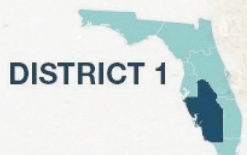


# District-Wide Highway-Rail Grade Separation: GIS Suitability Model (Phase II)

FDOT District One  
2019



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# Highway-Rail Grade Separation: GIS Suitability Model (Phase II)

January 2019

## 1.0 Introduction

The Florida Department of Transportation (FDOT), District One seeks to evaluate the safety and operations of active rail crossings at roadways (highways) within all 12 counties of District One (Charlotte, Collier, DeSoto, Glades, Hardee, Hendry, Highlands, Lee, Manatee, Okeechobee, Polk, and Sarasota). FDOT District One initiated Phase II of the Highway-Rail Grade Separation Study to examine the need for highway-rail grade separation, or alternative improvements, and to provide preliminary construction costs for a select group of District One rail crossings. A highway-rail grade separation involves the separation of levels at which a railroad and highway cross one another. Highway-rail grade separations are built to alleviate issues pertaining to congestion and the overall safe operation of a crossing location. With 820 total crossings, District One contains some of the heaviest concentration of active rail crossing locations in the state of Florida.

Highway-rail grade separations improve vehicle queuing, safety, and congestion on highways. However, there are instances where highway-rail grade separation is not the best or most feasible solution and alternative improvements should be explored. The purpose of this study was to conduct further in-depth review and analysis of the crossings identified in Phase I (2015) and to determine which are in the greatest need of improvements, and which solution – grade separation or other suitable improvement – is the most appropriate for each location.

This Phase II study examined the top 20 crossing locations identified in the Phase I report and determined the need, if any, for highway-rail grade separation based on the metrics of geographic information systems (GIS) and pertinent quantitative data gathered through field observations. The geospatial metrics were formed by a series of datasets, such as Train Count, Maximum Train Speed, Strategic Intermodal System (SIS) Significance, Total AADT, Total Truck AADT, Truck Significance, Roadway Posted Speed Limit, Crashes, Adjacent Land Use, Level of Service (LOS), FAC/Freight Hub (ILC/Seaport/Airport) Proximity, Freight Mobility Corridors (FMCs) Significance, Maintenance of Rail Crossing (Annual), and Evacuation Route. More detail is provided for each metric in Chapter 3, Table 2.

Each crossing received a score based on relevant geospatial data. GIS was used to not only quantify the need for highway-rail grade separation, but also geospatially present each high priority location. Each location was examined thoroughly to determine the appropriate improvement.

This Phase II technical memorandum includes an overview of the highway-rail grade separation studies and recently completed projects, an overview of the methodology used to evaluate the top 20 locations, and a series of recommendations and findings for improvements based on the evaluation.

## 2.0 Project Background

Highway-rail grade separation within District One was first examined in 2009 when FDOT conducted a Rail Traffic Evaluation for crossing locations within Polk County. This study examined the effect of increased rail traffic on at-grade crossings in Polk County due to a shift in rail traffic volumes from Orlando

to Central Florida on the S-Line. As part of this study, the New York Ave crossing in Downtown Lakeland was closed by the City of Lakeland to implement a quiet zone.

In 2014, the *Polk Rail Study* was completed as a follow-up study to the 2009 evaluation. This study identified locations within Polk County for highway-rail grade crossings improvements. As part of this study, the City of Lakeland requested and FDOT evaluated projects to address pedestrian safety issues. These evaluations considered:

- development of a pedestrian bridge over the CSX railroad at Kentucky Avenue;
- a pedestrian/bicycle bridge over the CSX railroad at New York Avenue; and
- an Intelligent Traffic System to assist in rerouting traffic from the Lakeland Downtown area when trains are present.

Recently fully funded projects resulting from the *Polk Rail Study* included grade separation on SR 60, east of Bartow and SR 655 (Recker Hwy) in Auburndale.

This study has been undertaken to identify priority locations for safety improvements including but not limited to grade separations.

### 3.0 Methodology

This section outlines the Phase II methodology used to evaluate the top 20 locations from Phase I and identify recommendations for improvements.

#### 3.1 Preliminary Review

Each county within District One was examined and ranked based upon the number of rail miles (commuter and freight) and rail percentages per county. This effort involved a calculation of each county's rail miles inventory (Table 1).

**Table 1. District One Highway-Rail Miles/Percentages**

Ranking	County	Rail Miles	Rail Percentage
1	Polk	310	46.2%
2	Highlands	73	10.9%
3	Manatee	49	7.3%
4	Lee	43	6.4%
5	Hendry	37	5.5%
6	Glades	35	5.2%
7	De Soto	29	4.3%
8	Charlotte	27	4.0%
8	Okeechobee	27	4.0%
9	Hardee	20	3.0%
10	Sarasota	19	2.8%
11	Collier	2	0.3%
<b>TOTAL</b>		<b>671</b>	<b>100.0%</b>

Polk County comprises almost half of all active rail miles (46.2 percent) within District One, with Highlands County coming in second at 10.9 percent. A predominant amount of these rail miles are used to move freight, not passengers.

## 3.2 GIS Data Analysis

A series of geospatial and quantitative data was collected and used to evaluate each of the 20 locations identified in the Phase I study for possible highway-rail grade separation. This analysis considered some of the criterion used in the previous Phase I study, but added several additional metrics to generate a high priority location list that was more conclusive and provided a better understanding of ways to implement highway-rail grade separation for each high priority crossing. The Phase II study includes 14 criterion, which were used to produce a Rail Grade Separation Priority Score (RGSPS) for the top 20 crossings within District One. The input layers comprising the criteria are derived from the FDOT Rail Highway Crossing Inventory (RCHI) GIS database, which contains state roads and other major county/city roads, but no local roads. The RGSPS number/ranking within District One range from 70 (highest) to 1 (lowest).

The criteria include:

1. **Train Count:** Average Daily Train Traffic passing through the rail crossing location.
2. **Train Speed:** Average train speed passing through the rail crossing location.
3. **Strategic Intermodal System (SIS):** Intermodal network of transportation facilities that seamlessly flow from one mode to the next with the goal of providing the highest degree of mobility for people and goods traveling throughout the state. Rail crossing locations were determined to be on or off SIS route.
4. **AADT:** Annual Average Daily Traffic on cross road adjacent to rail crossing location.
5. **Truck AADT:** Annual Average Daily Truck Traffic on cross road adjacent to rail crossing location.
6. **Truck Significance:** Existing Truck Percentage (With Minimum of 500 Truck AADT)
7. **Vehicle Speed:** Average vehicle speed limit within a 0.25 mile of the crossing location.
8. **Vehicle Crashes:** Total automobile crashes over a five-year span located within 300 feet of a rail crossing.
9. **Land Use Designation:** Land use designation consisting of Agriculture, Commercial, Mixed-Use, Industrial, Residential and Other.
10. **Level of Service (LOS):** Measurement of the adjacent roadway's existing Volume to Capacity (V/C) Ratio
11. **Freight Activity Center (FAC):** Proximity from a FAC.
12. **Freight Mobility Corridor (FMC):** Roadway also serves as an FMC.
13. **Maintenance Cost:** The cost of maintaining the crossing and equipment.
14. **Evacuation Route:** Roadway also serves as an Evacuation Route.

Each factor was weighted by level of significance to the overall RGSPS. The scoring for this particular evaluation was based on a 1 to 5 point scale per each criterion, where 1 was the minimum score and 5 was the maximum score. The lower the score, the lower the priority for grade separation. Table 2 displays the 14 criterion and the scoring range for each.

**Table 2. District One Rail Grade Separation GIS Methodology Matrix**

<b>1. Train Count</b>					
Existing Daily	21 or >	16-20	11-15	6-10	0-5
Points	5	4	3	2	1
<b>2. Maximum Train Speed</b>					
MPH	41 or >	31-40	21-30	11-20	0-10
Points	5	4	3	2	1
<b>3. Strategic Intermodal System (SIS) Significance</b>					
Passes Through Crossing	Yes	No			
Points	5	0			
<b>4. Total AADT</b>					
2015 AADT	30,001 or >	20,001-30,000	10,001-20,000	6,001-10,000	0-6,000
Points	5	4	3	2	1
<b>5. Total Truck AADT</b>					
2015 AADT	3,001 or >	2,001-3,000	1,001-2,000	601-1,000	0-600
Points	5	4	3	2	1
<b>6. Truck Significance</b>					
Existing Truck % (With Minimum of 500 Truck AADT)	20.1% or >	15.1%-20%	10.1%-15%	5%-10%	%>5%
Points	5	4	3	2	1
<b>7. Roadway Posted Speed Limit</b>					
MPH	56 or >	46-55	36-45	26-35	0-25
Points	5	4	3	2	1
<b>8. Crashes</b>					
5-Year Total	71 or >	41-70	21-40	11-20	0-10
Points	5	4	3	2	1
<b>9. Adjacent Land Use</b>					
Type	Agriculture/Underdeveloped	Industrial	Commercial	Mixed Use	Residential
Points	5	4	3	2	1
<b>10. Level Of Service (LOS)</b>					
Existing V/C Ratio	0.81-1.00	0.61-0.80	0.41-0.60	0.21-0.40	0.00-0.20
Points	5	4	3	2	1
<b>11. FAC/Freight Hub (ILC/Seaport/Airport) Proximity</b>					
Miles From FAC/Freight Hub	0-0.5	0.51-1.00	1.01-2.00	2.01-3.00	3.01-or >
Points	5	4	3	2	1

12. Freight Mobility Corridors (FMCs) Significance					
Passes Through Crossing	Yes	No			
Points	5	0			
13. Maintenance of Rail Crossing (Annual)					
Existing Cost	\$10,001 or >	\$7,501-\$10,000	\$5,001-\$7,500	\$2,501-\$5,000	\$0-\$2,500
Points	5	4	3	2	1
14. Evacuation Route					
Passes Through Crossing	Yes	No			
Points	5	0			
<b>MAXIMUM HIGH SCORE = 70</b>					

Following the evaluation of the top 20 locations from Phase I, FDOT reviewed the results and identified the top 10 high priority locations for more detailed analysis.

### 3.3 Site Visits

Following identification of the 10 high priority locations, site visits were conducted to identify location specific issues to be addressed in the interim safety and potential grade separation improvement concepts. Several factors influencing conditions at grade crossings were observed during the site visits. Observations resulted in the identification of locations with:

- significant traffic queuing due to traffic signal and ITS timing issues;
- high passenger vehicle and freight truck volumes at crossings;
- poor pavement conditions; and
- locations with potential rail crossing signage and signal improvements.

### 3.4 Additional Rail Location Considerations

Following the initial rail crossing screening and the site visits, the top ten list was modified due to changes in conditions or improvements made at a few of the locations. A review of additional information regarding other locations was used to revise the top 10 high priority locations.

## 4.0 Evaluation Results & Recommendations

This section provides a summary of the results of the GIS preliminary screening, site visit evaluation, and additional considerations that were completed to identify the top ten high priority locations for Phase II.

### 4.1 District One High Priority Rail Crossing Locations

Each of the Phase I top 20 locations were evaluated using the Rail Grade Separation GIS Methodology Matrix criteria previously outlined in Section 3.2. Following the GIS analysis and subsequent review of additional information regarding programmed projects, constraints, and location conditions, FDOT identified 10 high priority locations. As shown in Figure 1 and Table 3, the 10 high priority crossings are located in Glades, Hendry, Polk, Manatee, and Okeechobee counties. The high priority locations were

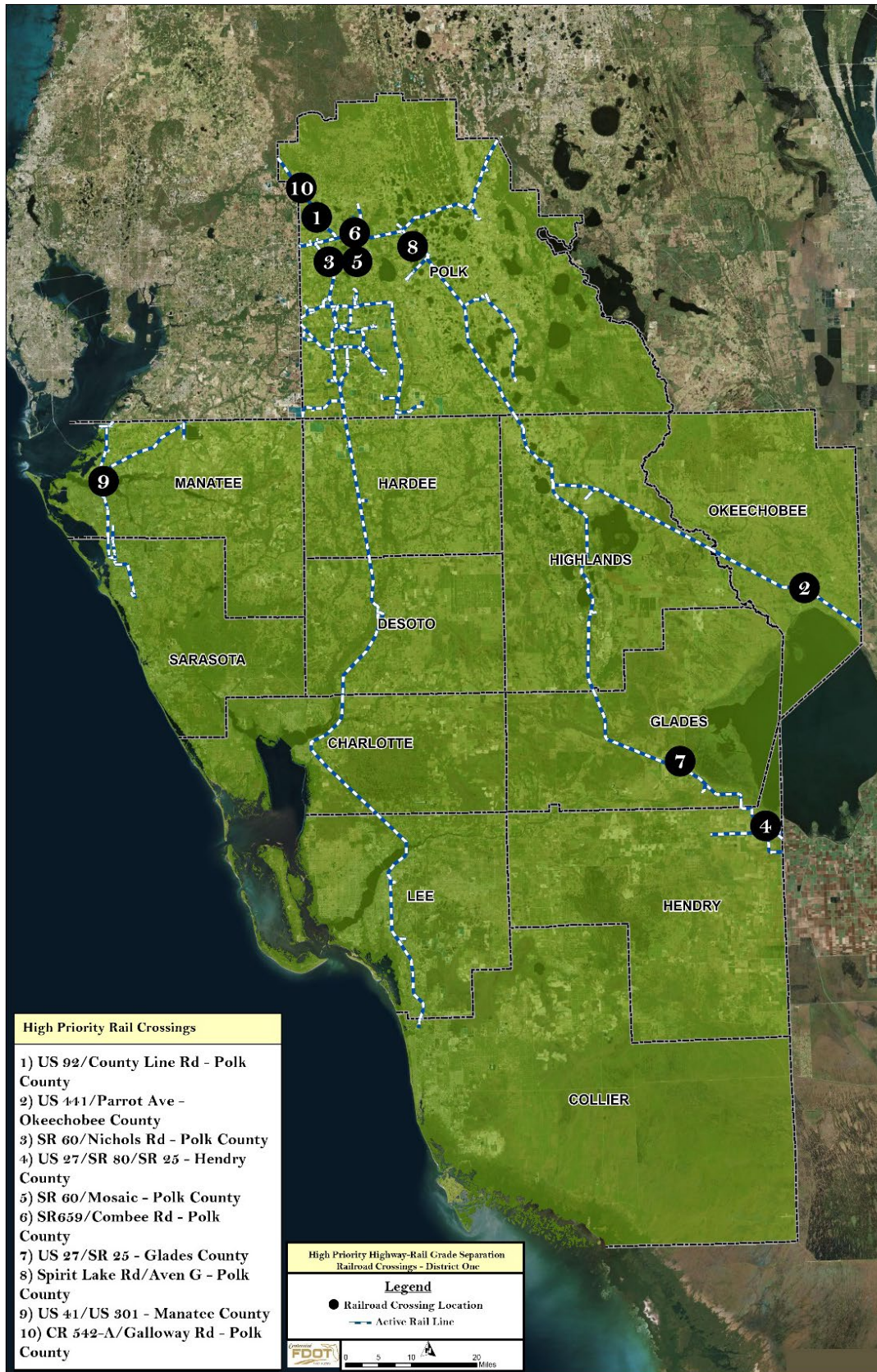
identified as potential candidates for highway-rail grade separation. Recommendations for improvements to each location is profiled in Section 4.2.

**Table 3. High Priority Rail Crossing Locations**

Location	RGSPS Score	County
US 92/County Line Road	58	Polk
US 441/Parrot Avenue	55	Okeechobee
SR 60/Nichols Road	52	Polk
US 27/SR 80/SR 25	51	Hendry
SR 60/Mosaic	47	Polk
SR 659/Combee Road	47	Polk
US 27/SR 25	44	Glades
Spirit Lake Road/Avenue G	42	Polk
US 41/US 301	41	Manatee
CR 542-A/Galloway Rd	33	Polk



Figure 1. High Priority Crossing Locations



## 4.2 High Priority Crossings Improvement Recommendations

This section of the report includes information and recommendations for improvements for each of the 10 high priority locations. All cost estimates are preliminary and are not inclusive. Cost Estimates will be re-evaluated during the next phase.

### 4.2.1 US 92/County Line Road (624304R) – CSX, Amtrak – Lakeland, Polk County

#### Location

As seen in Figure 2, crossing 624304R is located in the City of Lakeland in Polk County near the intersection of US 92 and County Line Road. According to the District One *Freight Mobility and Trade Plan*, the crossing is located within the West Lakeland Freight Activity Center and US 92 is designated as a Distribution Route. The surrounding area includes a number of large-scale warehouse and distribution uses, and additional facilities are under construction along County Line Road to the south of US 92.

Figure 2. US 92/County Line Road (624304R) - Crossing Location & Street View





### Condition Summary

This location received the highest RGSPS score in the Phase II evaluation. This high score is due to the high volume of crashes, high crossing maintenance cost, freight hub proximity, evacuation route designation, and high percent of heavy train and truck traffic. Truck terminals and large-scale warehouse and distribution facilities to the south and east of the crossing include the Plant City Commerce Park, Amazon Fulfillment Center, Publix Warehouse, O’ Reilly Auto Parts Warehouse, and the Save-A-Lot Distribution Center.

The Phase II evaluation revealed issues with vehicles bypassing gates and disregarding signals. The crossing equipment has experienced repeated damage in recent years, including gate arm damage. Figure 3 summarizes the fourteen criterion used to establish the RGSPS score for this crossing.

Figure 3. US 92/County Line Road (624304R) - Crossing Location Statistics Summary

<b>Crossing ID:</b> 624304R	<b>Train Count:</b> 15	<b>Score:</b> 3	<b>Road Max Speed:</b> 45 mph	<b>Score:</b> 3
<b>Cross Street:</b> County Line Rd @ US 92	<b>Train Max Speed:</b> 79 mph	<b>Score:</b> 5	<b>Freight Corridor:</b> Yes	<b>Score:</b> 5
<b>Lanes:</b> 4LD	<b>SIS Road:</b> No	<b>Score:</b> 0	<b>Freight Hub Proximity:</b> 0 mi	<b>Score:</b> 5
<b>City:</b> Lakeland	<b>Evacuation Route:</b> Yes	<b>Score:</b> 5	<b>V/C Ratio:</b> 0.62	<b>Score:</b> 4
<b>County:</b> Polk	<b>AADT:</b> 22,000	<b>Score:</b> 4	<b>Crossing Maint. Cost:</b> \$ 77,136	<b>Score:</b> 5
<b>Total Score:</b> 57	<b>Truck AADT:</b> 3,720	<b>Score:</b> 5	<b>Crashes:</b> 149	<b>Score:</b> 5
<b>Rank:</b> 1	<b>Truck Pct:</b> 16.9 %	<b>Score:</b> 4	<b>Land Use:</b> Industrial	<b>Score:</b> 4

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### Recommendations

This location has been identified as a candidate for grade separation. Preliminary improvements and cost estimates for grade separation improvement have been prepared and are provided in Figure 4 and Table 4. These improvements address challenges associated with the crossing’s proximity to the US 92 intersection, presence of environmentally sensitive lands, and right-of-way and land use impacts.

Interim improvements have also been identified for this location. A preliminary concept plan and cost estimate is in Figure 5 and Table 5. Improvements shown on the preliminary concept plan include relocating stop bars and installing advanced signals. Such improvements may be addressed by the City

of Lakeland as part of a roadway widening project, which is currently not fully funded. Preliminary concept plans and cost estimates are included below.

Figure 4. US 92/County Line Road (624304R) - Preliminary Grade Separated Concept Plan



Table 4. US 92/County Line Road (624304R) - Preliminary Grade Separation Cost Summary

US 92 / County Line Road (624304R) - PROPOSED TOTAL SUMMARY				
Mainline Total Sequence No. 1	=			\$3,915,222
Bridges Total Sequence No. 2	=			\$3,952,500
Retaining Wall Total Sequence No. 3	=			\$1,004,364
Project Sequences Subtotal	=			\$8,872,086
102-1 (Maintenance of Traffic)	25%			\$2,218,022
101-1 (Mobilization)	10%			\$1,109,011
Project Sequences Total	=			\$12,199,119
Project Unknowns	30%			\$3,659,736
Design Build	0%			\$0
None Bid Components:		Unit	Unit Price	
999-25 (Initial Contingency)		LS	75,000.00	\$75,000
Project Non-Bid Subtotal				\$75,000
<b>PROJECT GRAND TOTAL</b>				<b>\$15,933,854</b>

Figure 5. US 92/County Line Road (624304R) - Interim Improvements Concept Plan

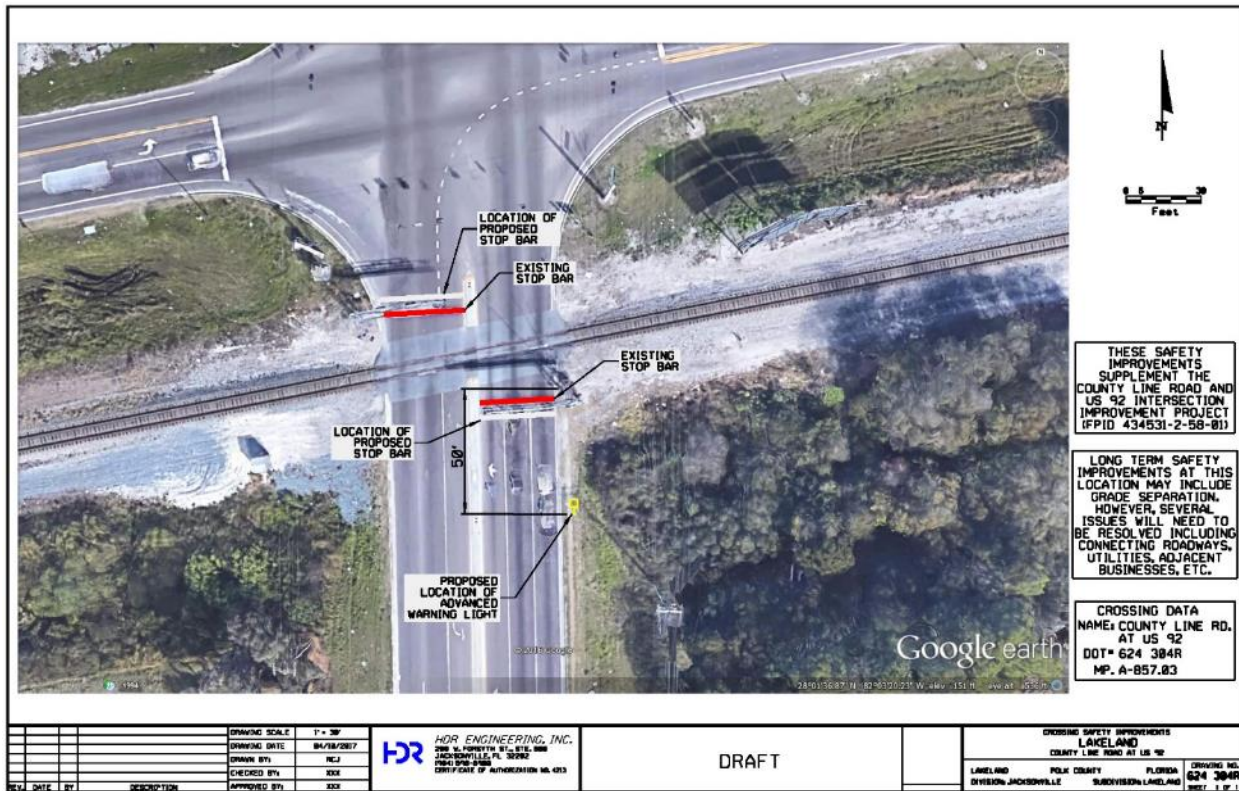


Table 5. US 92/County Line Road (624304R) - Interim Improvements Cost Summary

US 92 / County Line Road (624304R) – PROPOSED TOTAL SUMMARY				
Mainline Total Sequence No. 1	=			\$19,903
Project Sequences Subtotal	=			\$19,903
102-1 (Maintenance of Traffic)	50%			\$9,952
101-1 (Mobilization)	25%			\$7,464
Project Sequences Total	=			\$37,318
Project Unknowns	15%			\$5,598
Non Bid Components:		Unit	Unit Price	
999-25 (Initial Contingency)		LS	10,000.00	\$10,000
Project Non-Bid Subtotal				\$10,000
<b>PROJECT GRAND TOTAL</b>				<b>\$52,916</b>

#### 4.2.2 US 441/Parrott Ave (628062L) – CSX, Amtrak – Okeechobee, Okeechobee County

##### Location

As seen in Figure 6, crossing 628062L is located in the City of Okeechobee in Okeechobee County near the intersection of US 441 and Northwest 9<sup>th</sup> Street. According to the District One *Freight Mobility and Trade Plan*, the crossing is located within the Okeechobee North Freight Activity Center and US 441 is designated as a Regional Facility. The surrounding area includes a number of industrial and light

industrial uses including agricultural processing facilities. The Okeechobee Amtrak station is located immediately west of the crossing.

Figure 6. US 441/Parrott Ave (628062L) - Crossing Location & Street View



### Condition Summary

This location received the second highest RGSPS score in the Phase II evaluation. This high score is due to the high maximum speed of trains, number of passenger and freight trains, high AADT and V/C ratio, and US 441's designation as a SIS facility and evacuation route. US 441 in the City of Okeechobee is a constrained corridor with limited right-of-way and light industrial and commercial land uses on properties north and south of the crossing. All hospital and medical facilities are on the north side of the crossing. The Phase II evaluation revealed issues with vehicles bypassing gates and disregarding signals. The crossing surface has been replaced in recent years, and is scheduled for replacement again in 2020/21, however this is not a candidate for a tub crossing surface due to high track speed.

Figure 7 summarizes the fourteen criterion used to establish the RGSPS score for this crossing.

Figure 7. US 441/Parrott Ave (628062L) - Crossing Location Statistics Summary

<b>Crossing ID:</b> 628062L	<b>Train Count:</b> 14	<b>Score:</b> 3	<b>Road Max Speed:</b> 35 mph	<b>Score:</b> 2
<b>Cross Street:</b> US 441/Parrot Ave	<b>Train Max Speed:</b> 79 mph	<b>Score:</b> 5	<b>Freight Corridor:</b> Yes	<b>Score:</b> 5
<b>Lanes:</b> 4LD	<b>SIS Road:</b> Yes	<b>Score:</b> 5	<b>Freight Hub Proximity:</b> 0.2 mi	<b>Score:</b> 5
<b>City:</b> Okeechobee	<b>Evacuation Route:</b> Yes	<b>Score:</b> 5	<b>V/C Ratio:</b> 0.8	<b>Score:</b> 4
<b>County:</b> Okeechobee	<b>AADT:</b> 23,000	<b>Score:</b> 4	<b>Crossing Maint. Cost:</b> \$ 5,136	<b>Score:</b> 3
<b>Total Score:</b> 55	<b>Truck AADT:</b> 2,480	<b>Score:</b> 4	<b>Crashes:</b> 30	<b>Score:</b> 3
<b>Rank:</b> 2	<b>Truck Pct:</b> 10.8 %	<b>Score:</b> 3	<b>Land Use:</b> Industrial	<b>Score:</b> 4
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## Recommendations

This location has been identified as a candidate for grade separation. Preliminary improvements and cost estimates for grade separation improvement have been prepared and are provided in Figure 8 and Table 6. These improvements address challenges associated with right-of-way constraints, land use impacts, and impacts on local street crossings and driveway access points. The proposed SR 710 bypass from SR 70 northwest to US 441 may result in lower traffic volumes at the crossing, which should be considered in future evaluation of grade separation concepts.

Interim improvements have also been identified for this location. A preliminary concept plan and cost estimates are shown in Figure 9 and Table 7. Improvements shown on the preliminary concept plan include extending the median and eliminating the north bound left turn lane prior to the crossing, increasing height of existing median curbs from mountable to unmountable north and south of the crossing, and providing the four quadrant crossing signals.

Figure 8. US 441/Parrott Ave (628062L) - Preliminary Grade Separated Concept Plan

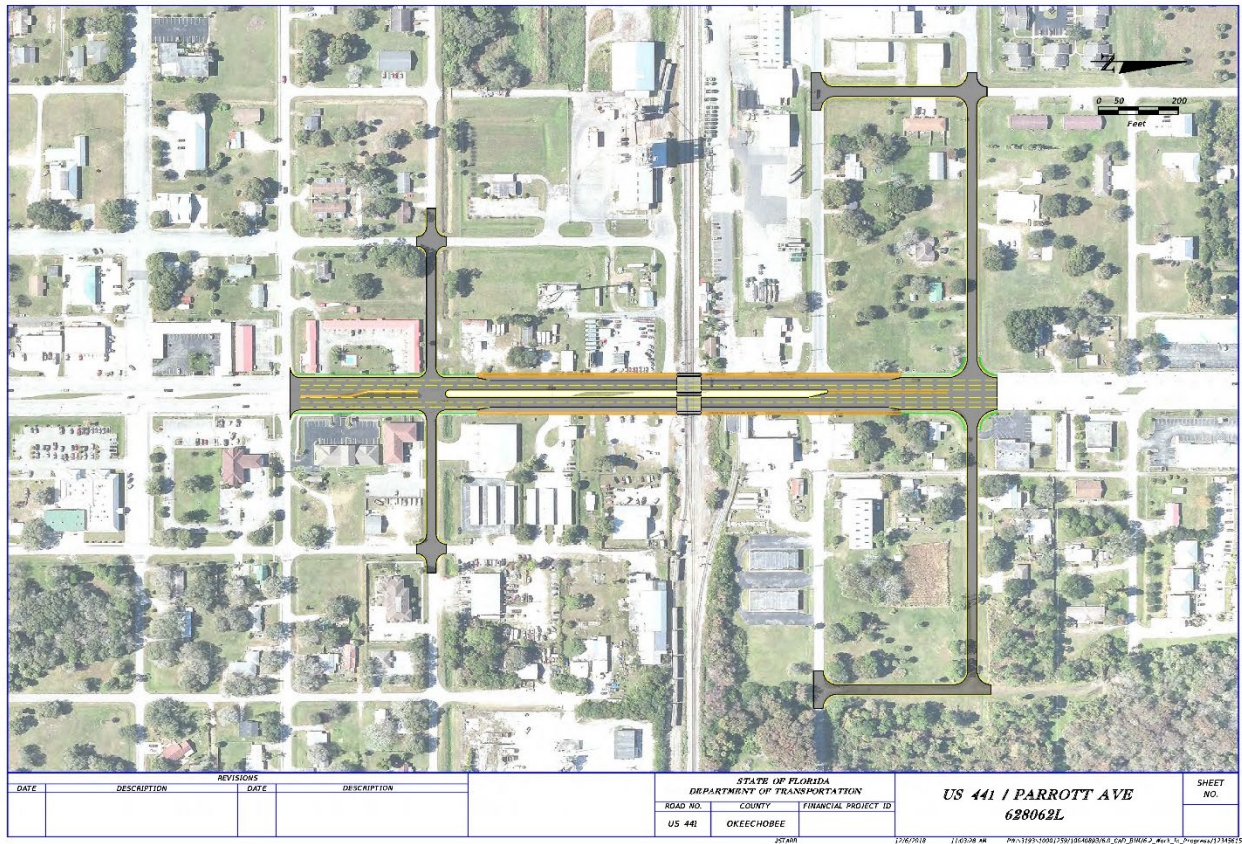


Table 6. US 441/Parrott Ave (628062L) - Preliminary Grade Separation Cost Summary

US 441 / Parrott Ave (628062L) - PROPOSED TOTAL SUMMARY				
Mainline Total Sequence No. 1	=			\$3,226,047
Side Streets Total Sequence No. 2	=			\$849,275
Bridges Total Sequence No. 3	=			\$967,200
Retaining Wall Total Sequence No. 4	=			\$1,067,440
Project Sequences Subtotal	=			\$6,109,962
102-1 (Maintenance of Traffic)	35%			\$2,138,487
101-1 (Mobilization)	10%			\$824,845
Project Sequences Total	=			\$9,073,294
Project Unknowns	40%			\$3,629,317
Design Build	0%			\$0
None Bid Components:		Unit	Unit Price	
999-25 (Initial Contingency)		LS	75,000.00	\$75,000
Project Non-Bid Subtotal				\$75,000
<b>PROJECT GRAND TOTAL</b>				<b>\$12,777,611</b>



Figure 9. US 441/Parrott Ave (628062L) - Interim Improvements Concept Plan

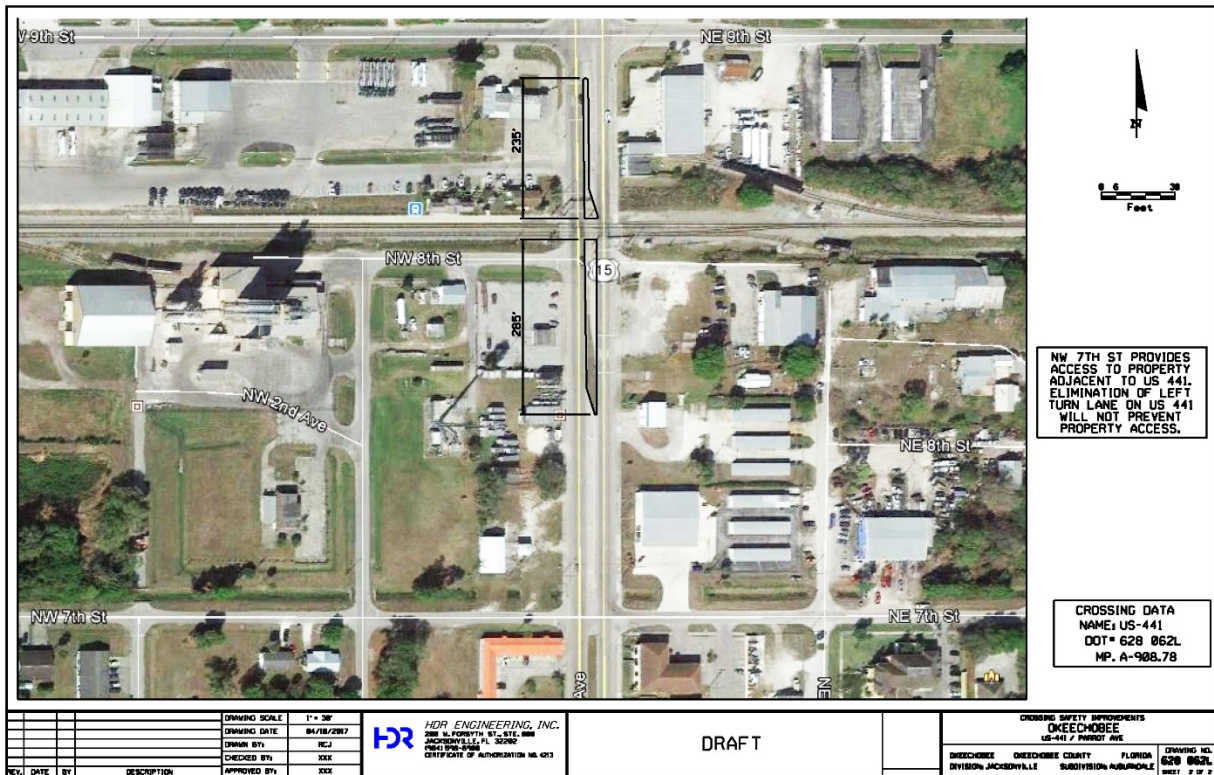
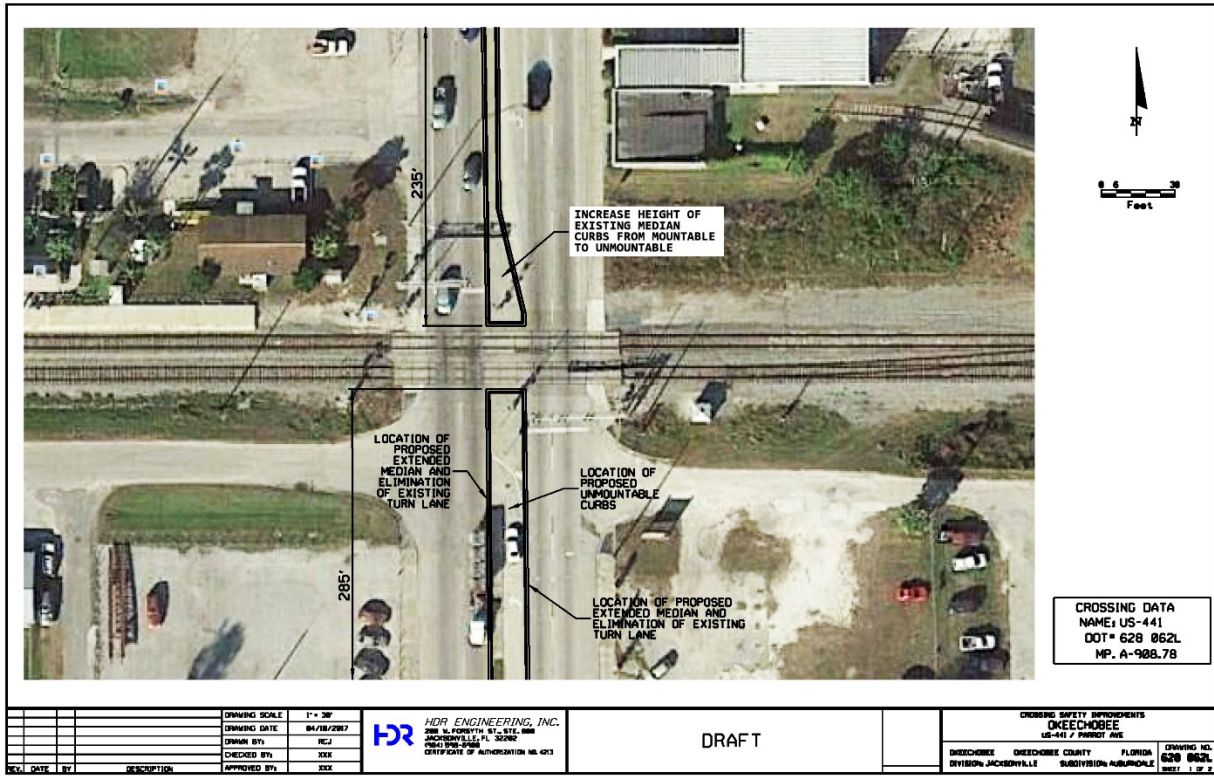


Table 7. US 441/Parrott Ave (628062L) - Interim Improvements Cost Summary

US 441 / Parrott Ave (628062L) - PROPOSED TOTAL SUMMARY				
Mainline Total Sequence No. 1	=			\$29,724
Project Sequences Subtotal	=			\$29,724
102-1 (Maintenance of Traffic)	50%			\$14,862
101-1 (Mobilization)	35%			\$15,605
Project Sequences Total	=			\$60,191
Project Unknowns	15%			\$9,029
Non Bid Components:		Unit	Unit Price	
999-25 (Initial Contingency)		LS	20,000.00	\$20,000
Project Non-Bid Subtotal				\$20,000
<b>PROJECT GRAND TOTAL</b>				<b>\$89,220</b>

#### 4.2.3 SR 60/Nichols Rd (624525T) – CSX – Mulberry, Polk County

##### Location

As seen in Figure 10, crossing 624525T is located at the western limits of the City of Mulberry in Polk County at a rail switch yard near the intersection of SR 60 and Nichols Road. According to the District One *Freight Mobility and Trade Plan*, the crossing is located within the Mulberry Freight Activity Center and SR 60 is designated as a Regional Facility. To the east of the crossing are a number of industrial and light industrial uses including several agricultural processing facilities.

Figure 10. SR 60/Nichols Rd (624525T) - Crossing Location & Street View





### Condition Summary

This location received the third highest RGSPS score in the Phase II evaluation. This high score is due to the high percent of truck traffic, roadway speed, and SR 60's designation as a SIS facility, evacuation route, and a freight corridor. This section of SR 60 provides an important link between the Tampa Bay Region; the US 17, US 27, and Florida Turnpike corridors; and Florida's east coast. Traffic incidents at this location are associated with operational delays due to trains blocking the crossing and vehicles bypassing the gates and disregarding signals. Recent improvements include the addition of concrete roadway approach slabs and median reconstruction.

Figure 11 summarizes the fourteen criterion used to establish the RGSPS score for this crossing.

Figure 11. SR 60/Nichols Rd (624525T) - Crossing Location Statistics Summary

<b>Crossing ID:</b> 624525T	<b>Train Count:</b> 7	<b>Score:</b> 2	<b>Road Max Speed:</b> 65 mph	<b>Score:</b> 5
<b>Cross Street:</b> SR 60/Nichols Rd	<b>Train Max Speed:</b> 35 mph	<b>Score:</b> 4	<b>Freight Corridor:</b> Yes	<b>Score:</b> 5
<b>Lanes:</b> 4LD	<b>SIS Road:</b> Yes	<b>Score:</b> 5	<b>Freight Hub Proximity:</b> 0 mi	<b>Score:</b> 5
<b>City:</b> Mulberry	<b>Evacuation Route:</b> Yes	<b>Score:</b> 5	<b>V/C Ratio:</b> 0.35	<b>Score:</b> 2
<b>County:</b> Polk	<b>AADT:</b> 18,400	<b>Score:</b> 3	<b>Crossing Maint. Cost:</b> \$ 1,701	<b>Score:</b> 1
<b>Total Score:</b> 52	<b>Truck AADT:</b> 2,950	<b>Score:</b> 4	<b>Crashes:</b> 31	<b>Score:</b> 3
<b>Rank:</b> 3	<b>Truck Pct:</b> 16 %	<b>Score:</b> 4	<b>Land Use:</b> Industrial	<b>Score:</b> 4

[http://maps.google.com/maps?q=&layer=c&cbll=27.8976996007239\\_-81.9978528001391](http://maps.google.com/maps?q=&layer=c&cbll=27.8976996007239_-81.9978528001391)

### Recommendations

This location has been identified as a candidate for grade separation. Preliminary improvements and cost estimates for grade separation improvement have been prepared and are provided in Figure 12 and Table 8. These improvements address challenges associated with maintaining access to and from the Nichols Road crossing.

Interim improvements have also been identified for this location. A preliminary concept plan and cost estimates are provided in Figure 13 and Table 9. Improvements shown on the preliminary concept plan include increasing height of existing median curbs from mountable to unmountable to the east and west of the crossing.

Figure 12. SR 60/Nichols Rd (624525T) - Preliminary Grade Separated Concept Plan

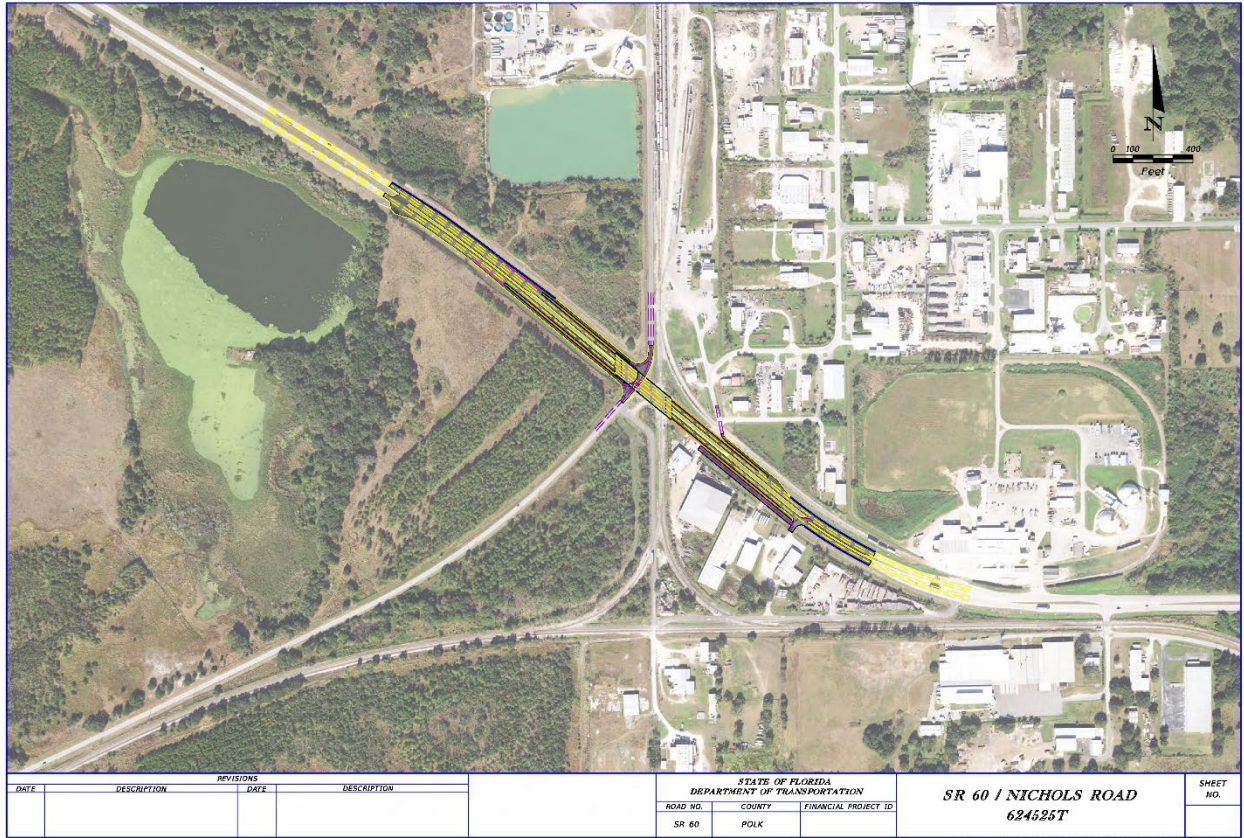
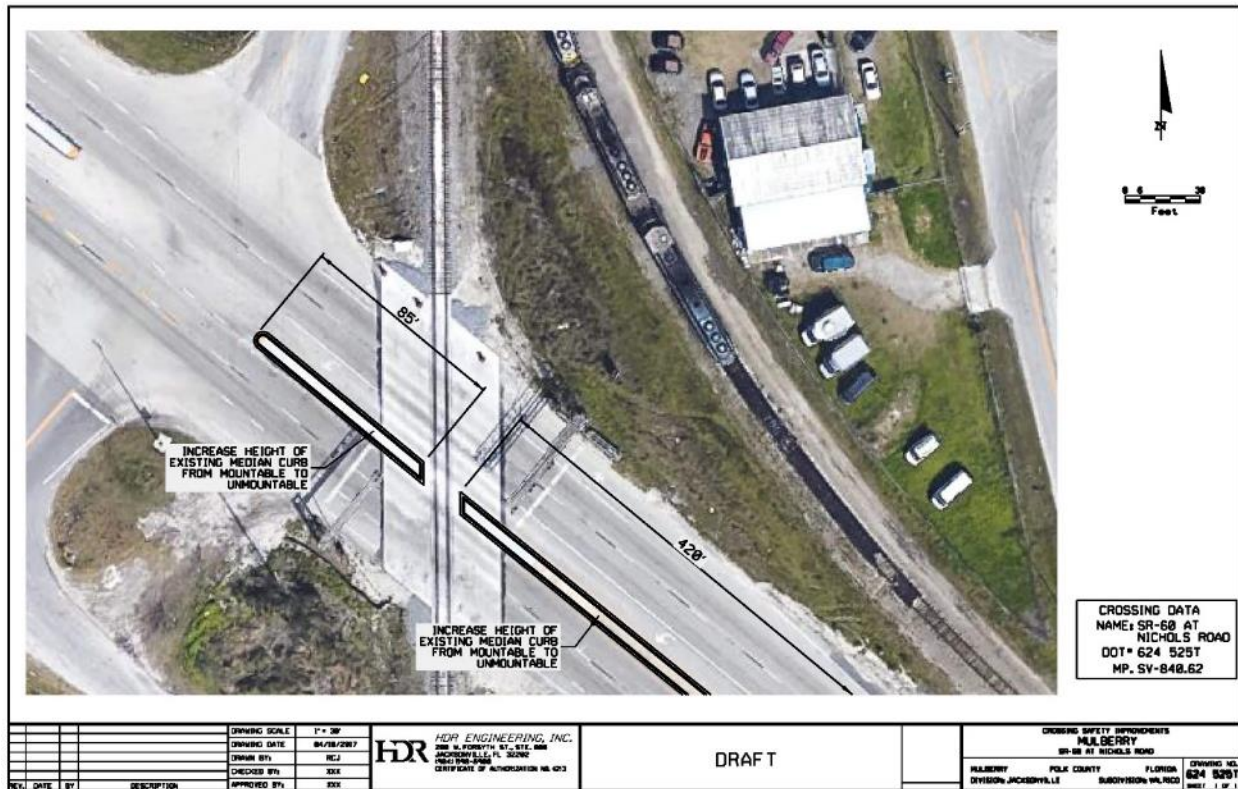


Table 8. SR 60/Nichols Rd (624525T) - Preliminary Grade Separation Cost Summary

SR60_NicholsRd_(624525T) - PROPOSED TOTAL SUMMARY				
Mainline Total Sequence No. 1	=			\$3,976,062
Bridges Total Sequence No. 2	=			\$5,321,400
Retaining Wall Total Sequence No. 3	=			\$1,038,571
Project Sequences Subtotal	=			\$10,336,032
102-1 (Maintenance of Traffic)	20%			\$2,067,206
101-1 (Mobilization)	10%			\$1,240,324
Project Sequences Total	=			\$13,643,563
Project Unknowns	25%			\$3,410,891
Design Build	0%			\$0
None Bid Components:		Unit	Unit Price	
999-25 (Initial Contingency)		LS	75,000.00	\$75,000
Project Non-Bid Subtotal				\$75,000
<b>PROJECT GRAND TOTAL</b>				<b>\$17,129,453</b>

Figure 13. SR 60/Nichols Rd (624525T) - Interim Improvements Concept Plan



**Table 9. SR 60/Nichols Rd (624525T) - Interim Improvements Cost Summary**

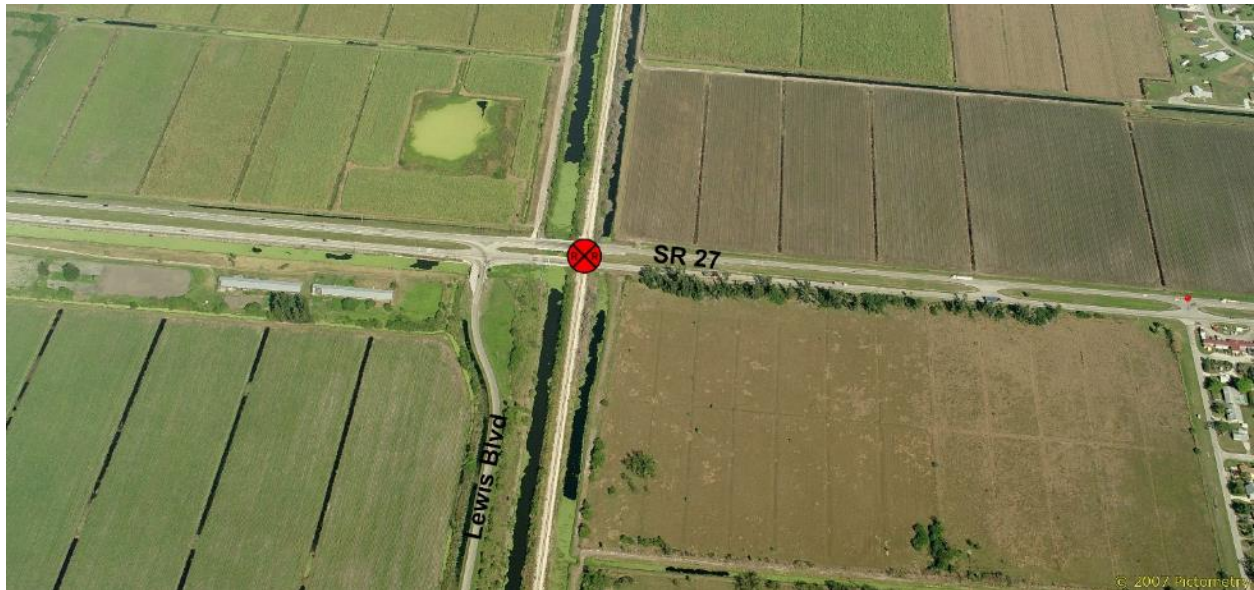
SR 60 / Nichols Road (624525T) - PROPOSED TOTAL SUMMARY				
Mainline Total Sequence No. 1		=		\$34,629
Project Sequences Subtotal		=		\$34,629
102-1 (Maintenance of Traffic)		50%		\$17,315
101-1 (Mobilization)		25%		\$12,986
Project Sequences Total		=		\$64,930
Project Unknowns		15%		\$9,739
Non Bid Components:			Unit	Unit Price
999-25 (Initial Contingency)			LS	10,000.00
Project Non-Bid Subtotal				\$10,000
<b>PROJECT GRAND TOTAL</b>				<b>\$84,669</b>

#### 4.2.4 US 27/SR 80 (627695X) – SCFE – Clewiston, Hendry County

##### Location

As seen in Figure 14, crossing 627695X is located west of the City of Clewiston in Hendry County near the intersection of SR 27 and Lewis Boulevard. According to the District One *Freight Mobility and Trade Plan*, the crossing is located to the northwest of the Clewiston Sugar Freight Activity Center. SR 27 is designated as a Regional Facility and Lewis Boulevard is under consideration for designation as a Freight Activity Center Connector.

**Figure 14. US 27/SR 80 (627695X) - Crossing Location & Street View**





### Condition Summary

This location received the fourth highest RGSPS score in the Phase II evaluation. This high score is due to the high percent of truck traffic and US 27's designation as a SIS facility, evacuation route, and a freight corridor. This section of US 27 provides an important link between the South Florida Region; Heartland communities in District One; and Central Florida, the I-4 corridor, and northern extents of the Florida Turnpike. Conditions along this segment of US 27 have been the subject of several studies undertaken by FDOT. Currently, FDOT Central Office is conducting a review of US 27 to better understand existing conditions and complete preliminary analysis of travel demand and deficiencies. The study is designed to determine potential corridor improvement opportunities and approaches for future planning studies. This study may establish priorities for grade separation. Study recommendations should be considered in future planning for improvements in this location.

Although only one crash was identified at this location in the Phase II evaluation, traffic incidents associated with vehicles bypassing the gates and disregarding signals were identified. Figure 15 summarizes the fourteen criterion used to establish the RGSPS score for this crossing.

Figure 15. US 27/SR 80 (627695X) - Crossing Location Statistics Summary

<b>Crossing ID:</b> 627695X	<b>Train Count:</b> 15	<b>Score:</b> 3	<b>Road Max Speed:</b> 50 mph	<b>Score:</b> 4
<b>Cross Street:</b> US 27/SR 80/SR 25	<b>Train Max Speed:</b> 40 mph	<b>Score:</b> 4	<b>Freight Corridor:</b> Yes	<b>Score:</b> 5
<b>Lanes:</b> 4LD	<b>SIS Road:</b> Yes	<b>Score:</b> 5	<b>Freight Hub Proximity:</b> 1.4 mi	<b>Score:</b> 3
<b>City:</b> Clewiston	<b>Evacuation Route:</b> Yes	<b>Score:</b> 5	<b>V/C Ratio:</b> 0.33	<b>Score:</b> 2
<b>County:</b> Hendry	<b>AADT:</b> 17,100	<b>Score:</b> 3	<b>Crossing Maint. Cost:</b> \$ 1,701	<b>Score:</b> 1
<b>Total Score:</b> 51	<b>Truck AADT:</b> 3,960	<b>Score:</b> 5	<b>Crashes:</b> 1	<b>Score:</b> 1
<b>Rank:</b> 4	<b>Truck Pct:</b> 23.2 %	<b>Score:</b> 5	<b>Land Use:</b> Agriculture/ Undeveloped	<b>Score:</b> 5

<http://maps.google.com/maps?q=&layer=c&cbll=26.7541277007402,-80.9592363998605>

### Recommendations

This location has not been identified as a priority candidate for grade separation due to the low crash ranking and horizontal geometry. However, studies of the US 27 corridor may result in recommendations for crossing improvements which should be considered in future planning and design.

Interim improvements have been identified for this location. A preliminary concept plan and cost estimates are provided in Figure 16 and Table 10. Improvements shown on the preliminary concept plan includes relocation of stop bars away from crossing, installation of advanced warning lights, and installation of median gate for westbound traffic.

Figure 16. US 27/SR 80 (627695X) - Interim Improvements Concept Plan

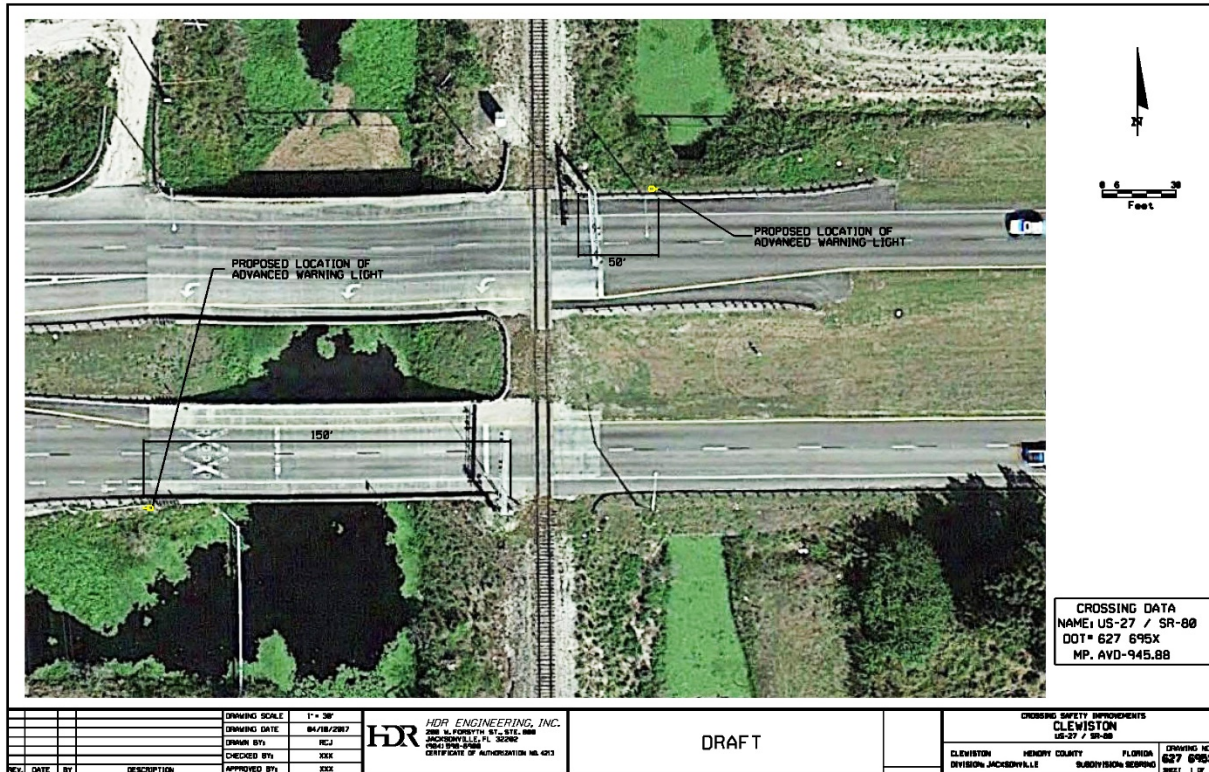


Table 10. US 27/SR 80 (627695X) - Interim Improvements Cost Summary

US 27 / SR 80 (627695X) - PROPOSED TOTAL SUMMARY				
Mainline Total Sequence No. 1	=			\$36,396
Project Sequences Subtotal	=			\$36,396
102-1 (Maintenance of Traffic)	25%			\$9,099
101-1 (Mobilization)	25%			\$11,374
Project Sequences Total	=			\$56,868
Project Unknowns	15%			\$8,530
Non Bid Components:		Unit	Unit Price	
999-25 (Initial Contingency)		LS	10,000.00	\$10,000
Project Non-Bid Subtotal				\$10,000
<b>PROJECT GRAND TOTAL</b>				<b>\$75,398</b>

#### 4.2.5 SR 60/Mosaic (908367H) – CSX – Bartow, Polk County

##### Location

As seen in Figure 17, crossing 908367H is located between the cities of Bartow and Mulberry in Polk County near the intersection of SR 60 and the Mosaic Company phosphate facility. According to the



District One *Freight Mobility and Trade Plan*, the crossing is located within the SR 60 (Mosaic37) Freight Activity Center and SR 60 is designated as a Regional Facility.

Figure 17. SR 60/Mosaic (908367H) - Crossing Location & Street View



### Condition Summary

This location received the fifth highest RGSPS score in the Phase II evaluation. This high score is due to the high roadway speed, and SR 60's designation as a SIS facility, evacuation route, and a freight corridor. This section of SR 60 provides an important link between the Tampa Bay Region; the US 17, US 27, and Florida Turnpike corridors; and Florida's east coast. Traffic incidents identified at this location in the Phase II evaluation are associated with operational delays due to trains blocking the crossing.

Figure 18 summarizes the fourteen criterion used to establish the RGSPS score for this crossing.

Figure 18. SR 60/Mosaic (908367H) - Crossing Location Statistics Summary

<b>Crossing ID:</b> 908367H	<b>Train Count:</b> 7	<b>Score:</b> 2	<b>Road Max Speed:</b> 65 mph	<b>Score:</b> 5
<b>Cross Street:</b> SR 60 (Mosaic)	<b>Train Max Speed:</b> 35 mph	<b>Score:</b> 4	<b>Freight Corridor:</b> Yes	<b>Score:</b> 5
<b>Lanes:</b> 4LD	<b>SIS Road:</b> Yes	<b>Score:</b> 5	<b>Freight Hub Proximity:</b> 0 mi	<b>Score:</b> 5
<b>City:</b> Bartow	<b>Evacuation Route:</b> Yes	<b>Score:</b> 5	<b>V/C Ratio:</b> 0.35	<b>Score:</b> 2
<b>County:</b> Polk	<b>AADT:</b> 18,500	<b>Score:</b> 3	<b>Crossing Maint. Cost:</b> \$ 1,701	<b>Score:</b> 1
<b>Total Score:</b> 47	<b>Truck AADT:</b> 1,420	<b>Score:</b> 3	<b>Crashes:</b> 2	<b>Score:</b> 1
<b>Rank:</b> 5	<b>Truck Pct:</b> 7.7 %	<b>Score:</b> 2	<b>Land Use:</b> Industrial	<b>Score:</b> 4

<http://maps.google.com/maps?q=&layer=c&cbll=27.894483200628,-81.9183448001366>

### Recommendations

This location has been identified as a candidate for grade separation. Preliminary improvements and cost estimates for grade separation improvement have been prepared and are provided in Figure 19 and Table 11. These improvements address challenges associated with roadway geometry constraints and maintenance of access to and from the Mosaic facility access drives.

Interim improvements have also been identified for this location. Improvements include moving from manual switches to automatic switches, and reviewing track layout for more efficient use of train movement to clear highway for public use.

Figure 19. SR 60/Mosaic (908367H) - Preliminary Grade Separated Concept Plan

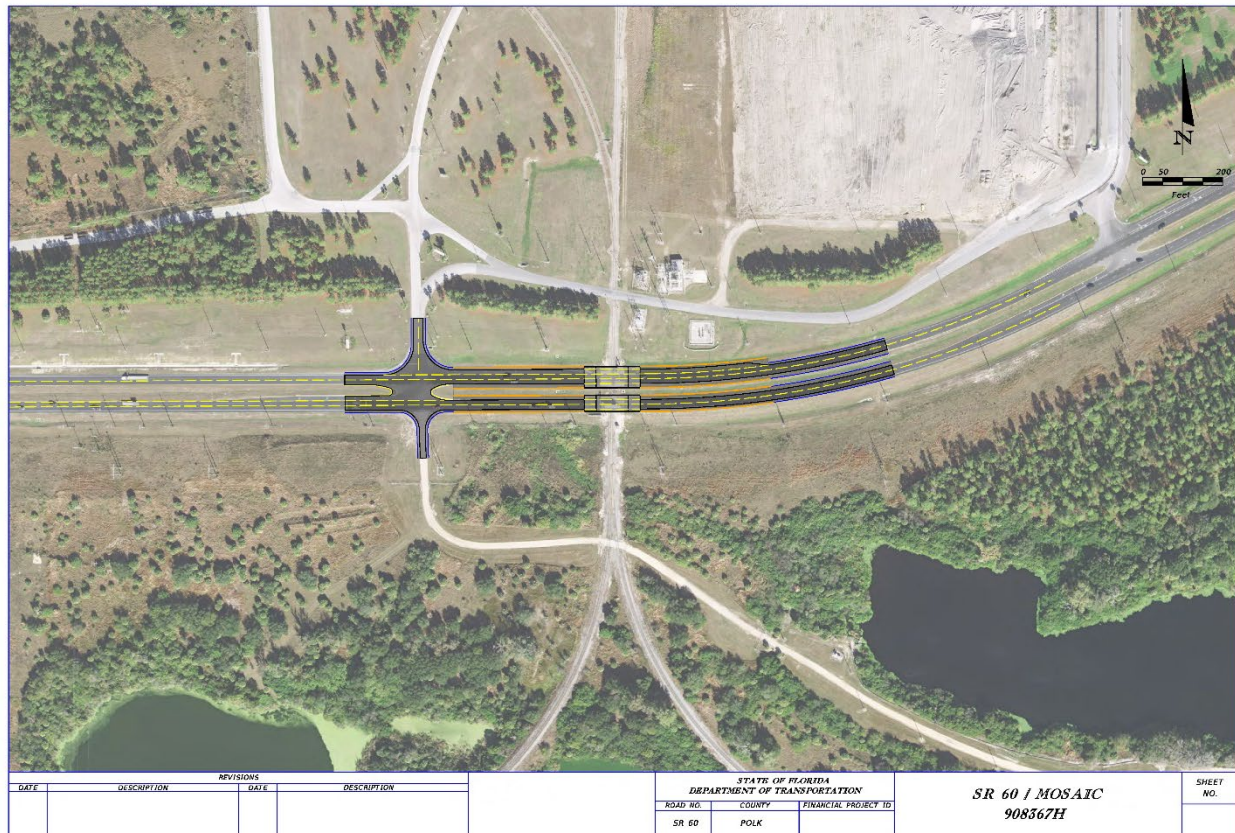


Table 11. SR 60/Mosaic (908367H) - Preliminary Grade Separation Cost Summary

SR60_Mosaic_(908367H) - PROPOSED TOTAL SUMMARY				
Mainline Total Sequence No. 1	=			\$2,377,255
Bridges Total Sequence No. 2	=			\$2,126,600
Retaining Wall Total Sequence No. 3	=			\$1,746,720
Project Sequences Subtotal	=			\$6,250,575
102-1 (Maintenance of Traffic)	20%			\$1,250,115
101-1 (Mobilization)	10%			\$750,069
Project Sequences Total	=			\$8,250,760
Project Unknowns	35%			\$2,887,766
Design Build	0%			\$0
None Bid Components:		Unit	Unit Price	
999-25 (Initial Contingency)		LS	75,000.00	\$75,000
Project Non-Bid Subtotal				\$75,000
<b>PROJECT GRAND TOTAL</b>				<b>\$11,213,525</b>

#### 4.2.6 SR 659/Combee Rd (624151P) – CSX, Amtrak – Lakeland, Polk County

##### Location

As seen in Figure 20, crossing 624151P is located east of the City of Lakeland in Polk County near the intersection of SR 659 and US 92. According to the District One *Freight Mobility and Trade Plan*, the crossing is located between the North Combee Road and Lakeland Regional Industrial Freight Activity Centers. Combee Road is designated as a Distribution Route and US 92 is designated as a Regional Facility. Surrounding land uses include suburban commercial and light industrial.

Figure 20. SR 659/Combee Rd (624151P) - Crossing Location & Street View





### Condition Summary

This location received the sixth highest RGSPS score in the Phase II evaluation. This high score is due to maximum train speed, high V/C ratio, and US 92's designation as an evacuation route and freight corridor. Traffic incidents at this location identified in the Phase II evaluation are associated with U-turns at the crossing.

Figure 21 summarizes the fourteen criterion used to establish the RGSPS score for this crossing.

Figure 21. SR 659/Combee Rd (624151P) - Crossing Location Statistics Summary

<b>Crossing ID:</b> 624151P	<b>Train Count:</b> 17	<b>Score:</b> 4	<b>Road Max Speed:</b> 40 mph	<b>Score:</b> 3
<b>Cross Street:</b> SR 659/Combee Rd	<b>Train Max Speed:</b> 79 mph	<b>Score:</b> 5	<b>Freight Corridor:</b> Yes	<b>Score:</b> 5
<b>Lanes:</b> 2LD	<b>SIS Road:</b> No	<b>Score:</b> 0	<b>Freight Hub Proximity:</b> 1.5 mi	<b>Score:</b> 3
<b>City:</b> Lakeland	<b>Evacuation Route:</b> Yes	<b>Score:</b> 5	<b>V/C Ratio:</b> 0.94	<b>Score:</b> 5
<b>County:</b> Polk	<b>AADT:</b> 17,400	<b>Score:</b> 3	<b>Crossing Maint. Cost:</b> \$ 1,701	<b>Score:</b> 1
<b>Total Score:</b> 46	<b>Truck AADT:</b> 1,840	<b>Score:</b> 3	<b>Crashes:</b> 23	<b>Score:</b> 3
<b>Rank:</b> 6	<b>Truck Pct:</b> 10.6 %	<b>Score:</b> 3	<b>Land Use:</b> Commercial	<b>Score:</b> 3

<http://maps.google.com/maps?q=&layer=c&cbll=29.0468979009577,-81.9079289003255>

### Recommendations

This location has been identified as a candidate for grade separation. Preliminary improvements and cost estimates for grade separation improvement have been prepared and are provided in Figure 22 and Table 12. These improvements address challenges associated with right-of-way constraints, business impacts, access to US 92, and impacts on local street crossings and driveway access points.

Interim improvements were also identified for this location. A preliminary concept plan and cost estimates are provided in Figure 23 and Table 13. Improvements shown on the preliminary concept plan includes increasing height of existing median curbs from mountable to unmountable, and replacing existing curbs from rounded ends to square ends at the crossing.

Figure 22. SR 659/Combee Rd (624151P) - Preliminary Grade Separated Concept Plan

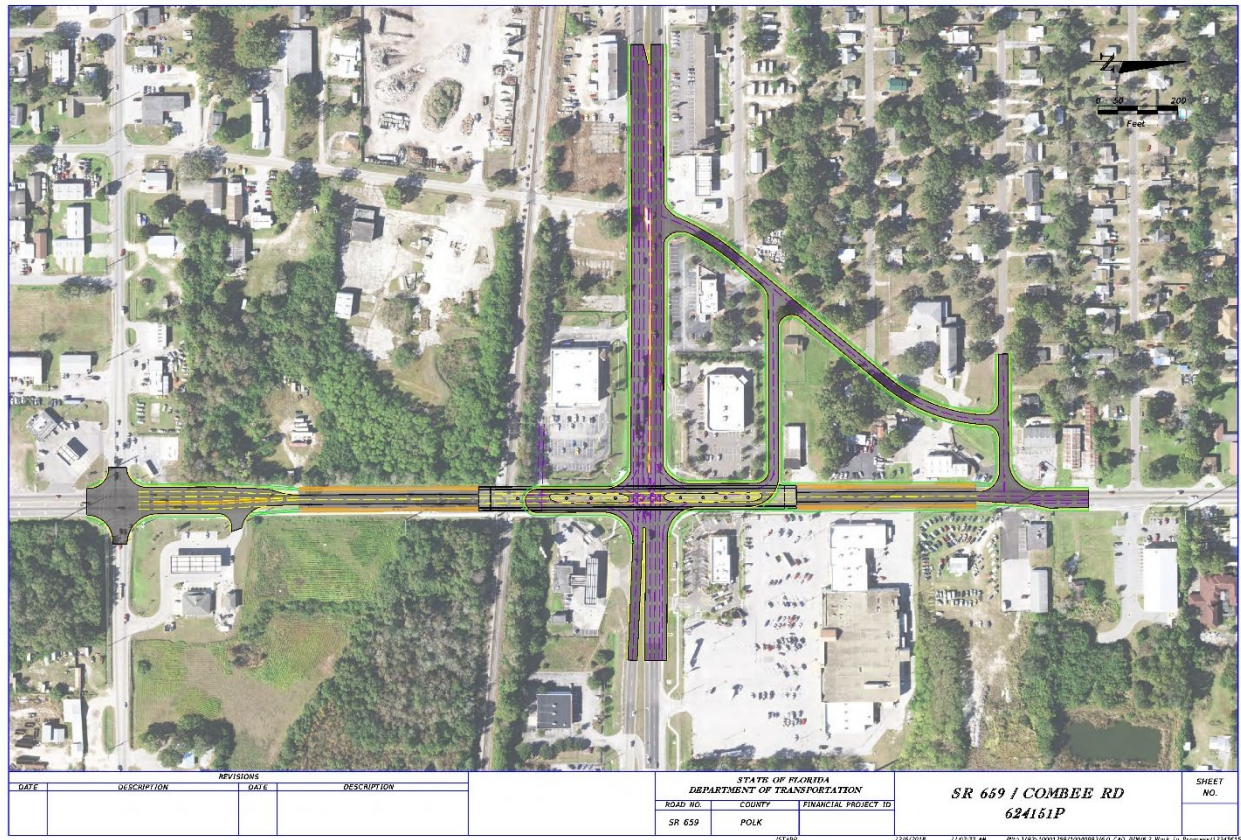


Table 12. SR 659/Combee Rd (624151P) - Preliminary Grade Separation Cost Summary

SR 659 / Combee Road (624151P) - PROPOSED TOTAL SUMMARY				
Mainline Total Sequence No. 1	=			\$3,059,263
Side Streets Total Sequence No. 2	=			\$1,962,872
Bridges Total Sequence No. 3	=			\$9,840,000
Retaining Wall Total Sequence No. 4	=			\$1,018,920
Project Sequences Subtotal	=			\$15,881,055
102-1 (Maintenance of Traffic)	35%			\$5,558,369
101-1 (Mobilization)	10%			\$2,143,942
Project Sequences Total	=			\$23,583,366
Project Unknowns	40%			\$9,433,346
Design Build	0%			\$0
None Bid Components:		Unit	Unit Price	
999-25 (Initial Contingency)		LS	75,000.00	\$75,000
Project Non-Bid Subtotal				\$75,000
<b>PROJECT GRAND TOTAL</b>				<b>\$33,091,712</b>

Figure 23. SR 659/Combee Rd (624151P) - Interim Improvements Concept Plan

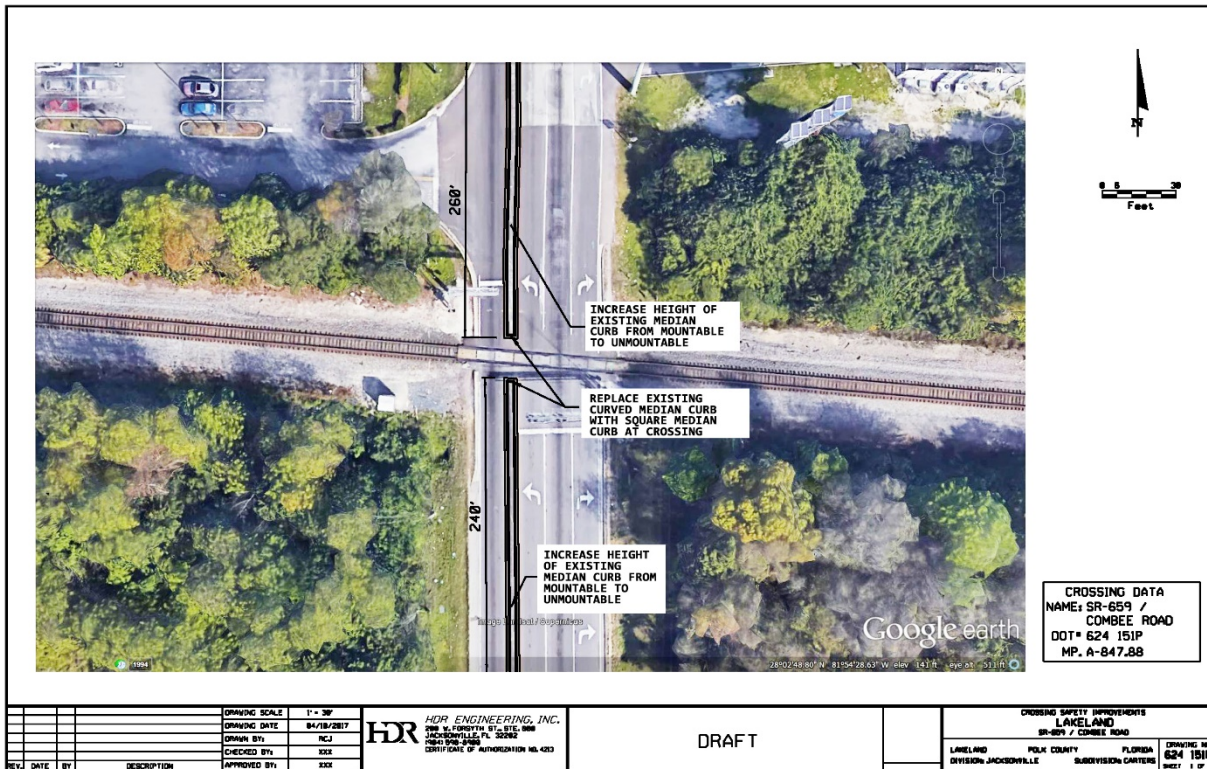


Table 13. SR 659/Combee Rd (624151P) - Interim Improvements Cost Summary

SR 659 / Combee Road (624151P) - PROPOSED TOTAL SUMMARY				
Mainline Total Sequence No. 1	=			\$27,992
Project Sequences Subtotal	=			\$27,992
102-1 (Maintenance of Traffic)	50%			\$13,996
101-1 (Mobilization)	25%			\$10,497
Project Sequences Total	=			\$52,485
Project Unknowns	15%			\$7,873
Non Bid Components:		Unit	Unit Price	
999-25 (Initial Contingency)		LS	10,000.00	\$10,000
Project Non-Bid Subtotal				\$10,000
<b>PROJECT GRAND TOTAL</b>				<b>\$70,357</b>

#### 4.2.7 US 27/SR 25 (627659C) – SCFE – Moore Haven, Glades County

##### Location

As seen in Figure 24, crossing 627659C is located to the west of the City of Moore Haven in Glades County along US 27. According to the District One *Freight Mobility and Trade Plan*, US 27 is designated as a Regional Facility.

Figure 24. US 27/SR 25 (627659C) - Crossing Location & Street View



### Condition Summary

This location received the seventh highest RGSPS score in the Phase II evaluation. This high score is due to high crash severity; high percentage of truck traffic; and US 27's designation as a SIS facility, evacuation route, and a freight corridor. According to crash data available from FDOT Central Office there were 20 crashes at this location between 2013 and 2017. Five crashes yielded five serious injuries, and two crashes yielded two fatalities. Eleven of the 20 crashes clustered at the rail crossing and four of the 11 crashes resulted in serious injuries.

This section of US 27 provides an important link between the South Florida Region; Heartland communities in District One; and Central Florida, the I-4 corridor, and northern extents of the Florida Turnpike. Conditions along this segment of US 27 have been the subject of several studies undertaken by FDOT. Currently, FDOT Central Office is conducting a review of US 27 to better understand existing conditions and complete preliminary analysis of travel demand and deficiencies. The study is designed to

determine potential corridor improvements opportunities and approaches for future planning studies. This study may establish priorities for grade separation. Study recommendations should be considered in future planning for improvements in this location. Traffic incidents at this location identified in the Phase II evaluation are primarily related to inadequate advanced warning of hazardous material vehicles stopped at crossing.

Figure 25 summarizes the fourteen criterion used to establish the RGSPS score for this crossing.

**Figure 25. US 27/SR 25 (627659C) - Crossing Location Statistics Summary**

<b>Crossing ID:</b> 627659C	<b>Train Count:</b> 3	<b>Score:</b> 1	<b>Road Max Speed:</b> 65 mph	<b>Score:</b> 5
<b>Cross Street:</b> US 27/ SR 25	<b>Train Max Speed:</b> 40 mph	<b>Score:</b> 4	<b>Freight Corridor:</b> Yes	<b>Score:</b> 5
<b>Lanes:</b> 4LD	<b>SIS Road:</b> Yes	<b>Score:</b> 5	<b>Freight Hub Proximity:</b> 3.6 mi	<b>Score:</b> 1
<b>City:</b> Moore Haven	<b>Evacuation Route:</b> Yes	<b>Score:</b> 5	<b>V/C Ratio:</b> 0.12	<b>Score:</b> 1
<b>County:</b> Glades	<b>AADT:</b> 6,000	<b>Score:</b> 1	<b>Crossing Maint. Cost:</b> \$ 1,701	<b>Score:</b> 1
<b>Total Score:</b> 44	<b>Truck AADT:</b> 2,040	<b>Score:</b> 4	<b>Crashes:</b> 10	<b>Score:</b> 1
<b>Rank:</b> 8	<b>Truck Pct:</b> 34 %	<b>Score:</b> 5	<b>Land Use:</b> Agriculture/ Undeveloped	<b>Score:</b> 5

<http://maps.google.com/maps?q=&layer=c&cbll=26.8962844011218,-81.2381242003297>

### Recommendations

This location has been identified as a candidate for grade separation. Preliminary improvement plans and cost estimates for grade separation improvement have been prepared and are provided in Figure 26 and Table 14. This addresses challenges with horizontal curvature and sight distance approaching the rail crossing.

Interim improvements provided in Figure 27 and Table 15 have recently been completed and include installation of guardrails, relocation of stop bar away from crossing, and installation of additional advanced warning lights to warn traffic when vehicles are stopped at the railroad crossing.



Figure 26. US 27/SR 25 (627659C) - Preliminary Grade Separated Concept Plan

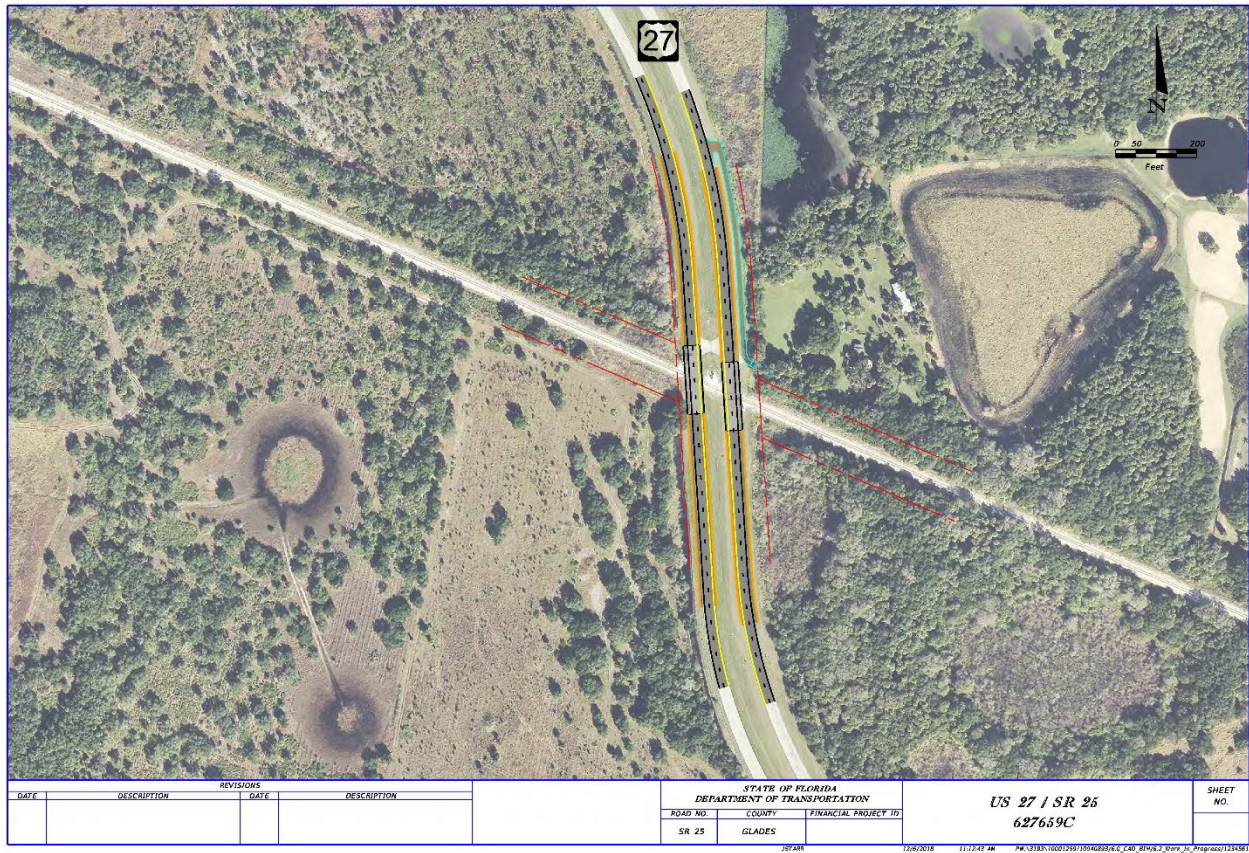


Table 14. US 27/SR 25 (627659C) - Preliminary Grade Separation Cost Summary

US 27 / SR 25 (627659C) - PROPOSED TOTAL SUMMARY				
Mainline Total Sequence No. 1	=			\$2,509,273
Bridges Total Sequence No. 2	=			\$2,312,000
Retaining Wall Total Sequence No. 3	=			\$2,134,880
Project Sequences Subtotal	=			\$6,956,153
102-1 (Maintenance of Traffic)	20%			\$1,391,231
101-1 (Mobilization)	10%			\$834,738
Project Sequences Total	=			\$9,182,122
Project Unknowns	30%			\$2,754,636
Design Build	0%			\$0
None Bid Components:		Unit	Unit Price	
999-25 (Initial Contingency)		LS	75,000.00	\$75,000
Project Non-Bid Subtotal				\$75,000
<b>PROJECT GRAND TOTAL</b>				<b>\$12,011,758</b>

Figure 27. US 27/SR 25 (627659C) - Interim Improvements Concept Plan

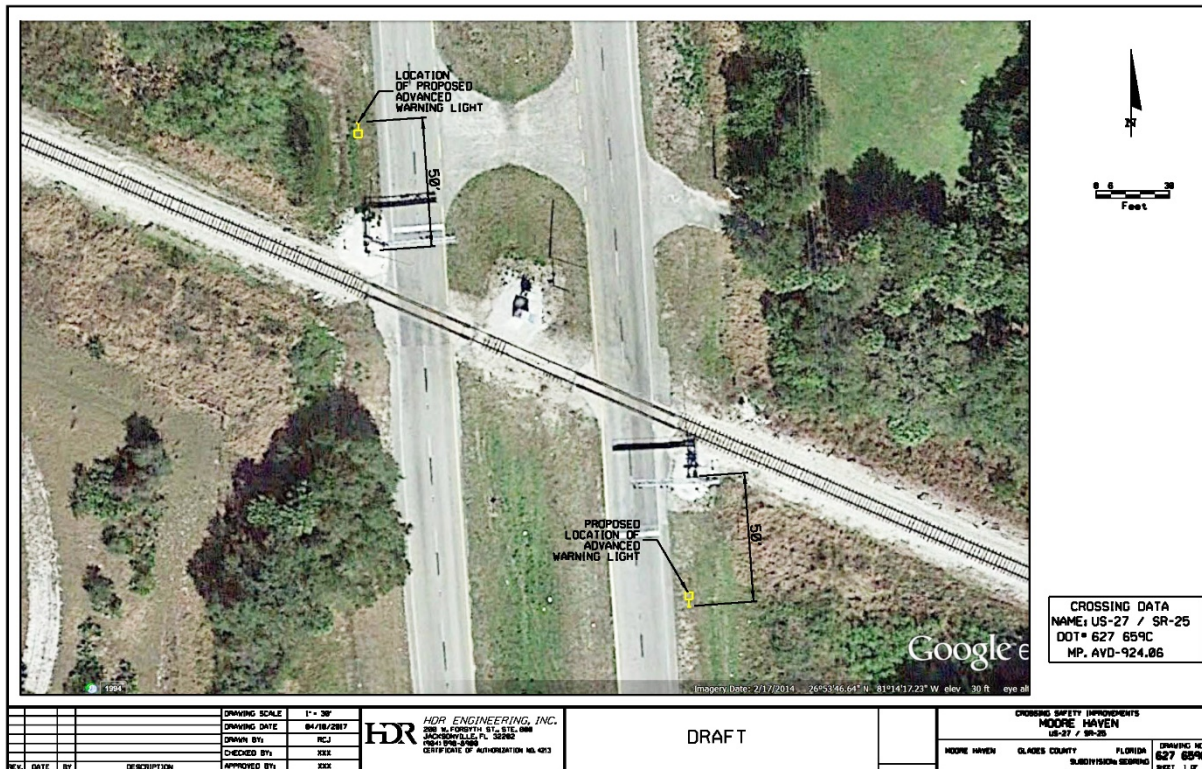


Table 15. US 27/SR 25 (627659C) - Interim Improvements Cost Summary

US 27 / SR 25 (627659C) - PROPOSED TOTAL SUMMARY				
Mainline Total Sequence No. 1	=			\$35,836
Project Sequences Subtotal	=			\$35,836
102-1 (Maintenance of Traffic)	25%			\$8,959
101-1 (Mobilization)	25%			\$11,199
Project Sequences Total	=			\$55,993
Project Unknowns	15%			\$8,399
Non Bid Components:		Unit	Unit Price	
999-25 (Initial Contingency)		LS	10,000.00	\$10,000
Project Non-Bid Subtotal				\$10,000
<b>PROJECT GRAND TOTAL</b>				<b>\$74,392</b>

#### 4.2.8 Spirit Lake Road/Avenue G (625396J) – CSX, Amtrak – Winter Haven, Polk County

##### Location

As seen in Figure 28, crossing 625396J is located to the west of the City of Winter Haven in Polk County near the intersection of Spirit Lake Road and Avenue G Northwest. According to the District One *Freight Mobility and Trade Plan*, the crossing is located within the Auburndale Freight Activity Center and Recker Highway to the west and the south is designated as a Regional Facility.

Figure 28. Spirit Lake Road/Avenue G (625396J) - Crossing Location & Street View



### Condition Summary

This location received the eighth highest RGSPS score in the Phase II evaluation. This high score is due to the high maximum speed of trains, freight hub proximity, high V/C ratio, and designation as an evacuation route. Traffic incidents at this location are associated with vehicles stopping on both the Spirit Lake Road crossing and the Avenue G Northwest crossing.

Figure 29 summarizes the fourteen criterion used to establish the RGSPS score for this crossing.

Figure 29. Spirit Lake Road/Avenue G (625396J) - Crossing Location Statistics Summary

<b>Crossing ID:</b> 625396J	<b>Train Count:</b> 13	<b>Score:</b> 3	<b>Road Max Speed:</b> 30 mph	<b>Score:</b> 2
<b>Cross Street:</b> Spirit Lake Rd	<b>Train Max Speed:</b> 79 mph	<b>Score:</b> 5	<b>Freight Corridor:</b> No	<b>Score:</b> 0
<b>Lanes:</b> 2LU	<b>SIS Road:</b> No	<b>Score:</b> 0	<b>Freight Hub Proximity:</b> 0 mi	<b>Score:</b> 5
<b>City:</b> Winter Haven	<b>Evacuation Route:</b> Yes	<b>Score:</b> 5	<b>V/C Ratio:</b> 0.87	<b>Score:</b> 5
<b>County:</b> Polk	<b>AADT:</b> 12,900	<b>Score:</b> 3	<b>Crossing Maint. Cost:</b> \$ 2,834	<b>Score:</b> 2
<b>Total Score:</b> 42	<b>Truck AADT:</b> 1,240	<b>Score:</b> 3	<b>Crashes:</b> 42	<b>Score:</b> 4
<b>Rank:</b> 12	<b>Truck Pct:</b> 9.6 %	<b>Score:</b> 2	<b>Land Use:</b> Commercial	<b>Score:</b> 3

<http://maps.google.com/maps?q=&layer=c&cbll=28.0287227008317,-81.7760741998296>

**Recommendations**

This location has been identified as a candidate for grade separation. Preliminary improvements and cost estimates for grade separation improvement have been prepared and are provided in Figure 30 and Table 16. These improvements address challenges associated with the proximity of the Spirit Lake Road and Avenue G crossings, roadway geometry constraints, and right-of-way constraints and land use conflicts. Interim improvements were not identified for this location, but should be developed as part of a future planning effort.

Figure 30. Spirit Lake Road/Avenue G (625396J) - Preliminary Grade Separated Concept Plan

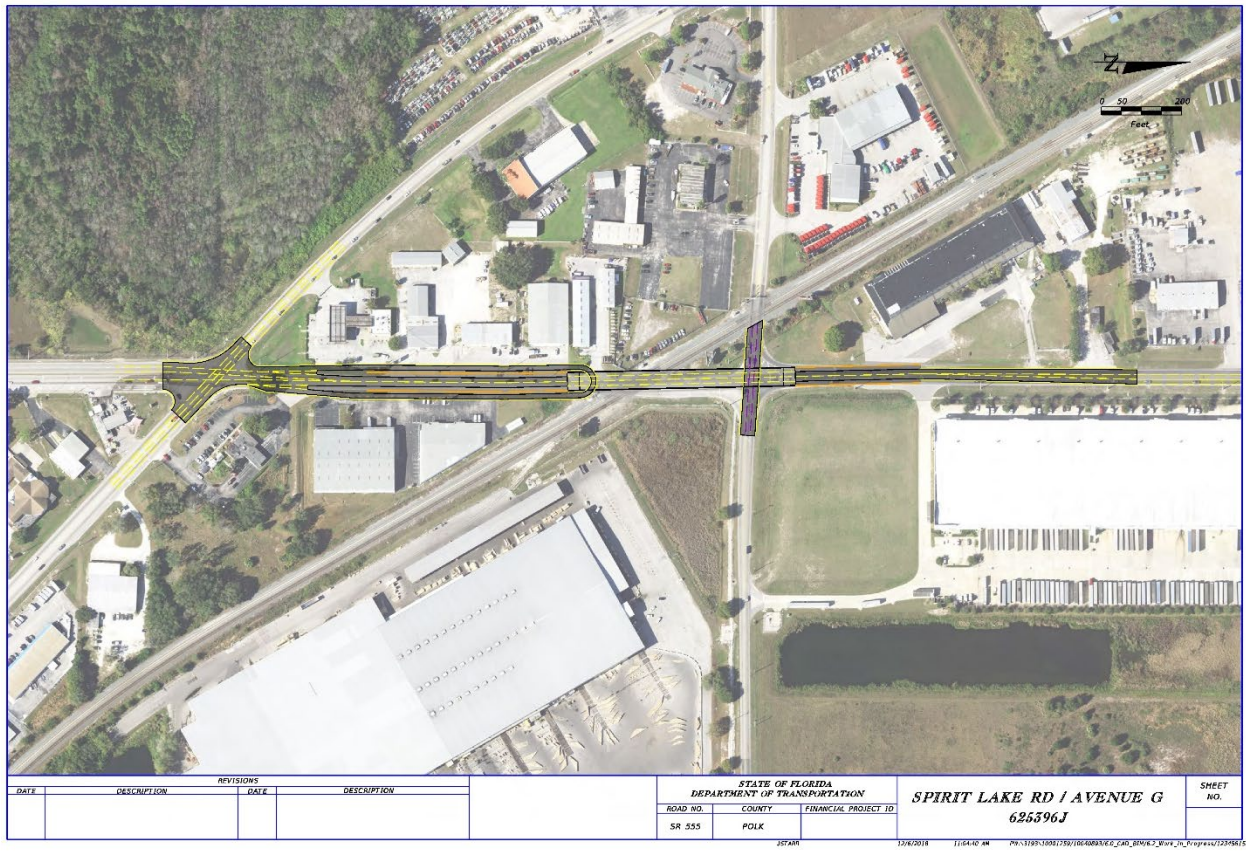


Table 16. Spirit Lake Road/Avenue G (625396J) - Preliminary Grade Separation Cost Summary

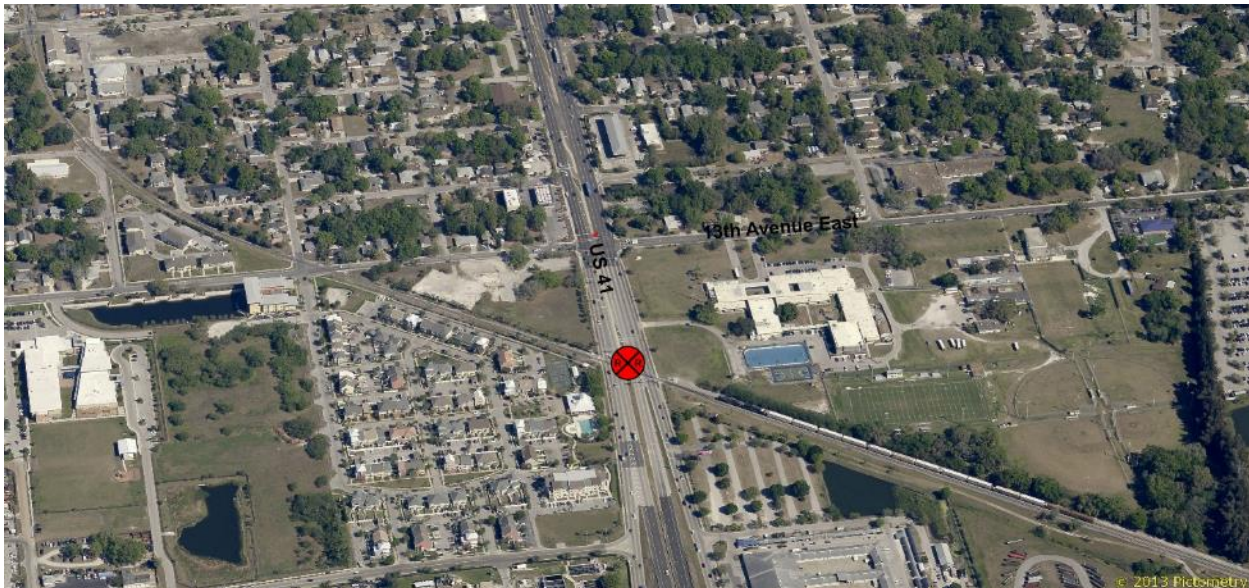
Spirit Lake Road / Avenue G (625396J) - PROPOSED TOTAL SUMMARY				
Mainline Total Sequence No. 1	=			\$2,151,314
Bridges Total Sequence No. 2	=			\$4,822,200
Retaining Wall Total Sequence No. 3	=			\$970,400
Project Sequences Subtotal	=			\$7,943,914
102-1 (Maintenance of Traffic)	30%			\$2,383,174
101-1 (Mobilization)	10%			\$1,032,709
Project Sequences Total	=			\$11,359,796
Project Unknowns	35%			\$3,975,929
Design Build	0%			\$0
None Bid Components:		Unit	Unit Price	
999-25 (Initial Contingency)		LS	75,000.00	\$75,000
Project Non-Bid Subtotal				\$75,000
<b>PROJECT GRAND TOTAL</b>				<b>\$15,410,725</b>

#### 4.2.9 US 41/US 301 (624712B) – CSX – Bradenton, Manatee County

##### Location

As seen in Figure 31, crossing 624712B is located in the City of Bradenton in Manatee County near the intersection of US 41 and 13<sup>th</sup> Avenue East. According to the District One *Freight Mobility and Trade Plan*, the crossing is located to the west of the Tropicana Area Freight Activity Center and US 41 is designated as a Regional Facility.

Figure 31. US 41/US 301 (624712B) - Crossing Location & Street View





### Condition Summary

This location received the ninth highest RGSPS score in the Phase II evaluation. This high score is due to the high AADT and V/C Ratio, and US 41’s designation as a freight corridor and evacuation route. Traffic incidents at this location are associated with vehicles using the railroad crossing for U-turns. Improvements to address this issue are under consideration.

Figure 32 summarizes the fourteen criterion used to establish the RGSPS score for this crossing.

Figure 32. US 41/US 301 (624712B) - Crossing Location Statistics Summary

<b>Crossing ID:</b> 624712B	<b>Train Count:</b> 1	<b>Score:</b> 1	<b>Road Max Speed:</b> 45 mph	<b>Score:</b> 3
<b>Cross Street:</b> US 41/301/SR 55/683	<b>Train Max Speed:</b> 20 mph	<b>Score:</b> 2	<b>Freight Corridor:</b> Yes	<b>Score:</b> 5
<b>Lanes:</b> 6/8LD	<b>SIS Road:</b> No	<b>Score:</b> 0	<b>Freight Hub Proximity:</b> 1.5 mi	<b>Score:</b> 3
<b>City:</b> Bradenton	<b>Evacuation Route:</b> Yes	<b>Score:</b> 5	<b>V/C Ratio:</b> 0.87	<b>Score:</b> 5
<b>County:</b> Manatee	<b>AADT:</b> 61,000	<b>Score:</b> 5	<b>Crossing Maint. Cost:</b> \$ 1,701	<b>Score:</b> 1
<b>Total Score:</b> 41	<b>Truck AADT:</b> 2,870	<b>Score:</b> 4	<b>Crashes:</b> 45	<b>Score:</b> 4
<b>Rank:</b> 14	<b>Truck Pct:</b> 4.7 %	<b>Score:</b> 1	<b>Land Use:</b> Mixed-Use	<b>Score:</b> 2

[http://maps.google.com/maps?q=&layer=c&cbll=27.4865201009528\\_-82.5628803002587](http://maps.google.com/maps?q=&layer=c&cbll=27.4865201009528_-82.5628803002587)

### Recommendations

This location has been identified as a candidate for grade separation. Preliminary improvements and cost estimates for grade separation improvement have been prepared and are provided in Figure 33 and Table 17. These improvements address impacts on 13th Avenue and 17th Avenue intersections. Improvements completed in December 2018 include installation of Quick Kurb or other similar improvements to deter vehicles from crossing multiple lanes and making U-turns on the crossing.

Figure 33. US 41/US 301 (624712B) - Preliminary Grade Separated Concept Plan

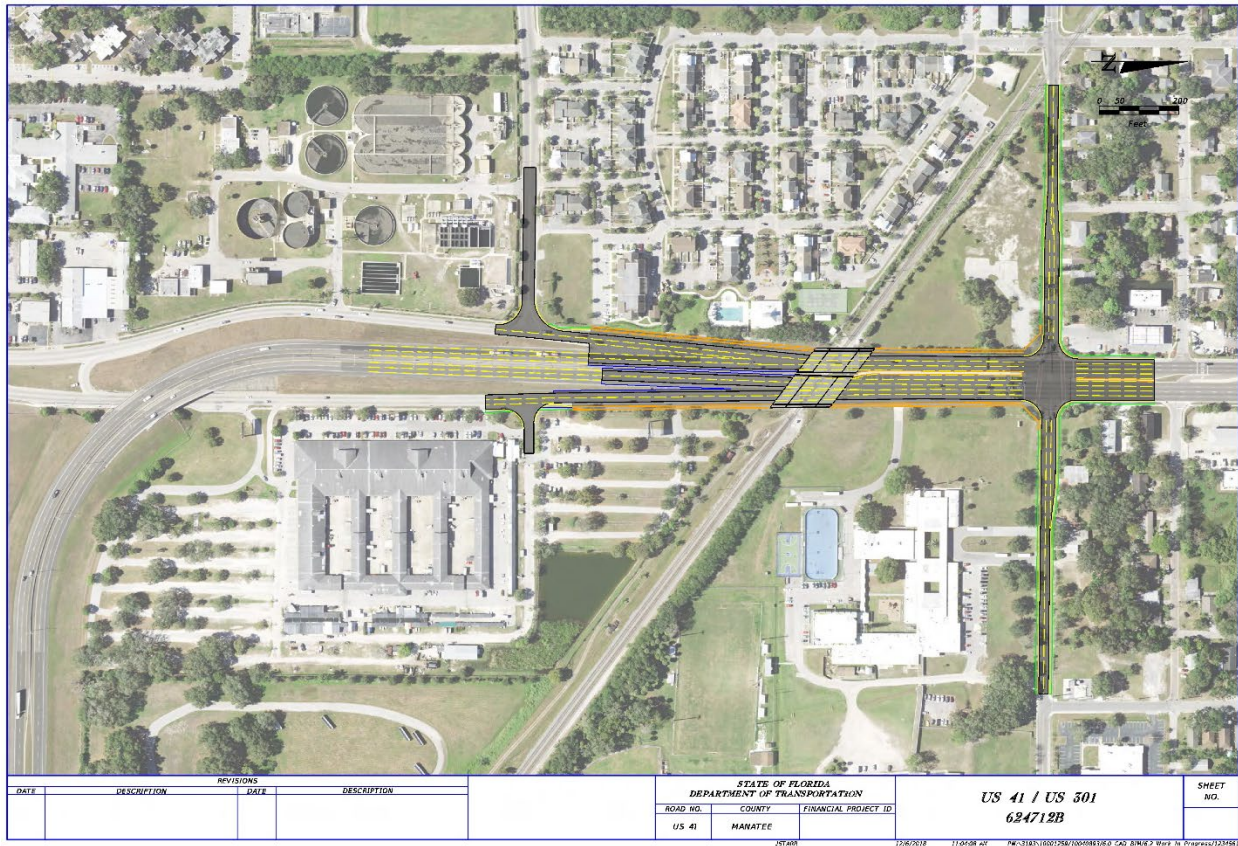


Table 17. US 41/US 301 (624712B) - Preliminary Grade Separation Cost Summary

US 41 / US 301 (624712B) - PROPOSED TOTAL SUMMARY				
Mainline Total Sequence No. 1	=			\$4,969,446
Side Streets Total Sequence No. 2	=			\$542,042
Bridges Total Sequence No. 3	=			\$3,780,000
Retaining Wall Total Sequence No. 4	=			\$1,081,996
Project Sequences Subtotal	=			\$10,373,484
102-1 (Maintenance of Traffic)	35%			\$3,630,719
101-1 (Mobilization)	10%			\$1,400,420
Project Sequences Total	=			\$15,404,623
Project Unknowns	40%			\$6,161,849
Design Build	0%			\$0
None Bid Components:		Unit	Unit Price	
999-25 (Initial Contingency)		LS	75,000.00	\$75,000
Project Non-Bid Subtotal				\$75,000
<b>PROJECT GRAND TOTAL</b>				<b>\$21,641,473</b>

#### 4.2.10 CR 542-A/Galloway Rd (622863J) – CSX – Lakeland, Polk County

##### Location

As seen in Figure 34, crossing 622863J is located to the west of the City of Lakeland in Polk County near the intersection of CR 542-A and Kathleen Road. According to the District One Freight Mobility and Trade Plan, the crossing is not located within a Freight Activity Center and Galloway Road is not designated as a Freight Mobility Corridor.

Figure 34. CR 542-A/Galloway Rd (622863J) - Crossing Location & Street View



##### Condition Summary

This location received the tenth highest RGSPS score in the Phase II evaluation. This score is due to the high train travel speeds, and a high V/C ratio.

Figure 35 summarizes the fourteen criterion used to establish the RGSPS score for this crossing.



Figure 35. CR 542-A/Galloway Rd (622863J) - Crossing Location Statistics Summary

<b>Crossing ID:</b> 622863J	<b>Train Count:</b> 12	<b>Score:</b> 3	<b>Road Max Speed:</b> 45 mph	<b>Score:</b> 3
<b>Cross Street:</b> CR 542-A/Galloway Rd	<b>Train Max Speed:</b> 60 mph	<b>Score:</b> 5	<b>Freight Corridor:</b> No	<b>Score:</b> 0
<b>Lanes:</b> 2LD	<b>SIS Road:</b> No	<b>Score:</b> 0	<b>Freight Hub Proximity:</b> 1.1 mi	<b>Score:</b> 3
<b>City:</b> Lakeland	<b>Evacuation Route:</b> No	<b>Score:</b> 0	<b>V/C Ratio:</b> 0.61	<b>Score:</b> 4
<b>County:</b> Polk	<b>AADT:</b> 10,300	<b>Score:</b> 3	<b>Crossing Maint. Cost:</b> \$ 3,605	<b>Score:</b> 2
<b>Total Score:</b> 33	<b>Truck AADT:</b> 540	<b>Score:</b> 1	<b>Crashes:</b> 16	<b>Score:</b> 2
<b>Rank:</b> 17	<b>Truck Pct:</b> 5.2 %	<b>Score:</b> 2	<b>Land Use:</b> Agriculture/ Undeveloped	<b>Score:</b> 5

[http://maps.google.com/maps?q=&layer=c&cbll=26.0960309009888\\_82.0066468002182](http://maps.google.com/maps?q=&layer=c&cbll=26.0960309009888_82.0066468002182)

### Recommendations

This location has been identified as a candidate for grade separation. Preliminary improvements and cost estimates for grade separation improvement have been prepared and are provided in Figure 36 and Table 18. These improvements address challenges associated with impacts on the local roadway network, specifically impacts on the Mt Tabor Road and North Galloway Road intersection and the CR 35 Alt and North Galloway Road intersection. Interim improvements were not identified for this location.

Figure 36. CR 542-A/Galloway Rd (622863J) - Preliminary Grade Separated Concept Plan

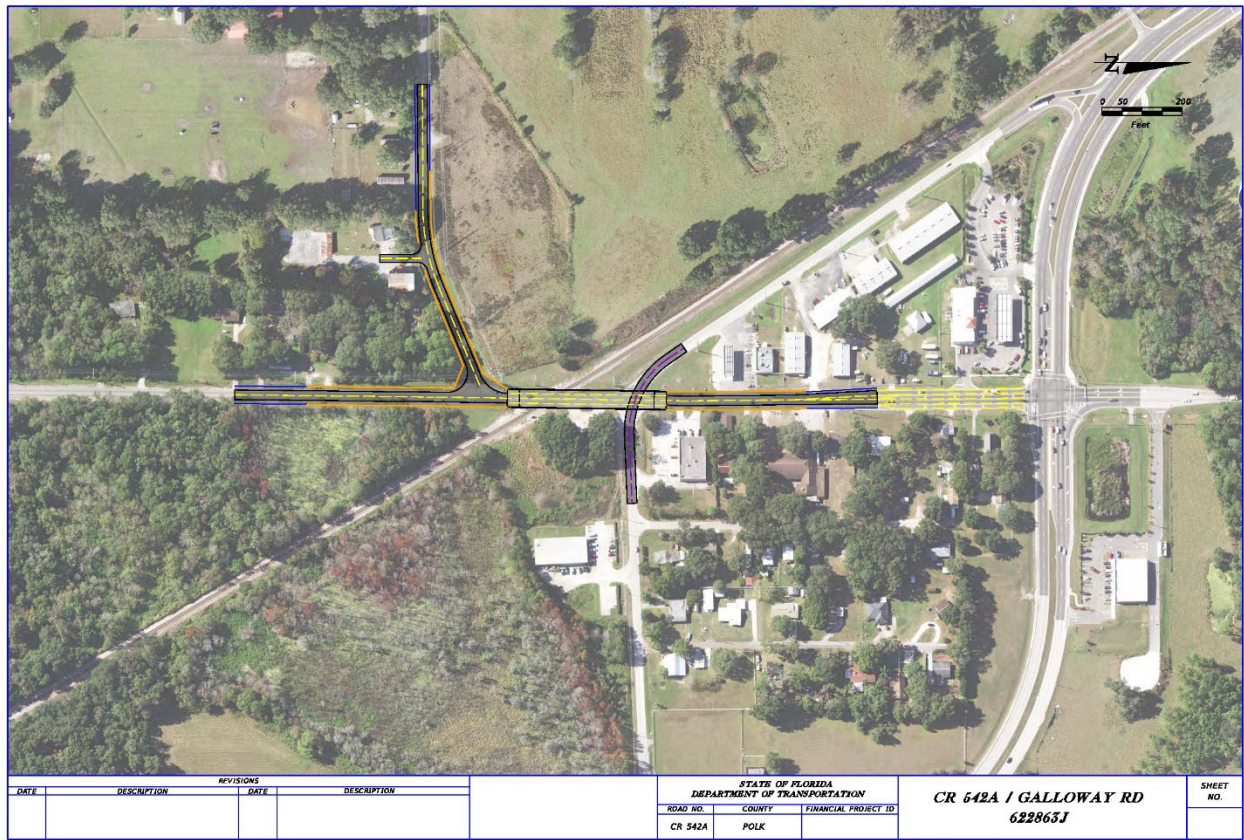


Table 18. CR 542-A/Galloway Rd (622863J) - Preliminary Grade Separation Cost Summary

CR 542-A / Galloway Rd (622863J) - PROPOSED TOTAL SUMMARY				
Mainline Total Sequence No. 1	=			\$1,407,090
Side Streets Total Sequence No. 2	=			\$827,574
Bridges Total Sequence No. 3	=			\$3,384,000
Retaining Wall Total Sequence No. 4	=			\$1,370,690
Project Sequences Subtotal	=			\$6,989,354
102-1 (Maintenance of Traffic)	35%			\$2,446,274
101-1 (Mobilization)	10%			\$943,563
Project Sequences Total	=			\$10,379,190
Project Unknowns	40%			\$4,151,676
Design Build	0%			\$0
None Bid Components:		Unit	Unit Price	
999-25 (Initial Contingency)		LS	75,000.00	\$75,000
Project Non-Bid Subtotal				\$75,000
<b>PROJECT GRAND TOTAL</b>				<b>\$14,605,866</b>

## 5.0 Conclusion

This study was undertaken to evaluate highway-rail grade crossings throughout District One, identify priority locations for improvements, and define improvement concepts and preliminary costs. The study resulted in the identification of 10 highway-rail grade crossings as potential candidates for safety improvements and highway-rail grade separation improvements.

Based on an evaluation of safety, capacity, condition, context, and other factors, the highway-rail grade crossing at County Line Road and US 92 (Crossing ID: 624304R) in Polk County was identified as the highest priority location for the consideration of improvements, including grade separation of the crossing. This location experiences significant truck queuing and passenger vehicle traffic, and crash incidents have resulted in high maintenance costs due to instances of broken stop gates. The other nine highest ranking locations, located in Polk, Okeechobee, Hendry, Glades, and Manatee counties, were identified as candidates for possible safety improvements and grade separation. Only one location, the crossing location in Clewiston (Crossing ID: 627695X) in Hendry County, was not identified as a candidate for grade separation, but should continue to be monitored.

Through the on-going monitoring of conditions at highway-rail grade crossings and the implementation of safety, operation, and highway-rail grade separation improvements, District One can advance the region's goals for improving safety and mobility.

## 6.0 Appendix: Detailed Cost Estimates

The following section includes detailed cost estimates for each priority crossing location.

Figure 37. US 92/County Line Road (624304R) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**US 92 / County Line Road (624304R) - PROPOSED LRE - SEQUENCE 1: MAINLINE**

Source: Proposed LRE - Sequence 1: Mainline  
 Description: US 92 / County Line Road (624304R)  
 Special Conditions: Grade Separated Crossing

**KNOWN VALUES:**

Begin Project : MP A-857.03 = Sta.  
 End Project: MP N/A = Sta.  
 Project Length = MP = LF  
 Factor =

**EARTHWORK COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-1-1	Clearing & grubbing	7.500	AC	\$10,050.02	\$75,375.15
120-6	Embankment	175,000.000	CY	\$8.30	\$1,452,500.00
<b>Earthwork Component Total</b>					<b>\$1,527,875.15</b>

**ROADWAY COMPONENT**

FC-5, incl. Bit, PG-76-22	80	lb/sy-in			
SP Traffic C	330	lb/sy-in			
Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	25,000.000	SY	\$4.26	\$106,500.00
285-711	OBG 11	25,000.000	SY	\$18.94	\$473,500.00
334-1-13	SP Traffic C	4,025.000	TN	\$88.77	\$357,299.25
337-7-25	FC-5, incl. Bit, PG-76-22	1,010.000	TN	\$128.83	\$130,118.30

X-Item	Description	Quantity	Unit	Unit Price	Amount
Pay Item	Description				
<b>Pavement Marking Subcomponent</b>					
Description					
<b>Peripherals Subcomponent</b>					
Description					
<b>Roadway Component Total</b>					<b>\$1,067,417.55</b>

Figure 38. US 92/County Line Road (624304R) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SHOULDER COMPONENT**

No. of Shldr with barrier wall =	2	1 / each direction
Paved Shldr width =	10	
No. of shldr without barrier wall =	0	
Paved Shldr width =	0	
Total shldr width without barrier wall	0	
SP Traffic C	165	lb/sy-in

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	5,000.000	SY	\$4.26	\$21,300.00
285-704	OBG 04	3,700.000	SY	\$12.12	\$44,844.00
334-1-13	SP Traffic C	305.000	TN	\$88.77	\$27,074.85
520-1-10	Concrete C & G, Type F	5,000.000	LF	\$20.22	\$101,100.00
522-1	Sidewalk Conc., 4" Thick	1,900.000	SY	\$37.59	\$71,421.00
570-1-2	Performance Turf, Sod	10,000.000	SY	\$2.30	\$23,000.00

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
521-8-1	Conc Traf Rail Bar, Ret Wall	2,025.000	LF	\$155.55	\$314,988.75

**Shoulder Component Total** **\$603,728.60**

**MEDIAN COMPONENT**

Total Median Width	21	Average
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Pay Item	Description	Quantity	Unit	Unit Price	Amount
520-1-7	Concrete C & G, Type E	5,000.000	LF	\$15.44	\$77,200.00
520-5-11	Traffic Separator - 4' wide	330.000	LF	\$41.27	\$13,619.10
570-1-2	Performance Turf, Sod	2,800.000	SY	\$2.30	\$6,440.00

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
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**Median Component Total** **\$97,259.10**

**DRAINAGE COMPONENT**

Cost %	35.00% of Roadway, Shoulder, and Median Components	\$618,941.84
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**Drainage Component Total** **\$618,941.84**

**TOTAL SEQUENCE 1 =** **\$3,915,222.24**

Figure 39. US 92/County Line Road (624304R) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**US 92 / County Line Road (624304R) - PROPOSED LRE - SEQUENCE 2: BRIDGES**

Source: Proposed LRE - Sequence 2: Bridges  
 Description: US 92 / Country Line Road (624304R)  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP A-857.03 = Sta.  
 End Project: MP N/A = Sta.  
 Project Length = MP = LF  
 Factor =

**BRIDGE COMPONENT**

<b>Bridge No.</b>	<b>New</b>	
Description		New overpass - County Line Road over RR & US 92
Length		300
Width		85
Type		Overpass (over road/railroad)
Substructure Type		1 - Pile Bent
Superstructure Type		15 - Florida I-Beam
Foundation Type		1 - Prestressed Sq. Piles
Cost Factor		0
Default Cost per SF		\$155.00
Final Cost per SF		\$155.00
Basic Bridge Cost		\$3,952,500.00

Pay Items	Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
		Bridge	New	Total =		\$3,952,500.00
		<b>Bridge Component Total</b>				<b>\$3,952,500.00</b>

**TOTAL SEQUENCE 2 = \$3,952,500.00**

Figure 40. US 92/County Line Road (624304R) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**US 92 / County Line Road (624304R) - PROPOSED LRE - SEQUENCE 3: RETAINING WALLS**

Source: Proposed LRE - Sequence 3: Retaining Walls  
 Description: US 92 / Country Line Road (624304R)  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP AVD-924.06 = Sta.  
 End Project: MP N/A = Sta.  
 Project Length = MP = LF  
 Factor =

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**RETAINING WALL COMPONENT**

**Retaining Wall 1 - South of Side Street; East Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm, Exclude barrier	2,800.000	SF	\$24.26	\$67,928.00

**Retaining Wall 2 - South of Side Street; West Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	2,800.000	SF	\$24.26	\$67,928.00

**Retaining Wall 3 - South of Bridge; East Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	10,400.000	SF	\$24.26	\$252,304.00

**Retaining Wall 4 - South of Bridge; West Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	10,400.000	SF	\$24.26	\$252,304.00

**Retaining Wall 5 - North of Bridge; East Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm, Exclude barrier	7,500.000	SF	\$24.26	\$181,950.00

**Retaining Wall 6 - North of Bridge; West Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	7,500.000	SF	\$24.26	\$181,950.00

**Retaining Walls Component Total** **\$1,004,364.00**

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**TOTAL SEQUENCE 3 =** **\$1,004,364.00**

Figure 41. US 92/County Line Road (624304R) – Interim Improvements Cost Summary

**US 92 / County Line Road (624304R) - PROPOSED LRE**

**US 92 / County Line Road (624304R) - PROPOSED LRE - SEQUENCE 1: MAINLINE**

Source: Proposed LRE - Sequence 1: Mainline  
 Description: US 92 / Country Line Road (624304R)  
 Special Conditions: new advanced roadway warning lights and striping

**KNOWN VALUES:**

Begin Project : MP A-857.03 = Sta.  
 End Project: MP N/A = Sta.  
 Project Length = MP 0.000 = LF  
 Factor =

**ROADWAY COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>EX-Item</b>					
Pay Item	Description	Quantity	Unit	Unit Price	Amount
	Flagging for railroad crossing	40.000	HR	\$57.50	\$2,300.00
	Flagger pickup truck	40.000	HR	\$12.50	\$500.00
<b>Pavement Marking Subcomponent</b>					
Description New stop bar striping / removal of existing stop bars					
Pay Item	Description	Quantity	Unit	Unit Price	Amount
711-11-125	Thermo, Std, White, Solid, 24"	72.000	LF	\$4.24	\$305.28
<b>Peripherals Subcomponent</b>					
Description					
<b>Roadway Component Total</b>					<b>\$3,105.28</b>

**SIGNING COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
700-11-142	EDS, F&I, Ground Mount - AC, Elect Warning w/ Flashing Beacon	1.000	AS	\$9,971.81	\$9,971.81
700-12-12	Sign Beacon, F&I, Ground Mount - AC Two Beacons	1.000	AS	\$5,544.26	\$5,544.26
<b>X-Item</b>					
Pay Item	Description	Quantity	Unit	Unit Price	Amount
635-2-12	Pull & Junction Boxes, F&I	1.000	EA	\$1,281.77	\$1,281.77
<b>Signing Component Total</b>					<b>\$16,797.84</b>
<b>TOTAL SEQUENCE 1 =</b>					<b>\$19,903.12</b>



Figure 42. US 441/Parrott Ave (628062L) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**US 441 / Parrott Ave (628062L) - PROPOSED LRE - SEQUENCE 1: MAINLINE**

Source: Proposed LRE - Sequence 1: Mainline  
 Description: US 441 / Parrott Ave (628062L)  
 Special Conditions: Grade Separated Crossing

**KNOWN VALUES:**

Begin Project : MP A-908.78 = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**EARTHWORK COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-1-1	Clearing & grubbing	4.500	AC	\$10,050.02	\$45,225.09
120-6	Embankment	140,000.000	CY	\$8.30	\$1,162,000.00
<b>Earthwork Component Total</b>					<b>\$1,207,225.09</b>

**ROADWAY COMPONENT**

FC-5, incl. Bit, PG-76-22	80	lb/sy-in			
SP Traffic C	330	lb/sy-in			
Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	13,200.000	SY	\$4.26	\$56,232.00
285-711	OBG 11	13,200.000	SY	\$18.94	\$250,008.00
334-1-13	SP Traffic C	2,200.000	TN	\$88.77	\$195,294.00
337-7-25	FC-5, incl. Bit, PG-76-22	540.000	TN	\$128.83	\$69,568.20
<b>X-Item</b>					
Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>Pavement Marking Subcomponent</b>					
Description					
<b>Peripherals Subcomponent</b>					
Description					
<b>Roadway Component Total</b>					<b>\$571,102.20</b>

Figure 43. US 441/Parrott Ave (628062L) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SHOULDER COMPONENT**

No. of Shldr with barrier wall =	2	1 / each direction
Paved Shldr width =	10	
No. of shldr without barrier wall =	0	
Paved Shldr width =	0	
Total shldr width without barrier wall	0	
SP Traffic C	165	lb/sy-in

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	2,400.000	SY	\$4.26	\$10,224.00
285-704	OBG 04	2,200.000	SY	\$12.12	\$26,664.00
334-1-13	SP Traffic C	180.000	TN	\$88.77	\$15,978.60
520-1-10	Concrete C & G, Type F	2,200.000	LF	\$20.22	\$44,484.00
522-1	Sidewalk Conc., 4" Thick	900.000	SY	\$37.59	\$33,831.00
570-1-2	Performance Turf, Sod	4,000.000	SY	\$2.30	\$9,200.00

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
521-6-31	Conc. Parapet, w/ sidewalk, 27" high	2,000.000	LF	\$178.49	\$356,980.00
521-72-4	Shld Concrete Barrier, 38" height	2,000.000	LF	\$247.02	\$494,040.00

**Shoulder Component Total** **\$991,401.60**

**MEDIAN COMPONENT**

Total Median Width 19 Average

Pay Item	Description	Quantity	Unit	Unit Price	Amount
520-1-7	Concrete C & G, Type E	1,800.000	LF	\$15.44	\$27,792.00
520-5-11	Traffic Separator - 4' wide	600.000	LF	\$41.27	\$24,762.00

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
					<b>\$52,554.00</b>

**Median Component Total** **\$52,554.00**

**DRAINAGE COMPONENT**

Cost % 25.00% of Roadway, Shoulder, and Median Components \$403,764.45

**Drainage Component Total** **\$403,764.45**

**TOTAL SEQUENCE 1 =** **\$3,226,047.34**

Figure 44. US 441/Parrott Ave (628062L) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**US 441 / Parrott Ave (628062L) - PROPOSED LRE - SEQUENCE 2: SIDE STREETS**

Source: Proposed LRE - Sequence 2: Side Streets  
 Description: US 441 / Parrott Ave (628062L)  
 Special Conditions: Grade Separated Crossing

**KNOWN VALUES:**

Begin Project : MP A-908.78 = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**EARTHWORK COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-1-1	Clearing & grubbing	3.000	AC	\$10,050.02	\$30,150.06
120-6	Embankment	15,000.000	CY	\$8.30	\$124,500.00
<b>Earthwork Component Total</b>					<b>\$154,650.06</b>

**ROADWAY COMPONENT**

FC-5, incl. Bit, PG-76-22	80	lb/sy-in				
SP Traffic C	330	lb/sy-in				
Pay Item	Description	Quantity	Unit	Unit Price	Amount	
160-4	Type B Stabilization	8,800.000	SY	\$4.26	\$37,488.00	
285-711	OBG 11	8,800.000	SY	\$18.94	\$166,672.00	
334-1-13	SP Traffic C	1,400.000	TN	\$88.77	\$124,278.00	
337-7-25	FC-5, incl. Bit, PG-76-22	360.000	TN	\$128.83	\$46,378.80	
X-Item	Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>Pavement Marking Subcomponent</b>						
Description						
<b>Peripherals Subcomponent</b>						
Description						
<b>Roadway Component Total</b>					<b>\$374,816.80</b>	

Figure 45. US 441/Parrott Ave (628062L) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SHOULDER COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
520-1-10	Concrete C & G, Type F	6,000.000	LF	\$20.22	\$121,320.00
570-1-2	Performance Turf, Sod	8,000.000	SY	\$2.30	\$18,400.00

X-Item					
Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>Shoulder Component Total</b>					<b>\$139,720.00</b>

**MEDIAN COMPONENT**

Total Median Width	0	Average			
Pay Item	Description	Quantity	Unit	Unit Price	Amount
X-Item					
Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>Median Component Total</b>					<b>\$0.00</b>

**DRAINAGE COMPONENT**

Cost %	35.00% of Roadway, Shoulder, and Median Components				\$180,087.88
<b>Drainage Component Total</b>					<b>\$180,087.88</b>
<b>TOTAL SEQUENCE 2 =</b>					<b>\$849,274.74</b>

Figure 46. US 441/Parrott Ave (628062L) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**US 441 / Parrott Ave (628062L) - PROPOSED LRE - SEQUENCE 3: BRIDGES**

Source: Proposed LRE - Sequence 3: Bridges  
 Description: US 441 / Parrott Ave (628062L)  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP A-908.78 = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**BRIDGE COMPONENT**

<b>Bridge No.</b>	<b>New</b>	
Description		New overpass - US 441 over RR
Length		104
Width		60
Type		Overpass (over road/railroad)
Substructure Type		1 - Pile Bent
Superstructure Type		15 - Florida I-Beam
Foundation Type		1 - Prestressed Sq. Piles
Cost Factor		0
Default Cost per SF		\$155.00
Final Cost per SF		\$155.00
Basic Bridge Cost		\$967,200.00

**Pay Items**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
	Bridge	New	Total =		\$967,200.00
	<b>Bridge Component Total</b>				<b>\$967,200.00</b>

**TOTAL SEQUENCE 3 = \$967,200.00**

Figure 47. US 441/Parrott Ave (628062L) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**US 441 / Parrott Ave (628062L) - PROPOSED LRE - SEQUENCE 4: RETAINING WALLS**

Source: Proposed LRE - Sequence 4: Retaining Walls  
 Description: US 441 / Parrott Ave (628062L)  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP A-908.78 = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

---

**RETAINING WALL COMPONENT**

**Retaining Wall 1 - South of Bridge; East Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm, Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00

**Retaining Wall 2 - South of Side Street; West Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm, Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00

**Retaining Wall 3 - North of Bridge; East Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00

**Retaining Wall 4 - North of Bridge; West Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00

**Retaining Walls Component Total** **\$1,067,440.00**

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**TOTAL SEQUENCE 4 =** **\$1,067,440.00**

Figure 48. US 441/Parrott Ave (628062L) – Interim Improvements Cost Summary

**US 441 / Parrott Ave (628062L) - PROPOSED LRE**

**US 441 / Parrott Ave (628062L) - PROPOSED LRE - SEQUENCE 1: MAINLINE**

Source: Proposed LRE - Sequence 1: Mainline  
 Description: US 441 / Parrott Ave (628062L)  
 Special Conditions: median curb replacement

**KNOWN VALUES:**

Begin Project : MP A-908.78 = Sta.  
 End Project: MP N/A = Sta.  
 Project Length = MP 520.000 = LF  
 Factor =

**ROADWAY COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-1-1	Clearing & Grubbing	1.000	LS/AC	\$2,000.00	\$2,000.00
120-6	Embankment	65.000	CY	\$8.30	\$539.50
520-1-10	Concrete Curb & Gutter, Type F	706.000	LF	\$20.22	\$14,275.32
520-5-11	Traffic Separator - Type I, 4' Wide	185.000	LF	\$41.27	\$7,634.95
570-1-2	Performance Turf, Sod	700.000	SY	\$2.30	\$1,610.00

**EX-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
	Flagging for railroad crossing	40.000	HR	\$57.50	\$2,300.00
	Flagger pickup truck	40.000	HR	\$12.50	\$500.00

**Pavement Marking Subcomponent**

**Description**

New median striping

Pay Item	Description	Quantity	Unit	Unit Price	Amount
711-15-201	Thermo, Std, Yellow, Solid, 6"	0.204	GM	\$4,237.06	\$864.36

**Peripherals Subcomponent**

**Description**

**Roadway Component Total** **\$29,724.13**

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**TOTAL SEQUENCE 1 =** **\$29,724.13**

Figure 49. SR 60/Nichols Rd (624525T) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SR 60 / Nichols Road (624525T) - PROPOSED LRE - SEQUENCE 1: MAINLINE**

Source: Proposed LRE - Sequence 1: Mainline  
 Description: SR 60 / Nichols Road (624525T)  
 Special Conditions: Grade Separated Crossing

**KNOWN VALUES:**

Begin Project : MP SV-840.62 = Sta.  
 End Project: MP N/A = Sta.  
 Project Length = MP = LF  
 Factor =

**EARTHWORK COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-1-1	Clearing & grubbing	7.500	AC	\$10,050.02	\$75,375.15
120-6	Embankment	205,000.000	CY	\$8.30	\$1,701,500.00
<b>Earthwork Component Total</b>					<b>\$1,776,875.15</b>

**ROADWAY COMPONENT**

FC-5, incl. Bit, PG-76-22 80 lb/sy-in  
 SP Traffic C 330 lb/sy-in

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	25,000.000	SY	\$4.26	\$106,500.00
285-711	OBG 11	25,000.000	SY	\$18.94	\$473,500.00
334-1-13	SP Traffic C	4,005.000	TN	\$88.77	\$355,523.85
337-7-25	FC-5, incl. Bit, PG-76-22	1,005.000	TN	\$128.83	\$129,474.15

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
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**Pavement Marking Subcomponent**

Description

**Peripherals Subcomponent**

Description

**Roadway Component Total \$1,064,998.00**



Figure 50. SR 60/Nichols Rd (624525T) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SHOULDER COMPONENT**

No. of Shldr with barrier wall =	2	1 / each direction
Paved Shldr width =	6	
No. of shldr without barrier wall =	2	
Paved Shldr width =	5	
Total shldr width without barrier wall	0	
SP Traffic C	165	lb/sy-in

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	6,000.000	SY	\$4.26	\$25,560.00
285-704	OBG 04	4,500.000	SY	\$12.12	\$54,540.00
334-1-13	SP Traffic C	375.000	TN	\$88.77	\$33,288.75
520-1-10	Concrete C & G, Type F	3,200.000	LF	\$20.22	\$64,704.00
570-1-2	Performance Turf, Sod	9,000.000	SY	\$2.30	\$20,700.00

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
521-8-1	Conc Traf Rail Bar, Ret Wall	2,175.000	LF	\$155.55	\$338,321.25

**Shoulder Component Total** **\$537,114.00**

**MEDIAN COMPONENT**

Total Median Width	22	Average
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Pay Item	Description	Quantity	Unit	Unit Price	Amount
520-1-7	Concrete C & G, Type E	5,250.000	LF	\$15.44	\$81,060.00
570-1-2	Performance Turf, Sod	3,700.000	SY	\$2.30	\$8,510.00

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
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**Median Component Total** **\$89,570.00**

**DRAINAGE COMPONENT**

Cost %	30.00% of Roadway, Shoulder, and Median Components	\$507,504.60
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**Drainage Component Total** **\$507,504.60**

**TOTAL SEQUENCE 1 =** **\$3,976,061.75**

Figure 51. SR 60/Nichols Rd (624525T) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SR 60 / Nichols Road (624525T) - PROPOSED LRE - SEQUENCE 2: BRIDGES**

Source: Proposed LRE - Sequence 2: Bridges  
 Description: SR 60 / Nichols Road (624525T)  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP SV-840.62 = Sta.  
 End Project: MP N/A = Sta.  
 Project Length = MP = LF  
 Factor =

**BRIDGE COMPONENT**

<b>Bridge No.</b>	<b>New</b>	
Description		New overpass - SR 60 over RR & Nichols Rd
Length		362
Width		84
Type		Overpass (over road/railroad)
Substructure Type		1 - Pile Bent
Superstructure Type		15 - Florida I-Beam
Foundation Type		1 - Prestressed Sq. Piles
Cost Factor		0
Default Cost per SF		\$175.00
Final Cost per SF		\$175.00
Basic Bridge Cost		\$5,321,400.00

**Pay Items**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
	Bridge	New	Total =		\$5,321,400.00
	<b>Bridge Component Total</b>				<b>\$5,321,400.00</b>

**TOTAL SEQUENCE 2 = \$5,321,400.00**

Figure 52. SR 60/Nichols Rd (624525T) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SR 60 / Nichols Road (624525T) - PROPOSED LRE - SEQUENCE 3: RETAINING WALLS**

Source: Proposed LRE - Sequence 3: Retaining Walls  
 Description: SR 60 / Nichols Road (624525T)  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP SV-840.62 = Sta.  
 End Project: MP N/A = Sta.  
 Project Length = MP = LF  
 Factor =

---

**RETAINING WALL COMPONENT**

**Retaining Wall 1 - EB SR 60; Bridge Approach**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm, Exclude barrier	11,250.000	SF	\$24.26	\$272,925.00

**Retaining Wall 2 - WB SR 60; Bridge Departure**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	9,000.000	SF	\$24.26	\$218,340.00

**Retaining Wall 3 - EB SR 60; Bridge Departure**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	11,310.000	SF	\$24.26	\$274,380.60

**Retaining Wall 4 - WB SR 60; Bridge Approach**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	11,250.000	SF	\$24.26	\$272,925.00

**Retaining Walls Component Total** **\$1,038,570.60**

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**TOTAL SEQUENCE 3 =** **\$1,038,570.60**

Figure 53. SR 60/Nichols Rd (624525T) – Interim Improvements Cost Summary

**SR 60 / Nichols Road (624525T) - PROPOSED LRE**

**SR 60 / Nichols Road (624525T) - PROPOSED LRE - SEQUENCE 1: MAINLINE**

Source: Proposed LRE - Sequence 1: Mainline  
 Description: SR 60 / Nichols Road (624525T)  
 Special Conditions: median curb replacement

**KNOWN VALUES:**

Begin Project : MP SV-840.62 = Sta.  
 End Project: MP N/A = Sta.  
 Project Length = MP 505.000 = LF  
 Factor =

**ROADWAY COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-4-10	Removal of Existing Concrete	340.000	SY	\$15.72	\$5,344.80
520-5-12	Traffic Separator - Type I, 6' Wide	505.000	LF	\$50.80	\$25,654.00

**EX-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
	Flagging for railroad crossing	40.000	HR	\$57.50	\$2,300.00
	Flagger pickup truck	40.000	HR	\$12.50	\$500.00

**Pavement Marking Subcomponent**

**Description**

New median striping

Pay Item	Description	Quantity	Unit	Unit Price	Amount
711-15-201	Thermo, Std, Yellow, Solid, 6"	0.196	GM	\$4,237.06	\$830.46

**Peripherals Subcomponent**

**Description**

**Roadway Component Total** **\$34,629.26**

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**TOTAL SEQUENCE 1 =** **\$34,629.26**

Figure 54. US 27/SR 80 (627695X) – Interim Improvements Cost Summary

**US 27 / SR 80 (627695X) - PROPOSED LRE**

**US 27 / SR 80 (627695X) - PROPOSED LRE - SEQUENCE 1: MAINLINE**

Source: Proposed LRE - Sequence 1: Mainline  
 Description: US 27 / SR 80 (627695X)  
 Special Conditions: new advanced roadway warning lights

**KNOWN VALUES:**

Begin Project : MP AVD-945.88 = Sta.  
 End Project: MP N/A = Sta.  
 Project Length = MP 0.000 = LF  
 Factor =

**ROADWAY COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>EX-Item</b>					
Pay Item	Description	Quantity	Unit	Unit Price	Amount
	Flagging for railroad crossing	40.000	HR	\$57.50	\$2,300.00
	Flagger pickup truck	40.000	HR	\$12.50	\$500.00
<b>Pavement Marking Subcomponent</b>					
Description					
<b>Peripherals Subcomponent</b>					
Description					
<b>Roadway Component Total</b>					<b>\$2,800.00</b>

**SIGNING COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
700-11-142	EDS, F&I, Ground Mount - AC, Elect Warning w/ Flashing Beacon	2.000	AS	\$9,971.81	\$19,943.62
700-12-12	Sign Beacon, F&I, Ground Mount - AC Two Beacons	2.000	AS	\$5,544.26	\$11,088.52
<b>X-Item</b>					
Pay Item	Description	Quantity	Unit	Unit Price	Amount
635-2-12	Pull & Junction Boxes, F&I	2.000	EA	\$1,281.77	\$2,563.54
<b>Signing Component Total</b>					<b>\$33,595.68</b>
<b>TOTAL SEQUENCE 1 =</b>					<b>\$36,395.68</b>

Figure 55. SR60/Mosaic – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SR 60 / Mosaic (908367H) - PROPOSED LRE - SEQUENCE 1: MAINLINE**

Source: Proposed LRE - Sequence 1: Mainline  
 Description: SR 60 / Mosaic (908367H)  
 Special Conditions: Grade Separated Crossing

**KNOWN VALUES:**

Begin Project : MP = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**EARTHWORK COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-1-1	Clearing & grubbing	4.000	AC	\$10,050.02	\$40,200.08
120-6	Embankment	145,000.000	CY	\$8.30	\$1,203,500.00
<b>Earthwork Component Total</b>					<b>\$1,243,700.08</b>

**ROADWAY COMPONENT**

FC-5, incl. Bit, PG-76-22	80	lb/sy-in			
SP Traffic C	330	lb/sy-in			
Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	9,200.000	SY	\$4.26	\$39,192.00
285-711	OBG 11	9,200.000	SY	\$18.94	\$174,248.00
334-1-13	SP Traffic C	1,510.000	TN	\$88.77	\$134,042.70
337-7-25	FC-5, incl. Bit, PG-76-22	380.000	TN	\$128.83	\$48,955.40

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
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**Pavement Marking Subcomponent**

Description

**Peripherals Subcomponent**

Description

**Roadway Component Total** **\$396,438.10**

Figure 56. SR60/Mosaic – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SHOULDER COMPONENT**

No. of Shldr with barrier wall =	2	1 / each direction
Paved Shldr width =	6	
No. of shldr without barrier wall =	2	
Paved Shldr width =	5	
Total shldr width without barrier wall	12	
SP Traffic C	165	lb/sy-in

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	2,100.000	SY	\$4.26	\$8,946.00
285-704	OBG 04	1,950.000	SY	\$12.12	\$23,634.00
334-1-13	SP Traffic C	165.000	TN	\$88.77	\$14,647.05
570-1-2	Performance Turf, Sod	3,000.000	SY	\$2.30	\$6,900.00

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
521-8-1	Conc Traf Rail Bar, Ret Wall	1,315.000	LF	\$155.55	\$204,548.25

**Shoulder Component Total** **\$258,675.30**

**MEDIAN COMPONENT**

Total Median Width	40	Average
No. of Shldr with barrier wall =	2	1 / each direction
Paved Shldr width =	10	
No. of shldr without barrier wall =	2	1 / each direction
Paved Shldr width =	10	
Total shldr width without barrier wall	12	
SP Traffic C	165	lb/sy-in

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	2,300.000	SY	\$4.26	\$9,798.00
285-704	OBG 04	2,100.000	SY	\$12.12	\$25,452.00
334-1-13	SP Traffic C	175.000	TN	\$88.77	\$15,534.75
520-1-7	Concrete C & G, Type E	350.000	LF	\$15.44	\$5,404.00
570-1-2	Performance Turf, Sod	3,000.000	SY	\$2.30	\$6,900.00

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
521-8-1	Conc Traf Rail Bar, Ret Wall	1,315.000	LF	\$155.55	\$204,548.25

**Median Component Total** **\$216,852.25**

**DRAINAGE COMPONENT**

Cost %	30.00% of Roadway, Shoulder, and Median Components	\$261,589.70
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**Drainage Component Total** **\$261,589.70**

**TOTAL SEQUENCE 1 =** **\$2,377,255.43**





Figure 58. SR60/Mosaic – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SR 60 / Mosaic (908367H) - PROPOSED LRE - SEQUENCE 3: RETAINING WALLS**

Source: Proposed LRE - Sequence 3: Retaining Walls  
 Description: SR 60 / Mosaic (908367H)  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**RETAINING WALL COMPONENT**

**Retaining Wall 1 - EB SR 60 Shoulder; Bridge Approach**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm, Exclude barrier	9,000.000	SF	\$24.26	\$218,340.00

**Retaining Wall 2 - EB SR 60 Shoulder; Bridge Departure**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	9,000.000	SF	\$24.26	\$218,340.00

**Retaining Wall 3 - EB SR 60 Median; Bridge Approach**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	9,000.000	SF	\$24.26	\$218,340.00

**Retaining Wall 4 - EB SR 60 Median; Bridge Departure**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	9,000.000	SF	\$24.26	\$218,340.00

**Retaining Wall 1 - EB SR 60 Shoulder; Bridge Approach**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm, Exclude barrier	9,000.000	SF	\$24.26	\$218,340.00

**Retaining Wall 2 - EB SR 60 Shoulder; Bridge Departure**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	9,000.000	SF	\$24.26	\$218,340.00

**Retaining Wall 3 - EB SR 60 Median; Bridge Approach**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	9,000.000	SF	\$24.26	\$218,340.00

**Retaining Wall 4 - EB SR 60 Median; Bridge Departure**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	9,000.000	SF	\$24.26	\$218,340.00

**Retaining Walls Component Total** **\$1,746,720.00**

**TOTAL SEQUENCE 3 =** **\$1,746,720.00**

Figure 59. SR 659/Combee Rd (624151P) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SR 659 / Combee Road (624151P) - PROPOSED LRE - SEQUENCE 1: MAINLINE**

Source: Proposed LRE - Sequence 1: Mainline  
 Description: SR 659 / Combee Road (624151P)  
 Special Conditions: Grade Separated Crossing

**KNOWN VALUES:**

Begin Project : MP A-847.88 = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**EARTHWORK COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-1-1	Clearing & grubbing	4.000	AC	\$10,050.02	\$40,200.08
120-6	Embankment	160,000.000	CY	\$8.30	\$1,328,000.00
<b>Earthwork Component Total</b>					<b>\$1,368,200.08</b>

**ROADWAY COMPONENT**

FC-5, incl. Bit, PG-76-22	80	lb/sy-in			
SP Traffic C	330	lb/sy-in			

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	8,500.000	SY	\$4.26	\$36,210.00
285-711	OBG 11	8,500.000	SY	\$18.94	\$160,990.00
334-1-13	SP Traffic C	1,400.000	TN	\$88.77	\$124,278.00
337-7-25	FC-5, incl. Bit, PG-76-22	350.000	TN	\$128.83	\$45,090.50

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>Pavement Marking Subcomponent</b>					
<b>Description</b>					

**Peripherals Subcomponent**

<b>Description</b>					
<b>Roadway Component Total</b>					<b>\$366,568.50</b>

Figure 60. SR 659/Combee Rd (624151P) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SHOULDER COMPONENT**

No. of Shldr with barrier wall =	2	1 / each direction
Paved Shldr width =	10	
No. of shldr without barrier wall =	0	
Paved Shldr width =	0	
Total shldr width without barrier wall	0	
SP Traffic C	165	lb/sy-in

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	2,200.000	SY	\$4.26	\$9,372.00
285-704	OBG 04	2,000.000	SY	\$12.12	\$24,240.00
334-1-13	SP Traffic C	165.000	TN	\$88.77	\$14,647.05
520-1-10	Concrete C & G, Type F	1,730.000	LF	\$20.22	\$34,980.60
522-1	Sidewalk Conc., 4" Thick	900.000	SY	\$37.59	\$33,831.00
570-1-2	Performance Turf, Sod	5,000.000	SY	\$2.30	\$11,500.00

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
521-6-31	Conc. Parapet, w/ sidewalk, 27" high	1,800.000	LF	\$178.49	\$321,282.00
521-72-4	Shld Concrete Barrier, 38" height	1,800.000	LF	\$247.02	\$444,636.00

**Shoulder Component Total** **\$894,488.65**

**MEDIAN COMPONENT**

Total Median Width	0	Average
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Pay Item	Description	Quantity	Unit	Unit Price	Amount
520-1-7	Concrete C & G, Type E	1,800.000	LF	\$15.44	\$27,792.00
520-5-11	Traffic Separator - 4' wide	290.000	LF	\$41.27	\$11,968.30

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
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**Median Component Total** **\$39,760.30**

**DRAINAGE COMPONENT**

Cost %	30.00%	of Roadway, Shoulder, and Median Components	\$390,245.24
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**Drainage Component Total** **\$390,245.24**

**TOTAL SEQUENCE 1 =** **\$3,059,262.77**

Figure 61. SR 659/Combee Rd (624151P) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SR 659 / Combee Road (624151P) - PROPOSED LRE - SEQUENCE 2: SIDE STREETS**

Source: Proposed LRE - Sequence 2: Side Streets  
 Description: SR 659 / Combee Road (624151P)  
 Special Conditions: Grade Separated Crossing

**KNOWN VALUES:**

Begin Project : MP A-847.88 = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**EARTHWORK COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-1-1	Clearing & grubbing	5.000	AC	\$10,050.02	\$50,250.10
120-6	Embankment	15,000.000	CY	\$8.30	\$124,500.00
<b>Earthwork Component Total</b>					<b>\$174,750.10</b>

**ROADWAY COMPONENT**

FC-5, incl. Bit, PG-76-22	80	lb/sy-in			
SP Traffic C	330	lb/sy-in			
Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	22,000.000	SY	\$4.26	\$93,720.00
285-711	OBG 11	22,000.000	SY	\$18.94	\$416,680.00
334-1-13	SP Traffic C	3,580.000	TN	\$88.77	\$317,796.60
337-7-25	FC-5, incl. Bit, PG-76-22	900.000	TN	\$128.83	\$115,947.00

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
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**Pavement Marking Subcomponent**  
 Description

**Peripherals Subcomponent**  
 Description

**Roadway Component Total** **\$944,143.60**

Figure 62. SR 659/Combee Rd (624151P) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SHOULDER COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount	
520-1-10	Concrete C & G, Type F	7,270.000	LF	\$20.22	\$146,999.40	
522-1	Sidewalk Conc., 4" Thick	5,200.000	SY	\$37.59	\$195,468.00	
570-1-2	Performance Turf, Sod	10,000.000	SY	\$2.30	\$23,000.00	
X-Item	Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>Shoulder Component Total</b>					<b>\$365,467.40</b>	

**MEDIAN COMPONENT**

Total Median Width	18	Average				
Pay Item	Description	Quantity	Unit	Unit Price	Amount	
520-1-7	Concrete C & G, Type E	1,700.000	LF	\$15.44	\$26,248.00	
520-5-11	Traffic Separator - 4' wide	960.000	LF	\$41.27	\$39,619.20	
X-Item	Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>Median Component Total</b>					<b>\$65,867.20</b>	

**DRAINAGE COMPONENT**

Cost %		30.00% of Roadway, Shoulder, and Median Components			
					\$412,643.46
<b>Drainage Component Total</b>					<b>\$412,643.46</b>
<b>TOTAL SEQUENCE 2 =</b>					<b>\$1,962,871.76</b>

Figure 63. SR 659/Combee Rd (624151P) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SR 659 / Combee Road (624151P) - PROPOSED LRE - SEQUENCE 3: BRIDGES**

Source: Proposed LRE - Sequence 3: Bridges  
 Description: SR 659 / Combee Road (624151P)  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP A-847.88 = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**BRIDGE COMPONENT**

<b>Bridge No.</b>	<b>New</b>	
Description		New overpass - SR 659 over RR and Side Street
Length		800
Width		60
Type		Overpass (over road/railroad)
Substructure Type		1 - Pile Bent
Superstructure Type		15 - Florida I-Beam
Foundation Type		1 - Prestressed Sq. Piles
Cost Factor		0
Default Cost per SF		\$205.00
Final Cost per SF		\$205.00
Basic Bridge Cost		\$9,840,000.00

Pay Items	Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
		Bridge				
		New				
		Total =				\$9,840,000.00
		<b>Bridge Component Total</b>				<b>\$9,840,000.00</b>

**TOTAL SEQUENCE 3 = \$9,840,000.00**

Figure 64. SR 659/Combee Rd (624151P) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SR 659 / Combee Road (624151P) - PROPOSED LRE - SEQUENCE 4: RETAINING WALLS**

Source: Proposed LRE - Sequence 4: Retaining Walls  
 Description: SR 659 / Combee Road (624151P)  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP A-847.88 = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

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**RETAINING WALL COMPONENT**

**Retaining Wall 1 - South of Bridge; East Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm, Exclude barrier	10,500.000	SF	\$24.26	\$254,730.00

**Retaining Wall 2 - South of Side Street; West Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm, Exclude barrier	10,500.000	SF	\$24.26	\$254,730.00

**Retaining Wall 3 - North of Bridge; East Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	10,500.000	SF	\$24.26	\$254,730.00

**Retaining Wall 4 - North of Bridge; West Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	10,500.000	SF	\$24.26	\$254,730.00

**Retaining Walls Component Total** **\$1,018,920.00**

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**TOTAL SEQUENCE 4 =** **\$1,018,920.00**

Figure 65. SR 659/Combee Rd (624151P) – Interim Improvements Cost Summary

**SR 659 / Combee Road (624151P) - PROPOSED LRE**

**SR 659 / Combee Road (624151P) - PROPOSED LRE - SEQUENCE 1: MAINLINE**

Source: Proposed LRE - Sequence 1: Mainline  
 Description: SR 659 / Combee Road (624151P)  
 Special Conditions: median curb replacement

**KNOWN VALUES:**

Begin Project : MP A-847.88 = Sta.  
 End Project: MP N/A = Sta.  
 Project Length = MP 500.000 = LF  
 Factor =

**ROADWAY COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-4-10	Removal of Existing Concrete	225.000	SY	\$15.72	\$3,537.00
520-5-11	Traffic Separator - Type I, 4' Wide	505.000	LF	\$41.27	\$20,841.35

**EX-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
	Flagging for railroad crossing	40.000	HR	\$57.50	\$2,300.00
	Flagger pickup truck	40.000	HR	\$12.50	\$500.00

**Pavement Marking Subcomponent**

**Description**

New median striping

Pay Item	Description	Quantity	Unit	Unit Price	Amount
711-15-201	Thermo, Std, Yellow, Solid, 6"	0.192	GM	\$4,237.06	\$813.52

**Peripherals Subcomponent**

**Description**

**Roadway Component Total** **\$27,991.87**

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**TOTAL SEQUENCE 1 =** **\$27,991.87**



Figure 66. US 27/SR 25 (627659C) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**US 27 / SR 25 (627659C) - PROPOSED LRE - SEQUENCE 1: MAINLINE**

Source:  
 Description: US 27 / SR 25 (627659C)  
 Special Conditions: Grade Separated Crossing

**KNOWN VALUES:**

Begin Project : MP AVD-924.06 = Sta.  
 End Project: MP N/A = Sta.  
 Project Length = MP 1530.000 = LF  
 Factor =

**EARTHWORK COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-1-1	Clearing & grubbing	7.000	AC	\$10,050.02	\$70,350.14
120-6	Embankment	150,000.000	CY	\$8.30	\$1,245,000.00
<b>Earthwork Component Total</b>					<b>\$1,315,350.14</b>

**ROADWAY COMPONENT**

FC-5, incl. Bit, PG-76-22 80 lb/sy-in  
 SP Traffic C 330 lb/sy-in

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	7,300.000	SY	\$4.26	\$31,098.00
285-711	OBG 11	7,300.000	SY	\$18.94	\$138,262.00
334-1-13	SP Traffic C	1,205.000	TN	\$88.77	\$106,967.85
337-7-25	FC-5, incl. Bit, PG-76-22	310.000	TN	\$128.83	\$39,937.30

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
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**Pavement Marking Subcomponent**

**Description**

Solid Stripe - No. of Stripes 4 (yellow and white lane lines in each direction)  
 Solid Stripe No. of Applications 1  
 Skip Strip (2 lane) - No. of Stripes 2 (10-30 skip in each direction)  
 Skip Stripe No. of Applications 1  
 Top Layer Thermoplastic Y  
 RPM spacing 40

Pay Item	Description	Quantity	Unit	Unit Price	Amount
706-3	RPM Markers	77.000	EA	\$3.49	\$268.73
711-15-101	Thermo, Std, White, Solid, 6"	0.582	GM	\$4,629.96	\$2,694.64
711-15-131	Thermo, Std, White, Skip, 6" 10-30 skip	0.582	GM	\$1,510.27	\$878.98
711-15-201	Thermo, Std, Yellow, Solid, 6"	0.582	GM	\$4,237.06	\$2,465.97

**Peripherals Subcomponent**

**Description**

**Roadway Component Total \$322,573.46**

Figure 67. US 27/SR 25 (627659C) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SHOULDER COMPONENT**

No. of Shldr with barrier wall =	2	1 / each direction
Paved Shldr width =	10	
No. of shldr without barrier wall =	2	1 / each direction after barrier wall
Paved Shldr width =	6	
Total shldr width without barrier wall	12	
SP Traffic C	165	lb/sy-in
Extended Resident Driveway Connection		

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	2,675.000	SY	\$4.26	\$11,395.50
285-704	OBG 04	2,675.000	SY	\$12.12	\$32,421.00
334-1-13	SP Traffic C	221.000	TN	\$88.77	\$19,618.17
570-1-2	Performance Turf, Sod	10,620.000	SY	\$2.30	\$24,426.00

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
285-701	OBG 01	842.000	SY	\$12.12	\$10,205.04
334-1-13	SP, Traffic C	46.000	TN	\$88.77	\$4,083.42
521-8-1	Conc Traf Rail Bar, Ret Wall	1920.000	LF	\$155.55	\$298,656.00

**Shoulder Component Total** **\$400,805.13**

**MEDIAN COMPONENT**

Total Median Width	64	Average
Performance Turf Width	49	
No. of Shldr with barrier wall =	2	1 / each direction
Paved Shldr width =	6	
No. of shldr without barrier wall =	2	1 / each direction
Paved Shldr width =	6	
Total shldr width without barrier wall	12	
SP Traffic C	165	lb/sy-in

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	1,825.000	SY	\$4.26	\$7,774.50
285-706	OBG 04	1,825.000	SY	\$12.12	\$22,119.00
334-1-13	SP Traffic C	151.000	TN	\$88.77	\$13,404.27
570-1-2	Performance Turf, Sod	8,380.000	TN	\$2.30	\$19,274.00

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
521-8-1	Conc Traf Rail Bar, Ret Wall	1925.000	LF	\$155.55	\$299,433.75

**Median Component Total** **\$362,005.52**

**DRAINAGE COMPONENT**

Cost %	10.00%	of Roadway, Shoulder, and Median Components	\$108,538.41
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**Drainage Component Total** **\$108,538.41**

**TOTAL SEQUENCE 1 =** **\$2,509,272.66**

Figure 68. US 27/SR 25 (627659C) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**US 27 / SR 25 (627659C) - PROPOSED LRE - SEQUENCE 2: BRIDGES**

Source:  
 Description: US 27 / SR 25 (627659C) Bridges  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP AVD-924.06 = Sta.  
 End Project: MP N/A = Sta.  
 Project Length = MP 1530.000 = LF  
 Factor =

**BRIDGE COMPONENT**

**Bridge No. New NB**  
 Description NB US 27 / SR 25 over Rail  
 Length 170  
 Width 40  
 Type Overpass (over road/railroad)  
 Substructure Type 1 - Pile Bent  
 Superstructure Type 15 - Florida I-Beam  
 Foundation Type 1 - Prestressed Sq. Piles  
 Cost Factor 0  
 Default Cost per SF \$170.00  
 Final Cost per SF \$170.00  
 Basic Bridge Cost \$1,156,000.00

Pay Items						
Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount	Original Quant.
	<b>Bridge</b>	<b>New NB</b>				
		<b>Total =</b>			<b>\$1,156,000.00</b>	

**Bridge No. New SB**  
 Description SB US 27 / SR 25 over Rail  
 Length 170  
 Width 40  
 Type Overpass (over road/railroad)  
 Substructure Type 1 - Pile Bent  
 Superstructure Type 15 - Florida I-Beam  
 Foundation Type 1 - Prestressed Sq. Piles  
 Cost Factor 0  
 Default Cost per SF \$170.00  
 Final Cost per SF \$170.00  
 Basic Bridge Cost \$1,156,000.00

Pay Items						
Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount	Original Quant.
	<b>Bridge</b>	<b>New SB</b>				
		<b>Total =</b>			<b>\$1,156,000.00</b>	

**Bridge Component Total** **\$2,312,000.00**

**TOTAL SEQUENCE 2 =** **\$2,312,000.00**

Figure 69. US 27/SR 25 (627659C) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**US 27 / SR 25 (627659C) - PROPOSED LRE - SEQUENCE 3: RETAINING WALLS**

Source:  
 Description: US 27 / SR 25 (627659C) Retaining Walls  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP AVD-924.06 = Sta.  
 End Project: MP N/A = Sta.  
 Project Length = MP 1530.000 = LF  
 Factor =

**RETAINING WALL COMPONENT**

**Retaining Wall 1 - NB Travel Lanes South of Bridge, Outside**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount	Original Quant.
548-12	Retaining wall system, perm, Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00	

**Retaining Wall 2 - NB Travel Lanes South of Bridge, Inside**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount	Original Quant.
548-12	Retaining wall system, perm Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00	

**Retaining Wall 3 - NB Travel Lanes North of Bridge, Outside**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount	Original Quant.
548-12	Retaining wall system, perm Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00	

**Retaining Wall 4 - NB Travel Lanes North of Bridge, Inside**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount	Original Quant.
548-12	Retaining wall system, perm Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00	

**Retaining Wall 5 - SB Travel Lanes South of Bridge, Outside**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount	Original Quant.
548-12	Retaining wall system, perm, Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00	

**Retaining Wall 6 - SB Travel Lanes South of Bridge, Inside**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount	Original Quant.
548-12	Retaining wall system, perm Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00	

**Retaining Wall 7 - SB Travel Lanes North of Bridge, Outside**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount	Original Quant.
548-12	Retaining wall system, perm Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00	

**Retaining Wall 8 - SB Travel Lanes North of Bridge, Inside**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount	Original Quant.
548-12	Retaining wall system, perm Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00	

**Retaining Walls Component Total** **\$2,134,880.00**

**TOTAL SEQUENCE 3 =** **\$2,134,880.00**

Figure 70. US 27/SR 25 (627659C) – Interim Improvements Cost Summary

**US 27 / SR 25 (627659C) - PROPOSED LRE**

**US 27 / SR 25 (627659C) - PROPOSED LRE - SEQUENCE 1: MAINLINE**

Source: Proposed LRE - Sequence 1: Mainline  
 Description: US 27 / SR 25 (627659C)  
 Special Conditions: new advanced roadway warning lights

**KNOWN VALUES:**

Begin Project : MP AVD-924.06 = Sta.  
 End Project: MP N/A = Sta.  
 Project Length = MP 0.000 = LF  
 Factor =

**ROADWAY COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>EX-Item</b>					
Pay Item	Description	Quantity	Unit	Unit Price	Amount
	Flagging for railroad crossing	32.000	HR	\$57.50	\$1,840.00
	Flagger pickup truck	32.000	HR	\$12.50	\$400.00
<b>Pavement Marking Subcomponent</b>					
Description					
<b>Peripherals Subcomponent</b>					
Description					
<b>Roadway Component Total</b>					<b>\$2,240.00</b>

**SIGNING COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
700-11-142	EDS, F&I, Ground Mount - AC, Elect Warning w/ Flashing Beacon	2.000	AS	\$9,971.81	\$19,943.62
700-12-12	Sign Beacon, F&I, Ground Mount - AC Two Beacons	2.000	AS	\$5,544.26	\$11,088.52
<b>X-Item</b>					
Pay Item	Description	Quantity	Unit	Unit Price	Amount
635-2-12	Pull & Junction Boxes, F&I	2.000	EA	\$1,281.77	\$2,563.54
<b>Signing Component Total</b>					<b>\$33,595.68</b>
<b>TOTAL SEQUENCE 1 =</b>					<b>\$35,835.68</b>

Figure 71. Spirit Lake Road/Avenue G (625396J) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**Spirit Lake Road / Avenue G (625396J) - PROPOSED LRE - SEQUENCE 1: MAINLINE**

Source: Proposed LRE - Sequence 1: Mainline  
 Description: Spirit Lake Road / Avenue G (625396J)  
 Special Conditions: Grade Separated Crossing

**KNOWN VALUES:**

Begin Project : MP = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**EARTHWORK COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-1-1	Clearing & grubbing	5.000	AC	\$10,050.02	\$50,250.10
120-6	Embankment	100,000.000	CY	\$8.30	\$830,000.00
<b>Earthwork Component Total</b>					<b>\$880,250.10</b>

**ROADWAY COMPONENT**

FC-5, incl. Bit, PG-76-22 80 lb/sy-in  
 SP Traffic C 330 lb/sy-in

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	11,200.000	SY	\$4.26	\$47,712.00
285-711	OBG 11	11,200.000	SY	\$18.94	\$212,128.00
334-1-13	SP Traffic C	1,825.000	TN	\$88.77	\$162,005.25
337-7-25	FC-5, incl. Bit, PG-76-22	460.000	TN	\$128.83	\$59,261.80

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
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**Pavement Marking Subcomponent**

Description

**Peripherals Subcomponent**

Description

<b>Roadway Component Total</b>					<b>\$481,107.05</b>
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Figure 72.Spirit Lake Road/Avenue G (625396J) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SHOULDER COMPONENT**

No. of Shldr with barrier wall =	2	1 / each direction
Paved Shldr width =	10	
No. of shldr without barrier wall =	0	
Paved Shldr width =	0	
Total shldr width without barrier wall	0	
SP Traffic C	165	lb/sy-in

Pay lem	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	3,200.000	SY	\$4.26	\$13,632.00
285-704	OBG 04	3,100.000	SY	\$12.12	\$37,572.00
334-1-13	SP Traffic C	255.000	TN	\$88.77	\$22,636.35
520-1-10	Concrete C & G, Type F	4,080.000	LF	\$20.22	\$82,497.60
570-1-2	Performance Turf, Sod	6,000.000	SY	\$2.30	\$13,800.00

**X-Item**

Pay lem	Description	Quantity	Unit	Unit Price	Amount
521-8-1	Conc Traf Rail Bar, Ret Wall	1,650.000	LF	\$155.55	\$256,657.50

**Shoulder Component Total** **\$426,795.45**

**MEDIAN COMPONENT**

Total Median Width	0	Average
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Pay lem	Description	Quantity	Unit	Unit Price	Amount
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**X-Item**

Pay lem	Description	Quantity	Unit	Unit Price	Amount
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**Median Component Total** **\$0.00**

**DRAINAGE COMPONENT**

Cost %	40.00% of Roadway, Shoulder, and Median Components	\$363,161.00
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**Drainage Component Total** **\$363,161.00**

**TOTAL SEQUENCE 1 =** **\$2,151,313.60**

Figure 73.Spirit Lake Road/Avenue G (625396J) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**Spirit Lake Road / Avenue G (625396J) - PROPOSED LRE - SEQUENCE 2: BRIDGES**

Source: Proposed LRE - Sequence 2: Bridges  
 Description: Spirit Lake Road / Avenue G (625396J)  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**BRIDGE COMPONENT**

<b>Bridge No.</b>	<b>New</b>	
Description		New overpass - Spirit Lake Road over RR and side street
Length		570
Width		47
Type		Overpass (over road/railroad)
Substructure Type		1 - Pile Bent
Superstructure Type		15 - Florida I-Beam
Foundation Type		1 - Prestressed Sq. Piles
Cost Factor		0
Default Cost per SF		\$180.00
Final Cost per SF		\$180.00
Basic Bridge Cost		\$4,822,200.00

<b>Pay Items</b>						
Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount	
	Bridge	New	Total =			\$4,822,200.00
	<b>Bridge Component Total</b>					<b>\$4,822,200.00</b>

**TOTAL SEQUENCE 2 = \$4,822,200.00**



Figure 74. Spirit Lake Road/Avenue G (625396J) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**Spirit Lake Road / Avenue G (625396J) - PROPOSED LRE - SEQUENCE 3: RETAINING WALLS**

Source: Proposed LRE - Sequence 3: Retaining Walls  
 Description: Spirit Lake Road / Avenue G (625396J)  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

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**RETAINING WALL COMPONENT**

**Retaining Wall 1 - South of Bridge; East Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm, Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00

**Retaining Wall 2 - South of Bridge; West Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00

**Retaining Wall 3 - North of Bridge; East Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	9,000.000	SF	\$24.26	\$218,340.00

**Retaining Wall 4 - North of Bridge; West Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	9,000.000	SF	\$24.26	\$218,340.00

**Retaining Walls Component Total** **\$970,400.00**

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**TOTAL SEQUENCE 3 =** **\$970,400.00**

Figure 75. US41/US301 (624712B) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**US 41 / US 301 (624712B) - PROPOSED LRE - SEQUENCE 1: MAINLINE**

Source: Proposed LRE - Sequence 1: Mainline  
 Description: US 41 / US 301 (624712B)  
 Special Conditions: Grade Separated Crossing

**KNOWN VALUES:**

Begin Project : MP A-908.78 = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**EARTHWORK COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-1-1	Clearing & grubbing	6,500	AC	\$10,050.02	\$65,325.13
120-6	Embankment	300,000.000	CY	\$8.30	\$2,490,000.00
<b>Earthwork Component Total</b>					<b>\$2,555,325.13</b>

**ROADWAY COMPONENT**

FC-5, incl. Bit, PG-76-22	80	lb/sy-in			
SP Traffic C	330	lb/sy-in			
Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	19,500.000	SY	\$4.26	\$83,070.00
285-711	OBG 11	19,500.000	SY	\$18.94	\$369,330.00
334-1-13	SP Traffic C	3,000.000	TN	\$88.77	\$266,310.00
337-7-25	FC-5, incl. Bit, PG-76-22	750.000	TN	\$128.83	\$96,622.50

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>Pavement Marking Subcomponent</b>					
Description					
<b>Peripherals Subcomponent</b>					
Description					
<b>Roadway Component Total</b>					<b>\$815,332.50</b>

Figure 76. US41/US301 (624712B) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SHOULDER COMPONENT**

No. of Shldr with barrier wall =	2	1 / each direction
Paved Shldr width =	10	
No. of shldr without barrier wall =	0	
Paved Shldr width =	0	
Total shldr width without barrier wall	0	
SP Traffic C	165	lb/sy-in

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	3,000.000	SY	\$4.26	\$12,780.00
285-704	OBG 04	3,000.000	SY	\$12.12	\$36,360.00
334-1-13	SP Traffic C	135.000	TN	\$88.77	\$11,983.95
520-1-10	Concrete C & G, Type F	1,225.000	LF	\$20.22	\$24,769.50
522-1	Sidewalk Conc., 4" Thick	585.000	SY	\$37.59	\$21,990.15
570-1-2	Performance Turf, Sod	10,000.000	SY	\$2.30	\$23,000.00

X-Item		Quantity	Unit	Unit Price	Amount
Pay Item	Description				
521-6-31	Conc. Parapet, w/ sidewalk, 27" high	2,050.000	LF	\$178.49	\$365,904.50
521-72-4	Shld Concrete Barrier, 38" height	2,050.000	LF	\$247.02	\$506,391.00

**Shoulder Component Total** **\$1,003,179.10**

**MEDIAN COMPONENT**

Total Median Width	18	Average
No. of Shldr with barrier wall =	0	1 / each direction
Paved Shldr width =	6	
No. of shldr without barrier wall =	2	1 / each direction
Paved Shldr width =	6	
Total shldr width without barrier wall	9	
SP Traffic C	165	lb/sy-in

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	700.000	SY	\$4.26	\$2,982.00
285-704	OBG 04	600.000	SY	\$12.12	\$7,272.00
334-1-13	SP Traffic C	30.000	TN	\$88.77	\$2,663.10
520-5-11	Traffic Separator - 4' wide	620.000	LF	\$41.27	\$25,587.40

X-Item		Quantity	Unit	Unit Price	Amount
Pay Item	Description				
<b>Median Component Total</b>					<b>\$38,504.50</b>

**DRAINAGE COMPONENT**

Cost %	30.00%	of Roadway, Shoulder, and Median Components	\$557,104.83
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**Drainage Component Total** **\$557,104.83**

**TOTAL SEQUENCE 1 =** **\$4,969,446.06**

Figure 77. US41/US301 (624712B) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**US 41 / US 301 (624712B) - PROPOSED LRE - SEQUENCE 2: SIDE STREETS**

Source: Proposed LRE - Sequence 2: Side Streets  
 Description: US 41 / US 301 (624712B)  
 Special Conditions: Grade Separated Crossing

**KNOWN VALUES:**

Begin Project : MP A-908.78 = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**EARTHWORK COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-1-1	Clearing & grubbing	1.000	AC	\$10,050.02	\$10,050.02
120-6	Embankment	10,000.000	CY	\$8.30	\$83,000.00
<b>Earthwork Component Total</b>					<b>\$93,050.02</b>

**ROADWAY COMPONENT**

FC-5, incl. Bit, PG-76-22	80	lb/sy-in			
SP Traffic C	330	lb/sy-in			
Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	4,800.000	SY	\$4.26	\$20,448.00
285-711	OBG 11	4,800.000	SY	\$18.94	\$90,912.00
334-1-13	SP Traffic C	800.000	TN	\$88.77	\$71,016.00
337-7-25	FC-5, incl. Bit, PG-76-22	200.000	TN	\$128.83	\$25,766.00
X-Item	Description	Quantity	Unit	Unit Price	Amount
<b>Pavement Marking Subcomponent</b>					
Description					
<b>Peripherals Subcomponent</b>					
Description					
<b>Roadway Component Total</b>					<b>\$208,142.00</b>





Figure 80. US41/US301 (624712B) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**US 41 / US 301 (624712B) - PROPOSED LRE - SEQUENCE 4: RETAINING WALLS**

Source: Proposed LRE - Sequence 4: Retaining Walls  
 Description: US 41 / US 301 (624712B)  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP A-908.78 = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

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**RETAINING WALL COMPONENT**

**Retaining Wall 1 - South of Bridge; East Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm, Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00

**Retaining Wall 2 - South of Side Street; West Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm, Exclude barrier	11,200.000	SF	\$24.26	\$271,712.00

**Retaining Wall 3 - North of Bridge; East Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	11,200.000	SF	\$24.26	\$271,712.00

**Retaining Wall 4 - North of Bridge; West Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	11,200.000	SF	\$24.26	\$271,712.00

**Retaining Walls Component Total \$1,081,996.00**

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**TOTAL SEQUENCE 4 = \$1,081,996.00**

Figure 81. CR542A/Galloway Rd (622863J) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**CR 542-A / Galloway Rd (622863J) - PROPOSED LRE - SEQUENCE 1: MAINLINE**

Source: Proposed LRE - Sequence 1: Mainline  
 Description: CR 542-A / Galloway Rd (622863J)  
 Special Conditions: Grade Separated Crossing

**KNOWN VALUES:**

Begin Project : MP = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**EARTHWORK COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-1-1	Clearing & grubbing	3,000	AC	\$10,050.02	\$30,150.06
120-6	Embankment	85,000.000	CY	\$8.30	\$705,500.00
<b>Earthwork Component Total</b>					<b>\$735,650.06</b>

**ROADWAY COMPONENT**

FC-5, incl. Bit, PG-76-22	80	lb/sy-in			
SP Traffic C	330	lb/sy-in			
Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	6,000.000	SY	\$4.26	\$25,560.00
285-711	OBG 11	3,800.000	SY	\$18.94	\$71,972.00
334-1-13	SP Traffic C	650.000	TN	\$88.77	\$57,700.50
337-7-25	FC-5, incl. Bit, PG-76-22	175.000	TN	\$128.83	\$22,545.25

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>Pavement Marking Subcomponent</b>					
Description					
<b>Peripherals Subcomponent</b>					
Description					
<b>Roadway Component Total</b>					<b>\$177,777.75</b>



Figure 82. CR542A/Galloway Rd (622863J) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SHOULDER COMPONENT**

No. of Shldr with barrier wall =	2	1 / each direction
Paved Shldr width =	10	
No. of shldr without barrier wall =	0	
Paved Shldr width =	0	
Total shldr width without barrier wall	0	
SP Traffic C	165	lb/sy-in

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	3,000.000	SY	\$4.26	\$12,780.00
285-704	OBG 04	2,800.000	SY	\$12.12	\$33,936.00
334-1-13	SP Traffic C	225.000	TN	\$88.77	\$19,973.25
570-1-2	Performance Turf, Sod	3,300.000	SY	\$2.30	\$7,590.00

X-Item		Quantity	Unit	Unit Price	Amount
Pay Item	Description				
521-8-1	Conc Traf Rail Bar, Ret Wall	1,700.000	LF	\$155.55	\$264,435.00
<b>Shoulder Component Total</b>					<b>\$338,714.25</b>

**MEDIAN COMPONENT**

Total Median Width	0	Average
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Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>X-Item</b>					
Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>Median Component Total</b>					<b>\$0.00</b>

**DRAINAGE COMPONENT**

Cost %	30.00%	of Roadway, Shoulder, and Median Components	\$154,947.60
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<b>Drainage Component Total</b>			<b>\$154,947.60</b>
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<b>TOTAL SEQUENCE 1 =</b>			<b>\$1,407,089.66</b>
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Figure 83. CR542A/Galloway Rd (622863J) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**CR 542-A / Galloway Rd (622863J) - PROPOSED LRE - SEQUENCE 2: SIDE STREETS**

Source: Proposed LRE - Sequence 2: Side Streets  
 Description: CR 542-A / Galloway Rd (622863J)  
 Special Conditions: Grade Separated Crossing

**KNOWN VALUES:**

Begin Project : MP = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**EARTHWORK COMPONENT**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
110-1-1	Clearing & grubbing	2.000	AC	\$10,050.02	\$20,100.04
120-6	Embankment	45,000.000	CY	\$8.30	\$373,500.00
<b>Earthwork Component Total</b>					<b>\$393,600.04</b>

**ROADWAY COMPONENT**

FC-5, incl. Bit, PG-76-22	80	lb/sy-in				
SP Traffic C	330	lb/sy-in				
Pay Item	Description	Quantity	Unit	Unit Price	Amount	
160-4	Type B Stabilization	5,500.000	SY	\$4.26	\$23,430.00	
285-711	OBG 11	3,400.000	SY	\$18.94	\$64,396.00	
334-1-13	SP Traffic C	550.000	TN	\$88.77	\$48,823.50	
337-7-25	FC-5, incl. Bit, PG-76-22	125.000	TN	\$128.83	\$16,103.75	
X-Item	Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>Pavement Marking Subcomponent</b>						
Description						
<b>Peripherals Subcomponent</b>						
Description						
<b>Roadway Component Total</b>					<b>\$152,753.25</b>	

Figure 84. CR542A/Galloway Rd (622863J) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**SHOULDER COMPONENT**

No. of Shldr with barrier wall =	2	1 / each direction
Paved Shldr width =	10	
No. of shldr without barrier wall =	0	
Paved Shldr width =	0	
Total shldr width without barrier wall	0	
SP Traffic C	165	lb/sy-in

Pay Item	Description	Quantity	Unit	Unit Price	Amount
160-4	Type B Stabilization	950.000	SY	\$4.26	\$4,047.00
285-704	OBG 04	900.000	SY	\$12.12	\$10,908.00
334-1-13	SP Traffic C	75.000	TN	\$88.77	\$6,657.75
570-1-2	Performance Turf, Sod	1,700.000	SY	\$2.30	\$3,910.00

**X-Item**

Pay Item	Description	Quantity	Unit	Unit Price	Amount
521-8-1	Conc Traf Rail Bar, Ret Wall	1,000.000	LF	\$155.55	\$155,550.00

**Shoulder Component Total** **\$181,072.75**

**MEDIAN COMPONENT**

Total Median Width	0	Average
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Pay Item	Description	Quantity	Unit	Unit Price	Amount
<b>X-Item</b>					
Pay Item	Description	Quantity	Unit	Unit Price	Amount

**Median Component Total** **\$0.00**

**DRAINAGE COMPONENT**

Cost %	30.00% of Roadway, Shoulder, and Median Components	\$100,147.80
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**Drainage Component Total** **\$100,147.80**

**TOTAL SEQUENCE 2 =** **\$827,573.84**

Figure 85. CR542A/Galloway Rd (622863J) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**CR 542-A / Galloway Rd (622863J) - PROPOSED LRE - SEQUENCE 3: BRIDGES**

Source: Proposed LRE - Sequence 3: Bridges  
 Description: CR 542-A / Galloway Rd (622863J)  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**BRIDGE COMPONENT**

<b>Bridge No.</b>	<b>New</b>	
Description		New overpass - CR 542-A over RR and side street
Length		400
Width		47
Type		Overpass (over road/railroad)
Substructure Type		1 - Pile Bent
Superstructure Type		15 - Florida I-Beam
Foundation Type		1 - Prestressed Sq. Piles
Cost Factor		0
Default Cost per SF		\$180.00
Final Cost per SF		\$180.00
Basic Bridge Cost		\$3,384,000.00

<b>Pay Items</b>						
Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount	
	Bridge	New	Total =			\$3,384,000.00

**Bridge Component Total** \$3,384,000.00

**TOTAL SEQUENCE 3 =** **\$3,384,000.00**

Figure 86. CR542A/Galloway Rd (622863J) – Preliminary Grade Separated Cost Summary

**DISTRICT-WIDE HIGHWAY RAIL GRADE SEPARATION - PROPOSED LRE**

**CR 542-A / Galloway Rd (622863J) - PROPOSED LRE - SEQUENCE 4: RETAINING WALLS**

Source: Proposed LRE - Sequence 4: Retaining Walls  
 Description: CR 542-A / Galloway Rd (622863J)  
 Special Conditions:

**KNOWN VALUES:**

Begin Project : MP = Sta.  
 End Project: MP = Sta.  
 Project Length = MP = LF  
 Factor =

**RETAINING WALL COMPONENT**

**Retaining Wall 1 - South of Bridge; East Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm, Exclude barrier	11,000.000	SF	\$24.26	\$266,860.00

**Retaining Wall 2 - South of Side Street; West Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm, Exclude barrier	7,900.000	SF	\$24.26	\$191,654.00

**Retaining Wall 3 - South of Bridge; West Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	2,500.000	SF	\$24.26	\$60,650.00

**Retaining Wall 4 - North of Bridge; East Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	9,000.000	SF	\$24.26	\$218,340.00

**Retaining Wall 5 - North of Bridge; West Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	9,000.000	SF	\$24.26	\$218,340.00

**Retaining Wall 6 - Side Street; North Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	9,000.000	SF	\$24.26	\$218,340.00

**Retaining Wall 7 - Side Street; South Side**

Pay Item	Description	Quantity	Unit	Unit Price	Extended Amount
548-12	Retaining wall system, perm Exclude barrier	8,100.000	SF	\$24.26	\$196,506.00

**Retaining Walls Component Total** **\$1,370,690.00**

**TOTAL SEQUENCE 4 =** **\$1,370,690.00**