NOTE:
USE 4’ WIDE CHECKERED PLATE
CUT TO CORRECT DIMENSIONS.
THEN CONSTRUCT FRAME TO
FIT PLATE AND FASTEN WITH
AN INTERMITTENT WELD.
DETAIL "E"

18" CULVERT USE 1/2" BARS @ 4" SPACING, 12" CULVERT USE 3/8" BARS @ 3" SPACING.

DETAIL "B"

1/2" STEEL ANCHOR NOT SHOWN SEE DETAIL "B"

NOTES:
1. FRAME AND GRATE SHALL BE CONSTRUCTED TO STANDARD SPECIFICATIONS OR OF EQUIVALENT STRUCTURAL
STRENGTH AND WELDED TOGETHER WITH A 1/4" INTERMITTENT WELD AT ALL BREAKS, SEAMS, SECTIONS, JOINTS, ETC.
2. THE 1/4" CHECKERED PLATE SHALL BE FASTENED TO THE FRAME WITH AN INTERMITTENT WELD.
3. GRATE SHALL BE CONSTRUCTED TO STANDARD SPECIFICATIONS, WELDED AT ALL BREAKS, SECTIONS, ETC.,
HINGED TO DRAINAGE PIPE, AND SECURED WITH PADLOCK. GRATE NOT REQUIRED FOR CULVERTS SMALLER
THAN 12".
4. WHEN ABUTTING SOIL HAS A HIGH SULFATE CONTENT, USE A MODIFIED CONCRETE MIX AND PLACE 6" MIN CLASS
2 AGGREGATE BASE AND 6 MIL PLASTIC SHEETING UNDER AND AROUND ALL SIDES OF CONCRETE IMPROVEMENTS.
FOR EXPANSIVE SOIL, PLACE 6" MIN CLASS 2 AGGREGATE BASE UNDER CONCRETE IMPROVEMENTS AS DIRECTED
BY THE ENGINEER. SEE SPECIFICATIONS SECTIONS 16.03 & 16.04 AND STANDARD No. 401 FOR REFERENCE.
5. ALL METAL SHALL BE HOT DIPPED GALVANIZED.
6. CONCRETE MINIMUM CEMENTITIOUS MATERIAL CONTENT = 590 LB / CU YD.

PREPARED UNDER THE SUPERVISION OF:

DIRECTOR OF TRANSPORTATION
MARK LANCASTER, P.E.

COUNTY OF RIVERSIDE

FLAT OUTLET DRAINAGE STRUCTURE

STANDARD No. 303 (2 OF 2)