

STANDARD TASK ANALYSIS FORM

6/2/2011

Duty/Task:									
G-9 Set up irrigation system									
STEPS (Required to Perform the Task)	PERFORMANCE STANDARDS (Observable & Measurable Criteria)	TOOLS, EQUIPMENT, SUPPLIES & MATERIALS (Needed)	REQUIRED KNOWLEDGE AND SKILLS (Math, Science, & Language)	SAFETY (Concerns)	WORKER BEHAVIORS (Important to Worker Success)	DECISIONS (Identify Decisions that Must be Made by the Worker)	CUES (Identify the Data Needed for Making Correct Decisions)	ERRORS (Indicate What May Result if Incorrect Decisions are Made)	
1 Identify water source for irrigation	1 Correctly identified the water source (e.g. well, pond, spring)	1 N/A	1 Knowledge of water source capacity (gallons per minute)	1 N/A	1 discerning, accurate	1 What is my water source? Is it sufficient to meet my irrigation needs? What type of irrigation will I be using?	1 Observation, experience, knowledge of water needs, pump capacity	1 Might use an inappropriate water source for the desired type of irrigation	
2 Determine type of irrigation being used (overhead or drip)	2 Correctly determined the type of irrigation being used	2 N/A	2 Knowledge of how irrigation will be used (transplanted plants vs mature crops)	2 N/A	2 decisive, knowledgeable, timely	2 What type of irrigation do I use? Is it appropriate for the type of use I have?	2 Observation, current crop needs	2 Young plants may not get sufficient water from using wrong type of irrigation, may have disease problems using wrong type or timing of irrigation	
DRIP									
3 Lay drip tape on the growing beds	3 Laid the drip tape correctly on the growing beds	3 Tractor, mechanical tape laying attachment, knife	3 Knowledge of row length and amount of tape needed, tractor driving skills	3 Operate tractor safely	3 Accurate, cautious, timely	3 How do I lay the tape? How much do I need? How many lines of tape are needed? What type of tape should I use?	3 Width of beds, crop being grown, distance between drippers in the tape, diameter of the tape	3 Won't be able to properly irrigate the crop	
4 Lay the main line	4 Laid the main line correctly to the desired side of the field closest to the water source	4 Pliers, knife, screwdriver, couplers	4 Length of main line needed, type of main line	4 N/A	4 Accurate, knowledgeable	4 How much main line do I need? What type of main line do I need? What size do I need?	4 Size of the field to be irrigated, length and shape of the field	4 Won't be able to get sufficient water to the drip lines. May not be strong enough to resist desired pressure	
5 Connect drip tape of each bed to the main line	5 Correctly connected drip tape to main lines	5 Punch, connectors	5 Knowledge of how to properly connect drip tape to main line	5 N/A	5 Accurate, knowledgeable	5 How do I connect the drip tape to the main line? How many connectors do I need? Is the connection strong enough to hold the pressure?	5 Size of connectors, desired pressure	5 May have leaks while irrigating which wastes water, may flood plants with too much water, drip line may disconnect from main line during irrigation	
6 Install filter and pressure regulator to the main line and/or water source	6 Correctly installed the filter and pressure regulator to the main line	6 Connectors, clamps, screwdriver	6 Knowledge of size of filter sizes and connectors	6 N/A	6 Accurate, problem solver, timely	6 What size filter do I need? What is the capacity of the pressure regulator needed? What connectors do I need?	6 Size of the field being irrigated, desired pressure	6 Lines and drippers may clog without filter, lines may blow out from too much pressure	
7 Turn on water and flush the system	7 Thoroughly flushed the system	7 Valve	7 N/A	7 N/A	7 Observant, problem solver	7 How do I turn on the water? How much time is needed to flush the system?	7 Location of on/off valve, size of field/length of rows	7 Irrigation won't work due to being plugged	
8 Turn off water and install flushing valve at end of each drip line	8 Correctly installed flushing valves at end of each drip line	8 N/A	8 N/A	8 N/A	8 Timely, accurate	8 How do I install the flushing valves?	8 Manufacturer's recommendations, experience	8 Flushing valve may disconnect during irrigation	
9 Pressurize and inspect the system for leaks	9 Pressurized and inspected the system for any leaks (fix if needed)	9 Knife, connectors	9 N/A	9 N/A	9 Thorough, discerning, observant	9 Have I pressurized the line? Do I see or hear any leaks? How do I repair any leaks discovered?	9 Manufacturer's recommendations, experience	9 May have leaks while irrigating which wastes water, may flood plants with too much water, inconsistent watering	
OVERHEAD									
10 Build main line for overhead irrigation	10 Correctly built the main line and T connectors/valves	10 T connectors, main line pipes	10 Knowledge of sprinkler operation	10 Use proper lifting techniques	10 Accurate, knowledgeable, physically fit	10 How much main line do I need? What size do I need? How many sprinkler lines will be connected to the main line?	10 Size of field, sprinkler properties (amount, distance, and uniformity)	10 Water will not be applied uniformly	
11 Build sprinkler lines and connect them to main line	11 Correctly built and connected the sprinkler lines to the main line	11 N/A	11 Knowledge of connections (sealing gaskets)	11 Use proper lifting techniques	11 Accurate, knowledgeable	11 How do I build the sprinkler lines? How many lines/pipes do I need? How do I connect the sprinkler lines to the main line?	11 Size of field, sprinkler properties (amount, distance, and uniformity)	11 Water will not be applied uniformly	
12 Flush the system	12 Correctly flushed the system to remove all debris and pests from the lines	12 N/A	12 N/A	12 N/A	12 Knowledgeable, observant	12 How do I flush the system? Are all the lines clear? How long do I continue flushing?	12 Water runs through lines unobstructed and is clear	12 Debris may clog sprinklers or cause uneven distribution pattern	
13 Plug each sprinkler line and pressurize the system	13 Correctly plugged each sprinkler line and fully pressurized the system	13 N/A	13 N/A	13 N/A	13 Knowledgeable, conscientious	13 How do I plug the sprinkler lines? Did I miss any?	13 All sprinkler lines were plugged and all connections were completely sealed	13 Won't have pressure in the system, won't be able to irrigate	
14 Check all sprinklers for proper operation and repair or replace them as needed	14 Checked all sprinklers for proper operation and replaced or repaired any not working properly	14 Pipe wrench, wire (to clean the nozzle), crescent wrench	14 Knowledge of sprinkler operation	14 Make sure water is turned off	14 Discerning, observant, thorough	14 Are all sprinklers fully operational? What do I need to do to get the defective ones working again? Do I have extra sprinklers?	14 Visual observation, knowledge of sprinkler inventory	14 Irrigation system won't be fully functional, water distribution will be uneven	
Analyst: John Moser			Specific Relevant References:						
Expert Workers:			1						
Al Welch			2						
Milan Pajev			3						
Cindy Folck									