



Requirements for Horizontal Directional Drilling (HDD)

1.0 Purpose

The purpose of the following information is to establish Washoe County requirements for Horizontal Directional Drilling (HDD) within the County right-of-way (ROW). The information provided herein is intended to promote public safety and protect all existing underground facilities. This is not a step-by-step procedural manual, but rather a collection of standard practices which must be followed in order to obtain an Encroachment and Excavation Permit (EE Permit) and perform HDD within Washoe County ROW.

2.0 Design Requirements

A thorough design showing all existing utilities and infrastructure must be submitted to Washoe County Community Services Department for review prior to obtaining an EE Permit. Proposed construction plans must be prepared and stamped by a State of Nevada Licensed Engineer and comply with Washoe County Standard Details. In addition to standard design practices, designs shall utilize the Subsurface Utility Improvement Submittal.

The licensed engineer shall complete the following design requirements prior to submitting an EE Permit Application to Washoe County for all HDD work:

- 2.1. Obtain ROW and property line information through survey records or other acceptable sources. Include property parcel numbers, addressing, and street names.
- 2.2. Collect underground utility information utilizing ASCE Quality Level A locating (QL-A) through the use of test holes; commonly known as potholing. Data collection methodology and process must be documented for each location with a report submitted by the engineer at the time of permit submittal. Construction plan information must include: horizontal and vertical positions of all known underground facilities and structures.
- 2.3. The County Engineer or their designee will determine the extensiveness of soils investigation based on the location, complexity, and depth of the proposed HDD operation. When required, a soils report and analysis addressing soil condition information at the entry/exit pits and along the drilling path (at drilling depth for the entire length of the operation) will be required.
- 2.4. Prepare scaled construction plans using the information noted above for review by Washoe County Engineering Staff. The proposed plans must include the exact location of all planned improvements and the location of existing surface and subsurface utilities (shown in plan and profile design) within 25-feet of the proposed HDD construction.



- 2.5. Typical notes and details shown on the design plans should include, but are not limited to: exact product to be installed, drill/reamer diameter, bore lengths, entry/exit pit locations, and pit size.
- 2.6. If the proposed conduit, pipe, or sleeve outside diameter (OD) does not match the OD of the drill (e.g. a known void exists between the excavation and the new infrastructure), the plans must provide information for grouting the void.
- 2.7. A consistent depth of the proposed utility must be maintained between pull boxes, vaults, access points, and other equipment associated with the proposed installation. The exact proposed depth must be shown in a profile view within the plans.
- 2.8. Construction plans must show the location of existing curb & gutters, sidewalks, roadway markings, and all other surface improvements.
- 2.9. Proposed construction designs must be approved by the respective agencies/owners of all utilities which may be crossed or are in close proximity to the HDD operation. The Engineer or their representative is responsible for obtaining all approvals and providing copies of the approvals to the County.
- 2.10. To the best of their ability, the Design Engineer must identify all potentially un-marked public and private infrastructures within proximity of the proposed HDD construction. A large percentage of private sanitary sewer laterals are not mapped and will not be accurately marked under the USA North Locates Program.
- 2.11. Construction plans must provide information showing the location of all surface restoration (asphalt, concrete, landscaping, etc.). Restoration must meet Washoe County Standard Details.
- 2.12. Minimum Recommended Depth of Cover

Diameter	Depth of Cover
2 inches to 6 inches	4 feet
8 inches to 14 inches	6 feet
15 inches to 24 inches	10 feet
25 inches to 48 inches	15 feet

3.0 Permitting

At a minimum, the following information shall be provided as part of the County Encroachment and Excavation Permit Application:

- 3.1. Final Construction Plans providing the information previously outlined.
- 3.2. MUTCD compliant Traffic Control Plans depicting all traffic control to be used during each phase of the HDD construction.
- 3.3. An accurate daily construction schedule showing all work days, work times, and work phasing.
- 3.4. An accurate description of the equipment, including make and model, to be used during construction.



- 3.5. Material Data Safety Sheet for the drilling fluids and additives to be used on the project.
- 3.6. Provide a Storm Water Pollution Prevention Plan (SWPPP) showing all Best Management Practices to be used during construction. The SWPPP must provide detailed information for protection of the County's municipal separate storm sewer system (MS4's) and the methods used for: containment of drilling fluids, dewatering of the entry/exit pits (if needed), clean-up of the area and proper disposal.
- 3.7. If ground water is anticipated, pumps of sufficient capacity shall be placed on site during construction. Disposal (dewatering) of the groundwater into the municipal system will require prior approval from the County.
- 3.8. Provide a video recording of the entire construction area showing existing conditions, surface features, public improvements, etc.
- 3.9. Exact methods for monitoring the drill path alignment must be identified. Monitoring shall be consistent with the methods required by the Design Engineer for the preparation of As-Built plans which must be submitted to Washoe County Community Services Department upon completion of the work.
- 3.10. All storm drain, sanitary sewer, and sanitary sewer laterals either crossed or in close proximity to the HDD operation must be video recorded to show existing conditions. A second video of the same infrastructure will be required at the conclusion of the work.
- 3.11. The HDD contractor is responsible for obtaining all required Federal, State and municipal permitting. A copy of the permits must be provided to the County prior to the start of work.
- 3.12. The permittee must be a State of Nevada Licensed Contractor.
- 3.13. Projects deemed by Washoe County to require inspection will be assigned an additional EE Permit fee. Inspection fees are calculated using the construction schedule provided with the permit submittal.
- 3.14. When necessary, the contractor may be required by Washoe County to retain the services of a material and testing firm with all costs for testing services to be the responsibility of the permittee.

Note: Washoe County will provide Special Conditions of Approval upon review of the EE Permit Application.

4.0 Pre-Construction and Safety

Prior to performing work involving HDD, the permittee shall implement safety standards consistent with the best practices of the industry, legal requirements of Federal, State, and the Municipal government, and include the following safety measures:

- 4.1. All operations must conform to OSHA standards.
- 4.2. A copy of the SWPPP must be on the job site at all times.
- 4.3. USA North - Call before you dig has been notified and all known utilities have been marked.



- 4.4. All crossed and parallel utilities have been positively located and exposed by potholing. This includes all water, gas, fiber, electric, sanitary sewer (main and laterals), storm drain, etc.
- 4.5. The HDD contractor shall have a prepared Emergency Plan in the event of a utility strike which will include utility owner information and emergency phone numbers on-site at all times. A copy of this plan must be submitted to the Washoe County prior to the start of work.

5.0 Construction

- 5.1. Upon receiving the EE Permit, the applicant agrees to abide by all conditions of a Stop Work Order posted by Washoe County. A Stop Work Order may be posted by the County whenever the County has reasonable cause to believe that a violation of terms outlined on the EE Permit or the Special Conditions has occurred. A Stop Work Order will necessitate a meeting between the applicant and County staff to resolve the issues leading to the posting of the Order. Work shall only continue once a successful resolution addressing the issues of the Stop Work Order has been met to the satisfaction of County staff.
- 5.2. All construction activities must meet the terms of the EE Permit, the standards of the Occupational Safety and Health Administration (OSHA), the SWPPP, Federal and State requirements, and all required permits issued from other agencies.
- 5.3. Continuous monitoring and plotting of the drill progress shall be required to ensure compliance with the approved construction plans. Monitoring shall be consistent with the methods required by the Design Engineer for the preparation of As-Built plans which must be submitted to the County upon completion of the work.
- 5.4. During all utility and infrastructure crossings, the contractor must notify the utility/infrastructure owner a minimum of 24-hours in advance.
- 5.5. A daily log of construction activities must be submitted to the County at completion of work.
- 5.6. The HDD construction must be completed as per the approved construction plans. "Field Changes" must be submitted as a written RFI and approved by the Design Engineer and Washoe County Engineering prior to any changes in the work.
- 5.7. Prior to the start of backfill within the County ROW, the contractor shall notify the County to schedule an inspection of the work area. If deemed necessary, compaction testing may be required at the expense of the contractor.
- 5.8. The Permittee shall be responsible for restoring the affected work area to an "as good" or better condition. Reference Washoe County Standards Details for approved methods.
- 5.9. If a drill hole must be abandoned, the location of the abandonment must be mapped for the As-Built plans, the County inspector and Design Engineer must be notified, and the hole must be backfilled using an excavatable slurry approved by Washoe County.



- 5.10. Should pavement heaving, settlement or damage to infrastructure occur, all repairs will be at the expense of the contractor. If required by the County Engineer, an engineered design for remediation of the damaged area shall be provided and approved by the County Engineer with all costs being the responsibility of the permittee.

6.0 Post- Construction.

The following information must be submitted at the conclusion of work.

- 6.1. Approved changes to the permitted construction drawings will require drafted As-Built plans to be submitted to Washoe County Community Services Department at completion of work.
- 6.2. A copy of the Daily Logs.
- 6.3. Post-construction video recordings of all County infrastructure crossed or in close proximity to the HDD construction work.
- 6.4. Copies of all material testing results (if required).