

## **CHAPTER 2. Human Resources**

### **2.1 Staffing**

A MIL consists of one or more trained irrigation specialists who evaluate the performance of a wide variety of irrigation systems, by taking measurements and by making observations of the system. From these on-site evaluations, the MIL personnel provide recommendations for making system and/or system management improvements (if needed).

Additionally, MIL personnel use site specific soil, crop and irrigation system data to develop site specific irrigation water management plans. Technical assistance is provided to the user, regarding the use of soil moisture measurement devices such as tensiometers and water table observation wells. Through system improvements and the use of accurate scheduling techniques, landowners can conserve a significant amount of irrigation water.

MIL staff also compile the data and information obtained from their field evaluations, and generate reports from that information. Such reports are provided to the user/owner of the irrigation system evaluated, NRCS, FDACS and/or any of the States Water Management Districts, as applicable and necessary.

The technical assistance provided by MIL personnel increases the ability of NRCS, FDACS, and/or the Water Management Districts of the State, to meet the overall goal of water conservation, or more specific objectives that each of these public agencies may have.

### **2.2 Qualifications**

The knowledge, skills, and abilities required of MIL personnel are varied. MIL personnel should have the ability to evaluate, plan and design the types of irrigation systems used in Florida, and understand the hydraulic principles associated with each of them. These types of irrigation systems include microirrigation (drip and microjet), sprinkler (center pivot, traveling gun, linear move and solid set) and subirrigation (flow through and underground conduit) irrigation systems.

MIL personnel should be knowledgeable of the principles of plant-soil-water relationships as described in the National Engineering Handbook (NEH) Part 623, Irrigation (formerly Chapter 15) and the Florida Supplement to the National Irrigation Guide. This includes training in the use of the NRCS Web Soil Survey <http://soils.usda.gov/survey/>, the use of technical soil's data, and how soil properties relate to irrigation water management. The MIL personnel should be knowledgeable in the use of devices that determine soil moisture, such as tensiometers, gypsum blocks, water table monitoring wells, and the feel and appearance method.

MIL personnel should have the knowledge, skills and ability to use irrigation scheduling techniques such as the accounting method, soil moisture monitoring, evaporative pan, and evapotranspiration estimation. Such methods require an understanding of rainfall, evaporation, transpiration, soil moisture and percolation.

Sources of training material include the NRCS National Engineering Handbook (NEH) Part 652 and Florida Supplement to the NEH Part 652, publications, and research papers from the University of Florida Institute of Food and Agricultural Sciences (IFAS), and Florida Automated Weather Network (FAWN) operated by IFAS. FAWN can be accessed through the following

weblink: <http://fawn.ifas.ufl.edu/>. The MIL's are also encouraged to attend other applicable training courses, conferences or workshops, which are typically sponsored or organized by technical industries or societies associated with the irrigation industry (i.e., the Florida Section of the American Society of Agricultural and Biological Engineers or the Florida Irrigation Society).

MIL personnel should also be familiar with the use of computers, have basic math skills, and be able to communicate and work well with people.

An employee development plan needs to be created for each MIL employee by the ICC and each of the MILs found in Appendix C. Typical job descriptions for MIL personnel are listed below.

## **2.2.1 Job Description - Mobile Irrigation Lab Team Leader**

### **2.2.1.1 Education Work Experience, Certification**

- A. Bachelor's Degree in Agricultural or Civil engineering, Hydrology, Horticulture, or a related field; or a minimum of 5 years experience in irrigation auditing combined with an irrigation certification.
- B. Certification: the MIL team leader shall be certified in irrigation by institutions such as the Florida Irrigation Society, the Irrigation Association, IFAS and/or equivalent associations or institutions that have been previously approved by the ICC and its partners. He/she shall maintain such certification(s) at all times during his/her employment as a team leader. If individual does not have certification, it must be obtained or the ability to obtain certification within six (6) months of hiring date.
- C. Practical knowledge of soil and water conservation practices such as Irrigation Water Management, Irrigation Systems, Irrigation System Design and/or other related NRCS engineering practices.
- D. Practical knowledge of soil qualities and characteristics in addition to irrigation water quality characteristics.
- E. Practical knowledge of the structure, function, and mechanisms of NRCS, Water Management Districts (WMDs), and Florida Department of Agriculture and Consumer Services (FDACS) sufficient to keep the decision makers and policy makers informed of the MIL water conservation programs to assure their successful continuation and longevity.

### **2.2.1.2 Administration and Public Information**

- A. Supervise and operate an agricultural/urban mobile irrigation lab to achieve team goals with minimal guidance.
- B. Give technical assistance to landowners and users in the development, application and maintenance of water conservation and management plans and practices.
- C. Evaluate the effectiveness of irrigation systems in the water conservation project area and provide alternatives to increase irrigation water and energy efficiency based on the evaluation performed.
- D. Gather and analyze field data as it relates to irrigation water and energy conservation.

- E. Conduct a strong information program through the use of television, newsprint, trade publications and educational workshops directed at agricultural and/or urban landowners, irrigation system managers/operators, interest groups, schools and the general public.
- F. Produce and submit required technical reports and administrative records to the NRCS, local WMD, FDACS and others as necessary.
- G. Provide training to personnel in MIL water conservation project policies, procedures and techniques. Assist other MILs with their programs when necessary and/or requested.
- H. Responsible for maintaining all vehicle records and submitting required reporting. Also serves as an incidental motor vehicle operator. This will require operation of a motor vehicle on both public and private roads, and off road as necessary, during daylight hours and occasionally after dark. A valid State driver's license is required.

### **2.2.1.3 Duties**

- A. The MIL work involves treating a variety of conventional problems, questions or situations in conformance with established criteria.
- B. The purpose of the MIL is to advise agricultural and/or urban land users in Florida concerning the installation and maintenance of sound soil and water practices on land units. The MIL Team Leader gathers planning information about the physical resources necessary for a reliable, timely and efficient resource management plan. Specifically the work involves the analysis of very simple to very complex irrigation systems greatly varying in size, types, applications and purposes.
- C. Contacts with cooperatives are generally made on a routine basis.
- D. Contacts are also made with other agencies, State, county and local public officials, community residents, either singly or in groups, to provide and obtain soil and water conservation information.
- E. The purpose of contacts is usually to obtain, clarify and provide soil and water conservation information and data, such as irrigation system evaluations, irrigation methods, cost-sharing programs, or soil judging contests. Contacts are usually with individuals that are working toward mutual goals and have cooperative attitudes.
- F. For agricultural MILs, the work requires regular and recurring physical exertion related to conservation work requiring walking on rough terrain, walking on slick, muddied, or manure/sledge areas, jumping furrows, climbing steep banks and fences, crouching under low, thorny trees, etc.
- G. Accomplish all the goals listed in MIL contracts and scopes of work that have been negotiated with State, Federal, and local agencies.

#### **2.2.1.4 Equal Employment Opportunity (EEO)/Civil Rights**

- A. Provides assistance in the understanding and application of personnel rules and regulations as they apply to the Equal Employment Opportunity (EEO) and Affirmative Employment Programs to ensure their integration into recruitment, hiring, promotion, training, career development (including varied work assignments, details and special developmental assignments), separations, grievances, and other personnel actions. Emphasizes meeting the objectives of equal opportunity and affirmative employment plans without regard to race, color, national origin, religion, sex, age or physical or mental handicap.

### **2.2.2 Job Description – Mobile Irrigation Lab Team Member**

#### **2.2.2.1 Education – Work Experience**

- A. Degree in landscape hydrology, horticulture, or a related field is desirable. Minimum 2 years of experience with irrigation and irrigation systems may be substituted.

#### **2.2.2.2 Administration and Public Information**

- A. Conduct and/or assist with educational workshops and presentations. Assistance will include publicizing through local media and participating in its planning and development.
- B. Provide summaries and data to team leader for quarterly and annual reports.
- C. Assist with scheduling of cooperators and homeowners.
- D. Keep vehicle in safe operating and clean condition.

#### **2.2.2.3 Duties**

- A. Provide technical assistance with in-field evaluations and follow-ups as prescribed by the NRCS.
- B. Input data collected in the field into computer and evaluate results.
- C. Provide report and explanation of evaluations to the cooperator or homeowner.

#### **2.2.2.4 EEO/Civil Rights**

- A. Contributes to a work environment free from gender, age, cultural, race and disabled bias.
- B. Interacts with fellow employees in a non-discriminatory manner and accommodates the special needs of identified clients.
- C. Demonstrates knowledge/support of, and performs duties in a manner consistent with EEO/CR policy. (Assures bias-free oral/written communication. Respects the values/differences of other employees/clients.)

### **2.3 Working Relationships and Responsibilities**

MIL personnel will work closely with NRCS field engineers and/or the State Conservation Engineer (SCE) in developing irrigation system evaluation procedures for MILs. Evaluation procedures and methods will be approved by the SCE, in coordination with FDACS. This will result in evaluation consistency among all MILs in the State. Methods will be refined and after approval by the SCE, will be distributed to all field offices.

The MILs will meet quarterly to determine ways to improve MIL operations and to increase technical assistance to water users, and to share their knowledge and experience amongst each other. The MILs will provide a vehicle for technology transfer from the MILs to the general public, NRCS field offices, and other state agencies such as FDACS.

The MILs will work closely with the NRCS Public Affairs Specialist in developing publications to educate the landowners. The publications will provide the necessary information for the landowner that explains how to operate the irrigation system and schedule irrigations. The MILs will also help in preparing articles for publishing in the major Florida agricultural magazines.

The MILs will work closely with the NRCS District Conservationists in the counties they serve, Soil and Water Conservation Districts (SWCD's), Resource Conservation and Development Councils (RC&D's) and other state agencies such as FDACS and the Water Management Districts, in order to provide timely technical assistance to water users. Data, information and accomplishments from such assistance, shall be reported through the NRCS reporting system, and through other tools or methods that state agencies such as FDACS provide to the MILs.

MIL personnel will work closely with the NRCS Area Conservationists to schedule appropriate area or state staff assistance in a timely manner.

### **2.4 Staff Time Requirements for Irrigation Evaluation**

The time required to evaluate an irrigation system will vary considerably due to the complexity of the system, travel time, etc. The irrigation evaluation includes the collection of field measurements, evaluation and analysis of the data and the development of a report that describes the performance of the irrigation system and recommendations.