Report for 2004NE77B: Low-Cost Flow Estimation for Storm Water Quality BMP Monitoring

There are no reported publications resulting from this project.

Report Follows

lCurrent Status:
The graduate student initially assigned to this study recently left the program, so we are currently securing a replacement and intend to be back on schedule soon.

Summary of Progress:
Thus far, the project has focused primarily on a preliminary literature review. The literature reviewed thus far has included a review of weirs, culverts, and stage measurement devices. These three topics are very relevant for establishing criteria for flow measurement. Culverts appear to be the only control that is likely to be found in most small watersheds, weirs can occasionally be found, but not in an ideal form (e.g., v-notch weirs are not common in urban watersheds). Several promising low-cost stage measurement devices have been discovered in the literature, including ultrasonic techniques and displacement methods. Our next step will be to construct laboratory experiments that will allow us to determine the performance criteria of culverts for stage-discharge rating curve measurements. We will test a variety of flows, including non-uniform flows and possibly unsteady flows.

Additional Funding:
The Nebraska Department of Environmental Quality has agreed to help fund this project.