**Process for Determining Horizontal Clearance**

**STEP 1**
Obtain the design speed.

**STEP 2**
Select the minimum recoverable terrain from Table A based on the lane type and design speed.

**STEP 3**
Does the facility meet ALL the restricting conditions in Table B?

- **No**
  - **STEP 4A**
    - As shown in Figure 1, determine the clear zone.

- **Yes**
  - **STEP 4B**
    - Based on the object, obstruction, or condition, use the nonrestricted column of Table C to determine the horizontal clearance requirement.

**STEP 5**
Based on the object, obstruction, or condition, use the nonrestricted column of Table C to determine the horizontal clearance requirement.

**TABLE A**

<table>
<thead>
<tr>
<th>Design Speed (mph)</th>
<th>Travel Lanes &amp; Multilane Ramps</th>
<th>Auxiliary Lanes &amp; Single Lane Ramps</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;45</td>
<td>18</td>
<td>10</td>
</tr>
<tr>
<td>45</td>
<td>24</td>
<td>14</td>
</tr>
<tr>
<td>50</td>
<td>24</td>
<td>14</td>
</tr>
<tr>
<td>55</td>
<td>30</td>
<td>18</td>
</tr>
<tr>
<td>&gt;55</td>
<td>36</td>
<td>24</td>
</tr>
</tbody>
</table>

**TABLE B**

**RESTRICTING CONDITIONS**

1. The facility is an urban facility.
2. The facility's design speed is 45 mph or less.
3. The facility is predominantly a curbed facility.
4. The distance from the traveled way to the R/W line is less than the value obtained in STEP 2.

**ROADSIDE TERRAIN**

**FIGURE 1**

*Roadside slopes shown in Figure 1 are for maintenance and permitting purposes when establishing clear zone requirements. For FDOT Standard Roadside Slopesh, refer to Volume 1, Chapter 2 of the Plans Preparation Manual.*

**Definitions**

- **Roadside Terrain** includes all surfaces along the roadway adjacent to the traveled way for the purpose of establishing clear zones and horizontal clearance requirements. Roadside Terrain is defined as recoverable, traversable, nonrecoverable, nontraversable, and hazardous as follows:
  - *Recoverable* when it is safely traversable and on a slope that is 1v:4h or flatter.
  - *Traversable* when the slope is 1v:3h or flatter.
  - *Traversable Nonrecoverable* when it is safely traversable and on a slope that is steeper than 1v:3h but not steeper than 1v:2h.
  - *Nontraversable* when it is not safely traversable or on a slope that is steeper than 1v:2h.
  - *Hazardous* when a slope is steeper than 1v:2h and deeper than 6 feet as shown in Figure 2.

**Horizontal Clearance Requirements** are shown in Table C and are the required offsets to an object from a specified point on the roadway.

- **Recoverable when it is safely traversable and on a slope that is 1v:4h or flatter**
- **Traversable when the slope is 1v:3h or flatter**
- **Traversable Nonrecoverable when it is safely traversable and on a slope that is steeper than 1v:3h but not steeper than 1v:2h**
- **Nontraversable when it is not safely traversable or on a slope that is steeper than 1v:2h**
- **Hazardous when a slope is steeper than 1v:2h and deeper than 6 feet as shown in Figure 2.**
<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>Item No.</th>
<th>OBJECTS, OBSTRUCTIONS OR CONDITIONS</th>
<th>CLEARANCE REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GENERAL</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
|            | 1        | Above ground fixed hazards: All roadside objects, obstructions or conditions other than those listed below that exceed 4 inches in height and pose a hazard to errant vehicles and vehicle occupants. | Locate as close to the Right Of Way as practical and not less than 4 feet from face of curb.  
Locate outside the clear zone as close as practical. |
|            | 2        | Drop-off hazards: Any point along a roadside closer than 1v:3h that is deeper than 6 feet below the hinge point. See Figure 2. | Locate the point that is 6 feet below the hinge point no less than 22 feet from the edge of traveled way.  
Treat as roadside slopes in accordance with Design Standard, Index 545. |
|            | 3        | All FDOT approved guardrails, guardrail end terminals, crash cushions, and concrete barriers (temporary or permanent). | Locate as shown in the Design Standards. |
|            | 4        | Mailboxes                            | Locate in accordance with Design Standard, Index 532.  
Not shown as shown in Design Standard, Index 532. |
|            | 5        | Not shown as shown in Design Standard, Index 532. |
| ROADWAY    |          |                                     |                        |
|            | 6        | Trees                                | Outside roadways: Locate no less than 4 feet from face of curb in accordance with Design Standard, Index 546.  
Inside medians: Locate no less than 6 feet from the edge of traffic lane and in accordance with Design Standard, Index 546.  
Locate outside the clear zone as close as practical and not less than 40 feet from the edge of traveled way. |
|            | 7        | Not expected to become greater than 4 inches in diameter (measured 6 inches above the ground). | Locate in accordance with Design Standard, Index 546. |
|            | 8        | Canals                               | Locate no less than 2 feet from the back of the guardrail post. |
|            | 9        | Unshielded                           | Located as close to the Right Of Way as practical and not less than 4 feet from 66 feet from the edge of traveled way.  
Design Speeds of 50 mph and greater: Locate as close to the Right Of Way as practical and not less than 60 feet from the edge of traveled way.  
Design speeds less than 50 mph: Locate as close to the Right Of Way as practical and not less than 50 feet from the edge of traveled way. |
| DRAINAGE   |          |                                     |                        |
|            | 10       | Culvert wing walls, endwalls, retaining walls, and flared section walls. | Less than or equal 6 feet deep:  
Locate no less than 4 feet from face of curb.  
Locate outside the clear zone. |
|            | 11       | Mitered sections                     | Locate as shown in Design Standard, Index 273 and Index 273. |
|            | 12       | Overhead sign supports and other nonfrangible signs. | Located as close to the Right Of Way as practical and not less than 4 feet from face of curb.  
Locate outside the clear zone. |
| TRAFFIC CONTROL DEVICES |   | Traffic infrastructure detectors, signal controller cabinets, signal poles, cable poles, mast arms. | Locate no less than 4 feet from face of curb and not less than 6 feet from side of road.  
Locate outside the clear zone and not in medians. |
| LIGHTING   |          | Conventional lighting (frangible). | Locate no less than 4 feet from face of curb and only on barrier walls in medians.  
Locate 20 feet from travel lanes or 14 feet from auxiliary lanes. Not in medians.  
May be clear zone width when the clear zone is less than 20 feet. |
| STRUCTURES |          | Highway lighting                     | Not applicable. |
| UTILITIES  |          | Bridge piers and abutments: Above ground vertical structures. | Locate no less than 16 feet from edge of traveled way.  
Locate outside the clear zone. |
| UTILITIES  | 19       | Fire hydrants with bases no higher than 4 inches above ground. | Locate no less than 2 feet from face of curb.  
Locate as close to the Right Of Way as practical. |
| UTILITIES  | 20       | Aboveground fixed utilities (AFUs). | New AFUs placed no closer than 4 feet from the face of curb and as close to the R/W as practical.  
New AFUs are to be outside the clear zone established using Table A-3.  
Recoverable Terrain and as close to the R/W line as practical. |
| RAILROADS  | 21       | Railroad crossing traffic control devices. | Located in accordance with Design Standard, Index 1862. |

**TABLE C**

1. When locating an object and sidewalks are present, an unobstructed sidewalk width of at least 4 feet must be provided.
2. When site specific conditions prohibit meeting the horizontal clearance requirements in TABLE C, the object, obstruction, or condition must be crashworthy or mitigated, possibly by shielding. Otherwise, see the Plans Preparation Manual, Volume I, Chapters 2, 4, 21, 25 and 25.

**GENERAL NOTES**

1. **Drop-Off Hazards:**
   - Figure 2
   - See Item 2 Of Table C
   - For Horizontal Clearance Requirements

2. **Slope Steeper Than 1v:3h:**
   - Greater than 6' Below Hinge Point
   - Hinge Point
   - Curb May Or May Not Be Present

**ROADSIDE OFFSETS**

**FIGURE 2**