



PLANNING AND COMMUNITY DEVELOPMENT DEPARTMENT BUILDING DIVISION POLICY

UTILITY TRENCHING AND BACKFILL REQUIREMENTS

Description:

This Building Division administrative policy addresses and provides clarity for the 2015 International Residential Code (IRC), International Building Code (IBC), 2015 Universal Plumbing Code (UPC), and International Fuel Gas Code (IFGC) Sections related to utility trenching and backfill requirements within the City of Bainbridge Island.

Issue:

Contractors and homeowners may be putting themselves or others at risk for serious damage to life and property. Possible injury or death could occur if proper care is not taken for the installation of underground utilities.

Questions:

1. How deep do I need to make my trench?
2. What separations from other utilities do need to have?
3. What is bedding and shading?
4. What materials are acceptable for backfill?
5. How wide does my trench need to be?

Code Section(s):

2012 IFGC 107.2- 1. Underground inspection shall be made after trenches or ditches are excavated and *bedded*, piping is installed and before back-fill is put in place. When soil that is excavated contains rocks, broken concrete, frozen chunks of ice/rocks, and other rubble that would damage or break the piping or cause corrosive action, *clean backfill* shall be on the jobsite.

2011 LPGC 6.9.4.2- Polyethylene and polyamide pipe and tubing shall be buried as follows:

- With a minimum of 12" of cover.
- With a minimum of 18" of cover if damage to the pipe is likely to result.
- With piping installed in a conduit if a min. of 12" of cover cannot be provided.

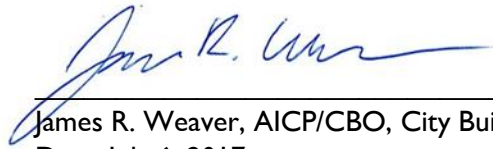
Additional Information:

The City of Bainbridge Island has additionally researched manufacturer recommendations, local utility publications, and various code volumes that have been adopted by the State of Washington. These include but are not limited to: 2011 Gastite (PE) Underground Gas Installation Guide, 2014 PSE Gas and Electrical Installation Guide, 2014 NEC 300-5, 2015 IRC E3803.1, 2015 IFGC 107.2 404/406, and the 2015 UPC 1210.1.

Determination:

The City of Bainbridge Island has deemed it necessary to develop a policy that is beneficial for homeowner, community, and contractor alike. To reduce possibly harmful situations that may arise from trenching and installation of gas and other utilities is the main goal. The handout is a reference of minimum requirements for the separation of utilities, trench depth, bedding and shading, and appropriate backfill materials. If you have any questions of what these things are please refer to the handout.

APPROVED BY:



James R. Weaver, AICP/CBO, City Building Official

Date: July 6, 2017

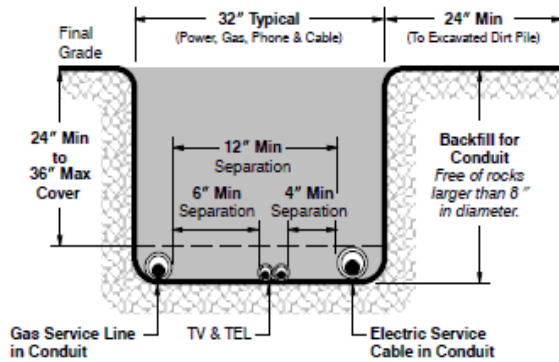


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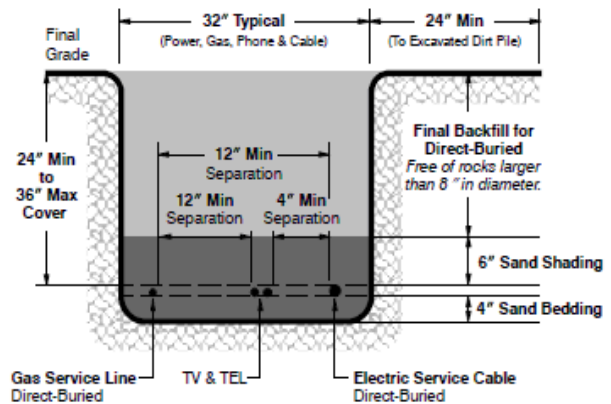


Service Lines in Conduit and Direct-Buried Installations

Joint Service Line Trench Conduit Installation



Joint Service Line Trench Direct-Buried Installation



Separation Requirements to Other Utilities for Conduit and Direct-Buried Installations

| Installation | Horizontal Separation | | | Vertical Separation when Crossing | | |
|---------------|-----------------------|---------------|--------------------|-----------------------------------|---------------|--------------------|
| | Gas to Electric | Gas to TV/Tel | Electric to TV/Tel | Gas to Electric | Gas to TV/Tel | Electric to TV/Tel |
| Conduit | 12" minimum | 6" minimum | 4" minimum* | 6" minimum | 6" minimum | 4" minimum* |
| Direct-Buried | 12" minimum | 12" minimum | 4" minimum* | 12" minimum | 6" minimum | 4" minimum* |

NOTE: Stacking Utilities Not Permitted

Backfill Requirements for Conduit and Direct-Buried Installations

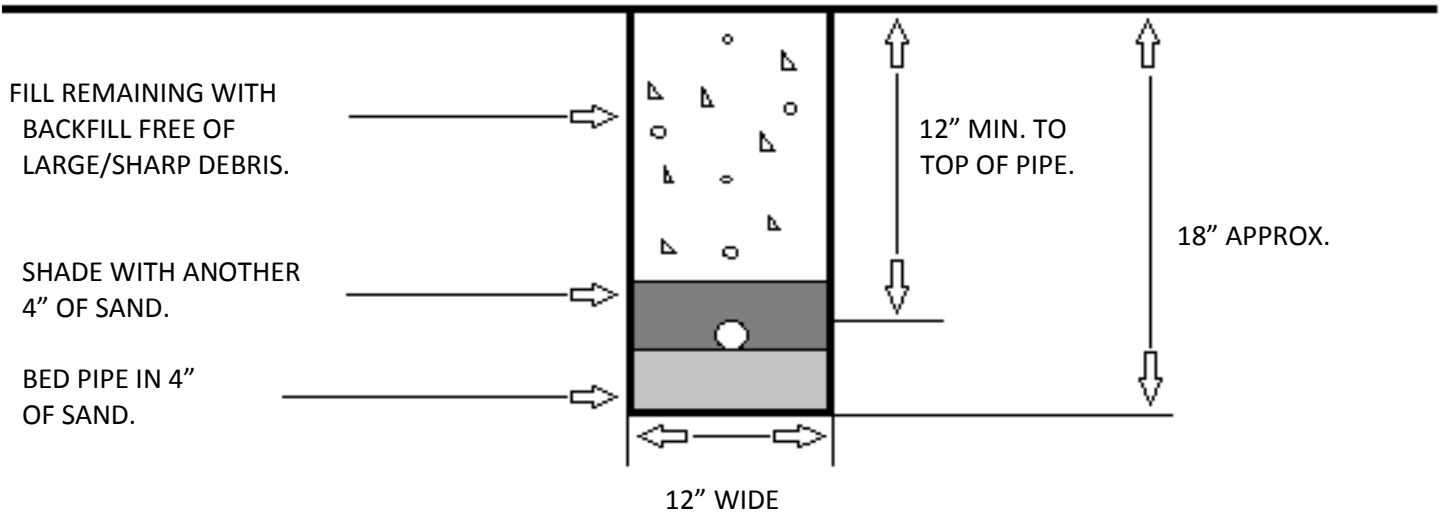
| Installation | Bedding | Shading | Backfill |
|---------------|--------------|--------------|--|
| Conduit | Not Required | Not Required | Soil that is free from construction debris, glass, sharp rocks, frozen clods, and rocks larger than 8" |
| Direct-Buried | 4" minimum | 6" minimum | |

REQUIREMENTS FOR DIRECT-BURIED INSTALLATIONS:

- Sand can be found at supplier locations within the Kitsap/Bainbridge Island service territory and is commonly referred to as "builders sand" or "washed sand."
- Bedding sand will be provided and installed by the contractor/homeowner to a minimum depth of 4 in. prior to electric and gas installations.
- Shading sand is to be installed by the contractor/homeowner after inspection by a C.O.B.I. official.
- Enough sand shall be provided so that the total depth before backfill is 8 in.

(SEE REVERSE SIDE SUPPLEMENT FOR SINGLE, DIRECT BURIAL REQUIREMENTS)

**TRENCHING AND BACKFILL REQUIREMENTS FOR
DIRECT BURIAL OF SINGLE LP GAS LINE**



CODE REFERENCES

2012 IFGC 107.2- 1. Underground inspection shall be made after trenches or ditches are excavated and *bedded*, piping is installed and before backfill is put in place. When soil that is excavated contains rocks, broken concrete, frozen chunks of ice/rocks, and other rubble that would damage or break the piping or cause corrosive action, *clean backfill* shall be on the jobsite.

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