



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION

JAMES B. HUNT JR.  
GOVERNOR

P.O. BOX 25201 RALEIGH, N.C. 27611-5201

E. NORRIS TOLSON  
SECRETARY

**MEMORANDUM TO:** Project Engineers  
Project Design Engineers  
**FROM:** W. J. Rogers, P.E.  
State Bridge Design Engineer  
**DATE:** May 28, 1999  
**SUBJECT:** BOLT-THROUGH GUARDRAIL ANCHOR ASSEMBLY

At the request of the Bridge Maintenance and Construction Units, the standard drawings BMR5(SM), BMR9(SM) and GRA1(SM) have been revised to incorporate a bolt-through guardrail anchor assembly.

Each standard drawing now shows a bolt-through guardrail anchor assembly that includes a hold-down plate and 7/8" (22.23 mm) diameter bolts with nuts and washers. The ferrule anchor assembly and adhesive anchor option have been deleted and the notes and blockout revised accordingly. A new blockout detail is attached here.

The standard drawings BMR5(SM) have been revised to be applicable to both the one bar metal rail and the two bar metal rail. The length of the 7/8" (22.23 mm) diameter bolts should be specified on the standard drawing using 1'-2" (356 mm) bolts for one bar metal rail or 1'-4" (406 mm) bolts for two bar metal rail.

This policy is effective as soon as is practicable but no later than the October 1999 letting. The revised standard drawings are available on both the SDD1 directories and the [Structure Design Homepage](#). The Design Manual will be revised at a later date.

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