

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: CSSTP-0006-00(429) Gwinnett **OFFICE:** Engineering Services
P.I. No.: 0006439
US 78 @ SR 124 Intersection **DATE:** July 9, 2010

FROM: Ronald E. Wishon, State Project Review Engineer *REW*

TO: Bobby K. Hilliard, PE, State Program Delivery Engineer
Attn.: Tim Matthews

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above project was held April 12-15, 2010. Responses were received on July 6, 2010. Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. The Project Manager shall incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT #	Description	Potential Savings/LCC	Implement	Comments
A-5	Construct right turn lane/bay for eastbound US 78 traffic entering Henry Clower Boulevard (Bypass) curve	Proposed Cost Increase = (-\$204,000) Actual Cost Increase = (-\$510,000)	Yes	This will be done.
A-8	Close the existing Rawlins Street/SR 124 and Bird House/SR 124 access openings and provide access via Norton Road	Proposed Cost Increase = (-\$563,000) Actual Cost Increase = (-\$700,000)	No	This recommendation would add significant cost to the project, and it is anticipated that the change would be opposed by local residents. This recommendation would require that the parking for the existing businesses between Norton Rd and Rawlins St be relocated.
A-12	Reduce the width of the roadway shoulder from 16 ft to 12 ft	\$412,000	No	Walton EMC, Comcast cable, Gwinnett County water and sewer, Atlanta Gas Light and Bellsouth are all located along this corridor. The wider shoulder will be required for placement of these utilities.
B-1	Reduce the US 78 lane widths through the CFI from 12 ft to 11 ft	\$488,000	Yes	This will be done.

A-1	Construct only Phase 2 (Bypass), and improve the US 78 Bypass signing to maximize its use, and leave the existing SR 124/US 78 intersection as is	\$12,750,000	No	This recommendation is not consistent with the need and purpose of the overall project. The worst movements at the US 78 and SR 124 intersection (EB US 78 to NB SR 124) would not be improved, and the community has expressed the need for significant improvements at this intersection.
A-1.1	Construct only Phase 2 (Bypass), and improve the US 78 Bypass signing to maximize its use, and eliminate the left turns from SR 124 in the existing SR 124/US 78 intersection	Proposed = \$12,050,000 Actual = \$10,885,000	No	This recommendation is not consistent with the need and purpose of the overall project. The worst movements at the US 78 and SR 124 intersection (EB US 78 to NB SR 124) would not be improved, and the community has expressed the need for significant improvements at this intersection.
A-2	Modify the existing SR 124/US 78 intersection by adding through lanes to US 78 and southbound SR 124	Proposed = \$9,133,000 Actual = \$1,423,000	No	This recommendation is not consistent with the need and purpose of the overall project. Given that traffic volumes along EB US 78 do not significantly drop within the study area, the widening of US 78 east of SR 124 does not have clear logical termini.
B-3	Eliminate the US 78 left turn lanes at the SR 124/US 78 intersection and provide for them via Henry Clower Boulevard (Bypass jug handle concept)	Proposed = \$13,184,000 Actual = \$7,483,000	No	This recommendation is not consistent with the need and purpose of the overall project. Given that traffic volumes along EB US 78 do not significantly drop within the study area, the widening of US 78 east of SR 124 does not have clear logical termini.
A-11	Eliminate the need for the new CFI by constructing a one-way pair through the city (EB use Henry Clower Boulevard, WB use US 78)	Proposed = \$11,720,000 Actual Cost Increase = (-\$12,117,000)	No	This recommendation would create deficient levels of service at the SR 124 and Henry Clower Boulevard intersection. The one-way pair would have significant impacts to several churches and businesses along the project. The revised estimated costs are far more expensive than the original concept.

The Office of Engineering Services concurs with the Project Manager's responses.

Approved:



Gerald M. Ross, PE, Chief Engineer

Date:

7/12/10

REW/LLM
Attachments

c: Ben Buchan
Bobby Hilliard/Stanley Hill/Tim Matthews
Russell McMurray/Chuck Hasty/Neal O'Brien/Jill Franks
Paul Liles/Bill Duvall/Bill Ingalsbe/
Laura Rish
Randall Davis/Harold Mull
Ken Werho
Lisa Myers
Matt Sanders

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: CSSTP-0006-00(439), Gwinnett County **OFFICE:** Program Delivery
P.I. No. 0006439
SR 124/US 78 Continuous Flow Intersection **DATE:** July 6, 2010

FROM: Bobby K. Hilliard, PE, State Program Delivery Engineer *B.K.H.*

TO: Ronald E. Wishon, State Project Review Engineer
Attn.: Lisa Myers

SUBJECT: RESPONSE TO VALUE ENGINEERING STUDY ALTERNATIVES

Attached are the responses for the Value Engineering Study. This office concurs with the responses.

If you have any questions, please contact Tim Matthews, P.E., Project Manager, at 404-631-1586.

S.H.
BKH:SH:twm
c: Ben Buchan, P.E.



G R E S H A M
S M I T H A N D
P A R T N E R S

July 6, 2010

Mr. Tim Matthews, P.E.
GDOT Office of Program Delivery
One Georgia Center
600 West Peachtree Street, Floor 25
Atlanta, GA 30308

Subject: **Project No.: CSSTP-0006-00(439)**
 Contract No.: AEURDES070189
 US 78 at SR 124
 GS&P Project No. 26284.00

Dear Mr. Matthews,

Please find attached the response to the Value Engineering (VE) Report prepared for the SR 124 and US 78 Continuous Flow Intersection. The project team recommends the following proposed changes to the original concept: Ideas A-5 and B-1. However, the project team does not recommend the following proposed changes to the original concept: Ideas A-12, A-8, A-1, A1.1, A-2, B-3 and A-11.

Sincerely,

A handwritten signature in black ink, appearing to read 'Scott Shelton', written over a horizontal line.

Scott Shelton, P.E.
Project Manager

Attachments: Response to Value Engineering Report

Design Services For The Built Environment

2325 Lakeview Parkway, Suite 400 / Alpharetta, Georgia 30009-7940 / Phone 770.754.0755 / www.gspnet.com

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Executive Summary

Gresham, Smith & Partners (GS&P) has prepared a response to the Value Engineering (VE) Report prepared for SR 124 / US 78 Continuous Flow Intersection, CSSTP-0006-00(439), PI No. 0006439, Gwinnett County (dated April 29, 2010). This report was prepared by MACTEC Engineering and Consulting, Inc. for the Georgia Department of Transportation (GDOT).

Based on the detailed responses provided in this report, the project team recommends the following proposed changes to the original concept:

- **Idea A-5:** Construct a right turn lane / bay for eastbound US 78 traffic entering the Bypass (Henry Clower Boulevard) curve.
- **Idea B-1:** Reduce the width of the through and left turn lanes on US 78 from 12 feet to 11 feet.

The potential cost increase of these proposed changes to the original concept is \$22,000 (B-1 savings of \$488,000 minus A-5 cost of \$510,000).

Based on the detailed responses provided in this report, the project team does not recommend the following proposed changes to the original concept:

- **Idea A-12:** Reduce the width of the shoulders from 16 feet to 12 feet.
- **Idea A-8:** Close the existing Rawlins Street / SR 124 and Bird House / SR 124 access openings and provide new access via Norton Road.
- **Idea A-1:** Construct only Phase 2 (Bypass), improve the US 78 Bypass Signing to maximize its use, and leave the existing SR 124 / US 78 intersection "as is".
- **Idea A-1.1:** ALTERNATIVE TO A-1. Construct only Phase 2 (Bypass), improve the US 78 Bypass Signing to maximize its use, and eliminate the Left Turns from SR 124 in the existing SR 124 / US 78 intersection.
- **Idea A-2:** Modify the existing SR 124 / US 78 intersection by adding another through lane to US 78 and the south side of SR 124.
- **Idea B-3:** Eliminate the left turn lanes from US 78 at the SR 124 / US 78 intersection, add a lane to US 78, require (sign) the left turns to be made via the Bypass (jug handle concept), and close Lenora Church Road south of the fire station.
- **Idea A-11:** Eliminate the need for the new CFI by constructing a one-way pair through the city (EB use Henry Clower Boulevard, WB use US 78).

Evaluation Criteria

The following criteria were used to evaluate the proposed changes to the project:

- Traffic Analysis
- Roadway Design Analysis
- Revised Cost Estimate
- Potential Environmental Impacts
- Potential Community Impacts
- Consistency with Need & Purpose of Project

The revised cost estimate of the proposed idea was prepared using the Atlanta Regional Commission's (ARC) "2006 Transportation Project Cost Tool" spreadsheet. The costs reflected in the spreadsheet were adjusted to current year dollars for comparison purposes. The ARC spreadsheet was used due to time constraints to evaluate the proposed ideas. Right of way costs were calculated using the Gwinnett County GIS property data to determine appraised property and building values.

GS&P has prepared an intersection capacity analysis utilizing the Synchro 7.0 software and the same saturation flow rate and signal timing assumptions that were used as part of the original analysis. This will provide a direct comparison between the original concept and the proposed concept.

Proposed need and purpose

Safety – crash and injury rates at the US 78 and SR 124 intersection exceeded the statewide average for similar facilities.

Reduce Congestion and Delay – the US 78 and SR 124 intersection is projected to operate at an unacceptable Level of Service (LOS) of E/F for the anticipated 2012 year with a travel delay of 62/126 seconds per vehicle in the AM and PM peak hours. Also, based on the future anticipated 20-year traffic projections, the LOS will degrade to F/F and the travel delay will increase to 139/256 seconds per vehicle in the AM and PM peak hours.

In 2003, the Snellville Town Center Livable Centers Initiative (LCI) identified the need for improvements at the subject intersection, and labeled the intersection as the source of greatest congestion within the City of Snellville. Therefore, the need exists to address traffic congestion and safety at the US 78 and SR 124 intersection. The purpose of the proposed project is to reduce congestion and improve the safety of the SR 10/US 78 and SR 124 intersection.

Idea A-5 Analysis

Idea: Construct a right turn lane / bay for eastbound US 78 traffic entering the Henry Clower Boulevard (Bypass) curve.

Roadway Design Assumptions

- 250 Linear feet of wall needed in front of Bellsouth property.

Traffic Analysis

This proposed change will have no impact to intersection levels of service, but would improve the traffic operations of the US 78 at Henry Clower Boulevard (West) intersection.

Revised Cost Estimate

The cost estimate for this proposed change is \$510,000, which is \$306,000 higher than the cost estimate in the VE Report. So the new revised savings is -\$510,000 for this idea.

Potential Environmental Impacts

No adverse environmental impacts have been identified with this proposed change.

Potential Community Impacts

This improvement would require modifications to the existing Bellsouth facility driveway along the south side of US 78.

Consistency with Need & Purpose of Project

This improvement is consistent with the Need & Purpose of the project.

Recommendation

The project team concurs with this recommendation.

Idea A-8 Analysis

Idea: Close the existing Rawlins Street / SR 124 and Bird House / SR 124 access openings and provide access via Norton Road.

Roadway Design Assumptions

- 50 feet right of way width for the access roadway
- New parking and underground detention needed due to impacts to parking area
- 12 foot travel lanes and 13 foot shoulders
- Construct cul-de-sac on Rawlins Street for emergency vehicle access
- Close Rawlins Street and Bird house access to SR 124

Traffic Analysis

This proposed change will have no impact to intersection levels of service, but would improve the traffic operations for southbound rights at the US 78 at SR 124 intersection.

However, it should be noted that both Rawlins Street and the Bird House access carry very low traffic volumes and do not currently impact the operations of US 78 at SR 124 intersection.

Revised Cost Estimate

The cost estimate for this proposed change is \$700,000, which is \$279,000 higher than the cost estimate in the VE Report. So the new revised savings is -\$700,000 for this idea.

Potential Environmental Impacts

The project team has identified that this proposed change could have potential adverse environmental impacts to the view shed of the Historic Bird House.

Potential Community Impacts

The existing commercial business located between Norton Road and Rawlins Street would have to relocate their parking lot for this alternative. Also, input from the community (i.e. Nob Hill subdivision) via the Citizen Advisory Committee (CAC) process, community meetings and the Public Information Open House, stated that there would probably be opposition to any access road in the northwest quadrant of US 78 and SR 124. Therefore, it is anticipated that this proposed change would be viewed as the first phase of a service road between SR 124 and Knollwood Drive and would be opposed by local residents. If the service road was part of the proposed improvements at US 78 and SR 124, the local residents stated that they would oppose the entire project.

Consistency with Need & Purpose of Project

This improvement is consistent with the Need & Purpose of the project.

Recommendation

The proposed idea would add significant cost (\$700,000) to the project. In addition, it is anticipated that this change would be opposed by local residents and cause local residents to disapprove of improvements at US 78 and SR 124. So this idea is not recommended to be included in the project.

Idea A-12 Analysis

Idea: Reduce the width of the roadway shoulder from 16 feet to 12 feet.

Traffic Analysis

This proposed change will have minimal impact to intersection levels of service and traffic operations at the project intersection.

Roadway Design Assumptions

Given the scope of the improvement, no concept drawing is needed to analyze the proposed change.

Revised Cost Estimate

GS&P has reviewed the cost estimate provided in the VE Report and agrees with the general magnitude of the cost estimate.

Potential Environmental Impacts

No adverse environmental impacts have been identified with this proposed change.

Potential Community Impacts

No adverse community impacts have been identified with this proposed change.

Consistency with Need & Purpose of Project

This improvement is consistent with the Need & Purpose of the project.

Recommendation

The project team does not concur with this recommendation due to potential utility relocation issues with a smaller shoulder. The existing utilities along the corridor include: Walton EMC, Comcast cable, Gwinnett County water and sewer, Atlanta Gas Light, and Bellsouth telecommunications.

Idea B-1 Analysis

Idea: Reduce the US 78 lane widths through the CFI from 12 feet to 11 feet.

Traffic Analysis

This proposed change will have minimal impact to intersection levels of service and traffic operations at the project intersections.

Roadway Design Assumptions

Given the scope of the improvement, no concept drawing is needed to analyze the proposed change.

Revised Cost Estimate

GS&P has reviewed the cost estimate provided in the VE Report and agrees with the general magnitude of the cost estimate.

Potential Environmental Impacts

No adverse environmental impacts have been identified with this proposed change.

Potential Community Impacts

No adverse community impacts have been identified with this proposed change.

Consistency with Need & Purpose of Project

This improvement is consistent with the Need & Purpose of the project.

Recommendation

The project team concurs with this recommendation.

Idea A-1 Analysis

Idea: Construct only Phase 2 (Bypass), improve the US 78 Bypass Signing to maximize its use, and leave the existing SR 124 / US 78 intersection "as is".

Roadway Design Assumptions

Given the scope of the improvement, no concept drawing is needed to analyze the proposed change.

Traffic Analysis

The following table shows the Year 2032 "With Project" levels of service and average intersection delay (in seconds) for both the original concept and the proposed concept at the US 78 at SR 124 intersection and other critical intersections in project vicinity:

Year 2032 "With Project" Levels of Service and Delay in Seconds

Intersection	Original Concept		Idea A-1	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
US 78/SR 124	E (65)	E (76)	F (158)	F (225)
US 78/Oak Rd/Henry Clower Blvd	C (32)	E (73)	D (37)	D (52)
US 78/Wisteria Dr	F (111)	F (197)	F (113)	F (193)
SR 124/Henry Clower Blvd	C (26)	D (49)	C (25)	D (49)
SR 124/Oak Rd	C (33)	F (112)	C (22)	F (158)
SR 124/Wisteria Dr/Harbour Oaks Dr ¹	F (> 200)	F (16)	F (> 200)	F (> 200)

Note: (1) This is an unsignalized intersection; the delay reported is for the worst approach

As shown in the previous table, this concept does not improve the levels of service at the US 78 at SR 124 intersection, with projected LOS of F in the AM and PM peak hours. In addition, this proposed concept does not improve the worst movement at the US 78 at SR 124 intersection (eastbound US 78 to northbound SR 124). Given that there would be no change to the geometry at this intersection the proposed concept would not significantly improve traffic safety at this intersection.

Revised Cost Estimate

GS&P has reviewed the cost estimate provided in the VE and agrees with the general magnitude of the cost estimate.

Potential Environmental Impacts

No adverse environmental impacts have been identified with this proposed change.

Potential Community Impacts

Since the worst movement at the US 78 at SR 124 intersection is not improved (eastbound US 78 to northbound SR 124), the public may not perceive this concept as a significant improvement. During the CAC process, the community made it clear that significant improvements were required at this intersection and ranked minimal improvement options very low.

Consistency with Need & Purpose of Project

As a standalone project this improvement is not consistent with the Need & Purpose of the project due to deficient levels of service. If this concept is constructed as Phase 1 of the overall project, it could meet the need and purpose. However since the worst movement at the US 78 at SR 124 intersection (eastbound US 78 to northbound SR 124) is not improved, the public may not perceive this concept as a significant improvement.

Recommendation

Due to deficient levels of service at the US 78 at SR 124 intersection, lack of improvement for the worst movement (eastbound US 78 to northbound SR 124) at the main intersection, and inconsistency with community input, the project team does not concur with this recommendation.

Idea A-1.1 Analysis

Idea: ALTERNATIVE TO A-1. Construct only Phase 2 (Bypass), improve the US 78 Bypass Signing to maximize its use, and eliminate the left turns from SR 124 in the existing SR 124 / US 78 intersection.

Roadway Design Assumptions

- Widen 12 feet to add southbound right turn lane at the US 78 at Oak Road/Henry Clower Boulevard intersection.
- Use 12 feet offset to set right of way for this improvement.
- Reconfiguration of Wisteria and US 78 intersection.

Traffic Analysis

The following table shows the Year 2032 "With Project" levels of service and average intersection delay (in seconds) for both the original concept and the proposed concept at the US 78 at SR 124 intersection and other critical intersections in project vicinity:

Year 2032 "With Project" Levels of Service and Delay in Seconds

Intersection	Original Concept		Idea A-1.1	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
US 78/SR 124	E (65)	E (76)	F (134)	F (174)
US 78/Oak Rd/Henry Clower Blvd	C (32)	E (73)	D (38)	E (68)
US 78/Wisteria Dr	F (111)	F (197)	F (114)	F (194)
SR 124/Henry Clower Blvd	C (26)	D (49)	C (25)	D (47)
SR 124/Oak Rd	C (33)	F (112)	C (26)	F (162)
SR 124/Wisteria Dr/Harbour Oaks Dr ¹	F (> 200)	F (16)	F (> 200)	F (> 200)

Note: (1) This is an unsignalized intersection; the delay reported is for the worst approach

As shown in the previous table, this concept does not improve the levels of service at the US 78 at SR 124 intersection, with projected LOS of F in the AM and PM peak hours. In addition this proposed concept does not improve the worst movement at the US 78 at SR

124 intersection, eastbound US 78 to SR 124. Additionally, this improvement does not significantly improve traffic safety at this intersection.

Revised Cost Estimate

The cost estimate for changes at Oak and US 78 is \$415,000, which is \$165,000 higher than the cost estimate in the VE Report. The VE report had a cost of \$250,000 for changes to Wisteria and US 78; however, the skew on Wisteria is more severe so potential impacts and costs would be higher than at Oak. The design team did not develop a cost estimate and sketch for Wisteria at US 78, but anticipates the cost to be threefold the cost of Oak Road and US 78 improvements or approximately \$1,250,000 which is \$1,000,000 higher than the cost estimate in the VE report. So, the new revised savings for this idea would be \$10,885,000.

Potential Environmental Impacts

No adverse environmental impacts have been identified with this proposed change.

Potential Community Impacts

Since the worst movement at the US 78 at SR 124 intersection is not improved (eastbound US 78 to northbound SR 124), the public may not perceive this concept as a significant improvement. During the CAC process, the community made it clear that significant improvements were required at this intersection and ranked minimal improvement options very low.

Consistency with Need & Purpose of Project

As a standalone project this improvement is not consistent with the Need & Purpose of the project due to deficient levels of service. If this concept is constructed as Phase 1 of the overall project, it could meet the need and purpose. However since the worst movement at the US 78 at SR 124 intersection (eastbound US 78 to northbound SR 124) is not improved, the public may not perceive this concept as a significant improvement.

Recommendation

Due to deficient levels of service at the US 78 at SR 124 intersection, lack of improvement for the worst movement (eastbound US 78 to northbound SR 124) at the main intersection, and inconsistency with community input, the project team does not concur with this recommendation.

Idea A-2 Analysis

Idea: Modify the existing SR 124 / US 78 intersection by adding through lanes to US 78 and southbound SR 124.

Roadway Design Assumptions

- Shift US 78 to the north to miss Historic resources to add 3 lanes for approximately 750 feet, 4 lanes for 350 feet and 2 lanes for 600 feet prior to Henry Clower on US 78. Maintain dual lefts onto SR 124.

- Provide free flow right turn lane for 300 feet on US 78 since existing right turn lane SB SR 124 to WB US 78 is unopposed.
- Add third lane on SR 124 by shifting alignment to the east to miss historic Bird House off of Rawlins Street approximately 1350 feet of one new lane.
- Start 3rd SB lane on SR 124 at Oak and carry through intersection with US 78. Drop 3rd lane approximately 300 feet past intersection with US 78.
- Carry three lanes in each direction on US 78 from SR 124 east to Henry Clower Boulevard.
- 600 linear feet of new 10-15' high wall needed along New London Plaza shopping center (on Knollwood Drive).
- Parking lot impacts to two properties south of US 78, and two properties on SR 124 in Snellville Plaza.
- Snellville Plaza will lose approximately 28 parking spaces.

Traffic Analysis

The following table shows the Year 2032 "With Project" levels of service and average intersection delay (in seconds) for both the original concept and the proposed concept at the US 78 at SR 124 intersection and other critical intersections in project vicinity:

Year 2032 "With Project" Levels of Service and Delay in Seconds

Intersection	Original Concept		Idea A-2	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
US 78/SR 124	E (65)	E (76)	E (74)	F (171)
US 78/Oak Rd/Henry Clower Blvd	C (32)	E (73)	C (35)	D (53)
US 78/Wisteria Dr	F (111)	F (197)	F (114)	F (193)
SR 124/Henry Clower Blvd	C (26)	D (49)	C (27)	D (47)
SR 124/Oak Rd	C (33)	F (112)	C (22)	F (158)
SR 124/Wisteria Dr/Harbour Oaks Dr ¹	F (> 200)	F (16)	F (> 200)	F (> 200)

Note: (1) This is an unsignalized intersection; the delay reported is for the worst approach

As shown in the previous table, this concept does not improve the levels of service at the US 78 at SR 124 intersection, with projected LOS of F in the PM peak hour.

Revised Cost Estimate

The cost estimate for this proposed change is \$13,860,000, which is \$7,710,000 higher than the cost estimate in the VE Report. So, the new revised savings is \$1,423,000 for this idea.

Potential Environmental Impacts

Given that the traffic volumes along eastbound US 78 do not significantly drop within the study area, the widening of US 78 east of SR 124 does not have a clear logical termini. Further study and analysis would be required to determine logical termini and the environmental impacts associated with widening eastbound US 78 to its logical termini.

Potential Community Impacts

While no immediate community impacts were identified, there may be impacts once the logical termini is determined. Further input from the community would be required to determine if this is an acceptable concept for the community.

Consistency with Need & Purpose of Project

This improvement is not consistent with the Need & Purpose of the project due to deficient levels of service at the US at SR 124 intersection.

Recommendation

Due to deficient levels of service at the US 78 at SR 124 intersection, and lack of logical termini the project team does not concur with this recommendation.

Idea B-3 Analysis

Idea: Eliminate the US 78 left turn lanes at the SR 124 / US 78 intersection and provide for them via Henry Clower Boulevard (Bypass jug handle concept).

Roadway Design Assumptions

- 250 linear feet of wall needed to protect detention pond at Henry Clower and SR 124
- Use 12 feet offset to set right of way
- Stripe out through lane on Henry Clower westbound to taper down to one lane at SR 124
- Costs from third eastbound through lane along US 78 calculated from A-2 display.
- Shift US 78 to the north to miss Historic resources to add 3 lanes for approximately 750 feet, 4 lanes for 350 feet and 2 lanes for 600 feet prior to Henry Clower on US 78. Maintain dual lefts onto SR 124
- Provide free flow right turn lane for 300 feet on US 78 since existing right turn lane SB SR 124 to WB US 78 is unopposed.
- Carry 3 lanes in each direction on US 78 from SR 124 to Henry Clower Blvd
- 600 linear feet of new 10-15' high wall needed along new London Plaza shopping center on US 78
- Parking lot impacts to two properties south of US 78
- Snellville Plaza will lose approximately 28 parking spaces.

Traffic Analysis

The following table shows the Year 2032 "With Project" levels of service and average intersection delay (in seconds) for both the original concept and the proposed concept at the US 78 at SR 124 intersection and other critical intersections in project vicinity:

Year 2032 "With Project" Levels of Service and Delay in Seconds

Intersection	Original Concept		Idea B-3	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
US 78/SR 124	E (65)	E (76)	F (108)	F (202)
US 78/Oak Rd/Henry Clower Blvd	C (32)	E (73)	D (40)	F (152)
US 78/Wisteria Dr	F (111)	F (197)	F (111)	F (187)
SR 124/Henry Clower Blvd	C (26)	D (49)	D (39)	E (65)
SR 124/Oak Rd	C (33)	F (112)	C (32)	F (160)
SR 124/Wisteria Dr/Harbour Oaks Dr ¹	F (> 200)	F (16)	F (> 200)	F (> 200)

Note: (1) This is an unsignalized intersection; the delay reported is for the worst approach

As shown in the previous table, this concept does not improve the levels of service at the US 78 at SR 124 intersection, with projected LOS of F in the AM and PM peak hours.

Revised Cost Estimate

The cost estimate for this proposed change is \$7,800,000, which is \$5,701,000 higher than the cost estimate in the VE Report. So, the new revised savings is \$7,483,000 for this idea.

Potential Environmental Impacts

Given that the traffic volumes along eastbound US 78 do not significantly drop within the study area, the widening of US 78 east of SR 124 does not have a clear logical termini. Further study and analysis would be required to determine logical termini and the environmental impacts associated with widening eastbound US 78 to its logical termini.

Potential Community Impacts

Given that the traffic volumes along eastbound US 78 do not significantly drop within the study area, the widening of US 78 east of SR 124 does not have a clear logical termini. Further study and analysis would be required to determine logical termini and the environmental impacts associated with widening eastbound US 78 to its logical termini.

Consistency with Need & Purpose of Project

This improvement is not consistent with the Need & Purpose of the project due to deficient levels of service at the US at SR 124 intersection.

Recommendation

Due to deficient levels of service at the US 78 at SR 124 intersection and lack of logical termini, the project team does not concur with this recommendation.

Idea A-11 Analysis

Idea: Eliminate the need for the new CFI by constructing a one-way pair through the city (EB use Henry Clower Boulevard, WB use US 78).

Roadway Design Assumptions

- Used 35 mph speed design for curves onto and off of US 78 Bypass.
- All 3 lanes moved from US 78 to the US 78 Bypass
- Cul-de-sac Church Street.
- Carry two lanes from Bypass back onto US 78 and one through lane to Oak Street through the Wisteria Drive intersection. Drop the third eastbound lane 1,000 feet east of Wisteria Drive.

Traffic Analysis

The following table shows the Year 2032 "With Project" levels of service and average intersection delay (in seconds) for both the original concept and the proposed concept at the US 78 at SR 124 intersection and other critical intersections in project vicinity:

Year 2032 "With Project" Levels of Service and Delay in Seconds

Intersection	Original Concept		Idea A-11	
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
US 78/SR 124	E (65)	E (76)	D (48)	D (47)
US 78/Oak Rd/Henry Clower Blvd	C (32)	E (73)	B (16)	D (50)
US 78/Wisteria Dr	F (111)	F (197)	F (111)	F (194)
SR 124/Henry Clower Blvd	C (26)	D (49)	D (38)	F (111)
SR 124/Oak Rd	C (33)	F (112)	C (29)	F (163)
SR 124/Wisteria Dr/Harbour Oaks Dr ¹	F (> 200)	F (16)	F (> 200)	F (> 200)

Note: (1) This is an unsignalized intersection; the delay reported is for the worst approach

As shown in the previous table, this concept does not improve the levels of service at the US 78 at SR 124 intersection. However, due to the heavy turning movements at the SR 124 at Henry Clower Boulevard intersection, it is projected to operate at LOS F in the PM peak hour. Under the original concept this intersection is projected to operate at LOS D in the PM peak hour.

The proposed concept moves the congestion from the US 78 at SR 124 intersection to the SR 124 at Henry Clower Boulevard intersection. With the proposed concept the delay is reduced by 29 seconds in the PM peak hour at the US 78 at SR 124 intersection. However the delay is increased by 62 seconds at the SR 124 at Henry Clower Boulevard intersection.

Revised Cost Estimate

The cost estimate for this proposed change is \$27,400,000, which is \$23,837,000 higher than the cost estimate in the VE Report, so the new revised savings is -\$12,117,000 for this idea.

Potential Environmental Impacts

No adverse environmental impacts have been identified with this proposed change.

Potential Community Impacts

This improvement would have significant impacts to the following properties:

- Snellville First Baptist Church
- Citgo Gas Station at the US 78 at Wisteria Drive intersection
- Bellsouth Facility along US 78, west of Henry Clower Boulevard
- Office Building along Henry Clower Boulevard, south of US 78

In addition the one way circulation patterns would have significant impact to the access to the following properties:

- New London Plaza shopping center
- McDonald's along US 78, east of Henry Clower Boulevard
- Snellville United Methodist Church

Consistency with Need & Purpose of Project

Since the bypass would be a major through way, the bypass was designed to meet a 35 mph speed design. However, to meet the 35 mph speed design several significant impacts were identified. In contrast, the VE concept drawing did not meet speed design. Therefore, this improvement is not consistent with the Need & Purpose of the project due to deficient levels of service at the US 78 at SR 124 intersection and significant impacts to churches and businesses in Snellville.

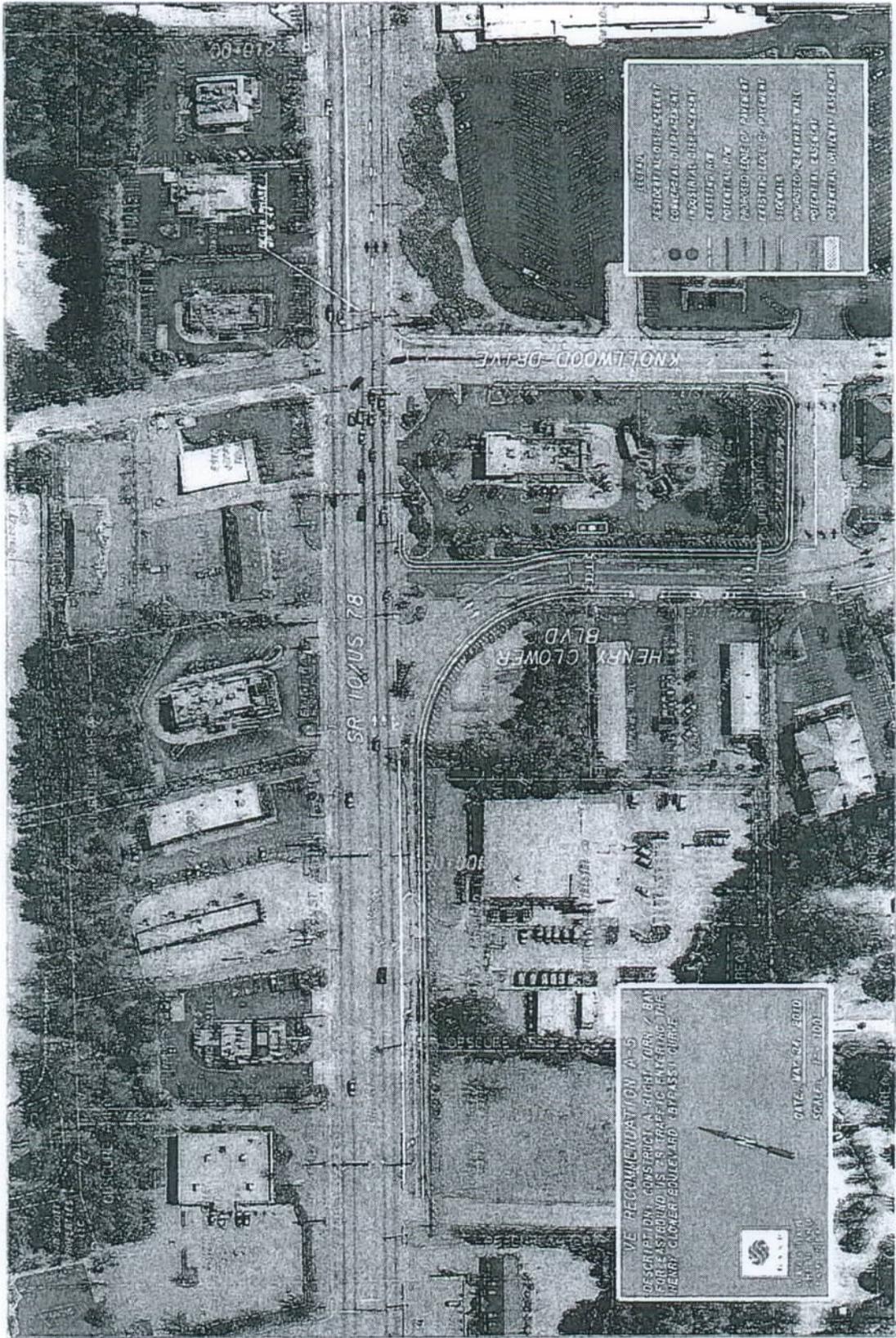
Recommendation

Due to deficient levels of service at the SR 124 at Henry Clower Boulevard intersection, significant impacts to churches and businesses in Snellville and estimated costs that are more expensive than the original concept, the project team does not concur with this recommendation.

Appendix

1. Conceptual displays

2. Cost Estimates



LEGEND

- RESIDENTIAL DEVELOPMENT
- COMMERCIAL DEVELOPMENT
- EXISTING LOT
- POTENTIAL LOTS
- PARKING LINE OF PAVED LOT
- EXISTING LOT TO BE PAVED
- EXISTING DRIVEWAY
- POTENTIAL DRIVEWAY

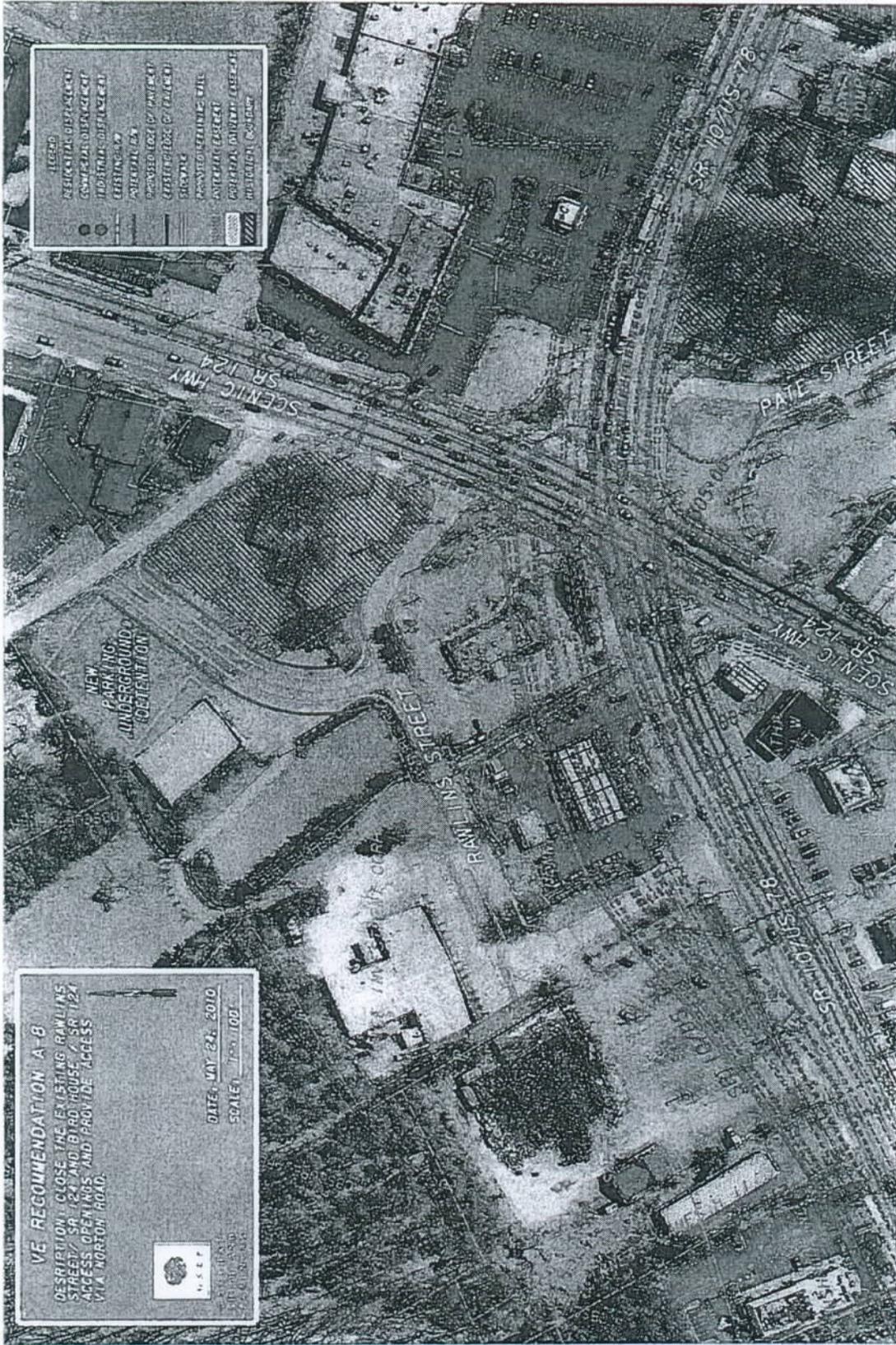
VE RECOMMENDATION A-5

DESCRIPTION: CONSTRUCT A RIGHT-TURN / BAY FOR EASTBOUND US 78 TRAFFIC ENTERING THE HENRY CLOWER BOULEVARD BYPASS CURVE

GATE: MAY 2010, F010

SCALE: 1" = 100'

MACAS.dgn 5/24/2010 7:56:53 AM



LEGEND

[Symbol]	RESURFACING DISPLACEMENT
[Symbol]	CONCRETE DISPLACEMENT
[Symbol]	EXISTING CURB
[Symbol]	PROPOSED CURB OF PARKWAY
[Symbol]	EXISTING EASEMENT
[Symbol]	PROPOSED EASEMENT
[Symbol]	PROPOSED EASEMENT LINE
[Symbol]	PROPOSED EASEMENT WALL
[Symbol]	PROPOSED EASEMENT
[Symbol]	PROPOSED EASEMENT
[Symbol]	PROPOSED EASEMENT

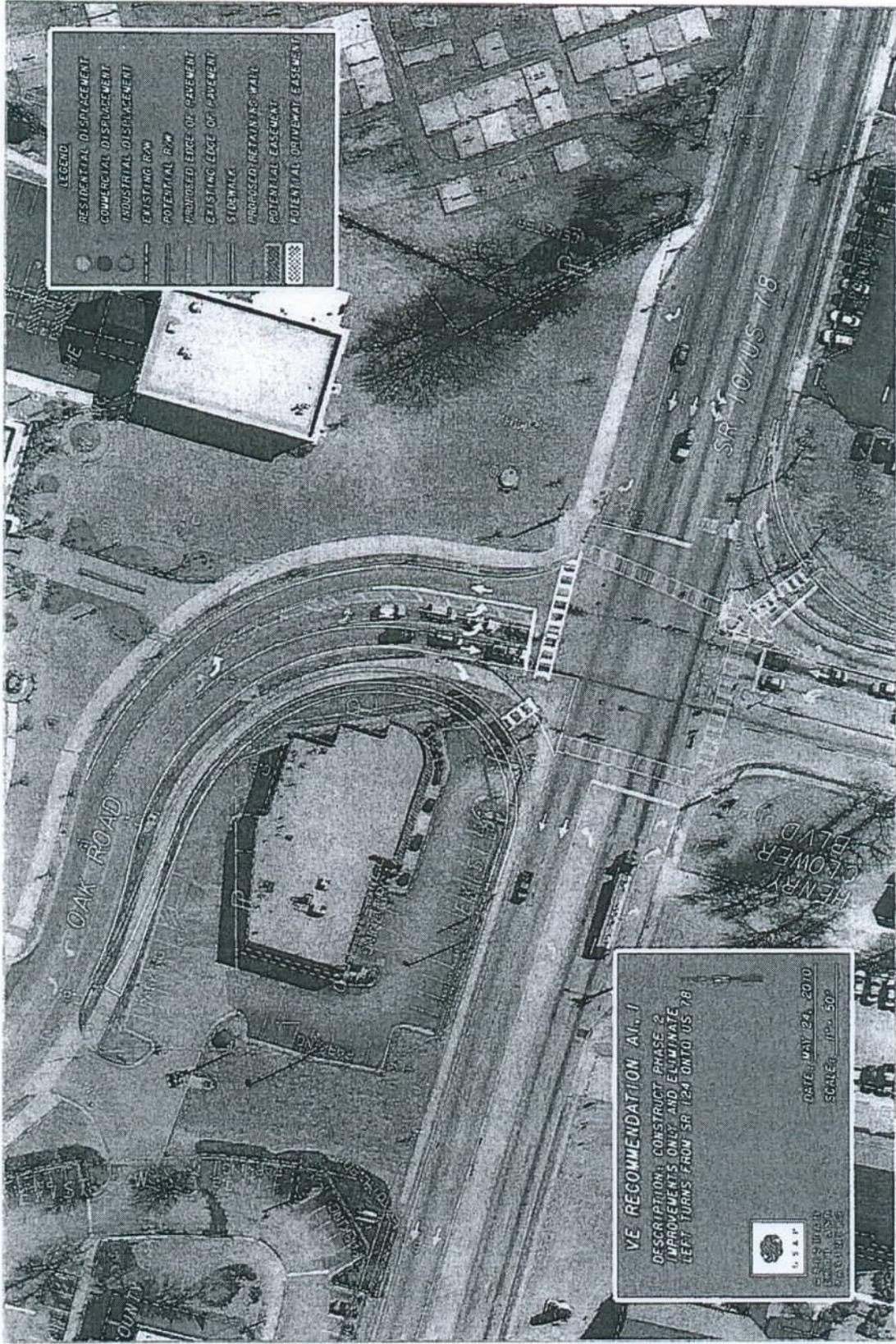
VE RECOMMENDATION A-B

DESCRIPTION: CLOSE THE EXISTING RAWLINS STREET, SR 124, AND BIRD HOUSE, SR 124 ACCESS OPENINGS AND PROVIDE ACCESS VIA MOREON ROAD.

DATE: MAY 24, 2010

SCALE: 1" = 100'

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION



LEGEND

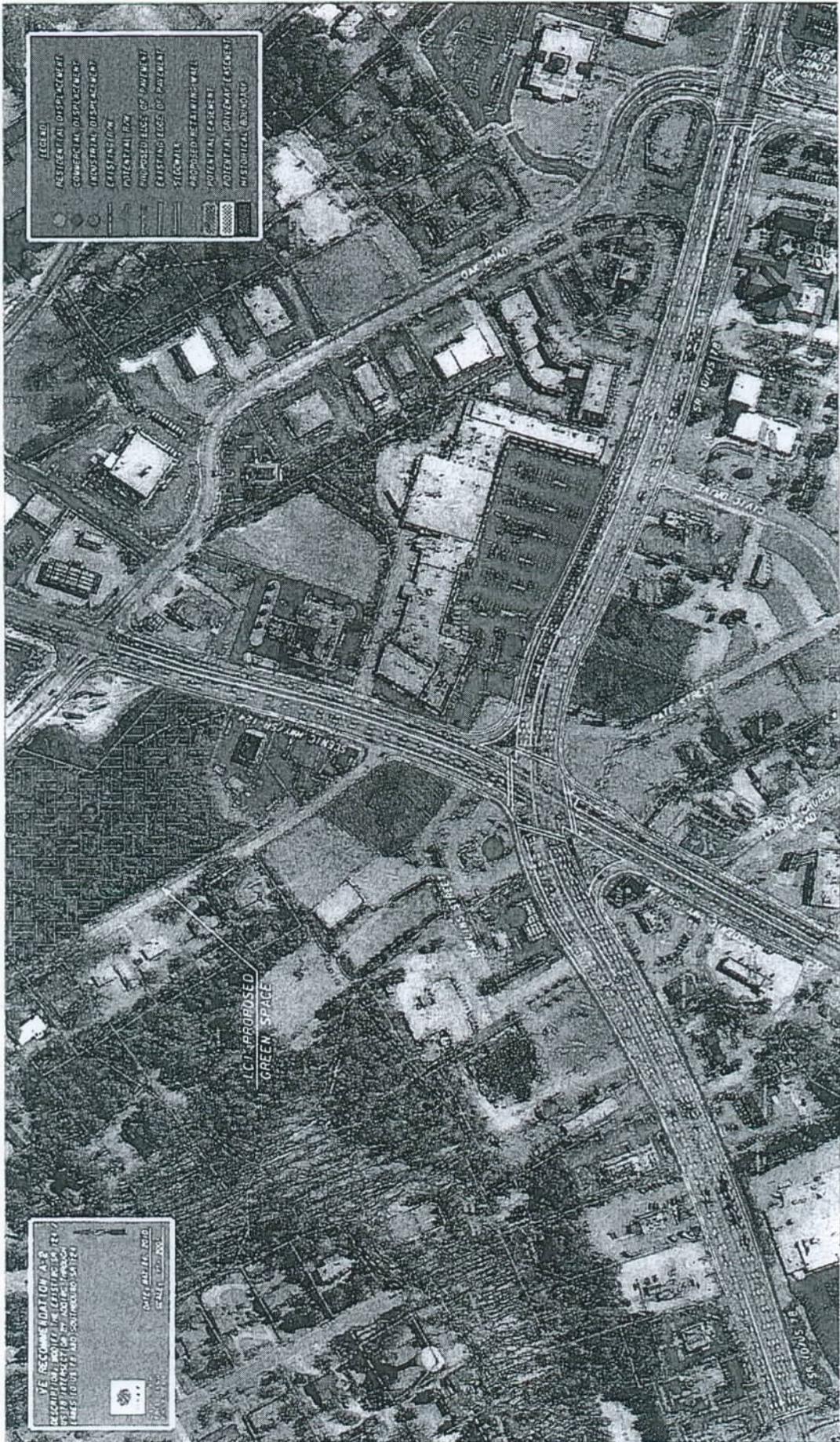
(Symbol)	RESIDENTIAL DISPLACEMENT
(Symbol)	COMMERCIAL DISPLACEMENT
(Symbol)	INDUSTRIAL DISPLACEMENT
(Symbol)	EXISTING R/W
(Symbol)	POTENTIAL R/W
(Symbol)	PROPOSED EDGE OF PAVEMENT
(Symbol)	EXISTING EDGE OF PAVEMENT
(Symbol)	SIDEWALK
(Symbol)	PROPOSED RETAINING WALL
(Symbol)	POTENTIAL EASEMENT
(Symbol)	POTENTIAL DRIVEWAY EASEMENT

VE RECOMMENDATION AL-1

DESCRIPTION: CONSTRUCT PHASE 2 IMPROVEMENTS ONLY AND ELIMINATE LEFT TURNS FROM SR 107/US 78

DATE: MAY 24, 2010
SCALE: 1/4" = 50'

USARP
SOUTH
COUNTY
PLANNING
DEPARTMENT



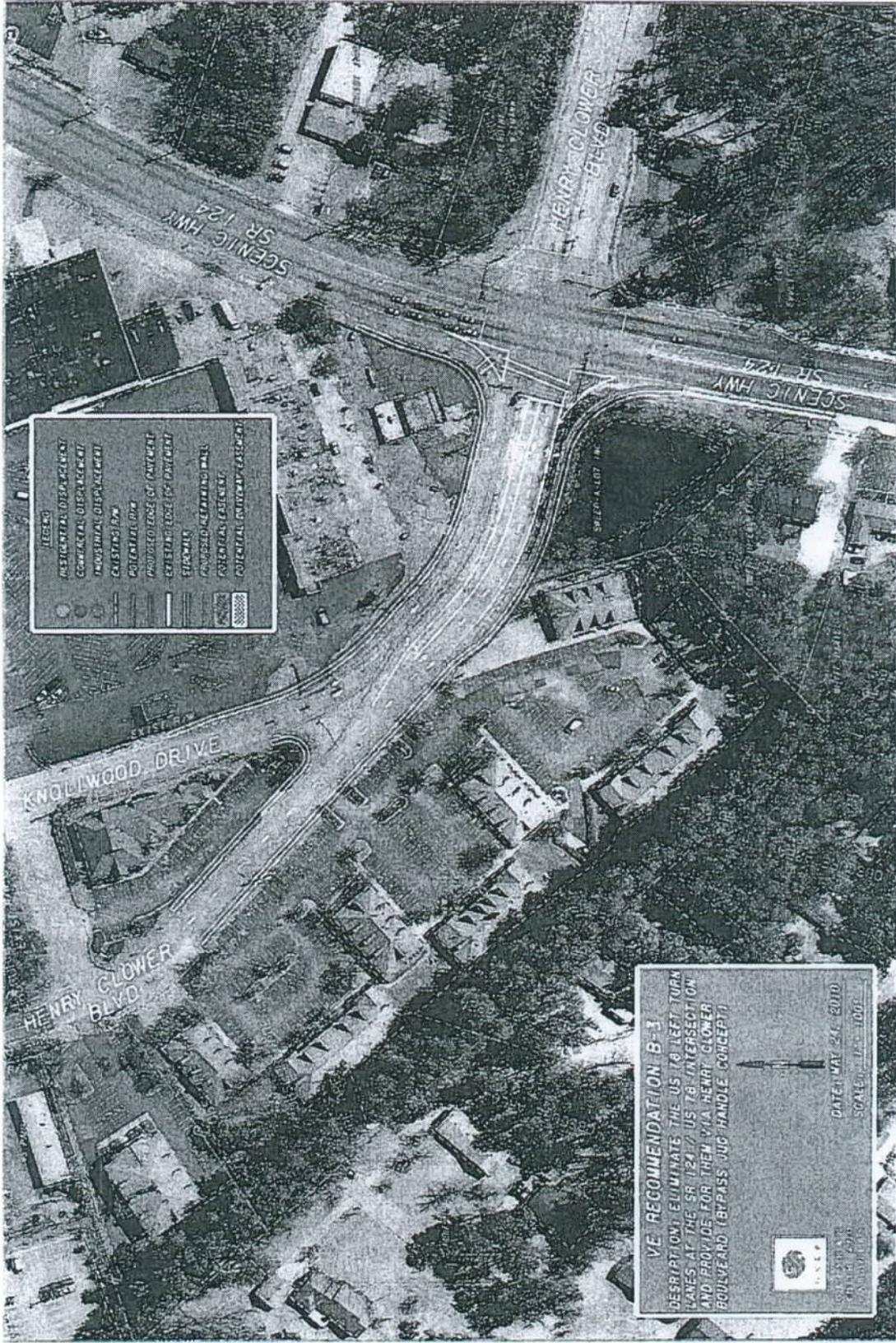
- LEGEND**
- RESIDENTIAL DISPLACEMENT
 - COMMERCIAL DISPLACEMENT
 - INDUSTRIAL DISPLACEMENT
 - EXISTING DRAIN
 - POTENTIAL DRAIN
 - PROPOSED USES OF PARKWAY
 - EXISTING EDGES OF PARKWAY
 - STREETWALL
 - PROPOSED RETAINING WALL
 - POTENTIAL GREENWAY (EASEMENT)
 - HISTORICAL DISTRICT

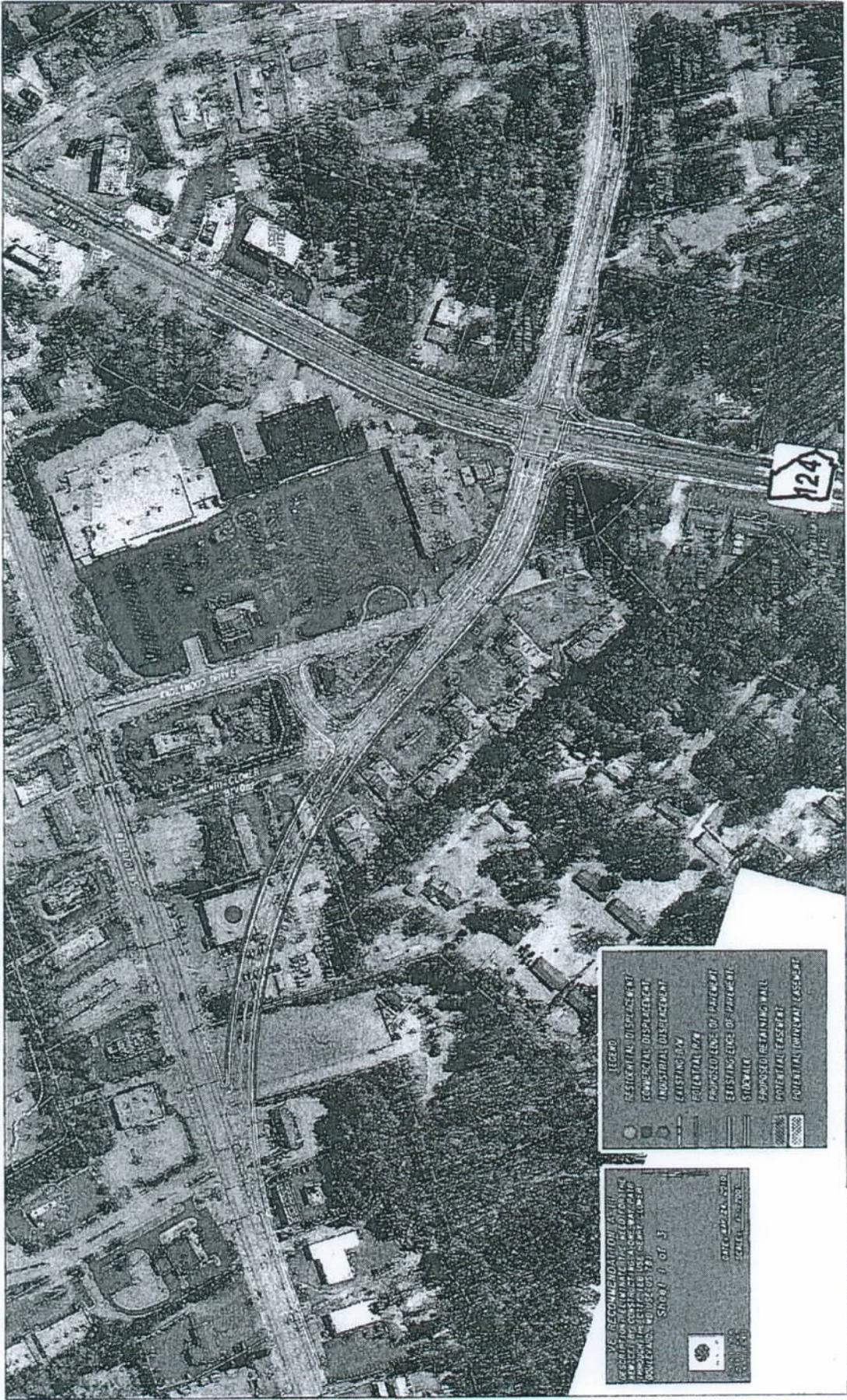
WE RECOMMEND THAT THE
 DESIGNATION AND USE OF THE CENTER FOR THE
 95170 (PARKWAY) AND 95170 (PARKWAY) THROUGH
 10000 (10000) AND 10000 (10000)

DATE: 04/11/2010
 SCALE: 1:1000

PROPOSED
 GREEN SPACE

MACAZ.dgn 5/24/2010 7:55:50 AM





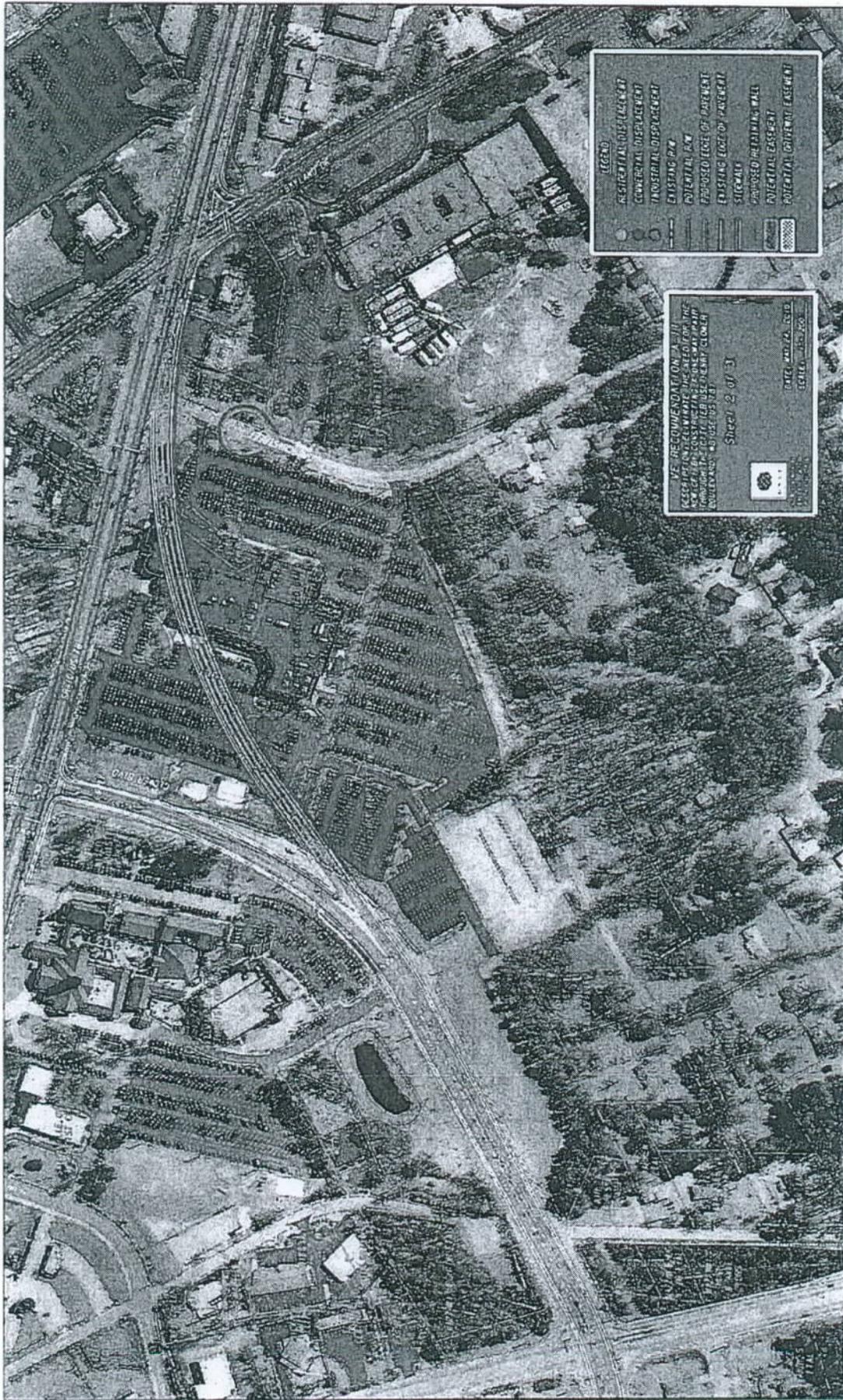
LEGEND

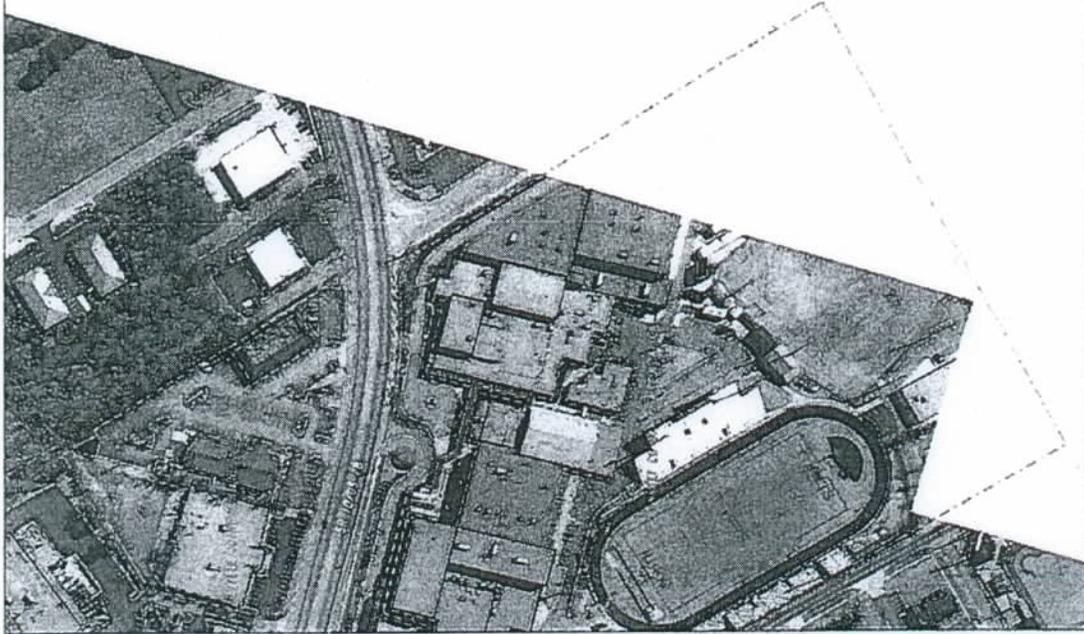
[Symbol]	POTENTIAL DISPLACEMENT
[Symbol]	COMMERCIAL DISPLACEMENT
[Symbol]	INDUSTRIAL DISPLACEMENT
[Symbol]	EXISTING ROW
[Symbol]	POTENTIAL ROW
[Symbol]	PROPOSED EASE OF EASEMENT
[Symbol]	EXISTING EASE OF EASEMENT
[Symbol]	STORMWATER
[Symbol]	POTENTIAL RETAINING WALL
[Symbol]	POTENTIAL BURIAL CASSEMENT

PRELIMINARY RECOMMENDATION OF STUDENT
 FOR THE PROPOSED STUDENT CENTER AND PARKING
 DEVELOPMENT IN THE STUDENT CENTER
 DEVELOPMENT, WILSON, WISCONSIN

Sheet 1 of 3

DATE: 04/24/2010
 TIME: 7:53:00 AM





VE RECOMMENDATIONS
DESCRIPTION, ELEMENTS, THE NEEDS OF THE
PROJECT, AND THE NEEDS OF THE COMMUNITY
AND THE ENVIRONMENT.
SHEET 31 OF 31
DATE: MAY 24, 2010
SCALE: 1"=100'

LEGEND
RESIDENTIAL DISPLACEMENT
COMMERCIAL DISPLACEMENT
INDUSTRIAL DISPLACEMENT
EXISTING ROW
POTENTIAL ROW
PROPOSED EDGE OF PAVEMENT
EXISTING EDGE OF PAVEMENT
SUBGRADE
PROPOSED RETAINING WALL
POTENTIAL EASEMENT
POTENTIAL DISPLACEMENT

Project Cost Estimation Spreadsheet

Project Identification

US 78 at SR 124 VE Study Recommendation A5

Description 500 feet deceleration lane Proj. Type

From Limit 0 District

To Limit 1

Notes

Project Length 0.1 miles

<u>Cost Summary</u>		per mile	Yr. of Exp.	Inflated Cost	Total Program Cost
Preliminary Engineering	\$0	\$ -	2010	\$ -	\$0
Reimbursable Utility	\$14,532	\$ 145,319	2014	\$ 17,000	\$17,000
Right-of-Way	\$139,392	\$ 1,393,920	2012	\$ 150,766	\$150,766
Construction	\$290,639	\$ 2,906,389	2014	\$ 340,006	\$340,006
Total	\$444,563	\$ 4,445,628	Total	\$507,773	\$507,773

Construction Costs

<u>Average Per Lane-Mile Components</u>	Unit Cost	Miles	Add Lanes	Lane-Miles	Cost
Surface Str. New Cst. base & pave	\$338,430	0.10	0.10	0.01	\$3,384
Surface Str. Widening base & pave	\$338,430	0.10	1.00	0.1	\$33,843

	Unit Cost	Miles	Factor	Cost
Cross Street Overlay	\$17,121	0.10	0.00	\$0
Traffic Control	\$180,000	0.10	1.00	\$18,000
Typical Driveways	\$85,000	0.10	1.00	\$8,500
Typical E & S Control Temp&Perm	\$165,000	0.10	1.00	\$16,500
Typical Earthwork	\$750,000	0.10	0.50	\$37,500
Typical Drainage - Urban Section	\$596,000	0.10	1.00	\$59,600
Curb & Gutter both sides (mile)	\$211,200	0.10	1.00	\$21,120
Typical Drainage - Rural Section	\$120,000	0.10	0.00	\$0
Signing & Marking	\$38,000	0.10	1.00	\$3,800
Typical Clear & Grub-120 ft wide	\$116,364	0.10	0.50	\$5,818
Typical Guardrail	\$38,000	0.10	1.00	\$3,800
20ft. Raised median +C&G (mile)	\$255,644	0.10	0.00	\$0
Median landscaping	\$30,000	0.10	0.00	\$0
Sidewalks 5 ft. ea.side (mile)	\$187,733	0.10	1.00	\$18,773
				\$0
				\$0
				Subtotal
				\$230,639

<u>Additional Per Mile Components</u>	Unit Cost	Length	factor	Cost
Add'l Major Earthwork (mile)	\$250,000	0.00	1.00	\$0
Add'l Major Drainage (mile)	\$100,000	0.00	1.00	\$0
Add'l Major Grade changes (mile)	\$250,000	0.00	1.00	\$0
Major alignment corrections (mile)	\$600,000	0.00	1.00	\$0
Maint of Traffic difficulty (mile)	\$100,000	0.00	0.00	\$0
Precast barrier Method 3 (ft)	\$40	0.00	1.00	\$0
Add'l guardrail (mile)	\$50,000	0.00	1.00	\$0
Paved Shoulders, 4 ft, 2 sides(mile)	\$100,000	0.00	1.00	\$0
blank	\$0	0.00	1.00	\$0
blank	\$0	0.00	1.00	\$0
Bikeway, 4 feet, both side (mile)	\$225,620	0.00	1.00	\$0
Add'l driveways (mile)	\$75,000	0.00	1.00	\$0
Cl. B Conc. Base or pvmt widening	\$15,000	0.00	1.00	\$0

blank	\$0				\$0
Special E&S control	\$0				\$0
					\$0
				Subtotal	\$0
Individual Components	Unit Cost	Length (ft)	Width (ft)	Ht (ft)	Cost
Retaining Walls - Gravity 0 - 5' (LF)	\$50	0			\$0
Retaining Walls-Gravity 5'-max (LF)	\$120	500			\$60,000
Retaining Walls-Special Design(SF)	\$60	0		0	\$0
Bridges - widen (SF)	\$85	0	0		\$0
Bridges - widen (SF)	\$85	0	0		\$0
Bridges - replace (SF)	\$85	0	0		\$0
Bridges - replace (SF)	\$85	0	0		\$0
Bridges - detour (SF)	\$40	0	0		\$0
Bridge Removal (SF)	\$15	0	0		\$0
Cofferdams (ea)	\$15,000	0			\$0
Box Culverts (SF)	\$80	0	0		\$0
Box Culverts (SF)	\$80	0	0		\$0
Large cross drains (LF)	\$60	0			\$0
Replace cross drains (LF)	\$100	0			\$0
Sediment/ detention ponds (ea)	\$20,000	0			\$0
Pavement patching (Sq yd)	\$20	0.00	0.00		\$0
	\$0				\$0
Traffic Signalization / Upgrade (ea)	\$160,000	0			\$0
				Subtotal	\$60,000
				Total Construction Cost	\$290,639

65%

Right-of-Way Costs

Area Type	Unit Cost (acre)	Miles	Width (ft)	Acres	Cost
Urban Commercial	\$435,600	0.1	16	0.19	\$84,480
	\$435,600	0	0	0.00	\$0
Displacements		Number	factor		
Residential	\$200,000	0	1.00		\$0
Business	\$800,000	0	0.75		\$0
Damages	\$50,000	0	1.00		\$0
				ROW multiplier	1.65
				Total Right-of-Way Cost	\$139,392

31%

Reimbursable Utility Costs

				0
				\$ 14,532
				Total Reimbursable Utility Cost
				\$14,532

3.27%

Preliminary Engineering Costs

PE %	0%	Total Preliminary Engineering Cost	\$0
------	----	---	------------

0.00%

Contingency Costs

Contingency %	0%	Total Contingency Cost	\$0
		Total (PE+Util.+ROW+CST)	\$444,563
		Grand Total	\$444,563

Cl. B Conc. Base or pvmt widening	\$15,000	0.00	1.00		\$0
blank	\$0				\$0
Special E&S control	\$0				\$0
					\$0
				Subtotal	\$0
Individual Components	Unit Cost	Length (ft)	Width (ft)	Ht (ft)	Cost
Retaining Walls - Gravity 0 - 5' (LF)	\$50	0			\$0
Retaining Walls-Gravity 5'-max (LF)	\$120	0			\$0
Retaining Walls-Special Design(SF)	\$60	0			\$0
Bridges - widen (SF)	\$85	0			\$0
Bridges - widen (SF)	\$85	0			\$0
Bridges - replace (SF)	\$85	0			\$0
Bridges - replace (SF)	\$85	0			\$0
Bridges - detour (SF)	\$40	0			\$0
Bridge Removal (SF)	\$15	0			\$0
Cofferdams (ea)	\$15,000	0			\$0
Box Culverts (SF)	\$80	0			\$0
Box Culverts (SF)	\$80	0			\$0
Large cross drains (LF)	\$60	0			\$0
Replace cross drains (LF)	\$100	0			\$0
Sediment/ detention ponds (ea)	\$20,000	1			\$20,000
Pavement patching (Sq yd)	\$20	0.00			\$0
	\$0				\$0
Traffic Signalization / Upgrade (ea)	\$160,000	0			\$0
				Subtotal	\$20,000
				Total Construction Cost	\$235,329

38%

Right-of-Way Costs

Area Type	Unit Cost (acre)	Miles	Width (ft)	Acres	Cost
Urban Commercial	\$435,600	0.07	50	0.42	\$184,800
	\$435,600	0	0	0.00	\$0
Displacements		Number	factor		
Residential	\$200,000	0	0.00		\$0
Business	\$800,000	0	0		\$0
Damages	\$50,000	1	1		\$50,000
				ROW multiplier	1.65
				Total Right-of-Way Cost	\$387,420

62%

Reimbursable Utility Costs

					0
					\$ -
				Total Reimbursable Utility Cost	\$0

0.00%

Preliminary Engineering Costs

PE %	0%	Total Preliminary Engineering Cost	\$0
------	----	---	------------

0.00%

Contingency Costs

Contingency %	0%	Total Contingency Cost	\$0
		Total (PE+Util.+ROW+CST)	\$622,749
		Grand Total	\$622,749

Add'l driveways (mile)	\$75,000	0.00	1.00		\$0
Cl. B Conc. Base or pvmt widening	\$15,000	0.00	1.00		\$0
blank	\$0				\$0
Special E&S control	\$0				\$0
					\$0
				Subtotal	\$0
Individual Components					
	Unit Cost	Length (ft)	Width (ft)	Ht (ft)	Cost
Retaining Walls - Gravity 0 - 5' (LF)	\$50	0			\$0
Retaining Walls-Gravity 5'-max (LF)	\$120	0			\$0
Retaining Walls-Special Design(SF)	\$60	0		12	\$0
Bridges - widen (SF)	\$85	0		15	\$0
Bridges - widen (SF)	\$85	0		20	\$0
Bridges - replace (SF)	\$85	0		0	\$0
Bridges - replace (SF)	\$85	0		0	\$0
Bridges - detour (SF)	\$40	0		0	\$0
Bridge Removal (SF)	\$15	0		6	\$0
Cofferdams (ea)	\$15,000	0			\$0
Box Culverts (SF)	\$80	0		0	\$0
Box Culverts (SF)	\$80	0		0	\$0
Large cross drains (LF)	\$60	0			\$0
Replace cross drains (LF)	\$100	0			\$0
Sediment/ detention ponds (ea)	\$20,000	0			\$0
Pavement patching (Sq yd)	\$20	0.00		1.00	\$0
	\$0				\$0
Traffic Signalization / Upgrade (ea)	\$160,000	1			\$160,000
				Subtotal	\$160,000
				Total Construction Cost	\$231,762

64%

Right-of-Way Costs

Area Type	Unit Cost (acre Miles)	Width (ft)	Acres	Cost
Urban Commercial	\$435,600	0	0	\$26,670
	\$435,600	0	0	\$0
Displacements	Number	factor		
Residential	\$200,000	0	1.00	\$0
Business	\$800,000	0	1.00	\$0
Church	\$1,000,000	0	1.00	\$0
Damages	\$50,000	1	1.00	\$50,000
			ROW multiplier	1.65
			Total Right-of-Way Cost	\$126,506

35%

Reimbursable Utility Costs

				0
				\$ 2,318
			Total Reimbursable Utility Cost	\$2,318

0.64%

Preliminary Engineering Costs

PE %	0%	Total Preliminary Engineering Cost	\$0
------	----	---	------------

0.00%

Contingency Costs

Contingency %	0%	Total Contingency Cost	\$0
		Total (PE+Util.+ROW+CST)	\$360,586
		Grand Total	\$360,586

Bridges - replace (SF)	\$85				\$0	
Bridges - detour (SF)	\$40				\$0	
Bridge Removal (SF)	\$15				\$0	
Cofferdams (ea)	\$15,000				\$0	
Box Culverts (SF)	\$80				\$0	
Box Culverts (SF)	\$80				\$0	
Large cross drains (LF)	\$60				\$0	
Replace cross drains (LF)	\$100				\$0	
Sediment/ detention ponds (ea)	\$20,000				\$0	
Pavement patching (Sq yd)	\$20				\$0	
	\$0				\$0	
Traffic Signalization / Upgrade (ea)	\$160,000	1			\$160,000	Old 41
					Subtotal	\$232,000
					Total Construction Cost	\$3,514,867

34%

Right-of-Way Costs

Area Type	Unit Cost (acre Miles)	Width (ft)	Acres	Cost	Notes
Urban Commercial	\$435,600		2.60	\$1,132,560	
	\$435,600	0	0	\$0	
Displacements		Number	factor		
Residential	\$200,000	0	1.00	\$0	
Business	\$800,000	3	1	\$2,400,000	
Damages	\$50,000	4	1.00	\$200,000	
Snellville Plaza Damages	\$250,000	1	1.00	\$250,000	
			ROW multiplier	1.65	
			Total Right-of-Way Cost	\$6,571,224	

64%

Reimbursable Utility Costs

				\$ 175,743	Notes
				Total Reimbursable Utility Cost	\$175,743
					1.71%
					use 5% const. minimum

Preliminary Engineering Costs

PE %	0%	Total Preliminary Engineering Cost	\$0	Notes
				0.00%

Contingency Costs

Contingency %	0%	Total Contingency Cost	\$0
		Total (PE+Util.+ROW+CST)	\$10,261,834
		Grand Total	\$10,261,834

Bridges - detour (SF)	\$40			\$0
Bridge Removal (SF)	\$15			\$0
Cofferdams (ea)	\$15,000			\$0
Box Culverts (SF)	\$80			\$0
Box Culverts (SF)	\$80			\$0
Large cross drains (LF)	\$60			\$0
Replace cross drains (LF)	\$100			\$0
Sediment/ detention ponds (ea)	\$20,000			\$0
Pavement patching (Sq yd)	\$20			\$0
	\$0			\$0
Traffic Signalization / Upgrade (ea)	\$160,000	1		\$160,000
			Subtotal	\$244,500
Total Construction Cost				\$1,716,805

24%

Right-of-Way Costs

Area Type	Unit Cost (acre Miles)	Width (ft)	Acres	Cost	Notes
Urban Commercial	\$435,600		1.01	\$439,956	19043
	\$435,600	0	0.00	\$0	1642
Displacements		Number	factor		2000
Residential	\$200,000	0	1.00	\$0	8200
Business	\$800,000	3	1	\$2,400,000	6000
Damages	\$50,000	2	1.00	\$100,000	
Snellville Plaza Damages	\$250,000	1	1.00	\$250,000	
			ROW multiplier	1.65	
Total Right-of-Way Cost				\$5,263,427	

74%

Reimbursable Utility Costs

				0	Notes
				\$ 85,830	use 5% const. minimum
Total Reimbursable Utility Cost				\$85,830	

1.21%

Preliminary Engineering Costs

PE %	0%	Total Preliminary Engineering Cost	\$0	Notes
			0.00%	

Contingency Costs

Contingency %	0%	Total Contingency Cost	\$0
		Total (PE+Util.+ROW+CST)	\$7,065,863
		Grand Total	\$7,065,863

19043
1642
2000
8200
6000

36885
44262 1.016116

Project Cost Estimation Spreadsheet

Project Identification

US 78 at SR 124 VE Study Recommendation A11
 Description One way pair Proj. Type
 From Limit EB use Henry Clower District
 To Limit WB US 78
 2500 lf from US 78 to Henry Clower & SR 124 new 3 lane section; 2200 lf from Henry
 Notes Clower back onto US 78 at Wisteria 2 lanes
 Project Length 0.1 miles

<u>Cost Summary</u>		per mile	Yr. of Exp.	Inflated Cost	Total Program Cost	Per lane mile cost
Preliminary Engineering	\$0	\$ -	2010	\$ -	\$0	\$ -
Reimbursable Utility	\$294,411	\$ 2,944,106	2014	\$ 344,419	\$344,419	\$ 114,806
Right-of-Way	\$18,626,784	\$ 186,267,840	2012	\$ 20,146,730	\$20,146,730	\$ 6,715,577
Construction	\$5,888,211	\$ 58,882,113	2014	\$ 6,888,374	\$6,888,374	\$ 2,296,125
Total	\$24,809,406	\$ 248,094,058	Total	\$27,379,523	\$27,379,523	\$ 9,126,508

Construction Costs

<u>Average Per Lane-Mile Components</u>	Unit Cost	Miles	Add Lanes	Lane-Miles	Cost	Notes
Surface Str. New Cst. base & pave	\$338,430	0.47	3.00	1.42045455	\$480,725	
Surface Str. Widening base & pave	\$338,430	0.42	2.00	0.83333333	\$282,025	
Surface Str. Widening base & pave	\$338,430	0.00	0.07	0	\$0	
Surface Street Overlay	\$47,045	1.57	5.00	7.85	\$369,302	Henry Clower & US 78
Surface Street Structural Overlay	\$105,125	0.00	0	0	\$0	
Cross Streets widening	\$338,430	0.19	1	0.18939394	\$64,097	SR 124

	Unit Cost	Miles	Factor	Cost	Notes
Cross Street Overlay	\$17,121	2.65	0.00	\$0	24%
Traffic Control	\$180,000	2.65	1.00	\$477,000	
Typical Driveways	\$85,000	2.65	1.00	\$225,250	
Typical E & S Control Temp&Perm	\$165,000	2.65	1.00	\$437,250	
Typical Earthwork	\$750,000	2.65	0.25	\$496,875	
Typical Drainage - Urban Section	\$596,000	2.65	1.00	\$1,579,400	
Curb & Gutter both sides (mile)	\$211,200	2.65	1.00	\$559,680	
Typical Drainage - Rural Section	\$120,000	2.65	0.00	\$0	
Signing & Marking	\$38,000	2.65	1.00	\$100,700	
Typical Clear & Grub-120 ft wide	\$116,364	2.65	0.25	\$77,091	
Typical Guardrail	\$38,000	2.65	0.10	\$10,070	
20ft. Raised median +C&G (mile)	\$255,644	2.65	0.00	\$0	
Median landscaping	\$30,000	2.65	0.00	\$0	
Sidewalks 5 ft. ea.side (mile)	\$187,733	2.65	0.50	\$248,747	
				\$0	
				\$0	
Subtotal				\$5,408,211	

<u>Additional Per Mile Components</u>	Unit Cost	Length	factor	Cost	Notes
Add'l Major Earthwork (mile)	\$250,000	0.00	1.00	\$0	balance,waste or borrow?
Add'l Major Drainage (mile)	\$100,000	0.00	1.00	\$0	parallel stream?
Add'l Major Grade changes (mile)	\$250,000	0.00	1.00	\$0	MOT?. tie ins?
Major alignment corrections (mile)	\$600,000	0.00	1.00	\$0	
Maint of Traffic difficulty (mile)	\$100,000	0.00	0.00	\$0	
Precast barrier Method 3 (ft)	\$40	0.00	1.00	\$0	
Add'l guardrail (mile)	\$50,000	0.00	1.00	\$0	
Paved Shoulders, 4 ft. 2 sides(mile)	\$100,000	0.00	1.00	\$0	
blank	\$0	0.00	1.00	\$0	
blank	\$0	0.00	1.00	\$0	
Bikeway, 4 feet, both side (mile)	\$225,620	0.00	1.00	\$0	in road or side trail?
Add'l driveways (mile)	\$75,000	0.00	1.00	\$0	tie ins? ADA? MOT?
Cl. B Conc. Base or pvmt widening	\$15,000	0.00	1.00	\$0	
blank	\$0			\$0	
Special E&S control	\$0			\$0	
				\$0	
Subtotal				\$0	

<u>Individual Components</u>	Unit Cost	Length (ft)	Width (ft)	Ht (ft)	Cost	Notes
Retaining Walls - Gravity 0 - 5' (LF)	\$50	0			\$0	

Retaining Walls-Gravity 5'-max (LF)	\$120	0	\$0
Retaining Walls-Special Design(SF)	\$60	0	\$0
Bridges - widen (SF)	\$85	0	\$0
Bridges - widen (SF)	\$85	0	\$0
Bridges - replace (SF)	\$85	0	\$0
Bridges - replace (SF)	\$85	0	\$0
Bridges - detour (SF)	\$40	0	\$0
Bridge Removal (SF)	\$15	0	\$0
Cofferdams (ea)	\$15,000	0	\$0
Box Culverts (SF)	\$80	0	\$0
Box Culverts (SF)	\$80	0	\$0
Large cross drains (LF)	\$60	0	\$0
Replace cross drains (LF)	\$100	0	\$0
Sediment/ detention ponds (ea)	\$20,000	0	\$0
Pavement patching (Sq yd)	\$20	0.00	\$0
	\$0		\$0
Traffic Signalization / Upgrade (ea)	\$160,000	3	\$480,000
			Subtotal \$480,000
			Total Construction Cost \$5,888,211

24%

Right-of-Way Costs

Area Type	Unit Cost (acre Miles)	Width (ft)	Acres	Cost	Notes
Urban Commercial	\$435,600	0.47	60	\$1,488,960	
	\$435,600	0	0	\$0	
Displacements		Number	factor		
Residential	\$200,000	0	1.00	\$0	
Business	\$800,000	6	1.00	\$4,800,000	
Church	\$5,000,000	1	1.00	\$5,000,000	
Damages	\$50,000	0	1.00	\$0	
			ROW multiplier	1.65	
			Total Right-of-Way Cost	\$18,626,784	

75%

Reimbursable Utility Costs

	0	
	\$ 294,411	use 5% const. minimum
Total Reimbursable Utility Cost	\$294,411	

1.19%

Preliminary Engineering Costs

PE %	0%	Total Preliminary Engineering Cost	\$0
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0.00%

Contingency Costs

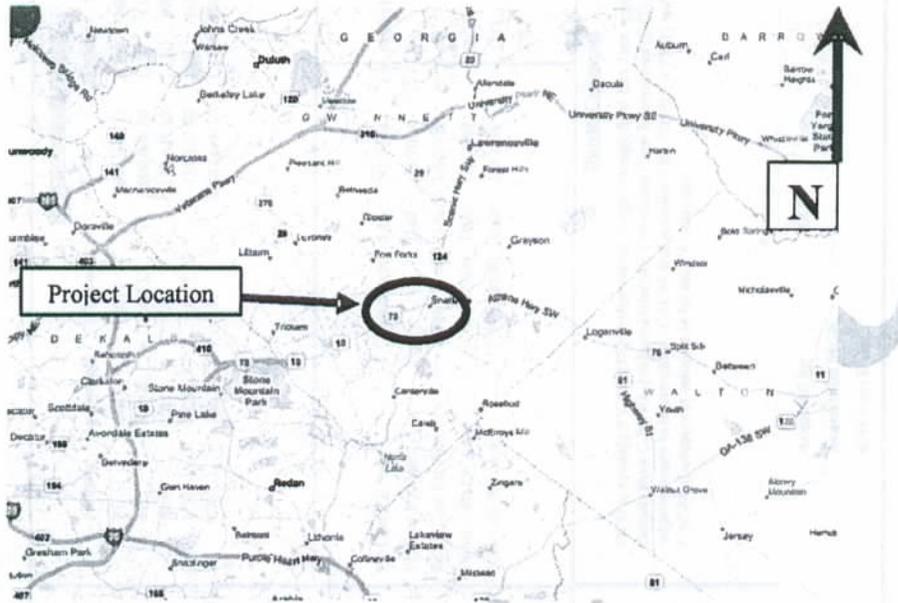
Contingency %	0%	Total Contingency Cost	\$0
		Total (PE+UTIL+ROW+CST)	\$24,809,406
		Grand Total	\$24,809,406

Project Number: CSSTP-0006-00(439)

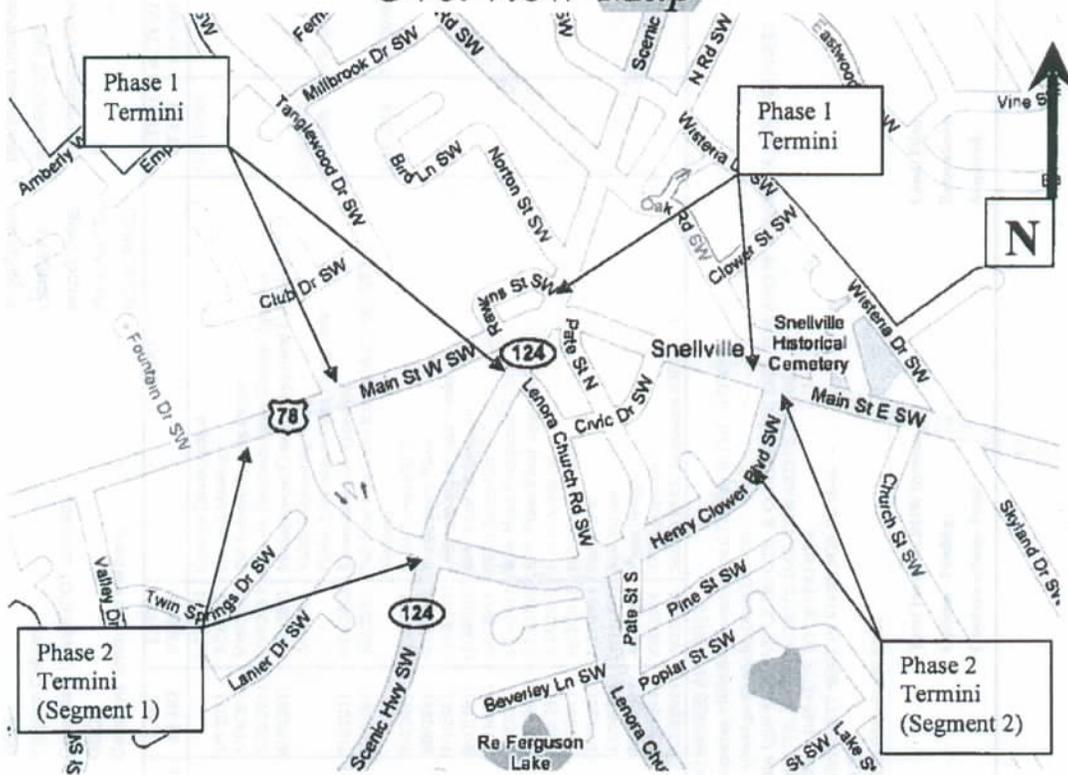
P. I. Number: 0006439

County: Gwinnett

2-Legged Continuous Flow Intersection on SR 10/US 78 at SR 124 (Phase 1)
& Eastbound Bypass on Henry Clower Boulevard (Phase 2)



Overview Map



Project Location Map

PRECONSTRUCTION STATUS REPORT FOR PI:0006439

SR 10/US 78 @ SR 124 GRADE SEPARATION @ INTERSECTION

PROJ ID : 0006439
 COUNTY : Gwinnett
 LENGTH (MI) : 0.40
 PROJ NO. : CSSTP-0006-00(439)
 PROJ MGR : Matthews, Tim
 AOHD Initials : SSH
 OFFICE : Program Delivery
 CONSULTANT : Consultant Design (DOT contract)
 SPONSOR : GDOT
 DESIGN FIRM : Gresham, Smith and Partners

MPO: Atlanta TMA
 TIP #: GW-078C
 MODEL YR : 2030
 TYPE WORK: Intersection Improvement
 CONCEPT: INTERSECT IMP
 PROG TYPE: Reconstruction/Rehabilitation
 Prov. for ITS: N
 BOND PROJ :

PRIORITY CODE: 1
 DOT DIST: 7
 CONG. DIST: Y
 BIKE: E
 MEASURE: 6
 NEEDS SCORE: 6
 BRIDGE SUFF:

MGMT LET DATE :
 MGMT ROW DATE :
 BASELINE LET DATE :
 SCHED LET DATE : 12/11/2014
 WHO LETS? : GDOT Let
 LET WITH :

BASE START	BASE FINISH	LATE START	LATE FINISH	TASKS	ACTUAL START	ACTUAL FINISH	%	Activity	Approved	Proposed	Cost	Fund	Status	Date Auth
		5/5/2011	6/30/2011	Concept Development	11/14/2007		0	PE	2011	2011	696,849.73	L240	PRECST	
		5/19/2011	5/19/2011	Concept Meeting			0	PE	LOCL	LOCL	1,000,000.00	LOC	AUTHORIZED	10/2/2006
		5/20/2011	6/30/2011	PM Submit Concept Report			0	ROW	LR	LR	5,170,047.95	L240	PRECST	
		6/30/2011	6/30/2011	Receive Preconstruction Concept Approval			0	UTL	LOCL	LOCL	111,800.00	LOC	PRECST	
		5/5/2011	5/5/2011	Management Concept Approval Complete	1/28/2010	9/3/2009	83	CST	LR	LR	8,884,668.16	L240	PRECST	
		7/1/2011	9/14/2012	Value Engineering Study			0							
		6/24/2012	8/2/2012	Public Information Open House Held			0							
		7/4/2011	8/5/2011	Environmental Approval	1/14/2008	7/28/2008	100							
		8/8/2011	4/19/2012	Pub Hear Held/Com Resp (EA/FONSI, GEPA)			0							
		7/1/2011	11/10/2011	Mapping			0							
		8/12/2011	11/24/2011	Field Surveys/SDE			0							
		1/31/2013	2/1/2013	Preliminary Plans			0							
		2/4/2013	5/24/2013	Underground Storage Tanks			0							
		5/27/2013	7/25/2013	404 Permit Obtainment			0							
		3/12/2013	3/14/2013	PFPR Inspection			0							
		1/10/2014	1/23/2014	R/W Plans Preparation			0							
		11/14/2011	11/14/2012	R/W Plans Final Approval			0							
		5/5/2014	5/6/2014	L & D Approval			0							
		5/20/2014	6/2/2014	R/W Authorization			0							
				Snake R/W			0							
				Soil Survey			0							
				Final Design			0							
				FFPR Inspection			0							
				Submit FFPR Responses (OES)			0							

Activity	Approved	Proposed	Cost	Fund	Status	Date Auth
PE Cost Est Amt:	500,000.00	500,000.00	3/1/2004	PE	PRECST	
PE Cost Est Amt:	3,394,773.00	3,394,773.00	3/1/2004	PE	LOC	
ROW Cost Est Amt:	111,800.00	111,800.00	1/6/2009	ROW	L240	
Utility Cost Est Amt:	5,945,000.00	5,945,000.00	1/6/2009	UTL	LOC	
CST Cost Est Amt:				CST	L240	

STIP AMOUNTS

Activity: PE, PE, ROW, UTL, CST
 Cost: 696,849.73, 0.00, 0.00, 0.00, 0.00
 Fund: L240, L240, L240, L240, L240

District Comments

OCD to manage FY-07 IDIQ enstmit cntrct - encpt through final Env Doc apprvl (CAH) 030206]
 Results from CAC #3- preferred alternate Continuous Flow Intersection (CFI) and/or minor
 improvements to intersection. CAC#4 will be scheduled for 5/21/09, a PIOH will be requested after
 CAC#4. Current cost estimate is for the CFI alternate

Bridge: NO BRIDGE REQUIRED
Design: Preparing PIOH Responses/Sched CTM Feb 10 (1-15-10)WNO
EIS: EA/NotAppvd\NoSched\Rush (3-2-10)
LGPA: PFA SGN SNELLVILLE DO UTIL & CONTRIBUTE IMIL TOWARD PE 8-10-06/PFA SGN GWINNETT
 DO UTIL & CONTRIBUTE IMIL TOWARD PE 8-10-06.
Permits: NEED IMPACTS TO DETERMINE
Prog. Develop: GWINNETT SENT IN SIMIL FOR PE 10-06
Utility: SUE
EMG: 2159 (H85(94)-W/V88)

Acquired by: DOT
Acquisition MGR:
R/W Cert Date:

Cond. Filed:
Relocations:
Acquired:

Prel. Parcel CT: 13 **Total Parcel in ROW System:**
Options - Pending:
Condemnations- Pend:

DEEIS CT: