APPENDIX I

Impact Information by Alternative Segment & Summary Tables Including a Breakout of Project R-2247 and Project U-2579 Impacts

IMPACT INFORMATION BY ALTERNATIVE SEGMENT

Table 4-2: Residential and Business Relocations – Project R-2247 Detailed Study Alternatives

Segment	Length (mi)	Residences Total	Owner-Occupied	Tenant-Occupied*	Minority	Businesses
Segment						
A1	**0.31**	**14**	**5**	**9**	**0**	**0**
A2	2.52	75	20	55	10	11
A3	2.43	193	101	92	55	5
A4	**7.45**	**74**	**66**	**8**	**16**	**3**
A6	2.05	4	4	0	0	2
B2	**1.50**	**71**	**71**	**0**	**12**	**0**
B3	0.80	66	46	20	14	0
B6	3.24	18	18	0	0	0
B7	5.31	67	51	16	12	2
B8	**2.28**	**16**	**16**	**0**	**0**	**0**
B10	**1.34**	**23**	**13**	**10**	**1**	**5**
C1	**1.91**	**24**	**22**	**2**	**5**	**1**
C2	1.63	84	84	0	18	0
C3	**1.30**	**54**	**53**	**1**	**10**	**0**
C4	**1.26**	**13**	**13**	**0**	**0**	**1**
C5	1.19	12	12	0	0	0
Detailed Study Alternatives						
WEST-A	17.22	385	221	164	81	22
EAST-A	16.31	276	229	47	43	5
WEST-B	17.59	408	234	174	82	25
EAST-B	16.68	299	242	57	44	8
C3-WEST-A	16.97	266	246	20	43	7
C2-EAST-A	17.05	340	240	100	54	15
C2-EAST-B	17.43	363	253	110	55	18
Preferred Alternative						
C3-WEST-B – 1992 Functional Designs		**289**	**259**	**30**	**44**	**10**
C3-WEST-B – 1995 Preliminary Engineering Designs		**258**	**229**	**29**	**37**	**10**
C3-WEST-B - 2003 Preliminary Engineering Designs		**249**	**220**	**29**	**37**	**10**

* A number of tenant-occupied residences are privately-owned mobile homes. The owners rent space in a mobile-home park, and are thereby considered to be tenants.
'Bold' indicates Preferred Alternative.
Source: NCDOT Relocation Reports

Table 4-3: Residential and Business Relocations – Project U-2579 Detailed Study Alternatives

Segment	Length (mi)	Residences Total	Owner-Occupied	Tenant-Occupied[1]	Minority	Businesses
Segments						
E1	2.9	66	24	42	11	2
E2	2.1	8	8	0	0	0
E3	2.1	39	33	6	5	0
E4	2.3	32	32	0	5	1
E5	**3.8**	**94**	**87**	**7**	**6**	**1**
W1	**2.2**	**57**	**52**	**5**	**8**	**2**
W2	**1.7**	**22**	**21**	**1**	**2**	**0**
W3	**3.1**	**29**	**27**	**2**	**3**	**0**
W4	2.8	45	45	5	0	0
W5	2.0	107	98	9	12	0
Crossover 1	1.9	11	11	0	0	2
Crossover 2	2.4	14	14	0	2	0
Crossover 3	1.7	23	17	6	4	0
Crossover 4	**2.0**	**15**	**15**	**0**	**0**	**0**
Crossover 5	1.9	15	14	1	0	0
Detailed Study Alternatives						
Western	11.8	260	243	17	25	2
Eastern	13.2	231	184	47	27	4
Alternative 1	12.7	258	205	53	26	4
Alternative 2	12.8	236	218	18	26	4
Alternative 3	13.5	280	225	55	32	2
Alternative 4	13.2	285	259	26	31	2
Alternative 5	13.1	259	209	50	33	3
Alternative 6	12.9	245	227	18	25	2
Alternative 7	**12.4**	**217**	**202**	**15**	**19**	**3**
Alternative 8	12.8	264	243	21	32	3
Preferred Alternative[2]						
W1-W2-W3-C4-E5 (Alternative 7) 1996 Functional Engineering Designs	**12.4**	**217**	**202**	**15**	**19**	**3**
W1-W2-W3-C4-E5 (Alternative 7) 2003 Preliminary Engineering Designs	**12.4**	**238**	**189**	**49**	**60**	**9**

Impacts based upon the right of way limits for the 1994 functional engineering designs unless otherwise noted.
Source: NCDOT Relocation Reports.
[1] A number of tenant-occupied residences are privately-owned mobile homes. The owners rent space in a mobile-home park, and are thereby considered to be tenants.
[2] Relocations were updated for the Preferred Alternative in May 2003.
'Bold' indicates Preferred Alternative.

Table 4-6: Impacts to Community Facilities – Project R-2247 Detailed Study Alternatives

Segment	Schools		Parks & Recreational Facilities		Churches and Cemeteries		Other Community Facilities	
	Reported in 1996 FEIS	Built after mid-1990s	Reported in 1996 FEIS	Built after mid-1990s	Reported in 1996 FEIS	Built after mid-1990s	Reported in 1996 FEIS	Built after mid-1990s
Segment								
A1	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
A2	0	0	1*	0	0	0	1**	0
A3	0	0	0	0	0	0	0	0
A4	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
A6	0	0	0	0	0	0	0	0
B2	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
B3	0	0	0	0	0	0	0	0
B6	0	2	0	1	0	0	0	0
B7	0	0	0	0	0	0	0	0
B8	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
B10	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
C1	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
C2	0	0	0	0	0	0	0	0
C3	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
C4	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
C5	0	0	0	0	0	0	0	0
Detailed Study Alternatives								
WEST-A	0	0	1*	0	0	0	1**	0
EAST-A	0	2	0	1	0	0	0	0
WEST-B	0	0	1*	0	0	0	1**	0
EAST-B	0	2	0	1	0	0	0	0
C3-WEST-A	0	0	0	0	0	0	0	0
C2-EAST-A	0	2	1*	1	0	0	0	0
C2-EAST-B	0	2	1*	1	0	0	0	0
Preferred Alternative								
C3-WEST-B	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Impacts are based upon the right-of-way limits from the functional design alignments.
* City of Winston-Salem Police Department Firing Range on Gun Club Road.
** Community Center at Stoney Bridge Mobile Home Park.
'**Bold**' Indicates the Preferred Alternative.

Table 4-7: Impacts to Community Facilities – Project U-2579 Detailed Study Alternatives

Segment	Schools		Parks & Recreational Facilities		Churches and Cemeteries		Other Community Facilities	
	Reported in 1995 DEIS	Impacts identified since mid-1990s	Reported in 1995 DEIS	Impacts identified since mid-1990s	Reported in 1995 DEIS	Impacts identified since mid-1990s	Reported in 1995 DEIS	Impacts identified since mid-1990s
Segment								
E1	0	0	0	0	0	0	0	0
E2	0	0	0	0	0	0	0	0
E3	0	0	0	0	0	0	0	0
E4	0	0	0	0	0	0	0	0
E5	**0**	**0**	**0**	**0**	**0**	**1[1]**	**0**	**0**
W1	**0**	**0**	**0**	**0**	**0**	**2[1]**	**0**	**0**
W2	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
W3	**0**	**0**	**0**	**0**	**0**	**1[2]**	**0**	**0**
W4	0	0	0	0	0	0	0	0
W5	0	0	0	0	0	0	0	0
Crossover 1	0	0	0	0	0	0	0	0
Crossover 2	0	0	0	0	0	0	0	0
Crossover 3	0	0	0	0	0	0	0	0
Crossover 4	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Crossover 5	0	0	0	0	0	0	0	0
Detailed Study Alternatives								
Western	0	0	0	0	0	3[1,2]	0	0
Eastern	0	0	0	0	0	1[1]	0	0
Alternative 1	0	0	0	0	0	1[2]	0	0
Alternative 2	0	0	0	0	0	3[1]	0	0
Alternative 3	0	0	0	0	0	0	0	0
Alternative 4	0	0	0	0	0	2[1]	0	0
Alternative 5	0	0	0	0	0	0	0	0
Alternative 6	0	0	0	0	0	3[1,2]	0	0
Alternative 7	**0**	**0**	**0**	**0**	**0**	**4[1,2]**	**0**	**0**
Alternative 8	0	0	0	0	0	2[1]	0	0
Preferred Alternative								
W1-W2-W3-C4-E5 (Alternative 7) 1996 Functional Engineering Designs	**0**	**0**	**0**	**0**	**0**	**4[1,2]**	**0**	**0**

Impacts are based upon the right-of-way limits for the 1994 functional engineering designs.
Source: NCDOT Relocation Reports.
[1] Impact to property but no impact to school or church buildings or cemetery.
[2] Mount Pleasant Holiness Church; built in 1992, but not identified during the Project U-2579 DEIS relocation survey.
'**Bold**' Indicates the Preferred Alternative.

Table 4-14: Utility Impacts - Project R-2447 Detailed Study Alternatives

Segment	Electrical Easement Crossing	Electrical Substations	Major Gas Mains	Directional Radio Antenna Arrays	Railroads Crossings
Segment					
A1	**0**	**0**	**0**	**0**	**0**
A2	0	0	0	0	0
A3	0	0	0	0	0
A4	**4****	**0**	**0**	**0**	**0**
A6	0	0	0	0	0
B2	**0**	**0**	**0**	**0**	**0**
B3	0	0	0	0	0
B6	0	0	0	0*	0
B7	1	0	0	0	0
B8	**1**	**0**	**0**	**0**	**0**
B10	**1****	**0**	**0**	**0**	**1****
C1	**0**	**0**	**0**	**0**	**0**
C2	0	0	0	0	0
C3	**0**	**0**	**0**	**0**	**0**
C4	**0**	**0**	**0**	**0**	**0**
C5	1	0	0	0	0
Detailed Study Alternatives					
WEST-A	5**	0	0	0	0
EAST-A	2	0	0	0*	0
WEST-B	6**	0	0	0*	1**
EAST-B	3**	0	0	0	1**
C3-WEST-A	5**	0	0	0	0
C2-EAST-A	2	0	0	0*	0
C2-EAST-B	3**	0	0	0*	1**
Preferred Alternative					
C3-WEST-B 1992 Functional Design	**6****	**0**	**0**	**0***	**1****

* The right-of-way for segment B6 passes just west of the grounding cables for the radio antenna array. No impacts are expected.
** Interchange ramp design may cause multiple crossings of the utility corridor at locations of planned interchanges. Only one crossing is noted in the chart for each of these locations.
'Bold' indicates segments that make up the Preferred Alternative; impacts are based upon the 1992 DEIS Functional Design.

Table 4-15: Utility Impacts – Project U-2579 Detailed Study Alternatives

Segment	Electrical Easement Crossing	Electrical Substations	Major Gas Mains	Railroad Crossings
Segment				
E1	0	0	0	0
E2	0	0	0	0
E3	0	0	0	0
E4	1*	0	1	1
E5	**1***	**0**	0	**1**
W1	0	**0**	0	**0**
W2	0	**0**	0	**0**
W3	0	**0**	**2***	**1**
W4	1	0	1*	0
W5	0	0	0	1
Crossover 1	0	0	0	0
Crossover 2	0	0	0	0
Crossover 3	0	0	2	1
Crossover 4	**1***	**0**	**1***	**0**
Crossover 5	1*	0	0	0
Detailed Study Alternatives				
Western	1	0	2*	2
Eastern	1	0	1	2
Alternative 1	1	0	2*	2
Alternative 2	1	0	1	2
Alternative 3	1	0	2*	2
Alternative 4	1	0	2*	2
Alternative 5	1	0	1	2
Alternative 6	1	0	2*	2
Alternative 7	**1**	**0**	**2***	**2**
Alternative 8	1	0	1	2
Preferred Alternative				
W1-W2-W3-C4-E5 (Alternative 7)	**1**	**0**	**2***	**2**

Impacts are based upon right of way limits for the 1994 functional engineering designs.
*Interchange ramp design may cause multiple crossings of the utility corridor. Only one crossing is noted in the chart for each of these locations.
'Bold' indicates segments that make up the Preferred Alternative

Table 4-25: Traffic Noise Impact Summary – Project R-2247 Detailed Study Alternatives

Alternative	Number of Impacted Receivers Without Barrier[a]	Number of Impacted Receivers With Barrier[b]	Number of Proposed Feasible Barriers	Number of Homes Protected by Feasible Barriers[c]	Total Length of Feasible Barriers (feet)	Barrier Cost (Millions of Dollars)
Segment[d]						
A1	**0**	**0**	**0**	**0**	**0**	**0**
A2	8	8	0	0	0	0
A3	2	2	0	0	0	0
A4	**45**	**20**	**2**	**53**	**4,200**	**0.987**
A6	0	0	0	0	0	0
B2	**11**	**11**	**0**	**0**	**0**	**0**
B3	0	0	0	0	0	0
B6	27	10	1	36	2,400	0.564
B7	41	32	1	40	3,200	0.567
B8	**23**	**0**	**2**	**40**	**4,400**	**0.587**
B10	**0**	**0**	**0**	**0**	**0**	**0**
C1	**13**	**13**	**0**	**0**	**0**	**0**
C2	23	0	1	46	2,100	0.412
C3	**6**	**0**	**1**	**33**	**3,500**	**0.569**
C4	**0**	**0**	**0**	**0**	**0**	**0**
C5	0	0	0	0	0	0
Detailed Study Alternatives						
WEST-A	55	21	2	53	4,200	0.987
EAST-A	92	66	2	76	5,600	1.131
WEST-B	78	21	4	93	8,600	1.573
EAST-B	115	66	4	116	10,000	1.717
C3-WEST-A	75	44	3	86	7,700	1.556
C2-EAST-A	99	50	3	122	7,700	1.543
C2-EAST-B	122	50	5	162	12,100	2.130
Preferred Alternative – Functional Designs						
C3-WEST-B	**98**	**44**	**5**	**126**	**12,100**	**2.143**

a. Total receptors exceeding FHWA Noise Abatement Criteria.
b. Total impacted receptors remaining with proposed barriers in place.
c. Number of receptors that would experience >4 decibels of noise reduction. This includes some receptors that did not meet the criteria for item a.
d. **Bold** indicates Segments that comprise the Preferred Alternative.
Source: Table 4.5-7 of the 1996 Project R-2247 FEIS.

Table 4-44: Potentially Impacted Hazardous Materials/Waste Sites – Project R-2247 Detailed Study Alternatives

Segment	Potentially Impacted Hazardous Materials/ Waste Sites*
A2	0
A3	2+
A4	**0**
A6	1+
B2	**0**
B3	0
B6	0
B7	1+
B8	**0**
B10	**1+**
C1	**0**
C2	0
C3	**0**
C4	**0**
C5	0
Detailed Study Alternatives	
WEST-A	3
EAST-A	2
WEST-B	3
EAST-B	2
C3-WEST-A	1
C2-EAST-A	2
C2-EAST-B	2
Preferred Alternative	
C3-WEST-B	**1**

Note: Impacts are estimated based upon the right-of-way limits from the DEIS functional designs and are from Table 4.5-4 in the 1996 Project R-2247 FEIS.

* This includes hazardous waste generators, auto salvage yards, landfills, and underground storage tanks (UST).

+ UST (Underground Storage Tanks)

'bold' indicates Segments that make up the Preferred Alternative.

Table 4-47: Prime and Important Farmland Soils Impacts – Project R-2247 Detailed Study Alternatives

Segment/ Alternative	Length (Miles)	Right-of-Way Area (Acres)	Prime Farmland Soils (Acres)	State/Locally Important Farmland Soils (Acres)
A1	0.31	13	9	4
A2	2.52	236	20	85
A3	2.43	274	41	77
A4	**7.45**	**399**	**74**	**97**
A6	2.05	220	41	39
B2	**1.50**	**123**	**3**	**48**
B3	0.80	134	10	30
B6	3.24	174	33	52
B7	5.31	262	38	62
B8	**2.28**	**103**	**13**	**19**
B10	**1.34**	**168**	**20**	**21**
C1	**1.91**	**171**	**8**	**49**
C2	1.63	118	19	29
C3	**1.30**	**158**	**60**	**30**
C4	**1.26**	**66**	**5**	**22**
C5	1.19	65	13	11
Detailed Study Alternatives				
WEST-A	17.22	1,273	202	335
EAST-A	16.31	1,163	155	295
WEST-B	17.59	1,259	182	325
EAST-B	16.68	1,149	135	286
C3-WEST-A	16.97	1,215	213	300
C2-EAST-A	17.05	1,222	183	312
C2-EAST-B	17.43	1,208	162	302
Preferred Alternative				
C3-WEST-B	**17.35**	**1,201**	**193**	**291**

Source: Table 4.5-3 of the 1996 Project R-2247 FEIS.
Estimates of acreage based on 1992 functional designs right of way.
'**Bold**' indicates Segments that make up the Preferred Alternative.

Table 4-51: Major Drainage Structures – Project R-2247 Detailed Study Alternatives

Alternative	Length (miles)	Number of Bridge Structures	Number of Box Culverts
Segment			
A1	**0.31**	**0**	**0**
A2	2.52	7	4
A3	2.43	1	4
A4	**7.45**	**0**	**4**
A6	2.05	2	4
B2	**1.50**	**3**	**1**
B3	0.80	2	1
B6	3.24	0	2
B7	5.31	0	3
B8	**2.28**	**1**	**1**
B10	**1.34**	**4**	**7**
C1	**1.91**	**2**	**1**
C2	1.63	2	3
C3	**1.30**	**2**	**1**
C4	**1.26**	**0**	**2**
C5	1.19	0	2
Detailed Study Alternatives			
WEST-A	17.22	10	20
EAST-A	16.31	9	14
WEST-B	17.59	13	22
EAST-B	16.68	12	16
C3-WEST-A	16.97	9	15
C2-EAST-A	17.05	13	19
C2-EAST-B	17.43	16	21
Preferred Alternative			
C3-WEST-B	**17.35**	**12**	**17**

Note: Impacts are estimates based upon the right-of-way limits from the 1992 Project R-2247 DEIS functional designs.

'Bold' Indicates Segments that make up the Preferred Alternative. Values are based upon the DEIS functional designs.

Table 4-53: Major Drainage Structures – Project U-2579 Detailed Study Alternatives

Alternative	Length (miles)	Number of Pipes	Number of Box Culverts	Number of Bridge Structures
Segments				
E1	2.9	0	5	0
E2	2.1	0	2	0
E3	2.1	0	2	0
E4	2.3	1	2	0
E5	**3.8**	**0**	**3**	**0**
W1	**2.2**	**0**	**2**	**0**
W2	**1.7**	**1**	**1**	**0**
W3	**3.1**	**2**	**3**	**0**
W4	2.8	0	3	0
W5	2.0	0	2	0
Crossover 1	1.9	0	1	0
Crossover 2	2.4	1	1	0
Crossover 3	1.7	0	1	0
Crossover 4	**2.0**	**0**	**2**	**0**
Crossover 5	1.9	0	2	0
Detailed Study Alternatives				
Western	11.8	3	11	0
Eastern	13.2	1	14	0
Alternative 1	12.7	2	14	0
Alternative 2	12.8	2	10	0
Alternative 3	13.5	0	15	0
Alternative 4	13.2	1	11	0
Alternative 5	13.1	1	15	0
Alternative 6	12.9	3	12	0
Alternative 8	12.8	2	11	0
Preferred Alternative				
W1-W2-W3-C4-E5 (Alternative 7) 1994 Functional Engineering Design	**12.4**	**3**	**11**	**0**

'Bold' indicates Preferred Alternative.
Quantities are based upon the right of way limits for the 1994 functional engineering designs.

Table 4-58: Stream Impacts - Project R-2247 Detailed Study Alternatives

Alternative	Length (miles)	Number of Stream Crossings	Stream Channel Relocations (ft)
Segment			
A1	**0.31**	**1**	**0**
A2	2.52	4	1,300
A3	2.43	7	0
A4	**7.45**	**17**	**1,600**
A6	2.05	6	700
B2	**1.50**	**6**	**0**
B3	0.80	3	0
B6	3.24	10	500
B7	5.31	11	0
B8	**2.28**	**5**	**0**
B10	**1.34**	**13**	**900**
C1	**1.91**	**2**	**0**
C2	1.63	6	0
C3	**1.30**	**1**	**0**
C4	**1.26**	**2**	**0**
C5	1.19	4	0
Detailed Study Alternatives			
WEST-A	17.22	41	3,600
EAST-A	16.31	43	1,200
WEST-B	17.59	49	3,800
EAST-B	16.68	51	1,400
C3-WEST-A	16.97	39	2,300
C2-EAST-A	17.05	45	1,200
C2-EAST-B	17.43	53	1,400
Preferred Alternative			
C3-WEST-B	**17.35**	**47**	**2,500**

'Bold' Indicates Segments that make up the Preferred Alternative. Values are based upon the DEIS functional designs.

Table 4-60: Stream Impacts – Project U-2579 Detailed Study Alternatives

Alternative	Length (miles)	Number of Major Stream Crossings
Segments		
E1	2.9	5
E2	2.1	2
E3	2.1	2
E4	2.3	3
E5	**3.8**	**3**
W1	**2.2**	**2**
W2	**1.7**	**2**
W3	**3.1**	**5**
W4	2.8	3
W5	2.0	2
Crossover 1	1.9	1
Crossover 2	2.4	2
Crossover 3	1.7	1
Crossover 4	**2.0**	**2**
Crossover 5	1.9	2
Detailed Study Alternatives		
Western	11.8	14
Eastern	13.2	15
Alternative 1	12.7	16
Alternative 2	12.8	12
Alternative 3	13.5	15
Alternative 4	13.2	12
Alternative 5	13.1	16
Alternative 6	12.9	15
Alternative 8	12.8	13
Preferred Alternative		
W1-W2-W3-C4-E5 (Alternative 7) 1994 Functional Engineering Design	**12.4**	**14**

'Bold' indicates Preferred Alternative.
Impacts are based upon right of way limits for the 1994 functional engineering designs.

Table 4-65: Major Floodplain Encroachments – Project R-2247 Detailed Study Alternatives

No.	Segment	Detailed Study Alts.	Stream	Encroach. Type[1]	100-Year Floodplain Encroachment (Acres)[2]	Regulatory Floodplain Encroachment (Acres)[2]	Floodway Mod. Required?
1	C1-B2	EAST-A EAST-B C3-WEST-B C3-WEST-A	Silas Creek	Interchange @ I-40	18	11	Yes
2	A2	WEST-A WEST-B C2-EAST-A C2-EAST-B	Silas/Muddy Creeks	Longitudinal	21	11	Yes
3	A2	WEST-A WEST-B C2-EAST-A C2-EAST-B	Muddy Creek	Interchange @ I-40	49	18	Yes
4	B2 to B3	EAST-A EAST-B	Muddy Creek	Interchange @ US 421	68	27	Yes
5	B2 to C3	C3-WEST-A C3-WEST-B	Muddy Creek	Interchange @ US 421	67	28	Yes
6	C2 to B3	C2-EAST-A C2-EAST-B	Muddy Creek	Interchange @ US 421	50	22	Yes
7	B3	EAST-A EAST-B C2-EAST-A C2-EAST-B	Reynolds Creek	Longitudinal	8	4	Yes
8	B10	WEST-B EAST-B C3-WEST-B C2-EAST-B	Grassy Creek	Longitudinal-Interchange @ US 52	21	10	Yes

1. Longitudinal describes the alignment running parallel to the floodway/floodplain boundaries.
   Interchange describes impacts of numerous ramps and loops that cross/impinge on floodway/floodplain. Individually, these may be minor, but their cumulative effect is, in essence, a longitudinal encroachment. The acreages listed are to the right-of-way limits of the interchange. Actual area of fill in the floodway/floodplain would be less than these values.
   The interchanges are locations where the floodway has been previously constrained to flow through a channel at a bridge crossing at I-40 or US 421. The effect of this project on the floodway in these location would be to lengthen the existing channel with its higher water velocities
2. Impacts are based on the 1992 DEIS Functional Designs

Source: Table 4.5-3 of the 1996 Project R-2247 FEIS

Table 4-66: Floodway and Floodplain Impacts – Project R-2247 Preferred Alternative

Segment	Location	Type[1]	Impacts to Floodway (Acres)		Impacts to 100-Year Floodplain (Acres)		2002 Hydraulic Structure	Floodway Modification Required?
			1995 Prelim. Design	2002 Prelim Design	1995 Prelim. Design	2002 Prelim Design		
C1	Little Creek Mainline Crossing	T	<1	0.4	1.2	1.8	Bridge	No
C1	Silas Creek Mainline crossing near McGregor Rd	L	2.5	0.4	7.8	1.9	Bridge	Yes
C1	Silas Creek I-40 Crossing	T	--	0.4	--	1.9	Existing I-40 Culvert Area	No
C1	Muddy Creek I-40 Crossing	T	--	0	--	0.2	Existing I-40 Bridge Area	No
B2	Muddy Creek Mainline crossing near/including US 421 interchange	L	16.5	5.7	35.9	24.9	Various Bridges For Mainline/ Ramps	Yes
A4	Reynolds Creek Mainline Crossing	T	1	0.01	3	0.5	Bridge	No
A4	Tomahawk Creek Mainline Crossing	T	2	0.0	5	1.6	Bridge	No
A4	Tomahawk Creek Robinhood Rd Interchange	T	--	0.3	--	0.8	Culvert	No
C4	Mill Creek No. 3 Mainline Crossing	T	1	1.0	4	1.6	Culvert	No
B8[2]	Muddy Creek Mainline Crossing	T	0.2	0.7	1.3	0.9	Bridge	No
B10	Grassy Creek at US 52 interchange	L	4	7.3	10	5.6	Various Bridges For Mainline/ Ramps	Yes
Total Acreage from Longitudinal Crossings			23	13.4	44	32.4	--	--
Total All Floodway/Floodplain Impacts (Acres)			27	16.2	69	41.7	--	--

1. T = Transverse, L = Longitudinal
2. Based on 1996 Public Hearing Map. Hydraulic designs incomplete in this area in the 2002 preliminary engineering designs.

Table 4-67: Floodway and Floodplain Impacts – Project U-2579 Preferred Alternative

Segment	Stream	Location	Type of Crossing	Length of Crossing (ft)	Acres of Floodplain	Acres of Floodway	Floodway Modification Required?
W1	Grassy Creek	0.4 mi. west of University Pkwy.	Box Culvert	320	0.9	0.3	Yes
W2	Mill Creek	0.6 mi. west of Baux Mountain Rd.	Floodplain/ Floodway Encroachment Only	N/A	5.1	1.1	Yes
W3	Mill Creek	0.5 mi. east of Baux Mountain Rd.	Box Culvert	210	3.2	1.4	Yes
C4	Lowery Mill Creek	0.3 mi. west of US 158	Box Culvert	270	5.1	1.9	Yes
E5	Martin Mill Creek	0.6 mi. north of West Mountain St.	Box Culvert	355	3.5	1.4	Yes
E5	Kerners Mill Creek[1]	0.6 mi. south of West Mountain St.	Box Culvert	430	3.4	1.4	Yes
E5	Harmon Mill Creek[1]	0.9 mi. south of West Mountain St.	Box Culvert	930	10.5	5.2	Yes
E5	Fishers Branch[1]	0.3 mi. south of Hastings Hill Rd.	Not Determined	410	2.0	0.6	Yes
Total Impacts				**2,925**	**33.7**	**13.3**	**8[2]**

Impacts are based on right of way limits for the 1994 functional engineering designs.

[1] Also listed under Project U-2579A Detailed Study Alternative impacts

[2] Includes the three floodplain/floodway crossings shared by Projects U-2579 Preferred Altenative and U-2579A Detailed Study Alternatives.

Table 4-71: Biotic Community Impacts – Project R-2247 Detailed Study Alternatives

Segment	Pine Forest (acres)	Mixed Deciduous/ Pine Forest (acres)	Forest Total (acres)	Maintained/ Disturbed Lands (acres)	Agricultural Lands (acres)
Segment					
A1	**0.0**	**6.1**	**6.1**	**0.7**	**1.2**
A2	16.2	93.8	110.0	59.9	34.1
A3	11.3	58.1	69.5	116.3	54.3
A4	**40.0**	**83.8**	**123.8**	**39.6**	**116.7**
A6	29.6	89.4	119.0	77.4	42.5
B2	**2.6**	**41.2**	**43.8**	**15.3**	**44.1**
B3	12.6	45.4	58.1	32.8	31.3
B6	20.4	63.3	83.7	8.2	36.7
B7	26.8	90.0	116.8	25.5	56.3
B8	**0.2**	**55.9**	**56.1**	**12.6**	**7.7**
B10	**48.6**	**139.6**	**188.2**	**76.8**	**7.0**
C1	**15.3**	**63.6**	**78.9**	**51.4**	**11.6**
C2	12.9	45.8	58.7	22.8	21.8
C3	**14.8**	**33.4**	**48.2**	**44.6**	**45.9**
C4	**2.3**	**27.8**	**30.1**	**4.5**	**18.2**
C5	5.1	26.6	31.7	5.3	14.0
Detailed Study Alternatives					
WEST-A	104	386	490	304	281
EAST-A	112	426	538	217	238
WEST-B	119	465	584	310	239
EAST-B	126	505	632	223	196
C3-WEST-A	110	372	482	239	294
C2-EAST-A	124	460	584	233	238
C2-EAST-B	138	540	678	239	196
Preferred Alternative					
C3-WEST-B	**124**	**451**	**575**	**245**	**252**

Source: Table 4.6-1 from the 1996 Project R-2247 FEIS
'Bold' indicates Segments that make up the Preferred Alternative.

Table 4-77: Summary of Wetland and Pond Impacts for Project R-2247 Detailed Study Alternatives

Segment	Impacted Wetland Acreage	Wetland Type[1]	Impacted Pond Acreage
A1	0.0	--	0.0
A2	1.10	Palustrine	0.0
A3	1.18	Palustrine	0.0
A4	**0.55**	**Emergent**	**0.0**
	0.48	**Palustrine**	
	1.58	**Palustrine**	
	1.80	**Palustrine**	
A5	0.0	--	0.0
A6	0.0	--	0.0
B1	0.0	--	0.7
B2	**0.0**	**--**	**0.0**
B3	0.0	--	0.0
B4	0.0	--	0.0
B5	0.0	--	2.0
B6	0.81	Palustrine	1.4
	0.26	Palustrine	
B7	0.33	Palustrine	2.3
	1.87	Palustrine	
B8	**0.55**	**Palustrine**	**0.6**
B9	0.0	--	0.0
B10	**0.0**	**--**	**0.0**
C1	**2.52**	**Palustrine**	**0.0**
	0.79	**Palustrine**	
C2	2.06	Palustrine	0.0
	1.18	Palustrine	
C3	0.00	--	0.0
C4	**4.92**	**Palustrine**	**0.0**
C5	0.44	Palustrine	0.0
Detailed Study Alternatives			
WEST-A	12.1	--	0.0
EAST-A	7.0	--	3.7
WEST-B	12.2	--	0.6
EAST-B	7.1	--	4.3
C3-WEST-A	13.0	--	0.0
C2-EAST-A	8.0	--	3.7
C2-EAST-B	8.2	--	4.3
Preferred Alternative			
C3-WEST-B	**13.2**	**--**	**0.6**

[1] Emergent = herbaceous sites; Palustrine = Forested and Shrub-scrub areas.
'**Bold'** Indicates Segments that make up the Preferred Alternative.
All impacts are based on the right of way limits of the DEIS 1992 functional designs.
Source: Tables 4.6-1 and 4.6-2 in the 1996 Project R-2247 FEIS

SUMMARY TABLES THAT INCLUDE A BREAKOUT OF PROJECT R-2247 AND PROJECT U-2579

Table 4-1: Combined Direct Relocation Impacts – Projects R-2247, U-2579, and U-2579A

Project	Segment	Residences Total	Owner-Occupied	Tenant-Occupied[1]	Minority	Businesses
R-2247	Preferred Alternative	249	220	29	37	10
U-2579	Preferred Alternative	238	189	49	60	9
U-2579A DetailedStudy Alternatives With (Without) Kernersville Road Interchange **plus R-2247** and **U-2579 Preferred Alternatives**	N1-S1	771 (749)	687 (666)	84 (83)	138 (138)	41 (27)
	N1-S2	807 (785)	721 (700)	86 (85)	140 (135)	38 (25)
	N2-S1	728 (725)	645 (643)	83 (82)	137 (136)	42 (33)
	N2-S2	795 (792)	710 (708)	85 (84)	149 (139)	40 (31)
	N3-S1	734 (724)	648 (638)	86 (86)	137 (136)	37 (26)
	N3-S2	801 (791)	713 (703)	88 (88)	158 (137)	35 (24)

() Alternative without Kernersville Road Interchange

[1] A number of tenant-occupied residences are privately-owned mobile homes. The owners rent space in a mobile-home park, and are thereby considered to be tenants.

Table 4-5: Combined Direct Impacts to Community Services and Facilities – Projects R-2247, U-2579, and U-2579A

Project	Segment	Schools	Parks & Recreational Facilities	Churches and Cemeteries	Other Community Facilities
R-2247	Preferred Alternative	0	0	0	0
U-2579	Preferred Alternative	0	0	4[4,5]	0
U-2579A Detailed Study Alternatives[1] **plus R-2247** and **U-2579 Preferred Alternatives**	N1-S1	1[2]	0	5[4,5]	0
	N1-S2	1[2]	0	6[3,4,5]	0
	N2-S1	1[2]	0	5[4,5]	0
	N2-S2	1[2]	0	6[3,4,5]	0
	N3-S1	0	0	5[4,5]	0
	N3-S2	0	0	6[3,4,5]	0

[1] Results are the same for Project U-2579A alternatives with or without the Kernersville Road interchange.
[2] Sedge Garden Elementary School; temporary impact from Sedge Garden Road detour.
[3] Piedmont Memorial Gardens; impact to property, but not to existing graves.
[4] Impact to the Gospel Light Christian School and Church property does not impact school or church facilities.
[5] Mount Pleasant Holiness Church.

Table 4-13: Combined Direct Impacts to Utilities and Infrastructure – Projects R-2247, U-2579, and U-2579A

Project	Segment	Electrical Easement Crossing	Electrical Substations	Major Gas Mains	Directional Radio Antenna Arrays	Railroad Crossings
Detailed Study Alternative – with Kernersville Road Interchange						
R-2247	Preferred Alternative	6**	0	0	0	1**
U-2579	Preferred Alternative	1**	0	2**	0	2**
U-2579A Detailed Study Alternatives* plus R-2247 and **U-2579 Preferred Alternatives**	N1-S1	9**	0	2**	0	3**
	N1-S2	8**	0	2**	0	3**
	N2-S1	9**	0	2**	0	3**
	N2-S2	8**	0	2**	0	3**
	N3-S1	9**	0	2**	0	3**
	N3-S2	8**	0	2**	0	3**

* Results are the same for Project U-2579 alternatives with or without Kernersville Road interchange.
**Interchange ramp design may cause multiple crossings of the utility corridor at locations of planned interchanges. Only one crossing is noted in the table for each of these locations.

Table 4-17: Combined Direct Impacts to Archaeological and Historic Architectural Resources – Projects R-2247, U-2579, and U-2579A

Project	Alternative	# of Archaeological Sites Requiring Preservation in Place	# of Historic Resources with No Adverse Effect	# of Historic Resources with Adverse Effect
R-2247	Preferred Alternative	0	2	1
U-2579	Preferred Alternative	0[2]	2	0
U-2579A Detailed Study Alternatives[1] plus R-2247 and **U-2579 Preferred Alternatives**	N1-S1	0[2]	4	1
	N1-S2	0[2]	4	1
	N2-S1	0[2]	4	1
	N2-S2	0[2]	4	1
	N3-S1	0[2]	4	1
	N3-S2	0[2]	4	1

[1] Results are the same for Project U-2579A alternatives with or without Kernersville Road interchange.
[2] Site 31FY1053(**) in the Project U-2579 study area requires further study, which will be reported in the FEIS.

Table 4-19: Combined Direct Impacts to Section 4(f)/6(f) Resources – Projects R-2247, U-2579, and U-2579A

Project	Alternative	Section 4(f) Resources Impacted	Section 6(f) Resources Impacted
R-2247	Preferred Alternative	0	0
U-2579	Preferred Alternative	0	0
U-2579A Detailed Study Alternatives* plus R-2247 and **U-2579 Preferred Alternatives**	N1-S1	0	0
	N1-S2	0	0
	N2-S1	0	0
	N2-S2	0	0
	N3-S1	0	0
	N3-S2	0	0

*Results are the same for Project U-2579A alternatives with or without Kernersville Road interchange.

Table 4-43: Combined Direct Hazardous Materials Impacts – Projects R-2247, U-2579, and U-2579A

Project	Detailed Study Alternative	Potentially Impacted Hazardous Materials Sites
R-2247	Preferred Alternative	6
U-2579	Preferred Alternative	9
U-2579A Detailed Study Alternatives [1] plus R-2247 and **U-2579 Preferred Alternatives**	N1-S1	19 (16)
	N1-S2	19 (16)
	N2-S1	17 (15)
	N2-S2	17 (15)
	N3-S1	22 (17)
	N3-S2	22 (17)

[1] Results are the same for Project U-2579A alternatives with or without the Kernersville Road interchange.

Table 4-50: Major Drainage Structures – Projects R-2247, U-2579, and U-2579A

Project	Alternative	Number of Bridges over Streams	Number of Crossings with Major Culverts or Pipes (> 72 inches in diameter)
R-2247	Preferred Alternative	20	11
U-2579	Preferred Alternative	0	14
U-2579A Detailed Study Alternatives [1] plus R-2247 and **U-2579 Preferred Alternatives**	N1-S1	20	32
	N1-S2	20	34
	N2-S1	20	32
	N2-S2	20	34
	N3-S1	20	31
	N3-S2	20	33

[1] Results are the same for alternatives with and without the Kernersville Road interchange.

Table 4-57: Combined Direct Stream Impacts – Projects R-2247, U-2579, and U-2579A

Project	Alternative	Impacted Length – USACE Mitigable[2] (ft)	Impacted Length - Not Mitigable (ft)	Total Length of Impacted Stream[3] (ft)	Total Length of Relocated Stream[4] (ft)	Number of Stream Crossings
R-2247	Preferred Alternative	11,427	13,581	25,008	2,405	52
U-2579	Preferred Alternative	17,719	557	18,276	0	44
U-2579A Detailed Study Alternatives[1] plus R-2247 and U-2579 Preferred Alternatives	N1-S1	40,142	16,653	56,795	2,405	114
	N1-S2	38,744	17,267	56,011	2,405	114
	N2-S1	39,016	16,653	55,699	2,405	116
	N2-S2	37,618	17,267	54,885	2,405	116
	N3-S1	43,121 (42,452)	16,653	59,774 (59,105)	2,405	118
	N3-S2	41,723 (41,054)	17,267	58,990 (58,321)	2,405	118

[1]Unless designated by () as without Kernersville Road interchange, Project U-2579A Detailed Study Alternatives are the same with or without the interchange.
[2]USACE mitigable streams are considered as such based on guidance from the USACE.
[3]Total Length of Impacted Stream was calculated based on the length of stream within the estimated construction limits of the preliminary engineering designs.
[4] Length of stream relocations is based on the 2002 preliminary engineering designs. Stream relocations are considered mitigated impacts.

Table 4-64: Combined Direct Impacts to Floodplains and Floodways – Projects R-2247, U-2579, and U-2579A

Project	Alternative	Number of Floodplain/Floodway Crossings	Number of Crossings Requiring Floodway Modification
R-2247	Preferred Alternative	11	3
U-2579	Preferred Alternative	5	5
U-2579A Detailed Study Alternatives [1] plus R-2247 and U-2579 Preferred Alternatives	N1-S1	21	13
	N1-S2	21	13
	N2-S1	21	13
	N2-S2	21	13
	N3-S1	21	13
	N3-S2	21	13

[1] Results are the same for Project U-2579A alternatives with or without the Kernersville Road interchange.

Table 4-70: Combined Direct Biotic Community Impacts – Projects R-2247, U-2579, and U-2579A

Project	Segment	Piedmont/ Low Mountian Alluvial Forest (acres)	Dry Oak-Hickory Forest (acres)	Dry Mesic Oak-Hickory Forest (acres)	Mesic Mixed Hardwood Forest (acres)	Successional Pine Forest (acres)	Piedmont Bottomland Forest (acres)	Maintained/ Disturbed (acres)	Agriculture (acres)	Cut-over (acres)	Pine Plantation (acres)
R-2247	Preferred Alternative	31	0	411	0	0	0	495	196	59	77
U-2579	Preferred Alternative	27	33	118	77	0	6	244	62	0	0
U-2579A Detailed Study Alternatives With (Without) Kernersville Road Interchange **plus** **R-2247** and **U-2579 Preferred Alternatives**	N1-S1	106	61	582	172	1	13 (12)	1,146 (1,123)	376	59	77
	N1-S2	80	60	577	141	10	13 (12)	1,149 (1,127)	383	59	77
	N2-S1	106	63	581	174	1	12 (11)	1,160 (1,145)	369	59	77
	N2-S2	82	61	576	146	10	12 (11)	1,165 (1,149)	380	59	77
	N3-S1	108 (107)	59	572	195 (189)	1	10	1,157 (1,137)	378 (375)	59	77
	N3-S2	83 (82)	58	577	166 (160)	10	10	1,156 (1,136)	389 (385)	59	77

() Alternative without Kernersville Road interchange

Table 4-76: Summary of Jurisdictional Resources Impacts – Projects R-2247, U-2579, and U-2579A

Project	Alternative	Low Quality Wetlands (Acres)	Medium Quality Wetlands (Acres)	High Quality Wetlands (Acres)	Total Wetland Impacts (Acres)	Number of Wetland Crossings	Total Ponds Impacted (Acres)	Number of Pond Crossings	Total Impact to USACE Mitigable Streams (Linear Ft)
R-2247	Preferred Alternative	0.87	0.93	1.80	3.60	21	1.26	6	11,503
U-2579	Preferred Alternative	0.62	0.81	1.12	2.55	13	17.92	6	17,719
U-2579A Detailed Study Alternatives [1] plus R-2247 and U-2579 Preferred Alternatives	N1-S1	1.66	2.92	2.92	7.50	44	26.91	21	21
	N1-S2	1.66	2.54	2.92	7.12	42	21.92	19	19
	N2-S1	1.66	2.92	3.05	7.63	45	27.64	22	22
	N2-S2	1.66	2.54	3.05	7.25	43	22.65	20	20
	N3-S1	1.59	3.11	3.05	7.75	47	27.52	20	20
	N3-S2	1.59	2.73	3.05	7.37	45	22.53	18	18

[1] Unless designated by () as without Kernersville Road interchange, Project U-2579A Detailed Study Alternatives are the same with or without the interchange.

Table 4-88: Combined Direct Environmental Consequences – Projects R-2247, U-2579, and U-2579A With (Without) the Kernersville Road Interchange

Environmental Issue	R-2247 Preferred Alternative	U-2579 Preferred Alternative	Project R-2247 and Project U-2579 Preferred Alternatives PLUS Project U-2579A Detailed Study Alternatives With (Without) Kernersville Road Interchange					
			N1-S1	N1-S2	N2-S1	N2-S2	N3-S1	N3-S2
Length (miles)	17.35	12.4	34.2	34.4	34.2	34.4	34.1	34.3
Estimated Costs (2003 dollars)								
Construction Costs (millions $)	228.2	200.0	605.2 (602.2)	593.2 (589.2)	609.2 (606.2)	600.2	590.2 (586.2)	592.2 (591.2)
Right-of-Way Costs (millions $)	92.9	48.0	211.2 (202.8)	223.3 (214.9)	205.0 (202.8)	220.9 (218.7)	206.2 (199.6)	222.2 (215.5)
Total Costs (millions $)	321.1	248.0	816.4 (805.0)	816.5 (804.1)	814.2 (809.0)	821.1 (818.9)	796.4 (785.8)	814.4 (806.7)
Relocation Impact Summary								
Residences (total)	249	238	771 (749)	807 (785)	728 (725)	795 (792)	734 (724)	801 (791)
Owner-occupied	220	189	687 (666)	721 (700)	645 (643)	710 (708)	648 (638)	713 (703)
Tenant-occupied	29	49	84 (83)	86 (85)	83 (82)	85 (84)	86 (86)	88 (88)
Minority	37	60	138 (138)	140 (135)	137 (136)	149 (139)	137 (136)	158 (137)
Businesses	10	9	41 (27)	38 (25)	42 (33)	40 (31)	37 (26)	35 (24)
Community Services and Facilities Impact Summary								
Schools	0	0	1[4,5]	1[4,5]	1[4,5]	1[4,5]	0[5]	0[5]
Parks & Recreational Facilities	0	0	0	0	0	0	0	0
Churches & Cemeteries	0	4[5]	5[5]	6[5,6]	5[5]	6[5,6]	5[5]	6[5,6]
Other Community Facilities	0	0	0	0	0	0	0	0
Utilities[1]								
Electrical Easement Crossings	6	1	9	8	9	8	9	8

Table 4-88: Combined Direct Environmental Consequences – Projects R-2247, U-2579, and U-2579A With (Without) the Kernersville Road Interchange

Environmental Issue	R-2247 Preferred Alternative	U-2579 Preferred Alternative	Project R-2247 and Project U-2579 Preferred Alternatives PLUS Project U-2579A Detailed Study Alternatives With (Without) Kernersville Road Interchange					
			N1-S1	N1-S2	N2-S1	N2-S2	N3-S1	N3-S2
Electrical Substations	0	0	0	0	0	0	0	0
Major Gas Mains	0	2	2	2	2	2	2	2
Directional Radio Antenna Arrays	0	0	0	0	0	0	0	0
Railroad Crossings	1	2	3	3	3	3	3	3
Historic Architectural and Archaeological Resources Impact Summary								
# of Archaeological sites requiring preservation in place[2]	0	0	0	0	0	0	0	0
# of Historic Resources with No Adverse Effect	2	2	4	4	4	4	4	4
# of Historic Resources with Adverse Effect	1	0	1	1	1	1	1	1
Section 4(f)/6(f) Resources Impact Summary								
Section 4(f) Resources	0	0	0	0	0	0	0	0
Section 6(f) Resources	0	0	0	0	0	0	0	0
Air Quality Impact Summary								
Intersections Exceeding CO NAAQS	0	0	0	0	0	0	0	0
Noise Impact Summary								
# of Impacted Receptors – with mitigation in place	65	447	755 (768)	721 (730)	821 (809)	742 (730)	792 (786)	713 (707)
Hazardous Materials Impact Summary								
Number of Potentially Impacted Hazardous Materials Sites	6	9	19 (16)	19 (16)	17 (15)	17 (15)	22 (17)	22 (17)

Table 4-88: Combined Direct Environmental Consequences – Projects R-2247, U-2579, and U-2579A With (Without) the Kernersville Road Interchange

Environmental Issue	R-2247 Preferred Alternative	U-2579 Preferred Alternative	Project R-2247 and Project U-2579 Preferred Alternatives PLUS Project U-2579A Detailed Study Alternatives With (Without) Kernersville Road Interchange					
			N1-S1	N1-S2	N2-S1	N2-S2	N3-S1	N3-S2
Major Drainage Structure Summary								
Number of Bridges over Streams	20	0	20	20	20	20	20	20
Number of Crossings with Major Culverts (> 72 inches in diameter)	11	14	32	34	32	34	31	33
Floodways and Floodplains Impact Summary								
Floodplains (# of crossings)	11	5	21	21	21	21	21	21
Number of Crossings Requiring Floodway Modification	3	5	13	13	13	13	13	13
Biotic Communities Impact Summary (acres)								
Piedmont/Low Mtn Alluvial Forest	31	27	106	80	106	82	108 (107)	83 (82)
Piedmont Bottomland Forest	0	6	13 (12)	13 (12)	12 (11)	12 (11)	10	10
Dry Oak-Hickory Forest	0	33	61	60	63	61	59	58
Dry Mesic Oak-Hickory Forest	411	118	582	577	581	576	572	577
Mesic Mixed Hardwood Forest	0	77	172	141	174	146	195 (189)	166 (160)
Maintained/Disturbed	495	244	1,146 (1,123)	1,149 (1,127)	1,160 (1,145)	1,165 (1,149)	1,157 (1,137)	1,156 (1,136)
Agriculture	196	62	376	383	369	380	378 (375)	389 (385)
Cut-Over	59	0	59	59	59	59	59	59
Successional Pine Forest	0	0	1	10	1	10	1	10

Table 4-88: Combined Direct Environmental Consequences – Projects R-2247, U-2579, and U-2579A With (Without) the Kernersville Road Interchange

Environmental Issue	R-2247 Preferred Alternative	U-2579 Preferred Alternative	Project R-2247 and Project U-2579 Preferred Alternatives PLUS Project U-2579A Detailed Study Alternatives With (Without) Kernersville Road Interchange					
			N1-S1	N1-S2	N2-S1	N2-S2	N3-S1	N3-S2
Pine Plantation	77	0	77	77	77	77	77	77
Jurisdictional Issues Summary								
Acres of Wetlands Impacted	3.6	2.6	7.5	7.1	7.6	7.3	7.8	7.4
Number of Wetland Crossings	21	13	44	42	45	43	47	45
Acres of Ponds Impacted	1.3	17.9	26.9	21.9	27.6	22.7	27.5	22.5
Number of Pond Crossings	6	6	21	19	22	20	20	18
Total Linear Feet of Impacted USACE Mitigable Streams	11,427	17,719	40,142	38,744	39,016	37,618	43,121 (42,452)	41,723 (41,054)
Total Linear Feet of Relocated Streams	2,405	0	2,405	2,405	2,405	2,405	2,405	2,405
Number of Stream Crossings	52	44	114	114	116	116	118	118
Protected Species Impact Summary								
Bog Turtle (*Clemmys muhlenbergii*)[3]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Red-Cockaded Woodpecker (*Picoides borealis*)	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
Small-Anthered Bittercress (*Cardamine Micrantha)*	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect

Table 4-88: Combined Direct Environmental Consequences – Projects R-2247, U-2579, and U-2579A With (Without) the Kernersville Road Interchange

Environmental Issue	R-2247 Preferred Alternative	U-2579 Preferred Alternative	**Project R-2247 and Project U-2579 Preferred Alternatives PLUS Project U-2579A Detailed Study Alternatives With (Without) Kernersville Road Interchange**					
			N1-S1	N1-S2	N2-S1	N2-S2	N3-S1	N3-S2

Unless designated by () as without Kernersville Road interchange, Project U-2579A Detailed Study Alternatives are the same with or without the interchange.

Construction limits (slope stakes) of the preliminary engineering design for the R-2247 Preferred Alternative, theU-2579 Preferred Alternative, and the Project U-2579A Detailed Study Alternatives were used to calculate impacts.

[1] Interchange ramp design may cause multiple crossings of the utility corridor at locations of planned interchanges. Only one crossing is noted in the table for each of these locations.
[2] Site 31FY1053(**) in the Project U-2579 study area requires further study
[3] These species are not biologically endangered or threatened and are not subject to Section 7 consultation.
[4] Sedge Garden Elementary School; temporary impact from Sedge Garden Road detour.
[5] Impact to property does not impact school or church facilities
[6] Piedmont Memorial Gardens; impact to property, but not to existing graves.