



### Course Info

Title	: Horizontal Directional Drilling (HDD) – Pilot Bore Operator
Duration	: 2 days
Location	: 69A, Jalan Teratai 7, Taman Johor Jaya, 81100 Johor Bahru, Johor, Malaysia
Category	: Fundamental
Trainer Name	:
Target Audience	: a) Engineer b) Supervisor c) Pilot Bore Operator d) Workers e) Anyone interested in the HDD industry

### Course Objective

Upon completion of this module, participants shall be able to:

- 1) Demonstrate a comprehensive understanding of the principles and fundamentals of Horizontal Directional Drilling (HDD).
- 2) Clearly define the roles and responsibilities of an HDD Pilot Bore Operator within the overall drilling operations.
- 3) Conduct surface tracking and accurately locate underground utilities using appropriate equipment.
- 4) Plan and prepare pilot bore activities, including estimating bore lengths and developing precise drill path profiles.
- 5) Apply effective steering techniques to maintain alignment and drilling accuracy.
- 6) Identify the functions, features, and applications of the tracking system.
- 7) Adhere to established safety protocols and industry best practices to ensure a secure working environment.

### Learning Outcome

Upon completion of this module, participants shall be able to:

- 1) Articulate the key concepts, procedures, and operational workflow of pilot bore HDD.
- 2) Perform the duties of a Pilot Bore Operator with professionalism and operational competence.
- 3) Utilize tracking systems effectively to detect, monitor, and avoid underground utilities.
- 4) Develop drill path profiles and execute pre-drilling preparations in accordance with operational requirements.
- 5) Demonstrate controlled steering techniques to support precise and efficient drilling operations.
- 6) Evaluate and properly operate tracking system equipment in alignment with manufacturer guidelines.
- 7) Apply hazard identification, risk assessment, and control measures to promote a safe and compliant worksite.

### Training Approach/Methods

The training will be conducted using the following methods:

- 1) Brief facilitator-led discussion.
- 2) Group reflection based on real-life examples.
- 3) Role-play exercises / VR Simulator.
- 4) A summary with key takeaway tips.

### Course Outline

The training will be cover using the following outline:

#### **Chapter 1 - Introduction to HDD**

- 1) Overview of HDD Technology
- 2) Pre-design Survey
- 3) Underground Utility Detection

#### **Chapter 2 - HDD Locating System**

- 1) HDD Tracking System
- 2) Basic Bore Planning



### Course Outline (Continued)

The training will be cover using the following outline:

#### **Chapter 3 - HDD Locating Procedure**

- 1) Equipment Basics
- 2) HDD Locating Basics

#### **Chapter 4 - HDD VR Simulator**

- 1) Initial Setup
- 2) Pre-drilling
- 3) Drilling

### Time Table

#### **Day 1**

<b>Time</b>	<b>Topics</b>	<b>Hours/Mins</b>	<b>Trainer</b>
08:30 - 09:00	Registration and Ice-Breaking Session	0.30	
09:00 - 10:30	CP1: Introduction to HDD	1.30	
10:30 - 10:45	Morning Break	0.15	
10:45 - 12:15	CP2: HDD System	1.30	
12:15 - 13:15	Lunch Break	1.00	
13:15 - 14:15	Cont CP2: HDD System	1.00	
14:15 - 15:45	CP3: HDD Locating Procedure	1.30	
15:45 - 16:00	Tea-Break	0.15	
16:00 - 17:00	Cont CP3: HDD Locating Procedure	1.00	
17:00	End of Day		

#### **Day 2**

<b>Time</b>	<b>Topics</b>	<b>Hours/Mins</b>	<b>Trainer</b>
08:30 - 09:00	Ice-Breaking Session	0.30	
09:00 - 10:30	CP4: HDD VR Simulator	1.30	
10:30 - 10:45	Morning Break	0.15	
10:45 - 12:15	Cont CP4: HDD VR Simulator	1.30	
12:15 - 13:15	Lunch Break	1.00	
13:15 - 15:45	Practical: HDD VR Simulator	2.30	
15:45 - 16:00	Tea-Break	0.15	
16:00 - 17:00	Practical: HDD VR Simulator	1.00	
17:00	End of Day		