

E.F. INDICATES EACH FACE.
 N.F. INDICATES NEAR FACE.
 F.F. INDICATES FAR FACE.

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	54-87 K-8258-07	2004	33	101

GENERAL NOTES

The top rails shall be 75 mm dia. standard steel pipe conforming to ASTM A53M Type E or S, Grade B Schedule 40. The bottom and intermediate rails shall be 25 x 50 mm bars. Posts shall be 64 x 64 x 6.4 mm structural tubing. Tubing for posts shall conform to ASTM A500M, Grade B. The bottom and intermediate rails, pickets and base plates shall conform to ASTM A709M (Grade 250).

All rails, posts, pickets and base plates shall be galvanized and painted after fabrication. Galvanizing shall be done in accordance with the requirements of the KDOT Specifications. The paint system shall be as described in the Special Provisions. Color of the finish coat shall be black.

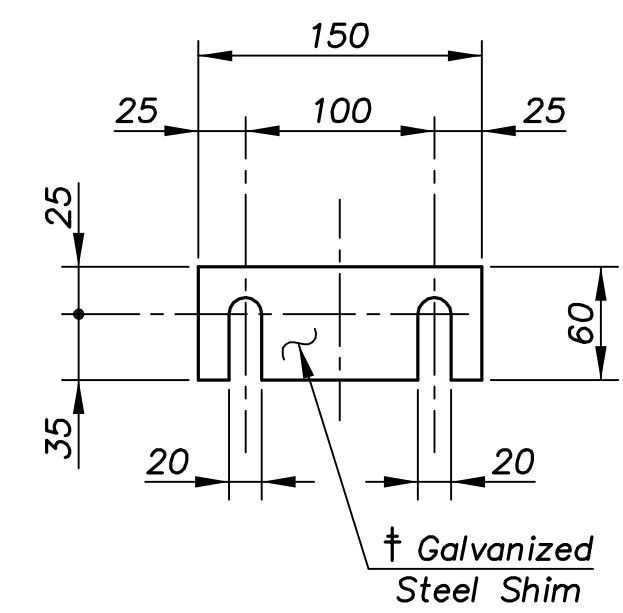
Metal handrail shall be constructed according to Section 709 of the Standard Specifications.

The rails shall be set parallel to top of hubguard and wingwalls. All posts and pickets shall be set vertical. Shims may be used between the concrete and the base plate of the steel post.

All top, intermediate and bottom handrail-to-post welded connections shall be ground smooth. No field welding will be permitted. The Contractor shall submit shop drawings to the Engineer for approval prior to fabrication of the handrail.

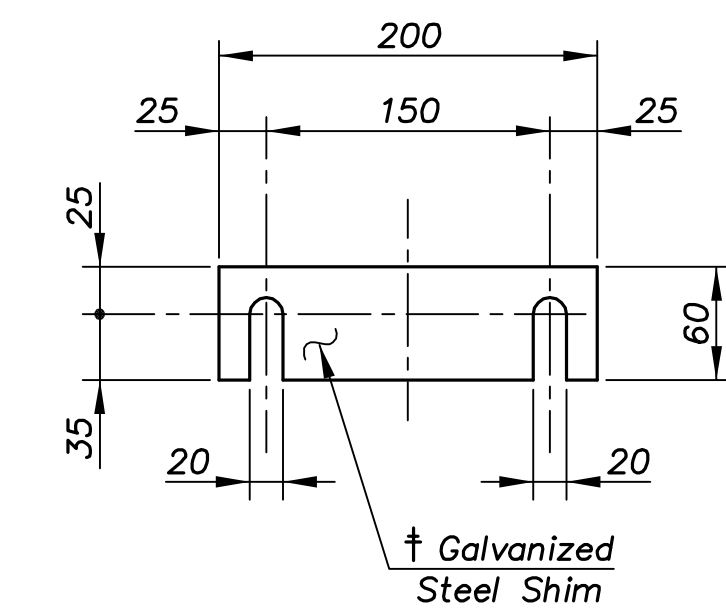
All material, labor, splices, shims and the installation shall be paid for under the bid item "Handrail (Metal) (1070 mm)". The handrail is to be bid on a per meter basis from end to end of the top rail, measured horizontally (level).

The adhesive anchors shall consist of an all thread anchor rod, nut, washer and adhesive capsule. The rod, nut and washer shall be coated in accordance with the weight of coating requirements of ASTM A153 and shall conform to ASTM A36/A36M.



150 mm SHIM DETAIL

Note: Provide 1-2 x 150 mm galvanized steel shims for each post, to be used as required.

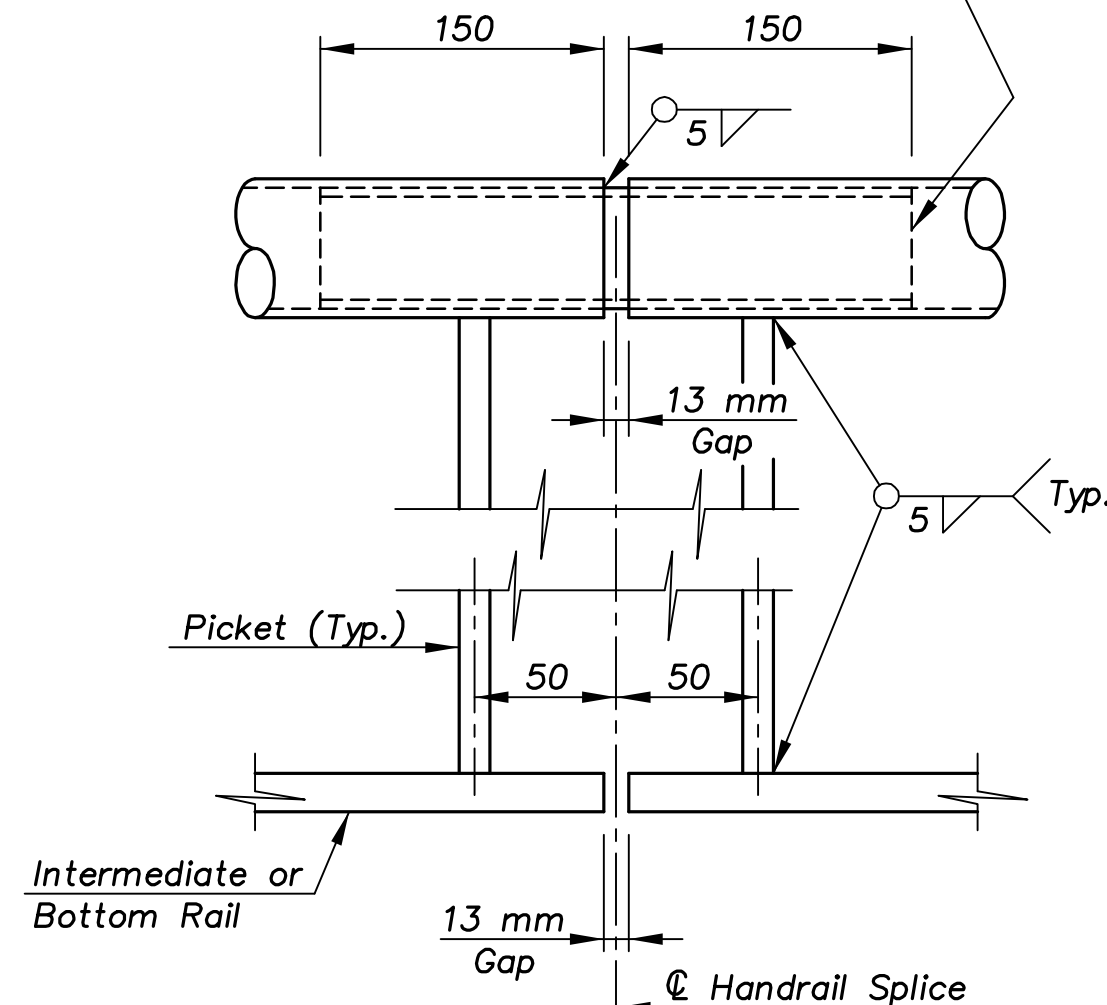


200 mm SHIM DETAIL

Note: Provide 2-2 x 200 mm galvanized steel shims for each post, to be used as required.

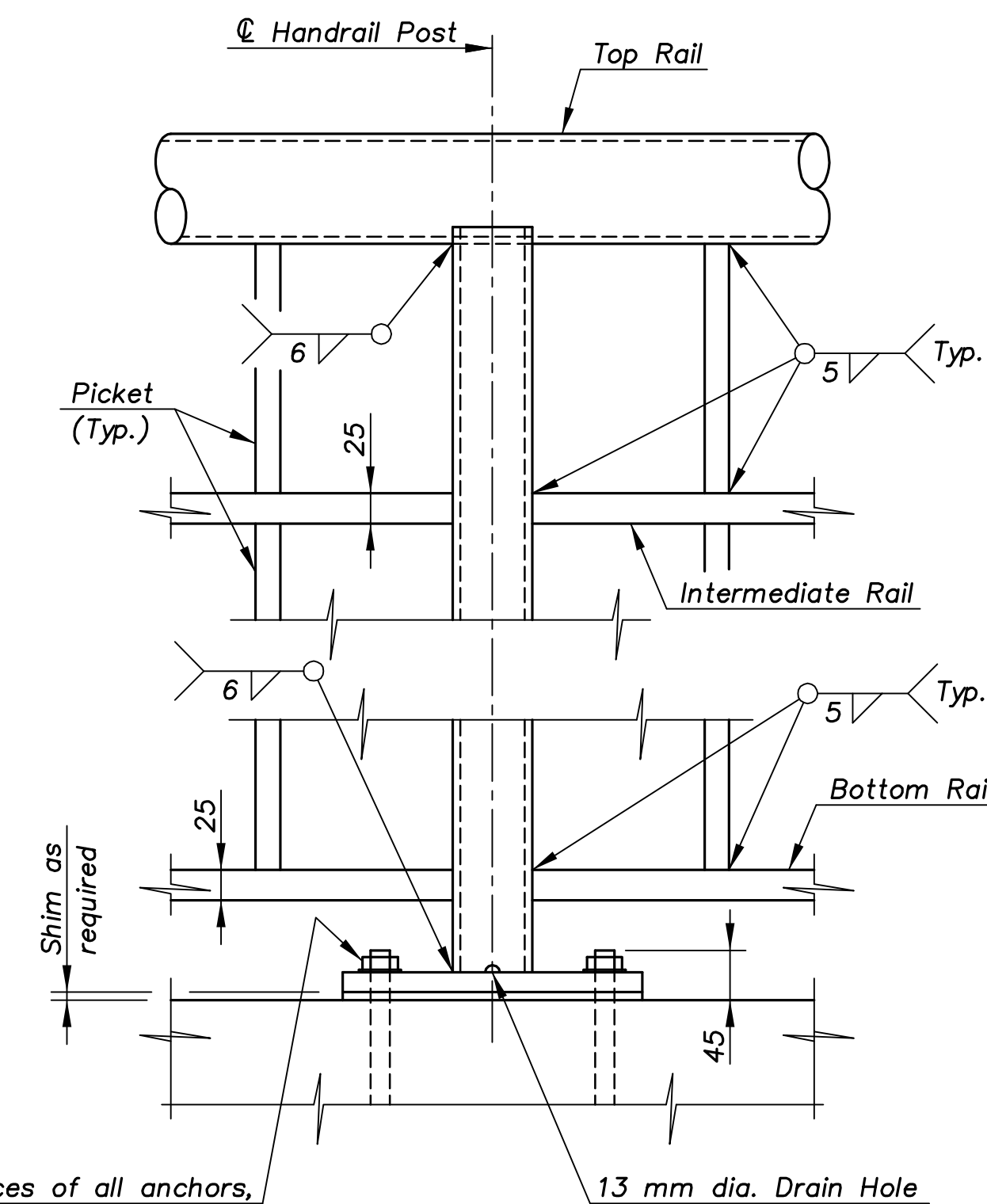
† NOTE: At the Contractor's option a grouted leveling pad may be used in lieu of the steel shim plates to erect the posts vertical. The leveling pad shall be of a non-shrink grout as approved by the Engineer. The grout shall be mixed, applied and cured according to the manufacturer's recommendations.

Top Rail Sleeve—64 mm dia. (73.0 mm O.D., 62.7 mm I.D.) Std. Steel Pipe, Schedule 40, ASTM A53, Type E or S, Grade B

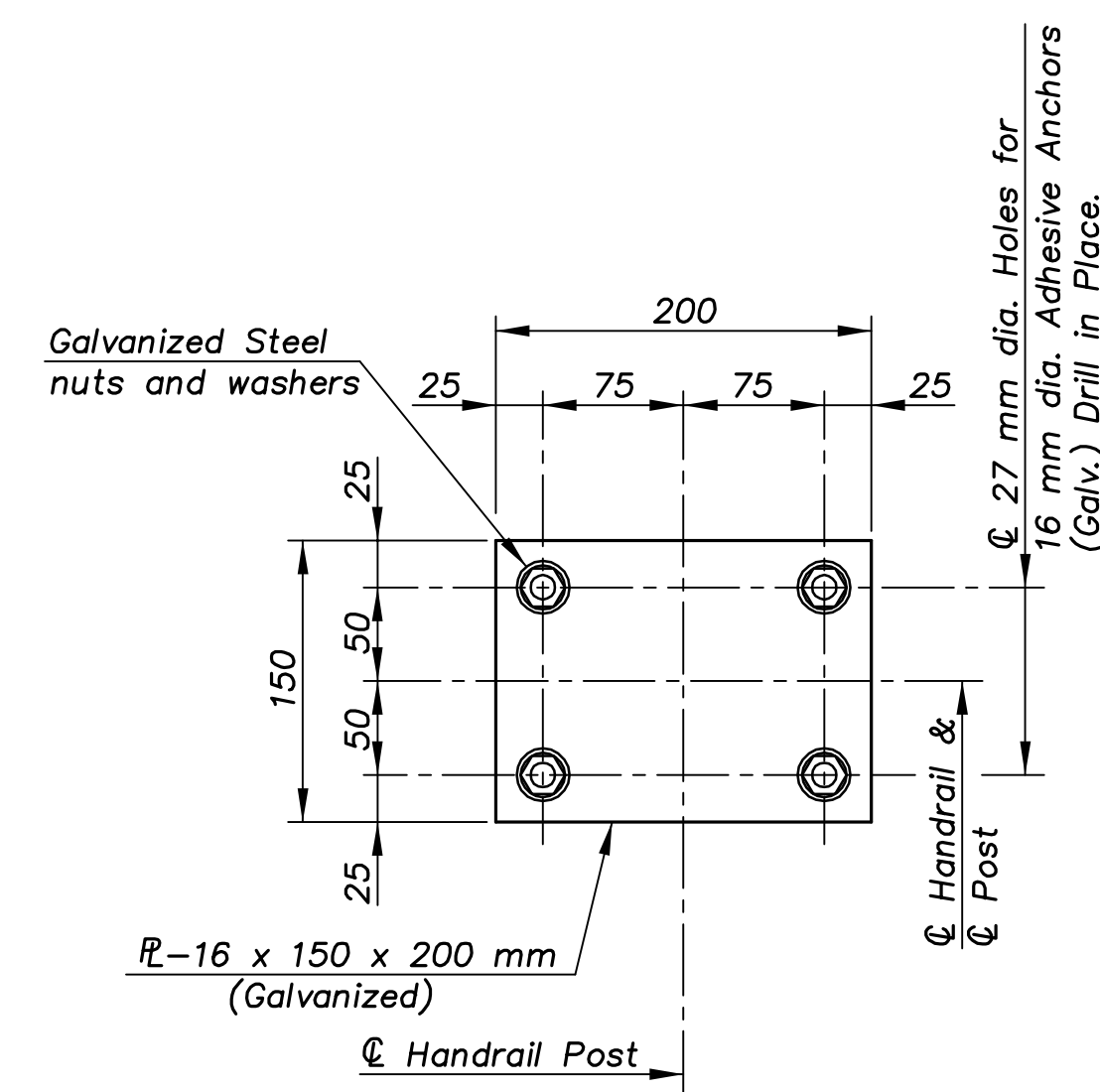


ELEVATION AT RAIL SPLICE

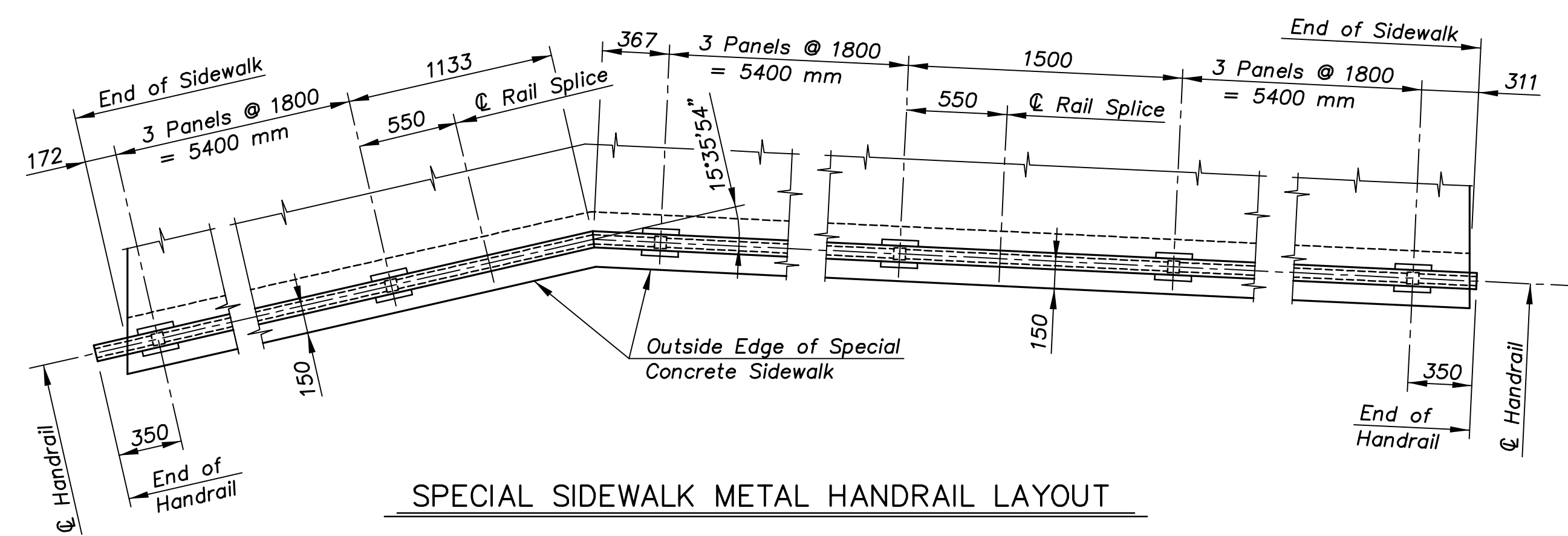
Exposed surfaces of all anchors, nuts and washers shall be field painted after installation



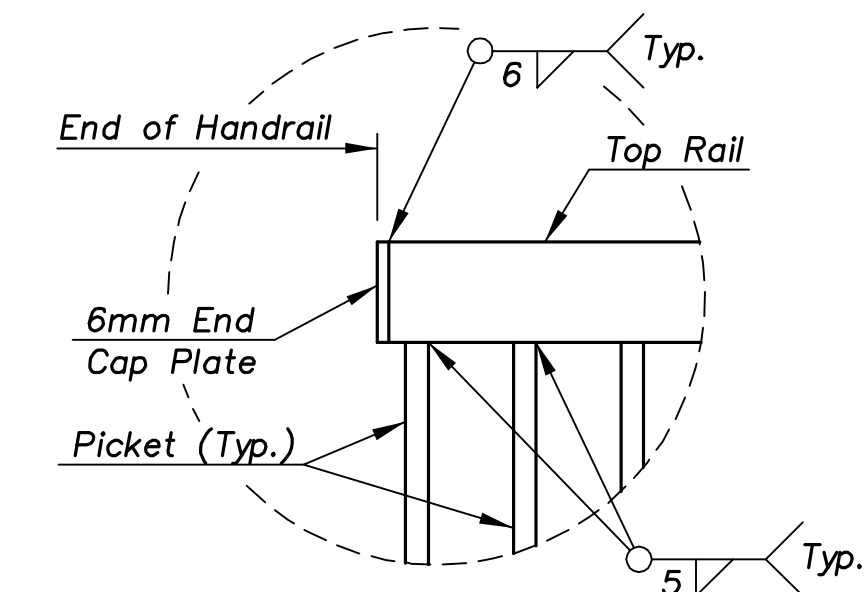
ELEVATION AT POST



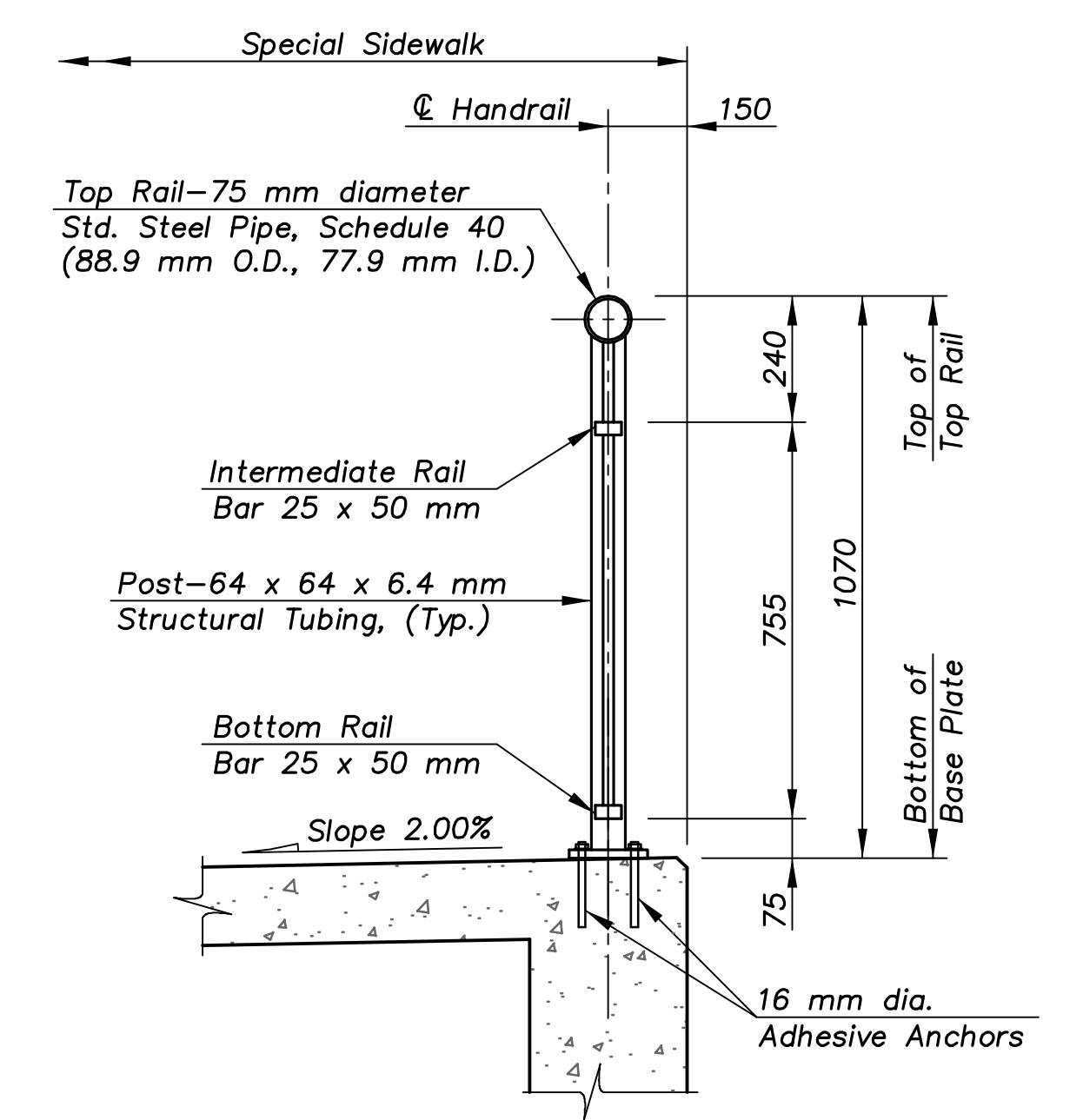
BASE PLATE DETAIL



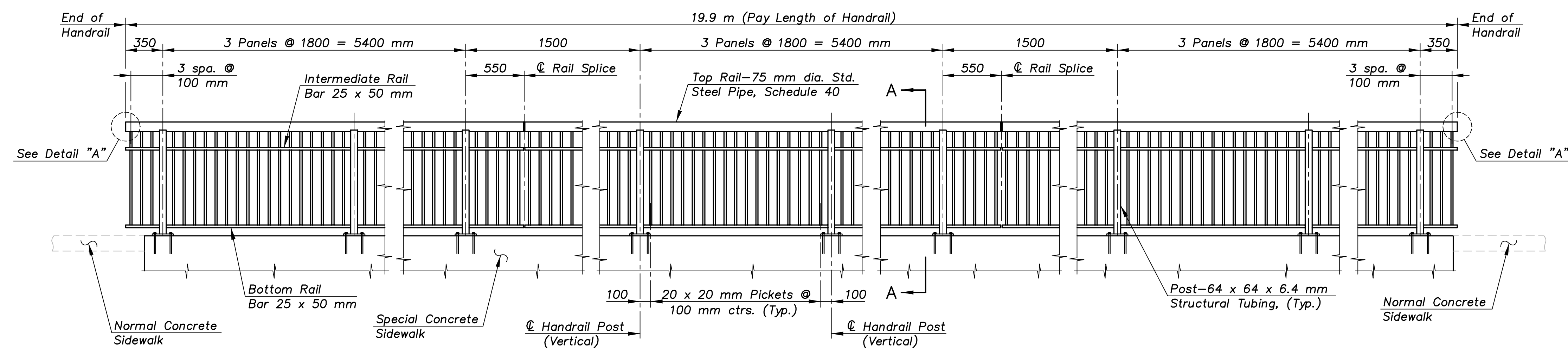
SPECIAL SIDEWALK METAL HANDRAIL LAYOUT



DETAIL "A"
(Typical all ends of rail)



SECTION A-A



DEVELOPED ELEVATION ALONG CENTERLINE OF HANDRAIL

NOTE: All horizontal dimensions are measured along centerline of Handrail.

KANSAS DEPARTMENT OF TRANSPORTATION			
METAL HANDRAIL DETAILS		Cook, Flatt & Strobel ENGINEERS, P.A.	
SOUTH FRONTAGE ROAD OVER GYPSUM CREEK		DESIGNED R.S.C.	SCALE
Proj. No. 54-87 K-8258-07 SEDGWICK COUNTY		DETAILED T.R.G.	DATE
		QUANTITIES T.R.G.	SHEET 5 OF 5

1:100
MISC-DETAILS\GYPSUM-APPR