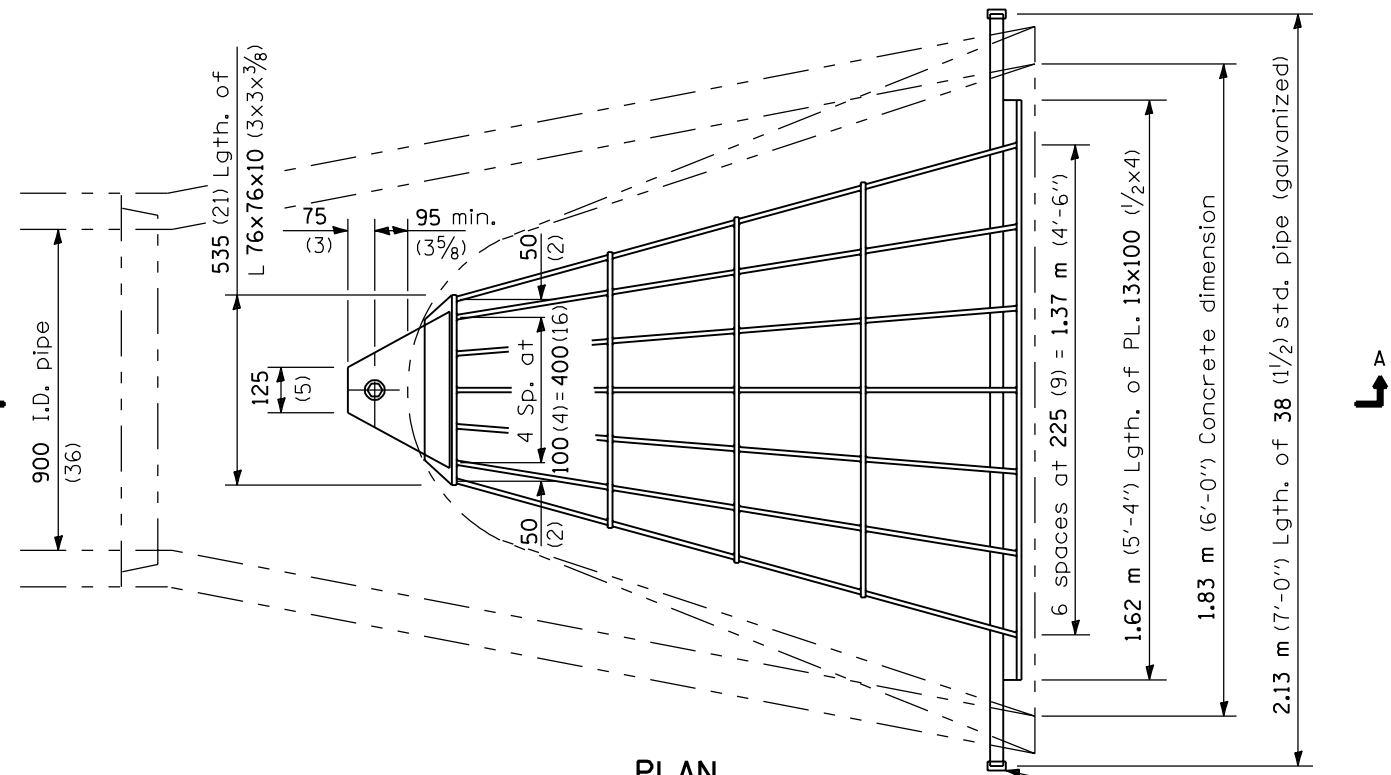


**PLAN**

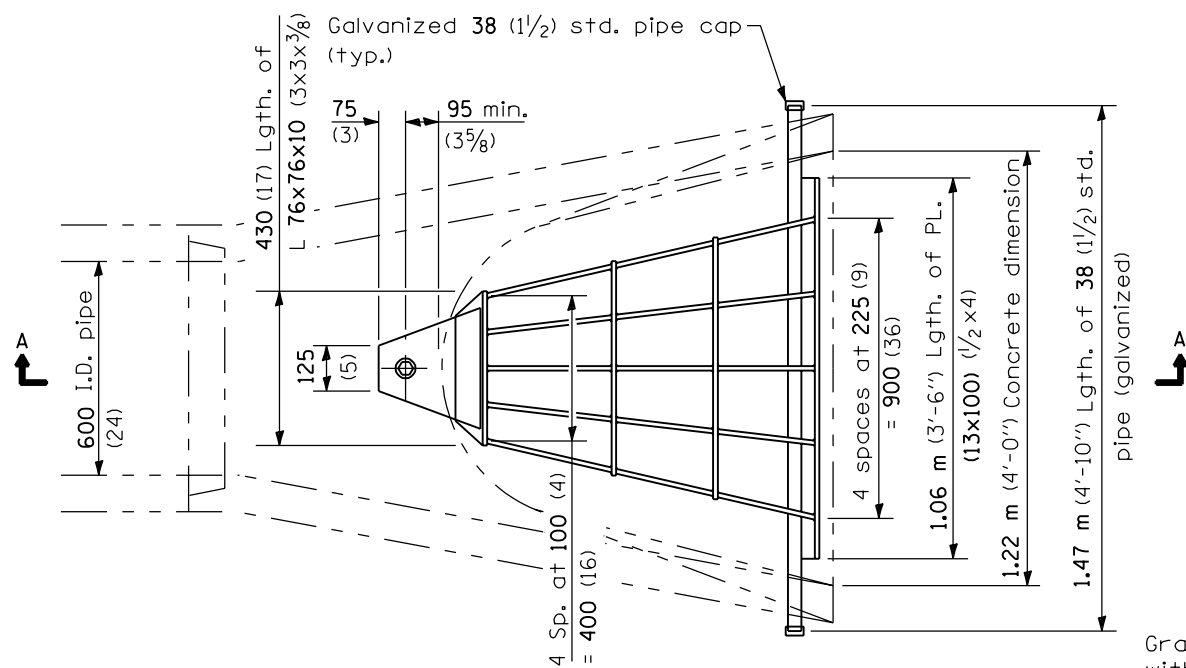
Quantity of steel = 95 kg (210 lbs.)



**PLAN**

Quantity of steel = 127 kg (280 lbs.)

Galvanized 38 (1 1/2) std. pipe cap (typ.)



**PLAN**

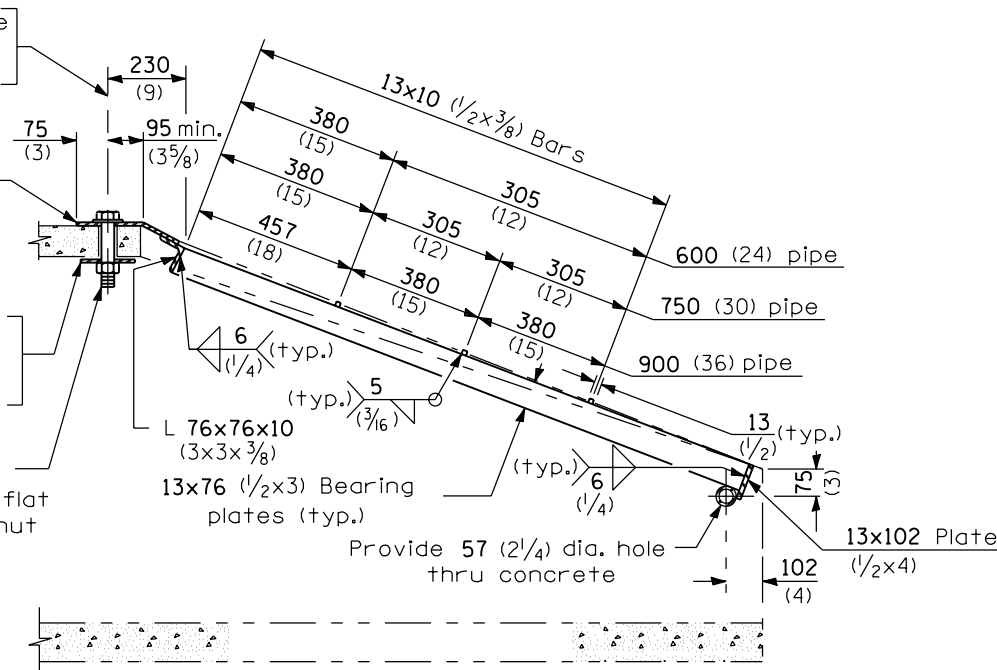
Quantity of steel = 68 kg (150 lbs.)

28 (1/8) Dia. hole thru 10 (3/8) plate  
30 (1/4) Dia. hole thru concrete

10 (3/8) Plate shall conform to surface shape of concrete flared end section.

76x76x10 (1/4x4x4) Plate washer  
27 (1/16) dia. hole

M24 (1) Bolt with flat washer and hex nut



**SECTION A-A**

All dimensions are in millimeters (inches) unless otherwise shown.

**GENERAL NOTES**

Grating details shown are intended for use with particular sizes of precast reinforced concrete flared end sections as shown on standards 542301 and 542306.

Approximate quantity of steel shown includes total quantity of grating, bolts, nuts, washers and steel pipe.

Holes in the precast concrete flared end sections shall be cored to the diameters noted. If cone-out on the other end of the hole occurs, the hole shall be filled with grout to correct the diameter of the hole.

DATE	REVISIONS
1-1-97	Renum. Standard 2364-3 and Standard 2379-2.
6-15-94	Moved G.N. to Specs. Added Metric.

**GRATING FOR CONCRETE FLARED END SECTION (FOR 600 mm (24") THRU 1350 mm (54") PIPE)**

(Sheet 1 of 2)

**STANDARD 542311**

Illinois Department of Transportation

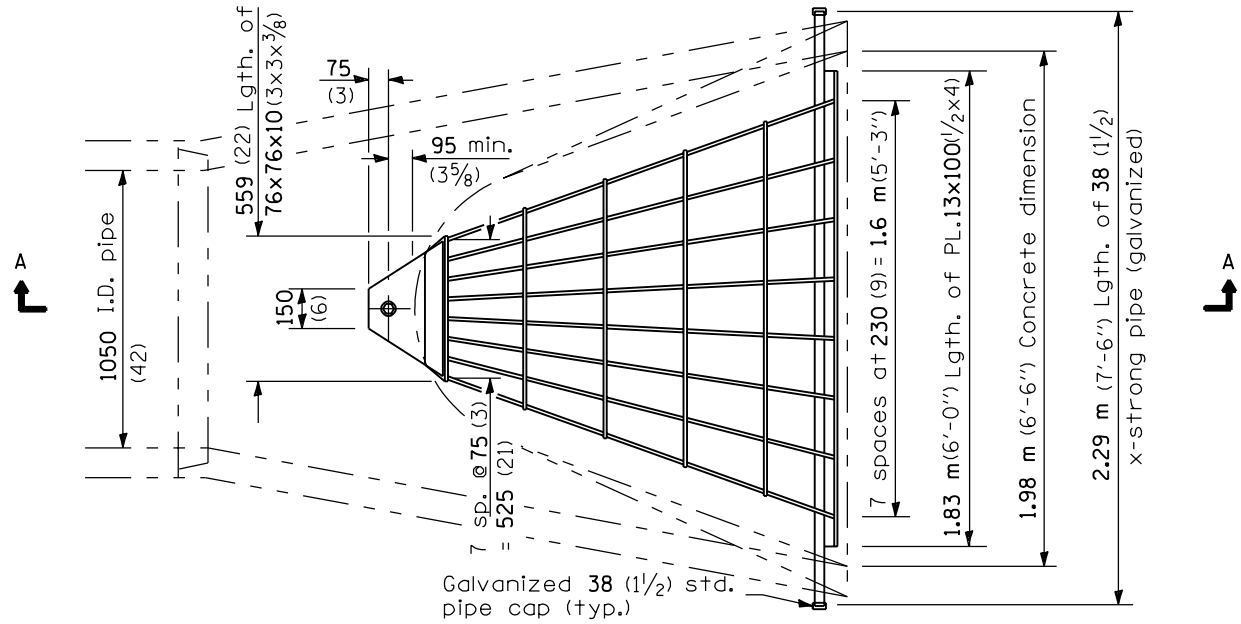
PASSED January 1, 1997

ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 1997

ENGINEER OF DESIGN AND ENVIRONMENT

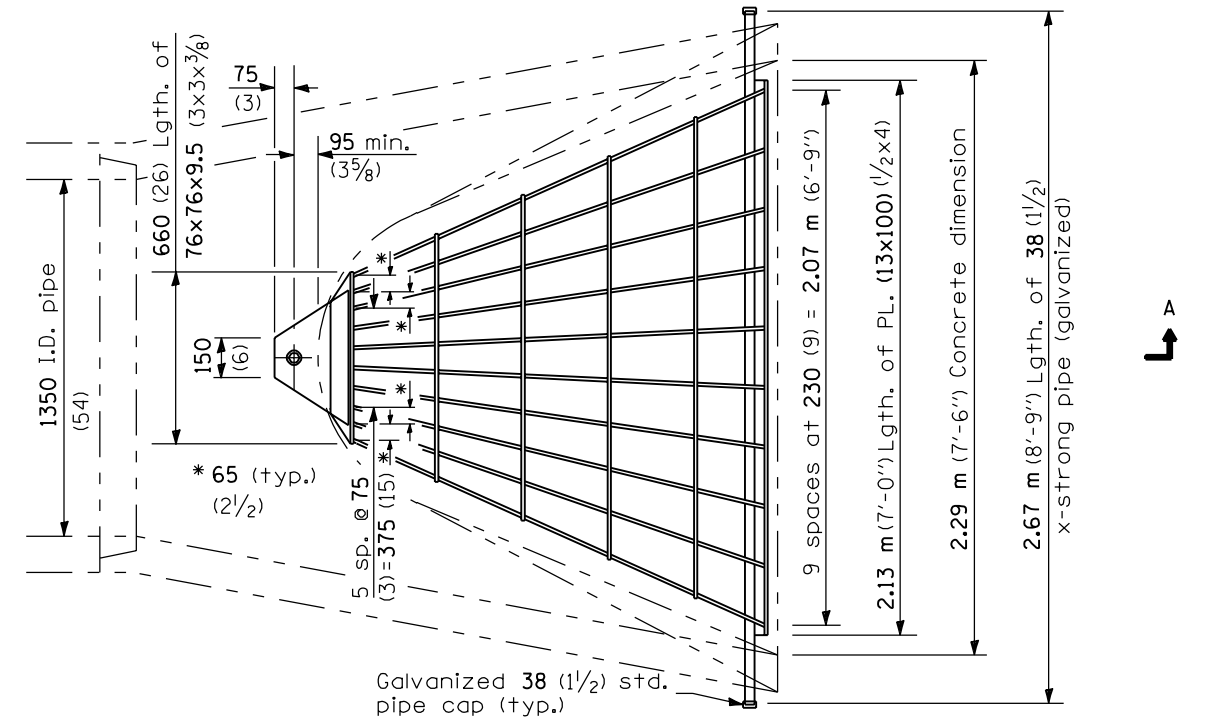
ISSUES 26-1-1 03/SSS



Galvanized 38 (1 1/2) std. pipe cap (typ.)

**PLAN**

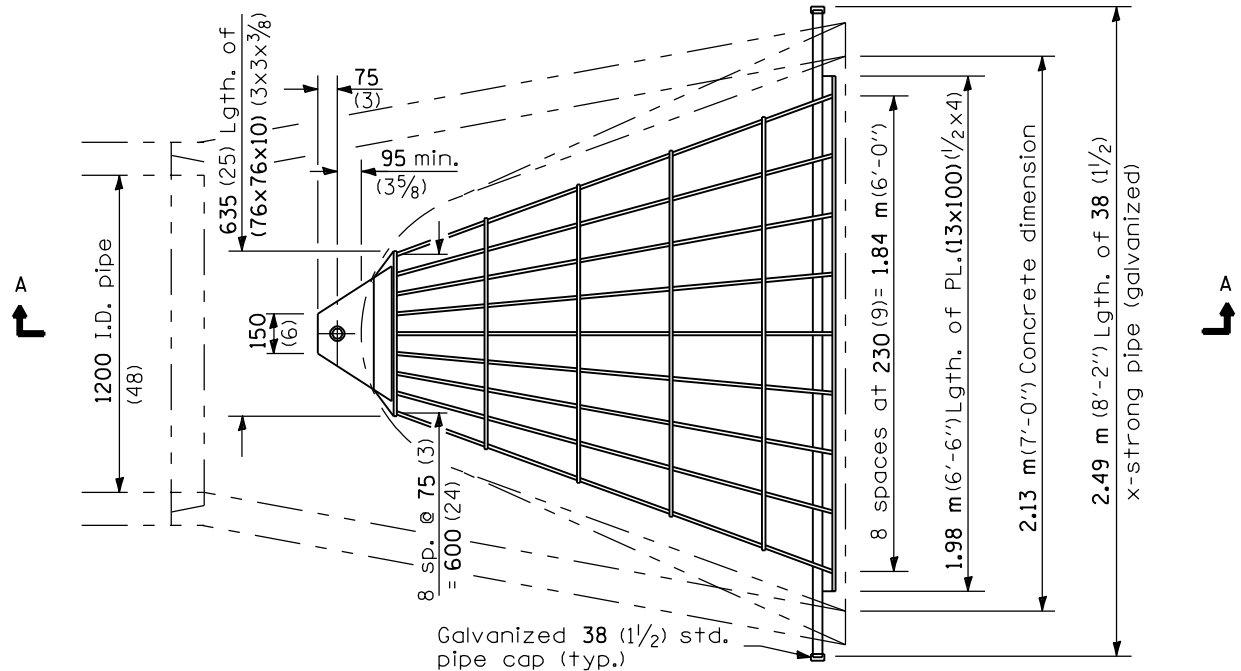
Quantity of steel = 145 kg (320 lbs.)



Galvanized 38 (1 1/2) std. pipe cap (typ.)

**PLAN**

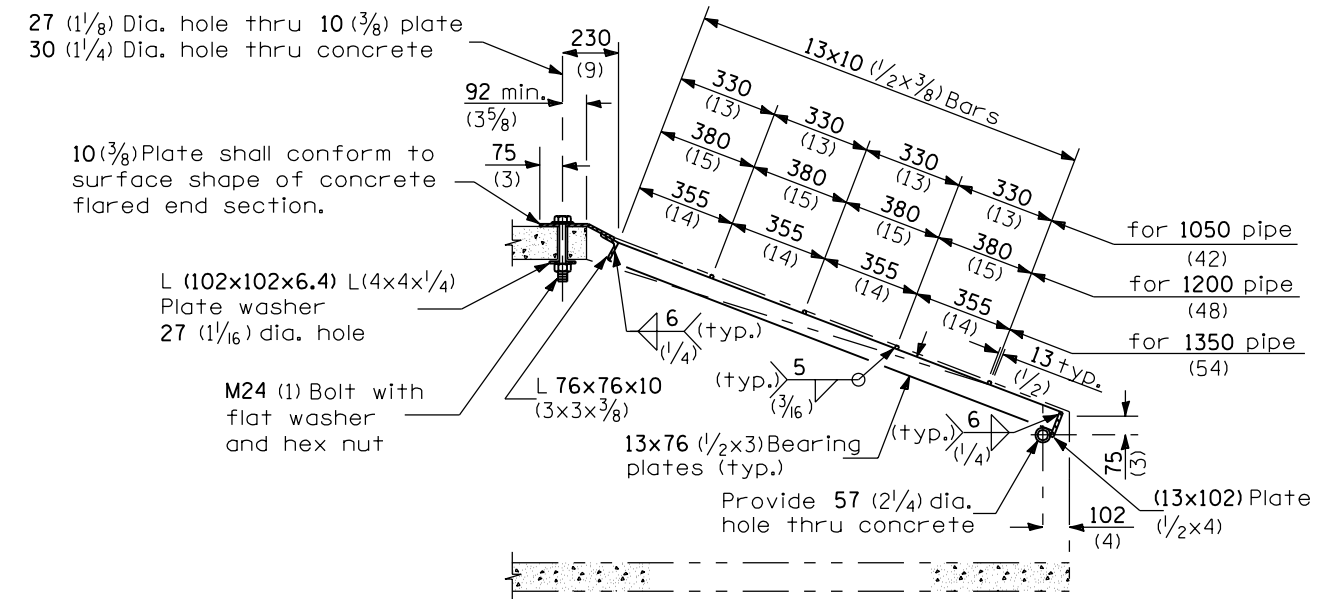
Quantity of steel = 193 kg (425 lbs.)



Galvanized 38 (1 1/2) std. pipe cap (typ.)

**PLAN**

Quantity of steel = 181 kg (400 lbs.)



**SECTION A-A**

All dimensions are in millimeters (inches) unless otherwise shown.

**GRATING FOR CONCRETE  
FLARED END SECTION  
(FOR 600 mm (24") THRU  
1350 mm (54") PIPE)**

(Sheet 2 of 2)

**STANDARD 542311**

Illinois Department of Transportation

PASSED January 1, 1997

ENGINEER OF POLICE AND PROCEDURES

APPROVED January 1, 1997

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ISSUES 26-1-1