

# Roadway Design

## CR 557 Widening (Buena Vista Drive)

Polk County, Florida  
District 1

February 2023

SUBMITTED BY:

**Dewberry**  
800 North Magnolia Avenue  
Suite 1000  
Orlando, Florida 32803  
407.843.5120

SUBMITTED TO:

**Polk County Roads and  
Drainage Division**  
3000 Sheffield Road  
Winter Haven, FL 33880  
863.535.2200

*Design Notebook*

**CR 557 (Buena Vista Drive) Widening  
Polk County, Florida**

Contract

Prepared For  
Polk County Roads and Drainage Division  
District 1

Prepared by  
Dewberry Engineers Inc.

February 2023

*Roadway Design Notebook  
CR 557 (Buena Vista Drive) Widening  
Polk County, Florida*

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Section 1  
Roadway Design Criteria

**Table 2-2: CR 557 Roadway Design Criteria**

| <b>DESIGN ELEMENT</b>                            | <b>DESIGN CRITERIA</b>                          | <b>SOURCE</b>              |
|--|---|----------------------------|
| <b>FUNCTIONAL CLASSIFICATION</b>                 | Urban Collector                                 | Polk County Road Inventory |
| <b>CONTEXT CLASSIFICATION</b>                    | C4 Urban General                                | FDM Table 200.4.1          |
| <b>DESIGN SPEED</b>                              | 40-45 mph                                       | FDM Table 201.4.1          |
| <b>POSTED SPEED</b>                              | 35 or 40 mph                                    | Polk County Guidelines     |
| <b>DESIGN VEHICLE</b>                            | WB-62FL   | FDM Section 201.5.2        |
| <b>DESIGN YEAR</b>                               | 2045  | FDM Section 201.2          |
| <b>ACCESS CLASSIFICATION</b>                     | Class 3   | FDM Section 201.3          |
| Connection Spacing                               | 660'  | FDM Table 201.3.2          |
| Directional Median Opening Spacing               | 1,320'  |                            |
| Full Median Opening Spacing                      | 2,640'  |                            |
| Signal Spacing                                   | 2,640'  |                            |
| <b>HORIZONTAL ALIGNMENT</b>                      |   |                            |
| Maximum Degree of Curvature ( $D_c$ )            | 10°-15'-00"                                     | (1) Table 210.9.1          |
| Length of Horizontal Curve                       | 675' desirable, 400' min.                       | (1) Table 210.8.1          |
| Maximum Superelevation Rate ( $e_{max} = 0.10$ ) | 0.10  | (1) Table 210.9.1          |
| Maximum Superelevation Transition Slope          | 1:200   | (1) Table 210.9.3          |
| Maximum $D_c$ w/o Superelevation                 | 0°-45'-00"                                      | (1) Table 210.9.1          |
| Maximum Deflection w/o Horizontal Curve          | 1°-00'-00"                                      | (1) Section 210.8.1        |
| <b>VERTICAL ALIGNMENT</b>                        |   |                            |
| Maximum Profile Grade                            | 6%  | (1) Table 210.10.1         |
| Minimum Profile Grade                            | 0.30%   | (1) Section 210.10.1.1     |
| Minimum PVI Distance                             | 250   | (1) Section 210.10.1.1     |
| Minimum K Value (Crest Curves)                   | 98  | (1) Table 210.10.3         |
| Minimum K Value (Sag Curves)                     | 79  | (1) Table 210.10.3         |
| Minimum Length of Vertical Curve (Crest)         | 135   | (1) Table 210.10.4         |
| Minimum Length of Vertical Curve (Sag)           | 135   | (1) Table 210.10.4         |
| Maximum Change in Grade w/o Vertical Curve       | 0.70%   | (1) Table 210.10.2         |
| Minimum Roadway Base Clearance                   | 1'  | (1) Section 210.10.3       |
| <b>SIGHT DISTANCE</b>                            |   |                            |
| Minimum Stopping Sight Distance (Downgrade)      | 360'  | (1) Table 210.11.1         |
| Minimum Stopping Sight Distance (Upgrade)        | 331'  | (1) Table 210.11.1         |
| Minimum Passing Sight Distance                   | N/A   | (1) Table 210.11.2         |
| <b>ROADWAY CROSS SECTION</b>                     |   |                            |
| Number of Travel Lanes                           | 4   | FDOT IMR                   |
| Travel Lane Width                                | 11'   | (1) Table 210.2.1          |
| Outside Shoulder Width                           | 15.5' (8' Paved)                                | (1) Table 210.4.1          |
| Inside Shoulder Width                            | 13.5' (6' Paved)                                | (1) Table 210.4.1          |
| Minimum Median Width                             | 22'   | (1) Table 210.3.1          |
| Border Width                                     | 14'   | (1) Table 210.7.1          |
| Clear Zone Width Requirements                    | 24' from Travel Lane<br>14' from Auxiliary Lane | (1) Table 215.2.1          |
| Cross Slope (Travel Lane)                        | 0.02  | (1) Figure 210.2.1         |

Note: (1) 2019 FDOT Design Manual (FDM)

**Table 2-2: CR 557 Roadway Design Criteria**

| DESIGN ELEMENT                                   | DESIGN CRITERIA                                 | SOURCE                              |
|--|---|-------------------------------------|
| <b>FUNCTIONAL CLASSIFICATION</b>                 | Urban Collector                                 | Polk County Road Inventory          |
| <b>CONTEXT CLASSIFICATION</b>                    | C2 Rural  | FDM Table 200.4.1                   |
| <b>DESIGN SPEED</b>                              | 60 mph  | FDM Table 201.4.1                   |
| <b>POSTED SPEED</b>                              | 35 or 40 mph                                    | Polk County Guidelines              |
| <b>DESIGN VEHICLE</b>                            | WB-62FL   | FDM Section 201.5.2                 |
| <b>DESIGN YEAR</b>                               | 2045  | FDM Section 201.2                   |
| <b>ACCESS CLASSIFICATION</b>                     | Class 3   | (1) Section 201.3                   |
| Connection Spacing                               | 660'  | (1) Table 201.3.2                   |
| Directional Median Opening Spacing               | 1,320'  |                                     |
| Full Median Opening Spacing                      | 2,640'  |                                     |
| Signal Spacing                                   | 2,640'  |                                     |
| <b>HORIZONTAL ALIGNMENT</b>                      |   |                                     |
| Maximum Degree of Curvature ( $D_c$ )            | 5°-15'-00"                                      | (1) Table 210.9.1                   |
| Length of Horizontal Curve                       | 900' desirable, 400' min.                       | (1) Table 210.8.1                   |
| Maximum Superelevation Rate ( $e_{max} = 0.10$ ) | 0.10  | (1) Table 210.9.1                   |
| Maximum Superelevation Transition Slope          | 1:225   | (1) Table 210.9.3                   |
| Maximum $D_c$ w/o Superelevation                 | 0°-15'-00"                                      | (1) Table 210.9.1                   |
| Maximum Deflection w/o Horizontal Curve          | 0°-45'-00"                                      | (1) Section 210.8.1                 |
| <b>VERTICAL ALIGNMENT</b>                        |   |                                     |
| Maximum Profile Grade                            | 3%  | (1) Table 210.10.1                  |
| Minimum Profile Grade                            | N/A   | (1) Section 210.10.1.1              |
| Minimum PVI Distance                             | N/A   | (1) Section 210.10.1.1              |
| Minimum K Value (Crest Curves)                   | 245   | (1) Table 210.10.3                  |
| Minimum K Value (Sag Curves)                     | 136   | (1) Table 210.10.3                  |
| Minimum Length of Vertical Curve (Crest)         | 400   | (1) Table 210.10.4                  |
| Minimum Length of Vertical Curve (Sag)           | 300   | (1) Table 210.10.4                  |
| Maximum Change in Grade w/o Vertical Curve       | 0.40%   | (1) Table 210.10.2                  |
| Minimum Roadway Base Clearance                   | 2'  | (1) Section 210.10.3                |
| <b>SIGHT DISTANCE</b>                            |   |                                     |
| Minimum Stopping Sight Distance (Downgrade)      | 570'  | (1) Table 210.11.1                  |
| Minimum Stopping Sight Distance (Upgrade)        | 538'  | (1) Table 210.11.1                  |
| Minimum Passing Sight Distance                   | N/A   | (1) Table 210.11.2                  |
| <b>ROADWAY CROSS SECTION</b>                     |   |                                     |
| Number of Travel Lanes                           | 4   | FDOT IMR                            |
| Travel Lane Width                                | 12'   | (1) Table 210.2.1                   |
| Outside Shoulder Width                           | 8'  | Table 3-20 Florida Greenbook (2018) |
| Inside Shoulder Width                            | 4'  | Table 3-20 Florida Greenbook (2018) |
| Minimum Median Width                             | 40'   | (1) Table 210.3.1                   |
| Border Width                                     | 40'   | (1) Table 210.7.1                   |
| Clear Zone Width Requirements                    | 36' from Travel Lane<br>24' from Auxiliary Lane | (1) Table 215.2.1                   |
| Cross Slope (Travel Lane)                        | 0.02  | (1) Figure 210.2.1                  |
| Cross Slope (Outside Shoulder)                   | 0.06  | (1) Figure 210.2.1                  |
| Cross Slope Inside Shoulder)                     | 0.05  | (1) Figure 210.2.1                  |

Note: (1) 2019 FDOT Design Manual (FDM)

**Shared Use Path & Sidewalk Design Criteria**

| DESIGN ELEMENT                   | DESIGN CRITERIA   | SOURCE                                 |
|----------------------------------|---|--|
| <b>FUNCTIONAL CLASSIFICATION</b> | Major Collector   | FDOT - SLD - 16290000                  |
| <b>CONTEXT CLASSIFICATION</b>    |   |  |
| <b>DESIGN SPEED</b>              |   |  |
| <b>DESIGN VEHICLE</b>            |   |  |
| <b>DESIGN YEAR</b>               |   | (1) Section 201.2                      |
| <b>SHARED USE PATH</b>           |   |  |
| Width                            | 12' std. (8' min.)  | (1) Section 224.4                      |
| Longitudinal Grades              | 5% max.<br>6% for 800'<br>7% for 400'<br>8% for 300'<br>9% for 200'<br>10% for 100'<br>11+% for 50' | (1) Section 224.6<br>(1) Table 224.6.1 |
| Horizontal Clearance             | 4' clear area adjacent to both sides<br>2' of which with max. 1:6 slope                             | (1) Section 224.7                      |
| Design Speed                     | 18 mph ≤ 4%<br>30 mph > 4%<br>Urban: 10 mph   | (1) Section 224.9                      |
| Min. Stopping Sight Distances    | See Table   | (1) Table 224.10.2                     |
| Vertical Alignment               | S>L: L=2S-(900/A)<br>S<L: L=AS <sup>2</sup> /900  | (1) Section 224.11                     |
| <b>Sidewalk</b>                  |   |  |
| Width                            | C2 Rural: 5'<br>C3R Suburban Res.: 6'<br>C4 Urban General: 6'                                       | (1) Table 222.2.1                      |
| Longitudinal Grades              | 5% max.   | (1) Section 222.2.1.3                  |
| Cross Slope                      | 2% max.   | (1) Section 222.2.1.3                  |
| Horizontal Clearance             | 1' wide 1:6 max slope adj.  | (1) Section 222.2.1.3                  |
| Crosswalk Cross Slope            | 2% max.<br>5% max. at intersections, midblock, or d/w's   | (1) Section 222.2.3                    |
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Note: (1) 2022 FDOT Design Manual (FDM)

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Section 2  
Pavement Design



# PAVEMENT DESIGN TECHNICAL MEMORANDUM

## CR 557 (Buena Vista Drive) Alignment Study from North of CSX Railroad to South of the I-4 Interchange Polk County



**Polk County Project Number: 18-73**

**Prepared for:**

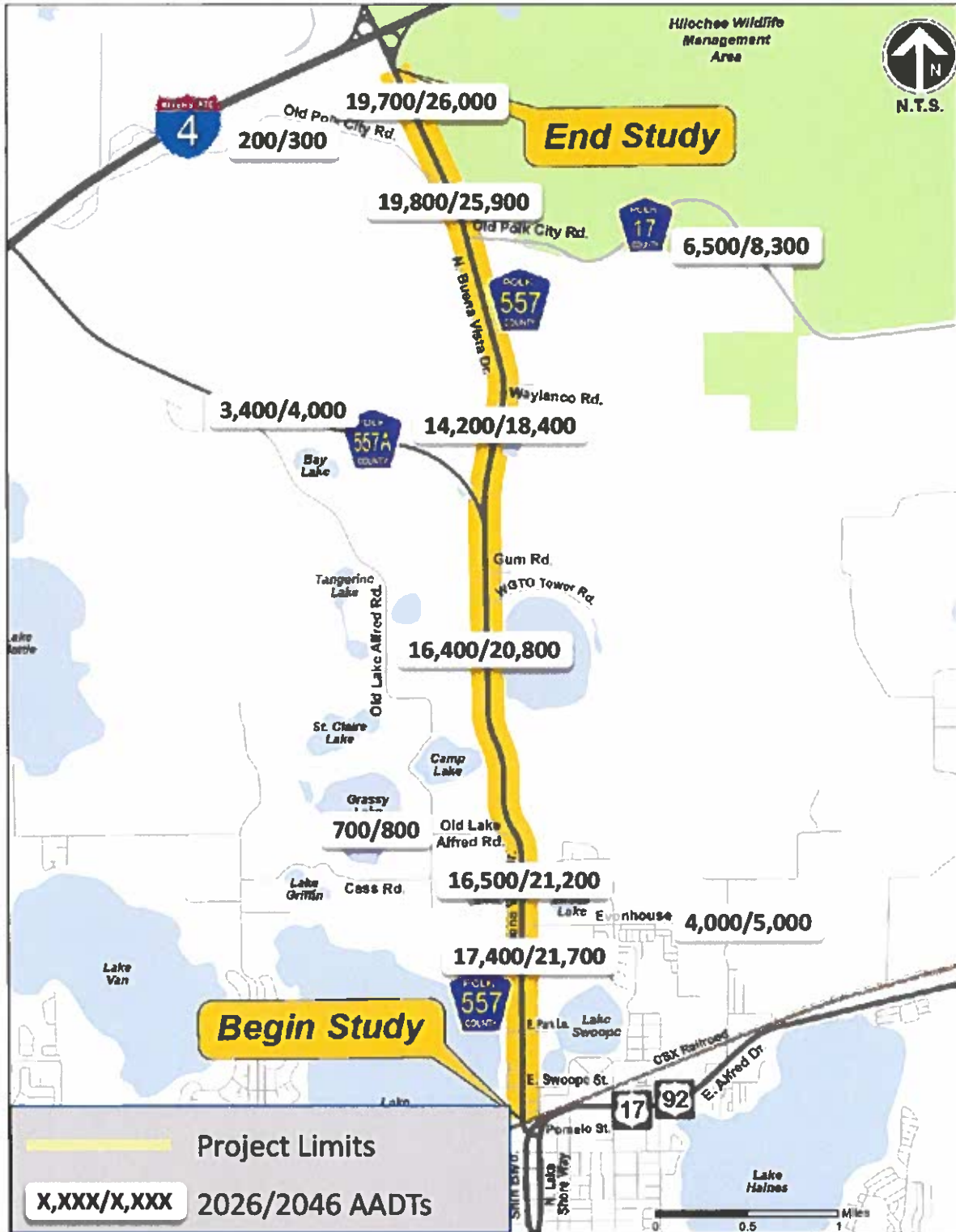


**Polk County Board of County Commissioners  
Polk County, Florida**

**Prepared by:  
Dewberry Engineers Inc.  
800 N. Magnolia Avenue, Suite 1000  
Orlando, Florida 32803**

**DRAFT  
January 5, 2023**

Project Location Map / Opening Year (2026) and Design Year (2046) AADTs



**POLK COUNTY DEPARTMENT OF TRANSPORTATION  
FLEXIBLE PAVEMENT DESIGN SUMMARY SHEET**

Prepared by: Raymond Lee, P.E.  
Dewberry Engineers Inc.

Financial Project No. 18-73  
WPI No. N/A  
State Project No. N/A  
County Section No. 763201  
FAP No. N/A  
County: Polk  
Type Work: Reconstruction  
Opening Year: 2026  
Design Year: 2046  
ESAL<sub>D</sub> - Mainline 7,007,000  
ESAL<sub>D</sub> - Shoulder 210,210  
SN<sub>R</sub> - Mainline 4.47  
SN<sub>R</sub> - Shoulder 2.53

Date Prepared: 1/5/23

Project Name: CR 557 (Buena Vista Drive)  
From: N. of CFX Railroad  
To: S. of I-4 Interchange  
Begin MP: 0.00  
End MP: 6.00  
Project Length (Mi) 6.00

% R: 90  
M<sub>R</sub>: 8,750 PSI  
Design Speed: 45 MPH  
Functional Class: Major Collector

Design Seq. No.: 1  
Cross Slope Correction No \*\*

Urban Section (M.P. 0.16 to M.P. 3.87)

**Recommended Thru Lane and Turn Lane Resurfacing Pavement Design:**

| <u>Layer</u>           | <u>Thickness</u> | <u>Coef.</u> | <u>SN</u> |
|------------------------|------------------|--------------|-----------|
| FC-12.5                | 1.50             | 0.44         | 0.66      |
| Type SP (Level C)      | 2.50             | 0.44         | 1.10      |
| Optional Base Group 09 | 10.00            | 0.18         | 1.80      |
| Type B Stabilization   | 12.00            | 0.08         | 0.96      |

Design Total SN: **4.52**

Required SN<sub>R</sub>: 4.47

Required SN Difference From Design SN: 0.05

Approved by: \_\_\_\_\_  
Raymond Lee, P.E.  
Date: \_\_\_\_\_

**POLK COUNTY DEPARTMENT OF TRANSPORTATION  
FLEXIBLE PAVEMENT DESIGN SUMMARY SHEET**

Prepared by: Raymond Lee, P.E.  
Dewberry Engineers Inc.

Financial Project No. 18-73  
WPI No. N/A  
State Project No. N/A  
County Section No. 763201  
FAP No. N/A  
County: Polk  
Type Work: Reconstruction  
Opening Year: 2026  
Design Year: 2046  
ESAL<sub>D</sub> - Mainline 8,703,000  
ESAL<sub>D</sub> - Shoulder 261,090  
SN<sub>R</sub> - Mainline 4.62  
SN<sub>R</sub> - Shoulder 2.65

Date Prepared: 1/5/23

Project Name: CR 557 (Buena Vista Drive)  
From: N. of CFX Railroad  
To: S. of I-4 Interchange  
Begin MP: 0.00  
End MP: 6.00  
Project Length (Mi) 6.00

% R: 90  
M<sub>R</sub>: 8,750 PSI  
Design Speed: 45-60 MPH  
Functional Class: Major Collector

Design Seq. No.: 2  
Cross Slope Correction No \*\*

Suburban and Rural Sections (M.P. 3.87 to M.P. 5.85)

**Recommended Thru Lane and Turn Lane Resurfacing Pavement Design:**

| <u>Layer</u>           | <u>Thickness</u> | <u>Coef.</u>     | <u>SN</u>   |
|------------------------|------------------|------------------|-------------|
| FC-5                   | 0.75             | 0.00             | 0.00        |
| Type SP (Level C)      | 4.00             | 0.44             | 1.76        |
| Optional Base Group 10 | 11.00            | 0.18             | 1.98        |
| Type B Stabilization   | 12.00            | 0.08             | 0.96        |
|                        |                  | Design Total SN: | <u>4.70</u> |

Required SN<sub>R</sub>: 4.62

Required SN Difference From Design SN: 0.08

**Recommended Shoulder Pavement Design:**

| <u>Layer</u>           | <u>Thickness</u> | <u>Coef.</u>     | <u>SN</u>   |
|------------------------|------------------|------------------|-------------|
| Type SP (Level C)      | 2.00             | 0.44             | 0.88        |
| Optional Base Group 01 | 4.00             | 0.18             | 0.72        |
| Type B Stabilization   | 12.00            | 0.08             | 0.96        |
|                        |                  | Design Total SN: | <u>2.56</u> |

Required SN<sub>R</sub>: 2.65

Required SN Difference From Design SN: -0.09

Approved by: \_\_\_\_\_  
Raymond Lee, P.E.  
Date: \_\_\_\_\_

# 18 kip EQUIVALENT SINGLE AXLE LOAD ANALYSIS

PROJECT TRAFFIC FOR PD&E and DESIGN ANALYSIS INFO / FACTORS

**FIN #: 18-73**  
**COUNTY: Polk**  
**ROADWAYID: 763201**  
**PROJECT DESCRIPTION: CR 557 (Buena Vista Drive)**

**LOCATION #:** 1

**LOCATION DESCRIPTION:** From Milepost 0.16 to Milepost 3.87 (Urban)

### GROWTH RATE FORMULA

**A: Interpolation**  
**B: Enter Growth Rate**  
**C: Enter All AADTs**  
**D: New Facility**

Choose A, B, C, or D here: D

Linear Growth Rate \_\_\_\_\_ %  
 Compounded Growth Rate \_\_\_\_\_ %  
 Decaying Growth Rate \_\_\_\_\_ %  
 (select one)

If "A" select an interpolation function  
If "B" enter rate as decimals (1%=1.01)  
If "C", or "D" continue to next section

### DESIGN INFORMATION

|                 |      |       |  |        |
|-----------------|------|-------|--|--------|
|                 | AADT |       | Daily Direction Split<br>(50% or 100%) |        |
| Existing Year   | N/A  | 0     |  | 50%    |
| Opening Year    | 2026 | 17400 | Lanes in One Direction                 | 2      |
| Mid-Design Year | 2036 | 19550 | <b>T24 values</b>                      |        |
| Design Year     | 2046 | 21700 | Existing to Opening Year               | 13.60% |
|                 |      |       | Opening to Mid-Year                    | 13.60% |
|                 |      |       | Mid-Year to Design-Year                | 13.60% |

Note: AADT values have been rounded to the nearest 100

### 1995 EQUIVALENCY FACTORS [u(1)]

|                             |                                   |          |                                 |       |
|-----------------------------|-----------------------------------|----------|---------------------------------|-------|
|                             | FLEXIBLE PAVEMENT<br>SN = 5/THICK |          | RIGID PAVEMENT<br>SN = 12/THICK |       |
| RURAL FREEWAY:              | 1.050                             | _____    | 1.600                           | _____ |
| URBAN FREEWAY:              | 0.900                             | _____    | 1.270                           | _____ |
| RURAL HIGHWAY:              | 0.960                             | _____    | 1.350                           | _____ |
| URBAN HIGHWAY:              | 0.890                             | <u>X</u> | 1.220                           | _____ |
| OTHER (Enter Factor and X): |                                   | _____    |                                 | _____ |

(1) Equivalency Factors are based on Updated Pavement Damage Factors Memorandum, dated July 2, 1998.  
Lane Factors developed by Copes equation

I have reviewed the 18 kip Equivalent Single Axle Loads (ESAL's) to be used for pavement design on this project. I hereby attest that these have been developed in accordance with the FDOT Project Traffic Forecasting Procedure using historical traffic data and other available information.

Prepared by: \_\_\_\_\_

|           |       |                   |      |
|-----------|-------|-------------------|------|
| Name      | Title | Org. Unit or Firm | Date |
| Signature |       |                   |      |

Reviewed by: \_\_\_\_\_

|           |       |                   |      |
|-----------|-------|-------------------|------|
| Name      | Title | Org. Unit or Firm | Date |
| Signature |       |                   |      |

# 18 kip EQUIVALENT SINGLE AXLE LOAD ANALYSIS - LOCATION 1

PROJECT TRAFFIC FOR PD&E and DESIGN ANALYSIS INFO / FACTORS

YEARS: 2026 to 2046

SECTION #: 763201

COUNTY: Polk

FIN #: 18-73

FLEXIBLE PAVEMENT URBAN HIGHWAY 0.890

SN=5/THICK CR 557 (Buena Vista Drive)

D

| YEAR | AADT  | ESAL<br>(1000S) | ACCUM<br>(1000s) | D   | T      | LF    | EF    |
|------|-------|-----------------|------------------|-----|--------|-------|-------|
| 2026 | 17400 | 315             | 315              | 0.5 | 13.60% | 0.818 | 0.890 |
| 2027 | 17600 | 318             | 633              | 0.5 | 13.60% | 0.817 | 0.890 |
| 2028 | 17800 | 321             | 954              | 0.5 | 13.60% | 0.816 | 0.890 |
| 2029 | 18000 | 325             | 1279             | 0.5 | 13.60% | 0.815 | 0.890 |
| 2030 | 18200 | 328             | 1607             | 0.5 | 13.60% | 0.814 | 0.890 |
| 2031 | 18400 | 331             | 1938             | 0.5 | 13.60% | 0.813 | 0.890 |
| 2032 | 18600 | 334             | 2272             | 0.5 | 13.60% | 0.812 | 0.890 |
| 2033 | 18900 | 339             | 2611             | 0.5 | 13.60% | 0.811 | 0.890 |
| 2034 | 19100 | 342             | 2953             | 0.5 | 13.60% | 0.810 | 0.890 |
| 2035 | 19300 | 345             | 3298             | 0.5 | 13.60% | 0.809 | 0.890 |
| 2036 | 19500 | 349             | 3647             | 0.5 | 13.60% | 0.808 | 0.890 |
| 2037 | 19700 | 352             | 3999             | 0.5 | 13.60% | 0.807 | 0.890 |
| 2038 | 19900 | 355             | 4354             | 0.5 | 13.60% | 0.807 | 0.890 |
| 2039 | 20100 | 358             | 4712             | 0.5 | 13.60% | 0.806 | 0.890 |
| 2040 | 20400 | 363             | 5075             | 0.5 | 13.60% | 0.805 | 0.890 |
| 2041 | 20600 | 366             | 5441             | 0.5 | 13.60% | 0.804 | 0.890 |
| 2042 | 20800 | 369             | 5810             | 0.5 | 13.60% | 0.803 | 0.890 |
| 2043 | 21000 | 373             | 6183             | 0.5 | 13.60% | 0.802 | 0.890 |
| 2044 | 21200 | 376             | 6559             | 0.5 | 13.60% | 0.801 | 0.890 |
| 2045 | 21400 | 379             | 6938             | 0.5 | 13.60% | 0.801 | 0.890 |
| 2046 | 21700 | 384             | 7322             | 0.5 | 13.60% | 0.799 | 0.890 |

Opening to Mid-Design Year ESAL Accumulation (1000s): 3332

Opening to Design Year ESAL Accumulation (1000s): 7007

I have reviewed the 18 kip Equivalent Single Axle Loads (ESAL's) to be used for pavement design on this project. I hereby attest that these have been developed in accordance with the FDOT Project Traffic Forecasting Procedure using historical traffic data and other available information.

Prepared by:

\_\_\_\_\_  
Name Title Org.Unit or F Date

\_\_\_\_\_  
Signature

Reviewed By:

\_\_\_\_\_  
Name Title Org.Unit or F Date

\_\_\_\_\_  
Signature

# 18 kip EQUIVALENT SINGLE AXLE LOAD ANALYSIS

## PROJECT TRAFFIC FOR PD&E and DESIGN ANALYSIS INFO / FACTORS

**FIN #: 18-73**  
**COUNTY: Polk**  
**ROADWAYID: 763201**  
**PROJECT DESCRIPTION: CR 557 (Buena Vista Drive)**

**LOCATION #:** 2

**LOCATION DESCRIPTION:** From Milepost 3.87 to Milepost 5.85 (Rural)

### GROWTH RATE FORMULA

A: Interpolation  
 B: Enter Growth Rate  
 C: Enter All AADTs  
 D: New Facility

Choose A, B, C, or D here: D

Linear Growth Rate \_\_\_\_\_ %  
 Compounded Growth Rate \_\_\_\_\_ %  
 Decaying Growth Rate \_\_\_\_\_ %  
 (select one)

If "A" select an interpolation function  
If "B" enter rate as decimals (1%=1.01)  
If "C", or "D" continue to next section

### DESIGN INFORMATION

|                 |      |       |  |
|-----------------|------|-------|--|
|                 | AADT |       |  |
| Existing Year   | N/A  | 0     | Daily Direction Split<br>(50% or 100%) |
| Opening Year    | 2026 | 19800 | Lanes in One Direction                 |
| Mid-Design Year | 2036 | 22850 | <b>T24 values</b>                      |
| Design Year     | 2046 | 25900 | Existing to Opening Year               |
|                 |      |       | Opening to Mid-Year                    |
|                 |      |       | Mid-Year to Design-Year                |

Note: AADT values have been rounded to the nearest 100

### 1995 EQUIVALENCY FACTORS $[u(1)]$

|                             |                                   |                                 |
|-----------------------------|-----------------------------------|---------------------------------|
|                             | FLEXIBLE PAVEMENT<br>SN = 5/THICK | RIGID PAVEMENT<br>SN = 12/THICK |
| RURAL FREEWAY:              | 1.050                             | 1.600                           |
| URBAN FREEWAY:              | 0.900                             | 1.270                           |
| RURAL HIGHWAY:              | 0.960                             | 1.350                           |
| URBAN HIGHWAY:              | 0.890                             | 1.220                           |
| OTHER (Enter Factor and X): | _____                             | _____                           |

(1) Equivalency Factors are based on Updated Pavement Damage Factors Memorandum, dated July 2, 1998.  
Lane Factors developed by Copes equation

I have reviewed the 18 kip Equivalent Single Axle Loads (ESAL's) to be used for pavement design on this project. I hereby attest that these have been developed in accordance with the FDOT Project Traffic Forecasting Procedure using historical traffic data and other available information.

Prepared by: \_\_\_\_\_

|           |       |                   |      |
|-----------|-------|-------------------|------|
| Name      | Title | Org. Unit or Firm | Date |
| Signature |       |                   |      |

|           |       |                   |      |
|-----------|-------|-------------------|------|
| Name      | Title | Org. Unit or Firm | Date |
| Signature |       |                   |      |

# 18 kip EQUIVALENT SINGLE AXLE LOAD ANALYSIS - LOCATION 2

PROJECT TRAFFIC FOR PD&E and DESIGN ANALYSIS INFO / FACTORS

YEARS: 2026 to 2046

SECTION #: 763201

COUNTY: Polk

FIN #: 18-73

FLEXIBLE PAVEMENT RURAL HIGHWAY 0.960

SN=5/THICK CR 557 (Buena Vista Drive)

D

| YEAR | AADT  | ESAL<br>(1000S) | ACCUM<br>(1000s) | D   | T      | LF    | EF    |
|------|-------|-----------------|------------------|-----|--------|-------|-------|
| 2026 | 19800 | 381             | 381              | 0.5 | 13.60% | 0.807 | 0.960 |
| 2027 | 20100 | 386             | 767              | 0.5 | 13.60% | 0.806 | 0.960 |
| 2028 | 20400 | 392             | 1159             | 0.5 | 13.60% | 0.805 | 0.960 |
| 2029 | 20700 | 397             | 1556             | 0.5 | 13.60% | 0.803 | 0.960 |
| 2030 | 21000 | 402             | 1958             | 0.5 | 13.60% | 0.802 | 0.960 |
| 2031 | 21300 | 407             | 2365             | 0.5 | 13.60% | 0.801 | 0.960 |
| 2032 | 21600 | 412             | 2777             | 0.5 | 13.60% | 0.800 | 0.960 |
| 2033 | 21900 | 417             | 3194             | 0.5 | 13.60% | 0.799 | 0.960 |
| 2034 | 22200 | 422             | 3616             | 0.5 | 13.60% | 0.798 | 0.960 |
| 2035 | 22500 | 428             | 4044             | 0.5 | 13.60% | 0.796 | 0.960 |
| 2036 | 22800 | 433             | 4477             | 0.5 | 13.60% | 0.795 | 0.960 |
| 2037 | 23100 | 438             | 4915             | 0.5 | 13.60% | 0.794 | 0.960 |
| 2038 | 23400 | 443             | 5358             | 0.5 | 13.60% | 0.793 | 0.960 |
| 2039 | 23700 | 448             | 5806             | 0.5 | 13.60% | 0.792 | 0.960 |
| 2040 | 24000 | 453             | 6259             | 0.5 | 13.60% | 0.791 | 0.960 |
| 2041 | 24300 | 458             | 6717             | 0.5 | 13.60% | 0.790 | 0.960 |
| 2042 | 24600 | 463             | 7180             | 0.5 | 13.60% | 0.789 | 0.960 |
| 2043 | 24900 | 468             | 7648             | 0.5 | 13.60% | 0.788 | 0.960 |
| 2044 | 25200 | 473             | 8121             | 0.5 | 13.60% | 0.787 | 0.960 |
| 2045 | 25500 | 478             | 8599             | 0.5 | 13.60% | 0.786 | 0.960 |
| 2046 | 25900 | 485             | 9084             | 0.5 | 13.60% | 0.785 | 0.960 |

Opening to Mid-Design Year ESAL Accumulation (1000s): 4096

Opening to Design Year ESAL Accumulation (1000s): 8703

I have reviewed the 18 kip Equivalent Single Axle Loads (ESAL's) to be used for pavement design on this project. I hereby attest that these have been developed in accordance with the FDOT Project Traffic Forecasting Procedure using historical traffic data and other available information.

Prepared by:

\_\_\_\_\_  
Name Title Org.Unit or F Date

\_\_\_\_\_  
Signature

Reviewed By:

\_\_\_\_\_  
Name Title Org.Unit or F Date

\_\_\_\_\_  
Signature



Section 3  
Coordinate Geometry Data

<\* 1 Describe Chain CL\_CR557

Chain CL\_CR557 contains:

STA143 STA144 STA145 STA146 STA147 CUR CL\_CR557\_11 CUR CL\_CR557\_14 CUR CL\_CR55-  
7\_17 CUR CL\_CR557\_20 STA148 CUR CL\_CR557\_25 CUR CL\_CR557\_28 CUR CL\_CR557\_31 CUR-  
CL\_CR557\_34 CUR CL\_CR557\_35 STA149

Beginning chain CL\_CR557 description

Feature: Centerline(CL)

=====

Point STA143      N    1,367,058.27 E    742,815.92 Sta   1182+00.00

Course from STA143 to STA144 N 0° 31' 31.70" W Dist 1,795.71

Point STA144      N    1,368,853.90 E    742,799.45 Sta   1199+95.71

Course from STA144 to STA145 N 0° 11' 04.64" W Dist 1,204.41

Point STA145      N    1,370,058.31 E    742,795.57 Sta   1212+00.13

Course from STA145 to STA146 N 0° 02' 43.44" W Dist 1,469.12

Point STA146      N    1,371,527.43 E    742,794.40 Sta   1226+69.25

Course from STA146 to STA147 N 0° 52' 31.53" E Dist 1,297.96

Point STA147      N    1,372,825.24 E    742,814.24 Sta   1239+67.20

Course from STA147 to PC CL\_CR557\_11 N 0° 00' 17.62" E Dist 2,023.27

Curve Data

\*-----\*

Curve CL\_CR557\_11

P.I. Station      1263+68.27 N      1,375,226.30 E      742,814.44

Delta    =    29° 27' 51.48" (LT)

Degree    =    3° 59' 15.75"

Tangent    =      377.80

Length    =      738.88

Radius    =    1,436.81

External    =      48.84

Long Chord =      730.76

Mid. Ord.    =      47.23

P.C. Station    1259+90.47 N    1,374,848.50 E    742,814.41  
 P.T. Station    1267+29.35 N    1,375,555.26 E    742,628.64  
 C.C.            N    1,374,848.62 E    741,377.60  
 Back        = N 0° 00' 17.62" E  
 Ahead       = N 29° 27' 33.86" W  
 Chord Bear = N 14° 43' 38.12" W

Course from PT CL\_CR557\_11 to PC CL\_CR557\_14 N 29° 27' 33.86" W Dist 284.97

Curve Data  
\*-----\*

Curve CL\_CR557\_14

P.I. Station    1273+90.29 N    1,376,130.75 E    742,303.58  
 Delta        = 29° 29' 36.09" (RT)  
 Degree       = 4° 00' 40.37"  
 Tangent      = 375.98  
 Length       = 735.27  
 Radius       = 1,428.39  
 External      = 48.65  
 Long Chord = 727.18  
 Mid. Ord.    = 47.05  
 P.C. Station    1270+14.32 N    1,375,803.38 E    742,488.48  
 P.T. Station    1277+49.59 N    1,376,506.72 E    742,303.80  
 C.C.            N    1,376,505.87 E    743,732.19  
 Back        = N 29° 27' 33.86" W  
 Ahead       = N 0° 02' 02.23" E  
 Chord Bear = N 14° 42' 45.81" W

Course from PT CL\_CR557\_14 to PC CL\_CR557\_17 N 0° 02' 02.23" E Dist 794.09

Curve Data  
\*-----\*

Curve CL\_CR557\_17

P.I. Station    1289+24.36 N    1,377,681.49 E    742,304.50  
 Delta        = 22° 29' 30.00" (LT)  
 Degree       = 2° 59' 33.43"  
 Tangent      = 380.69  
 Length       = 751.57  
 Radius       = 1,914.57  
 External      = 37.48  
 Long Chord = 746.76  
 Mid. Ord.    = 36.76  
 P.C. Station    1285+43.68 N    1,377,300.81 E    742,304.27  
 P.T. Station    1292+95.25 N    1,378,033.31 E    742,159.07

C.C.                    N    1,377,301.94 E    740,389.70  
Back    = N 0° 02' 02.23" E  
Ahead    = N 22° 27' 27.77" W  
Chord Bear = N 11° 12' 42.77" W

Course from PT CL\_CR557\_17 to PC CL\_CR557\_20 N 22° 27' 27.77" W Dist 378.30

Curve Data

\*-----\*

Curve CL\_CR557\_20

P.I. Station    1300+32.23 N    1,378,714.40 E    741,877.55

Delta    =    21° 19' 00.00" (RT)

Degree    =    3° 00' 22.61"

Tangent    =    358.68

Length    =    709.07

Radius    =    1,905.87

External    =    33.46

Long Chord =    704.99

Mid. Ord.    =    32.88

P.C. Station    1296+73.55 N    1,378,382.92 E    742,014.56

P.T. Station    1303+82.62 N    1,379,073.01 E    741,870.40

C.C.                    N    1,379,110.96 E    743,775.89

Back    = N 22° 27' 27.77" W

Ahead    = N 1° 08' 27.77" W

Chord Bear = N 11° 47' 57.77" W

Course from PT CL\_CR557\_20 to STA148 N 1° 08' 27.77" W Dist 2,036.23

Point STA148    N    1,381,108.84 E    741,829.85 Sta    1324+18.85

Course from STA148 to PC CL\_CR557\_25 N 1° 08' 27.77" W Dist 4,028.87

Curve Data

\*-----\*

Curve CL\_CR557\_25

P.I. Station    1371+00.52 N    1,385,789.58 E    741,736.62

Delta    =    13° 00' 00.00" (RT)

Degree    =    1° 00' 00.00"

Tangent    =    652.80

Length    =    1,300.00

Radius    =    5,729.58

External    =    37.07

Long Chord =    1,297.21

Mid. Ord.    =    36.83

P.C. Station    1364+47.72 N    1,385,136.91 E    741,749.62  
 P.T. Station    1377+47.72 N    1,386,428.45 E    741,870.78  
 C.C.            N    1,385,251.00 E    747,478.07  
 Back        = N 1° 08' 27.77" W  
 Ahead       = N 11° 51' 32.23" E  
 Chord Bear = N 5° 21' 32.23" E

Course from PT CL\_CR557\_25 to PC CL\_CR557\_28 N 11° 51' 32.23" E Dist 1,609.31

Curve Data  
\*-----\*

Curve CL\_CR557\_28

P.I. Station    1400+35.26 N    1,388,667.17 E    742,340.87  
 Delta        = 26° 38' 20.00" (LT)  
 Degree       = 2° 00' 00.00"  
 Tangent      = 678.23  
 Length       = 1,331.94  
 Radius       = 2,864.79  
 External      = 79.19  
 Long Chord = 1,319.98  
 Mid. Ord.    = 77.06  
 P.C. Station    1393+57.02 N    1,388,003.41 E    742,201.49  
 P.T. Station    1406+88.97 N    1,389,322.96 E    742,167.85  
 C.C.            N    1,388,592.13 E    739,397.85  
 Back        = N 11° 51' 32.23" E  
 Ahead       = N 14° 46' 47.77" W  
 Chord Bear = N 1° 27' 37.77" W

Course from PT CL\_CR557\_28 to PC CL\_CR557\_31 N 14° 46' 47.77" W Dist 3,945.19

Curve Data  
\*-----\*

Curve CL\_CR557\_31

P.I. Station    1451+10.91 N    1,393,598.59 E    741,039.78  
 Delta        = 9° 30' 47.23" (LT)  
 Degree       = 1° 00' 00.00"  
 Tangent      = 476.75  
 Length       = 951.31  
 Radius       = 5,729.58  
 External      = 19.80  
 Long Chord = 950.22  
 Mid. Ord.    = 19.73  
 P.C. Station    1446+34.16 N    1,393,137.62 E    741,161.40  
 P.T. Station    1455+85.47 N    1,394,033.13 E    740,843.64

C.C.                    N    1,391,675.96 E    735,621.40  
Back    = N 14° 46' 47.77" W  
Ahead    = N 24° 17' 35.00" W  
Chord Bear = N 19° 32' 11.38" W

Course from PT CL\_CR557\_31 to PC CL\_CR557\_34 N 24° 17' 35.00" W Dist 2,236.53

Curve Data

\*-----\*

Curve CL\_CR557\_34

P.I. Station    1481+76.39 N    1,396,394.63 E    739,777.73

Delta    =    7° 04' 43.22" (RT)

Degree    =    1° 00' 00.00"

Tangent    =    354.38

Length    =    707.87

Radius    =    5,729.58

External    =    10.95

Long Chord =    707.42

Mid. Ord.    =    10.93

P.C. Station    1478+22.01 N    1,396,071.63 E    739,923.53

P.T. Station    1485+29.88 N    1,396,733.14 E    739,672.85

C.C.                    N    1,398,428.80 E    745,145.77

Back    = N 24° 17' 35.00" W

Ahead    = N 17° 12' 51.78" W

Chord Bear = N 20° 45' 13.39" W

Curve Data

\*-----\*

Curve CL\_CR557\_35

P.I. Station    1488+81.48 N    1,397,068.99 E    739,568.80

Delta    =    7° 04' 43.22" (LT)

Degree    =    1° 00' 28.50"

Tangent    =    351.60

Length    =    702.31

Radius    =    5,684.58

External    =    10.86

Long Chord =    701.86

Mid. Ord.    =    10.84

P.C. Station    1485+29.88 N    1,396,733.14 E    739,672.85

P.T. Station    1492+32.18 N    1,397,389.46 E    739,424.15

C.C.                    N    1,395,050.80 E    734,242.92

Back    = N 17° 12' 51.78" W

Ahead    = N 24° 17' 35.00" W

Chord Bear = N 20° 45' 13.39" W

Course from PT CL\_CR557\_35 to STA149 N 24° 17' 35.00" W Dist 3,108.30

Point STA149      N    1,400,222.53 E    738,145.38 Sta    1523+40.49

=====  
Ending chain CL\_CR557 description

<\*    1    Describe Chain BL\_W\_SWOOPE1

Chain BL\_W\_SWOOPE1 contains:  
STA273 STA274

Beginning chain BL\_W\_SWOOPE1 description  
Feature: Baseline(BL)

=====  
Point STA273      N    1,368,093.60 E    742,581.41 Sta    17+75.00

Course from STA273 to STA274 N 89° 28' 28.30" E Dist 225.00

Point STA274      N    1,368,095.67 E    742,806.40 Sta    20+00.00

=====  
Ending chain BL\_W\_SWOOPE1 description

<\*    2    Describe Chain CL\_WSWOOPE2

Chain CL\_WSWOOPE2 contains:  
STA222 STA223

Beginning chain CL\_WSWOOPE2 description  
Feature: Centerline(CL)

=====  
Point STA222      N    1,368,098.14 E    742,806.38 Sta    20+00.00

Course from STA222 to STA223 N 89° 28' 28.38" E Dist 300.00

Point STA223      N    1,368,100.90 E    743,106.37 Sta    23+00.00

=====  
Ending chain CL\_WSWOOPE2 description

<\* 1 Describe Chain BL\_INTERLACHEN

Chain BL\_INTERLACHEN contains:  
STA275 STA276

Beginning chain BL\_INTERLACHEN description  
Feature: Baseline(BL)

=====

Point STA275      N    1,368,576.49 E    742,601.99 Sta    23+00.00

Course from STA275 to STA276 N 89° 33' 23.74" E Dist 200.00

Point STA276      N    1,368,578.04 E    742,801.98 Sta    25+00.00

=====  
Ending chain BL\_INTERLACHEN description

<\* 1 Describe Chain CL\_WPARKLN

Chain CL\_WPARKLN contains:  
STA230 STA231

Beginning chain CL\_WPARKLN description  
Feature: Centerline(CL)

=====

Point STA230      N    1,369,709.60 E    742,696.69 Sta    29+00.00

Course from STA230 to STA231 N 89° 48' 55.36" E Dist 100.00

Point STA231      N    1,369,709.92 E    742,796.69 Sta    30+00.00

=====  
Ending chain CL\_WPARKLN description



<\* 2 Describe Chain CL\_EPARKLN

Chain CL\_EPARKLN contains:

STA228 STA229

Beginning chain CL\_EPARKLN description

Feature: Centerline(CL)

=====

Point STA228 N 1,369,712.80 E 742,796.68 Sta 30+00.00

Course from STA228 to STA229 N 89° 48' 55.36" E Dist 100.00

Point STA229 N 1,369,713.13 E 742,896.68 Sta 31+00.00

=====

Ending chain CL\_EPARKLN description

<\* 1 Describe Chain CL\_EV

Warning : Avoid the following name: EV-1

Warning : Avoid characters like \* - ? [ or ] (curve will be stored).

Chain CL\_EV contains:

501 CUR EV-1 STA282

Beginning chain CL\_EV description

=====

Point 501 N 1,372,808.20 E 742,813.98 Sta 50+00.00

Course from 501 to PC EV-1 N 86° 37' 38.79" E Dist 50.58

Curve Data

\*-----\*

Curve EV-1

P.I. Station 52+50.63 N 1,372,822.94 E 743,064.17

Delta = 3° 00' 00.00" (RT)

Degree = 0° 45' 00.00"

Tangent = 200.05

Length = 400.00

Radius = 7,639.44

External = 2.62

Long Chord = 399.95

Mid. Ord. = 2.62  
P.C. Station 50+50.58 N 1,372,811.17 E 742,864.47  
P.T. Station 54+50.58 N 1,372,824.24 E 743,264.21  
C.C. N 1,365,184.97 E 743,313.89  
Back = N 86° 37' 38.79" E  
Ahead = N 89° 37' 38.79" E  
Chord Bear = N 88° 07' 38.79" E

Course from PT EV-1 to STA282 N 89° 37' 38.79" E Dist 149.95

Point STA282 N 1,372,825.22 E 743,414.16 Sta 56+00.54

=====

Ending chain CL\_EV description

<\* 1 Describe Chain BL\_CREEKRD

Chain BL\_CREEKRD contains:  
STA277 STA278

Beginning chain BL\_CREEKRD description  
Feature: Baseline(BL)

=====

Point STA277 N 1,374,166.48 E 742,814.35 Sta 60+00.00

Course from STA277 to STA278 S 89° 59' 42.38" E Dist 200.00

Point STA278 N 1,374,166.46 E 743,014.35 Sta 62+00.00

=====

Ending chain BL\_CREEKRD description

<\* 1 Describe Chain CL\_WGTO\_RD

Chain CL\_WGTO\_RD contains:  
STA240 CUR CL\_WGTO\_RD\_3 STA241

Beginning chain CL\_WGTO\_RD description  
Feature: Centerline(CL)

=====

Point STA240      N   1,382,269.76 E    741,806.73 Sta    80+00.00

Course from STA240 to PC CL\_WGTO\_RD\_3 N 88° 51' 32.23" E Dist 62.55

Curve Data  
\*-----\*

Curve CL\_WGTO\_RD\_3

P.I. Station      80+85.35 N    1,382,271.46 E    741,892.06

Delta    =    25° 41' 25.02" (LT)

Degree   =    57° 17' 44.81"

Tangent   =    22.80

Length    =    44.84

Radius    =    100.00

External   =    2.57

Long Chord =    44.46

Mid. Ord.   =    2.50

P.C. Station      80+62.55 N    1,382,271.00 E    741,869.26

P.T. Station      81+07.38 N    1,382,281.75 E    741,912.41

C.C.                N    1,382,370.98 E    741,867.27

Back      = N 88° 51' 32.23" E

Ahead     = N 63° 10' 07.21" E

Chord Bear = N 76° 00' 49.72" E

Course from PT CL\_WGTO\_RD\_3 to STA241 N 63° 10' 07.21" E Dist 32.82

Point STA241      N   1,382,296.56 E    741,941.69 Sta    81+40.20

=====  
Ending chain CL\_WGTO\_RD description

<\*    1   Describe Chain CL\_GUM\_RD

Chain CL\_GUM\_RD contains:  
STA242 STA243

Beginning chain CL\_GUM\_RD description  
Feature: Centerline(CL)

=====  
Point STA242      N   1,383,192.08 E    741,788.36 Sta    90+00.00

Course from STA242 to STA243 N 88° 51' 32.23" E Dist 100.00

Point STA243      N   1,383,194.07 E      741,888.34 Sta    91+00.00

=====  
Ending chain CL\_GUM\_RD description

<\*    1   Describe Chain CL\_ACCESSRD

Chain CL\_ACCESSRD contains:

CUR CL\_ACCESSRD\_1 CUR CL\_ACCESSRD\_2 STA305

Beginning chain CL\_ACCESSRD description

Feature: Centerline(CL)

=====  
                                Curve Data  
                                \*-----\*  
Curve CL\_ACCESSRD\_1  
P.I. Station      208+52.55 N      1,385,666.80 E      741,441.42  
Delta    =    33° 08' 44.21" (LT)  
Degree    =    2° 00' 00.00"  
Tangent   =      852.55  
Length    =      1,657.28  
Radius    =      2,864.79  
External   =      124.17  
Long Chord =      1,634.27  
Mid. Ord.   =      119.01  
P.C. Station      200+00.00 N      1,384,844.17 E      741,665.32  
P.T. Station      216+57.28 N      1,386,233.15 E      740,804.17  
C.C.                N    1,384,091.83 E      738,901.08  
Back    = N 15° 13' 31.79" W  
Ahead    = N 48° 22' 16.00" W  
Chord Bear = N 31° 47' 53.89" W

                                Curve Data  
                                \*-----\*  
Curve CL\_ACCESSRD\_2  
P.I. Station      217+69.76 N      1,386,307.87 E      740,720.10  
Delta    =    53° 07' 13.40" (RT)  
Degree    =    25° 27' 53.25"  
Tangent   =      112.48  
Length    =      208.60  
Radius    =      225.00  
External   =      26.55

Long Chord = 201.21  
Mid. Ord. = 23.75  
P.C. Station 216+57.28 N 1,386,233.15 E 740,804.17  
P.T. Station 218+65.88 N 1,386,419.96 E 740,729.41  
C.C. N 1,386,401.33 E 740,953.64  
Back = N 48° 22' 16.00" W  
Ahead = N 4° 44' 57.40" E  
Chord Bear = N 21° 48' 39.30" W

Course from PT CL\_ACCESSRD\_2 to STA305 N 4° 44' 57.40" E Dist 47.42

Point STA305 N 1,386,467.22 E 740,733.34 Sta 219+13.31

=====

Ending chain CL\_ACCESSRD description

<\* 1 Describe Chain CL\_CR557A\_NEW

Chain CL\_CR557A\_NEW contains:

CUR CL\_CR557A\_NEW\_1 CUR CL\_CR557A\_NEW\_4 STA289

Beginning chain CL\_CR557A\_NEW description

Feature: Centerline(CL)

=====

Curve Data

\*-----\*

Curve CL\_CR557A\_NEW\_1

P.I. Station 603+34.36 N 1,386,443.88 E 740,570.29

Delta = 32° 28' 30.39" (LT)

Degree = 5° 00' 00.00"

Tangent = 333.73

Length = 649.50

Radius = 1,145.92

External = 47.61

Long Chord = 640.84

Mid. Ord. = 45.71

P.C. Station 600+00.63 N 1,386,604.24 E 740,277.60

P.T. Station 606+50.13 N 1,386,465.75 E 740,903.30

C.C. N 1,387,609.20 E 740,828.21

Back = S 61° 16' 55.62" E

Ahead = N 86° 14' 33.99" E

Chord Bear = S 77° 31' 10.82" E

Course from PT CL\_CR557A\_NEW\_1 to PC CL\_CR557A\_NEW\_4 N 86° 14' 33.99" E Dist 304.16

Curve Data

\*-----\*

Curve CL\_CR557A\_NEW\_4

P.I. Station 610+90.41 N 1,386,494.60 E 741,342.64

Delta = 13° 32' 54.83" (RT)

Degree = 5° 00' 00.00"

Tangent = 136.12

Length = 270.97

Radius = 1,145.92

External = 8.06

Long Chord = 270.34

Mid. Ord. = 8.00

P.C. Station 609+54.29 N 1,386,485.68 E 741,206.81

P.T. Station 612+25.26 N 1,386,471.45 E 741,476.78

C.C. N 1,385,342.23 E 741,281.90

Back = N 86° 14' 33.99" E

Ahead = S 80° 12' 31.18" E

Chord Bear = S 86° 58' 58.59" E

Course from PT CL\_CR557A\_NEW\_4 to STA289 S 80° 12' 31.18" E Dist 394.74

Point STA289 N 1,386,404.32 E 741,865.76 Sta 616+20.00

=====

Ending chain CL\_CR557A\_NEW description

<\* 1 Describe Chain CL\_WAYLANCORD

Chain CL\_WAYLANCORD contains:

STA111 STA112

Beginning chain CL\_WAYLANCORD description

Feature: Centerline(CL)

=====

Point STA111 N 1,388,769.15 E 742,257.17 Sta 300+00.00

Course from STA111 to STA112 S 86° 55' 09.54" E Dist 150.00

Point STA112 N 1,388,761.09 E 742,406.95 Sta 301+50.00

=====

Ending chain CL\_WAYLANCORD description

<\* 1 Describe Chain BL\_POLKCITYRD

Chain BL\_POLKCITYRD contains:  
STA267 STA268

Beginning chain BL\_POLKCITYRD description  
Feature: Baseline(BL)

=====

Point STA267      N    1,393,030.04 E    741,189.79 Sta    700+00.00

Course from STA267 to STA268 S 85° 08' 17.77" E Dist 700.00

Point STA268      N    1,392,970.71 E    741,887.27 Sta    707+00.00

=====

Ending chain BL\_POLKCITYRD description

<\* 1 Describe Chain CL\_OPCRD\_EX

Chain CL\_OPCRD\_EX contains:  
STA252 CUR CL\_OPCRD\_EX\_3 STA253

Beginning chain CL\_OPCRD\_EX description

=====

Point STA252      N    1,394,661.49 E    740,230.89 Sta    493+50.00

Course from STA252 to PC CL\_OPCRD\_EX\_3 S 41° 34' 54.61" E Dist 454.00

Curve Data  
\*-----\*

Curve CL\_OPCRD\_EX\_3

P.I. Station      498+77.07 N      1,394,267.58 E      740,581.08  
Delta    =    72° 18' 34.00" (LT)  
Degree    =    57° 17' 44.81"  
Tangent   =      73.07  
Length    =      126.20  
Radius    =      100.00

External = 23.85  
 Long Chord = 117.99  
 Mid. Ord. = 19.26  
 P.C. Station 498+04.00 N 1,394,321.89 E 740,532.20  
 P.T. Station 499+30.20 N 1,394,297.64 E 740,647.68  
 C.C. N 1,394,388.78 E 740,606.54  
 Back = S 41° 59' 01.00" E  
 Ahead = N 65° 42' 25.00" E  
 Chord Bear = S 78° 08' 18.00" E

Course from PT CL\_OPCRD\_EX\_3 to STA253 N 65° 42' 25.00" E Dist 69.80

Point STA253 N 1,394,326.35 E 740,711.29 Sta 500+00.00

=====  
 Ending chain CL\_OPCRD\_EX description

<\* 1 Print Profile PGL

Beginning profile PGL description:

=====

|            | STATION    | ELEV   | GRADE | TOTAL L  | BACK L      | AHEAD L |
|------------|------------|--------|-------|----------|-------------|---------|
| VPI 1      | 1188+00.00 | 143.81 |       |          |             |         |
| VPC        | 1188+50.00 | 144.41 | 1.20  | K = 95.2 |             |         |
| VPI 2      | 1189+50.00 | 145.61 |       | 200.00   | 100.00      | 100.00  |
| VPT        | 1190+50.00 | 148.91 | 3.30  |          |             |         |
| VPC        | 1192+50.00 | 155.51 | 3.30  | K = 98.0 | SSD = 460.0 |         |
| VPI 3      | 1195+00.00 | 163.76 |       | 500.00   | 250.00      | 250.00  |
| High Point | 1195+73.53 | 160.85 |       |          |             |         |
| VPT        | 1197+50.00 | 159.26 | -1.80 |          |             |         |
| VPC        | 1197+75.00 | 158.81 | -1.80 | K = 94.6 |             |         |
| Low Point  | 1199+45.27 | 157.28 |       |          |             |         |
| VPI 4      | 1199+50.00 | 155.66 |       | 350.00   | 175.00      | 175.00  |
| VPT        | 1201+25.00 | 158.99 | 1.90  |          |             |         |
| VPC        | 1203+12.50 | 162.55 | 1.90  | K = 98.7 | SSD = 471.4 |         |



|            |            |        |        |           |              |
|------------|------------|--------|--------|-----------|--------------|
| High Point | 1205+00.00 | 164.33 |        |           |              |
| VPI 5      | 1205+00.00 | 166.11 | 375.00 | 187.50    | 187.50       |
| VPT        | 1206+87.50 | 162.55 | -1.90  |           |              |
| VPC        | 1208+00.00 | 160.41 | -1.90  | K = 87.0  |              |
| VPI 6      | 1209+00.00 | 158.51 | 200.00 | 100.00    | 100.00       |
| Low Point  | 1209+65.22 | 158.84 |        |           |              |
| VPT        | 1210+00.00 | 158.91 | 0.40   |           |              |
| VPC        | 1211+50.00 | 159.51 | 0.40   | K = 250.0 | SSD = 1448.7 |
| High Point | 1212+50.00 | 159.71 |        |           |              |
| VPI 7      | 1212+50.00 | 159.91 | 200.00 | 100.00    | 100.00       |
| VPT        | 1213+50.00 | 159.51 | -0.40  |           |              |
| VPI 8      | 1220+00.00 | 156.91 | -0.40  |           |              |
| VPI 9      | 1225+00.00 | 158.41 | 0.30   |           |              |
| VPC        | 1228+50.00 | 157.36 | -0.30  | K = 124.5 | SSD = 597.8  |
| VPI 10     | 1230+00.00 | 156.91 | 300.00 | 150.00    | 150.00       |
| VPT        | 1231+50.00 | 152.85 | -2.71  |           |              |
| VPC        | 1236+40.00 | 139.57 | -2.71  | K = 92.8  |              |
| VPI 11     | 1238+40.00 | 134.15 | 400.00 | 200.00    | 200.00       |
| Low Point  | 1238+91.49 | 136.16 |        |           |              |
| VPT        | 1240+40.00 | 137.35 | 1.60   |           |              |
| VPC        | 1243+00.00 | 141.51 | 1.60   | K = 230.8 |              |
| VPI 12     | 1244+50.00 | 143.91 | 300.00 | 150.00    | 150.00       |
| VPT        | 1246+00.00 | 148.26 | 2.90   |           |              |
| VPC        | 1247+00.00 | 151.16 | 2.90   | K = 260.9 | SSD = 769.1  |
| VPI 13     | 1250+00.00 | 159.86 | 600.00 | 300.00    | 300.00       |
| VPT        | 1253+00.00 | 161.66 | 0.60   |           |              |
| VPI 14     | 1254+00.00 | 162.26 | 0.60   |           |              |
| VPC        | 1261+00.00 | 169.26 | 1.00   | K = 111.1 | SSD = 489.7  |
| High Point | 1262+11.11 | 169.82 |        |           |              |
| VPI 15     | 1263+50.00 | 171.76 | 500.00 | 250.00    | 250.00       |
| VPT        | 1266+00.00 | 163.01 | -3.50  |           |              |
| VPC        | 1269+00.00 | 152.51 | -3.50  | K = 133.3 |              |
| VPI 16     | 1270+00.00 | 149.01 | 200.00 | 100.00    | 100.00       |

|           |    |            |        |       |           |        |        |
|-----------|----|------------|--------|-------|-----------|--------|--------|
| VPT       |    | 1271+00.00 | 147.01 | -2.00 |           |        |        |
| VPC       |    | 1274+00.00 | 141.01 | -2.00 | K = 133.3 |        |        |
| VPI       | 17 | 1275+00.00 | 139.01 |       | 200.00    | 100.00 | 100.00 |
| VPT       |    | 1276+00.00 | 138.51 | -0.50 |           |        |        |
| VPC       |    | 1279+00.00 | 137.01 | -0.50 | K = 250.0 |        |        |
| VPI       | 18 | 1280+00.00 | 136.51 |       | 200.00    | 100.00 | 100.00 |
| Low Point |    | 1280+25.00 | 136.70 |       |           |        |        |
| VPT       |    | 1281+00.00 | 136.81 | 0.30  |           |        |        |
| VPI       | 19 | 1286+00.00 | 138.31 | 0.30  |           |        |        |
| VPI       | 20 | 1289+00.00 | 137.41 | -0.30 |           |        |        |
| VPI       | 21 | 1292+00.00 | 138.31 | 0.30  |           |        |        |
| VPI       | 22 | 1294+75.00 | 137.49 | -0.30 |           |        |        |
| VPI       | 23 | 1300+00.00 | 139.08 | 0.30  |           |        |        |
| VPI       | 24 | 1309+50.00 | 136.23 | -0.30 |           |        |        |
| VPI       | 25 | 1312+00.00 | 136.98 | 0.30  |           |        |        |
| VPI       | 26 | 1314+50.00 | 136.23 | -0.30 |           |        |        |
| VPI       | 27 | 1319+00.00 | 137.58 | 0.30  |           |        |        |
| VPI       | 28 | 1323+50.00 | 136.23 | -0.30 |           |        |        |
| VPI       | 29 | 1327+00.00 | 137.28 | 0.30  |           |        |        |
| VPI       | 30 | 1330+50.00 | 136.23 | -0.30 |           |        |        |
| VPI       | 31 | 1342+00.00 | 139.68 | 0.30  |           |        |        |
| VPI       | 32 | 1350+00.00 | 136.48 | -0.40 |           |        |        |
| VPI       | 33 | 1356+00.00 | 138.28 | 0.30  |           |        |        |
| VPI       | 34 | 1362+00.00 | 136.50 | -0.30 |           |        |        |
| VPI       | 35 | 1370+83.30 | 139.15 | 0.30  |           |        |        |

|     |    |            |        |       |
|-----|----|------------|--------|-------|
| VPI | 36 | 1375+00.00 | 137.90 | -0.30 |
| VPI | 37 | 1384+00.00 | 136.70 | -0.13 |
| VPI | 38 | 1389+00.00 | 137.20 | 0.10  |
| VPI | 39 | 1395+00.00 | 138.40 | 0.20  |
| VPI | 40 | 1406+00.00 | 139.50 | 0.10  |
| VPI | 41 | 1411+00.00 | 138.50 | -0.20 |
| VPI | 42 | 1424+00.00 | 137.20 | -0.10 |
| VPI | 43 | 1438+00.00 | 137.90 | 0.05  |
| VPI | 44 | 1452+00.00 | 138.90 | 0.07  |
| VPI | 45 | 1464+00.00 | 137.70 | -0.10 |
| VPI | 46 | 1478+00.00 | 137.00 | -0.05 |
| VPI | 47 | 1482+00.00 | 137.40 | 0.10  |
| VPI | 48 | 1488+49.72 | 135.46 | -0.30 |

=====  
Ending profile PGL description

<\* 1 Print Profile PGL\_NB\_RB1

Beginning profile PGL\_NB\_RB1 description:  
=====

|     | STATION | ELEV       | GRADE  | TOTAL L | BACK L   | AHEAD L |
|-----|---------|------------|--------|---------|----------|---------|
| VPI | 1       | 2070+00.00 | 138.90 |         |          |         |
| VPI | 2       | 2070+83.30 | 139.15 | 0.30    |          |         |
| VPC |         | 2074+70.48 | 137.60 | -0.40   | K = 71.4 |         |

Low Point 2074+99.05 137.54  
 VPI 3 2075+20.48 137.40 100.00 50.00 50.00  
 VPT 2075+70.48 137.90 1.00  
  
 VPI 4 2076+00.00 138.20 1.00  
  
 VPC 2076+43.67 139.07 2.00 K = 32.5 SSD = 334.7  
 VPI 5 2077+08.67 140.37 130.00 65.00 65.00  
 High Point 2077+08.67 139.72  
 VPT 2077+73.67 139.07 -2.00  
  
 VPC 2078+37.81 137.79 -2.00 K = 58.8  
 VPI 6 2078+87.81 136.79 100.00 50.00 50.00  
 VPT 2079+37.81 136.64 -0.30  
  
 VPI 7 2081+65.58 135.95 -0.30  
  
 VPI 8 2084+15.58 136.70 0.30

=====  
 Ending profile PGL\_NB\_RB1 description

<\* 2 Print Profile PGL\_SB\_RB1

Beginning profile PGL\_SB\_RB1 description:

=====

|     | STATION               | ELEV   | GRADE | TOTAL L              | BACK L | AHEAD L |
|-----|-----------------------|--------|-------|----------------------|--------|---------|
| VPI | 1 3074+00.00          | 137.88 |       |                      |        |         |
| VPC | 3074+34.45            | 137.75 | -0.40 | K = 96.4             |        |         |
|     | Low Point 3074+73.02  | 137.67 |       |                      |        |         |
| VPI | 2 3075+01.95          | 137.48 |       | 135.00               | 67.50  | 67.50   |
| VPT | 3075+69.45            | 138.15 | 1.00  |                      |        |         |
| VPI | 3 3076+41.98          | 138.88 | 1.00  |                      |        |         |
| VPC | 3076+62.04            | 139.28 | 2.00  | K = 32.5 SSD = 334.7 |        |         |
|     | High Point 3077+27.04 | 139.93 |       |                      |        |         |
| VPI | 4 3077+27.04          | 140.58 |       | 130.00               | 65.00  | 65.00   |

|       |            |        |       |          |       |       |
|-------|------------|--------|-------|----------|-------|-------|
| VPT   | 3077+92.04 | 139.28 | -2.00 |          |       |       |
| VPC   | 3078+68.98 | 137.74 | -2.00 | K = 58.8 |       |       |
| VPI 5 | 3079+18.98 | 136.74 |       | 100.00   | 50.00 | 50.00 |
| VPT   | 3079+68.98 | 136.59 | -0.30 |          |       |       |
| VPI 6 | 3081+81.58 | 135.95 | -0.30 |          |       |       |
| VPI 7 | 3084+32.88 | 136.70 | 0.30  |          |       |       |

=====  
Ending profile PGL\_SB\_RB1 description

<\* 3 Print Profile PGL\_NB\_RB2

Beginning profile PGL\_NB\_RB2 description:  
=====

|            | STATION    | ELEV   | GRADE | TOTAL L   | BACK L      | AHEAD L |
|------------|------------|--------|-------|-----------|-------------|---------|
| VPI 1      | 4038+00.00 | 137.90 |       |           |             |         |
| VPC        | 4041+94.23 | 136.72 | -0.30 | K = 115.4 |             |         |
| Low Point  | 4042+28.85 | 136.67 |       |           |             |         |
| VPI 2      | 4042+69.23 | 136.49 |       | 150.00    | 75.00       | 75.00   |
| VPT        | 4043+44.23 | 137.24 | 1.00  |           |             |         |
| VPI 3      | 4044+05.00 | 137.85 | 1.00  |           |             |         |
| VPC        | 4044+53.27 | 138.82 | 2.00  | K = 27.5  | SSD = 324.8 |         |
| VPI 4      | 4045+08.27 | 139.91 |       | 110.00    | 55.00       | 55.00   |
| High Point | 4045+08.28 | 139.37 |       |           |             |         |
| VPT        | 4045+63.27 | 138.82 | -2.00 |           |             |         |
| VPI 5      | 4045+85.00 | 138.38 | -2.00 |           |             |         |
| VPC        | 4046+32.76 | 137.90 | -1.00 | K = 92.5  |             |         |
| VPI 6      | 4046+92.76 | 137.31 |       | 120.00    | 60.00       | 60.00   |
| Low Point  | 4047+25.00 | 137.44 |       |           |             |         |
| VPT        | 4047+52.76 | 137.49 | 0.30  |           |             |         |

VPI 7 4052+23.73 138.90 0.30

=====  
Ending profile PGL\_NB\_RB2 description

<\* 4 Print Profile PGL\_SB\_RB2

Beginning profile PGL\_SB\_RB2 description:  
=====

|            | STATION    | ELEV   | GRADE | TOTAL L   | BACK L      | AHEAD L |
|------------|------------|--------|-------|-----------|-------------|---------|
| VPI 1      | 5038+00.00 | 137.90 |       |           |             |         |
| VPC        | 5041+94.23 | 136.72 | -0.30 | K = 115.4 |             |         |
| Low Point  | 5042+28.85 | 136.67 |       |           |             |         |
| VPI 2      | 5042+69.23 | 136.49 |       | 150.00    | 75.00       | 75.00   |
| VPT        | 5043+44.23 | 137.24 | 1.00  |           |             |         |
| VPI 3      | 5044+14.75 | 137.95 | 1.00  |           |             |         |
| VPC        | 5044+48.96 | 138.63 | 2.00  | K = 32.5  | SSD = 334.6 |         |
| High Point | 5045+13.96 | 139.28 |       |           |             |         |
| VPI 4      | 5045+13.96 | 139.93 |       | 130.00    | 65.00       | 65.00   |
| VPT        | 5045+78.96 | 138.63 | -2.00 |           |             |         |
| VPI 5      | 5045+97.92 | 138.25 | -2.00 |           |             |         |
| VPC        | 5046+32.17 | 137.91 | -1.00 | K = 92.3  |             |         |
| VPI 6      | 5046+92.17 | 137.31 |       | 120.00    | 60.00       | 60.00   |
| Low Point  | 5047+24.47 | 137.45 |       |           |             |         |
| VPT        | 5047+52.17 | 137.49 | 0.30  |           |             |         |
| VPI 7      | 5052+22.18 | 138.90 | 0.30  |           |             |         |

=====  
Ending profile PGL\_SB\_RB2 description

<\* 5 Print Profile PR\_EVENHOUSE

Beginning profile PR\_EVENHOUSE description:

=====

|       | STATION  | ELEV   | GRADE | TOTAL L  | BACK L | AHEAD L |
|-------|----------|--------|-------|----------|--------|---------|
| VPI 1 | 50+35.32 | 135.88 |       |          |        |         |
| VPC   | 50+75.00 | 136.67 | 1.99  | K = 28.7 |        |         |
| VPI 2 | 51+40.00 | 137.96 |       | 130.00   | 65.00  | 65.00   |
| VPT   | 52+05.00 | 142.20 | 6.52  |          |        |         |
| VPI 3 | 54+00.00 | 154.92 | 6.52  |          |        |         |

=====

Ending profile PR\_EVENHOUSE description

<\* 6 Print Profile BL\_ACCESS\_RD\_P1

Beginning profile BL\_ACCESS\_RD\_P1 description:

=====

|       | STATION   | ELEV   | GRADE | TOTAL L | BACK L | AHEAD L |
|-------|-----------|--------|-------|---------|--------|---------|
| VPI 1 | 200+16.72 | 136.39 |       |         |        |         |
| VPI 2 | 200+59.17 | 137.23 | 1.98  |         |        |         |
| VPI 3 | 201+44.00 | 137.30 | 0.08  |         |        |         |

=====

Ending profile BL\_ACCESS\_RD\_P1 description

<\* 7 Print Profile BL\_ACCESS\_RD\_P2

Beginning profile BL\_ACCESS\_RD\_P2 description:

=====

|     | STATION | ELEV      | GRADE  | TOTAL L | BACK L | AHEAD L |
|-----|---------|-----------|--------|---------|--------|---------|
| VPI | 1       | 210+47.78 | 138.85 |         |        |         |
| VPI | 2       | 211+32.00 | 139.75 | 1.07    |        |         |
| VPI | 3       | 211+82.00 | 138.75 | -2.00   |        |         |

=====  
Ending profile BL\_ACCESS\_RD\_P2 description

<\* 8 Print Profile PGL\_557A\_NEW

Beginning profile PGL\_557A\_NEW description:

=====  

|     | STATION   | ELEV      | GRADE  | TOTAL L  | BACK L | AHEAD L |
|-----|-----------|-----------|--------|----------|--------|---------|
| VPI | 1         | 600+20.00 | 139.53 |          |        |         |
| VPI | 2         | 609+50.00 | 136.74 | -0.30    |        |         |
| VPC | 614+20.00 | 138.15    | 0.30   | K = 58.8 |        |         |
| VPI | 3         | 614+70.00 | 138.30 | 100.00   | 50.00  | 50.00   |
| VPT | 615+20.00 | 139.30    | 2.00   |          |        |         |
| VPI | 4         | 615+20.00 | 139.30 | 2.00     |        |         |

=====  
Ending profile PGL\_557A\_NEW description

<\* 9 Print Profile WGTO\_PR

Beginning profile WGTO\_PR description:

=====  

|  | STATION | ELEV | GRADE | TOTAL L | BACK L | AHEAD L |
|--|---------|------|-------|---------|--------|---------|
|--|---------|------|-------|---------|--------|---------|



VPI 1 80+00.00 138.04

VPI 2 80+35.00 137.34 -2.00

VPC 80+35.00 137.34 -1.50 K = 47.2

VPI 3 80+80.00 136.66 90.00 45.00 45.00

Low Point 81+05.79 136.81

VPT 81+25.00 136.85 0.41

VPI 4 81+50.00 136.95 0.41

=====  
 Ending profile WGTO\_PR description

<\* 10 Print Profile PGL\_PCR

Beginning profile PGL\_PCR description:

=====  
 STATION ELEV GRADE TOTAL L BACK L AHEAD L

VPI 1 700+80.00 139.07

VPC 701+92.79 136.82 -2.00 K = 79.1

VPI 2 702+60.00 135.47 134.43 67.21 67.21

VPT 703+27.21 135.27 -0.30

VPI 3 703+40.00 135.23 -0.30

VPI 4 703+85.00 135.11 -0.28

=====  
 Ending profile PGL\_PCR description

<\* 11 Print Profile PGL\_OPCR

Beginning profile PGL\_OPCR description:

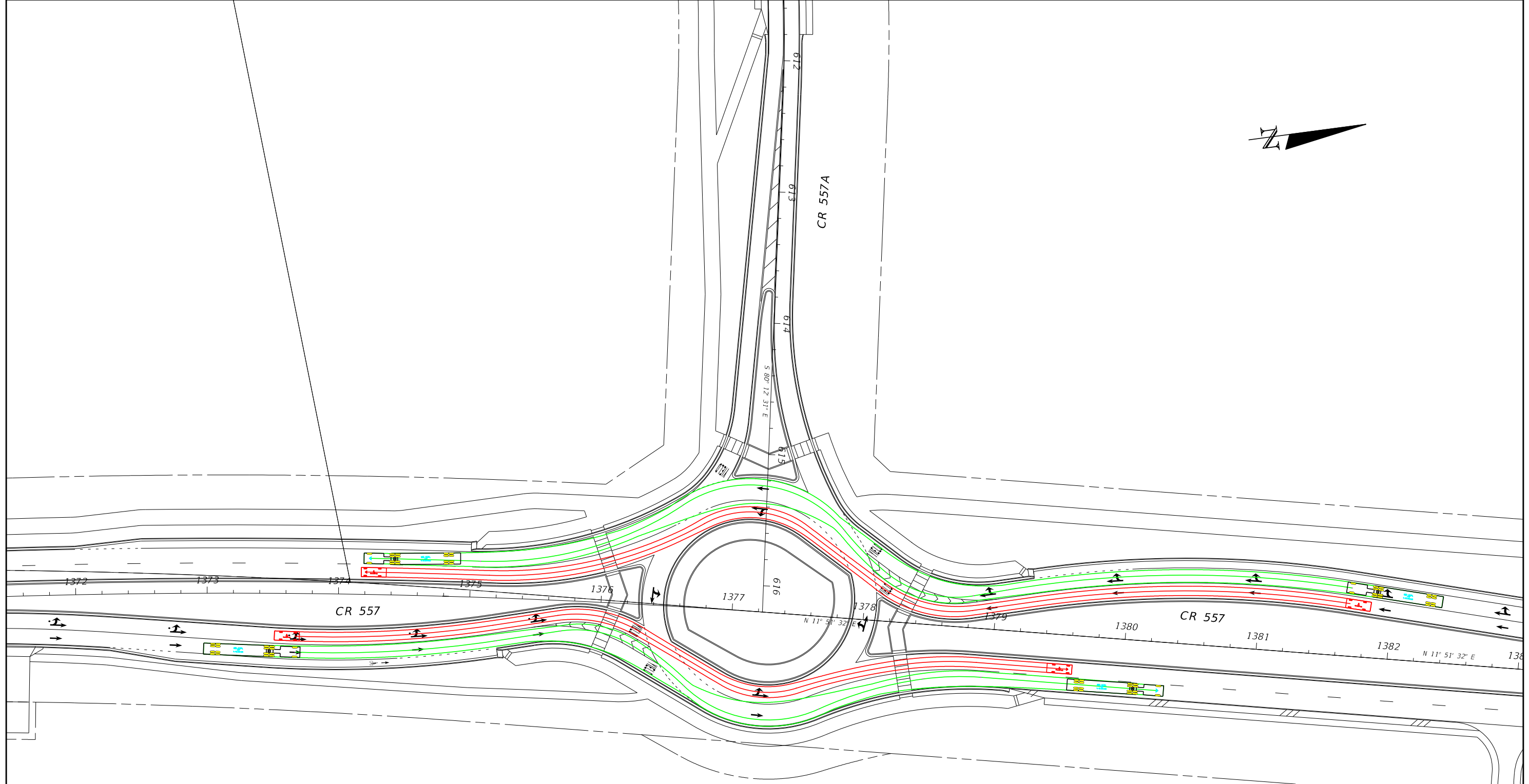
=====

|       | STATION   | ELEV   | GRADE | TOTAL L  | BACK L | AHEAD L |
|-------|-----------|--------|-------|----------|--------|---------|
| VPI 1 | 497+00.00 | 136.61 |       |          |        |         |
| VPC   | 498+91.00 | 136.96 | 0.18  | K = 33.0 |        |         |
| VPI 2 | 499+21.00 | 137.01 |       | 60.00    | 30.00  | 30.00   |
| VPT   | 499+51.00 | 137.61 | 2.00  |          |        |         |
| VPI 3 | 499+80.00 | 138.19 | 2.00  |          |        |         |
| VPI 4 | 500+00.00 | 138.59 | 2.00  |          |        |         |

=====

Ending profile PGL\_OPCR description

Section 4  
Roundabout Performance Checks



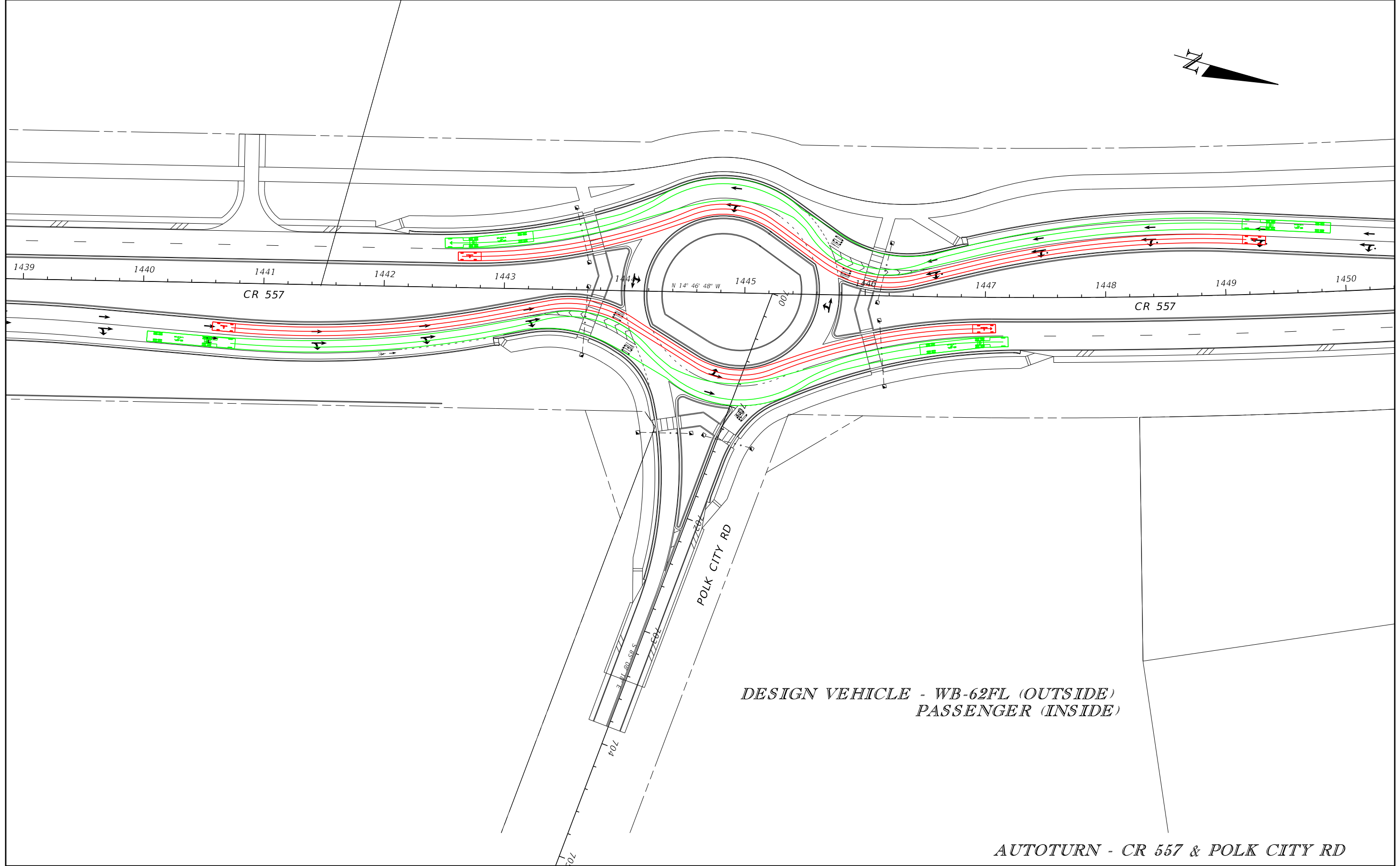
*DESIGN VEHICLE - WB-62FL (OUTSIDE)  
PASSENGER (INSIDE)*

*AUTOTURN - CR 557 & CR 557A*

| REVISIONS |             |      |             | POLK COUNTY<br>ROADS AND DRAINAGE DIVISION |        |             | <p><b>ROUNDABOUT<br/>PERFORMANCE CHECKS</b></p> | SHEET<br>NO. |
|-----------|-------------|------|-------------|--|--------|-------------|---|--------------|
| DATE      | DESCRIPTION | DATE | DESCRIPTION | ROAD NO.                                   | COUNTY | PROJECT NO. |   |              |
|           |             |      |             | CR 557                                     | POLK   | 18-73       |   |              |

KEVIN E. KNUDSEN, P.E.  
P.E. LICENSE NUMBER 41062  
DEWBERRY ENGINEERS INC.  
800 NORTH MAGNOLIA AVE., SUITE 1000  
ORLANDO, FL 32803

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



*DESIGN VEHICLE - WB-62FL (OUTSIDE)  
PASSENGER (INSIDE)*

*AUTOTURN - CR 557 & POLK CITY RD*

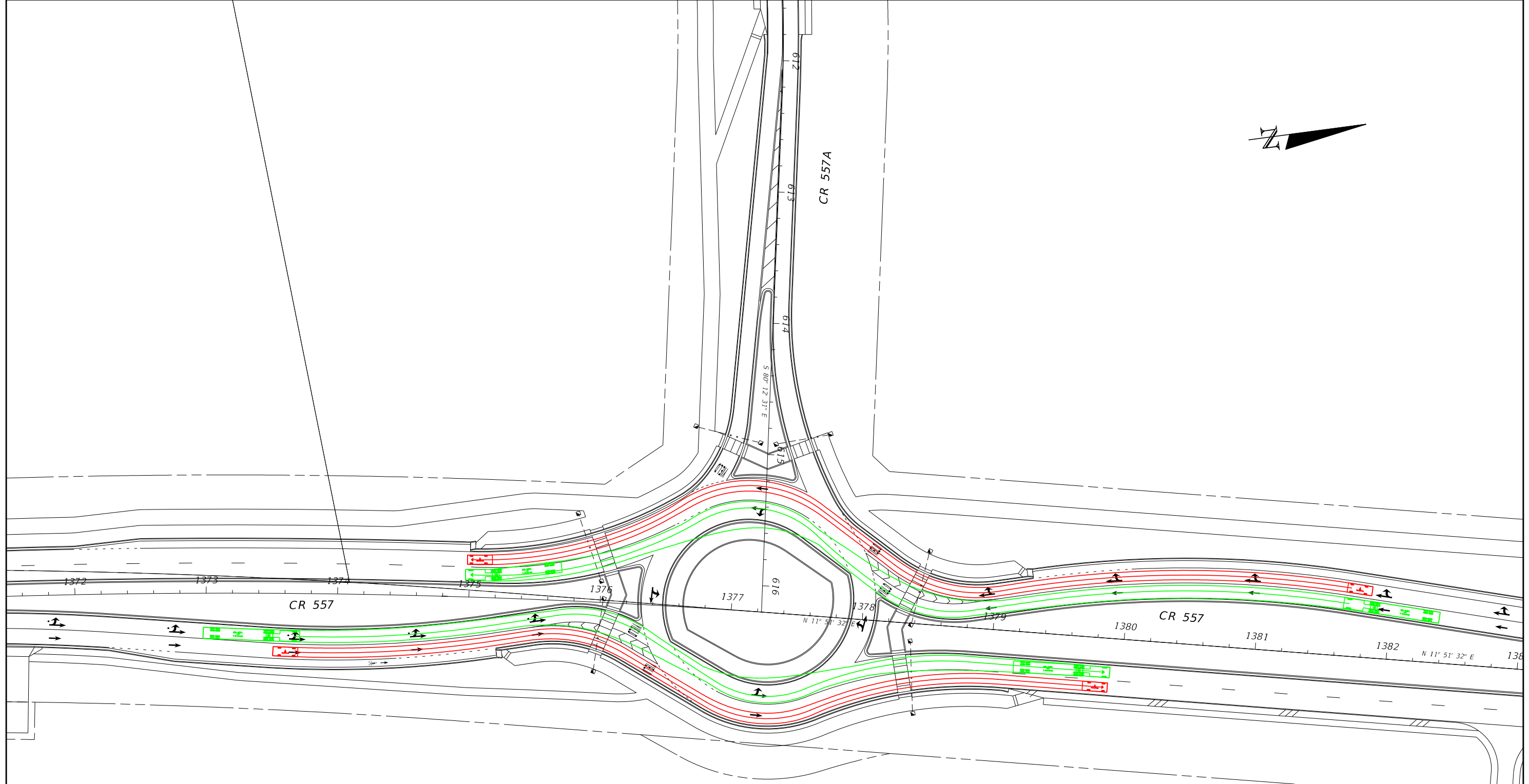
| REVISIONS |             |      |             |
|-----------|-------------|------|-------------|
| DATE      | DESCRIPTION | DATE | DESCRIPTION |
|           |             |      |             |

KEVIN E. KNUDSEN, P.E.  
P.E. LICENSE NUMBER 41062  
DEWBERRY ENGINEERS INC.  
800 NORTH MAGNOLIA AVE., SUITE 1000  
ORLANDO, FL 32803

| POLK COUNTY<br>ROADS AND DRAINAGE DIVISION |        |             |
|--|--------|-------------|
| ROAD NO.                                   | COUNTY | PROJECT NO. |
| CR 557                                     | POLK   | 18-73       |

**ROUNDABOUT  
PERFORMANCE CHECKS**

SHEET  
NO.

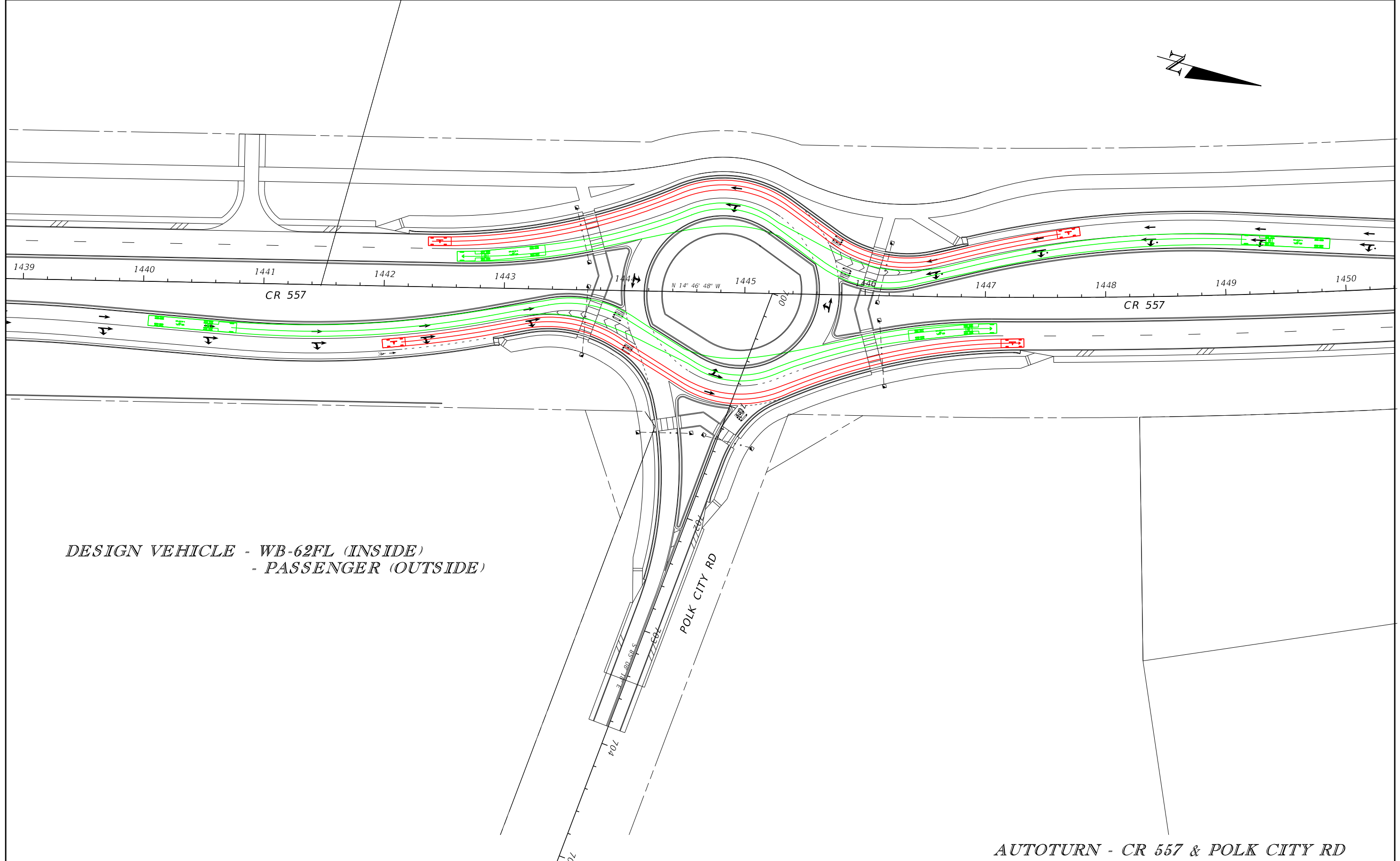


DESIGN VEHICLE - WB-62FL (INSIDE)  
PASSENGER (OUTSIDE)

AUTOTURN - CR 557 & CR 557A

| REVISIONS |             |      |             | POLK COUNTY<br>ROADS AND DRAINAGE DIVISION |        |             | ROUNDABOUT<br>PERFORMANCE CHECKS | SHEET<br>NO. |
|-----------|-------------|------|-------------|--|--------|-------------|----------------------------------|--------------|
| DATE      | DESCRIPTION | DATE | DESCRIPTION | ROAD NO.                                   | COUNTY | PROJECT NO. |                                  |              |
|           |             |      |             | CR 557                                     | POLK   | 18-73       |                                  |              |

KEVIN E. KNUDSEN, P.E.  
P.E. LICENSE NUMBER 41062  
DEWBERRY ENGINEERS INC.  
800 NORTH MAGNOLIA AVE., SUITE 1000  
ORLANDO, FL 32803



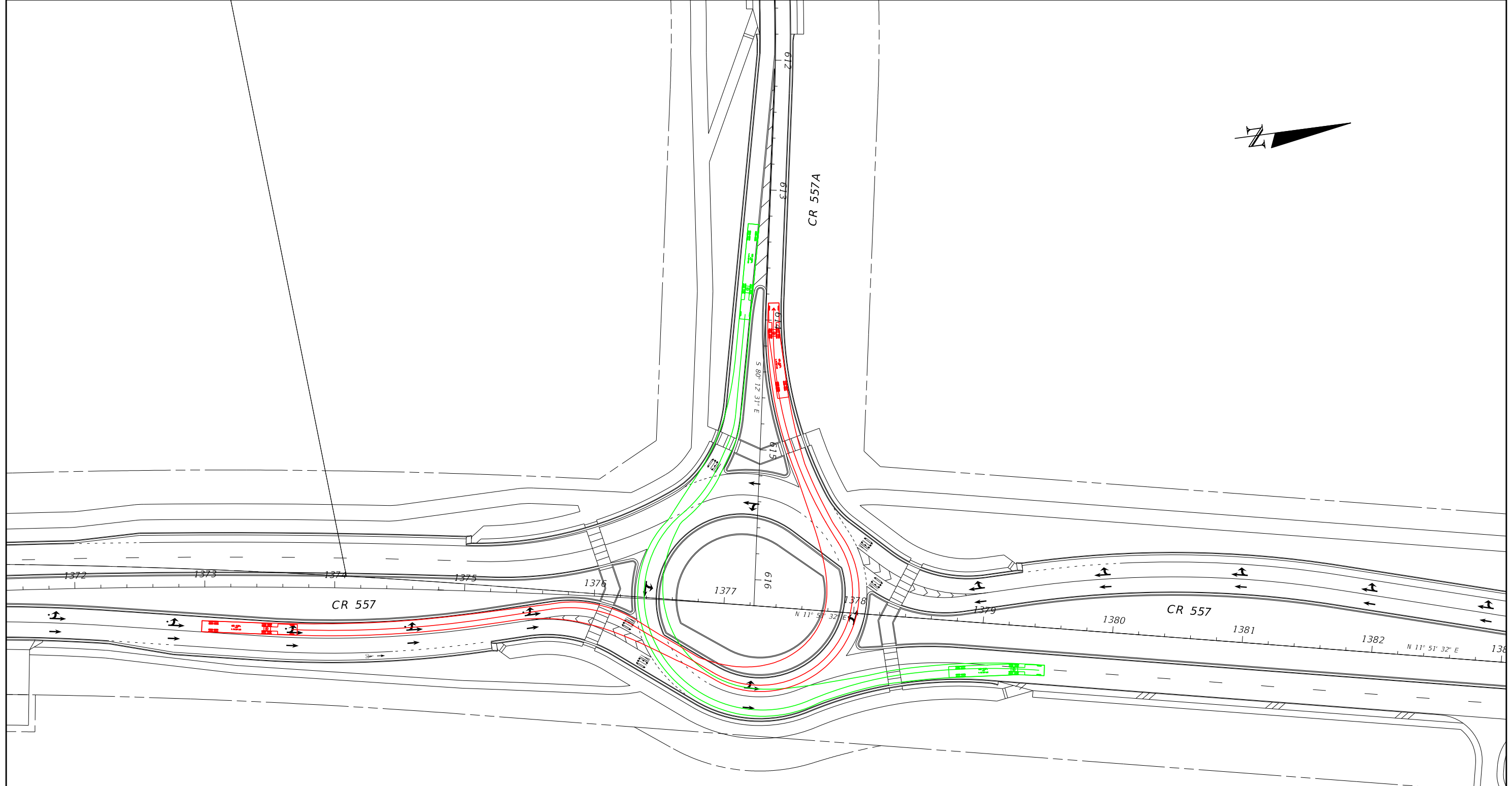
DESIGN VEHICLE - WB-62FL (INSIDE)  
 - PASSENGER (OUTSIDE)

*AUTOTURN - CR 557 & POLK CITY RD*

| REVISIONS |  | DATE |  | DESCRIPTION |  |
|-----------|--|------|--|-------------|--|
|           |  |      |  |             |  |

|  |        |             |  |  |  |              |
|--|--------|-------------|--|--|--|--------------|
| KEVIN E. KNUDSEN, P.E.<br>P.E. LICENSE NUMBER 41062<br>DEWBERRY ENGINEERS INC.<br>800 NORTH MAGNOLIA AVE., SUITE 1000<br>ORLANDO, FL 32803 |        |             | POLK COUNTY<br>ROADS AND DRAINAGE DIVISION |  |  | SHEET<br>NO. |
| ROAD NO.   | COUNTY | PROJECT NO. |  |  |  |              |
| CR 557   | POLK   | 18-73       |  |  |  |              |

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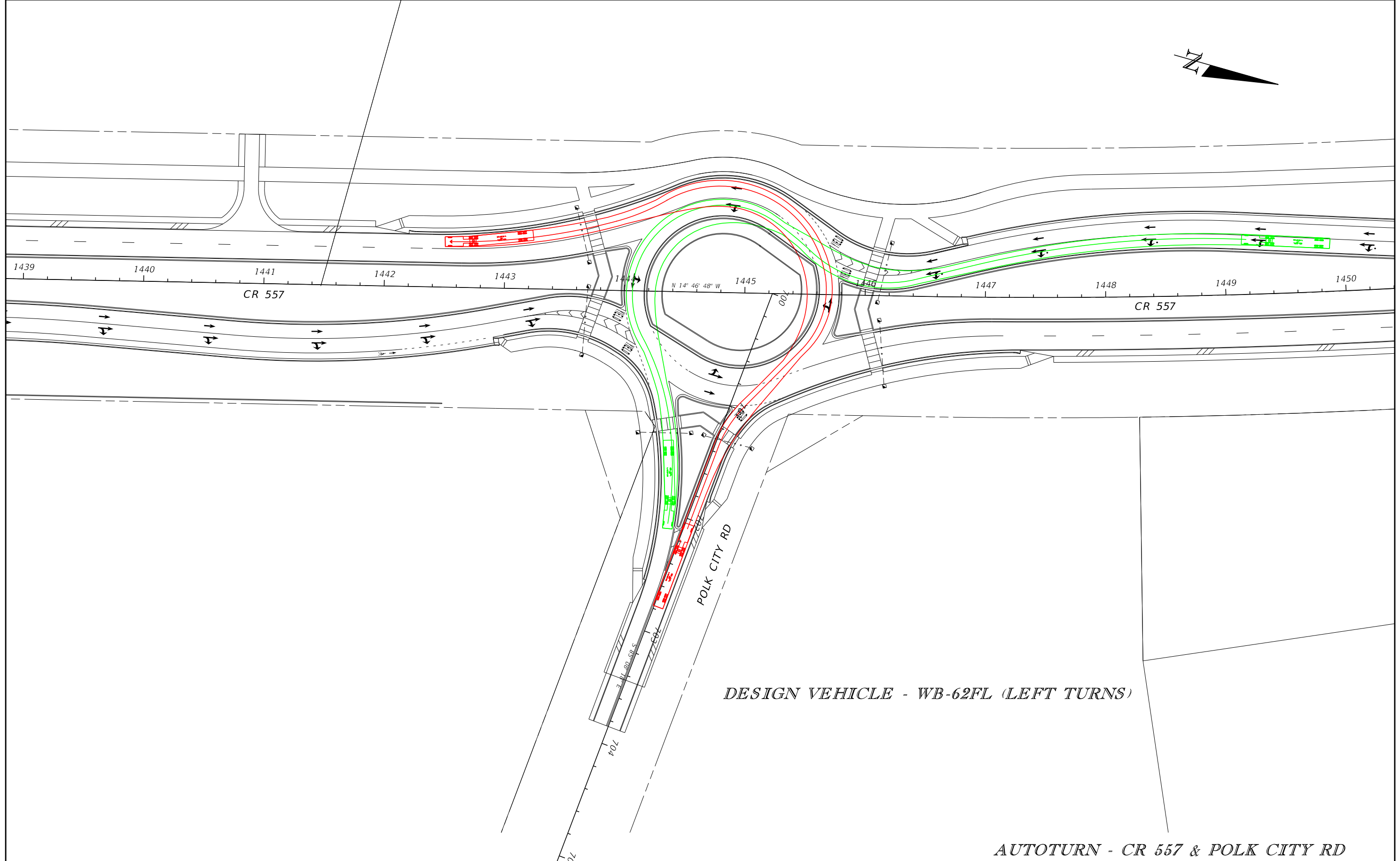
DESIGN VEHICLE - WB-62FL (LEFT TURNS)

AUTOTURN - CR 557 & CR 557A

| REVISIONS |             |      |             | KEVIN E. KNUDSEN, P.E.<br>P.E. LICENSE NUMBER 41062<br>DEWBERRY ENGINEERS INC.<br>800 NORTH MAGNOLIA AVE., SUITE 1000<br>ORLANDO, FL 32803 | POLK COUNTY<br>ROADS AND DRAINAGE DIVISION |        |             | <b>ROUNDABOUT<br/>PERFORMANCE CHECKS</b> | SHEET NO. |
|-----------|-------------|------|-------------|--|--|--------|-------------|--|-----------|
| DATE      | DESCRIPTION | DATE | DESCRIPTION |  | ROAD NO.                                   | COUNTY | PROJECT NO. |  |           |
|           |             |      |             |  | CR 557                                     | POLK   | 18-73       |  |           |

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.





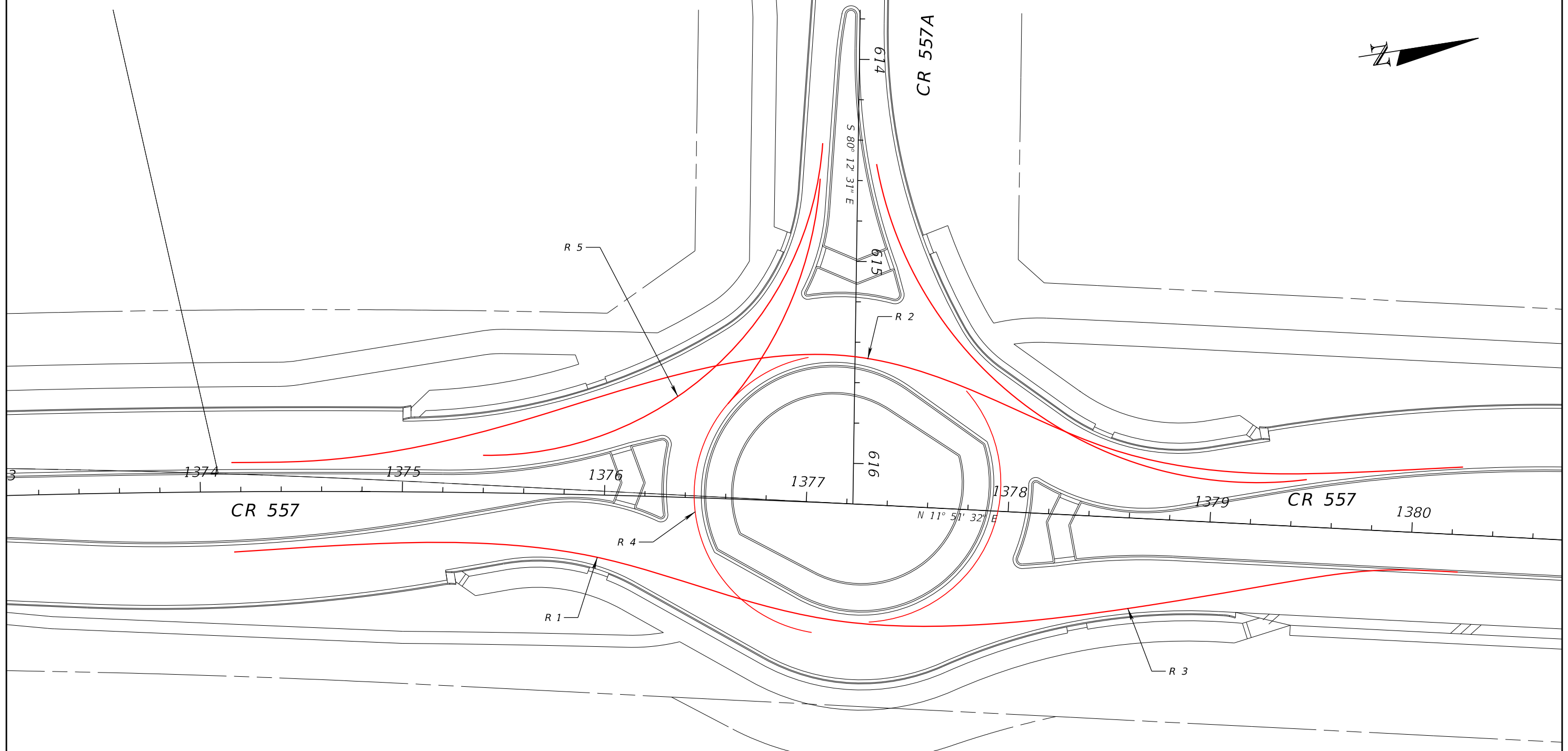
*DESIGN VEHICLE - WB-62FL (LEFT TURNS)*

*AUTOTURN - CR 557 & POLK CITY RD*

| REVISIONS |             |      |             | KEVIN E. KNUDSEN, P.E.<br>P.E. LICENSE NUMBER 41062<br>DEWBERRY ENGINEERS INC.<br>800 NORTH MAGNOLIA AVE., SUITE 1000<br>ORLANDO, FL 32803 | POLK COUNTY<br>ROADS AND DRAINAGE DIVISION |        |             | SHEET<br>NO. |
|-----------|-------------|------|-------------|--|--|--------|-------------|--------------|
| DATE      | DESCRIPTION | DATE | DESCRIPTION |  | ROAD NO.                                   | COUNTY | PROJECT NO. |              |
|           |             |      |             |  | CR 557                                     | POLK   | 18-73       |              |

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

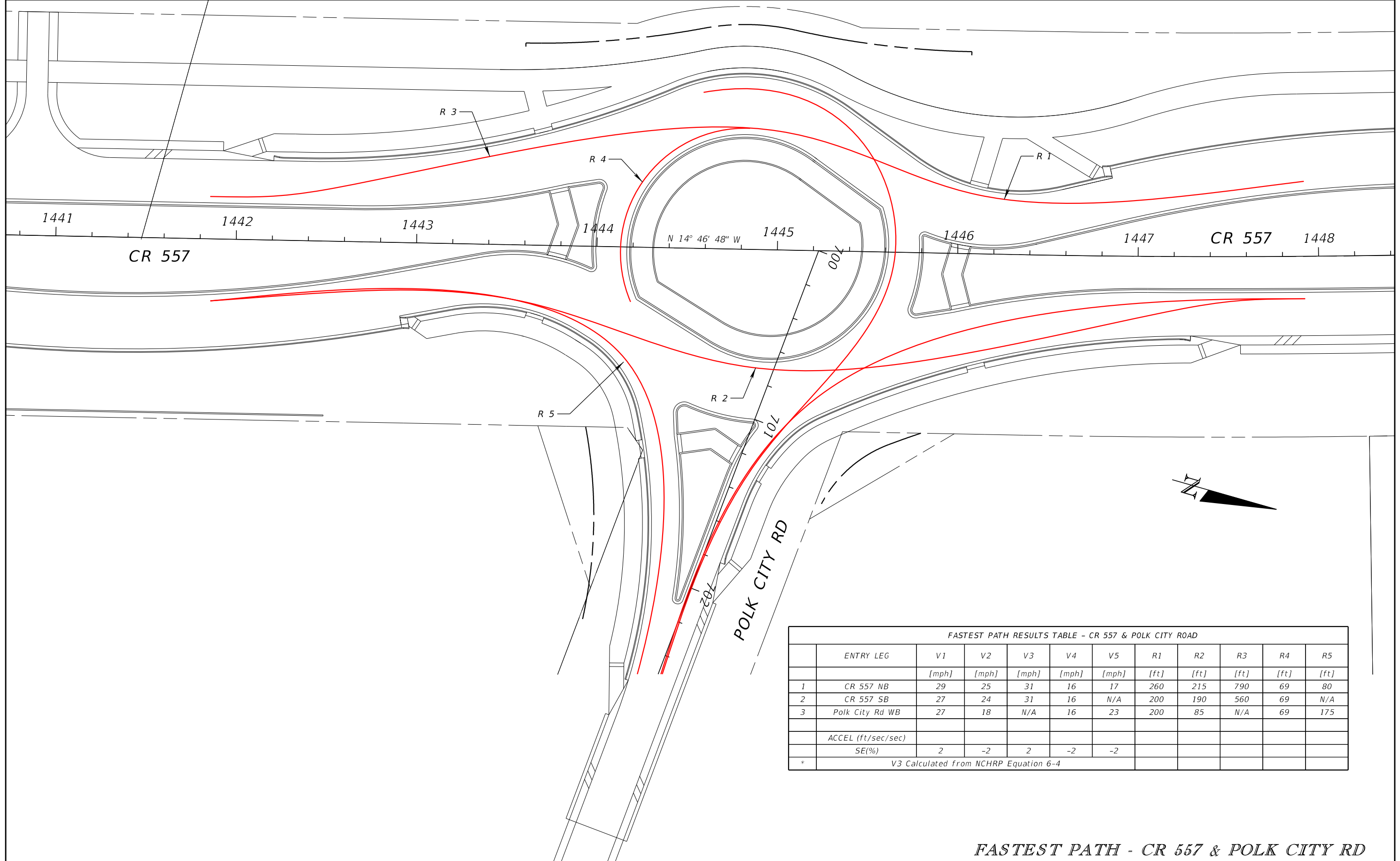
| FASTEST PATH RESULTS TABLE - CR 557 & CR 557A |                                       |       |       |       |       |       |      |      |      |      |      |
|---|---------------------------------------|-------|-------|-------|-------|-------|------|------|------|------|------|
|   | ENTRY LEG                             | V1    | V2    | V3    | V4    | V5    | R1   | R2   | R3   | R4   | R5   |
|   |                                       | [mph] | [mph] | [mph] | [mph] | [mph] | [ft] | [ft] | [ft] | [ft] | [ft] |
| 1   | CR 557 NB                             | 30    | 26    | 32    | 16    | N/A   | 270  | 230  | 540  | 69   | N/A  |
| 2   | CR 557 SB                             | 30    | 22    | 30    | 16    | 24    | 270  | 160  | 580  | 69   | 190  |
| 3   | CR 557A EB                            | 26    | 16    | N/A   | 16    | 23    | 190  | 69   | N/A  | 69   | 165  |
|   | ACCEL (ft/sec/sec)                    |       |       |       |       |       |      |      |      |      |      |
|   | SE(%)                                 | 2     | -2    | 2     | -2    | -2    |      |      |      |      |      |
| *   | V3 Calculated from NCHRP Equation 6-4 |       |       |       |       |       |      |      |      |      |      |



FASTEST PATH - CR 557 & CR 557A

| REVISIONS |             |      |             | KEVIN E. KNUDSEN, P.E.<br>P.E. LICENSE NUMBER 41062<br>DEWBERRY ENGINEERS INC.<br>800 NORTH MAGNOLIA AVE., SUITE 1000<br>ORLANDO, FL 32803 | POLK COUNTY<br>ROADS AND DRAINAGE DIVISION |        |             | <b>ROUNDABOUT<br/>PERFORMANCE CHECKS</b> | SHEET NO. |
|-----------|-------------|------|-------------|--|--|--------|-------------|--|-----------|
| DATE      | DESCRIPTION | DATE | DESCRIPTION |  | ROAD NO.                                   | COUNTY | PROJECT NO. |  |           |
|           |             |      |             |  | CR 557                                     | POLK   | 18-73       |  |           |

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**FASTEST PATH RESULTS TABLE - CR 557 & POLK CITY ROAD**

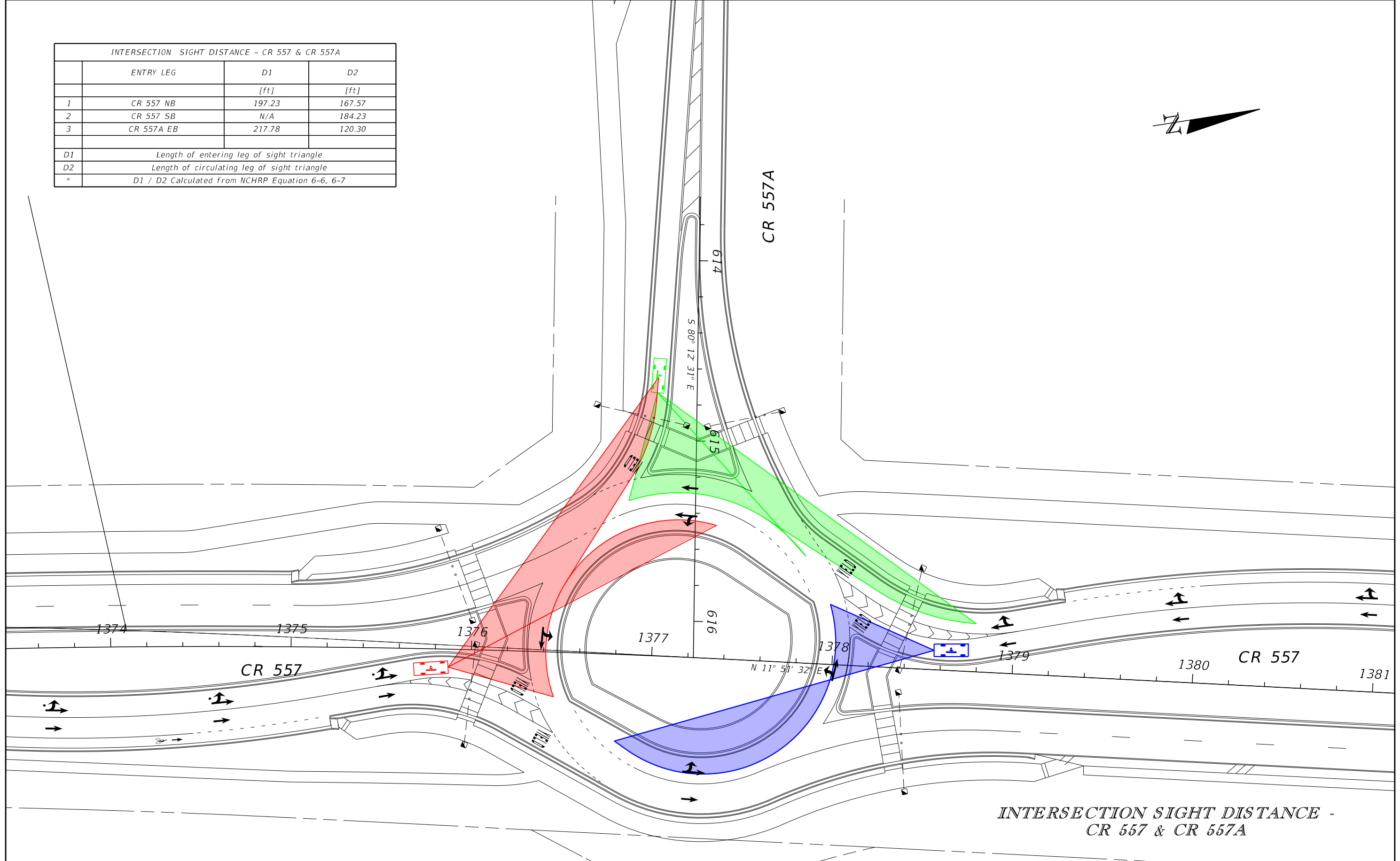
|   | ENTRY LEG                             | V1    | V2    | V3    | V4    | V5    | R1   | R2   | R3   | R4   | R5   |
|---|---------------------------------------|-------|-------|-------|-------|-------|------|------|------|------|------|
|   |                                       | [mph] | [mph] | [mph] | [mph] | [mph] | [ft] | [ft] | [ft] | [ft] | [ft] |
| 1 | CR 557 NB                             | 29    | 25    | 31    | 16    | 17    | 260  | 215  | 790  | 69   | 80   |
| 2 | CR 557 SB                             | 27    | 24    | 31    | 16    | N/A   | 200  | 190  | 560  | 69   | N/A  |
| 3 | Polk City Rd WB                       | 27    | 18    | N/A   | 16    | 23    | 200  | 85   | N/A  | 69   | 175  |
|   | ACCEL (ft/sec/sec)                    |       |       |       |       |       |      |      |      |      |      |
|   | SE(%)                                 | 2     | -2    | 2     | -2    | -2    |      |      |      |      |      |
| * | V3 Calculated from NCHRP Equation 6-4 |       |       |       |       |       |      |      |      |      |      |

**FASTEST PATH - CR 557 & POLK CITY RD**

|                  |             |  |  |        |  |             |  |
|------------------|-------------|--|--|--------|--|-------------|--|
| <b>REVISIONS</b> |             | KEVIN E. KNUDSEN, P.E.<br>P.E. LICENSE NUMBER 41062<br>DEWBERRY ENGINEERS INC.<br>800 NORTH MAGNOLIA AVE., SUITE 1000<br>ORLANDO, FL 32803 | <b>POLK COUNTY<br/>ROADS AND DRAINAGE DIVISION</b> |        | <b>ROUNDABOUT<br/>PERFORMANCE CHECKS</b> | SHEET NO.   |  |
| DATE             | DESCRIPTION |  | ROAD NO.   | COUNTY |  | PROJECT NO. |  |
|                  |             |  | CR 557   | POLK   |  | 18-73       |  |

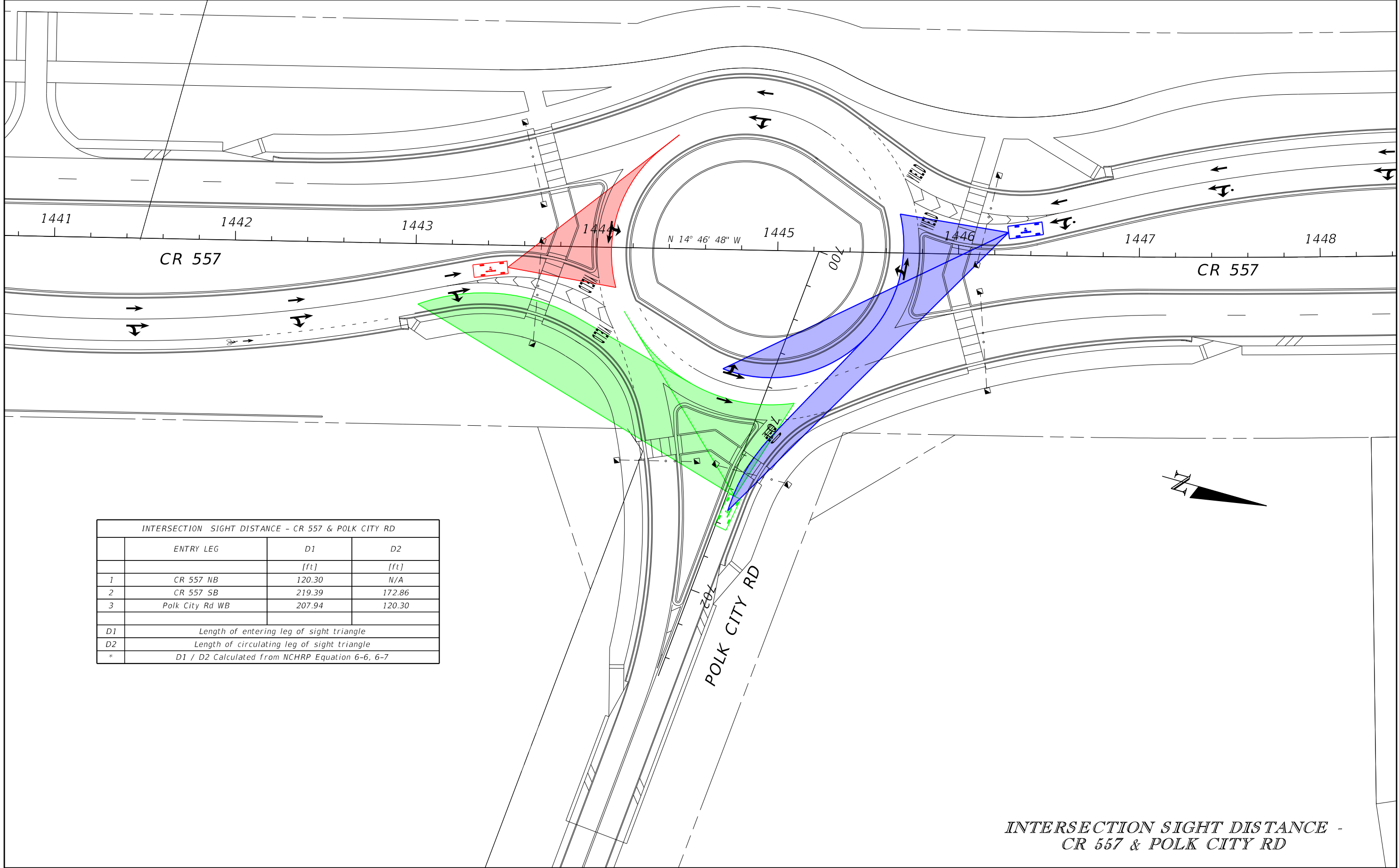
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

| INTERSECTION SIGHT DISTANCE - CR 557 & CR 557A |   |        |        |
|--|---|--------|--------|
|  | ENTRY LEG                                       | D1     | D2     |
|  |   | [ft]   | [ft]   |
| 1  | CR 557 NB                                       | 197.23 | 167.57 |
| 2  | CR 557 SB                                       | N/A    | 184.23 |
| 3  | CR 557A EB                                      | 217.78 | 120.30 |
| D1   | Length of entering leg of sight triangle        |        |        |
| D2   | Length of circulating leg of sight triangle     |        |        |
| *  | D1 / D2 Calculated from NCHRP Equation 6-6, 6-7 |        |        |



INTERSECTION SIGHT DISTANCE -  
CR 557 & CR 557A

| REVISIONS |             |      |             | KEVIN E. KNUDSEN, P.E.<br>P.E. LICENSE NUMBER 41062<br>DEWBERRY ENGINEERS INC.<br>800 NORTH MAGNOLIA AVE., SUITE 1000<br>ORLANDO, FL 32803 | POLK COUNTY<br>ROADS AND DRAINAGE DIVISION |        |             | <b>ROUNDABOUT<br/>PERFORMANCE CHECKS</b> | SHEET NO. |
|-----------|-------------|------|-------------|--|--|--------|-------------|--|-----------|
| DATE      | DESCRIPTION | DATE | DESCRIPTION |  | ROAD NO.                                   | COUNTY | PROJECT NO. |  |           |
|           |             |      |             |  | CR 557                                     | POLK   | 18-73       |  |           |



| INTERSECTION SIGHT DISTANCE - CR 557 & POLK CITY RD |   |   |        |
|---|---|---|--------|
|   | ENTRY LEG                                       | D1  | D2     |
|   |   | [ft]  | [ft]   |
| 1   | CR 557 NB                                       | 120.30                                      | N/A    |
| 2   | CR 557 SB                                       | 219.39                                      | 172.86 |
| 3   | Polk City Rd WB                                 | 207.94                                      | 120.30 |
|   | D1  | Length of entering leg of sight triangle    |        |
|   | D2  | Length of circulating leg of sight triangle |        |
| *   | D1 / D2 Calculated from NCHRP Equation 6-6, 6-7 |   |        |

INTERSECTION SIGHT DISTANCE -  
CR 557 & POLK CITY RD

| REVISIONS |             |      |             |
|-----------|-------------|------|-------------|
| DATE      | DESCRIPTION | DATE | DESCRIPTION |
|           |             |      |             |

KEVIN E. KNUDSEN, P.E.  
P.E. LICENSE NUMBER 41062  
DEWBERRY ENGINEERS INC.  
800 NORTH MAGNOLIA AVE., SUITE 1000  
ORLANDO, FL 32803

| POLK COUNTY<br>ROADS AND DRAINAGE DIVISION |        |             |
|--|--------|-------------|
| ROAD NO.                                   | COUNTY | PROJECT NO. |
| CR 557                                     | POLK   | 18-73       |

**ROUNDABOUT  
PERFORMANCE CHECKS**

SHEET NO.

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

Section 5

Miscellaneous Calculations and Data

|                 |          |      |           |
|-----------------|----------|------|-----------|
| Project Number: | 50132367 |      |           |
| Computed By:    | rmj      | Date | 1/25/2022 |
| Checked By:     |          | Date |           |

|          |
|----------|
| ROUTE:   |
| SECTION: |
| COUNTY:  |

| Long Side In |            |            |           |
|--------------|------------|------------|-----------|
|              | 1          | 2          | Ratio     |
| se (ft/ft)   | 0.02       | -0.02      | -0.000190 |
| Station      | 1266+87.35 | 1268+97.35 |           |

| Station    | se      |
|------------|---------|
| 1267+00.00 | 0.0176  |
| 1267+82.00 | 0.0020  |
| 1267+95.00 | -0.0005 |
| 1268+00.00 | -0.0015 |
|            |         |
|            |         |
|            |         |
|            |         |
|            |         |

| ZERO       |        |
|------------|--------|
| 1267+92.35 | 0.0000 |

|                 |          |      |           |
|-----------------|----------|------|-----------|
| Project Number: | 50132367 |      |           |
| Computed By:    | rmj      | Date | 1/25/2022 |
| Checked By:     |          | Date |           |

|          |
|----------|
| ROUTE:   |
| SECTION: |
| COUNTY:  |

| Long Side In |            |            |           |
|--------------|------------|------------|-----------|
|              | 1          | 2          | Ratio     |
| se (ft/ft)   | 0.02       | -0.02      | -0.000190 |
| Station      | 1277+07.59 | 1279+17.59 |           |

| Station    | se      |
|------------|---------|
| 1277+07.59 | 0.0200  |
| 1277+60.00 | 0.0100  |
| 1278+00.00 | 0.0024  |
| 1279+00.00 | -0.0166 |
| 1279+17.59 | -0.0200 |
|            |         |
|            |         |
|            |         |
|            |         |

| ZERO       |        |
|------------|--------|
| 1278+12.59 | 0.0000 |



|                 |          |      |           |
|-----------------|----------|------|-----------|
| Project Number: | 50132367 |      |           |
| Computed By:    | rmj      | Date | 1/25/2022 |
| Checked By:     |          | Date |           |

|          |
|----------|
| ROUTE:   |
| SECTION: |
| COUNTY:  |

| Long Side In |            |            |          |
|--------------|------------|------------|----------|
|              | 1          | 2          | Ratio    |
| se (ft/ft)   | -0.02      | 0.02       | 0.000190 |
| Station      | 1283+75.68 | 1285+85.68 |          |

| Station    | SE      |
|------------|---------|
| 1284+00.00 | -0.0154 |
| 1284+90.00 | 0.0018  |
| 1284+99.78 | 0.0036  |
| 1285+00.00 | 0.0037  |
| 1285+25.00 | 0.0084  |
|            |         |
|            |         |
|            |         |
|            |         |
|            |         |

| ZERO       |        |
|------------|--------|
| 1284+80.68 | 0.0000 |

|                 |          |      |           |
|-----------------|----------|------|-----------|
| Project Number: | 50132367 |      |           |
| Computed By:    | rmj      | Date | 1/25/2022 |
| Checked By:     |          | Date |           |

|          |
|----------|
| ROUTE:   |
| SECTION: |
| COUNTY:  |

| Long Side In |            |            |           |
|--------------|------------|------------|-----------|
|              | 1          | 2          | Ratio     |
| se (ft/ft)   | 0.02       | -0.02      | -0.000190 |
| Station      | 1303+40.62 | 1305+50.62 |           |

| Station    | se      |
|------------|---------|
| 1303+40.62 | 0.0200  |
| 1303+50.00 | 0.0182  |
| 1304+00.00 | 0.0087  |
| 1304+05.00 | 0.0077  |
| 1304+35.00 | 0.0020  |
| 1305+00.00 | -0.0104 |
| 1305+50.62 | -0.0200 |
|            |         |
|            |         |
|            |         |
|            |         |

| ZERO       |        |
|------------|--------|
| 1304+45.62 | 0.0000 |

|                 |          |      |          |
|-----------------|----------|------|----------|
| Project Number: | 50132367 |      |          |
| PI Number:      |          |      |          |
| Computed By:    | rmj      | Date | 3/6/2022 |
| Checked By:     | rmj      | Date | 3/6/2022 |

| Long Side Out |            |            |            |           |
|---------------|------------|------------|------------|-----------|
|               | 1          | 2          | 3          | Ratio     |
| SE (ft/ft)    | 0.062      | 0.00       | -0.02      | -0.000167 |
| Station       | 1405+90.57 | 1409+62.57 | 1410+82.57 | -0.000167 |

| Station    | se      |
|------------|---------|
| 1405+90.57 | 0.0620  |
| 1406+00.00 | 0.0604  |
| 1407+00.00 | 0.0438  |
| 1408+00.00 | 0.0271  |
| 1409+00.00 | 0.0104  |
| 1410+00.00 | -0.0062 |
| 1410+82.57 | -0.0200 |

ZERO

|            |          |
|------------|----------|
| 1409+62.57 | 0.000000 |
|------------|----------|

|            |        |
|------------|--------|
| 1407+00.00 | 0.0438 |
|------------|--------|

|                 |          |      |           |
|-----------------|----------|------|-----------|
| Project Number: | 50132367 |      |           |
| Computed By:    | rmj      | Date | 3/25/2022 |
| Checked By:     |          | Date |           |

|          |
|----------|
| ROUTE:   |
| SECTION: |
| COUNTY:  |

| Long Side In |           |           |          |
|--------------|-----------|-----------|----------|
|              | 1         | 2         | Ratio    |
| se (ft/ft)   | -0.04     | -0.02     | 0.000159 |
| Station      | 600+20.00 | 601+46.00 |          |

| Station   | se      |
|-----------|---------|
| 600+20.00 | -0.0400 |
| 600+50.00 | -0.0352 |
| 601+00.00 | -0.0273 |
| 601+46.00 | -0.0200 |
|           |         |

|  |  |
|--|--|
|  |  |
|  |  |

| CR 557 Intersection Build Alternatives | Movement   | Available Storage (ft.) | Recommended Storage (ft.) | Storage Provided (ft.) | Design Speed Limit | Deceleration Distance (ft.) |
|--|------------|-------------------------|---------------------------|------------------------|--------------------|-----------------------------|
| @ Evenhouse Rd.                        | WBL        | -                       | 235                       | 235                    | 35                 | 145                         |
|  | NBR        | -                       | 130                       | 192.67                 | 45                 | 185                         |
|  | SBL        | -                       | 390                       | 390                    | 45                 | 185                         |
| @ CR 557A                              | Roundabout | -                       | -                         | -                      | -                  | -                           |
| @ Old Lake Alfred Rd.                  | NBL        | -                       | 50                        | 100                    | 45                 | 185                         |
| @ Polk City Rd.                        | Roundabout | -                       | -                         | -                      | -                  | -                           |
| @ Old Polk City Rd.                    | EBL        | -                       | 50                        | 0                      | 35                 | 145                         |
|  | NBL        | -                       | 75                        | 75                     | 65                 | 460+                        |
|  | SBR        | -                       | 25                        | 63.63                  | 65                 | 460                         |

| Intersection Sight Distance (ft.)<br>(Exhibit 212-6) |      |      | Stopping Sight Distance (ft.) (Table 211.10.2)<br>(Rounded Up to Nearest Whole %) |     |         |     |
|--|------|------|---|-----|---------|-----|
| P  | SU   | Comb | % Grade   |     | % Grade |     |
| Signalized Intersection                              |      |      | - 3   | 378 | 3       | 344 |
|  |      |      |   |     |         |     |
| 590  | 810  | 925  | - 4   | 385 | 2       | 360 |
| 765  | 1170 | 1335 | ≤ 2   | 360 | ≤ 2     | 360 |

| CR 557 Median Openings             | Movement     | Available Storage (ft.) | Recommended Storage (ft.) | Storage Provided (ft.) | Design Speed Limit | Deceleration Distance (ft.) |
|------------------------------------|--------------|-------------------------|---------------------------|------------------------|--------------------|-----------------------------|
| @ W Swoope Street                  |              | -                       | -                         | -                      | -                  | -                           |
| @ W Interlachen Street             | NBL          | -                       | -                         | 50                     | 45                 | 185                         |
| @ Park Lane                        | NBL          |                         |                           | 50                     | 45                 | 185                         |
|                                    | SBL          |                         |                           | 50                     | 45                 | 185                         |
| @ Shinn Drive                      | NB to U-Turn |                         |                           | 50                     | 45                 | 185                         |
| (Polytech Academy)                 | SBL          |                         |                           | 200                    | 45                 | 185                         |
| @ Discovery Academy of Lake Alfred | NBR          |                         |                           | 100                    | 45                 | 185                         |
|                                    | SBL          |                         |                           | 300                    | 45                 | 185                         |
| @ Evenhouse Road                   | NB to U-Turn |                         |                           | 192.67                 | 45                 | 185                         |
| @ Creek Road                       | NBR          |                         |                           | 100                    | 45                 | 185                         |
|                                    | SBL          |                         |                           | 100                    | 45                 | 185                         |
|                                    | NB to U-Turn |                         |                           | 100                    | 45                 | 185                         |
| @ Old Lake Alfred Road             | SBR          |                         |                           | 104.62                 | 45                 | 185                         |
|                                    | SB to U-Turn |                         |                           | 100                    | 45                 | 185                         |
| @ STA. 1289+00                     | NB to U-Turn |                         |                           | 100                    | 45                 | 185                         |
| @ STA. 1290+00                     | SB to U-Turn |                         |                           | 100                    | 45                 | 185                         |
| @ STA. 1308+00                     | NB to U-Turn |                         |                           | 100                    | 45                 | 185                         |
| @ STA. 1309+00                     | SB to U-Turn |                         |                           | 100                    | 55                 | 350                         |
| @ WGTO Tower Road                  | NB to U-Turn |                         |                           | 100                    | 55                 | 350                         |
|                                    | SBL          |                         |                           | 100                    | 55                 | 350                         |
| @ Gum Road                         | SBL          |                         |                           | 100                    | 55                 | 350                         |
| @ Waylanco Road                    | NB to U-Turn |                         |                           | 50                     | 65                 | 460                         |
|                                    | SBL          |                         |                           | 50                     | 65                 | 460                         |
| @ STA. 1420+36                     | NB to U-Turn |                         |                           | 50                     | 65                 | 460                         |
| @ STA. 1421+36                     | SB to U-Turn |                         |                           | 50                     | 65                 | 460                         |
| @ STA. 1473+44                     | NB to U-Turn |                         |                           | 50                     | 65                 | 460                         |
| @ STA. 1474+62                     | SB to U-Turn |                         |                           | 100                    | 45                 | 185                         |

| Intersection Sight Distance (ft.)<br>(Exhibit 212-6) |      |      | Stopping Sight Distance (ft.) (Table 211.10.2)<br>(Rounded Up to Nearest Whole %) |     |         |     |
|--|------|------|---|-----|---------|-----|
| P  | SU   | Comb | % Grade   |     | % Grade |     |
| 590  | 810  | 925  | - 4   | 385 | 4       | 285 |
| 590  | 810  | 925  | ≤ 2   | 360 | ≤ 2     | 360 |
| 590  | 810  | 925  | - 3   | 378 | 3       | 344 |
| 590  | 810  | 925  | ≤ 2   | 360 | ≤ 2     | 360 |
| 590  | 810  | 925  | ≤ 2   | 360 | ≤ 2     | 360 |
| 590  | 810  | 925  | ≤ 2   | 360 | ≤ 2     | 360 |
| 590  | 810  | 925  | ≤ 2   | 360 | ≤ 2     | 360 |
| 590  | 810  | 925  | ≤ 2   | 360 | ≤ 2     | 360 |
| 590  | 810  | 925  | ≤ 2   | 360 | ≤ 2     | 360 |
| 650  | 990  | 1130 | ≤ 2   | 360 | ≤ 2     | 360 |
| 650  | 990  | 1130 | ≤ 2   | 360 | ≤ 2     | 360 |
| 765  | 1170 | 1335 | ≤ 2   | 360 | ≤ 2     | 360 |

| CR 557 Horizontal Alignment | Based on FDM Criteria (Table 210.8.1) |                            |                       |                   |                       |
|-----------------------------|---------------------------------------|----------------------------|-----------------------|-------------------|-----------------------|
|                             | Design/Posted Speed (mph)             | Min. Length Required (ft.) | Length Provided (ft.) | Min. Radius (ft.) | Radius Provided (ft.) |
| Curve CL_CR557_11           | 45/40                                 | 675                        | 738.88                | 694               | 1,436.81              |
| Curve CL_CR557_14           | 45/40                                 | 675                        | 735.27                | 694               | 1,428.39              |
| Curve CL_CR557_17           | 45/40                                 | 675                        | 751.57                | 694               | 1,914.57              |
| Curve CL_CR557_20           | 45/40                                 | 675                        | 709.07                | 694               | 1,905.57              |
| Curve CL_CR557_25           | 55/55                                 | 825                        | 1,300.00              | 881               | 5,729.58              |
| Curve CL_CR557_28           | 65/60                                 | 975                        | 1,331.94              | 1,348             | 2,864.79              |
| Curve CL_CR557_31           | 65/60                                 | 975                        | 951.31                | 1,348             | 5,729.58              |
| Curve CL_CR557_35           | 45/45                                 | 675                        | 707.87                | 694               | 5,729.58              |
| Curve CL_CR557_36           | 45/45                                 | 675                        | 702.31                | 694               | 5,684.58              |

Beginning profile CL\_CR557\_PR description:

| =====      | STATION    | ELEV       | GRADE  | TOTAL LENGTH | BACK LENGTH | AHEAD LENGTH |       |       |
|------------|------------|------------|--------|--------------|-------------|--------------|-------|-------|
| VPI        | 1          | 1188+00.00 | 143.81 |              |             |              |       |       |
| VPC        | 1188+50.00 | 144.41     | 1.2    | K            | =           | 95.2         |       |       |
| VPI        | 2          | 1189+50.00 | 145.61 | 200          | 100         | 100          |       |       |
| VPT        | 1190+50.00 | 148.91     | 3.3    |              |             |              |       |       |
| VPC        | 1192+50.00 | 155.51     | 3.3    | K            | =           | 98           | SSD = | 460   |
| VPI        | 3          | 1195+00.00 | 163.76 | 500          | 250         | 250          |       |       |
| High Point |            | 1195+73.53 | 160.85 |              |             |              |       |       |
| VPT        | 1197+50.00 | 159.26     | -1.8   |              |             |              |       |       |
| VPC        | 1197+75.00 | 158.81     | -1.8   | K            | =           | 94.6         |       |       |
| Low Point  |            | 1199+45.27 | 157.28 |              |             |              |       |       |
| VPI        | 4          | 1199+50.00 | 155.66 | 350          | 175         | 175          |       |       |
| VPT        | 1201+25.00 | 158.99     | 1.9    |              |             |              |       |       |
| VPC        | 1203+12.50 | 162.55     | 1.9    | K            | =           | 98.7         | SSD = | 471.4 |
| High Point |            | 1205+00.00 | 164.33 |              |             |              |       |       |
| VPI        | 5          | 1205+00.00 | 166.11 | 375          | 187.5       | 187.5        |       |       |
| VPT        | 1206+87.50 | 162.55     | -1.9   |              |             |              |       |       |
| VPC        | 1208+00.00 | 160.41     | -1.9   | K            | =           | 87           |       |       |
| VPI        | 6          | 1209+00.00 | 158.51 | 200          | 100         | 100          |       |       |
| Low Point  |            | 1209+65.22 | 158.84 |              |             |              |       |       |

| Driveway Locations |       |             |
|--------------------|-------|-------------|
| CR 557             |       |             |
| Station            | RT/LT | Width (ft.) |
| 1191+10.49         | RT    | 28          |
| 1200+00.18         | LT    | 12          |
| 1204+91.09         | LT    | 12          |
| 1205+86.80         | LT    | 12          |
| 1209+97.71         | RT    | 12          |
| 1211+77.20         | LT    | 12          |
| 1213+15.96         | LT    | 15          |
| 1218+42.25         | RT    | 12          |
| 1232+00.00         | LT    | 12          |
| 1236+44.64         | RT    | 12          |
| 1243+04.65         | LT    | 12          |
| 1247+92.51         | LT    | 12          |
| 1249+06.49         | LT    | 16 - 26     |
| 1249+94.59         | LT    | 12          |
| 1250+96.30         | LT    | 12          |
| 1252+67.65         | LT    | 12          |
| 1257+95.13         | RT    | 16          |
| 1258+82.83         | RT    | 16          |
| 1285+03.50         | LT    | 12          |
| 1285+24.19         | RT    | 12          |
| 1297+28.52         | LT    | 12          |
| 1308+87.62         | RT    | 12          |
| 1310+83.36         | RT    | 24          |
| 1311+41.37         | LT    | 12          |
| 1312+68.47         | RT    | 12          |
| 1313+01.50         | LT    | 12          |
| 1313+88.07         | LT    | 12          |

|            |            |            |        |      |     |       |       |        |  |
|------------|------------|------------|--------|------|-----|-------|-------|--------|--|
| VPT        | 1210+00.00 | 158.91     | 0.4    |      |     |       |       |        |  |
| VPC        | 1211+50.00 | 159.51     | 0.4    | K    | =   | 250   | SSD = | 1448.7 |  |
| High Point | 1212+50.00 | 159.71     |        |      |     |       |       |        |  |
| VPI        | 7          | 1212+50.00 | 159.91 | 200  | 100 | 100   |       |        |  |
| VPT        | 1213+50.00 | 159.51     | -0.4   |      |     |       |       |        |  |
| VPI        | 8          | 1220+00.00 | 156.91 | -0.4 |     |       |       |        |  |
| VPI        | 9          | 1225+00.00 | 158.41 | 0.3  |     |       |       |        |  |
| VPC        | 1228+50.00 | 157.36     | -0.3   | K    | =   | 120   | SSD = | 581.6  |  |
| VPI        | 10         | 1230+00.00 | 156.91 | 300  | 150 | 150   |       |        |  |
| VPT        | 1231+50.00 | 152.71     | -2.8   |      |     |       |       |        |  |
| VPC        | 1236+50.00 | 138.71     | -2.8   | K    | =   | 87    |       |        |  |
| VPI        | 11         | 1238+50.00 | 133.11 | 400  | 200 | 200   |       |        |  |
| Low Point  | 1238+93.48 | 135.3      |        |      |     |       |       |        |  |
| VPT        | 1240+50.00 | 136.71     | 1.8    |      |     |       |       |        |  |
| VPC        | 1242+00.00 | 139.41     | 1.8    | K    | =   | 454.5 |       |        |  |
| VPI        | 12         | 1244+50.00 | 143.91 | 500  | 250 | 250   |       |        |  |
| VPT        | 1247+00.00 | 151.16     | 2.9    |      |     |       |       |        |  |
| VPC        | 1247+00.00 | 151.16     | 2.9    | K    | =   | 260.9 | SSD = | 769.1  |  |
| VPI        | 13         | 1250+00.00 | 159.86 | 600  | 300 | 300   |       |        |  |
| VPT        | 1253+00.00 | 161.66     | 0.6    |      |     |       |       |        |  |
| VPI        | 14         | 1254+00.00 | 162.26 | 0.6  |     |       |       |        |  |
| VPC        | 1261+00.00 | 169.26     | 1      | K    | =   | 111.1 | SSD = | 489.7  |  |
| High Point | 1262+11.11 | 169.82     |        |      |     |       |       |        |  |
| VPI        | 15         | 1263+50.00 | 171.76 | 500  | 250 | 250   |       |        |  |
| VPT        | 1266+00.00 | 163.01     | -3.5   |      |     |       |       |        |  |
| VPC        | 1269+00.00 | 152.51     | -3.5   | K    | =   | 133.3 |       |        |  |
| VPI        | 16         | 1270+00.00 | 149.01 | 200  | 100 | 100   |       |        |  |
| VPT        | 1271+00.00 | 147.01     | -2     |      |     |       |       |        |  |
| VPC        | 1274+00.00 | 141.01     | -2     | K    | =   | 133.3 |       |        |  |
| VPI        | 17         | 1275+00.00 | 139.01 | 200  | 100 | 100   |       |        |  |
| VPT        | 1276+00.00 | 138.51     | -0.5   |      |     |       |       |        |  |
| VPC        | 1279+00.00 | 137.01     | -0.5   | K    | =   | 250   |       |        |  |

| Driveway Locations |       |             |
|--------------------|-------|-------------|
| CR 557             |       |             |
| Station            | RT/LT | Width (ft.) |
| 1315+00.37         | RT    | 12          |
| 1315+83.90         | LT    | 12          |
| 1315+92.45         | RT    | 12          |
| 1316+22.86         | RT    | 12          |
| 1317+03.95         | RT    | 12          |
| 1318+17.62         | LT    | 12          |
| 1318+40.86         | RT    | 12          |
| 1319+37.17         | LT    | 12          |
| 1321+46.44         | LT    | 12          |
| 1321+66.67         | RT    | 12          |
| 1322+93.87         | RT    | 12          |
| 1324+09.82         | LT    | 12          |
| 1324+10.94         | RT    | 13          |
| 1325+36.03         | RT    | 17          |
| 1326+18.80         | LT    | 12          |
| 1326+27.92         | RT    | 17          |
| 1328+07.53         | LT    | 12          |
| 1328+97.85         | LT    | 12          |
| 1329+06.70         | RT    | 12          |
| 1329+93.94         | RT    | 12          |
| 1330+89.33         | RT    | 12          |
| 1332+70.81         | RT    | 12          |
| 1334+26.84         | LT    | 12          |
| 1338+85.06         | RT    | 12          |
| 1340+37.37         | RT    | 12          |
| 1342+69.75         | RT    | 12          |
| 1371+52.00         | RT    | 12          |
| 1425+46.43         | RT    | 12          |
| 1429+21.15         | RT    | 12          |
| 1440+87.00         | LT    | 12          |
| 1451+74.65         | RT    | 12          |
| 1474+00.38         | LT    | 24          |
| 1480+63.41         | RT    | 12          |

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|------|------------|------------|--------|-------|-----|-------|-------|-------|
| VPI  | 18         | 1280+00.00 | 136.51 | 200   | 100 | 100   |       |       |
| Low  | Point      | 1280+25.00 | 136.7  |       |     |       |       |       |
| VPT  | 1281+00.00 | 136.81     | 0.3    |       |     |       |       |       |
| VPI  | 19         | 1286+00.00 | 138.31 | 0.3   |     |       |       |       |
| VPI  | 20         | 1289+00.00 | 137.41 | -0.3  |     |       |       |       |
| VPI  | 21         | 1292+00.00 | 138.31 | 0.3   |     |       |       |       |
| VPI  | 22         | 1294+75.00 | 137.49 | -0.3  |     |       |       |       |
| VPI  | 23         | 1298+00.00 | 138.46 | 0.3   |     |       |       |       |
| VPI  | 24         | 1300+50.00 | 137.71 | -0.3  |     |       |       |       |
| VPI  | 25         | 1303+00.00 | 138.46 | 0.3   |     |       |       |       |
| VPI  | 26         | 1306+00.00 | 137.56 | -0.3  |     |       |       |       |
| VPC  | 1307+75.00 | 136.51     | -0.6   | K     | =   | 192.3 |       |       |
| Low  | Point      | 1308+90.38 | 136.16 |       |     |       |       |       |
| VPI  | 27         | 1309+00.00 | 135.76 | 250   | 125 | 125   |       |       |
| VPT  | 1310+25.00 | 136.64     | 0.7    |       |     |       |       |       |
| VPC  | 1312+00.00 | 137.86     | 0.7    | K     | =   | 285.7 | SSD = | 970.7 |
| VPI  | 28         | 1314+00.00 | 139.26 | 400   | 200 | 200   |       |       |
| High | Point      | 1314+00.00 | 138.56 |       |     |       |       |       |
| VPT  | 1316+00.00 | 137.86     | -0.7   |       |     |       |       |       |
| VPC  | 1317+50.14 | 136.81     | -0.7   | K     | =   | 375   |       |       |
| VPI  | 29         | 1319+00.14 | 135.76 | 300   | 150 | 150   |       |       |
| Low  | Point      | 1320+12.64 | 135.89 |       |     |       |       |       |
| VPT  | 1320+50.14 | 135.91     | 0.1    |       |     |       |       |       |
| VPI  | 30         | 1324+00.00 | 136.26 | 0.1   |     |       |       |       |
| VPI  | 31         | 1329+00.00 | 136.01 | -0.05 |     |       |       |       |
| VPC  | 1332+50.00 | 136.36     | 0.1    | K     | =   | 333.3 |       |       |
| VPI  | 32         | 1334+00.00 | 136.51 | 300   | 150 | 150   |       |       |
| VPT  | 1335+50.00 | 138.01     | 1      |       |     |       |       |       |
| VPC  | 1337+00.00 | 139.51     | 1      | K     | =   | 250   | SSD = | 874.4 |
| VPI  | 33         | 1339+00.00 | 141.51 | 400   | 200 | 200   |       |       |
| High | Point      | 1339+50.00 | 140.76 |       |     |       |       |       |
| VPT  | 1341+00.00 | 140.31     | -0.6   |       |     |       |       |       |
| VPC  | 1344+75.00 | 138.06     | -0.6   | K     | =   | 647.1 |       |       |



|      |            |            |        |       |     |      |       |        |       |
|------|------------|------------|--------|-------|-----|------|-------|--------|-------|
| VPI  | 34         | 1347+50.00 | 136.41 | 550   | 275 | 275  |       |        |       |
| Low  | Point      | 1348+63.24 | 136.89 |       |     |      |       |        |       |
| VPT  | 1350+25.00 | 137.1      | 0.25   |       |     |      |       |        |       |
| VPI  | 35         | 1352+00.00 | 137.53 | 0.25  |     |      |       |        |       |
| VPI  | 36         | 1357+00.00 | 137    | -0.11 |     |      |       |        |       |
| VPI  | 37         | 1362+00.00 | 136.5  | -0.1  |     |      |       |        |       |
| VPI  | 38         | 1367+00.00 | 137.5  | 0.2   |     |      |       |        |       |
| VPI  | 39         | 1372+00.00 | 137    | -0.1  |     |      |       |        |       |
| VPI  | 40         | 1377+00.00 | 137.5  | 0.1   |     |      |       |        |       |
| VPI  | 41         | 1382+00.00 | 136.5  | -0.2  |     |      |       |        |       |
| VPI  | 42         | 1389+00.00 | 137.2  | 0.1   |     |      |       |        |       |
| VPI  | 43         | 1395+00.00 | 138.4  | 0.2   |     |      |       |        |       |
| VPI  | 44         | 1401+00.00 | 137.8  | -0.1  |     |      |       |        |       |
| VPI  | 45         | 1406+00.00 | 138.3  | 0.1   |     |      |       |        |       |
| VPI  | 46         | 1411+00.00 | 137.3  | -0.2  |     |      |       |        |       |
| VPI  | 47         | 1421+00.00 | 136.3  | -0.1  |     |      |       |        |       |
| VPI  | 48         | 1431+00.00 | 137.3  | 0.1   |     |      |       |        |       |
| VPI  | 49         | 1440+00.00 | 136.4  | -0.1  |     |      |       |        |       |
| VPC  | 1448+00.00 | 138        | 0.2    | K     | =   | 1000 | SSD = | 2897.5 | 970.7 |
| High | Point      | 1450+00.00 | 138.2  |       |     |      |       |        |       |
| VPI  | 50         | 1450+00.00 | 138.4  | 400   | 200 | 200  |       |        |       |
| VPT  | 1452+00.00 | 138        | -0.2   |       |     |      |       |        |       |
| VPC  | 1458+02.00 | 136.8      | -0.2   | K     | =   | 990  |       |        |       |
| Low  | Point      | 1460+00.00 | 136.6  |       |     |      |       |        |       |
| VPI  | 51         | 1460+00.00 | 136.4  | 396   | 198 | 198  |       |        |       |
| VPT  | 1461+98.00 | 136.8      | 0.2    |       |     |      |       |        |       |
| VPI  | 52         | 1470+00.00 | 138.4  | 0.2   |     |      |       |        |       |
| VPI  | 53         | 1482+00.00 | 137.2  | -0.1  |     |      |       |        |       |

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|-----|----|------------|--------|-------|
| VPI | 54 | 1488+50.00 | 135.46 | -0.27 |
|-----|----|------------|--------|-------|

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Ending profile CL\_CR557\_PR description