

## Chapter 5

### Utilities

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## Chapter 5

### Utilities

#### 5.1 General

The Department has the responsibility to maintain state highways as necessary to preserve the integrity, operational safety and function of the highway facility. Since the manner in which utilities cross or otherwise occupy highway right of way can materially affect the safe operation, maintenance and appearance of the highway, it is necessary that such use of the right of way be authorized and reasonably regulated. By Florida Statutes, utilities, whether public or privately owned, aerial or underground are permitted by the Department to be accommodated within the right of way on the State Highway System. For limited access highways, parallel utilities within the right of way are not allowed except for utilities serving facilities required for operating the transportation system or by approved utility exception (for Limited Access R/W Use). Lateral crossings on limited access facilities are allowed by permit only. (See ***Utility Accommodation Manual, Topic No. 710-020-001***).

The designer should make every reasonable effort to design a project that will accommodate all existing utilities and new utilities to be constructed concurrently with the project. The selection of typical section features, horizontal alignment and location of storm drain lines are areas that can sometimes be varied without violating safety standards and design criteria. Design features that reduce or avoid utility conflicts may involve increased cost; however, those costs may be offset by savings in construction time and the total associated cost savings for the FDOT project and the utilities. The use of Subsurface Utility Engineering is promoted to best facilitate utility related cost savings.

Selection of the methods to be employed within the Subsurface Utility Engineering (SUE) discipline should be considered in the scoping process. Relying totally on designating and selectively exposing utility facilities will seldom prevent all utility related delays in construction nor will it prevent the need for redesign. Consulting a state of the art SUE provider early on is the best way to determine the most cost effective approach. Determining the location of utilities when they are great in number or are in intersections is the most problematic and risk prone area within a project. These areas especially lend themselves to being candidates for newer technology locating services because they can reflect changes in shape and alignment not seen with traditional methods. The data gathering process can be less disruptive to the facility user and is non-destructive. A knowledge of potentially limiting environmental conditions is essential to the process. No single method is cost effective when risk versus benefit is measured.

The **Utility Accommodation Manual (UAM)** shall be used for all detailed requirements of utility issues. The **UAM** is the controlling legal document for criteria and standards to be applied to utilities. The **UAM** may not be updated on the same frequency as the **PPM**. Where differences occur between the **UAM** and the **PPM**, the **UAM** controls. New Utility installations shall comply with the latest UAM requirements. When evaluating Utility compliance, the date of the permit establishes which UAM requirements must be met. The Designer/Project Manager should always determine which criteria are appropriate before directing a Utility/Agency Owner (UAO).

## 5.2 Utility Accommodation Manual

UAOs are required to obtain utility permits for the installation and maintenance of utility facilities within the right of way of any State Highway System. These permits will be issued and approved by FDOT in conformity with the **Utility Accommodation Manual**. This includes utility work required by FDOT projects. The designer may be involved in the coordination of this process.

The Department's **Utility Accommodation Manual** is established to regulate the location, manner, installation and adjustment of utility facilities along, across, under or on right of way under the jurisdiction of the FDOT. This manual also establishes the process for issuing permits for such work which is in the interest of safety, protection, utilization and future development of the highways with due consideration given to public service afforded by adequate and economical utility installations as authorized under **Section 337.403, Florida Statutes** and **Florida Administrative Code Rule 14-46.001**. Adherence shall be required under the circumstances set forth in the **Utility Accommodation Manual**.

Additional guidance for accommodating utilities within the highway rights of way are given in the AASHTO publications **A Guide for Accommodating Utilities within Highway Right of Way** and **A Policy on Geometric Design of Highways and Streets** and in the TRB publication **Policies for Accommodation of Utilities on Highway Rights-of-Way**.

## 5.3 Location of Existing Utilities

Determining the location of existing utilities on State highway right of way is a cooperative effort between the FDOT and the UAOs. The degree of effort on the part of the FDOT and the UAOs will vary with the type of project, the utility, and availability of existing location information. As a minimum the location of existing major utilities is required on new construction, reconstruction, and add lane projects.

Major existing utilities are those principal underground and aerial utilities that potentially conflict with construction activities and scheduling. The presence of major utilities shall be determined on each project by the UAOs. Service connections and laterals are not normally considered major utilities.

It is the responsibility of the design engineer with the assistance of the District Utility Office and construction personnel to determine the locations and levels of locate where utility information is needed. Quality levels of locates are identified in **Section 5.3.1**. It is the responsibility of the UAOs to provide up through a Quality Level “B” locate on request. In some instances the UAOs can provide Quality Level “A” locate information. If Quality Level “A” locate information is necessary and cannot be provided by the UAOs, the measurement and documentation for the Quality Level “A” locate will be obtained by the FDOT, consultants, or others by established agreement.

Existing major underground utilities which are suspected to be located within three feet (3') of proposed construction operations which would threaten the utility should be considered for Quality Level “A” locate information. The decision to allow utilities to remain within three feet (3') of new construction operations should be made by the Design Engineer in consultation with the District Utility Office and appropriate construction personnel.

### 5.3.1 Quality Levels of Utility Locates

The following identifies the quality levels about which Subsurface Utility Engineering is applied.

1. Quality Level “D” - Existing Records
2. Quality Level “C” - Surface Visible Feature Survey
3. Quality Level “B” - Designating
4. Quality Level “A” - Locating

A detailed description of the scope of work to be included to achieve the various quality levels can be found in the ***Utility Accommodation Manual***.

## **5.4 Subsurface Utility Engineering**

Subsurface utility engineering (SUE) is more than an established engineering technology that can provide horizontal and vertical locations of underground utilities to produce an accurate picture of underground infrastructure. It is a branch of engineering practice that involves managing certain risks associated with utility mapping at appropriate quality levels, utility coordination, utility relocation, design and coordination, utility condition assessment, communication of utility data to concerned parties, utility relocation cost estimates, implementation of accommodation policies and utility design.

The scope of services and level of effort is established in the quality levels of information to be provided. The quality level is a professional opinion of the quality and reliability of utility information desired or provided. Each of the four established quality levels is established by different methods of data collection and interpretation.

## 5.5 Coordination Process

Coordination between the Department and the UAOs is to be accomplished throughout the design process through the District Utility Office. Refer to **Chapters 13** through **16** of this volume for the design and review processes. For requirements on conflicts and permits, see the **Utility Accommodation Manual**.

External agency coordination may also be required when utility issues impact other agency agreements regarding permits or plans reviews.

If during the plans design process it is determined that a domestic potable water supply line **must** pass through a storm drain structure, the State Department of Environmental Protection (DEP) Drinking Water Program Administrator in Tallahassee must be notified. Refer to **Design Standards Index 307** for accepted methods of addressing conflicts. To be submitted along with the notification shall be the design plans showing the conflict, and justification describing inordinate cost and impracticality of avoidance. Failure to comply could result in work stoppage.

Submittals to UAOs shall include a sheet that summarizes the changes to the plans and design (since the previous submittal) that could potentially impact the UAOs. Only those changes are required to be summarized. A “Notes to the Reviewer Sheet” will satisfy this requirement.

The Utility Work Schedule is the mechanism for the UAOs to coordinate their activities with the Contractor. This form (**710-010-05**) is to be submitted for each affected Utility with the plans as part of the bid package. This and other pertinent forms can be found on the State Utilities Office web site:

<http://www.dot.state.fl.us/rddesign/utilities/Default.shtm>