

## Directional Bore Work

### Design & Permitting Requirements

#### A. Engineered Plans

1. Ogden City Engineering requires engineered, detailed plans showing the following:
  - a. **All Excavation Locations:** (including bore pits, vaults, hand-hold boxes, pedestals, etc),
  - b. **All Proposed Equipment Locations** (including vaults, HH boxes, terminals, pedestals, etc)
  - c. **Alignment of the Bore Path** (dimensioned off of back of curb or off of sidewalk),
  - d. **All utilities that are crossed or running near the proposed bore** (including above-ground elements, such as utility poles, cabinets, boxes, etc)
  - e. **All Utility Easements** (Public, Municipal or Private) that are being used within the scope of work being performed. Streets and properties that do not have utility easements must be identified by leadered notes on each page for each applicable property.
  - f. **Equipment Specs:** Specification sheets for all equipment being installed in the City Right-of-Way or utility easements **MUST** be included in the plan set.
2. Plans cannot show work on private property or success-based (future) work; only currently proposed work that is located in the City right-of-way or in utility easements.
3. One service area per permit. Service area must be contiguous and not separated into multiple areas.
4. All plans submitted for Directional Bore work must be produced by, stamped, signed and dated by a licensed professional Engineer.
5. Plans produced by a company that has a current franchise agreement with Ogden City do not need to be stamped but must bear the logo of the franchised company thereon.
6. Schematic drawings are not acceptable for submission as “Engineered Plans”.

#### B. Drafting/Drawing Standards for Directional Bore Plans

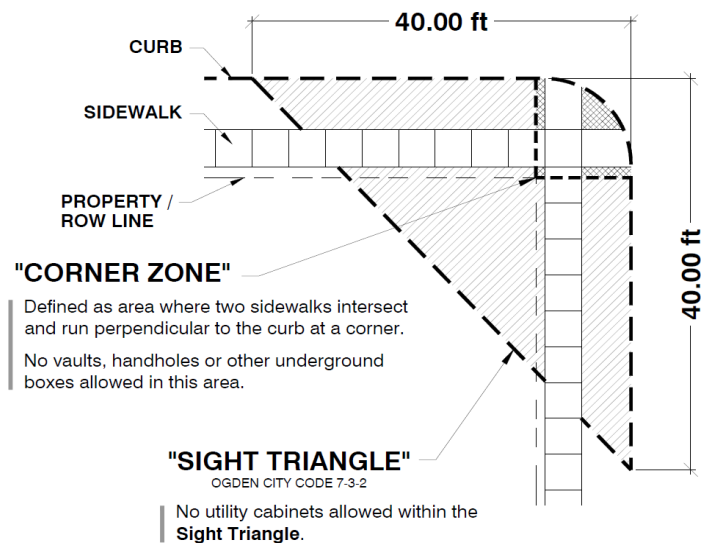
1. **Background:** A recent aerial photo should be used as a background. This image should be screened or adjusted so that the utility and design linework is clear and legible, while still being able to distinguish surrounding structures (such as houses, sidewalks, streets, etc).
2. **Drawing Scale:** Acceptable drawing scales are as shown:
  - a. 1:10, 1:20 – For detailed drawings
  - b. 1:30, 1:40 – For standard Site Plan drawings
  - c. 1:50 – Maximum Scale for Site Plan drawings.Drawings with scales that exceed the 1:50 scale (1:60, 1:100, 1:200, etc) will be rejected.
3. **Lineweights:** Use a dark, bold or thicker line to show new, proposed work. Use thinner, lightweight lines to show existing utilities and other features (sidewalks, curb, etc.)
4. **Legend:** All symbols and linetypes used in a Site Plan for Directional Bore work should be included on a Legend page within the plan set.
5. **General Notes:** Notes specific to the proposed Directional Bore work in Ogden City should be included in the plan set. Whenever the proposed work encroaches into the UDOT Right-of-Way (including traffic control), then UDOT-specific notes should be included as well.

### C. Bore Path Design Constraints

1. **Background:** A recent aerial photo should be used as a background. This image should be screened or adjusted so that the utility and design linework is clear and legible, while still being able to distinguish surrounding structures (such as houses, sidewalks, streets, etc).
2. **Path Location:** The bore path must be a minimum of 3 feet (3') BOC (Back of Curb) in areas with a park strip, and 3 feet (3') BOW (Back of Walk) where the sidewalk is directly behind the curb, to allow space for water meter boxes behind the curb.
3. **Deflection:** Maximum allowable horizontal deviation from bore path is 12" in either direction.
4. **Minimum Utility Offsets (Horizontal):**
  - a. Water Main and Sanitary Sewer Main: 10 feet (10')
  - b. Storm Drain Main: 5 feet (5')
  - c. Gas & Power: 3 feet (3')
  - d. Low voltage/Telecom: 1 foot (1')
5. **Bore Depth:** Minimum allowable cover of conduit installed by directional bore is 24 inches (2'), unless a greater depth is specified in the submitted plans.
6. **Road Crossings:** All utilities must be potholed for depth & location verification wherever the bore path crosses a public or private road.
7. **Moratorium Roads:** Bore paths cannot cross Moratorium roads (roads that have been recently repaved or reconditioned) unless approved by City Engineer.

### D. Equipment

1. All utility cabinets must be located back of walk in the PUE/MUE. No cabinets are allowed in the park strip unless expressly authorized by the City Engineer.
2. No vaults, handholes or other similar equipment shall be installed underneath the City sidewalk.
3. No bore alignments shall run underneath City sidewalks unless approved by City Engineer.
4. No utility cabinets are allowed within intersection sight triangles, as defined in Ogden City Code 7-3-2 and as shown in Figure 6-1.
5. No vaults, handholes or other underground boxes are allowed in the "corner zone" due to current and future ADA ramp placements.



### SIGHT TRIANGLE & CORNER ZONE

Figure 6-1 – Restricted zones – Sight Triangle Zone & the Corner Zone

Please refer to Ogden City Engineering's web page for additional resources in bore path design.

## E. Permitting Process

1. All required documents should be submitted to Ogden City Engineering permits team either in person, by email or online portal. Required documents include:
  - a. **Site Plan** (engineered drawing)
  - b. **Traffic Control Plan** (MUTCD-compliant drawing)
  - c. **Insurance and Bond** (Insured's name must match on both documents, and must also match name on permit)
2. Bore lengths 0-3000 linear feet (LF) shall be subject to typical permit review.
3. Bore lengths 3,000 to 20,000 linear feet (LF) in length require an Engineering Site Plan Review
4. Bore lengths greater than 20,000 linear feet (LF) are not accepted and must be broken into smaller projects.
5. Permit fees are based on number of excavations, road crossings and total bore length of project.

## Construction Requirements

### A. Preconstruction Meeting

1. An on-site Preconstruction Meeting is required with all directional bore jobs in Ogden City **at least 1 business day prior to work starting**. Please contact the assigned Engineering Inspector to schedule. The existing site condition will be assessed during the pre-construction meeting.
2. Business Depot Ogden (BDO): A preconstruction meeting with the contractor, sub-contractors, engineering inspector and Boyer Company personnel is required for all jobs located in the Business Depot Ogden. Preconstruction Meetings are typically held Friday mornings, beginning at 10:30am
3. It is recommended that the Contractor make record (either video or photographic) of the properties and infrastructure that will be affected by the scope of work PRIOR to work beginning, to document the condition of said infrastructure and properties.

### B. Communication with Residents

1. Contractor shall notify residents whose property will be affected by directional bore work at least 2 business days prior to work beginning and should maintain polite and professional communications with said residents through the course of construction and restoration.

### C. Bore Logs & Video Inspection

1. All bore logs must be submitted to the Engineering Inspector.
2. Video inspection may be required at the discretion of the Engineering Inspector to verify that utility laterals or city utility mains have not been damaged during the bore process.
3. The camera used in sewer lateral inspections must have recording capability and present a clear picture of the sewer lateral. Cell phone video of the inspection camera screen will not be accepted; the camera MUST have recording capability.

### D. Water for Bore Work

1. Contractors shall not use water connections located on private property.
2. Contractors shall not use water connections located on commercial property without written consent from the water account holder.
3. Contractors connecting to the fire hydrants within Ogden City's water system MUST have a city-issued hydrant meter as part of that connection. Those connecting without a hydrant meter will be prosecuted for theft of services.

#### **E. Repairs and Restoration**

1. Contractor shall be responsible for damage or destruction to property and/or utilities during the course of construction, including pipelines, culverts, conduits, cabling, asphalt and concrete pavement. Such damages must be repaired quickly and restored to a condition equal to or better than it was before the bore work. The existing site condition will be assessed during the pre-construction meeting.
2. Landscaping at bore-pit locations or any other locations damaged or disturbed by contractor MUST be restored to a condition equal to or better than it was before the bore work.
3. Any components of an irrigation or sprinkler system (pipe, control wire) that are damaged as a result of permitted directional bore work must be repaired immediately upon discovery.
4. Testing of sprinkler (or irrigation) systems crossed by the bore is a requirement to finalize the permit and close out work. Contractor will still be liable for damage incurred to irrigation and sprinkler systems during the course of a directional bore job during the fall/winter/spring seasons when irrigation systems are not charged. Homeowner/Property owner will have until July 31st of the following summer to submit a damage claim to Ogden City. Upon discovery that the reported damage was indeed caused by the bore work, the Contractor will immediately repair said damage.
5. Failure to repair or replace damaged landscaping, utilities, and infrastructure or to respond to damage complaints in a timely manner may result in the suspension of current and future work and will result in claims filed against the contractor's bond.

#### **F. Boring Under a River**

1. Boring under a river requires approval from state and federal agencies. Those approvals must be in place prior to permit issuance.

#### **G. Working Near Trees in the Right-of-Way**

1. Trees in the park strip and other areas of the Right-of-Way are owned and maintained by Ogden City. All concerns dealing with tree trimming, broken branches or the health of city trees should be directed to the Ogden City Urban Forester (801-629-8284)
2. Contractors must take measures to protect the trees while working in the City Right-of-Way. Please contact the Urban Forester, and/or visit the Forestry page on the Ogden City website.