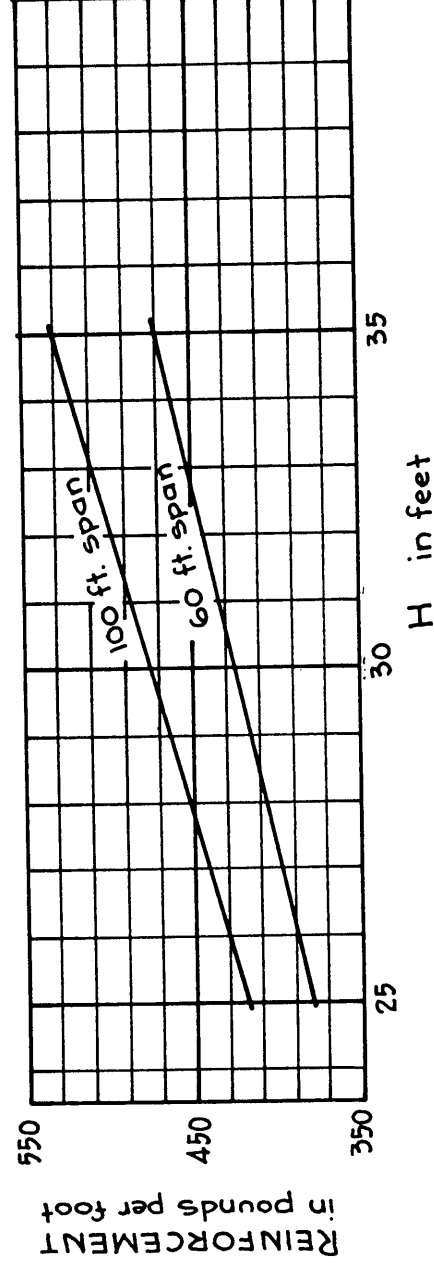
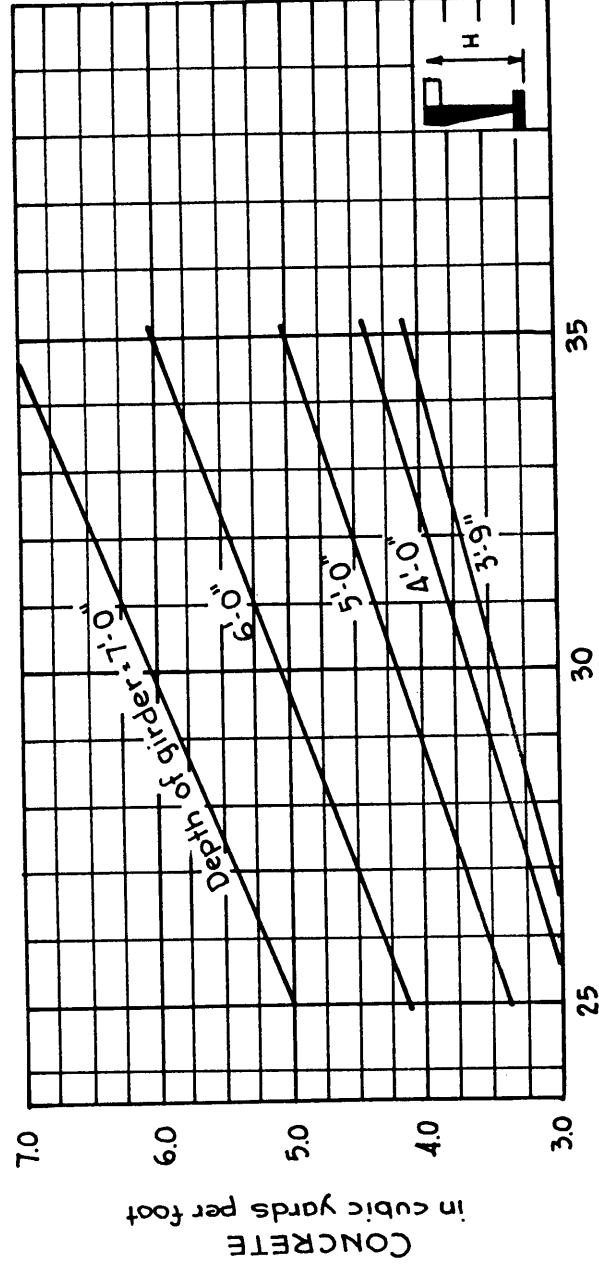
Reinforcement is 165 lbs/c.y. concrete.

Loading: H20 S16 44.

$f_c = 1,000$ psi or 1,250 psi.

$f_s = 20,000$ psi.

BRIDGE DESIGN PRACTICE
PRELIMINARY QUANTITY SURVEYS
RIGID FRAME ABUTMENTS

**NOTES**

1. To obtain the total quantity of concrete in cu. yds., and the total quantity of reinforcement in pounds for an abutment, multiply the values from the graphs by the rail to rail distance for the bridge in feet measured along the abutment layout line.
2. Quantities include footings, corner stub walls, and the abutment wall to the deck.
3. "H" is the average value for the abutment.
4. Quantities good for spread and pile foundations.

Loading: H20-S16-44.
 $f_s = 20,000$ p.s.i.
 $f_c = 1,250$ p.s.i.