



City of Seattle
Seattle Public Utilities

CORE TAP PROCEDURES FOR STORM AND SEWER MAINS

I. REQUIREMENTS

New side sewer or service drain connections requiring a tee (service connection point) installation onto an existing sewer or storm drain line or structure will be core drilled by City of Seattle workforce, unless otherwise authorized by the Drainage and Wastewater Division (DWD) of Seattle Public Utilities (SPU). This requirement applies to side sewer or service drain (lateral) connections from six inches through ten inches in diameter. Connections not in this size range and ten inch connections to brick sewers must be performed by the contractor and inspected by SPU during installation. Inspection shall be scheduled similarly to scheduling for a core tap, as discussed below. Connections authorized to be performed by non-City entities must be inspected and accepted by the City at the permit holder's expense. Unacceptable work will be corrected directly or indirectly by City staff at the expense of the permit holder.

Expect the center point of the core tap to be set no lower than 30 degrees and not higher than 45 degrees above the springline of the host pipe, regardless of the existence of a side sewer grade release (45 degrees will be the default angle). The City owns and maintains the tee and therefore determines the angle of the tee set into the main. Proposed laterals must be installed to allow connection to the main at this angle. The lateral must still be installed so that minimum depth requirements are maintained, including having the lateral be at least one foot above the crown of the public main when measured at the edge of the right of way (see Seattle Municipal Code 21.16 and its accompanying Director's Rules). Unless prior approval is received from SPU, laterals installed such that they cannot connect at the required angle must be reinstalled at the necessary slope and depth to allow connection to the new tee at the required angle. Inspection of the lateral by the Department of Planning and Development (DPD) is still required.

The City reserves the right to determine appropriate placement of service connections relative to field conditions and may refuse to perform the tap at the permit holder's proposed location. Discrepancies may be elevated to the SPU Field Manager for final determination. The City reserves the right to demand a capacity check prior to approval for core tapping.

The springline is defined as the widest cross-section of the host pipe, measured horizontally.

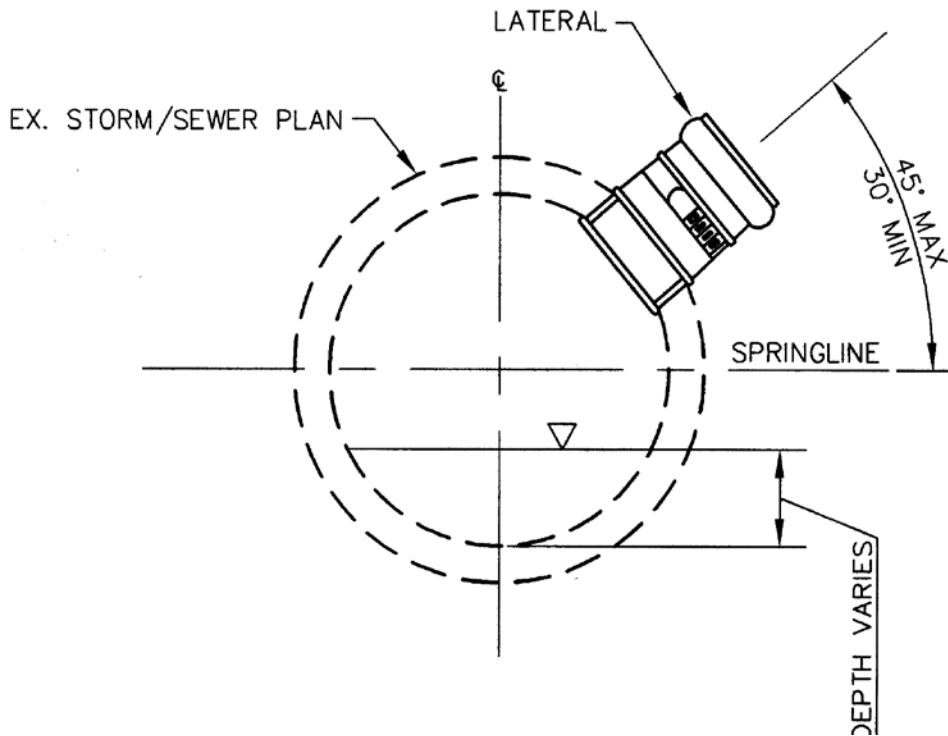


FIGURE 1 CROSS SECTION

Service connections must be at least one standard pipe size smaller than the main diameter to allow for a new core tap, per the table in Section II. If laterals exceed the criteria shown below for core taps, the project must recalculate the sizing of the connections or split flows on the site (per DPD Director's Rule 3-2006, or the most recent version of this rule) so that a maintenance hole (MH) is not required. MHs will only be allowed as an exception under adverse conditions and must receive approval from SPU during project design and construction permitting to avoid disputes and delays in the field. If a MH is allowed by SPU, the MH must be constructed by the contractor according to City of Seattle Standard Plans, and the contractor is responsible for coordinating with and obtaining inspection by SPU. The contractor is responsible for notifying SPU for coordination and inspection prior to beginning any MH excavation and construction.

II. INFORMATION

MAINLINE SIZE	LATERAL SIZE			
	6-INCH	8-INCH	10-INCH	12-INCH
8-INCH	OK	MH	NA	NA
10-INCH	OK	MH	MH	NA
12-INCH	OK	OK	MH	MH
14-INCH DIP	OK	OK	MH	MH
15-INCH	OK	OK	MH	MH
16-INCH DIP	OK	OK	MH	MH
18-INCH	OK	OK	MH	MH
20-INCH	OK	OK	OK	MH
21-INCH	OK	OK	OK	MH
24-INCH AND GREATER	OK	OK	OK	OK

LEGEND:

- OK – okay to core tap between 30 and 45 degrees (45 degrees will be the default angle)
- NA – Not allowed, lateral is bigger than mainline
- MH – SPU approval required prior to scheduling. Indicates core tap not possible, MH or rolled in tee or wye if approved by SPU

SPECIAL CONDITIONS:

- Connections to “brick” pipe shall be a ductile iron bell section class 50 minimum provided by the contractor. Use existing wyes /tees whenever possible.
- Brick sewers require grafting a tee.
- Corrugated metal pipe shall meet requirements in Standard Plan No. 279.
- SPU approval is required for lateral sizes 12” and larger than 10”.
- Connections to pipe within a casing pipe shall not be allowed.
- Measurement (in linear feet) from centerline of downstream (D/S) MH to centerline of service tap will be taken by DWW core tap crew and provided to contractor for entry onto the site’s as-built document.

III. SCHEDULING

- A. SPU DWD requires a minimum of 48 hours notice from the Registered Side Sewer Contractor (RSSC) for scheduling a core tap (unless noted otherwise) or for SPU inspection of core taps or MH construction that have been authorized by SPU. For core taps on AC pipe, a minimum of 10 days notice will be required. For core taps on brick pipe, schedule the following day also in the event the brick pipe is single wall construction.
- B. The contractor shall call SPU at (206) 615-0511 for scheduling.

IV. SITE PREPARATION BY CONTRACTOR

- A. Plan the location of side sewer in relation to the main line sewer. Connections will be installed perpendicular to the main line sewer or storm drain, and at the slope above the spring line, indicated in Section I. Multiple connections to a single pipe segment are allowed only if there will be a minimum of two feet between the outside edges of each tap (this includes measurements for taps on the opposite side of the main, as shown in the figure below). There shall be three feet between the proposed tap and any existing MH structure. There shall also be a minimum of one foot between the outside of the tap and the bell end of any pipe joint. See Figure 2.

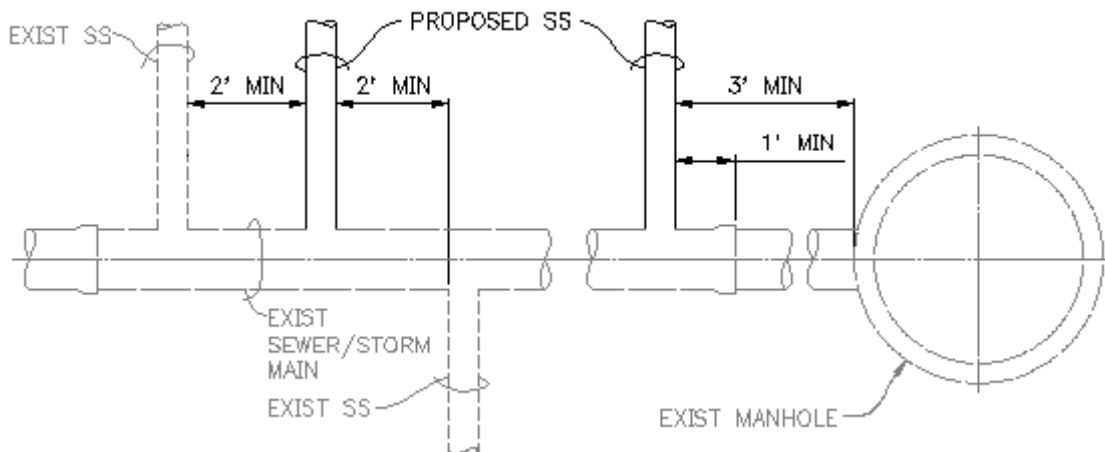


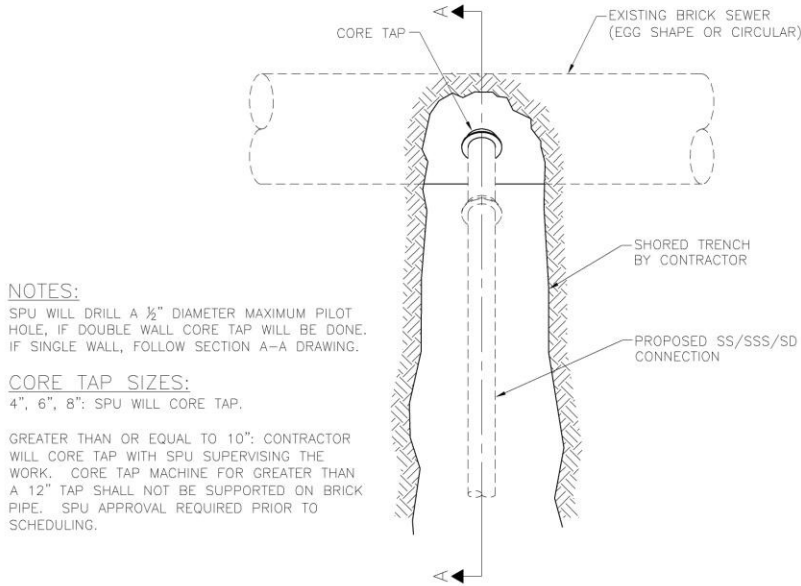
FIGURE 2 PLAN VIEW

- B. Condition of the host pipe. If the City determines that a core tap should not be performed due to existing conditions of the host pipe (e.g. cracked or otherwise damaged), the City will determine the best method for providing a service connection. Under this condition, charges to the permit holder will be the same as if the service connection were being performed on undamaged infrastructure.

However, if the City determines that the utility was damaged by the contractor's operation, then time and materials charges will be invoiced to the permit holder, who is held responsible for the contractor's work.

- C. Do all preparatory work for the installation of the Tee:

1. Drive-up vehicular access to within 50 feet of location of tap is required. Where vehicular access is not possible, the contractor must make provisions, at no cost to the City, to place the core drilling equipment where the tap can be accomplished. The contractor will assure that SPU/DWD equipment is not damaged.
2. A minimum of three feet horizontal and vertical clearance is required for the drilling equipment setup and operation. For core taps onto 24-inch diameter pipe and smaller, the contractor shall excavate completely around the pipe at the area of the core tap in such a manner as to allow the SPU/DWD crew to secure drilling equipment and ensure that integrity of existing infrastructure is not jeopardized. Excavation shall be free from excessive amounts of water. The contractor will provide means of dewatering as necessary, at no cost to the City.
3. Connections to A/C pipe require specialized methods and removal of material from the site. Access to host pipe shall be sized to allow the use of hand tools to remove approximately two feet of the existing A/C pipe. The contractor shall excavate material from around the pipe (using extreme care to avoid any abrasions to the pipe) in preparation for immediate access by the SPU/DWD crew who will remove approximately two (2) feet of the A/C pipe and replace it with a section of PVC pipe containing the service Tee. The SPU/DWD crew will dispose of any asbestos-related material specific to their service connection activity.
4. Connections to brick pipe require careful excavation to expose the pipe. Hand dig within 18" to expose a minimal area of the pipe required for the core tap. Figure 3 shall be followed once the bell is installed, the contractor shall allow the mortar to set for one day.



NOTES:

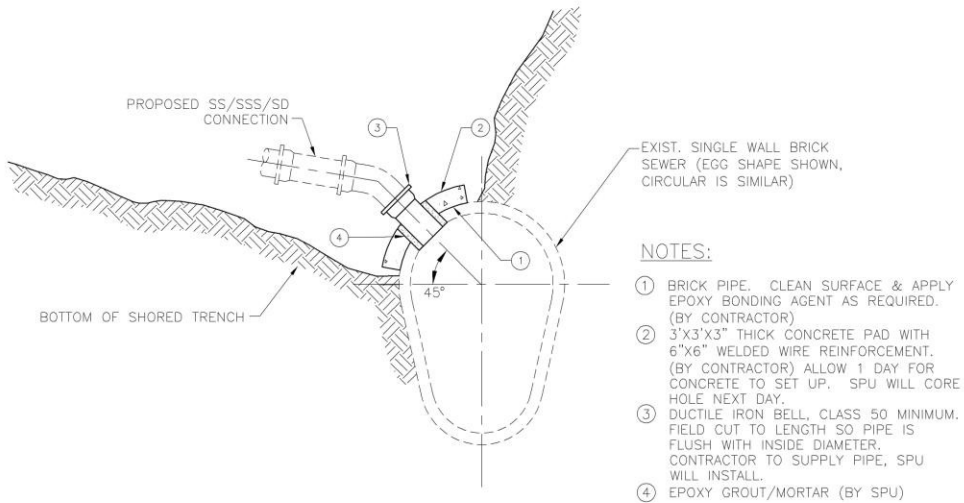
SPU WILL DRILL A 1/2" DIAMETER MAXIMUM PILOT HOLE, IF DOUBLE WALL CORE TAP WILL BE DONE. IF SINGLE WALL, FOLLOW SECTION A-A DRAWING.

CORE TAP SIZES:

4", 6", 8": SPU WILL CORE TAP.

GREATER THAN OR EQUAL TO 10": CONTRACTOR WILL CORE TAP WITH SPU SUPERVISING THE WORK. CORE TAP MACHINE FOR GREATER THAN A 12" TAP SHALL NOT BE SUPPORTED ON BRICK PIPE. SPU APPROVAL REQUIRED PRIOR TO SCHEDULING.

FIGURE 3 - PLAN VIEW
NO SCALE



NOTES:

- ① BRICK PIPE. CLEAN SURFACE & APPLY EPOXY BONDING AGENT AS REQUIRED. (BY CONTRACTOR)
- ② 3'X3'X3" THICK CONCRETE PAD WITH 6"X6" WELDED WIRE REINFORCEMENT. (BY CONTRACTOR) ALLOW 1 DAY FOR CONCRETE TO SET UP. SPU WILL CORE HOLE NEXT DAY.
- ③ DUCTILE IRON BELL, CLASS 50 MINIMUM. FIELD CUT TO LENGTH SO PIPE IS FLUSH WITH INSIDE DIAMETER. CONTRACTOR TO SUPPLY PIPE, SPU WILL INSTALL.
- ④ EPOXY GROUT/MORTAR (BY SPU)

FIGURE 3 - SECTION A-A
NO SCALE

D. Excavation and Shoring

Before a SPU/DWD employee enters an excavation, a “competent person” as defined by WAC 296-155-650 shall be available at the site for consultation.

1. The competent person must be familiar with the type of protective system that has been installed at the site and be able to explain the system, its tabulated data, and how its installation is in compliance with WISHA standards. Tabulated data documentation must be available and on the site at the time of the service connection.
2. No employee of SPU/DWD will enter an excavation until the contractor can demonstrate compliance with applicable WISHA standards. The contractor will be charged stand-by time if the shoring or protective system does not comply and results in rescheduling, or if on-site SPU/DWD staff time exceeds two hours. Other WISHA requirements will also be evaluated (e.g. egress, water accumulations, confined space entry, etc.) and may result in re-scheduling of SPU/DWD work.
3. Any soil in an excavation in which a SPU/DWD employee is expected to perform work, will be considered “Type C” soil, unless the competent person can otherwise classify the soil using methods described in WISHA standards.

V. EXCEPTIONS

An exception is a request to vary from any process defined in these core tap procedures (e.g. changing the core tap angle on the mainline, or installing an eight inch tap on an eight inch mainline). Exceptions must be reviewed and approved by DWD staff prior to final scheduling of the core tap. SPU/DWD requires five working days to process an exception.

DWD will need a drawing detailing the requested exception. It can be faxed (8-1/2x11size) to the DWD office at 206-386-1911 Attn: Scheduling. Please include the DPD side sewer permit number, RSSC name and phone number, and the specific site location on the document. The Core Tap Scheduling number is (206) 615-0511.