

Native Topography Design Process

Kent Walker¹ and Christopher Thornton² and Michael Robeson³

Civil and Environmental Engineering Department, Colorado State University, Fort Collins, CO

Abstract. The Bureau of Reclamation, Albuquerque, New Mexico has currently funded a new design for the S-Curve model at CSU's ERC that will mimic two specifically surveyed bends of the Rio Grande. The new design includes specific channel features such as thalweg placement in the channel, constrictions, and point bars. While the new design will again be testing the shear stresses along the bed of the channel, consideration will also be given to how the velocities and stresses vary depending on location in both the vertical profile, as well as the longitudinal profile across a cross section. This will allow better estimation of bend migration and erosion by studying a simulated river reach in a controlled environment.

¹ Graduate Research Assistant of Hydraulics Laboratory
Hydraulics Division, Civil and Environmental Engineering Department
Colorado State University
Fort Collins, CO 80523-1372
Tel: (970) 491-8414
e-mail: kwalker@lamar.colostate.edu

² Director of Hydraulics Laboratory
Hydraulics Division, Civil and Environmental Engineering Department
Colorado State University
Fort Collins, CO 80523-1372
Tel: (970) 491-8394
e-mail: thornton@enr.colostate.edu

³ Manager of Hydraulics Laboratory
Hydraulics Division, Civil and Environmental Engineering Department
Colorado State University
Fort Collins, CO 80523-1372
Tel: (970) 491-8556
e-mail: mrobeson@enr.colostate.edu