

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** CSSTP-0006-00(857)(866) Paulding Cobb      **OFFICE:** Engineering Services  
P.I. Nos.: 0006857 & 0006866  
SR 92 from Cedarcrest Rd. To SR 3/US 41      **DATE:** September 14, 2009

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

**TO:** Bobby Hilliard, PE, Program Delivery Engineer  
Attn.: David Norwood

**SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES**

The VE Study for the above projects was held March 2-5, 2009. Responses were received on September 14, 2009. 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
RD-1	Use 12 foot shoulders in lieu of 16 foot	\$901,648	Yes	At this time, utility relocation is unknown. If a 16 ft shoulder is needed for utilities, a reversal for this recommendation will be submitted.
RD-3	Use one 11 ft travel lane and one 12 ft travel lane	\$185,975	Yes	The inside lane will be reduced to 11 foot lane width.
RD-4	Eliminate MSE wall between Sta. 227+00 and Sta. 232+50	\$113,192	Yes	At this time, it appears that this recommendation can be implemented. There is a stream identified at Sta. 232+00 that will have significant impacts if there is no retaining wall. The 404 permit will require mitigation for the impacts to the stream. At \$525 per linear foot of impacts stream mitigation credits amount to \$26,000. ROW and utility impacts will also be part of the wall selection process as the project moves further along in the design process.

RD-5	Use raised grassed medina in lieu of raised concrete median	Proposed = \$2,666,761 Actual = \$1,097,594	Yes	Cobb County has requested a grassed median, and agreed to maintain the median. The Project Manager will pursue an agreement with Paulding County. Savings were adjusted due to the implementation of RD-26.
RD-6	Use a five lane urban section	\$5,105,981	No	The ADT for this project is greater than 35,000. A two-way left turn lane is generally appropriate for projects with projected ADT <24,000. A TWLTL in this urban section will not operate efficiently.
RD-10	Eliminate sidewalks in selective areas	\$554,035	No	The need and purpose of this project includes non-motorized transportation options. There are schools, residential areas and commercial areas located throughout this corridor.
RD-13	Obtain a design exception in lieu of a sag vertical correction at Sta. 160+51	\$230,643	No	The need and purpose of the project includes correcting deficiencies in the alignment. There are no constructability issues or negative environmental impacts associated with raising the grade to correct the deficiency in this area.
RD-17	Review/modify select intersection configurations	Design Suggestion	Yes	The VE Study report recommends a variety of modifications to intersection configurations. See attached responses for locations where changes will be implemented.
RD-24	Use 6 inch concrete median, 6 inch valley gutter, and 30 inch curb and gutter at 6 inch height	\$832,623	Yes	The concrete median will be reduced to 6" height where the median is being dowelled into existing asphalt. The concrete median will be reduced to 4" where the proposed median is not built on existing pavement. The curb width will be reduced to 24". The 6" curb height shall be used everywhere except radius returns and turn lanes. In areas where off-tracking is likely, the 8" curb height shall be used.

RD-26	Use 4 inch concrete median	Proposed = \$1,569,167  Actual = \$784,584	Yes	The median will be dowelled into the existing asphalt. Where the median is dowelled in, the curb is 6" high and therefore the median should be 6" to remain flush with the back of curb. Where the median is not built on the existing pavement, the median will be 4" concrete. It is estimated that the curb can be 4" for 50% of the proposed typical, therefore the savings was reduced by half.
RD-27	Use modular block walls in lieu of cast in place gravity walls	\$215,098	Yes, pending approval of soil survey	The wall will be reviewed when the soil survey is approved. ROW and utility impacts will also be part of the wall selection process as the project moves further along in the design process.

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

Approved:                     *Gerald M. Ross*                     Date:                     9/15/09                      
 Gerald M. Ross, PE, Chief Engineer

REW/LLM  
 Attachments

- c: Genetha Rice Singleton
- Michael Haithcock/David Norwood
- Mickey McGee
- Patrick Bowers/Kenny Beckworth
- Nabil M. Raad
- Michael Hester
- Lisa Myers
- Matt Sanders

DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

**FILE:** CSSTP-0006-00(857) and CSSTP-0006-00(866) Paulding and Cobb Co.  
PI Nos.: 0006857 and 0006866  
SR 92 Improvements from Old Burnt Hickory  
to US 41/SR3/Cobb Parkway

**OFFICE:** Program Delivery

**DATE:** September 12, 2009

**TO:** Ron Wishon, State Project Review Engineer

  
**FROM:** Bobby Hilliard, P.E., State Program Delivery Engineer

**SUBJECT:** Value Engineering Study-Responses

Reference is made to the recommendations that were contained in the Value Engineering Study Report dated March 2009 for the above referenced project. Our responses and recommendations are as follows:

1. **Value Engineering Alternative No. RD-1:** Use 12' Shoulders in-lieu of 16' shoulders. Approval of the VE Alternative No. RD-1 is recommended at this time.
  - Utility relocation is unknown at this time and a 16' shoulder may be necessary for utility accommodation. If a 16' shoulder is needed for utilities a revision to VE responses will be generated documenting the location and cost.
2. **Value Engineering Alternative No. RD-3:** Use one 11' and one 12' traffic lane. Approval of VE Study Alternative No. RD-3 is recommended.
  - The inside lane will be reduced to 11-foot lane width.
3. **Value Engineering Alternative No. RD-4:** Eliminate MSE wall between sta. 227+00 and sta. 232+50. Approval of VE Study Alternative No. RD-4 is recommended at this time.
  - There is a stream identified at STA 232+00 that will have significant impacts if there is no retaining wall therefore the 404 permit will require we mitigate these impacts to the stream. Should the Corp of Engineers allow us to not propose a wall, stream credits would be the alternative to mitigation and the metro area credits are approximately \$525 per linear foot of impacts. Stream mitigation credits would cost approximately \$26,000. Right of Way and Utility impacts will also be part of the wall selection process as the project moves further along the design process.
4. **Value Engineering Alternative No. RD-5:** Use raised grass median in lieu of concrete raised median. Approval of VE Study Alternative No. RD-5 is recommended to pursue at this time.
  - As the VE Study noted, Cobb County has requested the median be grassed and they want to maintain. We will pursue an agreement with Paulding County. Also, since we are now putting in a 4" raised median (VE Recommendation RD-26) the Initial Cost savings of RD-5 is \$1,097,594. This was figured

by subtracting the savings gained from the 4" median (RD-26) from the savings of not constructing the concrete median (RD-5).

**5. Value Engineering Alternative No. RD-6:** Use a 5 lane urban section.  
Approval of VE Study Alternative No. RD-6 is not recommended.

- Two-way left turn lanes (TWLTL) are generally appropriate for Urban/suburban multi-lane roadways with a projected ADT < 24,000, access point density > 10 ap/mi and < 85 ap/mi and left-turn volume < 100 vph according to the "Access Management Manual" Transportation Research Board, Washington D.C., 2003 and the "NCHRP Report 420: Impacts of Access Management Techniques." Transportation Research Board, Washington, D.C., 1999. The ADT of the project is over 35,000 and is classified as Urban Principal Arterial. The use of a TWLTL in this urban section will not operate efficiently.

**6. Value Engineering Alternative No. RD-10:** Eliminate sidewalks in selected areas.  
Approval of VE Study Alternative No. RD-10 is not recommended.

- The need and purpose of the project includes non-motorized transportation options and therefore the sidewalk is necessary to the project meeting the intended purpose. GDOT will provide safe and continuous ADA compliant access adjacent to SR 92 to meet guidelines set forth by FHWA.

**7. Value Engineering Alternative No. RD-13:** Obtain Design Exception in lieu of eliminating sag vertical curve correction.  
Approval of VE Study Alternative No. RD-13 is not recommended.

- The need and purpose of the project includes correcting deficiencies in the alignment to meet current AASHTO standards. A design exception should be requested only when correcting the deficiency of the vertical alignment is not part of the scope of the project, when raising the grade will cause significant negative impacts to the environment or RW or raising the grade is not feasible because of constructability issues. None of these situations apply and therefore a design exception is not warranted in this situation.

**8. Value Engineering Alternative No. RD-17:** Review/modify select intersection configurations.  
Approval of VE Study Alternative No. RD-17 recommendations are as follows:

- A.** SR92/Cedarcrest Road Intersection – Construct a dual right turn from SR 92/Hiram Acworth Highway northbound/eastbound onto SR 92/Dallas Acworth Highway northbound/eastbound.

RD-17A is not recommended.

An exclusive right turn lane is justified if right turn volume exceeds 300 veh/hr per HCM 2000. 2032 AM right turn volume is 415 veh/hr. HCM does not provide volume thresholds for dual rights. The delay is calculated below for the design year using Syncro and there is very little benefit recognized by adding the dual right turn lane.

single right delay (sec)	dual right delay (sec)
2032 AM - 191	2032 AM - 179
2032 PM - 177	2032 PM - 176

- B.** SR92/Cedarcrest Road Intersection – Construct a dual left turn from SR 92/Dallas Acworth Highway southbound/westbound onto SR 92/Hiram Acworth Highway southbound/westbound.

RD-17B is recommended.

The dual left turn is currently proposed in the concept.

- C.** SR92/US41 Intersection- Construct the channelized left turn from SR92 eastbound onto US 41 Northbound. This will segregate the left right and through movements at the intersection and allow more flexibility with the signal phasing.

RD-17C is not recommended.

The intersection is not a T-intersection. To the north of the intersection, SR 92/Dallas Acworth Highway becomes Awtrey Church Road, a two-lane Urban Local Street. The channelized left turn would eliminate the ability for westbound traffic from Awtrey Church Road to cross the intersection or turn left.

- D.** Close the median opening at Old Dallas Acworth Road. This will reduce interference with the queues for US 41. It will discourage the use of Old Dallas Acworth Road by queue jumpers. Local traffic going south on Old Dallas Acworth Road will be able to access US41 by U-turning at the median opening at Bridgemont Place.

RD-17D is not recommended.

95% Queue for northbound left

2032 AM - 945 ft                      2032 PM - 405 ft

The queue length never exceeds the distance between the intersections which is 1090 feet. The maximum spacing of the median openings is 1320 feet. The distance to the next median opening at Bridgemont Place is 1766 feet which exceeds the maximum spacing requirements.

- E.** Perform signal warrants for the following intersections and consider the installation of signals:
- Royal Sunset Drive - Station ~125+00
  - Old Stilesboro Road - Station ~195+00
  - Pickett's Ridge - Station ~240+00
  - Cheatham Road -Station ~259+00
  - North Shores Road - Station ~296+00

RD-17E has already been performed on all of these intersections except Royal Sunset Drive.

Royal Sunset Drive is a new residential street not part of the approved study therefore no Signal Warrant Analysis was completed due to no available volumes. Signal Warrant Analysis were performed on Old Stilesboro Road, Pickett's Ridge, Cheatham Road and North Shores Road and no signals were warranted at these locations.

- 9. Value Engineering Alternative No. RD-24:** Use 6" concrete median; 6" valley gutter; and 30' combo curb and gutter at the 6" height.

Approval of VE Study Alternative No. RD-24 is recommended.

- The concrete median will be reduced to 6" height where the median is being dowelled in on existing asphalt. The concrete median will be reduced to 4" where the median is not being built on existing pavement. The concrete valley gutter is a driveway item and is not to be used in the median. The curb width will be reduced to 24" curb and gutter on the project.
- The 6" curb height shall be used everywhere on the project except radius returns and turn lanes. The construction office suggested there would be maintenance issues where the curb gets run over from off-tracking vehicles. In areas where off-tracking is likely the 8" curb height shall be used.

**10. Value Engineering Alternative No. RD-26:** Use 4" concrete in lieu of 6" or 8" concrete in the median. Approval of VE Study Alternative No. RD-26 is recommended except where the median is placed on existing asphalt.

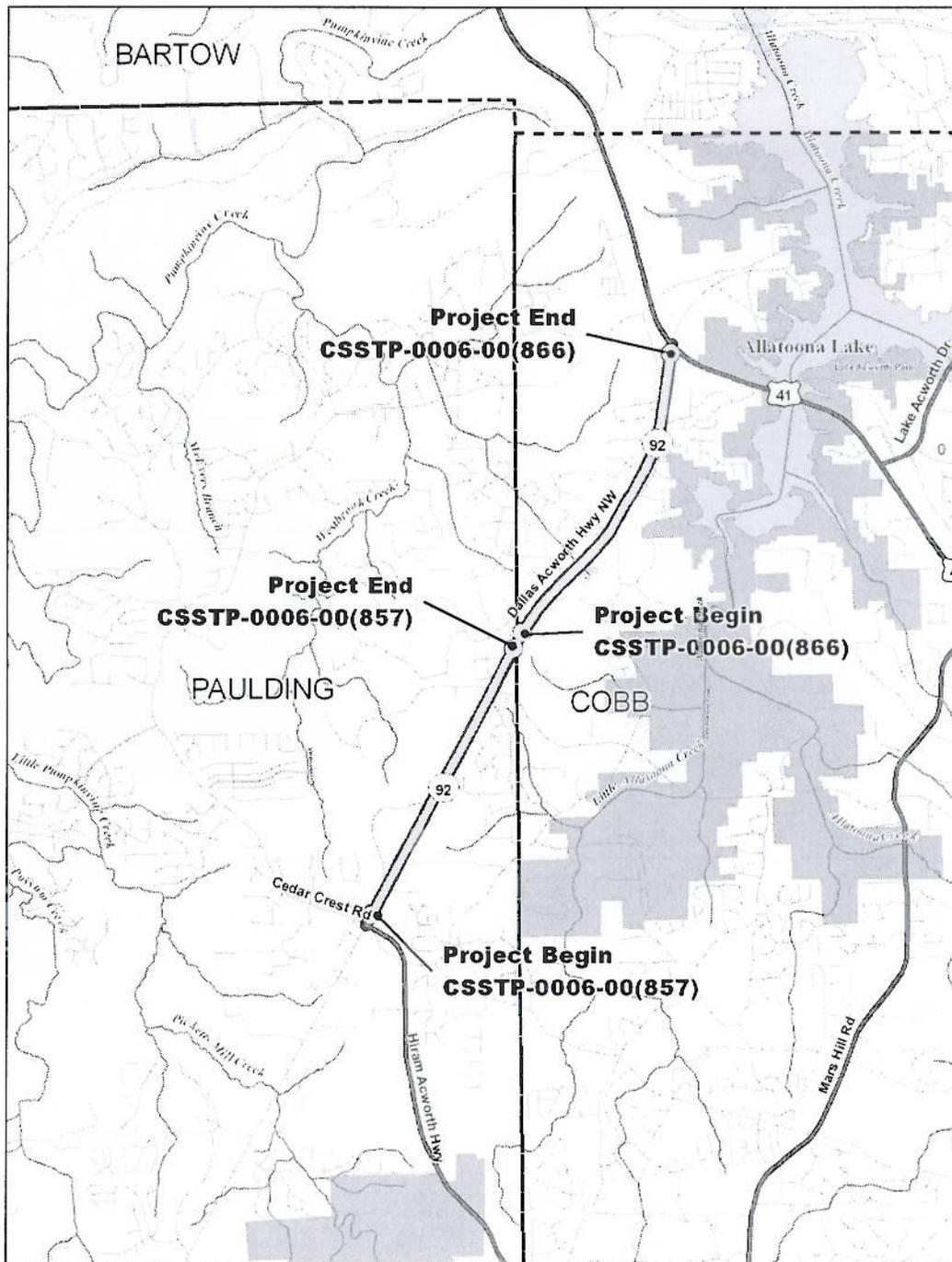
- The median will be dowelled in on the existing asphalt. Where the median is dowelled in the curb is 6" high and therefore the median should be 6" to remain flush with the back of curb. The 6" median prevents standing water behind the curb in these areas. Where the median is not built on the existing pavement the median will be 4" concrete. At this time it is estimated the curb can be 4" for 50% of the proposed typical.

**11. Value Engineering Alternative No. R-27:** Use modular block walls in-lieu of gravity walls. Approval of VE Study Alternative No. R-27 is recommended at this time if feasible.

- The wall will be looked at when the soil survey report is approved. It is not possible to know if this is feasible at this time in the design process. Right of way and utility impacts will also be part of the wall selection process as the project moves further along the design process.

BKH:MAH:DAN:jmh

CC: URS Corporation – Sean Pharr



**PROJECT LOCATION MAP**

Project: CSSTP-0006-00(857) & CSSTP-0006-00(866)  
 Paulding County and Cobb County  
 PI 0006857 & PI 0006866

Project Number: CSSTP-0006-00(862) and BRST-213-01(5)  
 County: Cobb  
 P.I. Number: 0006862 and 731865  
 Date: April 2008

**PRECONSTRUCTION STATUS REPORT FOR PI:0006857,0006866**

**PROJ ID:** 0006866  
**COUNTY:** Cobb  
**LENGTH (MI):** 2.08  
**PROJ NO.:** CSSTP-0006-(0866)  
**PROJ MGR:** Nonwood, David  
**AOHD Initials:** MAH  
**OFFICE:** Program Delivery  
**CONSULTANT:** Turnkey Consultant, (Contract with GDOT)  
**SPONSOR:** GDOT  
**DESIGN FIRM:** URS Corporation

**SR 92 FROM PAULDING COUNTY LINE TO SR 3/US 41**  
**MPO:** Atlanta TMA  
**TIP #:** CO-329  
**MODEL YR:** 2020  
**TYPE WORK:** Widening  
**CONCEPT:** WIDEN & RECONST  
**PROG TYPE:** Reconstruction/Rehabilitation  
**Prov. for ITS:** N  
**BOND PROJ.:**

**MGMT LET DATE:** 09/15/2012  
**MGMT ROW DATE:** 03/15/2011  
**BASELINE LET DATE:** 09/19/2012  
**SCHED LET DATE:** 8/31/2012  
**WHO LETS?:** Local Let  
**LET WITH:**

**DOT DIST:** 7  
**CONG. DIST:** 11  
**BIKE:** N  
**MEASURE:** E  
**NEEDS SCORE:** 6  
**BRIDGE SUFF:**

LATE START		LATE FINISH		TASKS		ACTUAL START		ACTUAL FINISH		%	
2/19/2010	3/19/2010	2/19/2010	3/19/2010	Concept Development	7/6/2007		26				
3/5/2010	3/5/2010	3/5/2010	3/5/2010	Concept Meeting			0				
3/8/2010	3/19/2010	3/19/2010	3/19/2010	PM Submit Concept Report			0				
3/19/2010	3/19/2010	3/19/2010	3/19/2010	Receive Preconstruction Concept Approval			0				
10/6/2009	10/6/2009	10/6/2009	10/6/2009	Management Concept Approval Complete	7/30/2008		0				
4/8/2010	11/25/2010	11/25/2010	11/25/2010	Value Engineering Study	6/3/2008	6/3/2008	85				
11/13/2009	12/3/2009	12/3/2009	12/3/2009	Public Information Open House Held	7/27/2007		9				
11/2/2009	8/9/2010	8/9/2010	8/9/2010	Environmental Approval	7/7/2007		0				
9/25/2009	1/28/2010	1/28/2010	1/28/2010	Pub Hear Held/Comm Resp (EA/FONSI, GEPA)			0				
8/31/2010	9/1/2010	9/1/2010	9/1/2010	Mapping			0				
9/2/2010	11/24/2010	11/24/2010	11/24/2010	Field Surveys/SDE			49				
11/26/2010	11/30/2010	11/30/2010	11/30/2010	Preliminary Plans			0				
1/26/2011	1/26/2011	1/26/2011	1/26/2011	Underground Storage Tanks	8/27/2008		87				
6/6/2011	6/17/2011	6/17/2011	6/17/2011	404 Permit Obtainment			0				
2/8/2010	7/21/2010	7/21/2010	7/21/2010	R/W Plans Preparation			0				
12/1/2010	12/29/2011	12/29/2011	12/29/2011	R/W Plans Final Approval			0				
1/20/2012	1/23/2012	1/23/2012	1/23/2012	L & D Approval			0				
2/6/2012	2/17/2012	2/17/2012	2/17/2012	R/W Acquisition			0				
				Stake R/W			0				
				Soil Survey			0				
				Final Design			0				
				FFPR Inspection			0				
				Submit FFPR Responses(OES)			0				

PROGRAMMED FUNDS		STIP AMOUNTS				
Activity	Approved	Proposed	Status	Activity	Cost	Fund
PE	2006	2006	AUTHORIZED	PE	1,749,930.02	L240
ROW	2009	LR	PRECST	ROW	3,397,217.28	L240
CST	2010	LR	PRECST	CST	10,913,000.00	L230S

District Comments	
Same Env Doc w/ 0006857 PROJECT ADDED TO TURNKEY LIST BY CF ON 8/4/05 (1/6/06) NO ACTIVITY. DISTRICT TO CONTACT COUNTY. (5/11/06) STILL WAITING TO HEAR BACK FROM COUNTY. (7/17/06)	Acquired by: _____ Acquisition MGR: _____ R/W Cert Date: _____ Cond. Filled: _____ Relocations: _____ Acquired: _____ Total Parcel in ROW System: _____ Options - Pending: _____ Condemnations- Pend: _____

**PRECONSTRUCTION STATUS REPORT FOR PI:0006857,0006866**

**PROJ ID :** 0006857  
**COUNTY :** Paulding  
**LENGTH (MI) :** 4.50  
**PROJ NO.:** CSSTP-0006-00(857)  
**PROJ MGR:** Norwood, David  
**AOHD Initials:** MAH  
**OFFICE :** Program Delivery  
**CONSULTANT:** Turnkey Consultant, (Contract with GDOT)  
**SPONSOR :** GDOT  
**DESIGN FIRM:** URS Corporation

**MPO:** Atlanta TMA  
**TIP #:** PA-092E  
**MODEL YR :** 2020  
**TYPE WORK:** Widening  
**CONCEPT:** Reconstruction/Rehabilitation  
**PROG TYPE:** Prov. for ITS: N  
**BOND PROJ. :**

**MGMT LET DATE :** 06/15/2012  
**MGMT ROW DATE :** 06/15/2011  
**BASELINE LET DATE :** 06/13/2012  
**SCHED LET DATE :** 4/27/2012  
**WHO LETS? :** GDOT Let  
**LET WITH :**

**DOT DIST:** 6  
**CONG. DIST:** 11  
**BIKE:** N  
**MEASURE:** E  
**NEEDS SCORE:** 6  
**BRIDGE SUFF:**

LATE START		LATE FINISH		TASKS		ACTUAL START		ACTUAL FINISH		%	
1/7/2010	2/4/2010	1/7/2010	2/4/2010	Concept Development	7/11/2007		48				
1/21/2010	1/21/2010	1/21/2010	1/21/2010	Concept Meeting			0				
1/22/2010	2/4/2010	2/4/2010	2/4/2010	PM Submit Concept Report			0				
2/4/2010	2/4/2010	2/4/2010	2/4/2010	Receive Preconstruction Concept Approval			0				
	10/6/2009		10/6/2009	Management Concept Approval Complete	7/30/2008		83				
	4/22/2010		4/22/2010	Value Engineering Study	6/3/2008	6/3/2008	100				
11/12/2010	1/6/2011	1/6/2011	1/6/2011	Public Information Open House Held	7/5/2007		11				
10/23/2009	11/12/2009	11/12/2009	11/12/2009	Environmental Approval			0				
	10/29/2009		10/29/2009	Pub Hear Held/Comm Resp (EA/FONSI, GEPA)			0				
11/2/2009	10/4/2010	10/4/2010	10/4/2010	Mapping	7/27/2007		49				
9/25/2009	2/5/2010	2/5/2010	2/5/2010	Field Surveys/SDE			0				
10/26/2010	10/26/2010	10/26/2010	10/26/2010	Preliminary Plans			0				
10/28/2010	2/16/2011	2/16/2011	2/16/2011	Underground Storage Tanks			0				
	10/27/2010		10/27/2010	404 Permit Obtainment			0				
	10/28/2010		10/28/2010	PFPR Inspection			0				
12/3/2010	2/17/2011	2/17/2011	2/17/2011	R/W Plans Preparation			0				
	4/20/2011		4/20/2011	R/W Plans Final Approval			0				
8/15/2011	3/1/2012	3/1/2012	3/1/2012	L & D Approval			0				
2/8/2010	6/4/2010	6/4/2010	6/4/2010	R/W Acquisition			0				
12/8/2010	6/29/2011	6/29/2011	6/29/2011	Stake R/W			0				
7/21/2011	7/22/2011	7/22/2011	7/22/2011	Soil Survey			0				
8/5/2011	8/18/2011	8/18/2011	8/18/2011	Final Design			0				
				FFPR Inspection			0				
				Submit FFPR Responses (OES)			0				

ACTIVITY		APPROVED	PROPOSED	COST	FUND	STATUS	DATE AUTH
PE	2006	2006	2006	1,807,165.77	L240	AUTHORIZED	2/7/2006
ROW	2009	2009	2011	2,741,678.29	L240	PRECST	
CST	LR	LR	2019	9,691,923.03	L230	PRECST	
CST	LR	LR	2019	9,146,406.21	L240	PRECST	

ACTIVITY		APPROVED	PROPOSED	COST	FUND
PE	1,807,165.77	1,807,165.77	2006	0.00	L240
ROW	2,394,688.00	2,394,688.00	2011	1,538,000.00	L240
CST	5,950,000.00	5,950,000.00	2019	0.00	L230
CST	5,615,100.00	5,615,100.00	2019	0.00	L240

STIP AMOUNTS		ACTIVITY	COST	FUND
PE Cost Est Amt:	1,807,165.77	PE	0.00	L240
ROW Cost Est Amt:	2,394,688.00	ROW	1,538,000.00	L240
CST Cost Est Amt:	5,950,000.00	CST	0.00	L230
CST Cost Est Amt:	5,615,100.00	CST	0.00	L240

District Comments

Same Env Doc w/ 0006866

Prel. Parcel CT:	Total Parcel in ROW System:	Cond. Filed:	Acquired by:	DEEDS CT:
			DOT	
Under Review:	Options - Pending:	Relocations:	Acquisition MGR:	
			R/W Cert Date:	
Released:	Condemnations- Pend:	Acquired:		