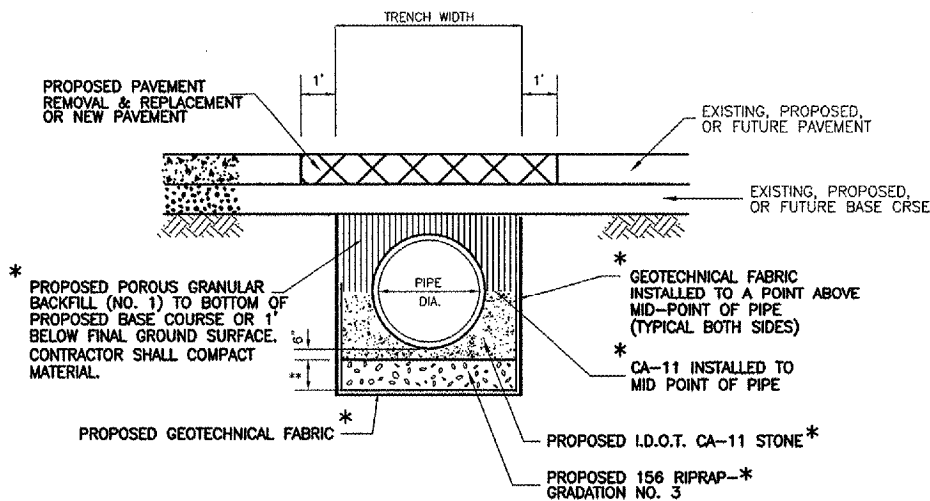


**NOTES :**

- 1) PIPE UNDERDRAIN MATERIAL SHALL MEET THE MATERIAL REQUIREMENTS OF ITEM 705 AND THE SPECIAL PROVISIONS.
- 2) COST OF POROUS BACKFILL NO. 2 (CA-14 OR CA-16), BENDS AND FITTINGS TO BE INCLUDED IN THE UNIT PRICE FOR UNDERDRAINS.
- 3) NO ADDITIONAL COMPENSATION SHALL BE MADE FOR CHANGES IN ELEVATIONS MADE BY THE RESIDENT ENGINEER.

**PERFORATED PIPE UNDERDRAIN DETAIL**

**PROPOSED TYPICAL SECTION - PIPE TRENCH (ALL PROPOSED PIPES)**

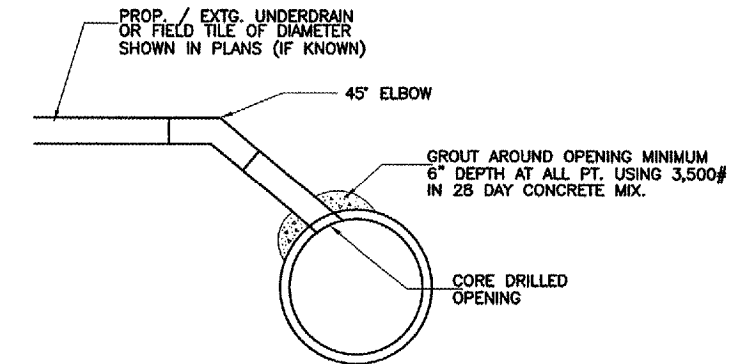


\* = COST OF THESE ITEMS SHALL BE INCLUDED IN THE 701 PIPE CONTRACT UNIT PRICES

**GENERAL PIPE NOTES:**

1. GROUND WATER IS EXPECTED. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DEWATERING, TO THE SATISFACTION OF THE ENGINEER, TO INSURE PROPER INSTALLATION OF PIPES. NO ADDITIONAL COMPENSATION BEYOND THE CONTRACT UNIT PRICES WILL BE ALLOWED FOR DEWATERING COSTS.
2. COMPACTED BEDDING AND BACKFILL MATERIALS SHALL BE REQUIRED AS SHOWN IN DETAIL. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

PIPE DIA.	TRENCH WIDTH	PVMT. RMVL. WIDTH	FOUNDATION DEPTH
8"	3.75'	6'	10"
12"	4.17'	6.5'	10"
15"	4.46'	6.75'	10"
18"	4.75'	7'	10"
ELLIPTICAL 18" EQUIV	5.21'	7.5'	10"
24"	5.33'	7.5'	18"
ELLIPTICAL 24" EQUIV	5.87'	8'	18"
30"	5.92'	8'	18"
ELLIPTICAL 30" EQUIV	6.63'	9'	18"
42"	7.08'	9.5'	18"

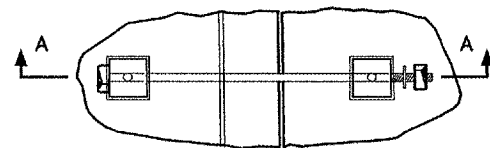


**DETAIL OF PIPE UNDERDRAIN / FIELD TILE OUTLET INTO STORM SEWER OR PIPE CULVERT**

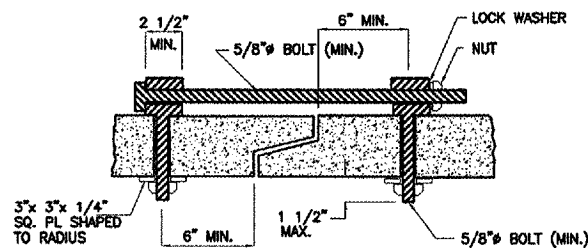
**NOTES :**

COST OF NEW PIPE, ELBOW AND GROUTING TO BE INCLUDED IN CONTRACT UNIT PRICES. ANY DAMAGE TO EXISTING STORM SEWER, TILE, OR PIPE CULVERT SHALL BE REPAIRED TO THE SATISFACTION OF THE RESIDENT ENGINEER AT THE CONTRACTOR'S EXPENSE.

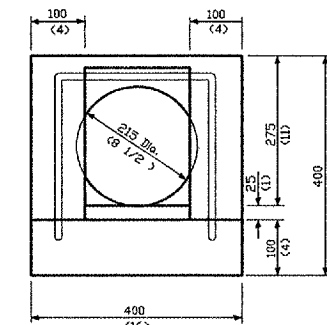
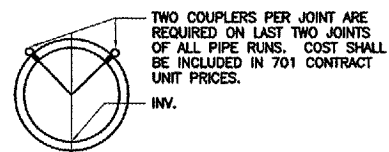
**PROPOSED PIPE COUPLERS**



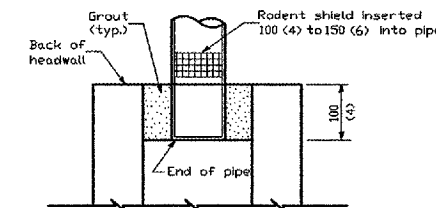
PLAN OF ONE COUPLER



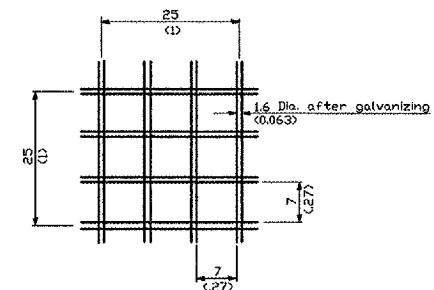
SECTION A-A



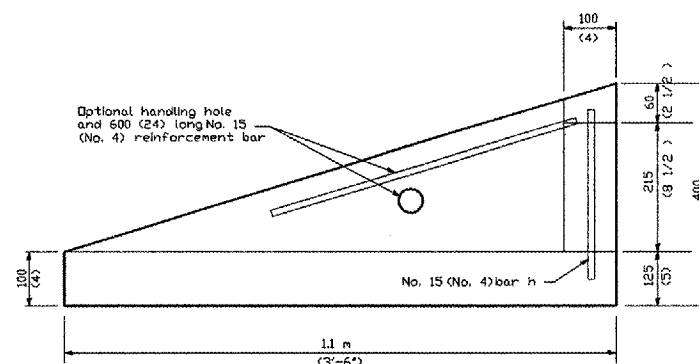
FRONT VIEW



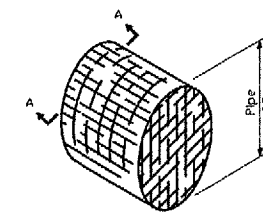
RODENT SHIELD PLACEMENT



SECTION A-A



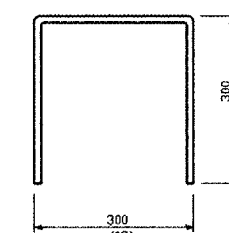
SIDE VIEW



DETAIL OF RODENT SHIELD

**CONCRETE HEADWALL FOR PIPE DRAIN**

MODIFIED I.D.O.T. STANDARD 601101



BAR h

**GENERAL NOTES**

An alternate paved invert meeting the approval of the Engineer may be substituted for that shown in side view.