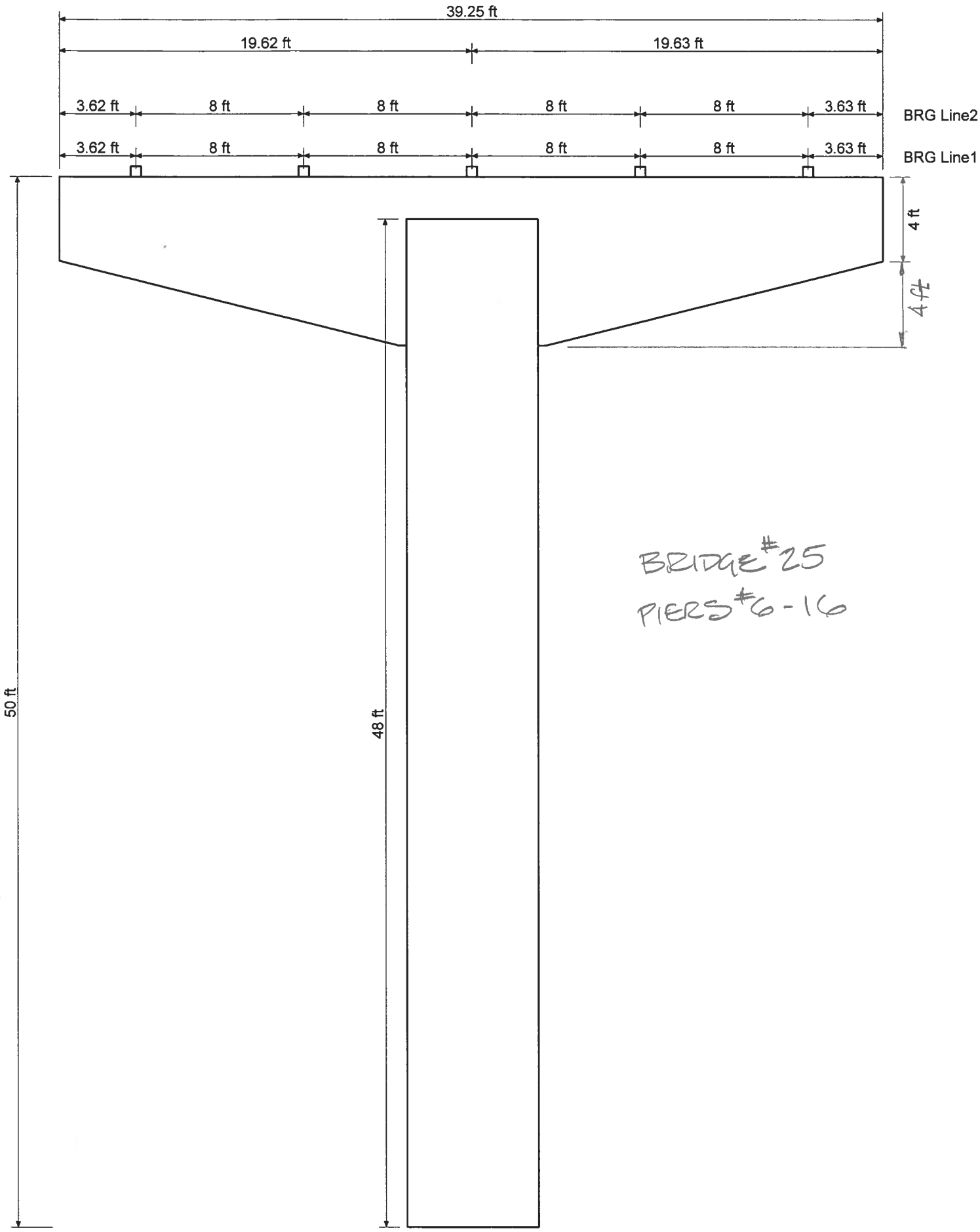
Subject: I-75 PPI		
Comp by: DRB	Date: 10/28/09	Sheet Number:
Check by:	Job Number: 100010194	

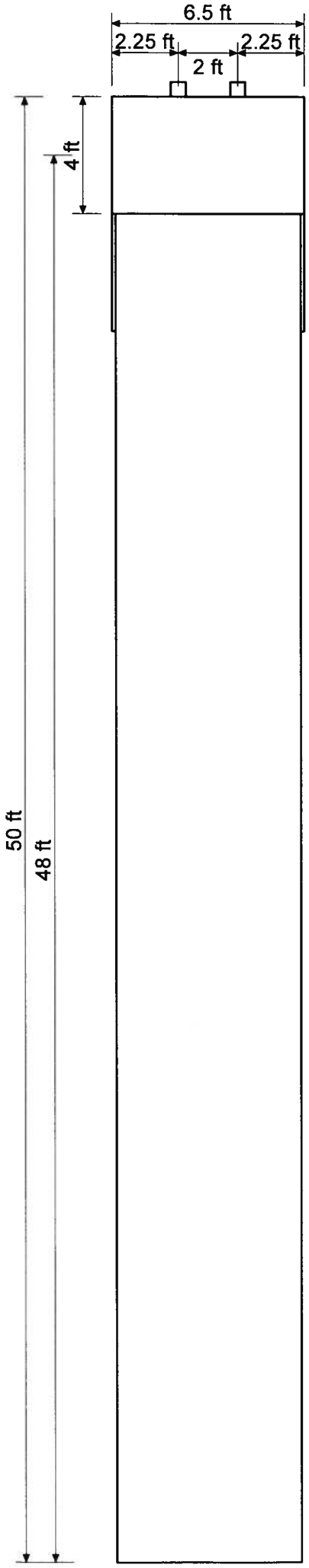
BRIDGE #25 LEAPBRIDGE

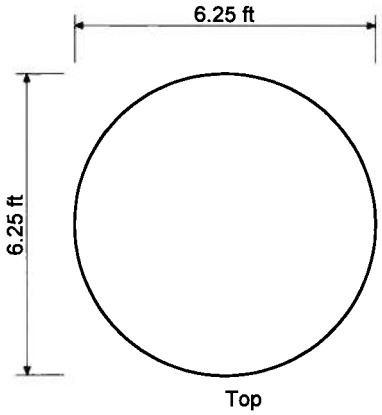
- GEOMETRY
  - 40'-0" CURB-CURB ; 43'-3" OUT-OUT ; 5@7.25' w/ 3.5' OVRT
  - 7.5" EFFECTIVE SLAB + 0.25" SAC. WEA.

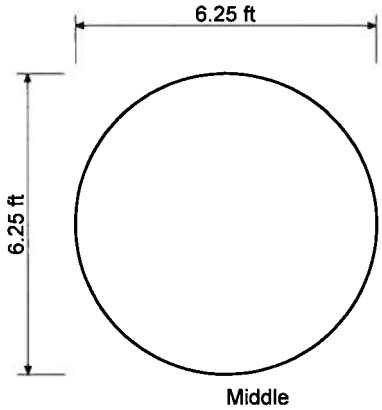
- LOADS
  - BARRIER = 0.410 klf ; FWS = 0.030 ksf
  - SIP FORMS = (7.25 - 3.5) x 0.016 ksf = 0.060 klf
  - COPING = 2.5"/12 x 3.5' x 0.150 kcf = 0.109 klf
  - DIAPHRAGMS
    - EDGE BEAM = 5.465k ÷ 6.75' = 809.6 plf
    - INT. DIAPHRAGM = 4.376k ÷ 6.75' = 648.3 plf

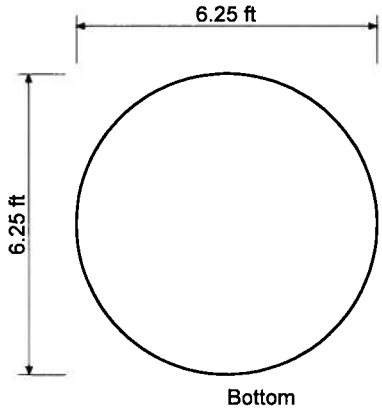
- RC PIER
  - PILES : 234k SERVICE ; 328k STRENGTH
  - CAP DEPTH = 11'-0" @ COLUMN
  - TAPER COLUMN IN Z DIRECTION 1:48
  - SPRING MATRIX FOR BOTTOM / COLUMN RE: LPILE RUN
  - $K_x - K_x = K_z - K_z = K_{22} = 2224499$ LB/IN = 26,694 K/FT
  - $R_x - R_x = R_z - R_z = K_{33} = 9.443068^{10}$ IN-LB/RAD = 7,869,223 FT-K/RAD
  - $K_y - K_y$ = AXIAL DEFORMATION = AE/L = 356,297 K/FT
    - A = 5541 in² ; E = 3408 ksi ; SAY, L = 53' (FULL LENGTH)
  - $R_y - R_y$ = TORSIONAL DEFORMATION = JG/L = 949,132 FT-KIP/RAD
    - $J = \frac{1}{2}\pi R^4 = 4,887,840$ in⁴ ; $G = E/2(1+\nu) = 1482$ ksi (SET $\nu = 0.15$)
  - $R_x - K_z = R_z - K_x = K_{23} = 3.622192^8$ LB/RAD = 362,219 KIP/RAD


39.25 ft
19.62 ft
19.63 ft
3.62 ft
8 ft
8 ft
8 ft
8 ft
3.63 ft
BRG Line2
3.62 ft
8 ft
8 ft
8 ft
8 ft
3.63 ft
BRG Line1
4 ft
4 ft
50 ft
48 ft
BRIDGE #25
PIERS #6-16


6.5 ft
2.25 ft
2.25 ft
2 ft
4 ft
50 ft
48 ft


6.25 ft
6.25 ft
Top


6.25 ft
6.25 ft
Middle


6.25 ft
6.25 ft
Bottom