



MODULE 24101 - JOB SITE SAFETY

1. Identify and properly use the following appropriate personal protective equipment:
 - Hard hat
 - Safety shoes
 - Eye protection
 - Toe protectors, metatarsal guards, and shin guards
 - Gloves
 - Hearing protection
 - Respiratory protection
 - Fall protection
 - Trench boxes
 - Atmosphere monitors
 - Rescue and retrieval safety harness
 - Orange reflective vest
2. Identify routine good housekeeping practices on the job site.
3. Describe safety precautions associated with the safe use of hand and power tools.
4. Identify methods for safely locating existing underground utilities.
5. Describe the purpose and proper placement of barricades.
6. Interpret signs and placards usually found on the job site.
7. Identify the safety hazards associated with construction vehicles on the job site.
8. Identify the types of ladders and their safe use.
9. Describe the methods for safely and effectively controlling traffic around a job site.
10. Identify overhead dangers on a job site.
11. Identify safety precautions for working around explosives.

MODULE 24102 - TOOLS AND EQUIPMENT

1. Identify common pipelaying hand and power tools.
2. Describe the safe use and maintenance of pipelaying hand and power tools.
3. Describe the safe use and maintenance of power equipment.
4. Describe the safe use and maintenance of dewatering equipment.
5. Identify the power tools commonly used in pipelaying.

MODULE 24103 - RIGGING AND DELIVERING PIPE AND ASSOCIATED STRUCTURES

1. Use hand signals to deliver pipe and associated structures.
2. Identify the proper method for attaching rigging to pipe and appurtenances, including specific rigging methods and identification of the center of gravity.
3. Discuss the safety precautions associated with rigging and delivering pipe.
4. Discuss the steps taken while delivering pipe such as pipe inspection, joint inspection, and cleaning.

MODULE 24104 - CUTTING PIPE

1. Identify the types and characteristics of ductile iron, concrete, corrugated steel, and thermoplastic pipes (PVC, HDPE, ABS).
2. Describe the methods for preparing pipe for cutting, including:
 - Chocking the pipe
 - Measuring and marking the pipe
 - Selecting the correct cutting blade
3. Identify the correct bevel for slip and mechanical joint pipe.
4. Identify the inspection points of a cut pipe.
5. Identify the safety precautions associated with cutting pipe including, the selection and use of appropriate personal protective equipment.
6. Describe the good housekeeping practices to be followed when cutting pipe.

MODULE 24105 - GASKETS, JOINTS, AND FITTINGS

1. Identify the common types of joints and fittings used in pipelaying.
2. Describe the methods for assembling various pipe joints.
3. Identify factors that could damage gasket materials.
4. Identify the basic methods for repairing joints.
5. Discuss the techniques for accurately estimating and maintaining gasket and joint materials on the job.

MODULE 24106 - INTRODUCTION TO ELEVATIONS

1. State the purpose of the laser, level, and transit.
2. Describe the setup and use of the laser.
3. Describe the methods for accurately holding and reading the level rod.
4. Describe the proper care and maintenance of the laser, level, and transit.
5. Discuss basic elevations.

MODULE 24107 - TRENCH SAFETY

1. State the safety precautions for working in and around a trench.
2. Recognize the following trench safety systems:
 - Shoring
 - Sloping
 - Shielding
3. Discuss the proper placement and use of ladders in the trench.
4. Identify the hazards associated with spoil piles.
5. Recognize the indications of an unstable trench.
6. Recognize the conditions that make a trench a Confined Space.
7. Describe the specific dangers associated with entering Confined Space structures such as manholes, trenches, pipes, and tunnels.

MODULE 24108 - FOUNDATION STABILIZATION, BEDDING, AND DEWATERING

1. State the purpose of stabilization and bedding.
2. Identify the types of bedding materials.
3. Determine the amount of bedding required.
4. Discuss the process for laying bedding material.
5. State the purpose of dewatering a trench.
6. List the EPA requirements concerning water discharge quality.
7. Describe the method for breaking pump suction.
8. Identify the routine maintenance requirements for dewatering equipment.
9. Discuss the personal safety and environmental hazards associated with dewatering equipment.

MODULE 24109 - TESTING PIPE

1. Explain the primary reasons for testing water systems.
2. Describe the method for pressure testing water systems.
3. Identify safety concerns when pressure testing water systems.
4. Describe the three ways to chlorinate water systems.
5. Describe the method for testing bacteria in water systems.
6. Explain the reasons for inspecting and testing storm and sewer systems.
7. Describe the types of inspections performed for storm and sewer systems.
8. Describe the following types of storm and sewer system tests:
 - Visual
 - Mandrel
 - Water
 - Air
 - Vacuum
 - Infiltration
 - Exfiltration
9. Describe the two methods for cleaning storm and sewer system lines.



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PIPELAYER

Materials and Equipment

Level One

MODULE 24101 - JOB SITE SAFETY

Overhead projector and screen
Whiteboard/chalkboard
Appropriate Personal Protective Equipment
Hard hat(s)
Toe guards
Metatarsal guards
Shin guards
Safety glasses
Full-face shield
Glasses with side shields
Gloves
Ear muffs
Ear plugs
Dust masks
Canister mask
Supplied air system
Safety harness
Orange safety vest
Atmosphere monitor (if available)
Utility locating tools (if available)
Hand excavating tools
Utility marking flags
Trainee Task Module
Transparencies
Markers/chalk
Module Examinations
Performance Profile Sheets
Company safety manual

MODULE 24102 - TOOLS AND EQUIPMENT

Overhead projector and screen

Whiteboard/chalkboard

Appropriate Personal Protective Equipment

Tools (if available):

Hand excavating tools

Shovels

Post hole digger

Digging and pinch point bars

Pick and mattock

Rakes

Engineer's tape

Mortar boxes

Trowels

Mortar hoe

Brick hammer

Probe tool

Banding tool

Wrenches

Rotary pipe cutters

Power hand tools

Ground fault interrupter

Air powered tools

Air impact wrench

Pavement breaker with tool bits

Clay spade

Rock drill

Rammers

Pipe saw

Chain saw

Electric rotary hammer drill

Small-diameter pore and punch tools

Drilling and tapping machines

Pumps

Trainee Task Module

Transparencies

Markers/chalk

Module Examinations

Performance Profile Sheets

MODULE 24103 - RIGGING AND DELIVERING PIPE AND ASSOCIATED STRUCTURES

Overhead projector and screen
Whiteboard/chalkboard
Appropriate Personal Protective Equipment
Length of pipe
Medium-sized valve or fitting
Rigging equipment
Trainee Task Module
Transparencies
Markers/chalk
Module Examinations
Performance Profile Sheets

MODULE 24104 - CUTTING PIPE

Overhead projector and screen
Whiteboard/chalkboard
Appropriate Personal Protective Equipment
Pipe saw with abrasive and diamond blades
Lengths of PVC, ductile iron, and concrete pipe
Grinder or rasp
Trainee Task Module
Transparencies
Markers/chalk
Module Examinations
Performance Profile Sheets

MODULE 24105 - GASKETS, JOINTS, AND FITTINGS

Overhead projector and screen
Whiteboard/chalkboard
Appropriate Personal Protective Equipment
Mechanical joint and pipe
Tie rods
Ductile iron push-on joint and pipe
Restrained joint and pipe
Gaskets
Solvent cement
PVC push-on joint and pipe
Mastic
Small-diameter concrete pipe
O-ring gaskets
Trainee Task Module
Transparencies
Markers/chalk
Module Examinations
Performance Profile Sheets

MODULE 24106 - INTRODUCTION TO ELEVATIONS

Overhead projector and screen
Whiteboard/chalkboard
Appropriate Personal Protective Equipment
Three-screw level
Pipe laser
Trainee Task Module
Transparencies
Markers/chalk
Module Examinations
Performance Profile Sheets

MODULE 24107 - TRENCH SAFETY

Overhead projector and screen
Whiteboard/chalkboard
Appropriate Personal Protective Equipment
Trainee Task Module
Transparencies
Markers/chalk
Module Examinations

MODULE 24108 - FOUNDATION STABILIZATION, BEDDING, AND DEWATERING

Overhead projector and screen
Whiteboard/chalkboard
Appropriate Personal Protective Equipment
Trainee Task Module
Transparencies
Markers/chalk
Module Examinations
Performance Profile Sheets

MODULE 24109 - TESTING PIPE

Overhead projector and screen
Whiteboard/chalkboard
Appropriate Personal Protective Equipment
Trainee Task Module
Transparencies
Markers/chalk
Module Examinations



MODULE 24101 - JOB SITE SAFETY

Task Number	Item	Date(s)	Recorded By
24101-1	Select and use the appropriate personal protective equipment.		
24101-2	Identify overhead dangers.		
24101-3	Identify signs of existing utilities.		

MODULE 24102 - TOOLS AND EQUIPMENT

Task Number	Item	Date(s)	Recorded By
24102-1	Identify common pipelaying hand and power tools and describe how to use them safely.		
24102-2	Identify various types of dewatering equipment and describe how to use the equipment safely.		

MODULE 24103 - RIGGING AND DELIVERING PIPE AND ASSOCIATED STRUCTURES

Task Number	Item	Date(s)	Recorded By
24103-1	Attach rigging equipment to a piping system component.		
24103-2	Use hand signals to direct the movement of a load.		

MODULE 24104 - CUTTING PIPE

Task Number	Item	Date(s)	Recorded By
24104-1	Cut a length of concrete, ductile iron, and/or PVC pipe.		
24104-2	Bevel a PVC and ductile iron pipe end.		

MODULE 24105 - GASKETS, JOINTS, AND FITTINGS

Task Number	Item	Date(s)	Recorded By
24105-1	Make a mechanical joint.		
24105-2	Make a push-on (slip) joint.		
24105-3	Make a restrained joint using tie rods.		

MODULE 24106 - INTRODUCTION TO ELEVATIONS

Task Number	Item	Date(s)	Recorded By
24106-1	Set up a three-screw level.		
24106-2	Set up a pipe laser.		

MODULE 24107 - TRENCH SAFETY

Task Number	Item	Date(s)	Recorded By
This is a knowledge-based module; there is no performance testing.			

MODULE 24108 - FOUNDATION STABILIZATION, BEDDING, AND DEWATERING

Task Number	Item	Date(s)	Recorded By
24108-1	Identify various types of pumps.		
24108-2	Identify types of initial backfill, stabilization, and bedding materials.		
24108-3	Describe the steps for priming a pump.		
24108-4	Describe pump troubleshooting procedures.		

MODULE 24109 - TESTING PIPE

Task Number	Item	Date(s)	Recorded By
This is a knowledge-based module; there is no performance testing.			