# Appendix C
# Miscellaneous Information

## C-1  Entering Sight Distance Guidelines for Granting Deviations

A deviation request to allow a lesser distance than the requirement for entering sight distance outlined in Section 3-1 of this Manual is typically granted under the following conditions:

1.  **Existing/previously approved approaches**

    a.  Residential use only for the approach.
    b.  No more than four total dwelling units that can potentially be served by the approach.
    c.  No other potential approach location available that meets or exceeds entering sight distance standards at the existing approach.

2.  **New/proposed approaches**

    a.  Residential use only for the approach.
    b.  No more than one dwelling unit that can potentially be served by the approach.
    c.  No other potential approach location available that meets or exceeds entering sight distance standards at the new approach.
    d.  Denial of access due to entering sight distance standards would cause an undue burden to the property owner.

A deviation may also be considered in some cases where vehicles traveling on the through County road are physically constrained from traveling at the posted speed limit by a horizontal curve or turn in the road alignment.  In these cases, a deviation for developments larger than those outlined above could be approved to use a lesser minimum distance, if it can be shown that the calculated, anticipated speed of a vehicle traveling toward the road approach location is lower than the posted speed limit because of a curve or turn in the road.  The example on the next page shows a sample analysis that would substantiate a deviation request for these conditions.

Deviation requests must be stamped and signed by a licensed professional engineer.

Engineering analysis provided in conjunction with a request for a deviation should be similar in approach to that outlined in the following example.  The reduced average vehicle speeds on the County road must be due to physical roadway geometric conditions that require traffic to travel below the posted speed limit.  The following are not acceptable engineering approaches to be used with sight distance deviation requests:  use of stopping sight distance in lieu of intersection entering sight distance, use of posted advisory speeds other than those for curves or turns, installation of new or reliance upon existing traffic signs such as "Limited Sight Distance".

## ENTERING SIGHT DISTANCE DEVIATION REQUEST - EXAMPLE

**Given:** County road with posted 35 mph speed limit has a horizontal curve that is signed with turn warning signs and 20 mph advisory speeds. The rest of the road is relatively straight and level.

The proposed approach location is 260 feet from the beginning of the curve. The entering sight distance for the approach is 325 feet looking toward the curve and 450 feet looking in the other direction. The approach will serve a total of eight lots if the development is approved.

**Analysis:** Based on a 35-mph speed limit, 415 feet of entering sight distance would typically be required. This distance equates to an 8 second gap in traffic traveling on the County road, based on the posted speed limit. However, in this case, the anticipated travel speed is less than the posted speed limit during the period of time an oncoming vehicle is visible in the available line of sight:

Sight distance available - 325 feet, of which 65 feet is with the oncoming vehicle in the 20-mph curve.

(a) Length of time vehicle in curve =

$$\left\lceil \frac{65 \text{ ft}}{(20 \text{ mph}) (1.47 \text{ ft/sec/mph})} \right\rceil = \textbf{2.21 seconds}$$

(b) Length of time vehicle is visible while accelerating from 20 mph up to speed limit =

$$\left\lfloor \frac{(35\text{-}20) \text{ mph}}{3.3 \text{ mph/sec*}} \right\rfloor = \textbf{4.54 seconds}$$

\* Use of an acceleration rate of 3.3 mph per second is based on normal acceleration rates published in *Transportation and Traffic Engineering Handbook* as published by the Institute of Transportation Engineers.

Distance traveled during (b) =
$$\left\lfloor \frac{(35 \times 1.47)^2 - (20 \times 1.47)^2 \text{ ft}^2 /\text{sec}^2}{2(3.3 \text{ mph/sec}) (1.47 \text{ ft/sec/mph})} \right\rfloor = \textbf{183 feet}$$
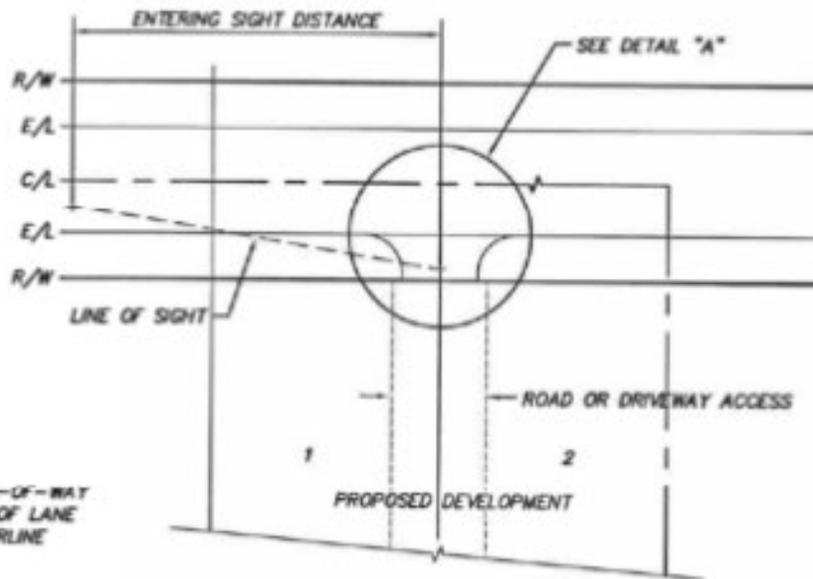
(c) Length of time vehicle is visible while traveling at speed limit before getting to approach location =

(325ft - 66ft -183ft)/(35mph)(1.47 ft/sec/mph) = **1.47 seconds**

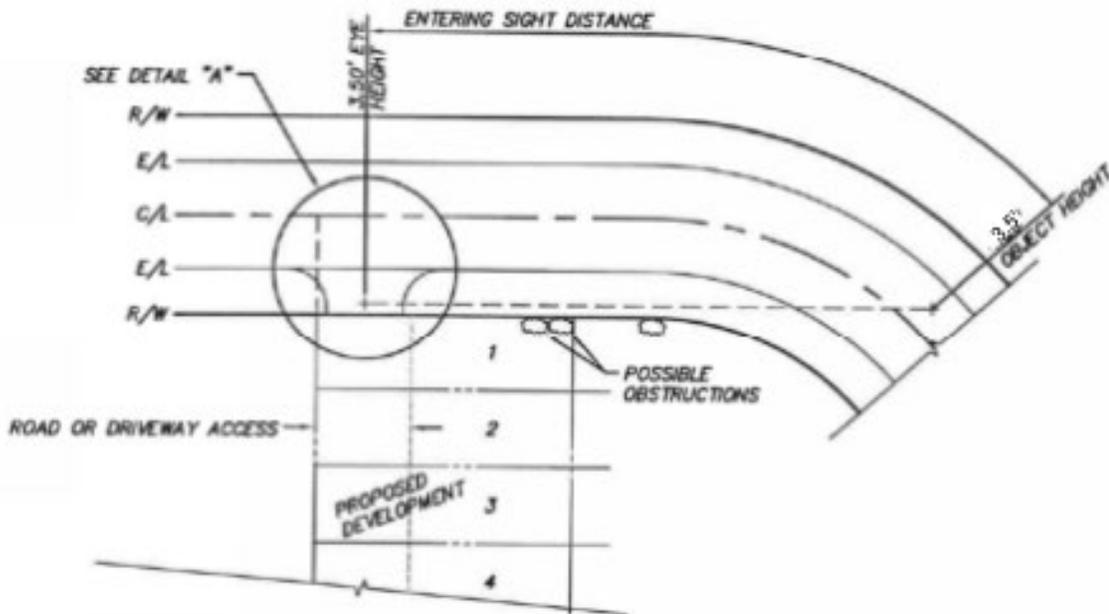Total length of time vehicle is visible when looking from proposed approach location =

2.21sec + 4.54sec + 1.47 sec = **8.22 seconds**,

that exceeds the 8 second gap required; therefore, adequate entering sight distance is available.

ENTERING SIGHT DISTANCE

SEE DETAIL "A"

R/W

E/L

C/L

E/L

R/W

LINE OF SIGHT

ROAD OR DRIVEWAY ACCESS

1

2

PROPOSED DEVELOPMENT

R/W = RIGHT-OF-WAY
E/L = EDGE OF LANE
C/L = CENTERLINE

**VERTICAL EXAMPLE**
N.T.S.

ENTERING SIGHT DISTANCE

3.50' EYE HEIGHT

SEE DETAIL "A"

R/W

E/L

C/L

E/L

R/W

3.5" OBJECT HEIGHT

1

POSSIBLE OBSTRUCTIONS

ROAD OR DRIVEWAY ACCESS

2

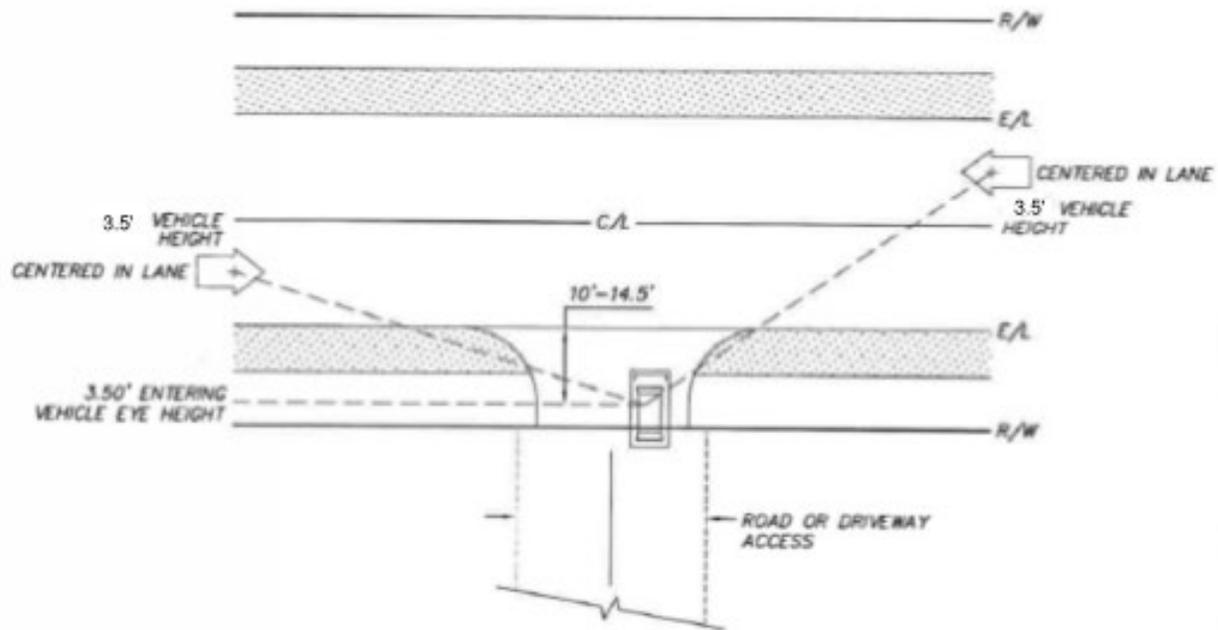PROPOSED DEVELOPMENT

3

4

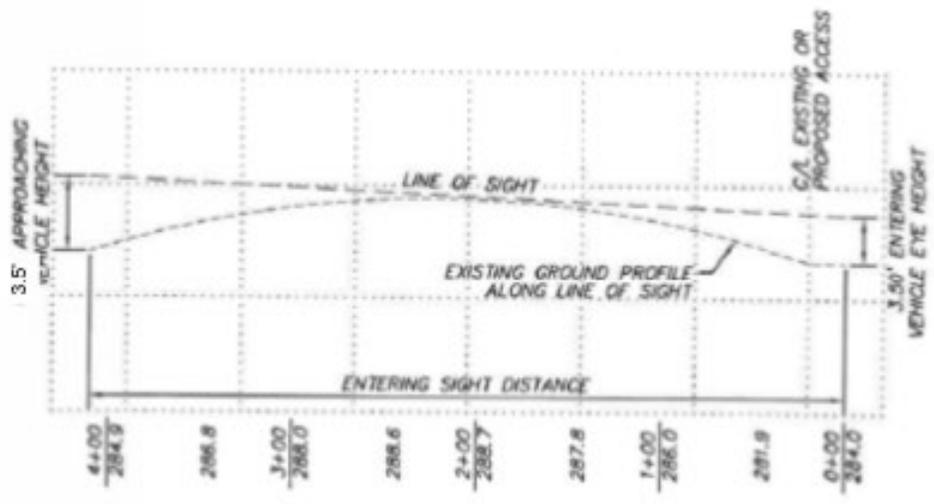**HORIZONTAL EXAMPLE**
N.T.S.

DRAWING TO BE STAMPED AND SIGNED BY
SURVEYOR AND/OR ENGINEER

**ENTERING SIGHT DISTANCE
DIAGRAM**

**DETAIL C-1**

**DETAIL "A"**
N.T.S.



**PROFILE EXAMPLE**
N.T.S.

DRAWING TO BE STAMPED AND SIGNED BY
SURVEYOR AND/OR ENGINEER

**ENTERING SIGHT DISTANCE
DETAIL "A" / PROFILE**

**DETAIL C-2**