

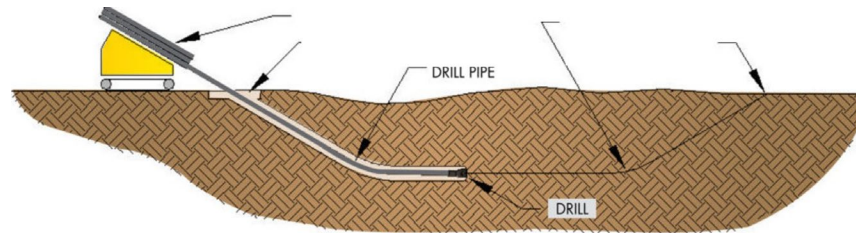
## What is Horizontal Directional Drilling (HDD)?

Horizontal Directional Drilling (HDD) is an environmental solution to installing infrastructure such as water lines, sewer lines, communication lines, and pipelines. When HDD is utilized, there is minimal impact on the environmentally sensitive areas, roadways, and rail roads.

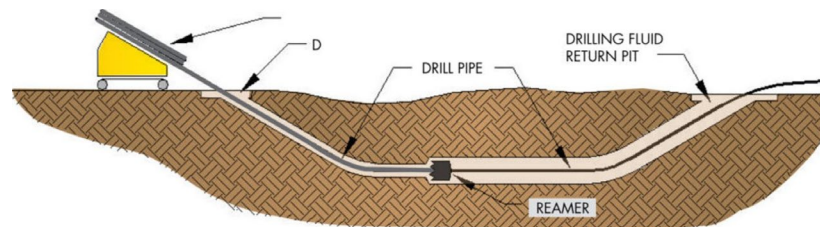
## How does HDD work?

HDD utilizes 3 basic procedures which are

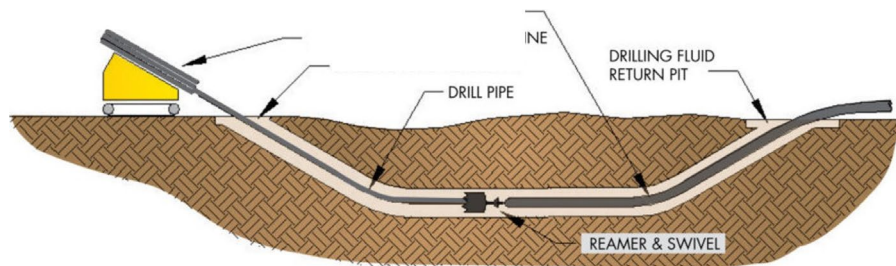
- Pilot Hole- this is the first path to determine where the final product will lay. The driller uses deflection of a bent sub to direct the drill head in the direction he needs it to go.



- Reaming- this process begins when the Pilot Hole is complete and is the process of opening the drilled hole large enough to accept the product



- Pulling- Once the hole is open to the desired diameter, the product is pulled through with the HDD rig to complete the HDD.



Horizontal Directional Drilling is a minimally invasive construction technique that addresses the numerous environmental shortfalls of conventional excavation. HDD is trenchless, in other words, it does not require the construction of above ground trenches, thus making it the preferred construction method in areas that require minimal disturbance or are environmentally or historically sensitive.