

## Chapter 9

# LOCATION CRITERIA FOR UTILITIES ON NON-LIMITED ACCESS FACILITIES

### 9.1 Resurfacing, Restoration, & Rehabilitation (RRR) Construction Projects

General - Section 9.1 of the **UAM** is to be applied only on RRR construction projects. Use the applicable standards in other sections for maintenance operations or construction projects other than RRR.

The following guidelines were developed in cooperation with the Utility Industry and apply to existing conditions. It is recognized that no set of guidelines can realistically expect all existing utilities to be relocated to comply with new design criteria. RRR criteria may be used only on RRR projects. Once the decision has been made to relocate on a RRR project, new construction criteria are encouraged when and where it can be accomplished in a cost effective manner considering all public and private interests.

Section 9.1 of the **UAM** provides conditions and locations about which currently permitted utility facilities which do not comply with current standards may be allowed to remain in place. This does not eliminate the need for documenting or acquiring an exception where appropriate. They do not expand or allow poles to be located in areas previously prohibited, such as limited access, medians, gore areas, etc. This section applies to curb and gutter and flush shoulder and to any above ground fixed object (utility, lighting, sign, or signal poles inclusive of controller cabinets) sufficient to cause serious damage upon impact by an errant vehicle.

The intent is to establish criterion for placement of above ground facilities that may indirectly effect the location of underground facilities. For example, to achieve optimal above ground safety benefits, it may be necessary to place poles in an area which precludes the installation or requires relocation of an existing subsurface facility. The forced relocation of one above ground fixed object which causes the relocation of another facility will be done only when the benefit / cost analysis justifies the action to provide the public with appropriate safety benefits. The facility owner shall use whatever method practical to accomplish the safety objective.

#### 9.1.1 Construction Project Facility Criteria: (RRR) - Existing above ground fixed objects which meet RRR criteria will be allowed to remain in place and no documentation is required.

Existing above ground fixed objects which do not meet RRR criteria and have not been hit more than two (2) times in any three (3) consecutive years of the last five (5) years (**FDOT** crash history is the only documentation required to justify an exception), and are not in a control zone, will be allowed to remain in place.

Existing above ground fixed objects will be allowed to remain in place when the purchase of R/W by the Utility would be required or when the following conditions, listed in the bullets in Section 9.1.1 are simultaneously met:

- When the pavement or curb limits have not changed,
- When and where the utility facility will not interfere with other **FDOT** improvements,
- The utility facility is not located in a control zone or condition as defined in Section 9.2 and shown in Exhibit I,
- When any one or more of the conditions exist described in the bullets listed immediately below:
  - When the benefit to cost ratio of relocation is less than 2,
  - The above ground fixed object cannot be moved sufficient to meet the required horizontal clearance without violating other **FDOT** criteria or utility codes,
  - Relocating the fixed object will not provide a minimum of four (4) feet of additional horizontal clearance (this does not apply where there is an ADA non-compliance issue),
  - Relocation forces an above ground fixed object such as a utility or lighting pole to be located behind, into, or above existing trees having the growth potential to interrupt electrical service or be considered a high maintenance condition within the life of the improvements to the RRR project. Note for purposes of this criteria, trees are defined as exceeding four (4) inches or greater in diameter, six (6) inches above the ground and be located such that the intended utility service can not be provided. It is intended for this to be applied to a more or less continuous line of trees and not incidental tree locations. A few trees randomly located along a project do not justify failure to relocate. Local ordinances regarding tree trimming or removal will be considered in the evaluation of what can be done,
  - Relocation forces the Utility into areas without access or where room is not available for maintenance equipment to be operated (e.g., behind canals or roadside ditches with continual standing water), or
  - When insufficient usable R/W exist.

#### 9.1.2 Clearances (RRR):

- **Horizontal Clearance: (RRR)** - For RRR projects, new construction horizontal clearance criteria set forth in Chapter 5 of the **UAM** shall be used where practical when relocation of an above ground fixed object is required. On urban RRR projects with curb or curb and gutter in restricted R/W areas, the clearance may be reduced to one and one half (1.5) feet from the face of the curb or six (6) feet from the edge of the traveled-way to the nearest edge of the above ground fixed object. When the minimum one and one half (1.5) feet from the face of the curb or six (6) feet from the edge of the traveled-way is met, no exception is required unless the above ground fixed object would be located in a control zone. See **Section 9.2** of the **UAM** on control zone limitations.

- **Clear Zone: (RRR)** - Clear zone requirements for RRR projects with flush shoulders are outlined in Table 9.1.2.2. These clear zone requirements also apply to curbed facilities in non-restricted R/W areas. Any above ground fixed object located within the clear zone should be removed, properly shielded allowing for barrier displacement, or made crash worthy, or an exception obtained for noncompliance with **FDOT** criteria. Shielding or making an object crash worthy may still require an exception because these measures may also be considered hazards. Clear zone as used by the **FDOT** does not apply when curb or curb and gutter is adjacent to the traveled-way in restricted R/W areas. For these locations, horizontal clearance criteria are used to establish the minimum offset to an above ground fixed object. Clear zones must be adjusted for the effects of shoulder slopes. Adjustments due to shoulder slope are the same as with new construction and are described in Figure 5.1.2.3.

**Table 9.1.2.2 - RRR Clear Zone (feet) - Flush Shoulders and Curbed Sections in Non-restricted R/W Areas**

**Note:** Design Speed is shown in the Table. However, Posted Speed may be used as default criteria for areas where the Design Speed is not published. Design Speed shall be used when available. See Section 5.1.1

<b>DESIGN SPEED (mph)</b>	<b>TRAVEL LANES &amp; MULTI-LANE RAMPS</b>	<b>AUXILIARY LANES &amp; SINGLE LANE RAMPS</b>
< 45	6	6
45* *	14	8
> 45	18	8

**GENERAL NOTES:**

- When relocation is required to meet minimum clear zone requirements, consideration should be given to providing new construction widths.
- Clear zone widths are for side slopes 1:4 and flatter. For steeper slopes, provide additional clear zone per Figure 5.1.2.3.
- Clear zone width is measured from the edge of the traveled-way.

**\*\*** May be reduced to < forty five (45) mph widths if conditions more nearly approach those for low speed (forty (40) mph or less).

## 9.2 Control Zones or Conditions for RRR:

Control zones are areas in which it can be statistically shown that accidents are more likely to involve departure from the roadway with greater frequency of contact with above ground fixed objects. They extend outward from the pavement to the limits of new construction criteria and are further described as follows:

- 9.2.1 An above ground fixed object having been hit more than two (2) times within three (3) consecutive years in the last five (5) years, unless it can be determined that the problem can be remedied through the project scope,
- 9.2.2 Within the return radii of an intersecting street and the new construction horizontal clearance distance,
- 9.2.3 For "T" intersections (on the non-intersection side) within the area defined by a line through the center of the return radii and return point of tangent extended across the street to the R/W limits,
- 9.2.4 For a distance of one hundred (100) feet measured downstream from the point of intersection of a right turn deceleration lane and where full lane width is achieved within the new construction horizontal clearance distance (It is assumed the edge of pavement is not constructed on a reverse curve. If it is constructed on a reverse curve, the measurement is to be taken from the point of intersection of the trailing curve).

- 9.2.5 For a distance of one hundred (100) feet measured downstream from the point of intersection of a full lane termination with a skewed merge section within the new construction horizontal clearance distance (It is assumed the edge of pavement is not constructed on a reverse curve. If it is constructed on a reverse curve, the measurement is to be taken from the point of intersection of the leading curve).
- 9.2.6 For a distance of three (3) feet from a driveway flare within the new construction horizontal clearance distance at the intersection of a dedicated intersecting service facility such as an alley way or easement.
- 9.2.7 For a distance of three (3) feet from a driveway flare within the new construction horizontal clearance distance at the entrance turnout for use other than a private residence.
- 9.2.8 The area on the outside of a curve when the operating speed exceeds thirty-five (35) mph or downstream of a kink in the alignment for a distance of one hundred (100) feet. In each case the area falls within the new construction horizontal clearance distance unless protected by a barrier. For curves, if the radius exceeds three thousand (3,000) feet, no control zone exists, and control zone requirements do not apply. For kinks in the alignment, if the kink is less than five (5) degrees, no control zone exists specifically for the kink and therefore control zone requirements for kinks do not apply.

### **9.3 Transportation Facilities Other Than Limited Access or RRR**

- 9.3.1 Utility/Light Poles - All new utility/light pole installations shall comply with the UAM horizontal clearance and clear zone criteria. On construction projects where the Permittee cannot meet these requirements, the designer shall determine what additional safety requirements are needed. If the pole placement is not related to a construction project, the requirement for compliance with the UAM horizontal clearance and clear zone criteria is still effective. (An exception may be requested from the District Design Engineer).
- 9.3.2 Parallel (Underground) - Parallel underground installations require a minimum vertical clearance of thirty six (36) inches below the top of pavement and thirty (30) inches below the existing unpaved ground, including ditch grade. Where provided by law, other governmental agencies, rail facilities, and state, local, and federal codes may require a greater clearance. In rural areas, installation normally will not be between edge of pavement and outer edge of slope. Installations will be as near the R/W line as practical, taking into account existing overhead facilities and the desire to locate future pole facilities as far from the pavement as practical. Underground facilities should not be located in areas near the R/W normally used by pole facilities, when practical. Minimum depth requirement may vary if the utility is buried under the sidewalk or bike path and not adjoining the roadway facility. Utility placement shall accommodate future pavement widening. This normally would occur within twelve (12) feet of the existing pavement. Installations must meet the minimum requirements of the **NESC** and **CFR 49, Part 192** which are incorporated by reference.

- 9.3.3 Crossing (Aerial) - Aerial crossings are permitted and will have a minimum of eighteen (18) feet vertical clearance over the roadway. Where provided by law, other governmental agencies, rail facilities, and state, local and federal codes may require a greater clearance. The greater clearance required prevails as the rule.
- 9.3.4 Crossing (Underground) - Underground crossings require a minimum vertical clearance of thirty six (36) inches below top of pavement and thirty (30) inches below unpaved ground line, including ditch grade. Where provided by law other governmental agencies, rail facilities, and State, Local and Federal codes may require a greater clearance.

## 9.4 FDOT Railroad Corridors

Rail corridors will be treated as a Limited Access Facility.

- 9.4.1 **Operating Railroad Corridors** - All utility location criteria shall be in accordance with the criteria set forth by the **FDOT** Permit and Standard Railroad Application Package for operating railroad corridor use and/or occupancy, which may be obtained from the District Rail Coordinator or the District Corridor Rail Manager, where one exists.
- 9.4.2 **Non-Operating Railroad Corridors** - All utility location criteria shall be in accordance with the applicable criteria set forth in the **UAM** for the planned transportation facility use reflected in the applicable corridor management plan.

## 9.5 Airport/Airport Properties

All utility location criteria shall be in accordance with the criteria set forth by the airport jurisdiction, or as provided in **Chapter 333, F.S.**

## 9.6 Restricted & Non-Restricted R/W Area

These designations have resulted from the need to recognize that standard criteria cannot be reasonably applied where existing infrastructure makes it impractical, or not economically feasible to comply with all minimum horizontal clearance or clear zone requirements. Non-compliance will require obtaining an exception from the **FDOT** or the facilities must be brought into compliance. The exception must address the specific item (s) in non-compliance and is only required for those areas in which the **FDOT** has a planned project or there is an established crash history requiring resolution.

On RRR projects with a curb or curb and gutter section, some areas along the project may not have sufficient border width to permit utilities to locate or relocate above ground fixed objects to the desired or minimum horizontal clearance or clear zone requirements. These areas are termed Restricted R/W Areas. Examples of when this would apply are when insufficient R/W exists, buildings exist with little or no set back from the R/W, or the method of construction or design does not permit the base of the above ground fixed object to be located as desired.

In contrast, Non-Restricted R/W Areas represent those areas along a project (regardless of project type or typical section) where sufficient border width does exist and would accommodate utilities to locate above ground fixed objects in compliance with minimum horizontal clearance or clear zone requirements. In order to provide for the safest project conditions, Utilities are encouraged to establish their clear zone and horizontal clearance requirements during or prior to the **FDOT** project scoping in accordance with the **FDOT's** Five Year Work Program, available from the District Office.