5.3 Accommodation of Utilities in Narrow Corridors

In instance, where the availability of ROW with respect to the requirement of the corridor width is limited, certain alternate utility accommodation methods can be adopted to lay utilities. In this chapter, the details of such alternate utility accommodation methods are presented. It is also important to note that with the adoption of such methods the laying of utilities under the carriageway can be avoided.

5.3.1 Joint Trenching

One method for addressing the issues of compatibility and congestion is joint trenching. This trenching design study emphasizes the need for appropriate spacing and placement of utilities. The placement utilized in this design ensures compatibility between the various lines utilizing the trench. One of the common concerns voiced about the use of common trenches and utility corridors is the possibility of interference between the electric, communications, and signal circuits; the corrosion of pipe utilities by stray electrical current; and the possible cross contamination of water and sewage lines.

Joint trenching maximizes utilities' installation activities, minimizes disruption of existing utilities, and simplifies locating the facilities for upgrades or repair. While the use of the same physical structures by multiple utilities has been an accepted practice for years, it has not been commonly used in underground trenching installations; instead each utility typically digs and installs its lines independently. However, the process of joint trenching can have positive impacts on safety, customer service, and construction, which benefit SAUP.

5.3.2 Stacking of Utilities

Stacking utilities can significantly reduce the overall width required for the installation of utilities within the ROW. Unlike joint trenching, which accommodates different types of utilities in a single trench, stacking entails placing multiples of the same utility directly on top of each other within the same corridor. Stacking could be undertaken at different times, whereas, with joint trenching, the utilities are installed simultaneously at the outset.

Various types of utilities can be successfully stacked to reduce the required corridor widths within the right of way. However, the stacking of gravity services is not considered feasible.

5.3.2.1 Stacking of Pressure Mains

Stacking of pressure mains is accomplished by placing a smaller distribution main over a larger transmission main. Due consideration is required regarding accessibility and maintenance during the design of stacked pressurized mains. Figure 31 below illustrates the concept of stacking.