



Horizontal Directional Drilling

Comprehensive Coverage of Horizontal Directional Drilling (HDD)
Technologies for Utility and Pipeline Applications



Horizontal Directional Drilling

Course Description: The Horizontal Directional Drilling course is offered as a 2-day course that covers Horizontal Directional Drilling (HDD) operation with complete technical information on the design, permitting, construction bid documents, specifications, and construction of HDD applications. The course is geared to provide an in depth overview of HDD from planning to demobilization.

Course Objective: To provide contractors, engineers, inspectors and others working in the trenchless industry with complete technical information on the design, permitting, construction bid documents, specifications, and construction of HDD applications. The course focus will be on HDD implementations with steel pipelines and municipal natural gas utilities, and will also include coverage of the HDD Model Footage Contract, providing guidelines for HDD projects, example specifications, and information on risk reduction. The course will also provide design calculations with examples using a HDD computer application.

Target Audience: All pipeline, utility and consulting engineers, superintendents, contractors, inspectors and other technical individuals with the responsibility of managing, operating, or maintaining pipeline, trunk or distribution systems.

Registration Fee: \$1625 per person, which includes:

Attendance to the course

Complimentary copy of the book,
Horizontal Directional Drilling
by David Willoughby

Course materials

Evaluation copy of Pipeline Toolbox software
program w/HDD

Continental breakfast

Instructor: David Willoughby is a Projects Manager for Rummel, Klepper & Kahl, a consulting engineering firm headquartered in Baltimore, MD. He has 20 years of experience in engineering, technical writing, and management in the natural gas, petroleum and pipeline industry. Mr. Willoughby is registered by the Council of Engineering Specialty Boards as a Petroleum Operations Engineer. Mr. Willoughby serves as the Project Manager for several major pipeline projects that include many HDD applications and has performed HDD consulting and designs on numerous water body and road crossings. He has a B.S. degree in Petroleum Engineering and has affiliations with the American Society of Petroleum Operations Engineers, American Society of Mechanical Engineers, Petroleum Equipment Institute, Directional Crossing Contractors Association, National Association of Corrosion Engineers, and the Society of Petroleum Engineers.



Terms and Conditions: One registration is required per person. Upon receipt of your above registration, an invoice will be generated for payment. Payment is due 30 days from receipt of invoice. Full price of the course fee will be refunded provided written cancellation is received 3 weeks prior to course date. A cancellation after the deadline will receive full credit towards a future date for the same course.

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Class Outline and Daily Schedule

Day 1

08:00 - 10:00

Introduction & History of HDD
History of HDD
HDD in the Utility & Pipeline Industry
HDD Basics
Example HDD Project

10:00 - 12:00

HDD Technology & Equipment
HDD Drill Rigs
HDD Downhole Equipment
HDD Drilling Fluid Equipment

1:00 - 3:00

HDD Feasibility
HDD Feasibility Considerations
Technical Feasibility
HDD Site Evaluation
Surface Considerations
Drilling Fluid Considerations
Topographic and Hydrographic Considerations
Geological Considerations
Subsurface Considerations
Geotechnical Investigation
Site Characterization Analysis
Economic Feasibility

3:00 - 5:00

HDD Design
HDD Design Basics
Project Planning
Permitting
Drill Path Design
Entry & Exit Points
Entry & Exit Angles
Design Radius of Curvature
Directional Accuracy & Tolerances
Product Pipe Considerations

Day 2

8:00 - 10:00

HDD Installation
Installation
Work Plan
Effective Drilling Practices
Drilling Fluids & Additives
Drilling Fluids & Soil Conditions
Drilling Fluid Volume
Bits & Reamers
Drilling Fluids Quantity Estimating
Drilling Practices
HDD Risks Identification

10:00 - 2:00

HDD Steel Pipe Stress Analysis and Technical Workshop Using Pipeline Toolbox HDD Module
General Information
Product Pipe Pull Loads
HDD Installation Stresses
Operating Loads and Stresses

2:00 - 3:00

HDD Plastic Pipe Stress Analysis
General Information
Bore Path Profile
Pullback Loads
Examples

2:00 - 3:30

HDD Tracking & Surveying
Introduction to HDD Tracking & Surveying
Walkover Systems
Wireline Guidance Systems
HDD Surveying
Construction Monitoring

3:30 - 4:30

HDD Contracts
General Information
Turnkey Contracts
Footage Contracts
Daywork Contracts
Risk Sharing

4:30 - 5:00

Open Discussion

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Please complete the attached form and fax to TTI at 713-630-0560

Course Date: _____ Course Cost: **\$1,625.00**

Name/Title _____

Company _____

Address _____

Address _____

City, State, ZIP _____

Country _____

Phone/Mobile _____

Fax _____

E-mail _____

Payment by Credit Card

Circle One: **VISA** **MasterCard** **AMEX**

CC Number _____

Expiration Date _____

Signature* _____

* By signing above I commit to paying the course fee when invoiced

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