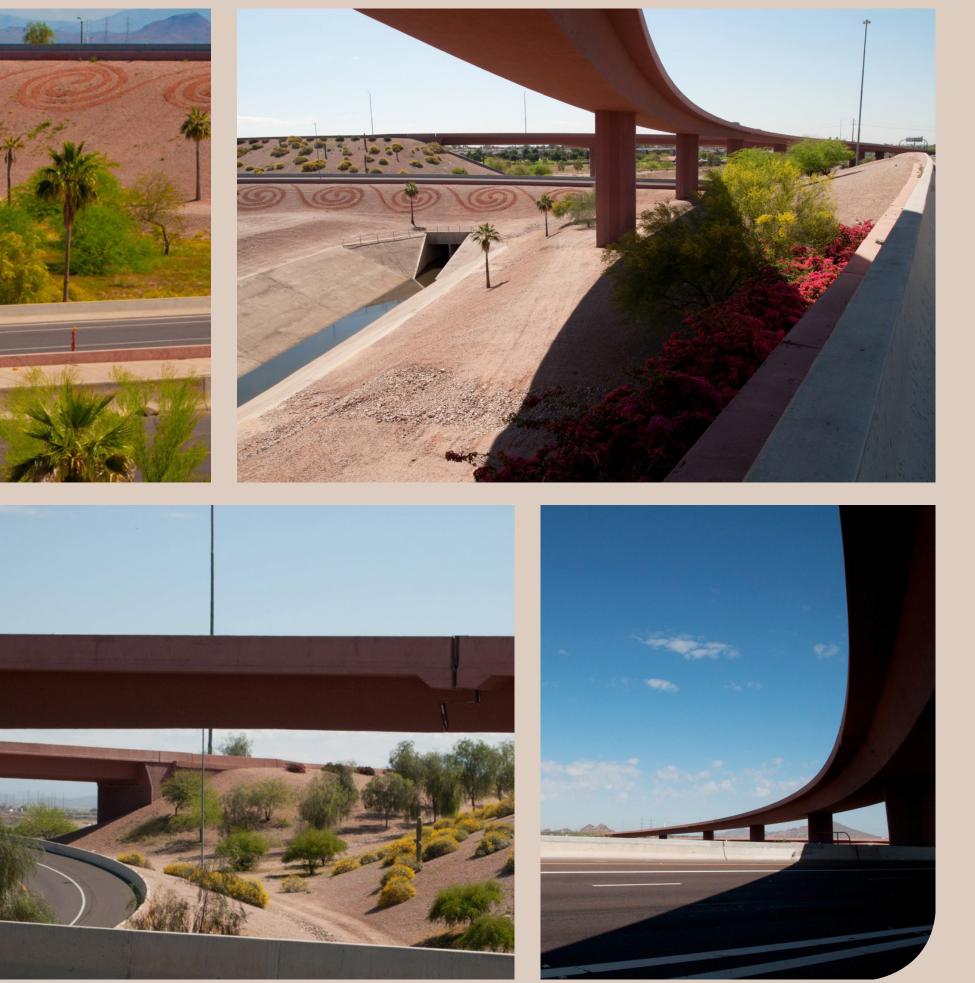
SLOPE EROSION CONTROL FOR URBAN FREEWAYS IN ARID CLIMATES

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Relevant information developed 23 years ago is still in use today. The application has saved millions in maintenance costs and results in aesthetically pleasing, maintainable slopes on urban freeways.

EXAMINED THE CHARACTER AND EXTENT OF SLOPE DAMAGE TO URBAN FREEWAY IN THE METRO PHOENIX-MESA AREA

- Reviewed existing knowledge of erosion and soils in the area.
- Oveloped a comprehensive listing program predicting erosion potential on freeway slopes incorporating both raindrops impact and overland flow stresses on slope surfaces.
- Effectiveness of vegetation to retard erosion was evaluated and found to be marginally effective in arid climates and light canopy coverage.
- Reversion resistance of slope soils in part is a function of maximum particle size and amount of particle larger than .18 inches.

A SURFACE PROTECTION BEST MANAGEMENT PRACTICE WAS DEVELOPED USING:

» Particle size » Slope » Resistance to weathering

The rock covered surface acts as an intensely armored surface protecting underlying soils on slopes as steep as 26 degrees.

Maximum particle size to $1\frac{1}{2}$ inches with a shape factor larger than 2 and gradations as below provide satisfactory protection. Current practice uses $1\frac{1}{4}$ inch rock.

GRADATION REQUIREMENTS FOR THE 1 ¼ INCH GRANITE MULCH ARE AS FOLLOWS:

Passing Sieve	Percent	
11/4 inch	100	
³ ⁄ ₄ inch	60-80	

The armoring only occurs when the material contains all of the gradations including the No. 40



