

#### RAILING GENERAL NOTES

#### PIPE RAILING AND POSTS:

PIPE RAILS SHALL BE IN ACCORDANCE WITH ASTM A53 GRADE B FOR STANDARD WEIGHT PIPE AND ASTM A500 GRADE B, C OR D OR ASTM A501 FOR STRUCTURAL TUBE. BARS FOR HANDRAIL SUPPORTS SHALL BE ASTM A36. POSTS AND END RAILS SHALL BE FABRICATED AND INSTALLED PLUMB ±1" TOLERANCE WHEN MEASURED AT 3'-6" ABOVE THE FOUNDATION. CORNERS AND CHANGES IN TANGENTIAL LONGITUDINAL ALIGNMENT, MAY BE MADE CONTINUOUS WITH A 9" BEND RADIUS OR TERMINATED AT ADJOINING SECTIONS WITH A STANDARD END HOOP WHEN HANDRAILS ARE NOT REQUIRED. FOR CHANGES IN TANGENTIAL LONGITUDINAL ALIGNMENT GREATER THAN 45°, POSTS SHALL BE POSITIONED AT A MAXIMUM DISTANCE OF 2'-0" EACH SIDE OF THE CORNER AND SHALL BE LOCATED AT THE CORNER APEX. FOR CURVED LONGITUDINAL ALIGNMENTS, THE TOP AND BOTTOM RAILS AND HANDRAILS SHALL BE SHOP BENT TO MATCH THE ALIGNMENT RADIUS.

#### **BASE PLATES**

BASE PLATES SHALL BE IN ACCORDANCE WITH ASTM A36 OR ASTM A709 GRADE 36.

#### SHIM PLATES

SHIM PLATES SHALL BE ALUMINUM IN ACCORDANCE WITH ASTM B209, ALLOY 6061 OR 6063. SHIM PLATES SHALL BE USED FOR FOUNDATION HEIGHT ADJUSTMENTS GREATER THAN  $\frac{1}{4}$ " AND LOCALIZED IRREGULARITIES GREATER THAN  $\frac{1}{8}$ ". FIELD TRIM SHIM PLATES WHEN NECESSARY TO MATCH THE CONTOURS OF THE FOUNDATION OR SUPPORTING MEMBER. BEVELED SHIM PLATES MAY BE USED IN LIEU OF TRIMMED FLAT PLATES SHOWN. STACKED SHIM PLATES MUST BE BONDED TOGETHER WITH ADHESIVE BONDING MATERIAL AND LIMITED TO A MAXIMUM TOTAL THICKNESS OF  $\frac{1}{2}$ ", UNLESS LONGER ANCHOR BOLTS ARE PROVIDED FOR THE EXPOSED THREAD.

#### COATING

THE RAILING AND ALL NUTS AND BOLTS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.

#### **ANCHOR BOLTS**

ANCHOR BOLTS SHALL BE IN ACCORDANCE WITH ASTM F1554 GRADE 36. HEADLESS ANCHOR BOLTS FOR ADHESIVE ANCHOR BOLTS SHALL BE THREADED. TACK WELDING OF THE NUT TO THE ANCHOR BOLTS MAY BE USED IN LIEU OF SELF-LOCKING NUTS. ALL NUTS SHALL BE IN ACCORDANCE ASTM A563 OR A194. FLAT WASHERS SHALL BE IN ACCORDANCE WITH ASTM A36 OR ASTM A709 GRADE 36. AFTER THE NUTS HAVE BEEN SNUG TIGHTENED, THE ANCHOR BOLT THREADS SHALL BE DISTORTED TO PREVENT REMOVAL OF THE NUTS. DISTORTED THREADS AND TACK WELDS SHALL BE COATED WITH GALVANIZED COMPOUND.

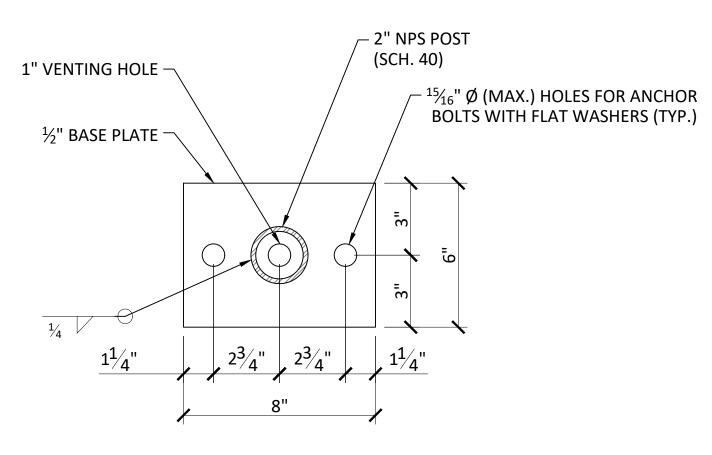
#### IOINTS

ALL FIXED JOINTS ARE TO BE WELDED ALL AROUND AND GROUND SMOOTH. RAILS TO BE CONTINUOUS ACROSS A MINIMUM OF 2 POSTS BEFORE USING A SPLICE.

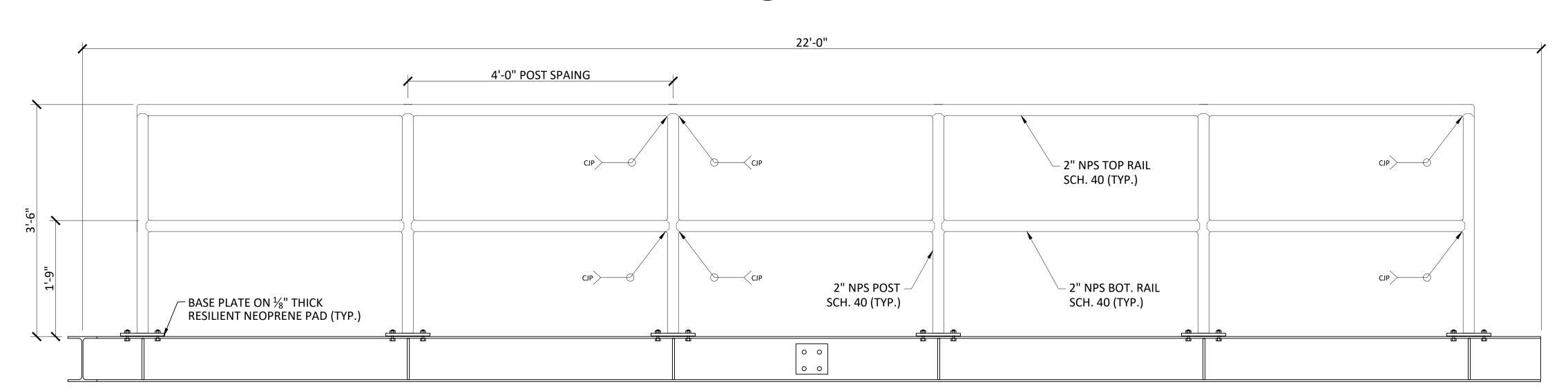
#### WELDING

ALL WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE (STEEL) ANSI/AWS D1.1 (CURRENT EDITION). WELD METAL SHALL BE E60XX OR E70XX. NONDESTRUCTIVE TESTING OF WELDS IS NOT REQUIRED.

MEMBER DIMENSIONS TABLE						
MEMBER	DESIGNATION	OUTSIDE DIMENSION	WALL THICKNESS			
POSTS	2" NPS (SCH. 40)	2.375"	0.154"			
RAILS	2" NPS (SCH. 40)	2.375"	0.154"			
RAIL JOINT/SPLICE SLEEVES	1 ½ " NPS (SCH. 40)	1.900"	0.145"			
HANDRAILS JOINT	1" NPS (SCH. 40)	1.315"	0.133"			
HANDRAILS	1½" NPS (SCH. 40)	1.900"	0.145"			
HANDRAIL SUPPORT BAR	1" Ø ROUND BAR	1.000"	N/A			







# 1 RAILING ELEVATION SK-101 SCALE: 1" =1'-0"

## **MATERIAL NOTES:**

HOLES:  $^{13}/_{16}$ " Ø (U.N.)

STRUCTURAL STEEL: ASTM A572 OR A992 GRADE 50 U.N.

PLATES AND CONNECTING MATERIAL: ASTM A36 PLATES, ANGLES, CHANNELS

TUBES: A500 GRADE B (46 KSI) U.N.

ANCHOR BOLTS: F-1554 (36 KSI)

WELD: E70XX-LOW HYDROGEN

BOLTS: A325-N BOLTS 3/4" Ø (U.N.)

\*NEW STEEL TO BE SHOP PRIMED AND PAINTED.
TOUCH UP FIELD WELDS AFTER INSPECTION WITH PAINT.

### NOTES:

- WELDED CONNECTION TO CONFORM TO SECTIONS J OF THE AISC STEEL MANUAL.
- 2. ALL WELDING SHALL BE IN ACCORDANCE WITH AISC AND AWS CODE FOR WELDING IN BUILDING CONSTRUCTION, AWS D1.1, AND MUST BE PERFORMED BY A DOB CERTIFIED WELDER, ELECTRODES SHALL BE E70XX SERIES.
- 3. ALL DIMENSIONS TO BE VERIFIED IN FIELD AND TO BE CHECKED WITH ENGINEER AND ARCHITECT DRAWINGS.



U.S. ALFATECH OF NY CORP STORAGE: 111-75 44TH AVE SHOP: 53-42 97TH PLACE CORONOA, NY 11368 TEL. (347) 724-6295

ALPHA DETAILERS INC.

STRUCTURAL STEEL DETAILING 18-20 130TH STREET COLLEGE POINT NY 11356 TEL. (646) 423-0914

JOB LOCATION:

215 E 58TH STREET NEW YORK, NY 10022

	NO.	DATE	REVISION
l			

SHEET:

RAILING DETAILS

	SCALE: DATE:	AS SHOWN 11/4/19			
•	DRAWN BY:	MB			
	CHK BY:	2			
	DWG No.:				
	SK-101				

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