GRATE

(SECTION C-C)

 \angle 2%" CLIP

ANGLE

SIDE VIEW

(FOR USE WITH TRAPEZOIDAL GRATES ONLY)

MODIFIED CONNECTING

BAND-

½" DIAMETER

CARRIAGE BOLT

GRATE

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USUAL 20' MODIFIED CONNECTING NORMAL PIPE LENGTH GRATE GRATE WELDED PIPE TO PIPE **GRATE** 16" SOLID **WEB SPACER** 21/4" CLIP_ ANGLE(19) 2" DIAMETER **CARRIAGE BOLT**

S		
ITEM NO.	DESCRIPTION	UNIT
607-45	12" SLOTTED DRAIN PIPE	L.F.
607-45.01	15" SLOTTED DRAIN PIPE	L.F.
607-45.02	18" SLOTTED DRAIN PIPE	L.F.
607-45.03	24" SLOTTED DRAIN PIPE	L.F.
607-45.04	30" SLOTTED DRAIN PIPE	L.F.
607-45.05	36" SLOTTED DRAIN PIPE	L.F.

=			MISCELLANEOUS ITEM LISTING	
	UNIT	ITEM NO.	DESCRIPTION	UNIT
	L.F.	204-07	BEDDING MATERIAL (PIPE) (CLASS B)	C.Y.
	L.F.		,	
	L.F.	204-08.01	BACKFILL MATERIAL (FLOWABLE FILL)	C.Y.
	L.F.	702-03	CONCRETE COMBINED CURB AND GUTTER	C.Y.
	L.F.			
	L.F.	703-02.05	CEMENT CONCRETE DITCH PAVING (SLOTTED DRAINS)	C.Y.

REV. 10-26-95: CHANGED DESCRIPTION OF PAY ITEM NO. 204-08.01. CHANGED FOOTNOTE NOS. (4) AND (7).

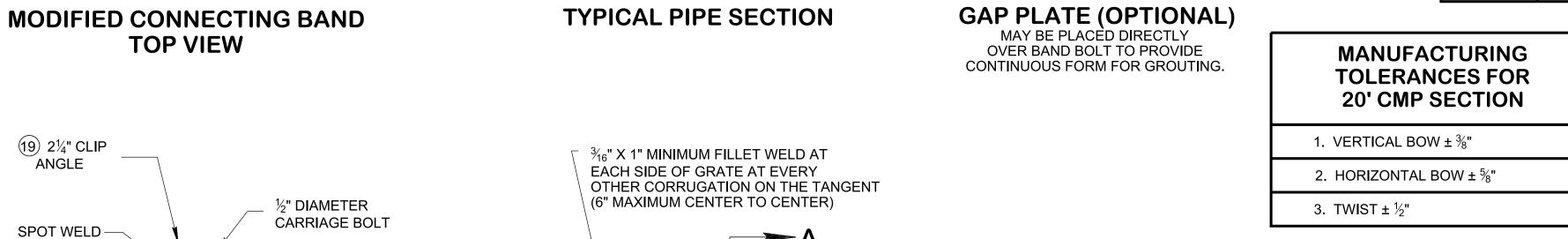
REV. 10-26-96: IN MISCELLANEOUS ITEM LISTING CHANGED ITEM NO. 702-03.05

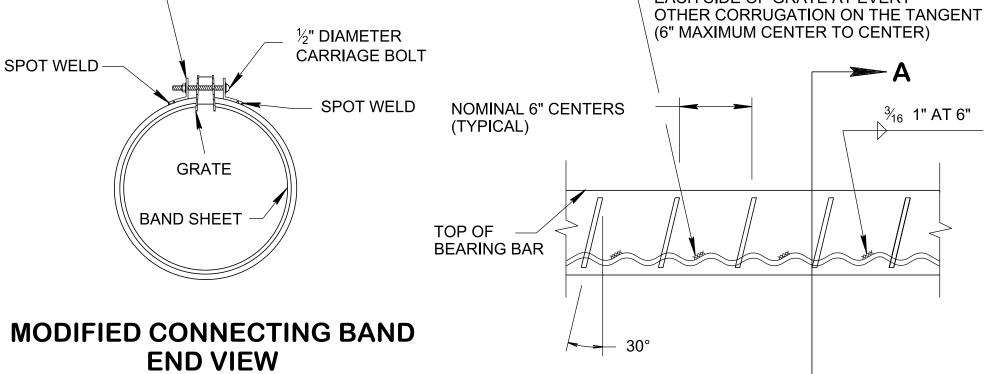
REV. 12-18-97: CHANGED REFERENCE THROUGHOUT DRAWING OF FLOWABLE MORTAR TO BACKFILL MATERIAL (FLOWABLE FILL).

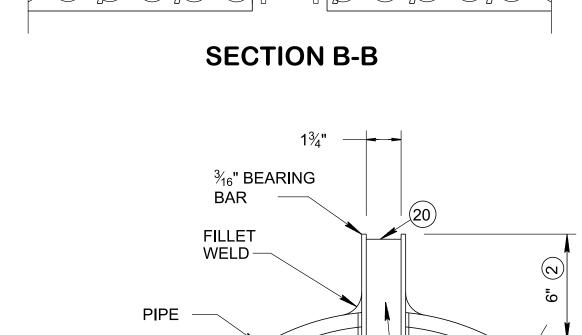
REV. 5-27-01: CHANGED DESCRIPTION FOR ITEM NO. 204-07.

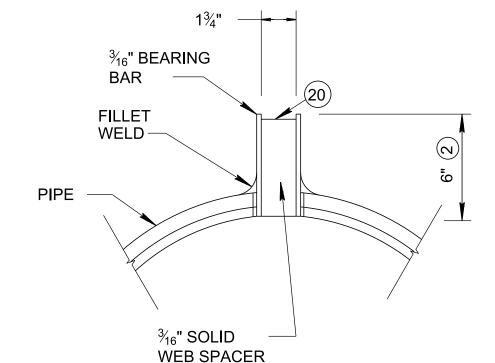
REV. 2-2-16: CORRECTED PAY ITEM NUMBERS.

REV. 02-20-2020: REDREW SHEET.









SUPPORT BAR FOR MESH

(AS REQUIRED)

* SLOTTED DRAIN PIPE

EXTENSIONS TO BE

PAID FOR UNDER ITEM

NO. 607-45 THROUGH

ITEM NO. 607-45.05

½" DIAMETER

½"-No. 13 STANDARD EXPANDED STEEL MESH

(HEEL GUARD)

(OPTIONAL)

CARRIAGE BOLT

STANDARD PARALLEL (VERTICAL) MODIFIED CONNECTING BAND SIDE GRATE DETAIL **SIDE VIEW** (SECTION A-A) (WITH VERTICAL WEB SPACERS)

GRATE DETAIL WITH MESH

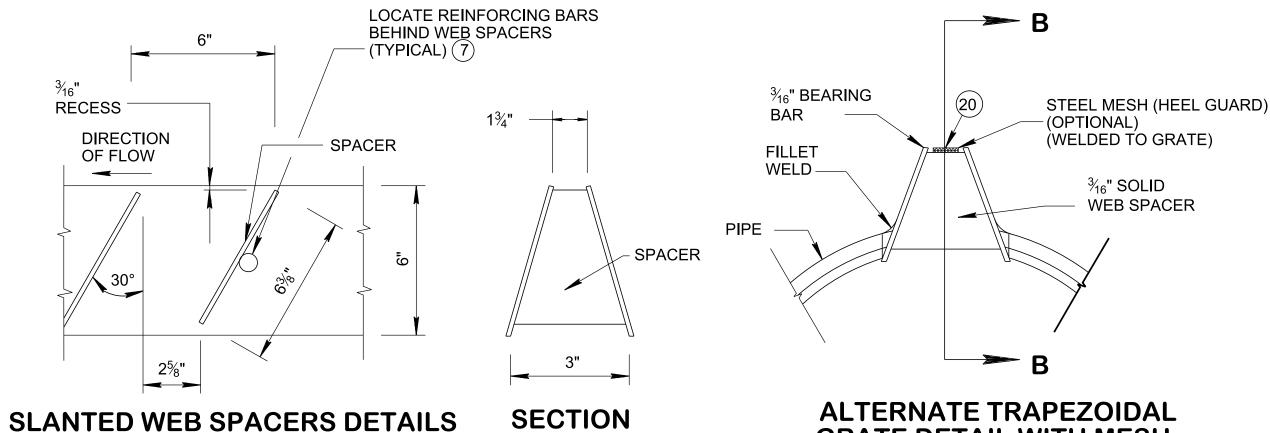
(SECTION A-A)

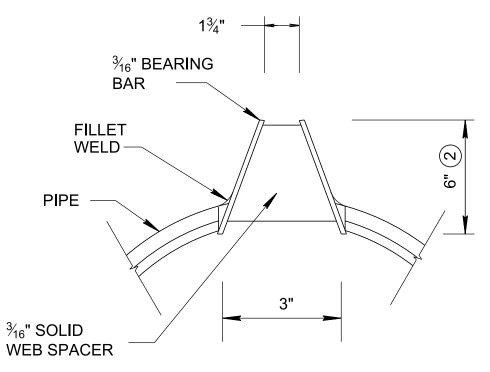
DIRECTION

OF FLOW

GRATE (BEARING BAR) WELDING DETAIL

(WITH SLANTED WEB SPACERS)





ALTERNATE TRAPEZOIDAL GRATE DETAIL (SECTION A-A)

- **FOOTNOTES**
- TYPICAL DETAIL ONLY; DIMENSIONS AND CURB TYPE WILL VARY.
- TYPICAL GRATING SHALL BE 6" IN DEPTH. 3" DEPTH GRATING IS AVAILABLE FOR SPECIAL CASES IF NEEDED AND AS SPECIFIED IN THE ROADWAY PLANS.
- FOR USE IN CURB AND GUTTER, PAVED AREA, OR MEDIAN SECTIONS WHICH ARE SUBJECT TO TRAFFIC LOADS.
- BACKFILL MATERIAL (FLOWABLE FILL) SHALL MEET THE REQUIREMENTS OF SECTION 204 OF THE STANDARD SPECIATIONS AND SHALL BE PAID FOR UNDER ITEM 204-08.01, BACKFILL MATERIAL (FLOWABLE FILL) BY THE CUBIC YARD.
- MAXIMUM SIZE FOR USE WITH CURB AND GUTTER.
- RECESS TOP OF SLOTTED DRAIN GRATE 1/8 TO 1/2 BELOW FINISHED SURFACE OF **CONCRETE GUTTER**
- REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH SECTION 907 OF THE STANDARD SPECIFICATIONS, DRILLING THROUGH THE GRATE SHALL BE DONE IN THE SHOP
- EXAMPLE ONLY: PAVEMENT DESIGN REQUIRED TO SET ACTUAL PROJECT MATERIAL THICK- NESS.
- VARIABLE 6" MAXIMUM FOR 18" CMP, 3" MINIMUM FOR 24" CMP
- TO BE PAID FOR AS ITEM NO.
- 703-02.05 "CEMENT CONCRETE DITCH PAVING (SLOTTED DRAINS)" (C.Y.).
- A 3-PIECE 90° ELBOW MAY BE USED AS APPROVED BY THE ENGINEER.
- REQUIRED AT ALL JUNCTIONS OF LATERALS AND AT ALL ENDS OF LINES, UNLESS OTHERWISE DIRECTED BY THE ENGINEER
- SLOTTED DRAIN SHALL BE INSTALLED IN 20 FOOT LENGTHS WHEREVER PRACTICAL TO MINIMIZE THE NUMBER OF JOINTS REQUIRED.
- LATERAL CONNECTION SLIP JOINT SHALL BE BACKED WITH A SUITABLE COMPRESSIBLE MATERIAL TO RETAIN GROUT IN PLACE DURING CURING. SLIP JOINTS SHALL BE GROUTED WITH BACKFILL MATERIAL (FLOWABLE FILL), AS
- LATERALS MAY BE A SERIES OF PIPE JOINTS PLACED AT ANGLES AS DETERMINED BY MANUFACTURING AVAILABILITY.
- DESIRABLE MINIMUM SLOPE = 0.40% FOR FLATTER SLOPES, AS MAY BE REQUIRED, INCREASE PIPE DIAMETER AND/OR THE NUMBER OF OUTLETS (LATERALS).
- UNIT PRICE PER LINEAR FOOT (L.F.) FOR SLOTTED DRAINS SHALL INCLUDE TEES, WYES, ELBOWS, PLUGS, BANDS, JUNCTIONS, ANGLE/TEE COMBINATIONS, GRATES, PLATE REDUCERS, END CAPS, STRUCTURAL EXCAVATION, HEEL GUARD GRATE. AND PLATES.
- IN AREAS WHERE THE SLOTTED DRAIN PIPE PROFILE GRADE IS LESS THAN 0.40%, THE GRATE DEPTH MAY VARY AS SHOWN TO MAINTAIN A STEEPER PROFILE GRADE OF THE PIPE. THE MANUFACTURER SHALL CONSTRUCT THIS IN THE SHOP.
- FOR 6" VERTICAL AND TRAPEZOIDAL REQUIREMENTS, THE SLOTTED DRAIN BAND MAY FURNISHED WITH A 4" BAND ANGLE.
- VERTICAL GRATE EXTENSIONS ARE AVAILABLE FOR FUTURE RAISING OF THE PAVEMENT GRADE DUE TO RESURFACING.

GENERAL NOTES

- DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES
- SLOTTED DRAIN SHALL BE GALVANIZED CORRUGATED METAL PIPE AND GRATE ALUMINUM PIPE AND GRATE OR ALUMINUM COATED STEEL PIPE AND GRATE MEETING THE REQUIREMENTS OF SECTION 607 (PIPE CULVERTS AND STORM SEWERS) AND SECTION 915 (METALLIC PIPE). GAGE 14 PIPE SHALL BE USED.
- BACKFILL MATERIAL (FLOWABLE FILL) SHALL BE USED IN LOCATIONS SUBJECT TO TRAFFIC LOADS. BEDDING MATERIAL CLASS "B" MAY BE USED IN ALL OTHER LOCATIONS.

STATE OF TENNESSEE STANDARD DRAWING **DEPARTMENT OF TRANSPORTATION**

SLOTTED DRAINS

D-SLD-3

NOT TO SCALE

01-28-1992