

Classifications of Improvements

A. Sanitary Sewer

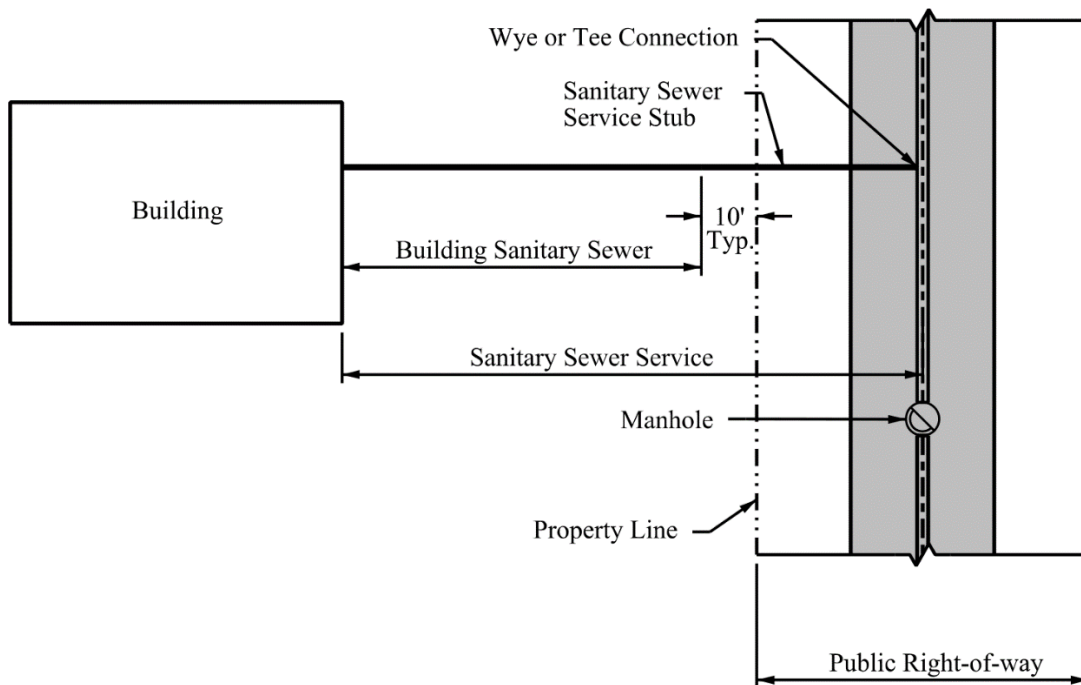
- 1. Public Sanitary Sewer:** A sewer used to receive and convey sanitary sewage to another public trunk sewer or a sanitary interceptor sewer. This sewer is owned and maintained by the jurisdiction and is constructed on public property or on private property with an easement held by the jurisdiction. See [Chapter 3](#) for more information.

Construction Standard: SUDAS Specifications. Iowa DNR permit required.

- 2. Sanitary Sewer Service Stub:** The portion of the sanitary sewer service that is within the public right-of-way to a designated point beyond the right-of-way line (typically 10 feet) as specified by the jurisdictional engineer. The sanitary sewer stub may be constructed in conjunction with the sanitary sewer construction and capped until the building sanitary sewer is constructed. Check with the local jurisdiction to determine if the sanitary sewer service stub is public or private and the exact permit and construction requirements. See [Section 3C-1](#) for more information.

Construction Standard: SUDAS Specifications and the jurisdiction’s plumbing code. Jurisdiction plumbing permit may be required.

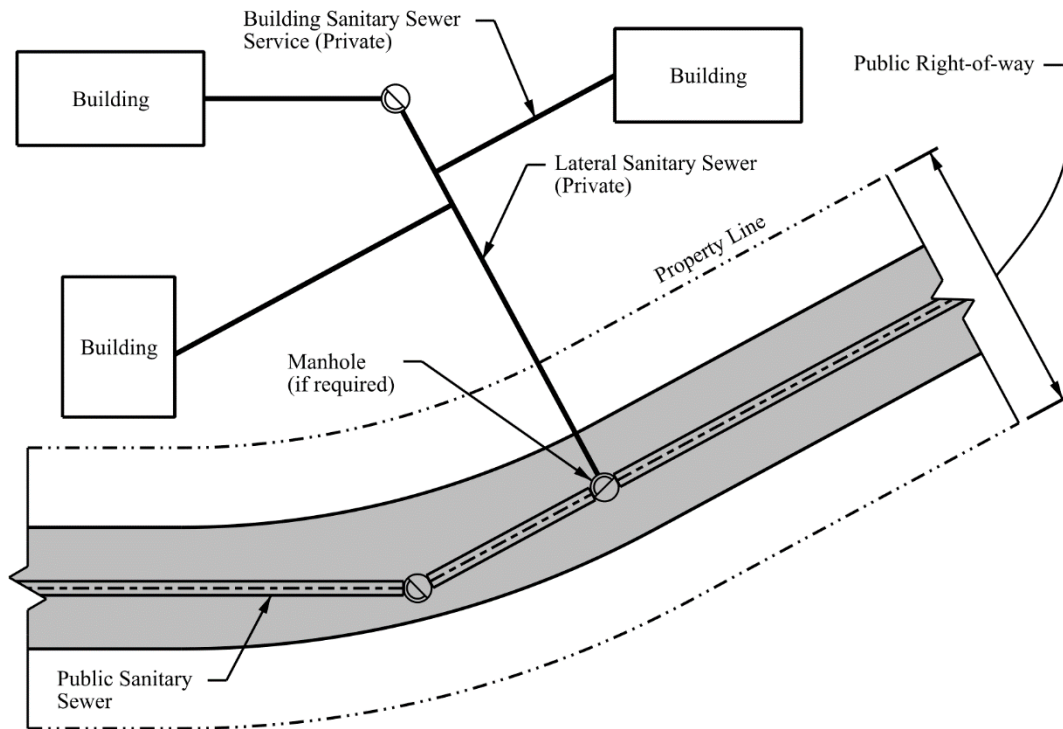
Figure 1B-1.01: Example of Sanitary Sewer Service



3. **Private Lateral Sanitary Sewer:** A sewer used to convey sanitary sewage from one or more sanitary sewer services. This sewer is limited to providing service to one owner or homeowner's association. This sewer is to be owned and maintained by a single person or entity and constructed on private property controlled by the owner or homeowner's association. Approval for the use of a private sanitary sewer should be obtained from the jurisdiction. For location of private lateral sanitary sewer, see Figure 1B-1.02. See [Section 3C-1](#) for more information on sizing the lateral.

Construction Standard: SUDAS Specifications and the jurisdiction's plumbing code. Jurisdiction plumbing permit and Iowa DNR permit may be required.

Figure 1B-1.02: Example of Lateral Sanitary Sewer



4. **Sanitary Sewer Lift Station:** A facility used to convey sanitary sewage from one or more sanitary sewers that cannot be conveyed by gravity flow to or within the public sewer system. This facility may be owned and maintained privately or by the jurisdiction. If to be maintained by the jurisdiction, this facility is constructed within the right-of-way, on property deeded to the jurisdiction, or on private property with an easement held by the jurisdiction.

Construction Standard: SUDAS Specifications. Iowa DNR permit required.

B. Water Mains

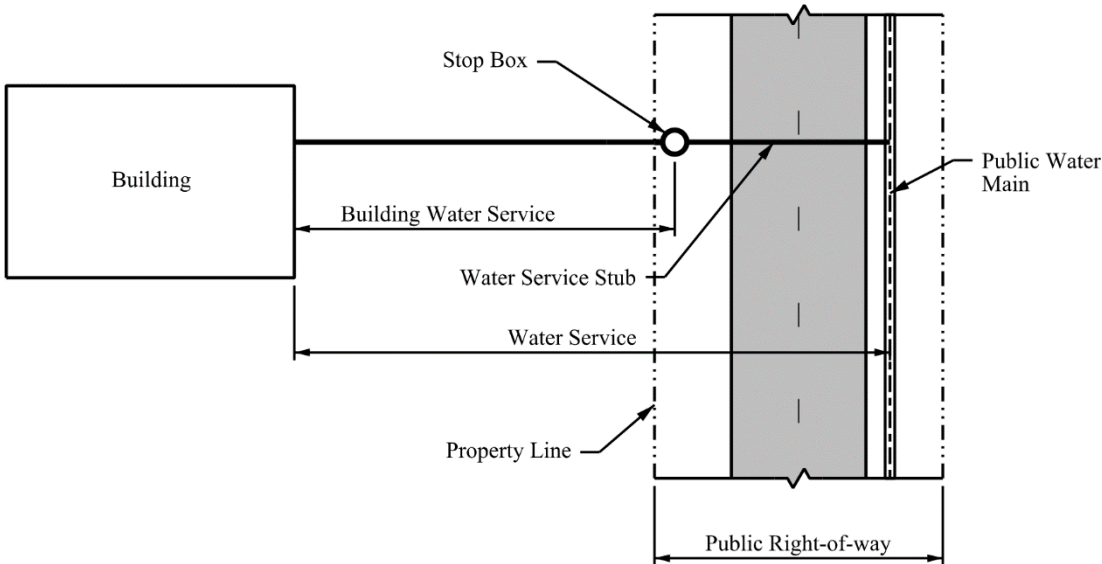
1. **Public Water Main:** A water main is used to distribute water to consumers for domestic, commercial, industrial, and/or firefighting purposes. The main is owned by the jurisdiction, water works, or an approved public/private water utility corporation or association. See [Chapter 4](#) for additional information.

Construction Standard: SUDAS Specifications. Iowa DNR permit required.

2. **Water Service Stub:** The water service stub is comprised of the piping and related appurtenances including the corporation, installed from the public water main to the stop box or as specified by the jurisdictional engineer. The water service stub may be constructed in conjunction with the water main and capped until the building water service is constructed. Check with the local jurisdiction to determine if the water service stub is public or private and the exact permit and construction requirements. For location of the water service stub, see Figure 1B-1.03. See [Section 4C-1](#) for more information.

Construction Standard: SUDAS Specifications. Jurisdiction plumbing permit may be required.

Figure 1B-1.03: Example of Water Service



3. **Private Water Main:** A private water main is used to distribute water for domestic and firefighting purposes to only one owner or homeowner's association. This private water main and appurtenances (valves, fire hydrants, etc.) are to be owned and maintained by only one party and constructed on private property controlled by the owner or homeowner's association. Approval for the use of private water mains must be obtained from the jurisdiction. The approval agreement must address the ability of the fire department to access the fire hydrants and stipulate who is to maintain the fire hydrants and valves. If the hydrants and valves are to be privately maintained, an annual log of maintenance activities should be filed with the jurisdiction. Metering of water flowing through the private water main will be subject to the jurisdiction's water metering requirements. See [Chapter 4](#) for additional information.

Construction Standard: SUDAS Specifications and the jurisdiction's water works and/or rural water association standards. Jurisdiction plumbing permit and Iowa DNR permit may be required.

C. Drainage Facilities

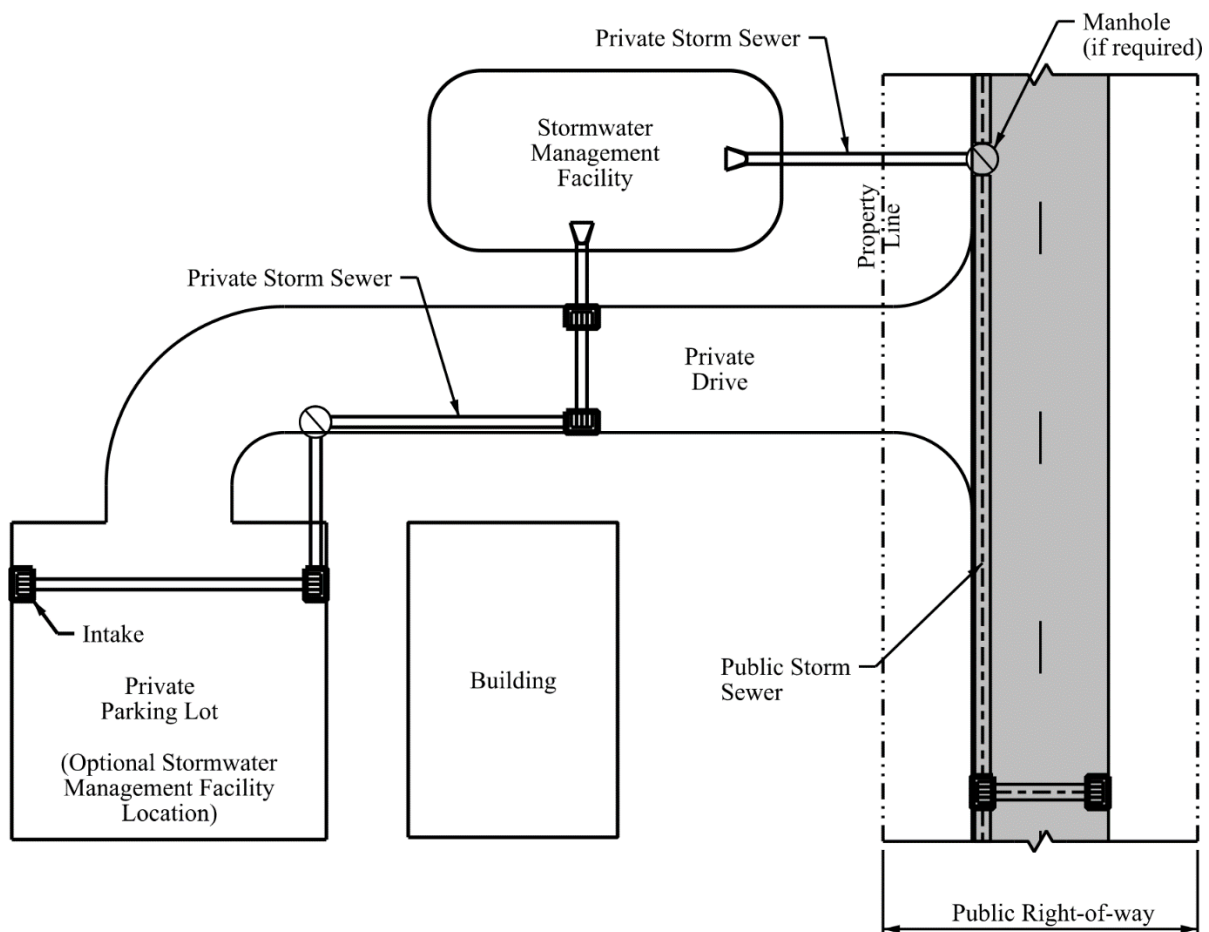
1. **Public Storm Sewer:** A storm sewer is used to convey stormwater runoff to an acceptable outlet. This sewer is owned and maintained by the jurisdiction and constructed on public property or on private property with an easement held by the jurisdiction. See [Chapter 2](#) for additional information.

Construction Standard: SUDAS Specifications. Federal and state permits may be required.

2. **Private Storm Sewer:** A private storm sewer is used to convey stormwater from private property to a public storm sewer, natural drainage way, or other acceptable outlet. This sewer is located on private property and maintained by only one party or homeowner's association. These sewers should be designed to fit within the jurisdiction's overall drainage system. Easements are to be obtained when crossing other private property. Drainage area limits for private storm sewers of large sites will be examined on a case by case basis by the jurisdiction. Manholes may be required for the connection of the private storm sewer to the public system. For location of private storm sewer, see Figure 1B-1.04. See [Chapter 2](#) for additional information.

Construction Standard: SUDAS Specifications. Jurisdiction plumbing permit and/or federal and state permits may be required.

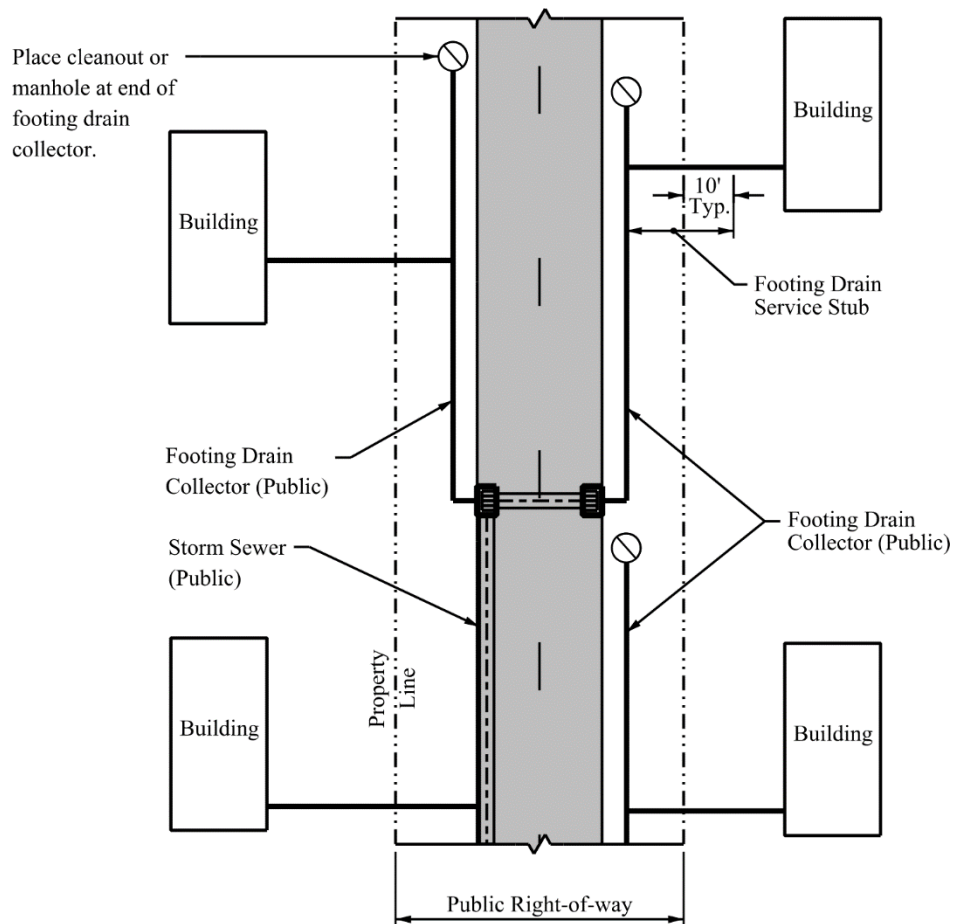
Figure 1B-1.04: Example of Public and Private Storm Sewers



3. **Footing Drains:** A footing drain collector is used to convey ground water from private footing drains to a public storm sewer or drainage way. This footing drain collector is owned and maintained by the jurisdiction and constructed on public property or on private property with an easement held by the jurisdiction. For location of footing drain collector, see Figure 1B-1.05.
4. **Footing Drain Service Stub:** A footing drain service stub extends from the storm sewer or footing drain collector to a designated point beyond the right-of-way line (typically 10 feet) as specified by the jurisdictional engineer. The footing drain service stub may be constructed in conjunction with the storm sewer and capped until the building footing drain is constructed. Check with the local jurisdiction to determine if the footing drain service stub is public or private and the exact permit and construction requirements. For location of footing drain service stubs, see Figure 1B-1.05.

Construction Standard: SUDAS Specifications.

Figure 1B-1.05: Example of Footing Drain



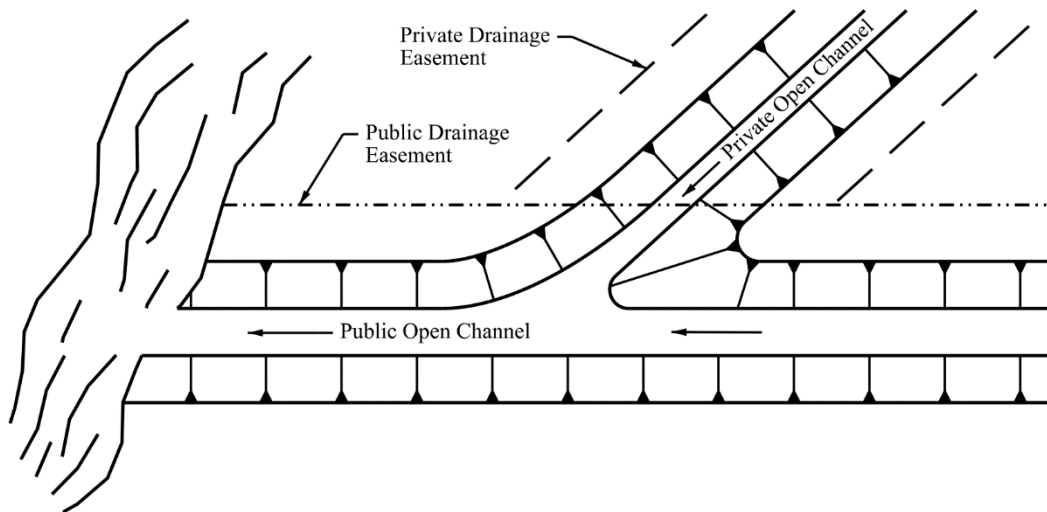
5. **Public Open Channel:** A natural channel improvement or channel required by the jurisdiction as a component of a planned drainage system that conveys stormwater drainage across public property or public easement. Public open channels should be designed to accommodate the jurisdiction's overall drainage system's needs. Public open channels are owned by the jurisdiction or within an easement held by the jurisdiction. For location of open channel, see Figure 1B-1.06.

Construction Standard: SUDAS Specifications. Contact Iowa DNR for potential 401 Water Quality and NPDES permit requirements; U.S. Army Corps of Engineers for 404 permit.

6. **Private Open Channel:** An open drainage way, swale, or channel used to convey stormwater drainage to the public drainage system or other acceptable outlet. Private open channels may be allowed on a case-by-case basis. The channel should be designed to accommodate the jurisdiction's overall drainage system needs with respective easements that will serve more than one property and will be located on private property and maintained by one or more private entity(ies). Design grades must be established to eliminate low points, prevent erosion, and maintain the design flow of water. The open channel may discharge directly into a stream or other waterway. For location of private open channel, see Figure 1B-1.06.

Construction Standard: SUDAS Specifications. Federal and state permits may be required.

Figure 1B-1.06: Example of Open Channel



7. **Stormwater Management Facilities:** Stormwater management facilities are installed to mitigate the higher rate of stormwater runoff generated from development activities. In addition, specific requirements for improvement to stormwater quality may be required by the jurisdiction. Design considerations should be given to prevent damages to the development site, streams, drainage ways, streets, storm sewers, and downstream property. The stormwater management facilities should be designed to accommodate the jurisdiction's overall drainage system needs while meeting the jurisdiction's adopted design standards. The stormwater management facility may be developed on public (if approved) or private property. If the facility is on private property but maintained by the jurisdiction, an agreement must be executed that establishes responsibility for general maintenance of the basin as well as the maintenance of the stormwater elements of the basin. If the stormwater facility is to be maintained by a private entity, such as a homeowner's association, an agreement must be developed that addresses required maintenance activities and records of those activities. (See [Chapter 2](#) for details).

Construction Standard: SUDAS Specifications. Federal and Iowa DNR permit may be required.

D. Erosion and Sediment Control

Construction site erosion and the subsequent sediment deposits are a common problem for off-site drainage systems and can potentially cause damage to adjacent property as well. The Federal Clean Water Act established requirements including the National Pollutant Discharge Elimination System (NPDES) to regulate discharges and reduce pollution of the nation's waterways.

These requirements are being implemented by the Iowa DNR and jurisdictions who have been designated as municipal separate storm sewer systems (MS4) communities. For construction projects, an NPDES General Permit No. 2 from the Iowa DNR is required for any site that disturbs and exposes one acre of land or more. A permit is also required for projects that will disturb one or more acres as part of a common plan of development, even if there will not be one acre of disturbed ground exposed at any given time. The permit requires preparation of a stormwater pollution prevention plan (SWPPP) that must clearly identify all potential sources of stormwater pollution and describe the methods to be used to reduce or remove the contaminants from stormwater runoff. In addition to the Iowa DNR, MS4 agencies may also have a permit process. It is necessary to check with the jurisdictional engineer to determine what, if any, information is needed for the local agency permit. See [Chapter 7](#) for additional information.

Construction Standard: SUDAS Specifications. Iowa DNR permit. Jurisdiction permit may be required.

E. Entrances

Access to private property is the responsibility of the property owner. The owner is responsible for obtaining the appropriate permits for entrance modifications.

Construction Standard: SUDAS Specifications. Jurisdiction permit required.

F. Streets

1. **Public Street:** This classification of street is owned and maintained by the jurisdiction and constructed on dedicated street right-of-way. See [Chapter 5](#) for detailed description of each roadway system element.

Construction Standard: SUDAS Specifications or Iowa DOT for federal aid routes.

2. **Private Street:** A street that is restricted to use by only one owner or homeowner's association and is available for use by emergency vehicles. This classification of street is located on private property and maintained by only one party or homeowner's association. Private streets should meet all applicable geometric requirements for the given operating speed and pavement thickness requirements for the type of traffic, requirements for fire lanes and emergency services, but may not comply with public standards in other elements, such as right-of-way width. Approval for the use of private streets must be obtained from the jurisdiction.

Construction Standard: SUDAS Specifications. Jurisdiction permit may be required.

G. Utilities

- 1. Franchise Utility:** A jurisdiction may grant a franchise to erect, maintain, and operate underground and overhead plant and systems. These systems could be for electric light and power, heating, telephone, cable television, water works, gas, or other utilities within the jurisdiction. Construction of said facilities could be in the public right-of-way, public easements on private property, or private easements on private property. Location of franchised utilities should take into account the future right-of-way needs based on the ultimate classification of the street. Upon receipt of a written notice from the jurisdiction, the owner of a franchised utility must remove the utility from the jurisdiction's right-of-way or relocate it within the right-of-way in a timely manner as established by the jurisdiction. If easements are obtained for the utilities, it is recommended these easements be obtained in the name of the jurisdiction. All franchise utility installations should abide by the same design and construction requirements as other improvements. See [Section 9A-1](#) for more information. Permits from the jurisdiction may be required.
- 2. Public and Non-franchised Utility:** The jurisdiction may allow the installation of public and non-franchised utilities in public right-of-way upon review of the proposed improvements and approval by the jurisdiction. Such improvements may include, but not be limited to, water mains constructed by a water board, electric facilities constructed by an electric board, stormwater facilities, storm sewers, fiber optic lines, communication lines, irrigation systems, and other miscellaneous installations. Permits may be required by the jurisdiction.

Ensure the installation of such facilities in public right-of-way does not damage or infringe on the usefulness of existing or planned public facilities. Upon receipt of a written notice from the jurisdiction, the owner of a public and non-franchised utility must remove the utility from the jurisdiction's right-of-way or relocate it within the right-of-way in a timely manner as established by the jurisdiction.

- 3. Utility Conflicts:** Franchised, public, and non-franchised utilities are expected to cooperate in relocation of facilities that are in conflict. It is critical that the utilities be given as much advance notice as possible. The project engineer should coordinate with each utility agency or company to determine location and elevation of all utilities located within the project area. If any existing utilities conflict with the proposed project, the project engineer should contact the utility company and work to resolve the conflict in order to keep the project on schedule. If the conflicts are unable to be resolved, the project engineer should bring the matter to the attention of the jurisdictional engineer.

H. Accessibility

Where sidewalks and shared use paths are provided, they must be constructed or reconstructed so they are accessible for all users according to the Americans with Disabilities Act. All construction or reconstruction of accessible facilities must comply with the Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (also known as the Public Right-of-Way Accessibility Guidelines or PROWAG) and the jurisdiction's transition plan. Sidewalk and shared use path construction on private property must include an easement to the jurisdiction for use and maintenance or an agreement providing for public use and an acceptable level of maintenance by private parties. See [Chapter 12](#) for additional information.

Construction Standard: SUDAS Specifications.