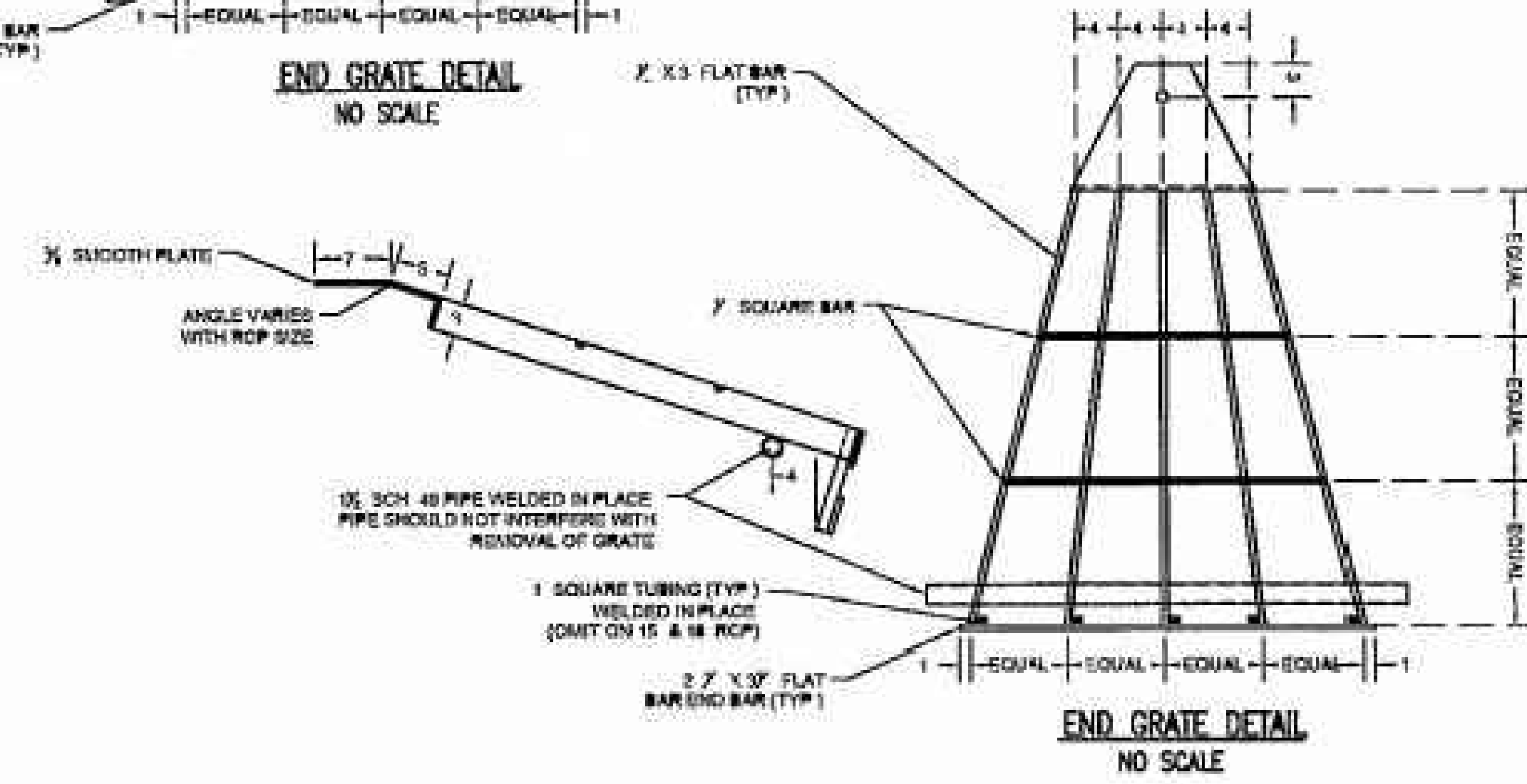
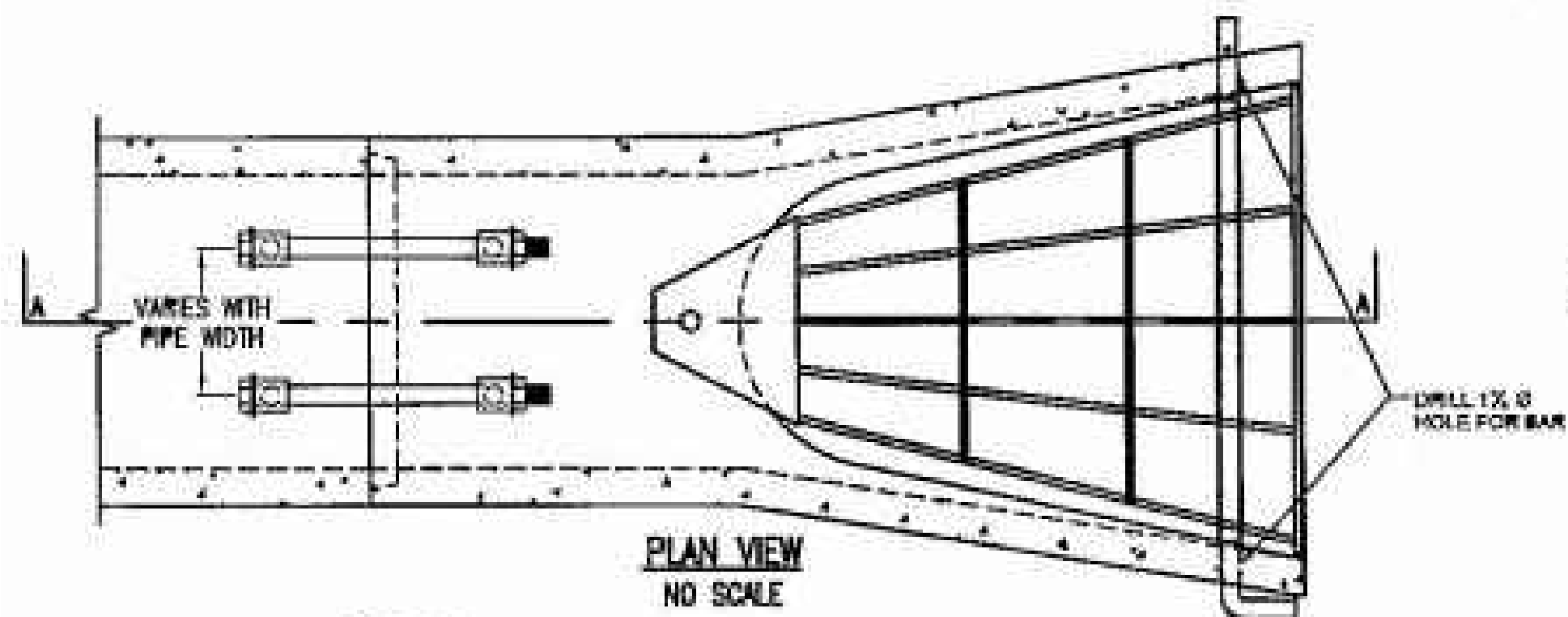


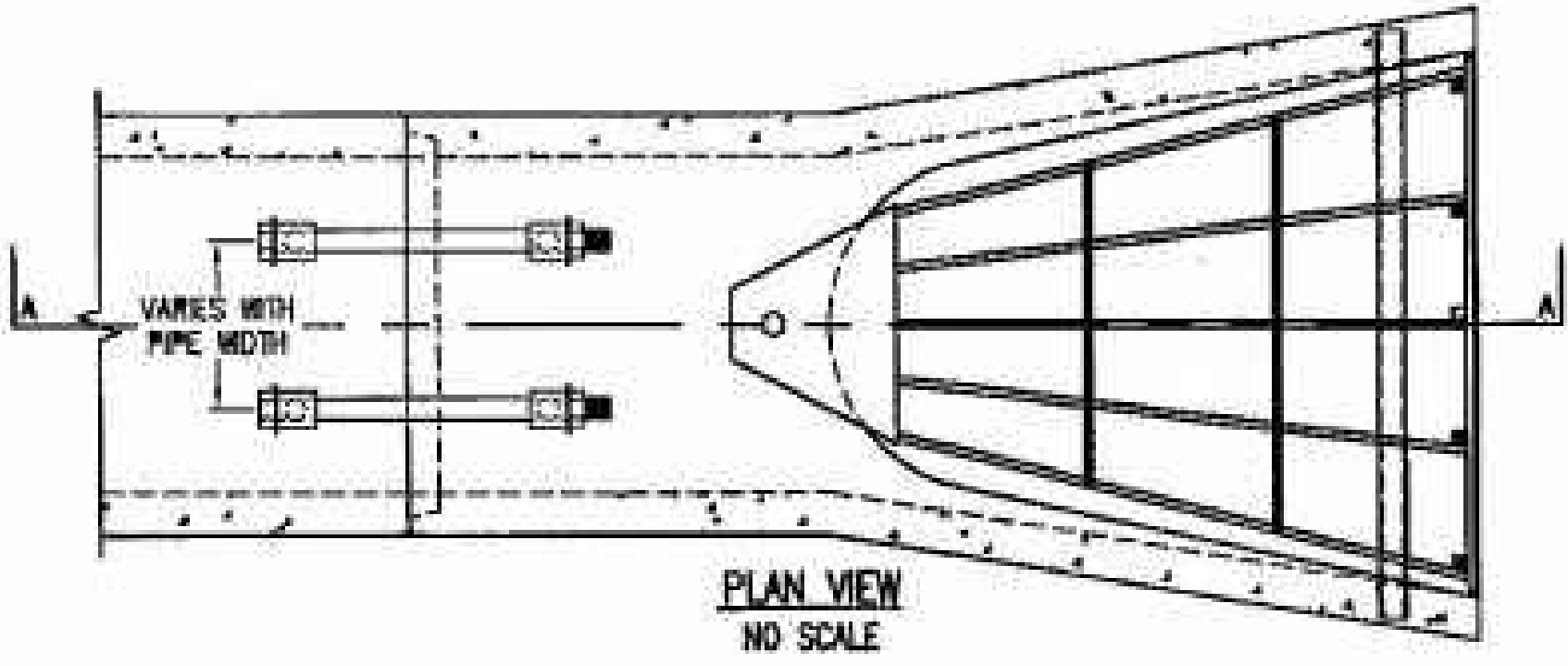
END GRATE DETAIL
NO SCALE



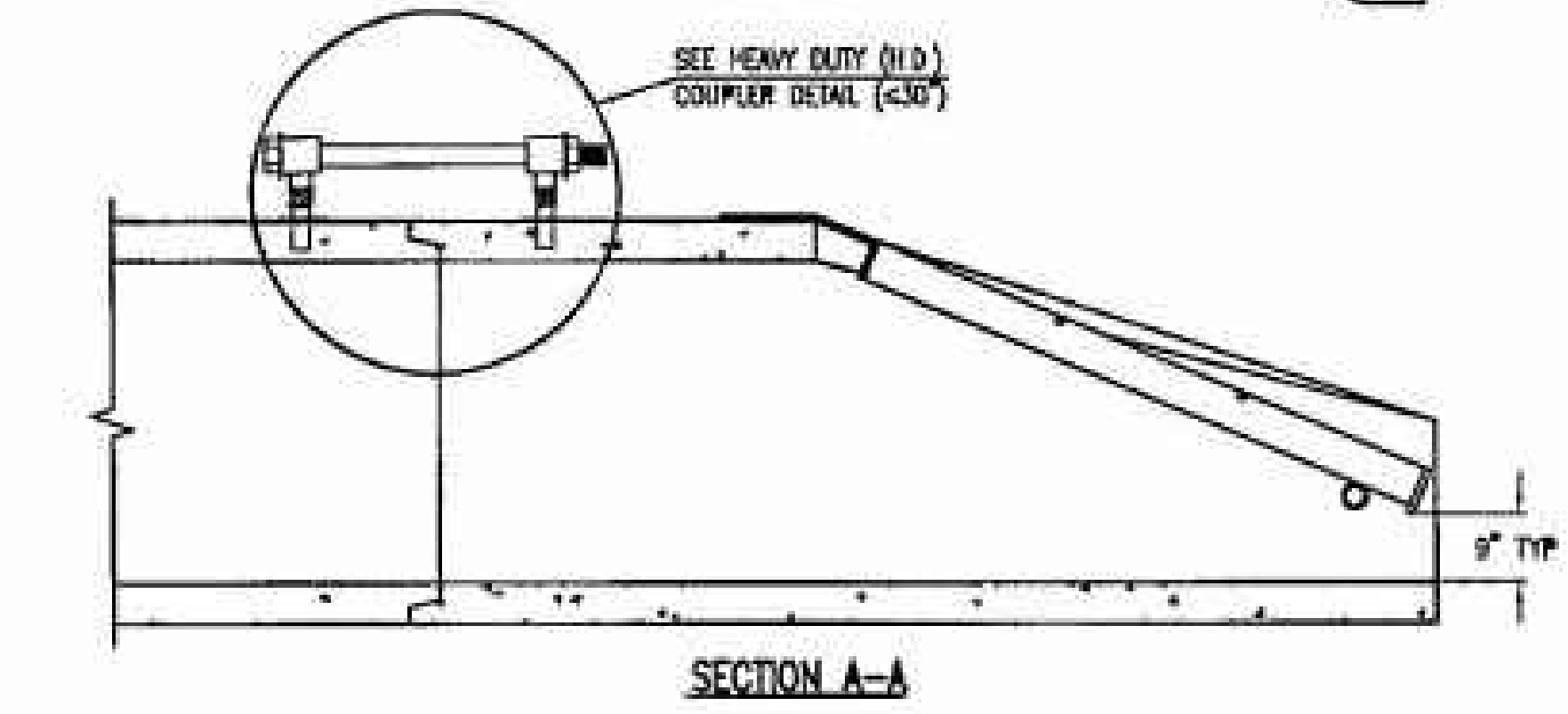
END GRATE DETAIL
NO SCALE



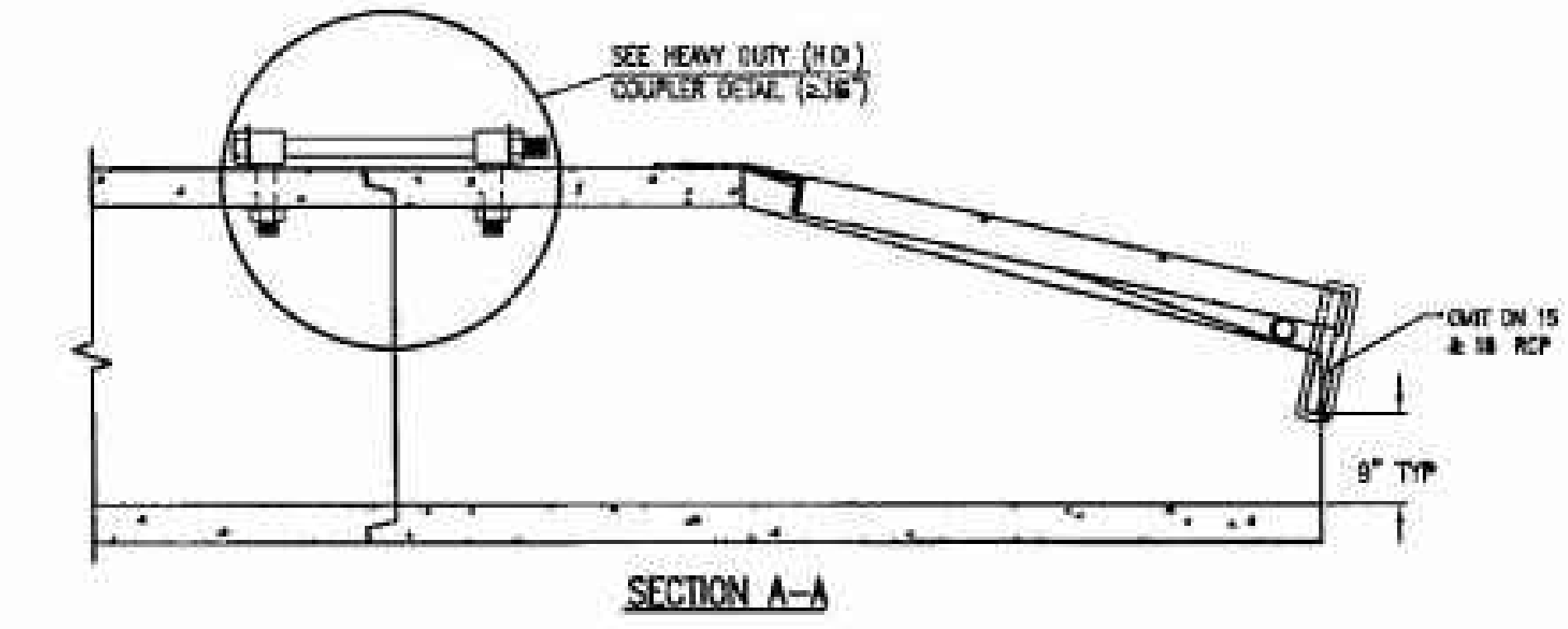
PLAN VIEW
NO SCALE



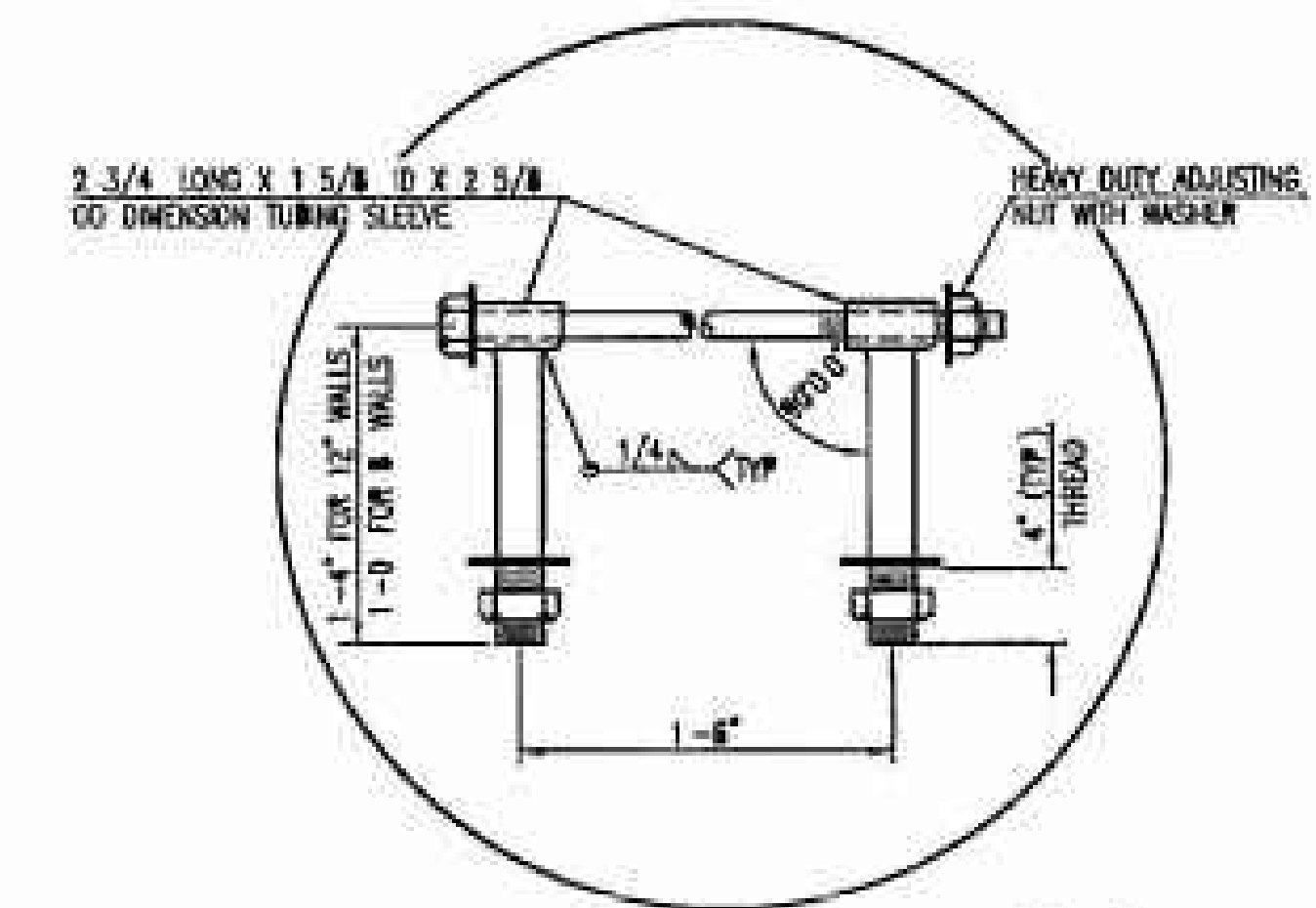
PLAN VIEW
NO SCALE



SECTION A-A

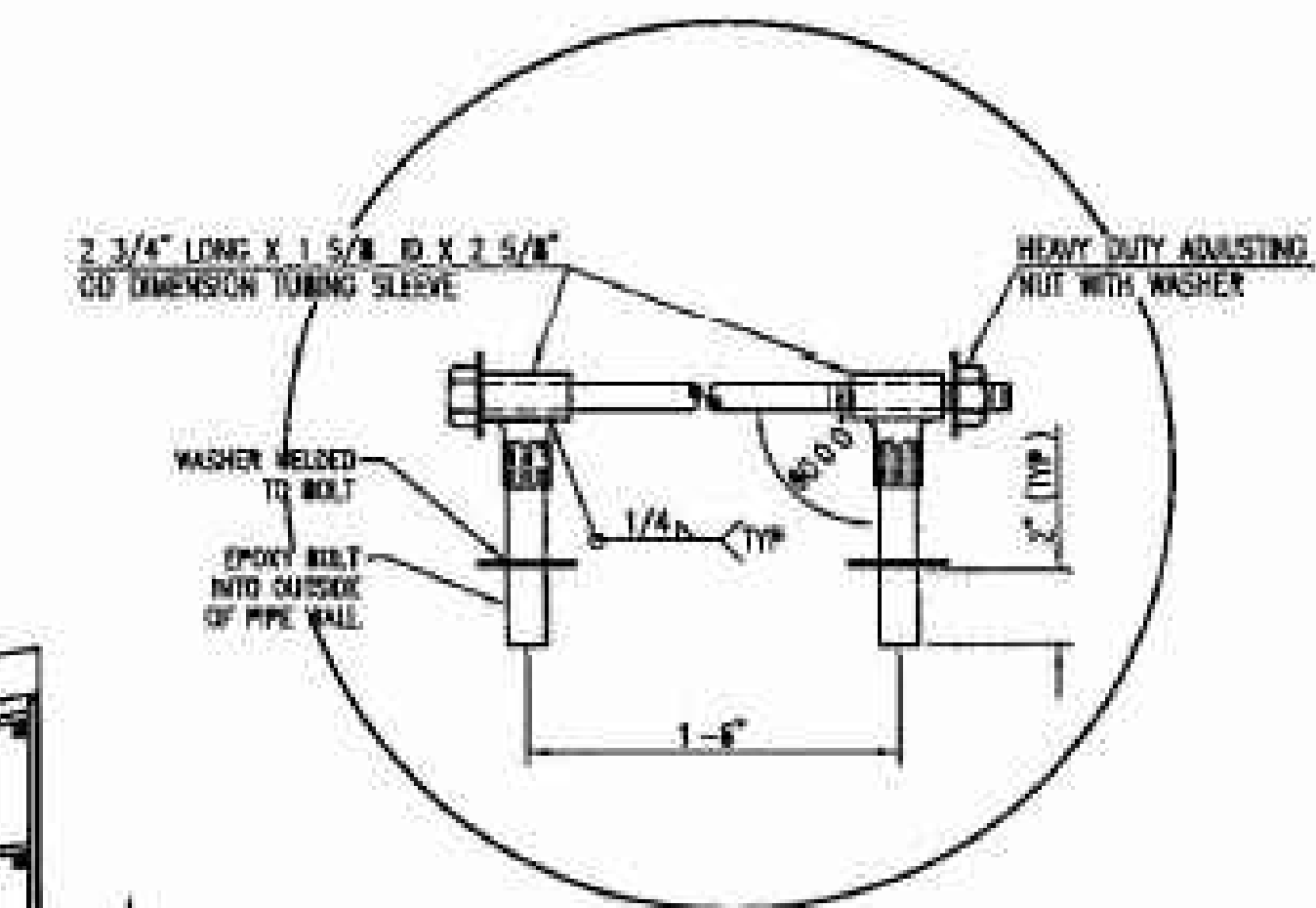


SECTION A-A



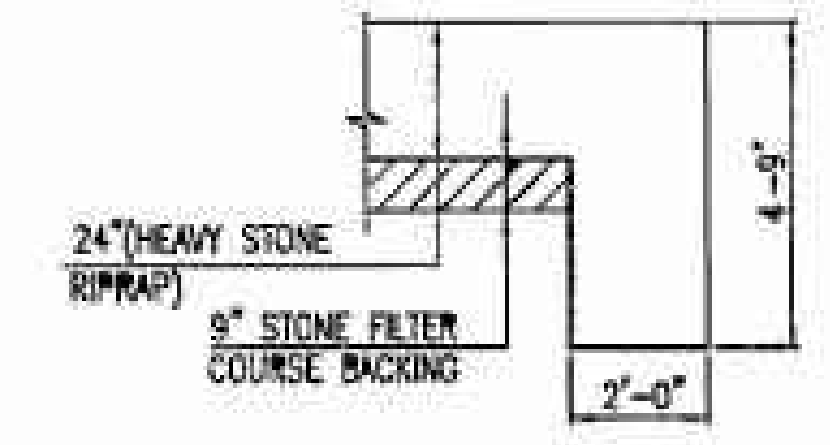
HEAVY DUTY (H.D.) COUPLER DETAIL (>36°)
NO SCALE

- NOTES
- 1 BOLTS TO BE A-36 1 1/2" DIAMETER
 - 2 BOLTS, NUTS, WASHERS AND SLEEVES TO BE ZINC PLATED
 - 3 WASHERS TO BE 3 1/2" O.D. X 7 GAUGE
 - 4 SHIP WITH NUTS AND WASHERS PLACED ON BOLTS



HEAVY DUTY (H.D.) COUPLER DETAIL (<30°)
NO SCALE

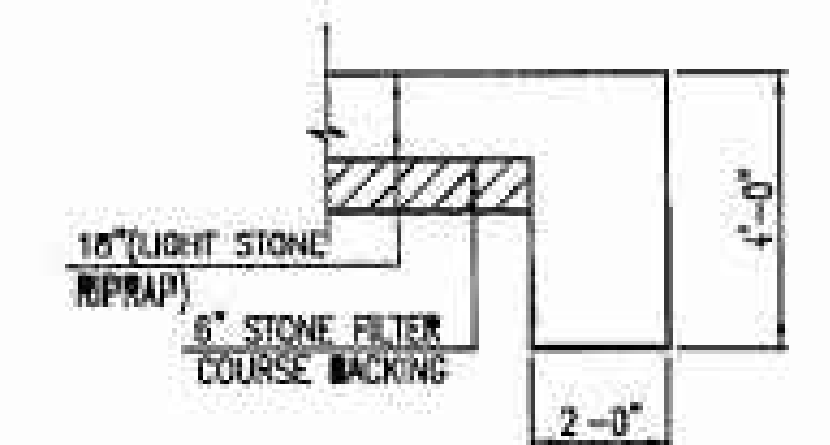
- NOTES
- 1 BOLTS TO BE A-36 1 1/2" DIAMETER
 - 2 BOLTS, NUTS, WASHERS AND SLEEVES TO BE ZINC PLATED
 - 3 WASHERS TO BE 3 1/2" O.D. X 7 GAUGE
 - 4 SHIP WITH NUTS AND WASHERS PLACED ON BOLTS



TYPICAL SECTION THRU TOEWALL
NO SCALE

- NOTES
- 1 ALL RIPRAP FOR THIS PROJECT SHALL BE NATURAL STONE, NEITHER BROKEN CONCRETE, FABRIC ENVELOPE, NOR PREMIXED DRY PACKAGED CONCRETE BAG ALTERNATES WILL BE ALLOWED, UNLESS INDICATED OTHERWISE.
 - 2 TOEWALLS SHALL BE INSTALLED ALONG ALL UNPROTECTED EDGES OF STONE RIPRAP
 - 3 GROUTING OF THE SURFACE OF THE RIPRAP SHALL NOT BE PERFORMED UNLESS INDICATED OTHERWISE. GROUTING OF THE TOEWALLS SHALL BE PERFORMED PER CITY SPECIFICATIONS

HEAVY STONE RIPRAP DETAILS



TYPICAL SECTION THRU TOEWALL
NO SCALE

- NOTES
- 1 ALL RIPRAP FOR THIS PROJECT SHALL BE NATURAL STONE, NEITHER BROKEN CONCRETE, FABRIC ENVELOPE, NOR PREMIXED DRY PACKAGED CONCRETE BAG ALTERNATES WILL BE ALLOWED UNLESS INDICATED OTHERWISE.
 - 2 TOEWALLS SHALL BE INSTALLED ALONG ALL UNPROTECTED EDGES OF STONE RIPRAP
 - 3 GROUTING OF THE SURFACE OF THE RIPRAP SHALL NOT BE PERFORMED, UNLESS INDICATED OTHERWISE. GROUTING OF THE TOEWALLS SHALL BE PERFORMED PER CITY SPECIFICATIONS

LIGHT STONE RIPRAP DETAILS

END SECTION, PIPE RESTRAINT COUPLER & END GRATE		
CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE 01/2012
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202 1620 (316) 248-4301		DESIGN DRAWN SHEET _ of _

SOUTHFORK COMMERCIAL ADDITION
 PAVING & DRAINAGE IMPROVEMENTS
 MISCELLANEOUS DETAILS (STORM SEWER)
CITY OF WICHITA, KANSAS
 GARY JANZEN, P.E. - CITY ENGINEER
 PROJECT NO. 468-84826 OCA NO. (751507)
 PROJECT NO. 472-85050 OCA NO. (766279)

POE & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 5940 E. Central, Suite 200 • Wichita, KS 67208-4242
 Phone 316.685.1111 • FAX 316.685.4444

POE

FINAL

Engineer: T. AUSTIN
 Designer: M. TUCKER
 P.O. Job No.: 1858
 Date: JANUARY 2014

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