



Directional Drilling
DRAFT DEP rules
Presentation to Pinelands
Policy Committee
July 30, 2021



NJ PACT

- The Governor's Protection Against Climate Threat (PACT) initiative has caused the DEP to revisit its rules.
 - The Department has undergone an extensive Stakeholder outreach process and surveyed staff with the goal of identifying rules that should be amended.
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N.J.A.C. 7:7A-7.2

Installation of underground utility lines-GP

Currently DEP does not regulate utility lines that are “jacked or directionally drilled” beneath wetlands or waterways:

(b) If a utility line is jacked or directionally drilled underground, so that there is no surface disturbance of any freshwater wetlands, transition areas, or State open waters and there is no draining or dewatering of freshwater wetlands, **no Department approval is required under this chapter.**

Since the existing rules were adopted:

- Several natural gas pipelines have been installed through the State using various installation methods.
- Directionally drilled natural gas lines have resulted in “inadvertent returns” into wetlands and waterways.
- Conclusion: It is necessary to review underground utility lines if proposed to be jacked or directionally drilled beneath wetlands and waterways.



Assistance from the New Jersey Geological and Water Survey (NJGS)

- Division of Land Resource Protection (previously the Division of Land Use Regulation) requests assistance from the NJGS when it reviews directionally-drilled utility lines.
- Geologists and hydrogeologists in NJGS oversee other DEP programs and rules relating to drilling (for example, the well- drilling program).
- The NJGS provided guidance to LRP for its rules. Additional changes may occur via the well-drilling rules. Until that time, limited changes are being incorporated into the Freshwater Wetlands, Flood Hazard Area and CZM rules).



Draft Rule Amendments

- Require an application for installation of utility lines using direction drilling below wetlands and waterways
- Require applicants drilling beneath wetlands or waterways to demonstrate that they will not have an impact on these features.
- Delete the reference to “jacking” below wetlands and waterways since this is not technically feasible.
- If jacking is the preferred method beneath transition areas or in floodplains, require a demonstration that the water table will not be intercepted.



Add the following requirements for Directional Drilling

- Use potable water in the drilling and/or utility line installation;
- Use NSF 60/61 certified drilling fluids and additives to conduct drilling operations;
- Submit a contingency plan for drilling operations, including preparedness procedures to minimize environmental impact from inadvertent returns;
- Fill any abandoned boreholes.



Potable Water

- Because of the proximity to wetlands and other waters, the Department is requiring the use of potable water during drilling to ensure that if an inadvertent return or other accident does occur, the drilling water will not contaminate the wetlands or waterway.



Require Use of NSF 60/61 Drilling Fluids

- ▶ NSF 60/61 is the American National Standard for evaluation of water treatment chemicals and is required by regulation or law in most U.S. states including New Jersey. This standard was created by a committee of industry experts. Many categories of water treatment chemicals, as well as well drilling aids fall under the scope of this standard.
- ▶ Use of these materials better ensures that contamination will be limited in the case of accidents or inadvertent returns.



Creating a Contingency Plan

- ▶ The contingency plan should address potential drilling failure and actions to be taken if there is an inadvertent return.
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Filling of Abandoned Bore Holes

- Any borehole that penetrates 25 or more vertical feet below land surface shall be decommissioned in accordance with N.J.A.C. 7:9D et seq., using Department-approved grouts, as listed in the regulations at N.J.A.C. 7:9D et seq. (Well Construction and Maintenance; Sealing of Abandoned Wells Rules).
- The upper 25 vertical feet plus final borehole diameter of any open borehole, annular space between the borehole and any pipe or casing remaining in the borehole, and inside the pipe or casing must be grouted in accordance with N.J.A.C. 7:9D et seq. The grout shall be placed through either a drill rod or tremie extended down the borehole from the entry point until it reaches a vertical depth of 25 feet plus the hole diameter below the land surface.
- Any borehole shallower than 25 vertical feet below land surface shall be decommissioned using a Department-approved grout, clean fill, or cuttings from the borehole; and
- The top five vertical feet of all entry and exit points shall be grouted with cement or concrete.



Filling of Bore Holes

- ▶ Filling of abandoned boreholes with board-certified grouts both ensures that there is no easy pathway between surface or ground water and that the borehole does not provide a pathway or conduit, which could result in draining the wetlands or allow contamination to migrate.
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Questions?

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