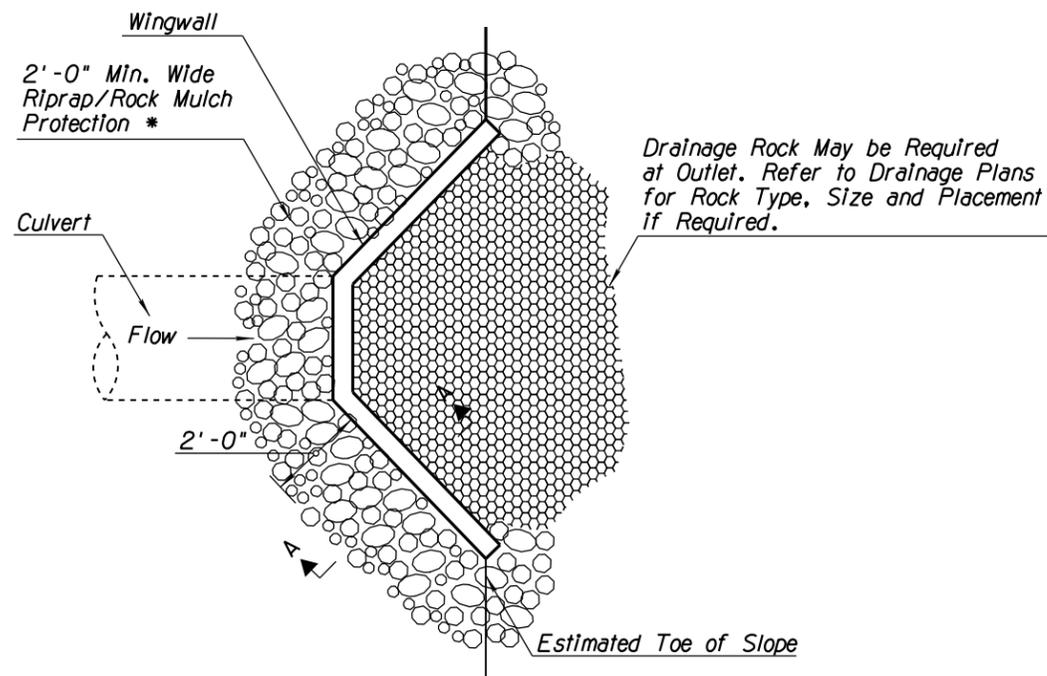
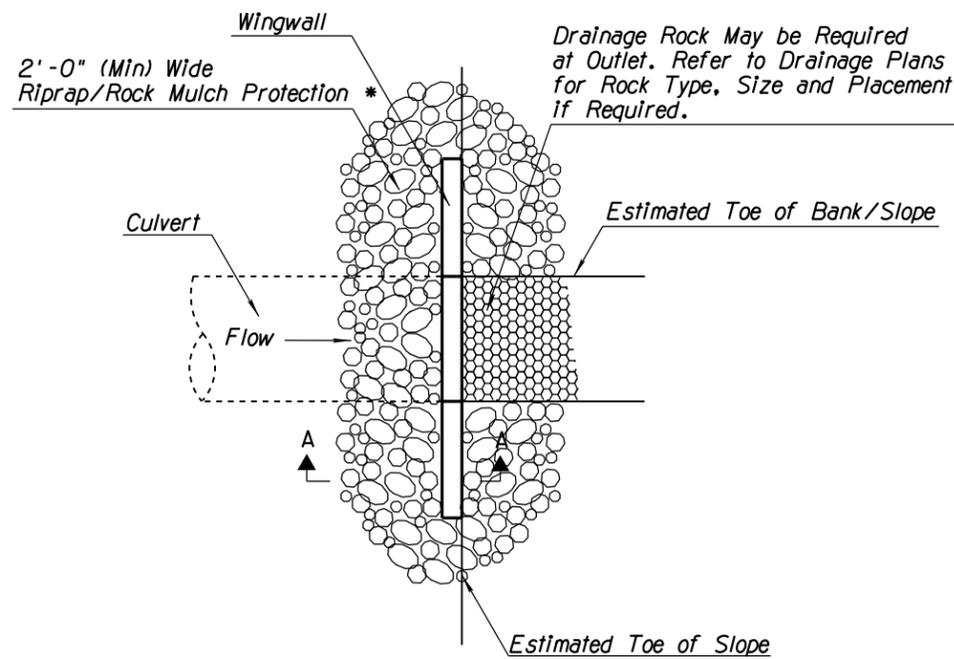


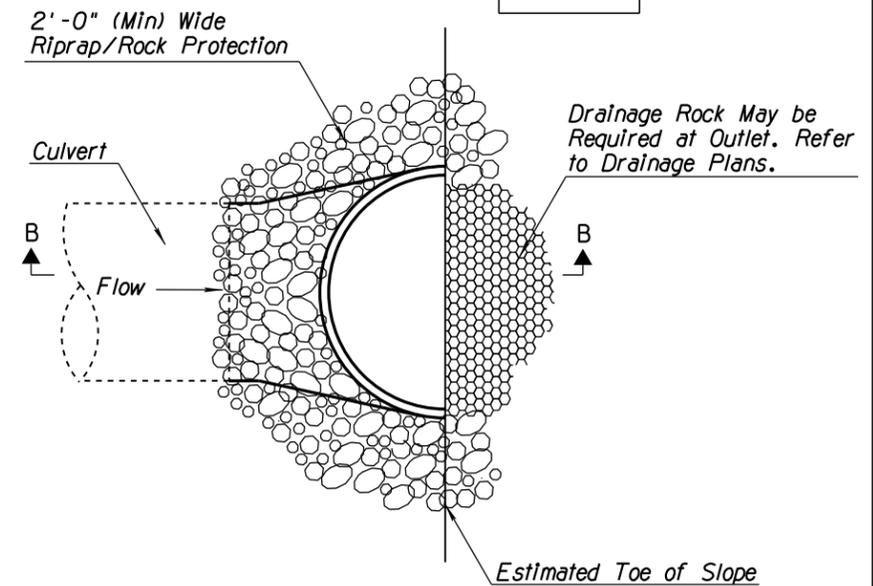
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	RECORD DRAWING
9	ARIZ.				



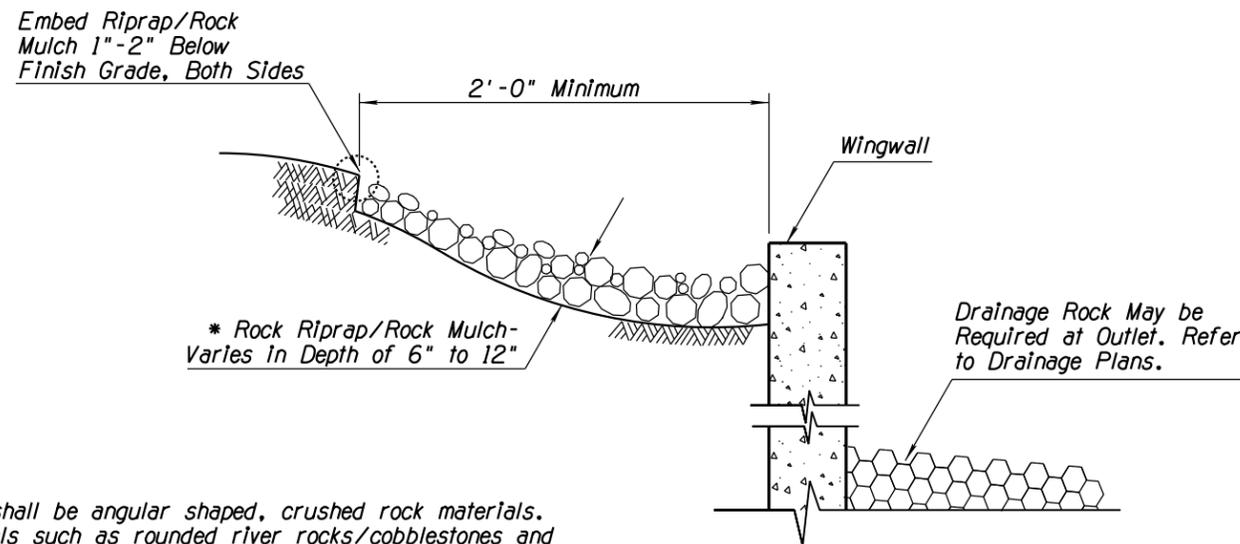
ANGLED HEADWALL  
PLAN VIEW (NTS)



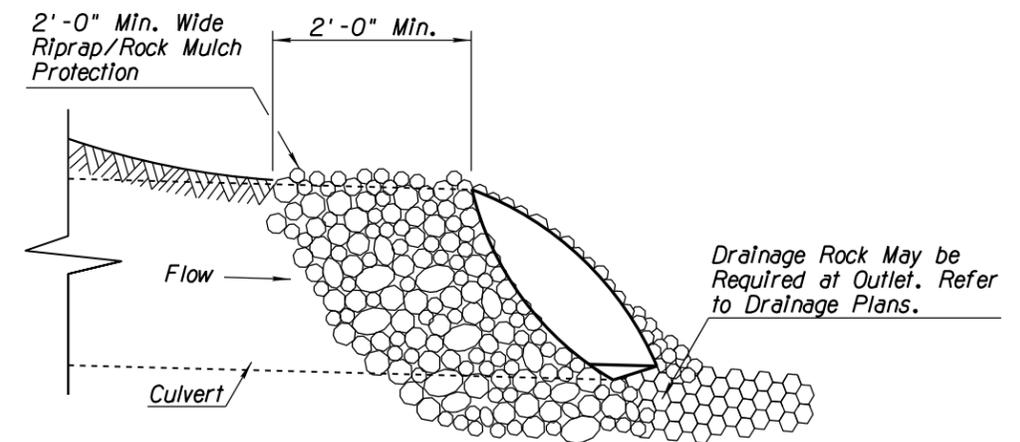
FLUSH HEADWALL  
PLAN VIEW (NTS)



FLARED END  
PLAN VIEW (NTS)



WINGWALL  
SECTION A-A (NTS)



FLARED END  
SECTION B-B (NTS)

NOTES:

1. Rock Riprap/Rock Mulch shall be angular shaped, crushed rock materials. Natural river-run materials such as rounded river rocks/cobblestones and pebbles are NOT acceptable.
2. Rock Riprap/Rock Mulch within the traffic Clear Zone shall conform to the requirements of Section 810-2.03 Sieve Size Gradation A and/or Gradation C, and Section 913 of the Specifications.
3. Embed rock within traffic recovery area/clear zone into the finished grade so that any portion of the rock above the grade will be less than 4" in height.
4. The installation and maintenance of Rock Protection CMs/BMPs shall not negatively impact traffic safety, nor the designed function of roadway or bridge drainage facilities. Rock Protection CMs/BMPs shall be installed and maintained to carry the stormwater of at least 2-year, 24-hour events.
5. Make field adjustments and corrections of Rock Protection CM/BMP immediately if it is causing flooding, erosion, and/or affecting roadway safety.
6. The Rock Protection CM/BMP's pay/bid item shall include all materials used for this CM/BMP: all ground preparation, furnishing, installing, maintaining as well as returning the area to an acceptable condition as approved by the Engineer.
7. Make field adjustments and corrections to ensure NO sensitive biological resources (native species / habitats) will be adversely impacted.

\* Rock protection shall be installed behind applicable box culvert headwall/wingwall where called out in the plans and approved by the Engineer.

# DETAIL ES2

ROCK PROTECTION FOR INLETS,  
OUTLETS AND HEADWALL TRANSITION

DESIGN	TAO ZI FONG	6-2020	ARIZONA DEPARTMENT OF TRANSPORTATION INFRASTRUCTURE DELIVERY AND OPERATIONS DIVISION ROADSIDE DEVELOPMENT SECTION
DESIGN	HAN MENG	6-2020	
DRAWN	TAO ZI FONG	6-2020	
DRAWN	HAN MENG	6-2020	STORMWATER QUALITY PROTECTION & EROSION/SEDIMENT CONTROL DETAILS
CHECKED	JOHN R. HUCKO	6-2020	
TEAM LEADER	E LEROY BRADY	6-2020	
ROUTE	MP	LOCATION	
TRACS NO.			SHEET OF
			___ OF ___