CHAPTER IV
Environmental Consequences

Chapter IV of the Draft EIS provided a description of the socioeconomic and environmental impacts of the reasonable alternatives. This chapter allowed the reviewer to compare the environmental and socioeconomic impacts of the alternatives. Based on review of the comments received from the Draft EIS and the public hearing, no new specific information describing the environmental consequences was presented. However, some inadvertent inaccurate reporting of wetlands data was discovered, and a correction is presented in this section. In addition, new Alternative 5C has socioeconomic and environmental characteristics which must be quantified and compared. Finally, updated cost information is provided based on the new construction at Route 47.

A. Summary of the Environmental Consequences

Chapter IV of the Draft EIS presents a description of the environmental consequences of the Preferred Alternative. A summary of impacts may be found in the Summary section of this Final EIS (Tables 3 and 4).

B. Clarification of Draft EIS

The following issues or questions were raised during the review of the Draft EIS that warrant correction, clarification or further elaboration:

- **Wetland Impacts**. The Draft EIS reported that Alternatives 4 and 17 had no wetlands impacts. Review of the data showed that only Alternative 17 does not impact any wetlands. The following table provides corrected wetland information for Alternatives 4, 5A and 5B, and provides additional wetlands impacts for Alternative 5C. It is estimated that approximately 2.7 acres (1.1 ha) of jurisdictional wetlands will be directly impacted along the SIU 7 corridor, rather than the 80 acres (32 ha) reported on page IV-84 in the Draft EIS.

Table IV-1: Wetlands Corrections and Clarifications

Alternative	Wetland ID	Location	Preliminary Jurisdiction Determination	Wetland Type	NWI Designation	Total Area		Area Impacted		Total Jurisdictional Area Impacted	
						AC	HA	AC	HA	AC	HA
4	sw-100	South		Forested	None	0.63	0.25	0.63	0.25	**0.00**	**0.00**
5A	sw-15	North		Emergent	None	0.10	0.04	0.02	0.01	**0.07**	**0.03**
	sw-14	North		Emergent	None	0.04	0.02	0.04	0.02		
5B	sw-15	North		Emergent	None	0.10	0.04	0.02	0.01	**0.07**	**0.03**
	sw-14	North		Emergent	None	0.04	0.02	0.04	0.02		
5C	sw-15	North		Emergent	None	0.10	0.04	0.02	0.01	**0.07**	**0.03**
	sw-14	North		Emergent	None	0.04	0.02	0.04	0.02		

Shading indicates preferred alternative

C. Alternative 5C

Alternative 5C (Appendix B) was developed in response to comments received at the Public Hearing. It has generally fewer environmental impacts than alternatives 5A and 5B. It has lower overall land use impacts, in particular lower impacts to agricultural lands. It also has lower stream impacts and low wetlands impacts. It also is estimated to have the lowest overall cost. In all other categories, the differences between the alternatives were negligible. A summary of the environmental impacts for this alternative can be found in Tables 3 and 4 at the end of the Summary chapter. Based on the reduced level of impacts associated with Alternative 5C, MoDOT determined it to be the Preferred Alternative at the Jonesburg interchange.

D. Route 47

Two new developments, a strip shopping center at the east edge of the Wal-Mart shopping center and a Sonic drive-in at the northwest corner of Route 47 and the new Wal-Mart entrance have been constructed since the publication of the Draft EIS. Each of these new structures falls within the footprint of each of the reasonable alternative alignments (Alternatives 8A, 8B, 8C and 8D) for relocated Route 47, as evaluated in the Draft EIS. Both of these structures will be negatively impacted by the alternatives under consideration at this interchange. The taking of these structures are estimated to increase the cost of each alternative by approximately four million dollars. The location of these structures is shown in Exhibit 8.C.1 in Appendix B.

E. Waters of the U. S. and Preliminary Jurisdictional Wetland Determinations Summary

The Waters of the U.S. and Preliminary Jurisdictional Wetland Determinations Summary Report dated April 27, 2005 completed for SIU 7 identified United States Army Corps of Engineers jurisdictional streams, wetlands, and ponds within the Preferred Alignment for SIU 7. This report is included by reference in this FEIS. Data used to complete the Waters of the U.S.

Summary report has been subjected to an iterative review process since completion of the draft EIS, and varies slightly from the wetland and stream data used to evaluate alternatives in this report.

Table IV-2 presents a summary of the impacts to Jurisdictional Waters of the U.S. Table IV-3, Table IV-4 and Table IV-5 summarize the information for each impacted stream, wetland, or pond for the preferred alterative.

Table IV-2: Summary of Impacted Jurisdictional Waters of the U.S.

Streams				**Wetlands**			**Ponds**
Natural Channel		**Artificial Channel**					
Impact Length (ft)	Impact Area (acres)	Impact Length (ft)	Impact Area (acres)	Emergent (acres)	Scrub-Shrub (acres)	Forested (acres)	(acres)
37,918.15	5.64	686.64	0.13	0.74	0.28	1.71	2.15

Table IV-3: Stream Crossings

ID	Tech Report ID	Station	Side	USGS/ NWI	USGS Waterbody Name	Soil Data	Impact Type	OHWM Width (ft)	Artificial Channel		Natural Channel	
									Impact (ft)	Impact (acres)	Impact (ft)	Impact (acres)
Montgomery County												
122	s1	507+00	South	none	unnamed tributary of Clear Creek	NH	culvert	5	-	-	463.87	0.05
123	s2	513+50	South	none	unnamed tributary of Clear Creek	NH	culvert	5	-	-	297.18	0.03
121	s3	530+00	South	none	unnamed tributary of Clear Creek	NH	culvert	6	-	-	428.40	0.06
124	s5	0539+50	South	none	unnamed tributary of Clear Creek	NH	culvert	3	-	-	588.86	0.04
277	s6	0547+00	South	Bln-I	unnamed tributary of Clear Creek	NH	culvert	5	-	-	1,820.32	0.21
281	s7	0549+00	South	none	unnamed tributary of Clear Creek	NH	culvert	1	-	-	69.18	<0.01
30	s8	550+00	North	Bln-I	Smith Branch of the Clear Fork of the Loutre River	NH	culvert	20	-	-	84.77	0.04
134	s9	554+50	North	Bln-I	Smith Branch of the Clear Fork of the Loutre River	NH	culvert	15	-	-	252.83	0.09
113	s10	557+00	South	Bln-I	Smith Branch of the Clear Fork of the Loutre River	NH	culvert	12	-	-	331.33	0.09
136	s11	613+50	North	none	unnamed tributary of Elkhorn Creek	NH	culvert	3	-	-	57.34	<0.01
137	s12	629+00	North	Bln-I	unnamed tributary of Elkhorn Creek	NH	culvert	10	-	-	66.02	0.02
112	s13	630+00	South	Bln-I	unnamed tributary of Elkhorn Creek	NH	realign	3	50.00	0.01	243.61	0.02
111	s14	630+00	South	Bln-I	unnamed tributary of Elkhorn Creek	NH	culvert	4	-	-	212.37	0.02
138	s16	682+50	North	Bln-I	unnamed tributary of Elkhorn Creek	NH	culvert	7	-	-	244.09	0.04
109	s19	752+00	South	none	unnamed tributary of Bear Creek	NH	culvert	6	-	-	203.69	0.03
81	s25	801+00	South	none	unnamed tributary of Bear Creek	NH	fill	5	-	-	128.44	0.01
149	s26	827+00	South	none	unnamed tributary of Bear Creek	NH	culvert	3	-	-	316.24	0.02
148	s27	835+50	South	none	unnamed tributary of Bear Creek	NH	culvert	4	-	-	272.41	0.03
146	s29	848+50	South	none	unnamed tributary of Millum Creek	NH	realign	4	-	-	374.59	0.03
45	s30	851+00	South	Bln-I	unnamed tributary of Millum Creek	NH	fill	1	-	-	29.84	<0.01
43	s31	852+00	N/S	none	unnamed tributary of Millum Creek	NH	fill	3	-	-	503.96	0.03
147	s32	855+00	South	none	unnamed tributary of Millum Creek	NH	culvert	4	-	-	100.35	0.01
150	s33	892+00	South	none	unnamed tributary of the Prices Branch of Bear Creek	NH	culvert	4	-	-	51.86	<0.01
58	s34	906+00	North	Bln-I	unnamed tributary of the Prices Branch of Bear Creek	NH	culvert	2	-	-	316.96	0.01
47	s35	936+00	South	Bln-I	unnamed tributary of the Poor Branch of Little Bear Creek	NH	culvert	3	-	-	97.31	0.01
153	s36	937+00	North	Bln-I	unnamed tributary of the Poor Branch of Little Bear Creek	NH	culvert	10	-	-	310.59	0.07
154	s37	967+00	North	Bln-I	unnamed tributary of Little Bear Creek	NH	culvert	8	-	-	221.66	0.04
151	s38	967+00	South	Bln-I	unnamed tributary of Little Bear Creek	NH	culvert	7	-	-	100.86	0.02
152	s39	993+00	South	none	unnamed tributary of Little Bear Creek	NH	culvert	5	-	-	160.01	0.02
57	s40	994+00	North	none	unnamed tributary of Little Bear Creek	NH	culvert	6	-	-	118.76	0.02
56	s41	995+50	North	Bln-I	unnamed tributary of Little Bear Creek	NH	c&r	5	-	-	1,039.89	0.12
156	s42	999+00	North	Bln-I	unnamed tributary of Little Bear Creek	NH	culvert	6	-	-	297.98	0.04

ID	Tech Report ID	Station	Side	USGS/ NWI	USGS Waterbody Name	Soil Data	Impact Type	OHWM Width (ft)	Artificial Channel		Natural Channel	
									Impact (ft)	Impact (acres)	Impact (ft)	Impact (acres)
155	s43	1002+00	North	none	unnamed tributary of Little Bear Creek	NH	culvert	5	26.00	<0.01	17.79	<0.01
157	s44	1003+50	North	Bln-I	unnamed tributary of Little Bear Creek	NH	culvert	5	-	-	132.91	0.02
158	s45	1006+50	North	Bln-I	unnamed tributary of Little Bear Creek	NH	realign	2	-	-	588.61	0.03
26	s46	1012+50	South	Bln-I	unnamed tributary of Little Bear Creek	NH	culvert	5	-	-	103.76	0.01
23	s47	1027+00	North	Bln-I	unnamed tributary of Little Bear Creek	NH	culvert	3	-	-	252.91	0.02
27	s48	1031+50	South	Bln-I	unnamed tributary of Little Bear Creek	NH	culvert	3	-	-	201.07	0.01
163	s50	1066+50	North	Bln-I	unnamed tributary of Camp Creek	NH	culvert	6	-	-	284.45	0.04
166	s51	1067+00	North	none	unnamed tributary of Camp Creek	NH	realign	5	-	-	196.89	0.02
165	s53	1069+00	North	none	unnamed tributary of Camp Creek	NH	realign	2.5	-	-	275.85	0.02
38	s54	1093+50	North	Bln-I	unnamed tributary of Camp Creek	NH	culvert	9	-	-	263.55	0.05
Montgomery County Totals									76.00	0.01	12,123.36	1.45
Warren County												
22	s55	1099+50	North	none	unnamed tributary of Camp Creek	NH	c&r	4	-	-	622.93	0.06
20	s56	1121+00	North	none	unnamed tributary of the Camp Branch of Camp Creek	NH	c&r	3	-	-	741.43	0.05
19	s57	1143+00	North	Bln-I	unnamed tributary of the Camp Branch of Camp Creek	NH	culvert	20	-	-	303.41	0.14
286	s59	1188+50	South	Bln-I	Camp Branch of Camp Creek	NH	culvert	25	15.00	0.01	21.18	0.01
169	s60	1188+50	North	Bln-I	Camp Branch of Camp Creek	NH	culvert	25	40.00	0.02	244.03	0.14
170	s61	1188+50	North	none	unnamed tributary of the Camp Branch of Camp Creek	NH	c&r	2	-	-	1,256.25	0.06
95	s63	1249+00	South	none	unnamed tributary of the Camp Branch of Camp Creek	NH	culvert	5	-	-	356.84	0.04
97	s65	1251+00	South	none	unnamed tributary of the Camp Branch of Camp Creek	NH	culvert	4	-	-	413.58	0.04
175	s66	1251+50	North	none	unnamed tributary of the Yeater Branch of Big Creek	NH	culvert	6	-	-	188.13	0.03
96	s67	1255+00	South	none	unnamed tributary of the Camp Branch of Camp Creek	NH	culvert	3	-	-	176.72	0.01
176	s68	1265+00	North	none	unnamed tributary of the Yeater Branch of Big Creek	NH	culvert	2	-	-	158.62	0.01
18	s69	1280+50	North	none	unnamed tributary of the Yeater Branch of Big Creek	NH	culvert	6	-	-	271.08	0.04
282	s70	1304+00	North	none	unnamed tributary of the Yeater Branch of Big Creek	NH	culvert	3	-	-	233.83	0.02
177	s72	1346+00	North	none	unnamed tributary of the Schlanker Branch of Big Creek	NH	culvert	4	-	-	239.69	0.02
179	s75	1374+00	North	Bln-I	Schlanker Branch of Big Creek	Yes	culvert	7	-	-	348.00	0.06
279	s76	1375+50	South	Bln-I	Schlanker Branch of Big Creek	NH	culvert	4	8.80	<0.01	-	-
180	s77	1384+00	North	none	unnamed tributary of the Schlanker Branch of Big Creek	NH	fill	3	-	-	61.66	<0.01
55	s78	1397+50	North	none	unnamed tributary of Big Creek	NH	culvert	5	-	-	419.68	0.05
103	s79	1404+00	South	Bln-I	unnamed tributary of Big Creek	NH	realign	4	-	-	86.22	0.01
54	s80	1407+00	North	none	unnamed tributary of Big Creek	NH	culvert	3	-	-	156.20	0.01
205	s81	1421+00	South	none	unnamed tributary of Big Creek	NH	culvert	2	-	-	8.86	<0.01
208	s82	1425+00	North	none	unnamed tributary of Big Creek	NH	culvert	2	-	-	211.20	0.01
206	s83	1425+50	South	none	unnamed tributary of Big Creek	NH	culvert	1	-	-	160.72	<0.01
207	s84	1426+00	South	Bln-I	unnamed tributary of Big Creek	NH	culvert	7	-	-	62.46	0.01
15	s86	1439+00	North	none	unnamed tributary of Big Creek	NH	c&r	5	-	-	612.09	0.07

ID	Tech Report ID	Station	Side	USGS/ NWI	USGS Waterbody Name	Soil Data	Impact Type	OHWM Width (ft)	Artificial Channel		Natural Channel	
									Impact (ft)	Impact (acres)	Impact (ft)	Impact (acres)
211	s87	1439+00	South	none	unnamed tributary of Big Creek	NH	culvert	3	-	-	40.59	<0.01
181	s89	1457+00	North	Bln-I	unnamed tributary of Big Creek	NH	culvert	4	15.00	<0.01	187.59	0.02
53	s90	1475+50	North	none	unnamed tributary of Big Creek	NH	realign	4	-	-	190.58	0.02
50	s91	1477+00	North	none	unnamed tributary of Big Creek	NH	fill	3	-	-	91.60	0.01
212	s92	1479+00	South	Bln-I	Big Creek	NH	culvert	22	-	-	32.55	0.02
49	s93	1480+00	North	Bln-I	Big Creek	NH	c&r	25	-	-	702.57	0.40
184	s94	1491+00	North	Bln-I	unnamed tributary of Big Creek	NH	realign	3	-	-	1,644.84	0.11
182	s95	1499+50	North	none	unnamed tributary of Big Creek	NH	culvert	5	-	-	408.76	0.05
215	s96	1505+50	South	none	unnamed tributary of Big Creek	NH	culvert	6	-	-	528.62	0.07
216	s97	1542+00	South	none	unnamed tributary of Hickory Lick Creek	NH	culvert	8	-	-	53.69	0.01
217	s98	1555+00	South	Bln-I	unnamed tributary of Hickory Lick Creek	NH	culvert	10	-	-	71.59	0.02
185	s99	1555+50	North	Bln-I	unnamed tributary of Hickory Lick Creek	NH	culvert	8	-	-	9.90	<0.01
186	s100	1557+00	North	none	unnamed tributary of Hickory Lick Creek	NH	culvert	5	-	-	44.76	0.01
219	s102	1605+00	South	none	unnamed tributary of Indian Camp Creek	Yes	culvert	4	-	-	209.30	0.02
187	s103	1607+00	North	none	unnamed tributary of Indian Camp Creek	Yes	culvert	8	431.84	0.08	-	-
188	s104	1611+50	North	none	unnamed tributary of Indian Camp Creek	Yes	culvert	3	-	-	26.53	<0.01
221	s105	1618+00	South	Bln-I	unnamed tributary of Indian Camp Creek	Yes	culvert	12	-	-	125.99	0.03
1	s106	1638+50	North	Bln-I	unnamed tributary of Indian Camp Creek	NH	culvert	2	-	-	12.97	<0.01
222	s107	1666+00	South	Bln-I	unnamed tributary of Indian Camp Creek	NH	Fill	9	-	-	121.14	0.03
223	s108	1667+50	South	none	unnamed tributary of Indian Camp Creek	Yes	Fill	8	-	-	122.68	0.02
202	s109	1744+00	South	Bln-I	unnamed tributary of Indian Camp Creek	NH	culvert	12	-	-	30.00	0.01
201	s110	1753+00	North	Bln-I	unnamed tributary of Indian Camp Creek	NH	culvert	15	-	-	87.18	0.03
10	s113	1765+00	North	none	unnamed tributary of Indian Camp Creek	NH	culvert	4	-	-	512.96	0.05
200	s115	1828+50	North	Bln-I	unnamed tributary of Peruque Creek	NH	culvert	6	-	-	8.59	<0.01
16	s116	1830+00	South	Bln-I	unnamed tributary of Peruque Creek	NH	culvert	2.5	-	-	7.62	<0.01
37	s117	1885+50	North	none	unnamed tributary of Indian Camp Creek	NH	culvert	9	-	-	698.51	0.14
227	s118	1888+00	South	none	unnamed tributary of Indian Camp Creek	NH	fill	5	-	-	475.01	0.05
228	s120	1948+50	South	none	unnamed tributary of Peruque Creek	NH	culvert	8	-	-	24.98	<0.01
231	s126	2025+00	North	none	unnamed tributary of McCoy Creek	NH	culvert	4	-	-	178.11	0.02
Warren County Totals									10.64	0.11	14,004.02	2.02
St. Charles County												
4	s127	2047+00	North	none	unnamed tributary of McCoy Creek	NH	culvert	9	-	-	547.07	0.11
234	s128	2050+00	South	none	unnamed tributary of McCoy Creek	NH	culvert	2	-	-	91.81	<0.01
8	s129	2051+00	North	none	unnamed tributary of McCoy Creek	NH	culvert	3.5	-	-	285.77	0.02
127	s130	2054+50	North	none	unnamed tributary of McCoy Creek	NH	realign	2	-	-	96.08	<0.01
133	s131	2056+00	North	none	unnamed tributary of McCoy Creek	NH	realign	2	-	-	201.89	0.01
126	s132	2056+00	North	none	unnamed tributary of McCoy Creek	NH	culvert	3	-	-	163.74	0.01

ID	Tech Report ID	Station	Side	USGS/ NWI	USGS Waterbody Name	Soil Data	Impact Type	OHWM Width (ft)	Artificial Channel		Natural Channel	
									Impact (ft)	Impact (acres)	Impact (ft)	Impact (acres)
239	s133	2057+00	South	none	unnamed tributary of Peruque Creek	NH	realign	5	-	-	626.64	0.07
288	s134	2058+00	South	none	unnamed tributary of Peruque Creek	NH	culvert	3	-	-	277.30	0.02
131	s135	2059+00	North	none	unnamed tributary of McCoy Creek	NH	c&r	2	-	-	232.27	0.01
241	s136	2066+00	South	none	unnamed tributary of Peruque Creek	NH	culvert	5	-	-	603.22	0.07
242	s137	2066+50	South	none	unnamed tributary of Peruque Creek	NH	realign	3	-	-	268.69	0.02
243	s140	2115+00	South	none	unnamed tributary of Peruque Creek	NH	culvert	3	-	-	46.18	<0.01
280	s141	2152+00	North	none	unnamed tributary of Spring Creek	NH	culvert	2	-	-	155.16	0.01
193	s143	2191+00	North	none	unnamed tributary of Spring Creek	NH	culvert	4	-	-	179.28	0.02
194	s145	2198+50	North	none	unnamed tributary of Spring Creek	NH	culvert	3	-	-	132.72	0.01
192	s146	2198+50	North	none	unnamed tributary of Spring Creek	NH	realign	3	-	-	123.82	0.01
260	s149	2302+00	South	none	unnamed tributary of the Dry Branch of McCoy Creek	NH	culvert	6	-	-	22.64	<0.01
273	s150	2327+00	South	Bln-I	unnamed tributary of Peruque Creek	NH	realign	9	-	-	2,767.73	0.57
263	s153	2337+00	North	none	unnamed tributary of Peruque Creek	NH	culvert	5	-	-	161.74	0.02
275	s154	2338+00	South	none	unnamed tributary of Peruque Creek	NH	culvert	5	-	-	110.04	0.01
272	s156	2345+00	South	none	unnamed tributary of Peruque Creek	NH	culvert	5	-	-	226.25	0.03
267	s157	2354+00	South	Bln-I	unnamed tributary of Peruque Creek	NH	realign	6	-	-	310.29	0.04
270	s158	2368+00	North	none	unnamed tributary of Peruque Creek	NH	culvert	5	-	-	39.13	<0.01
259	s159	2368+50	South	none	unnamed tributary of Peruque Creek	NH	culvert	7	-	-	172.32	0.03
256	s162	2386+00	South	Bln-I	unnamed tributary of Peruque Creek	NH	culvert	9	-	-	179.60	0.04
257	s163	2386+00	South	none	unnamed tributary of Peruque Creek	NH	culvert	3	-	-	165.51	0.01
255	s164	2387+00	South	none	unnamed tributary of Peruque Creek	NH	realign	4	-	-	376.05	0.03
252	s166	2417+00	South	none	unnamed tributary of Peruque Creek	NH	culvert	4	-	-	33.88	<0.01
287	s167	2485+00	North	Bln-I	unnamed tributary of Lake St. Louis	NH	realign	12	-	-	1,233.34	0.34
240	s168	2487+50	North	Bln-I	unnamed tributary of Lake St. Louis	NH	culvert	10	-	-	700.24	0.16
238	s169	2492+00	North	Bln-I	unnamed tributary of Lake St. Louis	NH	c&r	18	-	-	1,087.66	0.45
249	s170	2512+00	South	Bln-I	unnamed tributary of Lake St. Louis	NH	culvert	18	-	-	53.04	0.02
248	s171	2523+50	South	Bln-I	unnamed tributary of Lake St. Louis	NH	culvert	7	-	-	24.28	<0.01
237	s172	2524+00	North	Bln-I	unnamed tributary of Lake St. Louis	NH	culvert	9	-	-	37.81	0.01
247	s173	2537+50	South	none	unnamed tributary of Lake St. Louis	NH	culvert	2	-	-	29.27	<0.01
236	s174	2539+00	North	none	unnamed tributary of Lake St. Louis	NH	culvert	3	-	-	28.31	<0.01
St. Charles County Totals									-	<0.01	11,790.77	2.18
Project Totals									686.64	0.13	37,918.15	5.64
Total Stream Length Impact (feet) =							**38,604.79**					
Total Stream Area Impact (acres) =							**5.77**					

Bln-I = Blueline Intermittent; Bln-P = Blueline Perennial; NH = Nonhydric soil; c&r = culvert and realign
Source: Waters of the U.S. and Preliminary Jurisdictional Wetland Determinations Summary Report

Table IV-4: Impacts to Wetlands

ID	Tech Report ID	Station	Side	NWI / FSA	Soil Mapping	Impact Type	Isolated / Adjacent Waterbody	Impacts (acres)		
								Emergent	Scrub-Shrub	Forested
sw-55	w1	0523+00	North	PEMFh	NH	Fill	Isolated	-	-	-
fnwi-13	w2	0531+00	North	PUBFh	NH	Fill	NW	-	-	-
sw-22	w4	0545+00	North	PUBFx	NH	Fill	Isolated	-	-	-
sw-58	w5	0590+00	North	None	NH	Fill	unnamed tributary of Elkhorn Creek	0.01	-	-
sw-51	w6	0720+00	South	PUBGh	NH	Fill	Isolated	-	-	-
fnwi-8	w7	0787+00	South	PUBGx	NH	Fill	NW	-	-	-
fnwi-10	w8	0787+50	North	PUBGh	NH	Fill	NW	-	-	-
fnwi-11	w9	0791+50	North	PUBGh	NH	Fill	NW	-	-	-
fnwi-12	w10	0793+00	North	PUBFx	NH	Fill	NW	-	-	-
fnwi-9	w11	0798+00	North	PUBGx	NH	Fill	NW	-	-	-
fnwi-6	w12	0838+00	North	PUBGh	NH	Fill	NW	-	-	-
sw-100	w13	0853+00	South	None	NH	Fill	unnamed tributary of Millum Creek	-	-	0.62
fnwi-7	w14	0858+50	South	PUBFh	NH	Fill	NW	-	-	-
sw-33	w15	0892+50	North	L1UBHh	NH	Fill	unnamed tributary of the Prices Branch of Bear Creek	0.04	-	-
fnwi-20	w16	0893+50	South	PFO1A	NH	Fill	NW	-	-	-
fnwi-19	w17	0945+50	South	PUBGh	NH	Fill	NW	-	-	-
fnwi-18	w18	0949+50	South	PUBGh	NH	Fill	NW	-	-	-
fnwi-3	w19	0987+50	North	PUBGh	NH	Fill	NW	-	-	-
fnwi-16	w20	1005+00	North	PEMB	NH	Fill	NW	-	-	-
sw-14	w21	1011+50	North	None	NH	Fill	unnamed tributary of Little Bear Creek	0.04	-	-
sw-65	w22	1070+00	North	None	NH	Fill	unnamed tributary of Camp Creek	0.04	-	-
							Montgomery County Totals	**0.13**	**-**	**0.62**
sw-50	w23	1266+00	North	None	NH	Fill	unnamed tributary of the Yeater Branch of Big Creek	0.13	-	-
sw-19	w24	1279+00	South	None	NH	Fill	unnamed tributary of the Yeater Branch of Big Creek	0.15	-	-
sw-13	w25	1417+00	North	None	NH	Fill	unnamed tributary of Big Creek	0.08	-	-
sw-80	w26	1426+00	South	None	NH	Fill	unnamed tributary of Big Creek	-	0.02	-
sw-37	w27	1478+00	North	None	NH	Fill	unnamed tributary of Big Creek	-	0.17	-
sw-36	w28	1480+00	North	PFO1A	NH	Fill	Big Creek	-	-	0.64
fnwi-4	w29	1482+00	North	PFO1A	NH	Fill	NW	-	-	-
sw-82	w30	1492+00	South	None	NH	Fill	Isolated	-	-	-
sw-84	w31	1542+50	South	None	NH	Fill	unnamed tributary of Hickory Lick Creek	-	0.01	-
sw-85	w32	1580+50	South	None	NH	Fill	unnamed tributary of Hickory Lick Creek	0.01	-	-
sw-88	w34	1639+00	South	None	NH	Fill	unnamed tributary of Indian Camp Creek	-	-	0.45
sw-89	w35	1666+50	South	None	Hydric	Fill	unnamed tributary of Indian Camp Creek	-	0.08	-
sw-78	w36	1799+00	North	None	NH	Fill	unnamed tributary of Peruque Creek	0.03	-	-
fnwi-29	w37	1805+00	South	PEMA	NH	Fill	NW	-	-	-
fnwi-24	w38	1817+50	North	PUBFh	NH	Fill	NW	-	-	-
fnwi-21	w39	1890+00	South	PFO1A	NH	Fill	NW	-	-	-
fnwi-15	w40	2029+50	South	PUBGh	NH	Fill	NW	-	-	-
							Warren County Totals	**0.40**	**0.28**	**1.09**
fnwi-2	w41	2062+50	South	PUBGx	NH	Fill	NW	-	-	-
sw-7	w43	2107+00	North	None	NH	Fill	unnamed tributary of McCoy Creek	0.03	-	-
sw-103	w44	2197+00	North	None	NH	Fill	Isolated	-		
sw-94	w45	2257+50	South	None	NH	Fill	unnamed tributary of the Dry Branch of McCoy Creek	0.05	-	-
sw-91	w47	2487+00	North	None	NH	Fill	unnamed tributary of Lake St. Louis	0.13	-	-
fnwi-25	w48	2495+00	North	PFO1A	NH	Fill	NW	-	-	-
							St. Charles County Totals	**0.21**	**-**	**-**
							Project Total (acres)	**0.74**	**0.28**	**1.71**
							Total Wetlands Impacted (acres)		**2.73**	

NW = Non-Wet, NH = Non-hydric soil

Note: Wetlands marked as NW are NWI-mapped wetlands determined not to be present
-Impacts from Isolated or Exempt wetlands were not included in the project total.

Source: Waters of the U.S. and Preliminary Jurisdictional Wetland Determinations Summary Report

Table IV-5: Impacts to Ponds

ID	Tech Report ID	Station	Side	NWI / FSA	Soil Mapping	Impact Type	Isolated / Adjacent Waterway	Total Area (acres)	Impact (acres)
sw-54	p1	0520+00	South	PUBGh	NH	Fill	unnamed tributary of Clear Creek	6.65	0.86
sw-102	p2	0566+00	South	None	NH	Fill	Isolated	0.19	-
Pond-2	p3	0598+00	South	PUBGh	NH	Fill	Isolated	0.29	-
Pond-3	p4	0720+00	South	PUBGh	NH	Fill	Isolated	0.23	-
sw-56	p5	0778+50	South	PUBGx	NH	Fill	Isolated	0.14	-
sw-47	p6	0799+50	South	PUBGh	NH	Fill	unnamed tributary of Bear Creek	0.25	0.25
sw-48	p7	0801+50	South	PUBGh	NH	Fill	unnamed tributary of Bear Creek	0.09	0.09
pond-4	p8	0892+50	North	L1UBHh	NH	Fill	unnamed tributary of the Prices Branch of Bear Creek	23.16	0.19
sw-28	p9	0920+00	North	PUBGh	NH	Fill	Isolated	0.31	-
sw-17	p10	1021+00	South	PUBGh	NH	Fill	Isolated	0.21	-
sw-66	p11	1068+50	North	PUBFh	NH	Fill	Isolated	0.07	-
sw-30	p12	1088+00	North	PUBGh	NH	Fill	Isolated	0.44	-
							Montgomery County Total		**1.39**
sw-35	p13	1238+00	North	PUBGh	NH	Fill	Isolated	0.92	-
sw-67	p14	1241+00	North	PUBGh	NH	Fill	Isolated	0.21	-
sw-69	p15	1243+00	North	PUBGh	NH	Fill	unnamed tributary of the Yeater Branch of Big Creek	0.30	0.01
sw-49	p16	1247+00	South	PUBGh	NH	Fill	Isolated	0.25	-
sw-72	p17	1323+50	North	PUBGh	NH	Fill	Isolated	0.09	-
sw-12	p18	1435+00	North	PUBGh	NH	Fill	unnamed tributary of Big Creek	0.50	0.50
sw-75	p19	1575+00	North	PUBGh	NH	Fill	unnamed tributary of Hickory Lick Creek	5.22	0.02
ex-3	p20	1915+00	North	PUBGh	NH	Fill	Exempt - sewage pond	0.34	-
							Warren County Total		**0.53**
sw-105	p21	2059+00	South	PUBGh	NH	Fill	unnamed tributary of Peruque Creek	0.23	0.23
ex-6	p22	2114+00	South	None	NH	Fill	Exempt - sewage pond	0.02	-
							St. Charles County Total		**0.23**
							Project Total		**2.15**

NH = Non-Hydric Soil
**Impacts were not calculated for ponds that were determined to be isolated.*
Source: Waters of the U.S. and Preliminary Jurisdictional Wetland Determinations Summary Report

F. Findings

1. Only Practicable Alternative Wetland Finding

Implementation of the proposed action will result in the loss of approximately 2.7 acres (1.1 ha) of jurisdictional wetlands. The evaluation of these losses is contained in Chapter IV of the Draft EIS. In accordance with Executive Order 11990, avoidance and minimization of wetland impacts have been considered during project development, and design adjustments made where feasible. Because of geometric design considerations associated with widening of the existing highway, there are no practicable alternatives to the wetland impacts shown. Based on these considerations, it is determined that there is no practicable alternative to the proposed construction in wetlands and the proposed action includes all measures to minimize harm to wetlands which may result from such use.

As part of the merged NEPA/Section 404 process, a permit required by the Clean Water Act will be obtained from the U.S. Army Corps of Engineers prior to construction and wetland replacement will be provided for through this permit process. As the project progresses through the design process, subsequent permit actions may be required by the Corps of Engineers.

2. Only Practicable Alternative Floodplain Finding

Implementation of the proposed action will result in the loss of approximately 11.3 acres (4.3 ha) of floodplains. Because of geometric design considerations associated with widening of the existing highway, there are no practicable alternatives to the floodplain impacts shown. In accordance with Executive Order 11988 and 23 CFR 650, Subpart A, avoidance and minimization of floodplain impacts have been considered during project development and design adjustments made where feasible. The proposed action will conform to all applicable State floodplain protection standards. A hydraulic design study that addresses various structure size alternatives will be completed during the preliminary design phase.\