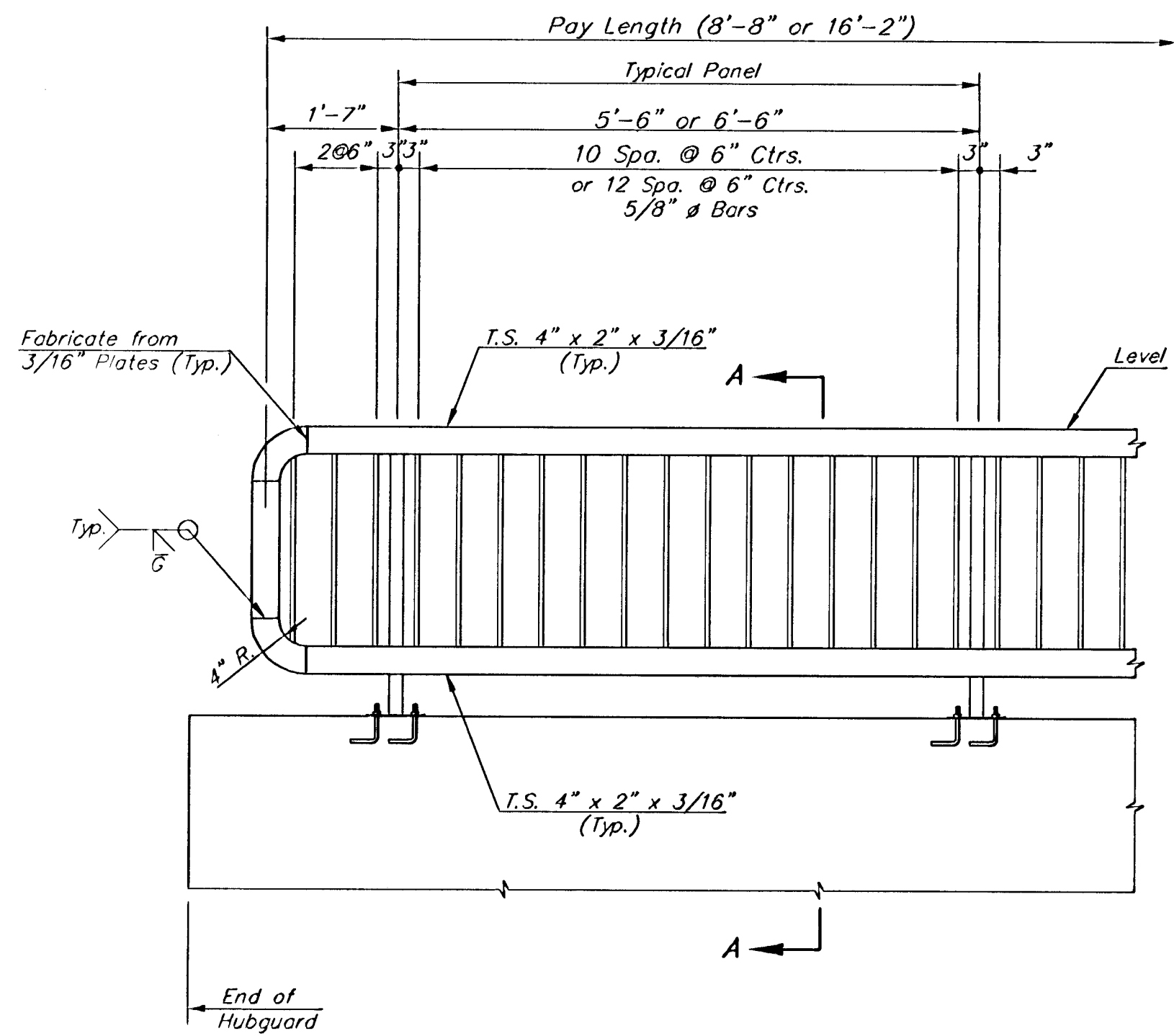
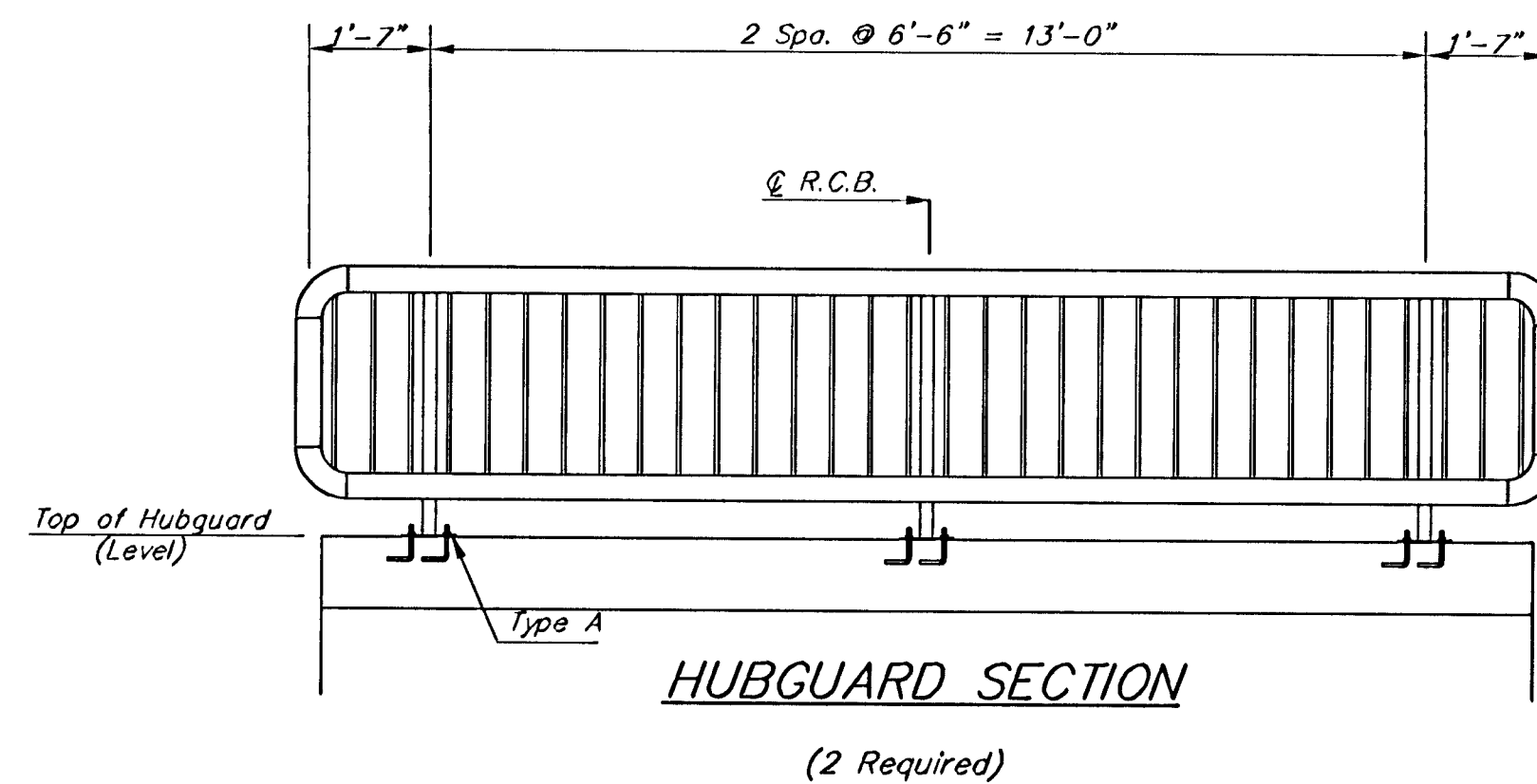


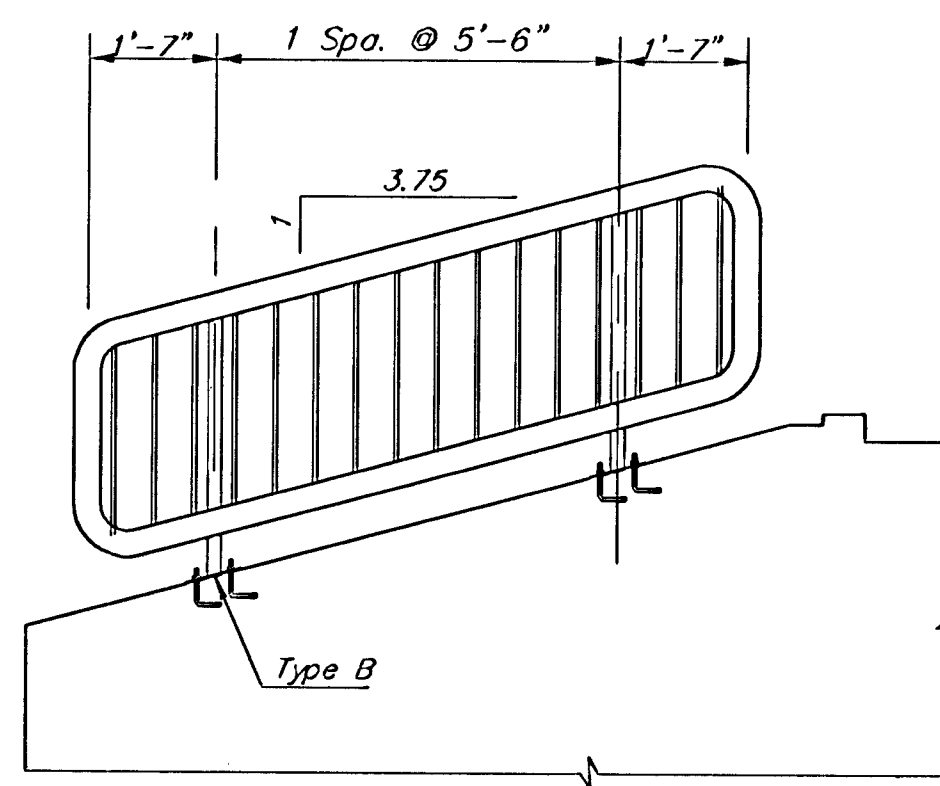


HANDRAIL ELEVATION



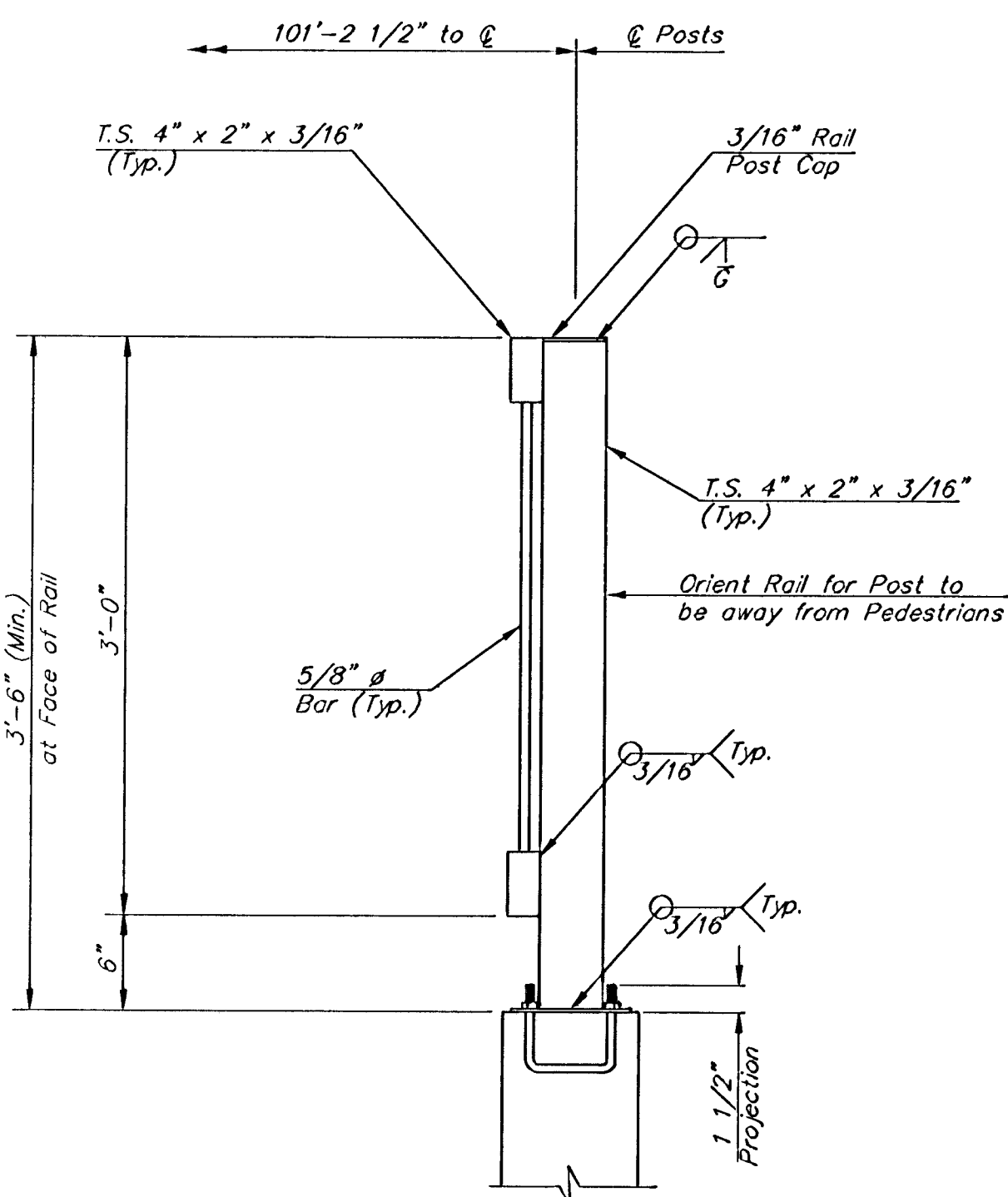
HUBGUARD SECTION

(2 Required)



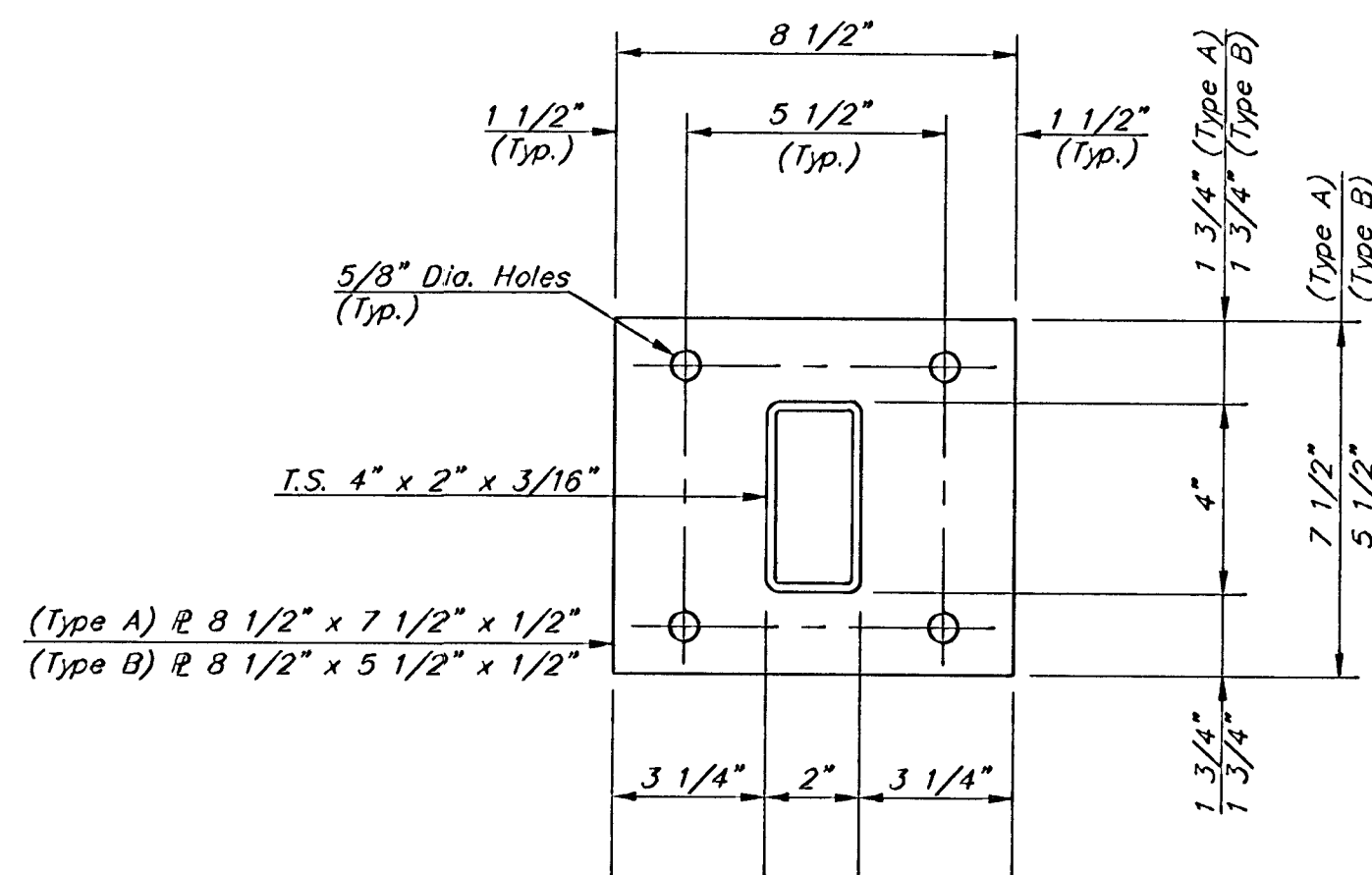
HANDRAIL ELEVATION

(4 Required)



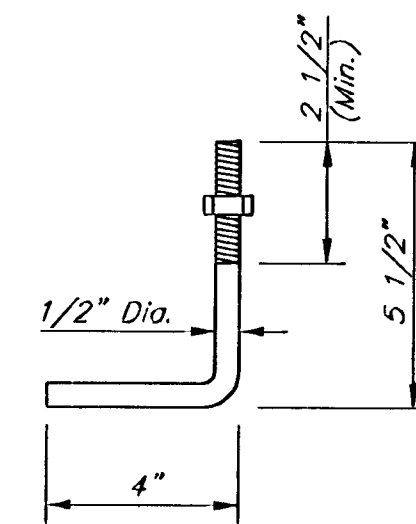
SECTION A-A

Note:
Rail Post on Hubguard shown,
Rail Posts on Wingwalls not shown
but similar controlling criteria.



BASE PLATE

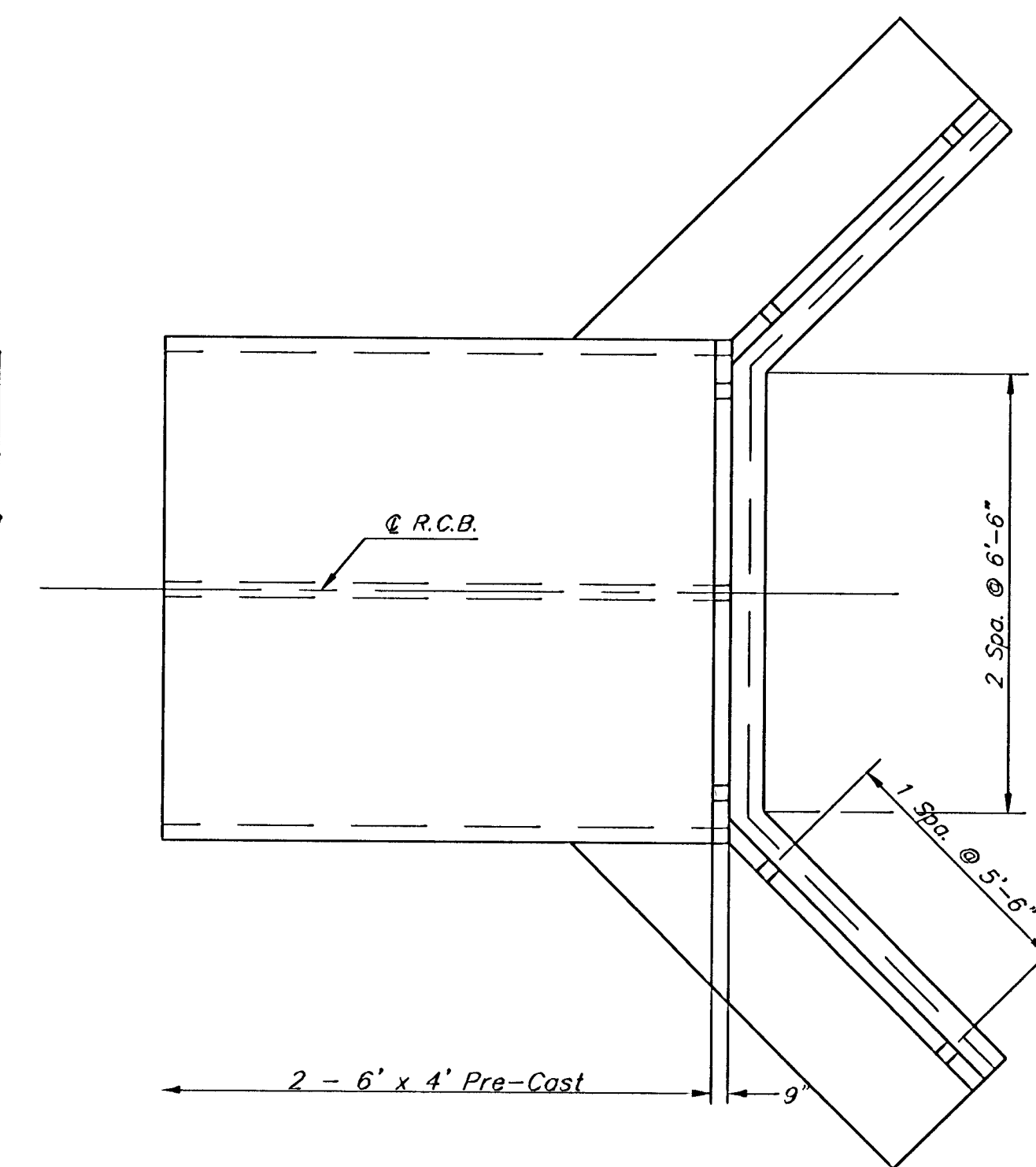
6 Required (Type A)
8 Required (Type B)



Galvanized (ATSM A153)
(May Substitute expandable anchor bolts
when approved by the Engineer)

ANCHOR BOLT

Orient to provide min. 2" edge
clearance to either hubguard
face or adjacent bolts)



RAIL LOCATION PLAN

1" = 30'

GENERAL NOTES

The horizontal members of the rail and posts shall be hollow structural tubing. All structural steel and tubing shall comply to A.S.T.M. Designation A36 or A500 Grade B respectively.

Rail shall be fabricated in lengths as shown.

Posts and bars shall be set vertical and shimmed if required.

The handrail shall be painted shop and field with an inorganic zinc-vinyl paint system complying with the Standard Specifications for State Road and Bridge Construction, 1990 Edition Kansas Department of Transportation.

Material and construction shall conform to the Structural Welding Code A.W.S. D1.1-88.

Shop details must be submitted and approved by the Engineer.



HANDRAIL DETAILS

CHRISTOPHER M. CARRIER, P.E.
STORM WATER ENGINEER

PROJECT NUMBER 472-83681 OCA NO. 765778

DATE MAY 2003 SHEET 26 OF 48