


Draft Guidance on Trenchless Technology

Environmental Considerations for the Construction and Operation of Trenchless Technology

Presentation
to the

Small Water Systems Technical Assistance Center (TAC) Advisory Board

February 2020
Harrisburg, PA

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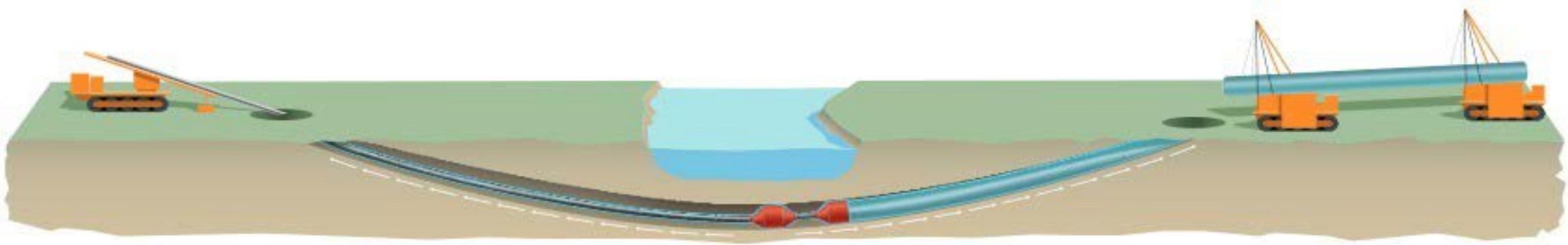
- **Charge of the Stakeholder workgroup:** *"Construction and Operation during Horizontal Directional Drilling (HDD)"*

- Stipulation states: *Enhanced Best Practices ("EBP") in the design and execution of HDDs and HDD Inadvertent Return Assessment, Preparedness, Prevention and Contingency Plans*

- HDD workgroup and the Trenchless Technology Technical Guidance Document



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- Site-specific geological, topographical, and hydrological analysis to be considered
- Type of analysis and documentation of adjacent features in the vicinity of the project footprint
- Potential impact of the planned activity on or from adjacent features.

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- Enhanced Best Practices for:
  - preventing and responding to Inadvertent Returns (IRs) and
  - preventing and responding to hydrological impacts from IRs;
  - groundwater quality and quantity protection;
  - procedures to identify water supplies in the vicinity of a proposed HDD beyond the use of the Pennsylvania Groundwater Information System

- Recommendations for permittee to conduct water supply testing (quality and quantity) for landowners within the vicinity of an HDD.

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Contributors to the Guidance Document

- **State Agency Representatives**
  - DEP's Regional Permit Coordination Office
  - DEP's Bureau of Oil and Gas
  - DEP's Bureau of Waterways Engineering
  - Pennsylvania Public Utility Commission (PUC)
- **Appellant Representatives**
  - Clean Air Council
  - Mountain Watershed Association
  - Delaware Riverkeeper Network
- **Federal Agency Representatives**
  - Federal Energy Regulatory Commission (FERC)
  - Pipeline and Hazardous Materials Safety Administration (PHMSA)
- **Industry Representatives**
  - Oil and Gas Experts
  - Drilling Experts

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- <u>Advisory Committees and Boards we are presenting to include:</u>
  - o Water Resources Advisory Committee (WRAC) – *October 2019*
  - o Agricultural Advisory Board (AAB) – *November 2019*
  - o Small Water Technical Advisory Committee – *February 2020*
  - o Citizens Advisory Council (CAC) – *TBD*
  - o Bureau of Safe Drinking Water – *Provided Comments on Draft*
  - o Environmental Justice Advisory Board (EJAB) - *TBD*
  - o Sewage Advisory Committee - *declined*
  - o Oil and Gas Technical Advisory Board – *January 2020*

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Section 1. Preamble

A. Foreword/Executive Summary –

- policies, procedures, and best practices to aid in the prevention of adverse environmental impacts from construction utilizing trenchless technology.

- It is a road map for project proponents

- It outlines the steps and options to be considered when a project proponent, for any project (e.g., fiber optic, pipeline, etc.) proposes the use of a trenchless technology construction method

- It includes a suitability and feasibility analysis, as well as Environmental Considerations, a design and permitting section, and a construction and compliance section.

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Section 1. Preamble, cont. -

B. Disclaimer

C. Authority

D. Purpose

E. Scope

F. Definitions

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Section 2. Suitability, Feasibility, and Environmental Considerations

A. Proposed Alternative
B. Site Suitability Analysis – looks at the physical, technical, and geological constraints of the project.

1. Existing Surface Conditions – (e.g., Topography, Water resources, cultural, etc).
2. Subsurface Conditions – (e.g., geological conditions, soil interfaces and geological contacts, groundwater, existing utilities, such as cross bores, wells).
3. Field Exploration – “ground truthing”. Geotech and Geophysical investigations and hydrogeologic investigations.

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Section 2. Suitability, Feasibility, and Environmental Considerations, cont.

C. Feasibility Analysis

D. Environmental Considerations

E. Conclusion

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Section 3. Design and Permitting

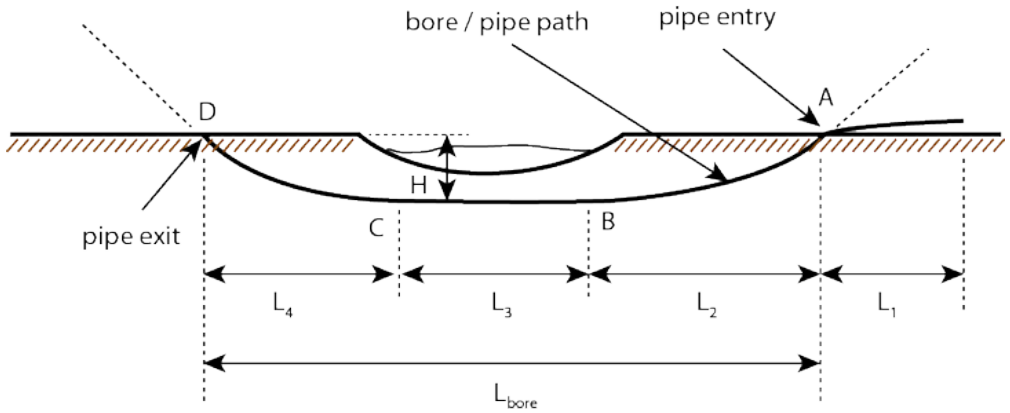
A. Preferred Alternative

B. Design

1. Site Constraints and Topographic Considerations
2. Inadvertent Returns (IRs)
3. Hole Flush
4. Hole Stability
5. Failure Mode Contingency Planning
6. Water Supplies
7. Waters of the Commonwealth

C. Confirmation

D. Permitting



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Section 4. Construction and Compliance

A. Preparedness, Prevention, and Contingency (PPC) Plan

B. Personnel, Responsibilities, and Trainings

C. Preconstruction Activities

D. Drilling Fluid Management

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Section 4. Construction and Compliance, cont.

E. Inadvertent Return Minimization and Methodologies

1. Instrumentation
2. Fluid Circulation
3. Loss of Circulation

F. Inspection, Compliance, Monitoring, and Emergency Response

1. Inspection Protocols
2. Monitoring Protocols
3. Compliance
4. Emergency Response Planning

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Appendices

A. Trenchless Technology Risk Evaluation
B. Data Resource List
C. Bore & HDD Flowchart
D. Instructions for Determining Public Water Supply Source Locations using eMapPA
E. Example Template for a PPC Plan – Simple and Complex Projects
F. Example Notification Letter and Well Construction Questionnaire
G. Example letter conveying water quality results and notification of EPA maximum contaminant Level (MCL) exceedances
H. Technical Guidance Document – Plan Submittal Checklist(s)


Draft Guidance on Alternatives Analysis

Methods and Factors to Consider to complete Alternatives Analysis

Stipulation of Settlement: *"The Department will seek stakeholder input for policy, procedure, and/or guidance development related to … The recommended methodology and factors to consider to complete an Alternatives Analysis under 25 Pa. Code § 105.13(e)(1)(viii)."*

Alternative Analysis: A detailed analysis of alternatives to the proposed action, including alternative locations, routings or designs to avoid or minimize adverse environmental impacts.


- Alternatives Analysis Technical Guidance Document has been developed via the same process as and in tandem with the Trenchless Technology Technical Guidance Document
- Input from broad stakeholder interests and expertise including state and federal agencies, industries, and appellants
- Stakeholder Draft comment period closed on November 29th, 2019
- Anticipate to send to Advisory Committees and Boards for comment in early 2020



Questions