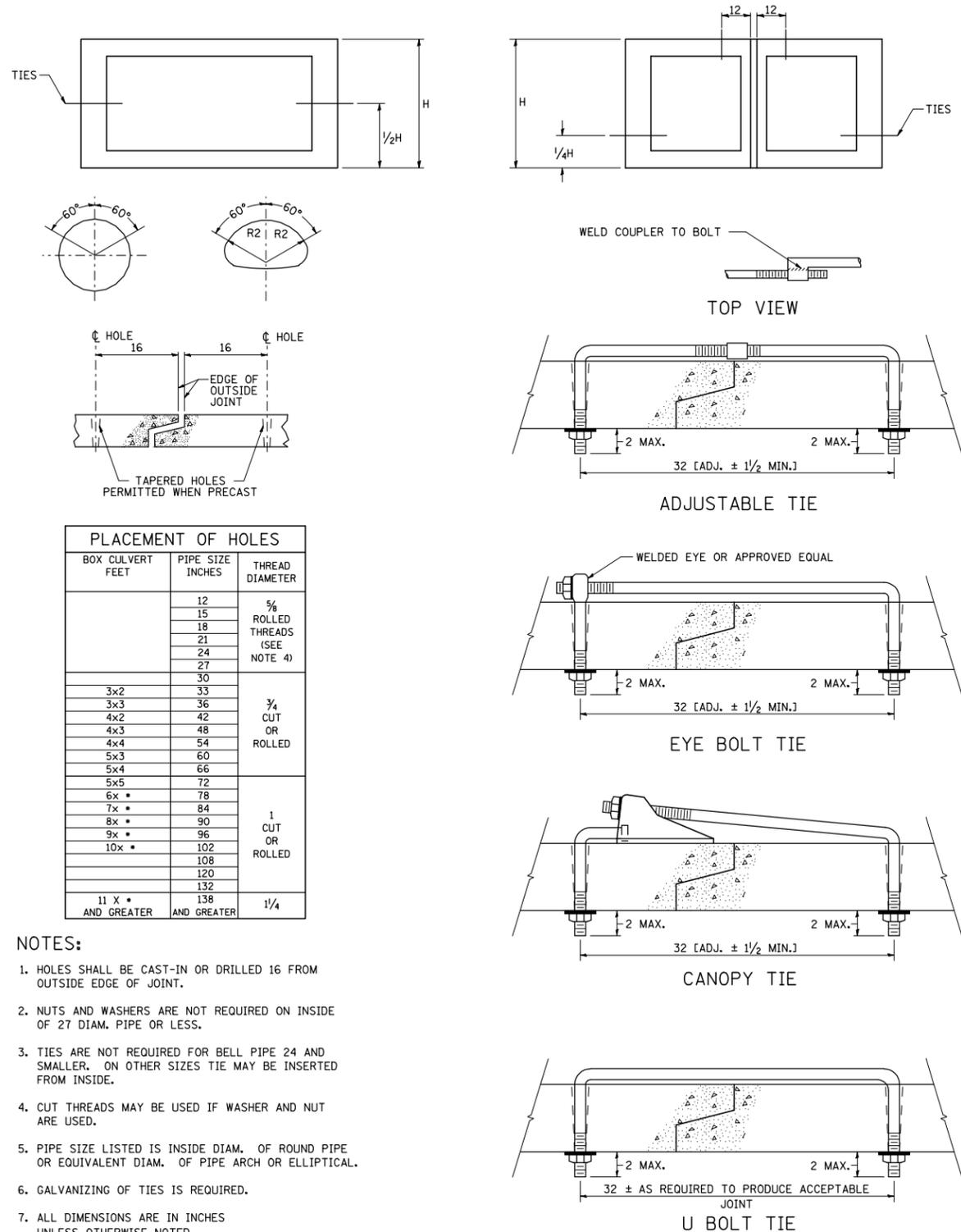


# MECHANICAL JOINTS FOR CONCRETE PIPE AND BOX CULVERTS

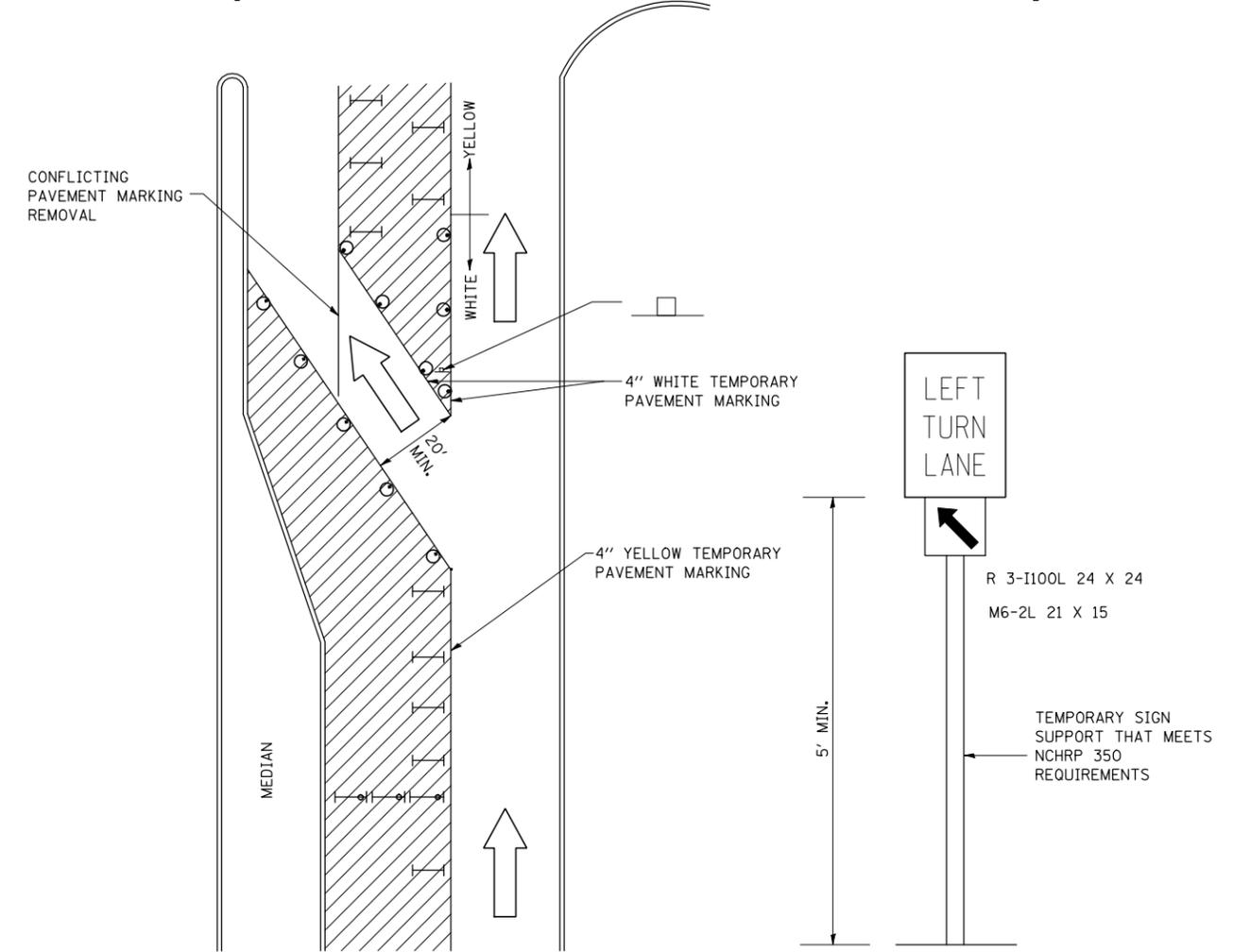
THE CULVERT TIES SHALL BE INCLUDED IN THE COST OF THE CONCRETE PIPE CULVERTS OR THE PRECAST CONCRETE BOX CULVERT. THE MECHANICAL TIES SHALL BE ON THE OUTSIDE OF THE CULVERT. THE NUTS AND WASHERS SHALL BE PLACED ON THE INSIDE OF THE CULVERT AND COVERED WITH MASTIC JOINT SEALER CONFORMING TO ARTICLES 1055 OR 1056 IN THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.



PLACEMENT OF HOLES		
BOX CULVERT FEET	PIPE SIZE INCHES	THREAD DIAMETER
	12	3/8
	15	ROLLED THREADS
	18	(SEE NOTE 4)
	21	
	24	
	27	
	30	
3x2	33	
3x3	36	3/4
4x2	42	CUT OR ROLLED
4x3	48	
4x4	54	
5x3	60	
5x4	66	
5x5	72	
6x •	78	
7x •	84	
8x •	90	1
9x •	96	CUT OR ROLLED
10x •	102	
	108	
	120	
	132	
11 X • AND GREATER	138 AND GREATER	1/4

- NOTES:**
- HOLES SHALL BE CAST-IN OR DRILLED 16 FROM OUTSIDE EDGE OF JOINT.
  - NUTS AND WASHERS ARE NOT REQUIRED ON INSIDE OF 27 DIAM. PIPE OR LESS.
  - TIES ARE NOT REQUIRED FOR BELL PIPE 24 AND SMALLER. ON OTHER SIZES TIE MAY BE INSERTED FROM INSIDE.
  - CUT THREADS MAY BE USED IF WASHER AND NUT ARE USED.
  - PIPE SIZE LISTED IS INSIDE DIAM. OF ROUND PIPE OR EQUIVALENT DIAM. OF PIPE ARCH OR ELLIPTICAL.
  - GALVANIZING OF TIES IS REQUIRED.
  - ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

# TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC)



**LEGEND**

- WORK AREA
- LANE OPEN TO TRAFFIC
- TYPE I OR II BARRICADE OR DRUM WITH FLASHING BURNING LIGHT
- DRUM OR BARRICADE WITH STEADY BURN LIGHT
- SIGN (SEE DETAIL)
- TYPE I OR II CHECK BARRICADE WITH STEADY LIGHT BURN

**GENERAL NOTES**

CONES MAY BE SUBSTITUTED FOR BARRICADES OR DRUMS AT HALF THE SPACING DURING DAY OPERATIONS. CONES SHALL BE A MINIMUM OF 28 IN HEIGHT.

STEADY BURNING LIGHTS WILL NOT BE REQUIRED ON BARRICADES OR DRUMS FOR DAY OPERATIONS. ALL LIGHTS WILL BE MONODIRECTIONAL.

TEMPORARY PAVEMENT MARKING SHALL BE PLACED THROUGHOUT THE BARRICADED AREA OF EACH BAY WHERE THE CLOSURE TIME IS GREATER THAN FOURTEEN DAYS.

THIS APPLICATION ALSO APPLIES WHEN WORK IS BEING PERFORMED IN THE RIGHT LANE(S) AND THE RIGHT TURN BAY IS TO REMAIN OPEN. UNDER THIS CONDITION, "RIGHT TURN LANE" R3-100 24 X 24 AND M6-2R 21 X 15 SHALL BE USED.

THESE CONTROLS SHALL SUPPLEMENT MAINLINE TRAFFIC CONTROL FOR LANE CLOSURES. LONGITUDINAL DIMENSIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) SHALL BE INCLUDED IN THE COST SPECIFIED TRAFFIC CONTROL STANDARDS OR ITEMS.

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

## TRAFFIC CONTROL AND PROTECTION AT TURN BAYS (TO REMAIN OPEN TO TRAFFIC) 94.2

REVISED - 10-14-11

REVISED - 10-14-11

REVISED - 19	REGION 2 / DISTRICT 2 STANDARD	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
REVISED - 19		303	129R	WINNEBAGO	968	706	
REVISED - 19						CONTRACT NO. 64988	
REVISED - 19		SCALE: 1/8" = 1'-0"	SHEET NO.	OF SHEETS	STA. 19	TO STA. 19	

FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT

PLOT DATE = 5/2/2013