

## Research Project Description Form

Project Number: 212141

Project Title: Landslide Hazard Management System in West Virginia – Phase I

Primary Investigator Contact Information:

Name: Wael Zatar

Institution: Nick J. Rahall II Appalachian Transportation Institute

Address: Marshall University, POB 5425, Huntington, WV 25703-0425

Department: Innovations and Asset Management of Sustainable Transportation Infrastructures Systems

Phone: 304-696-6043

Email address: zatar@marshall.edu

External Project Contact:

Name: Robert Pennington

Institution: WV Department of Transportation/Division of Highways

Address: 8<sup>th</sup> Floor, Bldg. #5, Capitol Complex

Phone: 304-558-3113

Email address:

**Project Objective:** The primary objectives of the project are to: (1) Develop electronic field reconnaissance method or form; (2) Develop and populate an inventory of existing landslide sites; (3) Develop a comprehensive web-enabled, GIS-based landslide database; (4) Develop an appropriate standardize rating matrix for landslides; and (5) Develop a user manual and training materials for the landslide hazard management program.

**Abstract:**

**Task Descriptions:**

1. Conducting an extensive literature review to acquire experience and lessons learnt of other State DOTs.
2. Planning and laying out the groundwork for the field work.
3. Developing an effective electronic field reconnaissance method or form.
4. Determining system storage and management needs.
5. Conducting field work to collect pertinent landslide information in District 2.
6. Compiling a comprehensive electronic inventory for landslides in District 2.
7. Creating an appropriate database that could meet the current and future landslide management goals.
8. Developing, pilot testing and deploying a web-enabled, GIS-based landslide application in District 2.
9. Developing a beta version of the WVDOH standardized landslide hazard rating matrix.
10. Performing a preliminary statistical analysis on a data sample of the pilot study.
11. Preparing a Final Report and disseminating the project findings.

Milestones, Dates, Schedule:

<b>Task</b>	<b>Completion Date</b>
Task 1	August 2012
Task 2	April 2012
Task 3	March 2012
Task 4	November 2012
Task 5	June 2012
Task 6	October 2012
Task 7	November 2012
Task 8	January 2013
Task 9	January 2013
Task 10	February 2013
Task 11	June 2013

Yearly and Total Budget: Total: \$ 249,225.00

Student Involvement: Graduate and undergraduate students will assist with the research and field work associated with project tasks.

Relationship to Other Research Projects:

Technology Transfer Activities: Development of a web enabled, GIS-based landslide application

Potential Benefits of this Project:

TRB Keywords: Landslide management, highway