LACLEDE STEEL COMPANY

0106- T 8 -Sheet 2

WORLD TRADE CENTER
BRIDGING TRUSSES
DESIGN DATA

TRUSS UNIT MARKED C 2 8 T 8 Refer to drawings ST 104, 6, 9

NEGATIVE MOMENT

CHORD MEMBER #6 Consists of 2 - 2" x 1½" x 0.31" angles

Area = 2.15 sq. in.

d_e = 22.98 in. f_y = 50,000 psi

f_s = 30,000 psi

f_{sc} = — psi

$M = A_{TCA}\ f_s\ d_e = (2.15)(30,000)(22.98)$

M = 1,470,000 in lbs.

CHORD MEMBER #7 Consists of 2 - 3" x 2" x 0.37" angles

Area = 3.66 sq. in.

ℓ = 35.25 in.

r_x = 0.57 in. f_y = 36,000 psi

r_z = 0.44 in f_s = —

$\frac{\ell}{r_x}$ = 61.9 f_{sc} = 16,340 psi

$\frac{\ell}{2r_z}$ = 80.2 (With fillers where required)

d_e = 22.98 in.

$M = A_{BCA}\ f_{sc}\ d_e = (3.66)(16,340)(22.98)$

M = 1,374,000 in lbs.

MAXIMUM NEGATIVE MOMENT = 1,374,000 in. lbs.