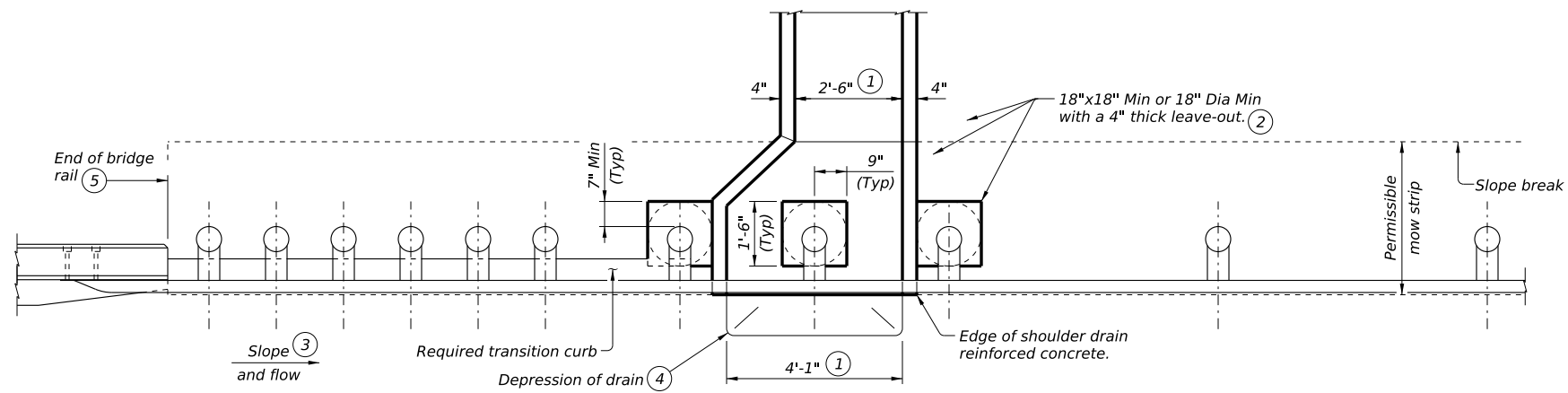
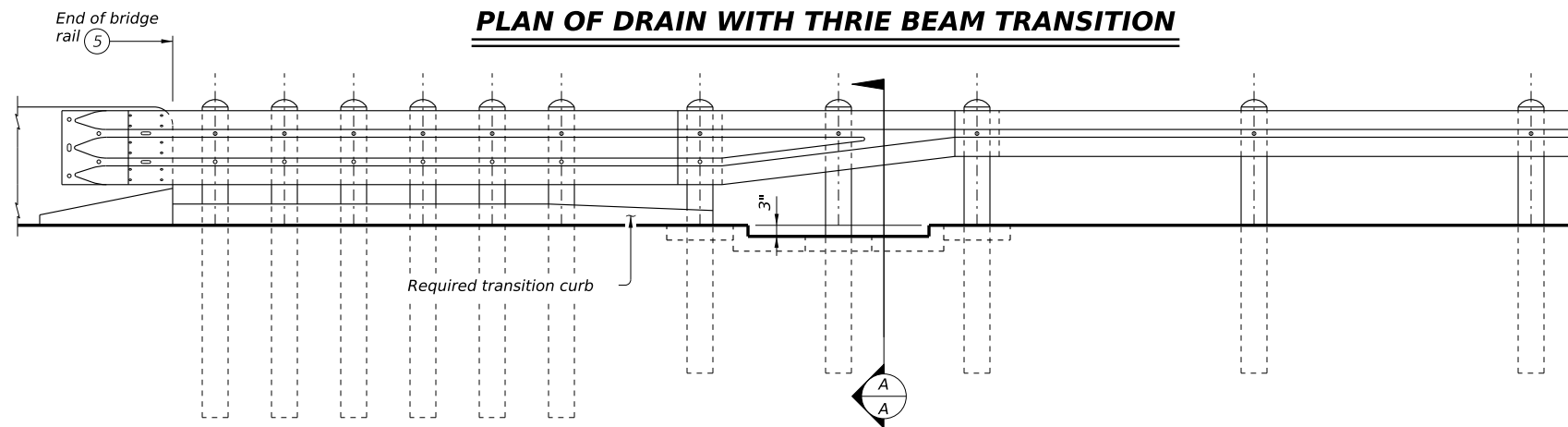


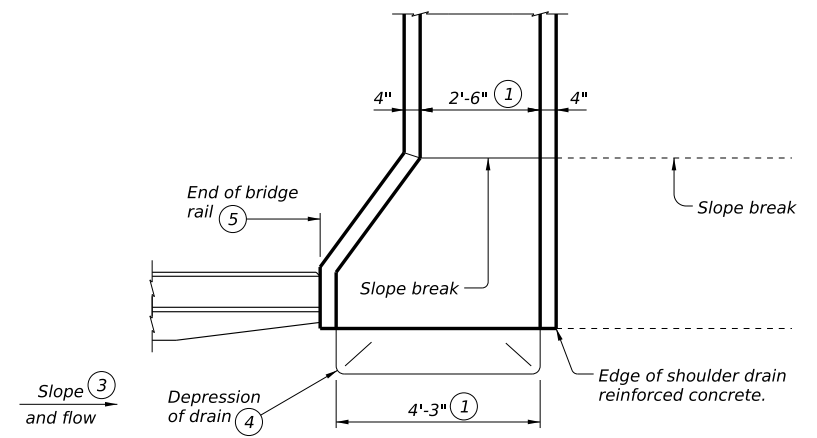
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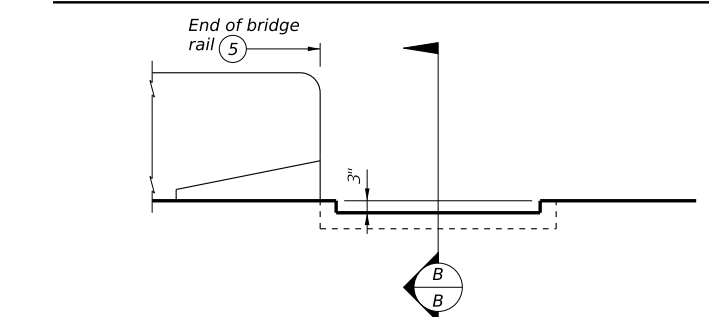
PLAN OF DRAIN WITH THRIE BEAM TRANSITION



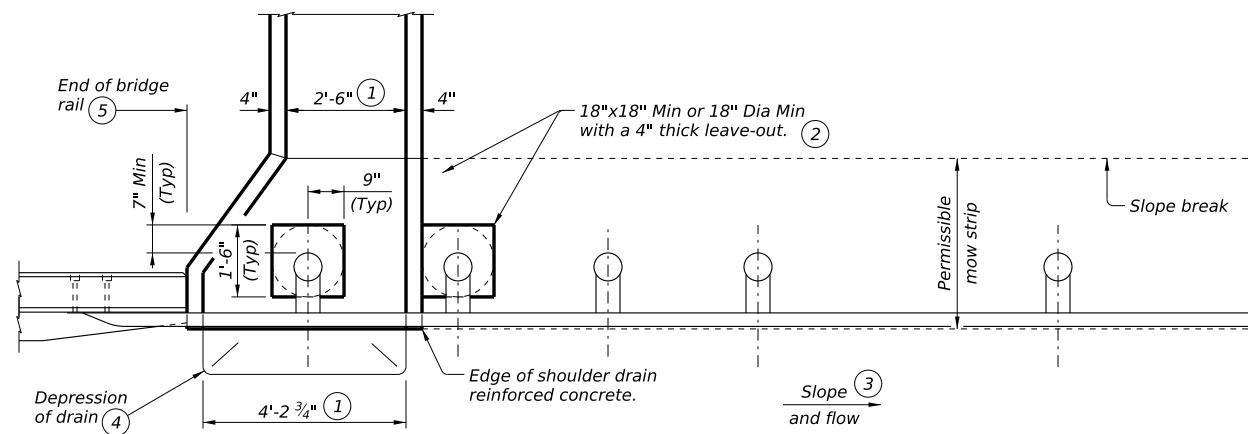
ROADWAY ELEVATION OF DRAIN WITH THRIE BEAM TRANSITION



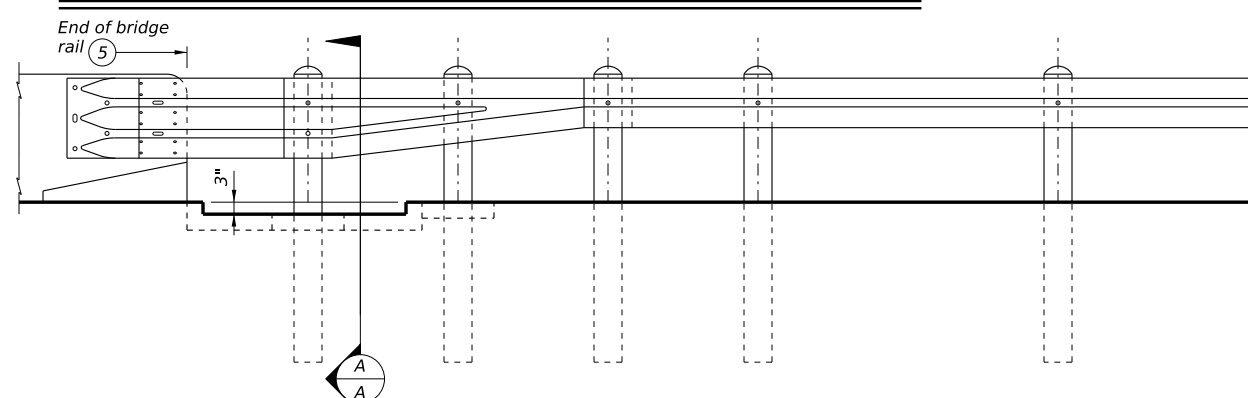
PLAN OF DRAIN WITHOUT MGBF TRANSITION



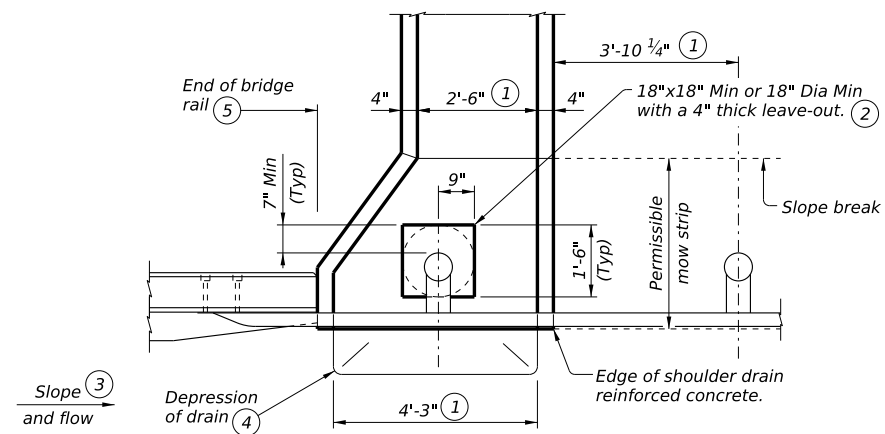
ROADWAY ELEVATION OF DRAIN WITHOUT MGBF TRANSITION



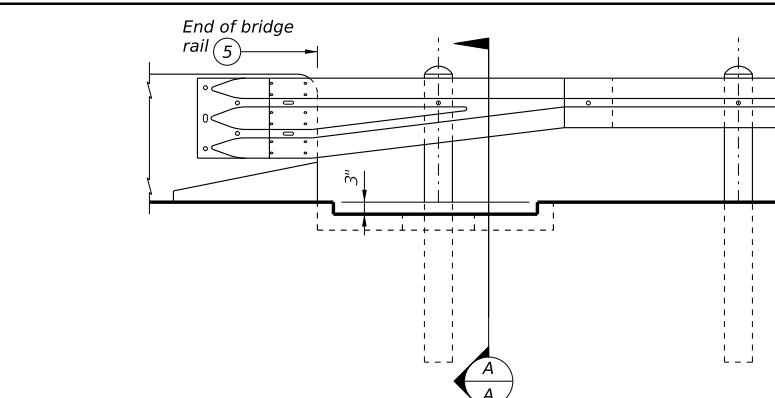
PLAN OF DRAIN WITH TL-2 (LOW SPEED) TRANSITION



ROADWAY ELEVATION OF DRAIN WITH TL-2 (LOW SPEED) TRANSITION



PLAN OF DRAIN WITH DOWNSTREAM ANCHOR TERMINAL



ROADWAY ELEVATION OF DRAIN WITH DOWNSTREAM ANCHOR TERMINAL

- ① Use wider or other drain configurations if shown elsewhere in plans or if directed by the Engineer. Location of shoulder drain must consider limitation imposed by rail transition. Do not locate shoulder drains at expansion joints between approach slab and concrete pavement.
- ② Fill leave-outs with no more than a 2-sack grout mixture (1 part cement, 5 parts water, and 14 parts sand by volume) with a 28-day compressive strength of approximately 120 psi or less. Provide grout of a consistency that will flow into and completely fill all voids. Due to auger size, larger leave-out dimensions are acceptable from both an impact performance and maintenance repair standpoint (20" Max leave-out).
- ③ For other slope and flow directions drain configuration may be mirrored wider or tapered wider if shown elsewhere in the plans or directed by the Engineer.
- ④ Form depression into concrete, asphalt pavement, or approach slab.
- ⑤ See Bridge Layout for rail type.

SHEET 1 OF 2



SHOULDER DRAIN AT END OF BRIDGE RAIL

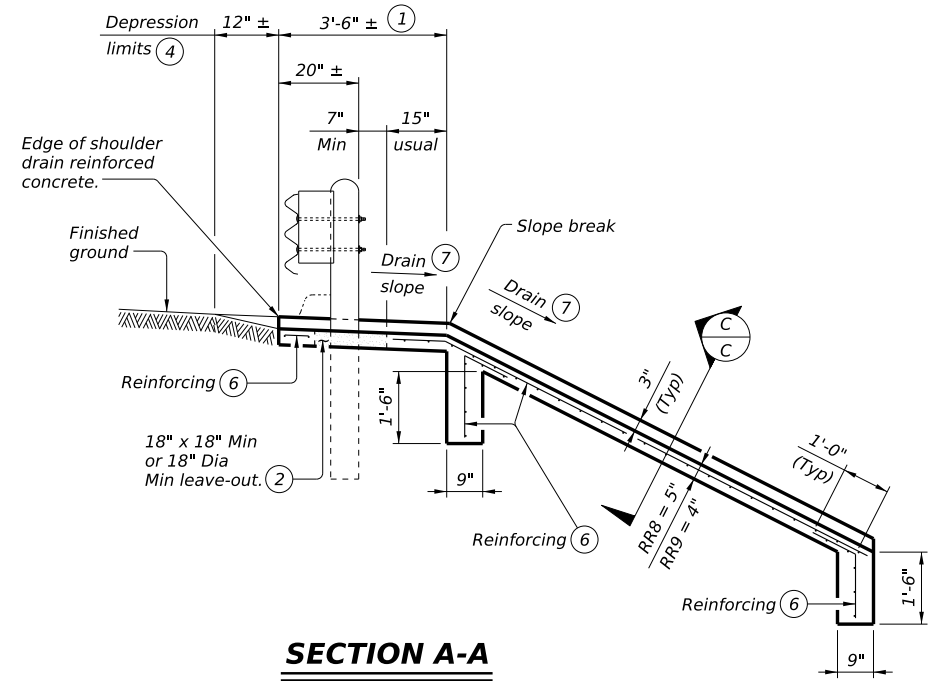
SD-EBR

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©TxDOT October 2024	CONT	SECT	JOB	HIGHWAY
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	DIST	COUNTY		SHEET NO.

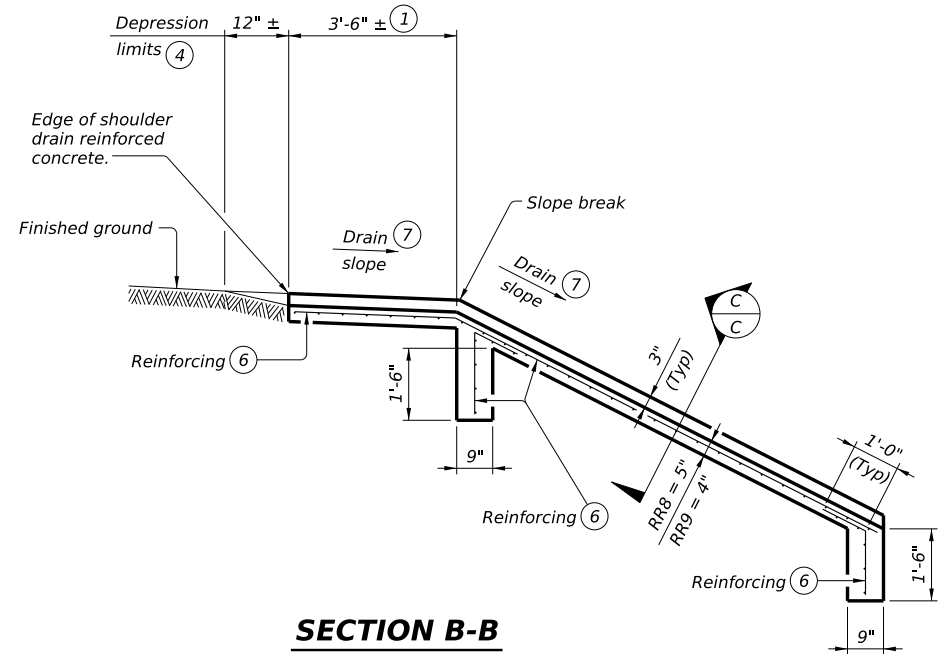
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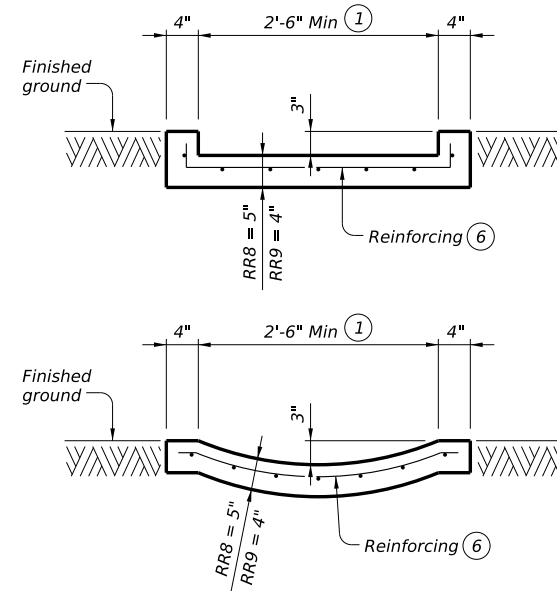
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SECTION A-A

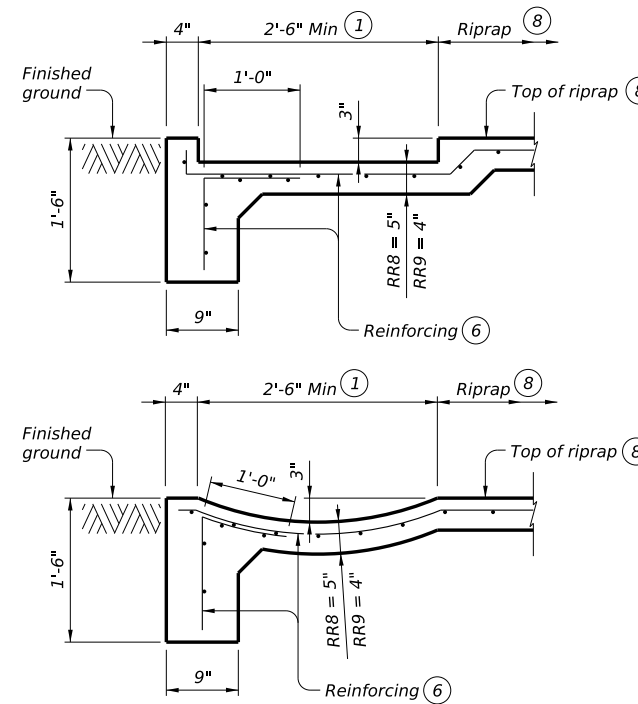


SECTION B-B



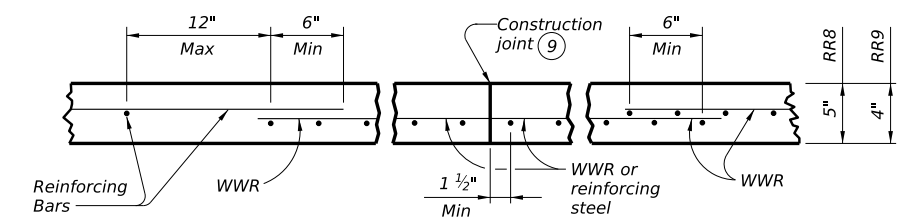
SECTION C-C

Sections shown without integrated riprap.



SECTION C-C

Sections shown with integrated riprap.



REINFORCEMENT DETAILS

See General Notes for optional synthetic fiber reinforcement.

- 1 Use wider or other drain configurations if shown elsewhere in plans or if directed by the Engineer. Location of shoulder drain must consider limitation imposed by rail transition. Do not locate shoulder drains at expansion joints between approach slab and concrete pavement.
- 2 Fill leave-outs with no more than a 2-sack grout mixture (1 part cement, 5 parts water, and 14 parts sand by volume) with a 28-day compressive strength of approximately 120 psi or less. Provide grout of a consistency that will flow into and completely fill all voids. Due to auger size, larger leave-out dimensions are acceptable from both an impact performance and maintenance repair standpoint (20" Max leave-out).
- 4 Form depression into concrete, asphalt pavement, or approach slab.
- 6 Provide (#3) reinforcing bar at 18" spacing c-c or welded wire reinforcement (WWR) as 6x6-D2.9xD2.9 or D3xD3. Combinations of WWR and reinforcing bars may be used if both are permitted. Use lap splices of a minimum 6 inches, measured from the transverse wire of WWR, and the ends of reinforcing bars, unless shown otherwise.
- 7 See elsewhere in plans or as directed by the Engineer.
- 8 See CRR standard for details and notes not shown.
- 9 WWR or reinforcing steel is continuous through riprap construction joints. Provide WWR or reinforcing steel that extends 1'-1" minimum into adjacent riprap on each side of construction joint even if synthetic fiber is utilized.

GENERAL NOTES:

Provide Class "B" concrete with a minimum compressive strength of 2,000 psi unless noted elsewhere in plans.
 Provide Grade 60 reinforcing steel.
 Provide deformed welded wire reinforcement (WWR) meeting ASTM A1064, unless otherwise shown.
 Provide reinforcing bars, deformed WWR, or any suitable combination of both types for riprap reinforcing, unless specified elsewhere in the plans.
 Optionally synthetic fibers may be used if approved by the Engineer. Provide synthetic fibers listed on the "Fibers for Concrete" Material Producer List (MPL) in lieu of steel reinforcing in riprap concrete.
 See Metal Beam Guard Fence (Mow Strip) standard for details and notes not shown.
 Payment for furnishing and placing 2-sack grout mixture will be subsidiary to shoulder drain.
 Payment for shoulder drain will be as per Item 420, "CI B Conc (Flume)." All details shown herein are subsidiary to shoulder drain.
 See Layout for limits of shoulder drain.
 RR8 is to be used on stream crossings.
 RR9 is to be used on other embankments.

SHEET 2 OF 2

		Bridge Division Standard	
<h2>SHOULDER DRAIN AT END OF BRIDGE RAIL</h2>			
<h3>SD-EBR</h3>			
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	DIST	COUNTY	SHEET NO.