

## 1      **Contents**

### 2      **SECTION 1.0 Project Purpose and Need.....1-1**

3            1.1    Project Overview.....	1-1
4            1.2    Project Background.....	1-3
5              1.2.1   Population Trends .....	1-3
6              1.2.2   Existing Traffic Demands .....	1-3
7              1.2.3   Project History .....	1-5
8            1.3    Proposed Action .....	1-6
9            1.4    Project Purpose and Need .....	1-9
10          1.5    Scope.....	1-10
11          1.6    Public Involvement .....	1-11
12            1.6.1   NEPA Public Involvement Process.....	1-11
13            1.6.2   Notice of Intent .....	1-11
14            1.6.3   Scoping Process .....	1-12
15            1.6.4   Relevant Public Comments Addressed in the EIS .....	1-13
16            1.6.5   Additional Resource Areas to be Addressed in the EIS.....	1-14
17            1.6.6   Public Review of the Draft EIS.....	1-14
18            1.6.7   Final EIS .....	1-15
19            1.6.8   Record of Decision .....	1-15
20            1.7    Regulatory Authorities and Processes.....	1-15
21            1.8    Relevant Statutes and Executive Orders .....	1-17

### 22        **SECTION 2.0 Proposed Action and Alternatives.....2-1**

23            2.1    Alternatives Development and Screening .....	2-1
24              2.1.1   Description of Alternatives .....	2-1
25              2.1.2   Alternatives Screening Analysis .....	2-3
26            2.2    Alternatives Carried Forward for Impacts Analysis.....	2-8
27              2.2.1   No Build Alternative .....	2-8
28              2.2.2   Alternative B/O .....	2-8
29              2.2.3   Alternative J .....	2-8
30              2.2.4   Alternative P .....	2-10
31              2.2.5   Alternative Q.....	2-10
32            2.3    Alternatives Not Carried Forward for Further Analysis.....	2-10
33              2.3.1   Alternative A .....	2-10
34              2.3.2   Alternative C/D .....	2-10
35              2.3.3   Alternative E/F/G .....	2-11
36              2.3.4   Alternatives H, I, and L .....	2-11
37              2.3.5   Alternative K.....	2-11
38              2.3.6   Alternatives M and N .....	2-11
39            2.4    Summary of Alternatives .....	2-11

### 40        **SECTION 3.0 Affected Environment .....3-1**

41            3.1    Introduction .....	3-1
42              3.1.1   Project Area .....	3-1

1	3.1.2 Regional Geographic Setting and Location .....	3-1
2	3.1.3 Overview and History .....	3-1
3	3.1.4 Climate .....	3-3
4	3.2 Land Use and Land Cover.....	3-3
5	3.2.1 Historic Land Cover.....	3-4
6	3.2.2 Existing Land Use/Land Cover.....	3-4
7	3.2.3 Zoning.....	3-8
8	3.2.4 Future Land Use.....	3-10
9	3.3 Water Resources.....	3-13
10	3.3.1 Watershed Characterization and Drainage Patterns .....	3-13
11	3.3.2 Water Quality.....	3-18
12	3.3.3 Stormwater Management .....	3-26
13	3.4 Ecological and Biological Resources .....	3-27
14	3.4.1 Vegetative Communities.....	3-27
15	3.4.2 Wildlife and Fisheries .....	3-32
16	3.4.3 Threatened and Endangered Species and Habitats.....	3-34
17	3.4.4 Sensitive Terrestrial and Aquatic Habitats.....	3-39
18	3.4.5 Wetlands .....	3-44
19	3.5 Geology and Soils .....	3-49
20	3.5.1 Geologic setting and topography .....	3-49
21	3.5.2 Soils .....	3-49
22	3.5.3 Prime Farmland.....	3-54
23	3.6 Air Quality .....	3-57
24	3.6.1 Transportation Conformity .....	3-58
25	3.6.2 Climate and Greenhouse Gases.....	3-59
26	3.7 Noise .....	3-59
27	3.7.1 Noise Fundamentals.....	3-59
28	3.7.2 Regulatory Overview .....	3-60
29	3.7.3 Existing Conditions.....	3-61
30	3.8 Recreational Resources .....	3-63
31	3.8.1 Nature-Based Recreation .....	3-63
32	3.8.2 Hunting and Fishing.....	3-64
33	3.8.3 Recreation Districts.....	3-64
34	3.9 Traffic and Transportation .....	3-66
35	3.9.1 Existing Traffic Volumes.....	3-66
36	3.9.2 Capacity Analysis .....	3-66
37	3.10 Utilities.....	3-72
38	3.10.1 Water and Wastewater .....	3-72
39	3.10.2 Electrical .....	3-73
40	3.10.3 Telephone, Cable, and Internet .....	3-73
41	3.10.4 Oil and Gas .....	3-74
42	3.10.5 Drainage .....	3-74
43	3.11 Socioeconomics.....	3-74
44	3.11.1 Demographics .....	3-75
45	3.11.2 Economic Development.....	3-80
46	3.11.3 Housing .....	3-88

1	3.11.4 Quality of Life.....	3-89
2	3.11.5 Environmental Justice .....	3-102
3	3.11.6 Protection of Children.....	3-105
4	3.12 Aesthetic and Visual Resources .....	3-108
5	3.13 Cultural Resources .....	3-110
6	3.13.1 Prehistoric and Historic Background of the Project Area.....	3-112
7	3.13.2 Cultural Resources Compliance.....	3-114
8	3.13.3 Cultural Resources in the Project Area .....	3-114
9	3.13.4 Pending Investigations and Compliance.....	3-117
10	3.14 Hazardous and Toxic Materials.....	3-118
11	<b>SECTION 4.0 Environmental Consequences.....</b>	<b>4-1</b>
12	4.1 Introduction.....	4-1
13	4.1.1 Direct versus Indirect Impacts .....	4-1
14	4.1.2 Short-term versus Long-term Impacts .....	4-1
15	4.1.3 Cumulative Impacts .....	4-1
16	4.1.4 Intensity of Impacts.....	4-2
17	4.1.5 Significance.....	4-2
18	4.1.6 Rationale for Alternative Analysis.....	4-3
19	4.2 Land Use .....	4-3
20	4.2.1 No Build Alternative.....	4-3
21	4.2.2 Build Alternatives .....	4-4
22	4.3 Water Resources.....	4-6
23	4.3.1 No Build Alternative.....	4-6
24	4.3.2 Build Alternatives Analysis .....	4-7
25	4.4 Ecological Resources .....	4-27
26	4.4.1 No Build Alternative.....	4-27
27	4.4.2 Build Alternatives .....	4-27
28	4.5 Geology and Soils .....	4-46
29	4.5.1 No Build Alternative.....	4-46
30	4.5.2 Build Alternatives .....	4-46
31	4.6 Air Quality .....	4-48
32	4.6.1 No Build Alternative.....	4-48
33	4.6.2 Build Alternatives .....	4-48
34	4.7 Noise .....	4-49
35	4.7.1 No Build Alternative.....	4-49
36	4.7.2 Build Alternatives .....	4-49
37	4.8 Recreation Resources .....	4-56
38	4.8.1 No Build Alternative.....	4-56
39	4.8.2 Build Alternatives .....	4-56
40	4.9 Traffic and Transportation .....	4-58
41	4.9.1 Travel Time Analysis.....	4-59
42	4.9.2 No Build Alternative Analysis.....	4-61
43	4.9.3 Build Alternatives Analysis .....	4-69
44	4.9.3.2 Intersection Capacity Analysis.....	4-71
45	4.10 Utilities.....	4-79
46	4.10.1 No Build Alternative.....	4-79

1	4.10.2 Build Alternatives .....	4-79
2	4.11 Socioeconomics.....	4-80
3	4.11.1 No Build Alternative.....	4-81
4	4.11.2 Build Alternatives .....	4-85
5	4.11.3 Summary of Build Alternatives .....	4-93
6	4.12 Environmental Justice .....	4-95
7	4.12.1 No Build Alternative.....	4-96
8	4.12.2 Build Alternatives .....	4-96
9	4.13 Children's Environmental Health and Safey Risks.....	4-96
10	4.13.1 No Build Alternative.....	4-96
11	4.13.2 Build Alternatives .....	4-96
12	4.13.3 Summary of Impacts to Children's Health and Safety.....	4-97
13	4.14 Aesthetic and Visual Resources .....	4-97
14	4.14.1 No Build Alternative.....	4-97
15	4.14.2 Build Alternatives .....	4-97
16	4.15 Cultural Resources .....	4-98
17	4.15.1 No Build Alternative.....	4-98
18	4.15.2 Build Alternatives .....	4-98
19	4.16 Hazardous and Toxic Substances and Pollution.....	4-99
20	4.16.1 No Build Alternative.....	4-99
21	4.16.2 Build Alternatives .....	4-99
22	4.17 Summary of Consequences .....	4-100
23	4.18 Cumulative Impacts.....	4-100
24	4.18.1 Land Use .....	4-103
25	4.18.2 Water Resources .....	4-104
26	4.18.3 Ecological Resources .....	4-104
27	4.18.4 Geology and Soils .....	4-107
28	4.18.5 Air Quality .....	4-107
29	4.18.6 Noise .....	4-108
30	4.18.7 Recreation Resources.....	4-108
31	4.18.8 Traffic and Transportation .....	4-109
32	4.18.9 Utilities.....	4-109
33	4.18.10 Socioeconomic Impacts .....	4-109
34	4.18.11 Aesthetic and Visual Resources.....	4-110
35	4.19 Unavoidable Adverse Impacts .....	4-110
36	4.19.1 Land Use and Land Cover .....	4-110
37	4.19.2 Ecological Resources .....	4-110
38	4.19.3 Aesthetic and Visual Resources .....	4-111
39	4.20 Irreversible or Irretrievable Commitment of Resources.....	4-111
40	4.21 Mitigation Summary .....	4-111
41	4.21.1 Avoidance .....	4-111
42	4.21.2 Minimization.....	4-112
43	4.21.3 Compensation .....	4-120
44	<b>SECTION 5.0 Consultation and Coordination .....</b>	<b>5-1</b>
45	5.1 Public Involvement and Comments .....	5-1
46	5.2 Environmental Compliance.....	5-1

1	5.2.1	Clean Water Act – Section 401 Water Quality .....	5-1
2	5.2.2	Clean Water Act – Section 404 (b)(1) .....	5-1
3	5.2.3	Endangered Species Act of 1973 .....	5-1
4	5.2.4	Louisiana State Threatened and Endangered Species and Rare and Unique Habitats Coordination .....	5-1
5	5.2.5	Clean Air Act .....	5-2
6	5.2.6	National Historic Preservation Act of 1966 .....	5-2
7	5.3	Final Statement Recipients.....	5-2
8	5.4	Public Comments and Responses.....	5-2
9	5.5	Public Hearing Comments .....	5-2
10	5.6	Public Comments CoRrespondence .....	5-2
11			
12	<b>SECTION 6.0</b>	<b>List of Preparers .....</b>	<b>6-1</b>
13	<b>SECTION 7.0</b>	<b>Cooperating Agencies .....</b>	<b>7-1</b>
14	<b>SECTION 8.0</b>	<b>Public Involvement .....</b>	<b>8-1</b>
15	8.1	Scoping.....	8-1
16	8.2	Public Comments on the Draft EIS .....	8-1
17	8.3	Project Website .....	8-1
18	<b>SECTION 9.0</b>	<b>Acronym List.....</b>	<b>9-1</b>
19	<b>SECTION 10.0</b>	<b>Index.....</b>	<b>10-1</b>
20	<b>SECTION 11.0</b>	<b>References.....</b>	<b>11-1</b>
21			

## Tables

Table ES-1. Summary of potential physical, natural, and social environmental consequences.....	1-5
Table 1-1. Existing peak hour LOS estimates.....	1-4
Table 1-2. Categorization of scoping comments by subject matter .....	1-13
Table 1-3. Public libraries with copies of the Draft EIS .....	1-15
Table 2-1. Range of travel time savings (in minutes).....	2-5
Table 2-2. Existing peak hour LOS estimates.....	2-7
Table 2-3. Summary of alternatives.....	2-12
Table 3-1. Average temperature and precipitation, 1971–2000.....	3-3
Table 3-2. St. Tammany Parish land use types .....	3-5
Table 3-3. Hydrologic soil groups .....	3-16
Table 3-4. 2005 Land use land cover data .....	3-16
Table 3-5. Water quality attainment—Bogue Chitto River (state line to Pearl River Navigational Channel) .....	3-20
Table 3-6. Probable sources contributing to impairment—Bogue Chitto River.....	3-20
Table 3-7. Water quality attainment—Pearl River Navigation Channel (below Lock 3).....	3-20
Table 3-8. Probable sources contributing to impairment—Pearl River Navigation Channel (below Lock 3) .....	3-21
Table 3-9. Water quality attainment—Bogue Falaya River (headwaters to Tchefuncte River) .....	3-21
Table 3-10. Probable sources contributing to impairment—Bogue Falaya River (headwaters to Tchefuncte River) .....	3-21
Table 3-11. Water quality attainment—Bayou Lacombe (headwaters to US Hwy 190).....	3-22
Table 3-12. Probable sources contributing to impairment—Bayou Lacombe (headwaters to US Hwy 190) .....	3-22
Table 3-13. Water quality attainment—Bayou Lacombe (US Hwy 190 to Lake Pontchartrain).....	3-23
Table 3-14. Probable sources contributing to impairment—Bayou Lacombe (US Hwy 190 to Lake Pontchartrain).....	3-23
Table 3-15. Water quality attainment—Bayou Cane (headwaters to US Hwy 190) .....	3-23
Table 3-16. Probable sources contributing to impairment—Bayou Cane (headwaters to US Hwy 190) .....	3-24
Table 3-17. Water quality attainment—Bayou Cane (US Hwy 190 to Lake Pontchartrain).....	3-24
Table 3-18. Probable sources contributing to impairment—Bayou Cane (US Hwy 190 to Lake Pontchartrain).....	3-24
Table 3-19. Water quality attainment—Bayou Liberty (headwater to LA 433).....	3-25
Table 3-20. Probable sources contributing to impairment—Bayou Liberty (headwater to LA 433).....	3-25
Table 3-21. Water quality attainment—Lower Tchefuncte River (Bogue Falaya River to LA 22).....	3-26
Table 3-22. Probable sources contributing to impairment—Lower Tchefuncte River (Bogue Falaya River to LA 22).....	3-26
Table 3-23. Natural communities in the project area.....	3-27
Table 3-24. Federally listed species of potential occurrence in the project area .....	3-35
Table 3-25. Sensitive natural communities.....	3-41
Table 3-26. Protected sites in the project area .....	3-43
Table 3-27. Potential jurisdictional wetlands by type.....	3-48
Table 3-28. Soils in the project area .....	3-50

1	Table 3-30. Use and suitability of soils in the project area.....	3-55
2	Table 3-31. Prime farmland soils in the project area .....	3-57
3	Table 3-32. NAAQS and monitored air-quality concentrations for AQCR 106.....	3-58
4	Table 3-33. Common sound levels .....	3-60
5	Table 3-34. LADOTD Noise Abatement Criteria.....	3-60
6	Table 3-35. Existing peak period sound levels for roadways in the study area .....	3-63
7	Table 3-36. AM and PM peak LOS—roadway segments.....	3-69
8	Table 3-37. Peak LOS—unsignalized intersections .....	3-69
9	Table 3-38. Peak LOS—signalized intersections .....	3-71
10	Table 3-39. Geographic characteristics of ROI and comparison areas, 2000 .....	3-75
11	Table 3-42. Change in population and employment, ROI and comparison area, 2008– 2045.....	3-77
12	Table 3-43. Population levels and average annual growth rates for select towns and cities in the ROI, 1990–2008 .....	3-78
13	Table 3-44. Select racial and ethnic characteristics of ROI and comparison areas, 2008 .....	3-79
14	Table 3-45. Median age and average family size of ROI and comparison areas, 2008 .....	3-79
15	Table 3-46. Average education attainment <sup>a</sup> in the ROI and comparison areas, 2000.....	3-79
16	Table 3-47. Average travel time to work, ROI and comparison areas, 2000 <sup>a,b</sup> .....	3-80
17	Table 3-48. Persons living in poverty in the ROI and comparison areas, 2007.....	3-80
18	Table 3-49. Labor statistics in the ROI and comparison area, 2007–2009 .....	3-81
19	Table 3-50. Total full-time and part-time employment by NAICS industry, 2007 for the ROI and comparison area.....	3-83
20	Table 3-51. Large employers in the ROI <sup>a,b</sup> .....	3-85
21	Table 3-52. Residence county to worksite county flows, ROI, 2000 .....	3-86
22	Table 3-53. Income measures in ROI and comparison areas, 1969–2008 <sup>a</sup> , income measures in ROI, 1990–2008 <sup>a,b</sup> .....	3-87
23	Table 3-54. Housing characteristics, ROI and comparison areas, 2008 .....	3-88
24	Table 3-55. Annual building permits of new privately owned residential buildings, <sup>a</sup> ROI, 2004–2009 and January 2010.....	3-89
25	Table 3-56. Public school enrollment and grade levels, 2007–2008, ROI school districts .....	3-90
26	Table 3-57. Total revenue, by source, 2007–2008 for ROI school districts and comparison area .....	3-93
27	Table 3-58. Racial and ethnic characteristics of public school students and pupil/teacher ratios, ROI and comparison area, 2007–2008 .....	3-94
28	Table 3-59. Private school enrollment and grade levels, 2007–2008, ROI parishes .....	3-95
29	Table 3-60. Colleges and universities within 50 miles of Bush, Louisiana .....	3-96
30	Table 3-61. Full-time law enforcement employees in the ROI parishes, cities, and towns and comparison areas, 2008 .....	3-97
31	Table 3-62. Fire protection districts and departments in the ROI, 2008.....	3-98
32	Table 3-63. Physicians and dentists in private practice, 2005 and 2008, ROI and comparison areas .....	3-100
33	Table 3-64. Physicians and dentists in private practice per 1,000 residents, 2008, ROI and comparison areas .....	3-100
34	Table 3-65. Hospitals in St. Tammany and Washington Parishes, 2006 .....	3-101
35	Table 3-66. Poverty, race, and ethnic characteristics of ROI and comparison areas, 2000 .....	3-102
36	Table 3-67. Poverty, race, and ethnic characteristics of St. Tammany Parish, by census tract, 2000.....	3-103
37	Table 3-68. Poverty, race, and ethnic characteristics of Washington Parish, by census tract, 2000.....	3-104
38	Table 3-69. Children with risk factors, New Orleans metro area and comparison areas,	

1	2007.....	3-107
2	Table 3-70. Children in poverty in the ROI and comparison areas, 2007 .....	3-108
3	Table 3-71. Poverty status of persons in the ROI and comparison areas, 2007.....	3-108
4	Table 3-72. Scenic integrity definitions.....	3-109
5	Table 3-73. Previously recorded archaeological sites within one mile of the project area.....	3-115
6	Table 3-74. Standing structures more than 50 years old.....	3-116
7	Table 4-1. Principles of cumulative impacts analysis.....	4-2
8	Table 4-2. Alternative B/O land use converted to highway.....	4-4
9	Table 4-3. Alternative J land use/land cover converted to highway .....	4-5
10	Table 4-4. Alternative P land use converted to highway .....	4-6
11	Table 4-5. Alternative Q land use converted to highway.....	4-6
12	Table 4-6. Length of new roadway constructed on undeveloped land .....	4-14
13	Table 4-7. Direct wetland impacts within the 250 ft right-of-way of each alternative .....	4-14
14	Table 4-8. Inundation impact: 3 days inundation duration .....	4-16
15	Table 4-9. Inundation impact: 5 days inundation duration .....	4-16
16	Table 4-10. Inundation impact: 7 days inundation duration .....	4-16
17	Table 4-11. Hydrologic drought impact: 3 days hydrologic drought duration .....	4-17
18	Table 4-12. Hydrologic drought impact: 5 days hydrologic drought duration .....	4-18
19	Table 4-13. Hydrologic drought impact: 7 days hydrologic drought duration .....	4-18
20	Table 4-14. Frequency storm precipitation.....	4-21
21	Table 4-15. Water level fluctuations impact for the 100-year storm .....	4-21
22	Table 4-16. Water level fluctuations impact for the 25-year storm .....	4-22
23	Table 4-17. Water level fluctuations impact for the 2-year storm .....	4-22
24	Table 4-18. Indirect wetland impacts acreages .....	4-23
25	Table 4-19. Alternative B/O land cover converted to highway .....	4-33
26	Table 4-20. Direct wetland impacts for alternative B/O .....	4-34
27	Table 4-21. Alternative B/O indirect wetland impacts .....	4-35
28	Table 4-22. Alternative J land cover converted to highway .....	4-35
29	Table 4-23. Direct wetland impacts for Alternative J .....	4-36
30	Table 4-24. Alternative J indirect wetland impacts .....	4-40
31	Table 4-25. Alternative P land cover converted to highway .....	4-41
32	Table 4-26. Direct wetland impacts for Alternative P .....	4-42
33	Table 4-27. Alternative P indirect wetland impacts .....	4-43
34	Table 4-28. Alternative Q land cover converted to highway .....	4-43
35	Table 4-29. Direct wetland impacts for alternative Q .....	4-44
36	Table 4-30. Alternative Q indirect wetland impacts .....	4-46
37	Table 4-31. Sound levels - No Build Alternative (2035) .....	4-49
38	Table 4-32. Noise levels associated with outdoor construction .....	4-50
39	Table 4-33. Sound levels for all alternatives.....	4-51
40	Table 4-34. Roadway Segments - LOS and capacity analysis results, base and no build conditions .....	4-66
41	Table 4-35. Intersections - LOS and capacity analysis results, base and no build conditions: am peak.....	4-67
42	Table 4-36. Intersections - LOS and capacity analysis results, base and no build conditions: PM Peak .....	4-68
43	Table 4-37. Build alternative intersection recommendations .....	4-72
44	Table 4-38. Intersections - LOS and capacity analysis results: am peak .....	4-73
45	Table 4-39. Intersections - LOS and capacity analysis results: pm peak .....	4-74
46	Table 4-40. No build alternative - baseline population in the ROI (2010 to 2050) .....	4-81
47	Table 4-41. Baseline employment in the ROI (2010 to 2050).....	4-83

1	Table 4-42. Baseline real personal income per capita in ROI (2010 to 2050).....	4-84
2	Table 4-43. Project-related changes in population in the ROI, pre-construction (2015 to	
3	2018) .....	4-86
4	Table 4-44. Project-related changes in population in ROI, construction and post-	
5	construction (2020 to 2045) .....	4-87
6	Table 4-45. Project-related changes in employment in ROI, pre-construction (2015 to	
7	2018) .....	4-88
8	Table 4-46. Project-related changes in employment in ROI, construction and post-	
9	construction (2020 to 2045) .....	4-89
10	Table 4-47. Project-related changes in regional GDP in ROI, pre-construction (2015 to	
11	2018) .....	4-90
12	Table 4-48. Project-related changes in regional GDP in ROI, construction (2020 to 2045) ....	4-91
13	Table 4-49. Project-related changes in real personal per capita income in ROI, pre-	
14	construction (2015 to 2018) .....	4-92
15	Table 4-50. Project-related changes in real personal per capita income in ROI,	
16	construction (2020 to 2045) .....	4-93
17	Table 4-51. Summary of potential physical, natural, and social environmental	
18	consequences.....	4-101
19	Table 4-52. Bridge and culvert crossings for the build alternatives .....	4-112
20	Table 4-53. Minimum cost for noise barriers - Alternative B/O.....	4-117
21	Table 4-54. Minimum cost for noise barriers - Alternative J.....	4-117
22	Table 4-55. Minimum cost for noise barriers - Alternative P .....	4-118
23	Table 4-56. Minimum cost for noise barriers - Alternative Q .....	4-119
24	Table 4-57. Direct and indirect wetland mitigation acreage .....	4-120
25	Table 4-58. Alternative B/O relocation cost summary .....	4-121
26	Table 4-59. Alternative J relocation cost summary .....	4-121
27	Table 4-60. Alternative P relocation cost summary.....	4-122
28	Table 4-61. Alternative Q Relocation Cost Summary .....	4-122

## Figures

30	Figure 1-1. General site location.....	1-2
31	Figure 1-2. Typical section. ....	1-7
32	Figure 2-1. Alternatives considered.....	2-2
33	Figure 2-2. Alternatives carried forward for impacts analysis.....	2-9
34	Figure 3-1. Project area.....	3-2
35	Figure 3-2. St. Tammany Parish land use.....	3-6
36	Figure 3-3. St. Tammany Parish zoning. ....	3-9
37	Figure 3-4. St. Tammany future land use.....	3-12
38	Figure 3-5. USGS hydrologic codes and LiDAR for St. Tammany Parish. ....	3-13
39	Figure 3-6. Flow direction, channel network, and subbasin outlets.....	3-14
40	Figure 3-7. Hydrologic drainage basins.....	3-15
41	Figure 3-8. Major aquifers in Louisiana. ....	3-17
42	Figure 3-9. LDEQ water quality assessed watersheds. ....	3-19
43	Figure 3-10. Natural communities. ....	3-28
44	Figure 3-11. Federally listed threatened and endangered species of potential occurrence. ....	3-36
45	Figure 3-12. Scenic rivers designations. ....	3-40
46	Figure 3-13. Sensitive areas. ....	3-42
47	Figure 3-14. St. Tammany Parish wetlands inventory.....	3-47

1	Figure 3-15. Soils.....	3-52
2	Figure 3-16. Noise receptors in the project area.....	3-62
3	Figure 3-17. Recreation districts.....	3-65
4	Figure 3-18. Major roads.....	3-67
5	Figure 3-19. Water and sewer service providers in St Tammany Parish.....	3-72
6	Figure 3-20. LA 435: Looking westbound near Talisheek.....	3-73
7	Figure 3-21. Oil and gas transmission lines.....	3-74
8	Figure 3-22. Census tracts in Washington and St. Tammany Parishes.....	3-106
9	Figure 3-23. Areas of development.....	3-111
10	Figure 4-1. Alternative B/O – structural crossings and hydrologic basins .....	4-9
11	Figure 4-2. Alternative J – structural crossings and hydrologic basins .....	4-10
12	Figure 4-3. Alternative P – structural crossings and hydrologic basins.....	4-11
13	Figure 4-4. Alternative Q – structural crossings and hydrologic basins.....	4-12
14	Figure 4-5. Wetland areas identified by hydric soil and LiDAR data .....	4-13
15	Figure 4-6. Precipitation statistics and average monthly precipitation .....	4-15
16	Figure 4-7. Schematic of how the impact on ponding and drought was computed .....	4-15
17	Figure 4-8. Inundation Impact Analysis .....	4-19
18	Figure 4-9. Hydrologic Drought Impact Analysis .....	4-20
19	Figure 4-10. Wetland areas that experienced changes in water level fluctuations .....	4-25
20	Figure 4-11. Indirect wetland impacts .....	4-26
21	Figure 4-12. Alternatives J and Q direct impacts to Mossy Hill Mitigation Bank .....	4-37
22	Figure 4-13. Alternatives J, P, and Q direct impacts to Dolly-T Mitigation Bank .....	4-38
23	Figure 4-14. Alternative B/O – increased noise levels greater than 10 dBA .....	4-53
24	Figure 4-15. Alternative J – increased noise levels greater than 10 dBA .....	4-54
25	Figure 4-16. Alternative P – increased noise levels greater than 10 dBA .....	4-55
26	Figure 4-17. Alternative Q – increased noise levels greater than 10 dBA .....	4-57
27	Figure 4-18. Existing traffic routes and alternatives.....	4-60
28	Figure 4-19. 2015 Projected traffic volumes - No Build (north) .....	4-62
29	Figure 4-20. 2015 Projected traffic volumes - No Build (south) .....	4-63
30	Figure 4-21. 2035 Projected traffic volumes - No Build (north) .....	4-64
31	Figure 4-22. 2035 Projected traffic volumes - No Build (south) .....	4-65
32	Figure 4-23. 2035 Projected no build capacity constraints .....	4-70
33		

34

## Appendices

35	Appendix A	Public Involvement Plan
36	Appendix B	Notice of Intent
37	Appendix C	Threatened and Endangered Species Report
38	Appendix D	Highway Noise Study
39	Appendix E	Traffic Study
40	Appendix F	Economic Study
41	Appendix G	Hydrology and Hydraulics Report
42	Appendix H	Waters of the U.S. Delineation Reports
43	Appendix I	Direct Wetland Impact Figures
44	Appendix J	Line and Grade Study
45	Appendix K	Section 404(b)(1) Evaluation
46	Appendix L	Scoping Report