Course Name: Basic Engineering Surveys for Conservation Practices – Module	
Course Coordinator: Area Engineer	**Course Number: MI0023**

Overview: This module is intended to provide the participants with a basic understanding of engineering survey principles applicable to conservation practices. These principles include the types of surveys, types of survey equipment, note keeping and note reduction.

The course consists of 2 parts:

- Part 1- Self-paced Study Guide
- Part 2- Hands on training in the Classroom and Field under the direction of a facilitator (module leader)

Satisfactory Completion of the course includes making a survey in the field, and a passing evaluation by the facilitator (module leader) for Parts 1 and 2.

Purpose: The purpose of this training experience is to provide participants with a basic understanding of engineering survey principles applicable to conservation practices, including types of surveys, types of survey equipment, note keeping and note reduction.

Prerequisites: Part 1 shall be completed before Part 2 is started.

Duration:

- Part 1 - 1 to 2 days (self-paced**)**
- Part 2 - 1.5 days hands on training in the field.

Target Audience: NRCS and conservation partnership employees providing conservation planning and application assistance to customers**.**

Expected Outcomes: Upon completion of this module, participants should have reached the Proficiency Level "3 - Perform with Supervision" for the following types of surveys performed with an optical level (self leveling level):

- Topographic
- Cross-section
- Profile
- Bench Level Circuit

Resources needed: Engineering Field Handbook (EFH), Chapter 1, "Engineering Surveys"; Technical Release No. 62, "Engineering Layout, Notes, Staking and Calculations"; Basic Engineering Surveys for Conservation Practices Study Guide; Self-Leveling Level; Level Rod; Laser Level; Measuring Tape; Survey Note Book; Bench Mark Materials; Wood Hubs; Hammer or Hatchet; Flags; Abney Hand Level or Clinometer.

Outline for: Basic Engineering Surveys for Conservation Practices

Classroom:

- Overview of the Course
- Discuss different types of surveying equipment
- Discuss & demonstrate setting up Levels, transits, and Laser levels
- Discuss & demonstrate proper care and handling of surveying equipment and accessories
- Discuss common surveying terms
- Discuss & demonstrate note keeping and note reduction

Field Practice:

- Practice Bench Level Circuit Survey
- Practice cross-section Survey
- Practice Profile Survey
- Practice Topographic Survey
- Questions and Review on Field Practice

Classroom:

- Reduce Survey Notes
- Questions and Review