GENERAL NOTES

1. Details apply to both rural and urban intersections under stop sign control or flashing beacon control. For full signal-controlled intersections see Design Note No. 4.

2. Sight distance (d) applies to normal and skewed intersections (intersecting angles between 60° and 120°), and where vertical and/or horizontal curves are not present. Sight distance (d) measured along the major roadway from the center of the entrance lane of the minor roadway to the center of the major roadway. Distances a₁ and a₂ are measured from the centerline of the entrance lane of the minor roadway to a point on the edge of the near side of the major roadway on the major roadway. Distance d₈, measured from the centerline of the entrance lane of the major roadway to a point on the edge of the near side of the major roadway on the major roadway, to the point on the median clear zone limit or horizontal clearance limit for the far side roadway of the major roadway.

3. a. The limits of clear sight define a corridor throughout which a clear sight window must be preserved. See WINDOW DETAIL, Sheet 2.
   b. Clear sight must be provided between vehicles at intersection stop locations, and vehicles on the major roadway within dimension 12.0.
   c. Since observations are made in both directions along the line of sight, the reference datum between roadways is 3-6” above respective pavements.
   d. Barrier systems within intersection sight corridors, where penetration into the sight window might occur, shall be located to provide the least adverse effect practical.

4. The corridor defined by the limits of clear sight is a restricted planting area. Drivers of vehicles on the intersecting roadway and vehicles on the major roadway must be able to see each other clearly throughout the limits of a₁ and a₂. If in the Engineer’s judgment, the installation of the line of sight corridor prescribed by these standards the Engineer may rearrange, relocate or eliminate plantings. Plantings within the restricted areas are limited as follows:

   - **Ground Cover & Trunked Plants (Separate or Combined):**
     - **Ground Covers:** Plant selection of low growing vegetation which at maturity does not attain a height greater than 18” below the sight line datum. For ground cover in combination with trees and palms, the following heights below the sight line datum, will apply: 24” for trees and palms ≤ 11” dia. and, 18” for sabal palms ≥ 11” dia. (in with Sight Window).
     - **Trunked Plants:** Plant selection of a mature trunk diameter 4” or less measured at 6 ft above the ground. Canopy or high branch foliage shall not be lower than 5’ above the sight line datum. These selections shall be spaced no closer than 20’.

   - **Tress:**
     - Trees can be used with lawn covers: pavement, gravel, bark or wood chip beds. Ground covers or other Department approved material. The clear sight window must be in accordance with the WINDOW DETAIL, modified to attain the height requirements listed in ‘Ground Covers’ above. Tree sizes and spacing shall conform to the following tabular values:

      | Description                      | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
      |---------------------------------|----|----|----|----|----|----|----|
      | **(Inches)**                    | -  | -  | -  | -  | -  | -  | -  |
      | **(Feet)**                      | -  | -  | -  | -  | -  | -  | -  |

   Minimum Spacing:

   - In the Tress


5. Where curvature, superelevation, adverse split profiles or other conditions preclude the use of standards, sizes and spacing, paving, view of shadowing restraints must be documented and the size and location of trees in medians detailed in the plans.

6. Intersection sight distance values are provided for Passenger Vehicles, SUV Vehicles and Combination Vehicles. Intersection sight distance based on the Passenger Vehicle is suitable for most intersections. Where substantial volumes of heavy vehicles enter the major-road, such as from ramp terminals with stop controller roads serving truck terminals, the use of tabulated values for SUV Vehicles or Combination Vehicles should be considered.

**DESIGN NOTES**

1. The information shown on this index is intended solely for the purpose of clear sight development and maintenance at intersecting highways, roads and streets, and is not intended to be used to establish roadway and roadways safely except as related to clear sight corridors. An analysis of sight distance shall be documented for all intersections.

2. Details are based on the AASHTO ‘A Policy On Geometric Design Of Highways And Streets, PDF, CHAPTER 9 INTERCEPTION SIGHT DISTANCE — CASES B and F, and Department practices for channelized median openings (left turns from major roadways).

3. The minimum driver eye setback of 14.5’ from the edge of the traveled way may be adjusted on any intersection leg only when justified by a documented, site specific field study of vehicle stopping distances and driver eye position.

4. For SIGNALIZED INTERSECTIONS sight distances should be developed based on AASHTO ‘Case D — Intersections With Traffic Signal Control’. At signalized intersections, the first vehicle stopped on one approach should be visible to the driver of the first vehicle stopped on each of the other approaches. Left-turning vehicles shall have sufficient sight distance to select gaps in oncoming traffic, and complete left turns. Apart from these sight conditions, there are generally no other approach or departure sight triangles needed for signalized intersections. However, if the traffic signals to be placed on two-way flashing operation (i.e. flashing yellow on the major-road approaches and flashing red on the minor-road approaches) under thick or nighttime conditions, then the appropriate departure sight triangles for Case D, both to the left and to the right, should be provided for the minor-road approaches. In addition, if right turns on a red signal are to be permitted from any approach, then the appropriate departure sight triangle to the left for Case D should be provided to accommodate right turns from that approach.

5. Where curvature, superelevation, adverse split profiles or other conditions preclude the use of standards, sizes and spacing, paving, view of shadowing restraints must be documented and the size and location of trees in medians detailed in the plans.

6. Intersection sight distance values are provided for Passenger Vehicles, SUV Vehicles and Combination Vehicles. Intersection sight distance based on the Passenger Vehicle is suitable for most intersections. Where substantial volumes of heavy vehicles enter the major-road, such as from ramp terminals with stop controller roads serving truck terminals, the use of tabulated values for SUV Vehicles or Combination Vehicles should be considered.

**SIGHT DISTANCE AT INTERSECTIONS**

<table>
<thead>
<tr>
<th>Description</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
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<tr>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>(Feet)</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Minimum Spacing:

- In the Tress

Sizes and spacings are based on the following conditions:

(a) Single line of trees in the median parallel to but not necessarily collinear with the centerline.

(b) 3 straight approaching vehicles, with skew limits as described in No. 2 above.

(c) 1. Trees and palms ≤ 11” in diameter cast a vertical “b” wide shadow border on a vehicle entering at stop bar location when viewed by oncoming driver beginning at distance “a” see SHADOW DIAGRAM, Sheet 2.

2. Sabalpalms with diameters ≤ 18” spaced at intervals providing a 2” second full view of entering vehicle at stop bar location when viewed by oncoming driver beginning at distance “a” see SHADOW DIAGRAM, Sheet 2.

(d) Trees with diameters ≤ 11” mixed with trees with diameters ≤ 18” are to be spaced based on trees with diameters ≤ 11” ≥ 18”.

For any other conditions the tree sizes, spacings and locations shall be detailed in the plans. See Design Note No. 5.
STANDARD INDEX NO. XXXXX, SHEET X OF X

PICTORIAL
ORIGIN OF CLEAR SIGHT LINE
ON MINOR ROAD

PICTORIAL
WINDOW DETAIL

CHANNELIZED DIRECTIONAL MEDIAN OPENINGS

<table>
<thead>
<tr>
<th>Design Speed</th>
<th>1 Lane Crossed</th>
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<th>3 Lanes Crossed</th>
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<td></td>
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<tr>
<td>45</td>
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<td>295</td>
<td>345</td>
</tr>
</tbody>
</table>

* The \( d_o \) values in this table were established by the method referenced in Design Note 2, and are applicable to urban, predominantly curved roadways with design speeds of 45 mph or less and meeting the restricted conditions defined in Index No. T900. For horizontal clearances (HC) at six feet (6'), the values for \( d_o \) may be determined by this equation: \( d_o = d_x + (6/12) \).

For roadways with nonrestricted conditions, \( d_o \) and \( d_y \) should be based on the geometry for the left turn storage and on clear zone widths (see Index No. T700).

For wide medians where the turning vehicle can approach the through lane at or near 90°, use \( d_y \) values from tables on sheets 5 or 6. (The clear sight line origin is assumed to be 14.5' from the edge of the near lane.)

NOTE:
Lines for Origin of Clear Sight Are Opposite Hand When Major Road Near Lane Traffic Moving Left (e.g., One-Way Left).
SIGHT DISTANCE (d) AND RELATED DISTANCES (d_L, d_r) (FEET)

2 LANE UNDIVIDED

PICTORIAL

2 LANE 2 WAY ● FLARED FOR OPPOSING LEFT TURN CENTERED ON ALIGNMENT

PICTORIAL

2 LANE 2 WAY ● FLARED FOR SINGLE SIDE LEFT TURN CENTERED ON ALIGNMENT

LEGEND

- Areas Free Of Sight Obstructions

NOTE: See Sheet 2 for intersecting roadway origin of clear sight and quadrant corner clips.
SIGHT DISTANCES (d) & (d') AND RELATED DISTANCES (d1, d2, d3, & d4) (FEET)

4 LANE DIVIDED ROADWAY

NOTES FOR 4–LANE DIVIDED ROADWAY

1. See Sheet 2 for origin of clear sight line on the minor road.

2. Values shown in the tables are the governing (controlling) sight distances calculated based on 445' TH.

CASE B = Intersection with Stop Control at the Minor Road.
SIGHT DISTANCE AT INTERSECTIONS

6 LANE DIVIDED

SIGHT DISTANCES $(d_x), (d_y)$ & $(d_v)$ AND RELATED DISTANCES $(d_L, d_r, d_m$ & $d_{VL})$ (FEET)

NOTES FOR 6-LANE DIVIDED ROADWAY

1. See Sheet 2 for origin of clear sight line on the minor road.

2. Values shown in the tables are the governing (controlling) sight distances calculated based on AASHTO
   Case B - Intersection with Stop Control on the Minor Road.