

Executive Summary

This analysis supersedes the previous technical memorandums issued March 30, 2009 and August 30, 2009 respectively, by AECOM Technical Services.

The purpose of the alternative alignment investigation for CR 337 from 700' south of SW 30th Avenue to SR 26 is to examine potential for the County to eliminate or modify the two sharp curves located at the east and west ends of the paved portion of SW 30th Avenue on the CR 337 alignment.

The current posted speed is 55 MPH for the CR 337 corridor, with the exception of the half mile section immediately south of SR 26 which is 45 MPH. The two sharp curves are advisory signed for 45 MPH. Field traffic data obtained this analysis show the average 85th percentile speed is 63 MPH within this corridor. This data supports the County's requirement to evaluate alternative alignments for a 60 MPH design speed.

Based on the original 1960 design drawings, the two subject curves each have a design radius of 716 feet, a design superelevation rate of 9.3% and a deflection of 90 degrees. As designed, the curves satisfy a 50 MPH design speed, per the 2007 Florida Greenbook, Table 3-3. Field measurements confirm the curve radius of 716 feet; however the superelevation rates are between 6.5% and 8% which is less than the design superelevation rate of 9.3%. Per existing conditions, the functional design speed of the roadway is approximately 47 MPH. The 1960 State Road Department (Florida Department of Transportation) construction drawings note the design speed is 45 MPH for CR 337 from the Levy County Line to SR 26.

Alternative options are being investigated since the existing geometrics do not support a 60 MPH design speed. Eight options were considered:

1. Extend CR 337/SW 282nd Street alignment north to SR 26 centered on the section line.
2. Extend CR 337/SW 282nd Street alignment north to SR 26 on the west side of the section line.
3. Extend CR 337/SW 282nd Street alignment north to SR 26 curving west of the section line.
4. Reconstruct the curves on CR 337/SW 30th Avenue to accommodate a 60 MPH design speed.
5. Reconstruct the curves on CR 337/SW 30th Avenue including a reversed curve alignment on eastern curve to accommodate 60 MPH design speed.
6. Remain on Existing Alignment – Reconstruct Asymmetrical Roadway within existing right of way and enhanced signing and marking.
7. Remain on Existing Alignment – Increased superelevation, enhanced signing and marking.
8. Remain on Existing Alignment – no build.

Table 1, below, summarizes the criteria used to evaluate the eight alignment options.

Table 1: Decision Matrix

Option	Right of Way Required	Structures Impacted	Geotechnical Anomalies	Requires Stormwater Ponds	60 MPH design speed	50 MPH design speed	Benefit/Cost
1	Yes	Yes	Yes	Yes	Yes	Yes	0.88
2	Yes	Yes	Yes	Yes	Yes	Yes	0.96
3	Yes	Yes	Yes	Yes	Yes	Yes	0.95
4	Yes	Yes	Yes	Yes	Yes	Yes	2.48
5	Yes	No	Yes	Yes	Yes	Yes	1.81
6	No	No	No	No	No	Yes	3.45
7	No	No	No	No	No	Yes	15.28
8	No	No	No	No	No	No	0

The option which satisfied the criteria of zero building impacts while supporting a 60 MPH design speed was Option 5. However, the benefit to cost ratio is far below the two options which maintain the existing alignment (Options 6 and 7), and at this time the County has indicated funding is insufficient to take Option 5 through design, right-of-way acquisition and construction. The County’s Pavement Management Program has identified CR 337 as requiring resurfacing, and if resurfacing is delayed, the pavement structure may require complete reconstruction. Construction plans for the resurfacing of CR 337 from the Levy Count Line north to SW 30th Avenue (Phase 1) are currently under at the 90% design stage.

AECOM recommends the County proceed to 30% design plans for the northern two miles in order to establish which option should be pursued during final design of the northern two miles.