

Lakeshore Extension Study: APPLE

Feasibility of Extending Lakeshore Parkway from SR-150 to the I-459/CR-52 (Exit 6) Interchange

Advance Planning, Programming and Logical Engineering Program (APPLE)

PREPARED FOR:



ALABAMA DEPARTMENT OF TRANSPORTATION
Enriching Lives in Alabama through Excellence in Transportation

ON BEHALF OF:



PREPARED BY:

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1.0 Introduction and Summary

An APPLE study was prepared by Neel-Shaffer, Inc. for the Alabama Department of Transportation (ALDOT) through the Regional Planning Commission of Greater Birmingham (RPCGB) to evaluate the feasibility of extending lakeshore Parkway from SR-150 to the I-459/CR-52 Interchange. The study scope included the review of previous engineering analysis, evaluate potential new alignments, develop planning level conceptual drawings, identify potential environmental impacts, develop right of way needs and develop an estimate of probable construction costs. A vicinity map of the study area is shown in Figure 1.

2.0 Study Area

The study area extends from the current end of Lakeshore Parkway at its intersection with SR-150 and proceeds southerly to the I-459 interchange (Exit 6) with Morgan Road. Refer to Figure 1 for a vicinity map of the study area. A large percentage of the study area lies in the Little Shades Creek and Shades Creek



Figure 1 – Vicinity Map of the Study Area

floodplains. The floodplain areas are low and extremely wet. The majority of the study area is sloping terrain. The upland areas adjacent to the water sources have been subject to timber harvesting in the past. The areas not presently clear cut are mostly second growth mixed forest.

Along Morgan Road, the area is characterized as mixed residential and commercial properties. Morgan Road traverses through the Hopewell community which lies within the City of Bessemer. The areas west of Morgan Road are old, established residential properties that date back to the turn of the century during the coal mining era. The historic Sadler Cemetery is located just west of Morgan Road and has grave sites of pioneer settlers to the area.

3.0 Study Approach

Available GIS data and aerial mapping were furnished by the RPCGB to use as the base mapping for the study. A digital terrain model of the study area was obtained from the GIS data for use in developing vertical profiles and cross sections of each alternate. Property lines from the GIS tax map information were added to the study base mapping for display.

Digital files for the previously studied Morgan Road alternate (Alternate A) and the selected New Location Alternate (Alternate B) were furnished by ALDOT (Refer to Appendix A, Page A-1). The alternate alignments were displayed on the base mapping for use in developing a footprint for impacts analysis. A multi-lane typical section was developed for each alternate. The typical section developed for the alternate utilizing Morgan Road (Alternate A) consisted of a five (5) lane, curb and gutter section. The curb and gutter typical section was utilized on the Morgan Road alternate in order to minimize right of way impacts as well as utility relocation costs. The Alternate B (New Location) typical section consisted of a divided four (4) lane roadway section with a 54' wide depressed median. Both alternates would also include provisions for a multi-use path.

Alternate A (Morgan Road) and Alternate B (New Location) alignments were modeled, and nominal right of way limits developed, to determine the impact footprint of each alternate. The Alternate B alignment was adjusted where it crosses Shades Creek in order to minimize both floodplain and wetland impacts.

4.0 Previous Studies

In the year 1997 timeframe, a corridor and environmental study was conducted by a consultant for the Alabama Department of Transportation to develop alternatives for the Lakeshore Extension. The study considered three alternates for extending Lakeshore Parkway to the south from its current end at SR-150 to the I-459 Interchange (Exit 6), a distance of approximately 3.1 miles. One alternate studied provided for a connection to Morgan Road and following the existing roadway alignment to the I-459 interchange. The other two alternates studied were on new location and essentially congruent except at the southern end at the I-459 interchange. A new location alternate was selected and approved in the NEPA documentation and subsequently placed in the Birmingham Regional Transportation Plan.

The Lakeshore Extension is currently included in the Birmingham 2040 Regional Transportation Plan as a Visionary Plan Capacity Project with an estimated total cost of \$35,735,063.00. See Regional Transportation Plan Table 3 excerpt in Figure 2.

TABLE 3. Visionary Plan Capacity Projects sorted by Sponsor, then by Map ID

Sponsor	MAP (MPO) ID	Non-Exempt Project Descriptions	Lane Before	Lane After	Length	Regional Significant	ALDOT Project #	Scope	Type of Work	Potential Funding Program	Total Cost	Federal Cost
Jefferson County	114	Lakeshore Parkway Extension from SR-150 to I-459	0	4	3.10	No	100046957	PE	Base and Pave	STBHH	\$142,331	\$113,865
Jefferson County	114	Lakeshore Parkway Extension from SR-150 to I-459	0	4	3.10	No	100007562	UT	Grade, Drain, Base, Pave & Bridge	BHST	\$3,509,576	\$2,807,661
Jefferson County	114	Lakeshore Parkway Extension from SR-150 to I-459	0	4	3.10	No	100046956	CN	Grade and Drain	STBHH	\$12,055,451	\$9,644,361
Jefferson County	114	Lakeshore Parkway Extension from SR-150 to I-459	0	4	3.10	No	100046954	CN	Base and Pave	STBHH	\$20,027,705	\$16,022,164

Figure 2 – Table 3 excerpt from Birmingham 2040 Regional Transportation Plan

5.0 Environmental Impacts Screening

The study alternatives were screened for potential environmental impacts to be considered in the selection of a preferred alternate.

Cultural Resources

A cultural resources survey was performed the University of Alabama, Office of Archaeological Services (OAS), in June 1997. The survey covered the entire study area including the Morgan Road and new location alternates. The survey found that in general, the project area is considered to be extremely disturbed due to the continuing urbanization of the Birmingham area. A large percentage of the study area is low and extremely wet around Little Shades Creek and Shades Creek. The upland areas close to the water sources have been subject to timber harvesting in the past thus exposing the soils to sheet erosion. Prior to the survey, the area was considered to have moderate to high probability of containing archaeological sites. However, upon field inspection, the study area was reclassified as low probability considering the amount of disturbed areas. The pedestrian survey searched for aboriginal occupation areas and historic dwelling area concluded that no cultural resources were found to be present. As a result of the survey, no cultural resources were found to be present.

The previous cultural resources survey however, does not meet current Alabama Historical Commission standards since standing structures within the study area were not surveyed. A recent desktop survey performed by the University of Alabama OAS found that there are 40 – 50 structures in the Hopewell Community along the Morgan Road alternate that need to be surveyed to determine potential historical significance. The new location alternate would not impact any structures that are potentially historic.

Floodplain and Wetlands

A substantial portion of the study is in the Little Shades Creek and Shades Creek floodplains. A review of the National Wetland Inventory maps found that the wetland areas are basically in the floodplain (Refer to Appendix A, Page A-1 and A-3). Alternate A widening of Morgan Road would impact approximately 3.0 acres of wetlands. Alternate B on new location would impact approximately 13.0 acres of wetlands. Due to the amount of wetlands impacted, both alternates would require obtaining a Corps of Engineers Individual Permit. Mitigation will be required by obtaining credits from a wetland mitigation bank.

Environmental Justice

A cursory review was made of the communities and populations that border the study area that could potentially be adversely affected by the alternates under consideration. Adverse effects may include physical effects (air impacts, noise impacts, water pollution or destruction of natural resources); mobility and safety effects; and social and economic effects (disruption of community cohesion and displacement of households).

A review of the demographic data from the US Census Bureau 2010 data indicates that a minority population exists within the study area. The data indicates that approximately 25.3% of the study area population is minority (Black or African American). By comparison, the minority percentage of the study area population is lower than the 31.5% percentage for the State of Alabama and 46.9% for Jefferson County.

A comparison of the median household income data from the US Census Bureau with the 2017 HHS Poverty Guidelines. The Median Household Income level for the study area is \$38,750 which is higher than the HHS Poverty Guideline threshold \$16,240 for the study area. This indicates that a low-income population does not exist within the study area.

The data indicates a minority population does exist within the study area however a low-income population does not exist within the study area. The proposed extension of Lakeshore Parkway through the study area should not have an adverse effect and will not be disproportionate on an Environmental Justice population.

Hazardous Materials

A field reconnaissance of the study area was conducted to observe the current uses of properties within, and in close proximity to the alternates under study.

Along Alternate A (Morgan Road), the study area is primarily residential on the northern half of the alternate with commercial properties on the southern half of the alternate. Potential hazardous materials sites observed along Alternate A included seven (7) current or former gas stations and one (1) auto repair shop. In addition, twenty-three (23) residences would be acquired and due to the age of the residences they may have asbestos construction materials as potential hazardous materials that would require proper removal and disposal.

Along Alternate B (New Location), the study area is primarily open, forested, upland on the northern end of the alternate. The southern half of Alternate B is mixed use residential and commercial properties. Potential hazardous materials sites observed along Alternate B included eight (8) residences that would be acquired and due to the age of the residences they may have asbestos construction materials as potential hazardous materials that would require proper removal and disposal.

6.0 Alternates Comparison

The following table provides a cost and impact comparison of the two alternates under consideration. (Refer to Appendix B for right of way map and cost estimates and Appendix C for construction cost estimates).

	Alternate A Morgan Road	Alternate B New Location
Bridge Length (feet)	550	1,880
Roadway Length (feet)	19,976	18,850
Total Length (mile)	3.89	3.93
Wetland/Floodplain Impact (acres)	3	13
Potential Hazardous Materials/Sites	31	8
No. of Right of Way Tracts Impacted	119	37
No. of Residential Displacements	23	9
No. of Commercial Displacements	1	1
Required Right of Way (acres)	57	111
Right of Way Cost	\$8,291,450	\$10,607,600
Utility Cost	\$10,944,925	\$864,808
Preliminary Engineering	\$5,018,000	\$6,461,783
Construction Cost and Indirects	\$37,072,127	\$47,738,558
Total Cost	\$61,326,502	\$65,672,749

Construction Phasing

Alternate A can be constructed in four immediately usable phases if funding isn't readily available for the entire project (Refer to layout map in Appendix B, Page B-1). The construction limits developed for the four phases of Alternate A are:

Phase 1 – Extend Lakeshore Parkway from it's current end at SR-150 on new location to tie to Morgan Road near Dublin Lane, a distance of approximately 0.94 miles.

Estimated total cost - \$10,691,427

Phase 2 – Extend widening along Morgan Road from Dublin Lane to near Hopewell Road, a distance of approximately 1.11 miles.

Estimated total cost - \$18,502,882

Phase 3 – Extend widening along Morgan Road from Hopewell Road to near Winchester Drive, a distance of approximately 0.46 miles.

Estimated total cost - \$12,148,072

Phase 4 – Extend widening along Morgan Road from Winchester Drive to the I-459 interchange, a distance of approximately 1.38 miles.

Estimated total cost - \$19,984,121

Alternate B does not have the opportunity to be constructed in segments and will need to be constructed in its entirety in order to have a usable section that can be opened to traffic. The construction of Alternate B however, can be done in three stages consisting of Grade and Drain, Bridges and Base and Pave. Staged construction total costs for Alternate B are:

Grade and Drain - Estimated total cost - \$23,396,104

Bridges - Estimated total cost - \$24,438,985

Base and Pave - Estimated total cost - \$17,837,660

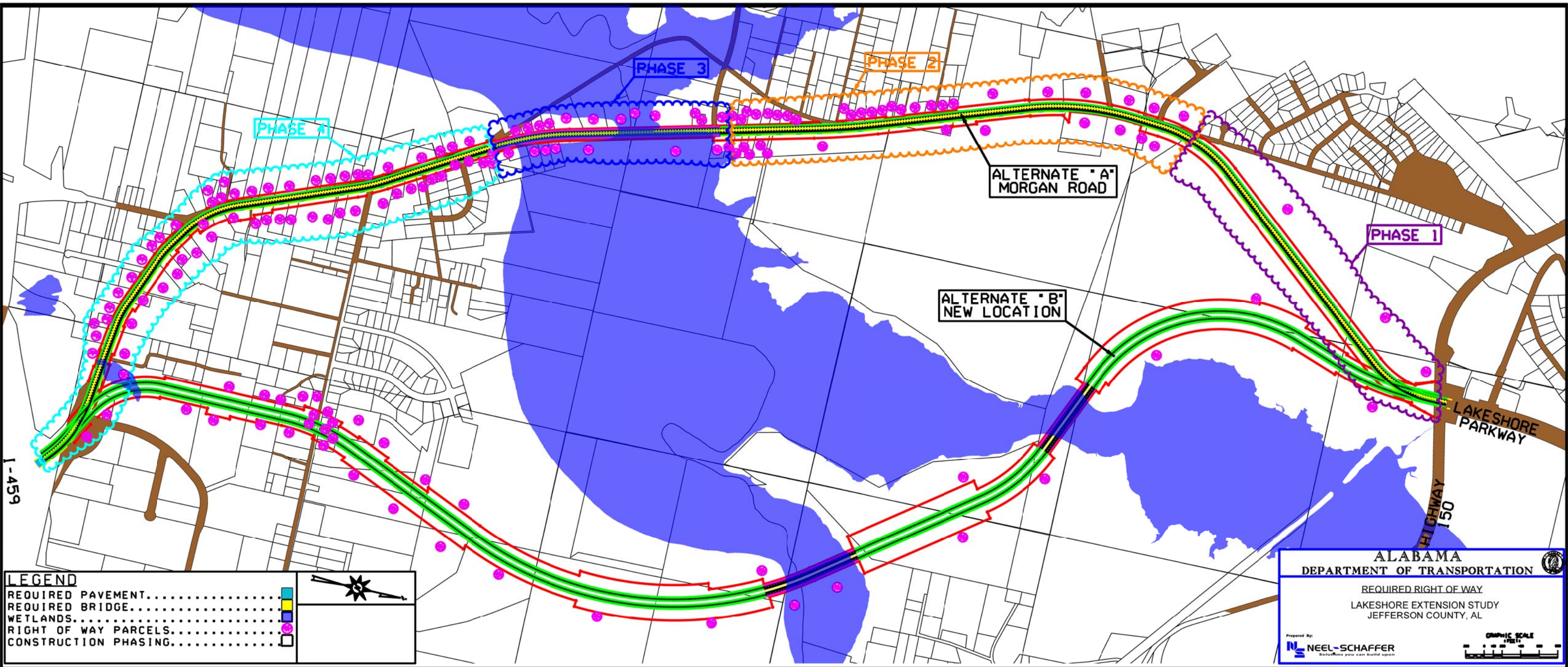
7.0 Conclusion

The study has resulted in the identification of the advantages and disadvantages that differentiate the two alternates under study. Total cost of the alternates is not significantly different from each other (less than 7%) and should not be used solely for selection of the preferred alternate. Alternate A (Morgan Road) will have more right of way impacts and displacements to both residential and commercial properties than Alternate B (New Location). Both alternates will have impacts on the Little Shades Creek and Shades Creek floodplains and associated wetlands which however, can be mitigated through credits from wetland banking. Alternate A does have an advantage in that it can be constructed in useable phases and be constructed as funding becomes available. Alternate B on the other hand can be constructed in stages but will not be useable to open to traffic until it is constructed in its entirety.

From an overall operational standpoint, for Alternate A to function efficiently, access management improvements will need to be made due to the many driveways and commercial entrances that currently exist along Morgan Road. Alternate B can provide a higher level of service than Alternate A if appropriate access management is provided in the initial design and maintained through appropriate crossover/driveway spacing.

Based on this information, the cost differential may not drive the decision, but rather other impacts and the desire to develop useable sections more quickly.

APPENDIX A



LEGEND

- REQUIRED PAVEMENT.....
- REQUIRED BRIDGE.....
- WETLANDS.....
- RIGHT OF WAY PARCELS.....
- CONSTRUCTION PHASING.....

ALABAMA
 DEPARTMENT OF TRANSPORTATION

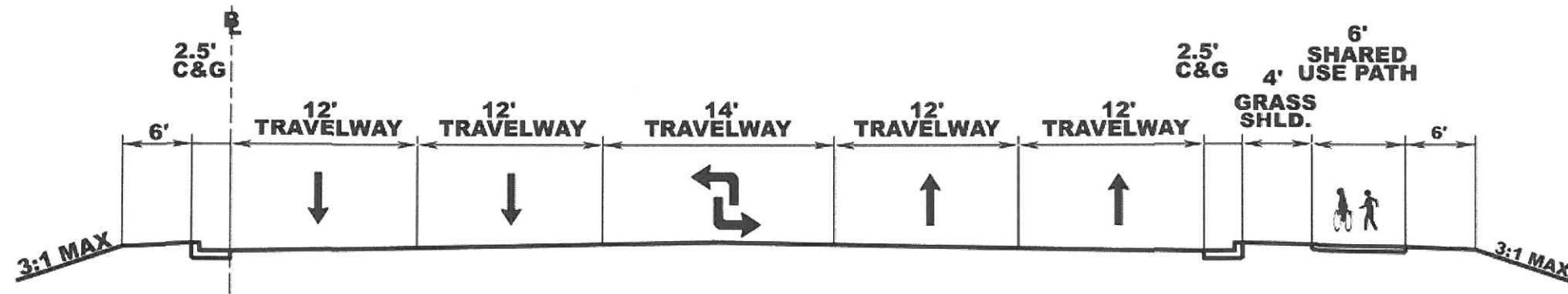
REQUIRED RIGHT OF WAY
 LAKESHORE EXTENSION STUDY
 JEFFERSON COUNTY, AL

Prepared By:
 NEEL-SCHAFFER
 Solutions you can build upon

GRAPHIC SCALE
 1" = 100'

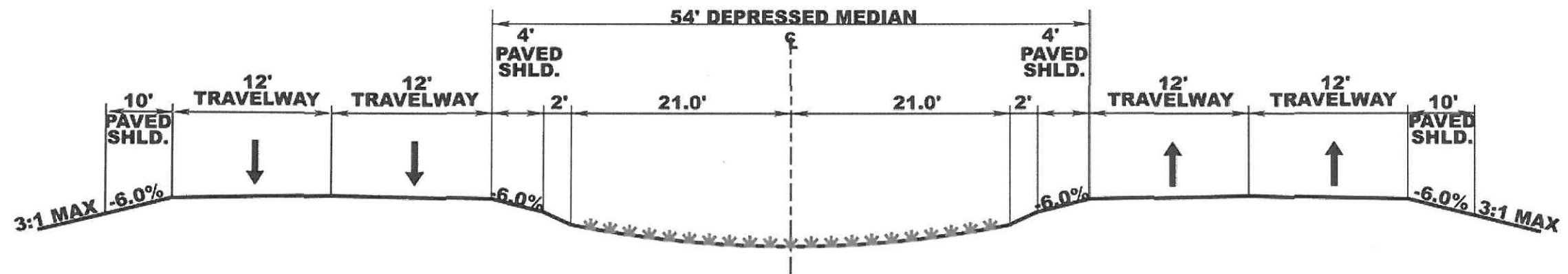
TYPICALS

ALTERNATE "A" MORGAN ROAD



TYPICAL SECTION - ALTERNATE A (NOT TO SCALE)

ALTERNATE "B" NEW LOCATION



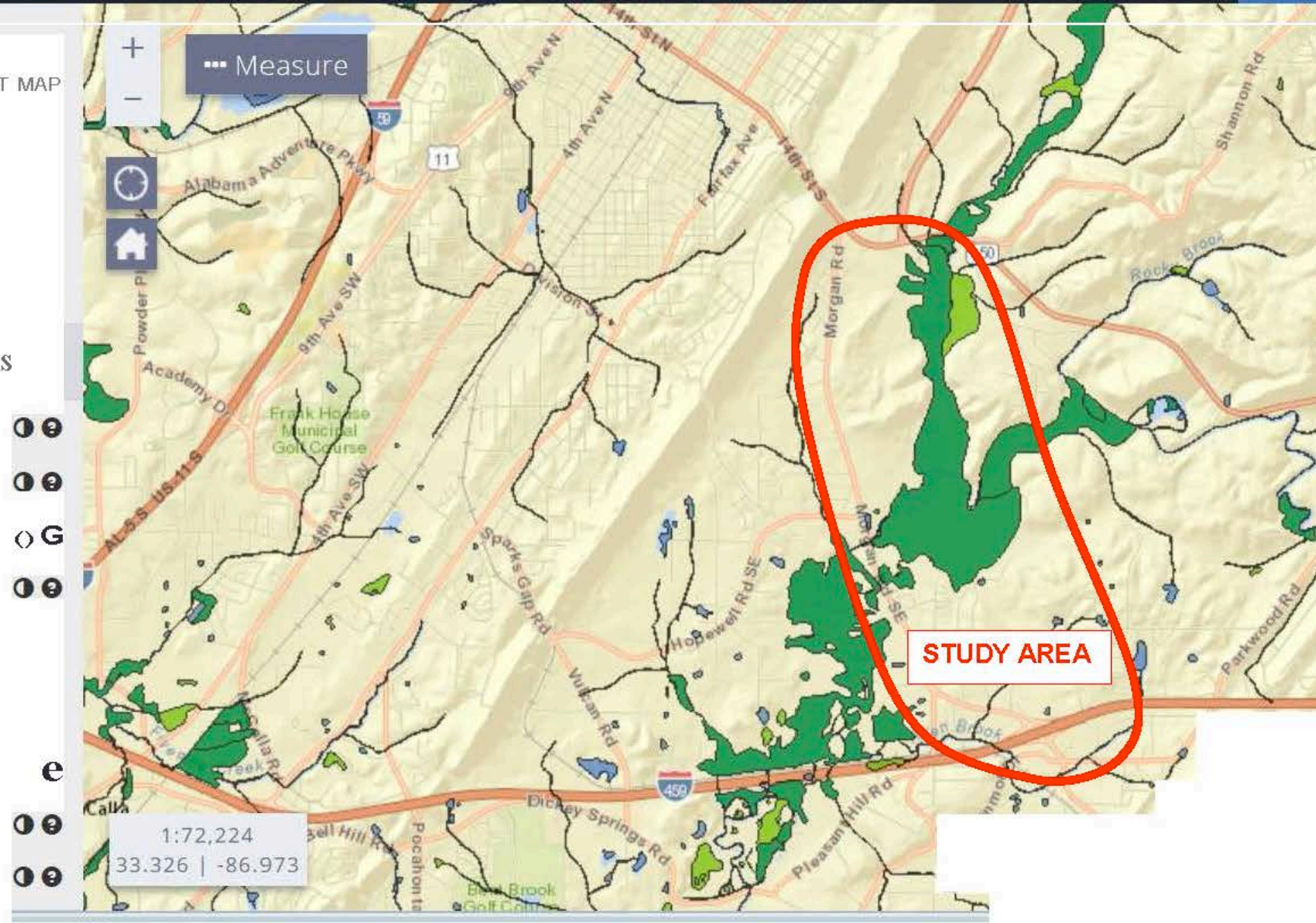
TYPICAL SECTION - ALTERNATE B (NOT TO SCALE)



- GRAY
- OPEN STREET MAP
- NATGEO
- USGS TOPO
- NATL MAP

MAP LAYERS

- Wetlands
- Riparian
- Riparian Mapping Areas
- Data Source
 - Source Type
 - Image Scale
 - Image Year
- Areas of Interest
- PNS Refuges
- Historic Wetland Data



LEGEND

- Wetlands**
- Wetlands
 - Estuarine and Marine
 - Deepwater
 - Estuarine and Marine Wetland
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub
 - Wetland
 - Freshwater Pond
 - Lake
 - Other

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Search Documents and



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U.S. Fish and Wildlife Service, National Standards and Support Team, wetlands_team@fws...

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• Adobe Flash™ is required to access the Wetlands Mapper V1. Please visit the Adobe Flash Player website to download the latest version of the player. Adobe Flash is a trademark from Adobe Systems Incorporated.



LEGEND

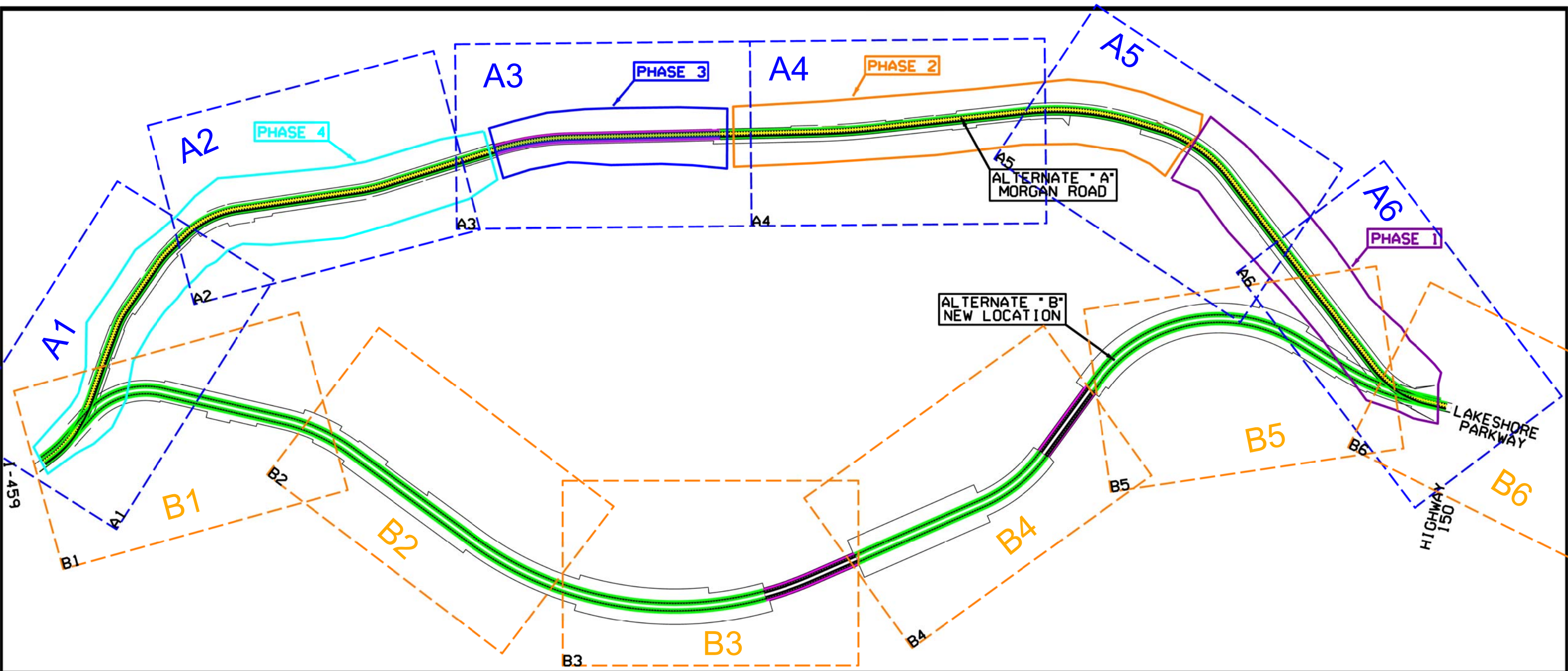
EXISTING PAVEMENT TO BE RETAINED.....	
REQUIRED PAVEMENT.....	
REQUIRED BRIDGE.....	
REQUIRED SIDEWALK.....	
REQUIRED RETAINING WALL.....	
EXISTING RIGHT OF WAY.....	
CONSTRUCTION PHASING.....	

ALABAMA
DEPARTMENT OF TRANSPORTATION

CONSTRUCTION PHASING
 LAKESHORE EXTENSION STUDY
 JEFFERSON COUNTY, AL

Prepared By
NEEL-SCHAFFER
ARCHITECTS ENGINEERS PLANNERS

GRAPHIC SCALE

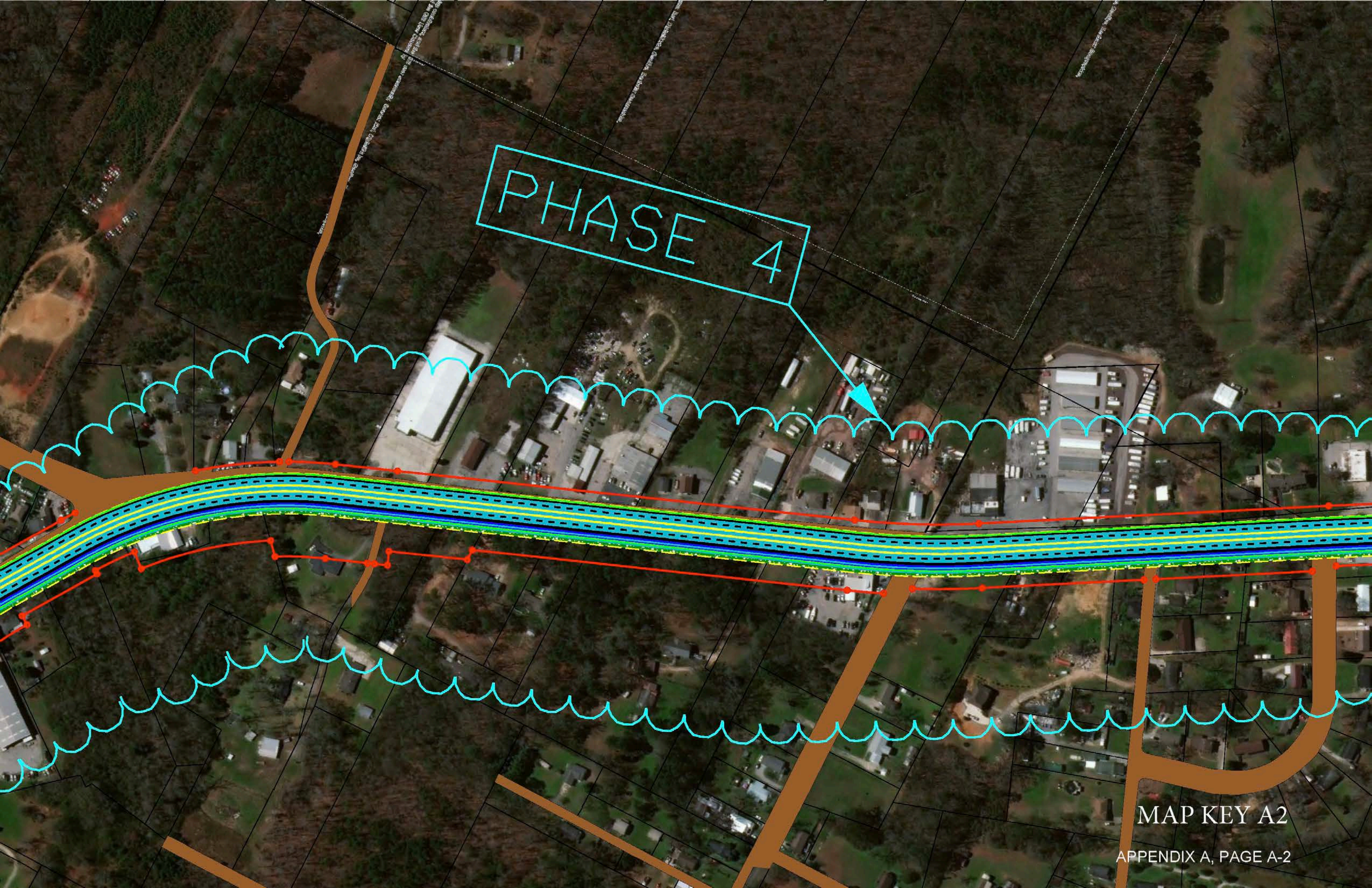


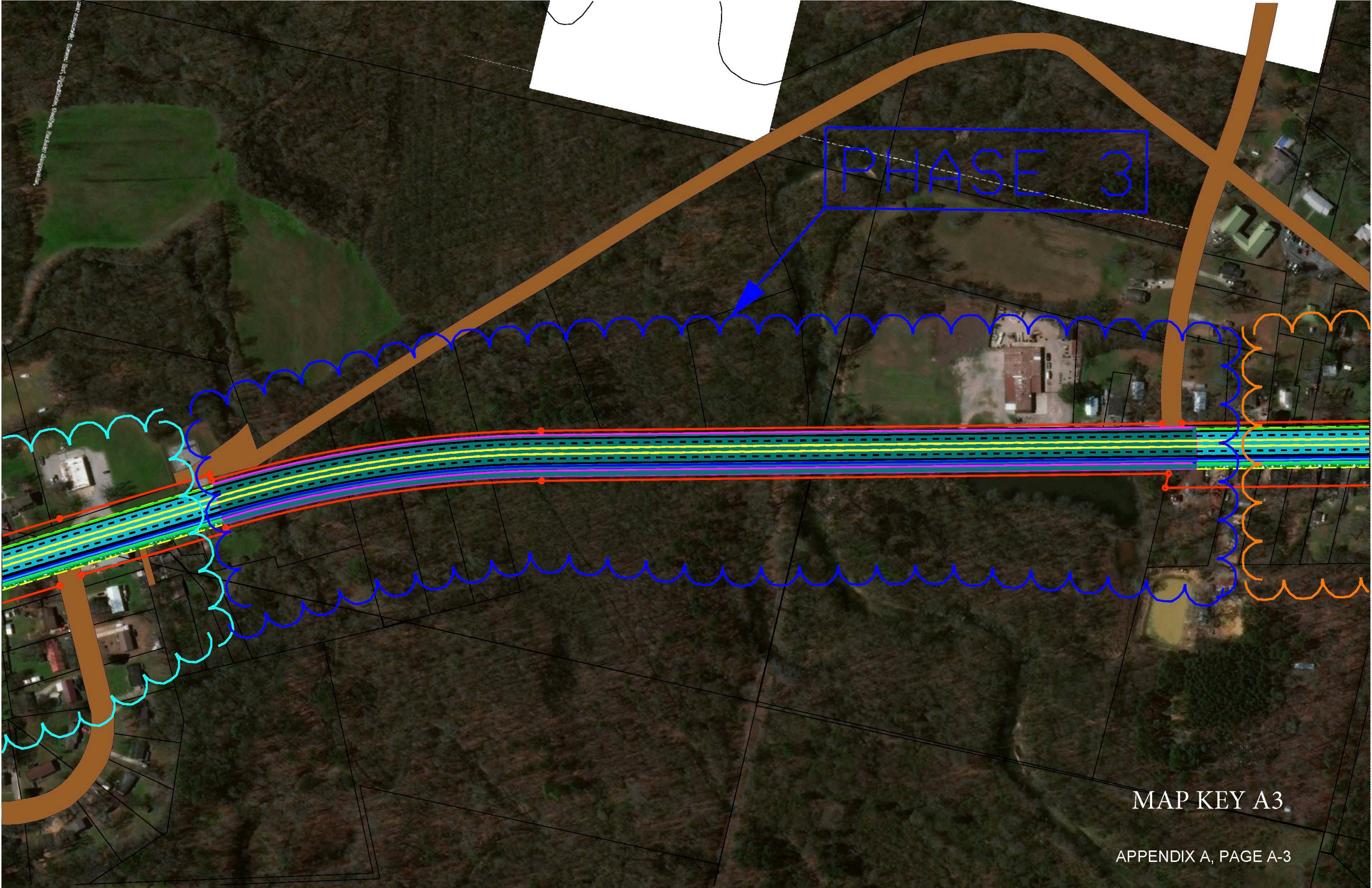
AERIAL MAP KEY



MAP KEY A1

PHASE 4

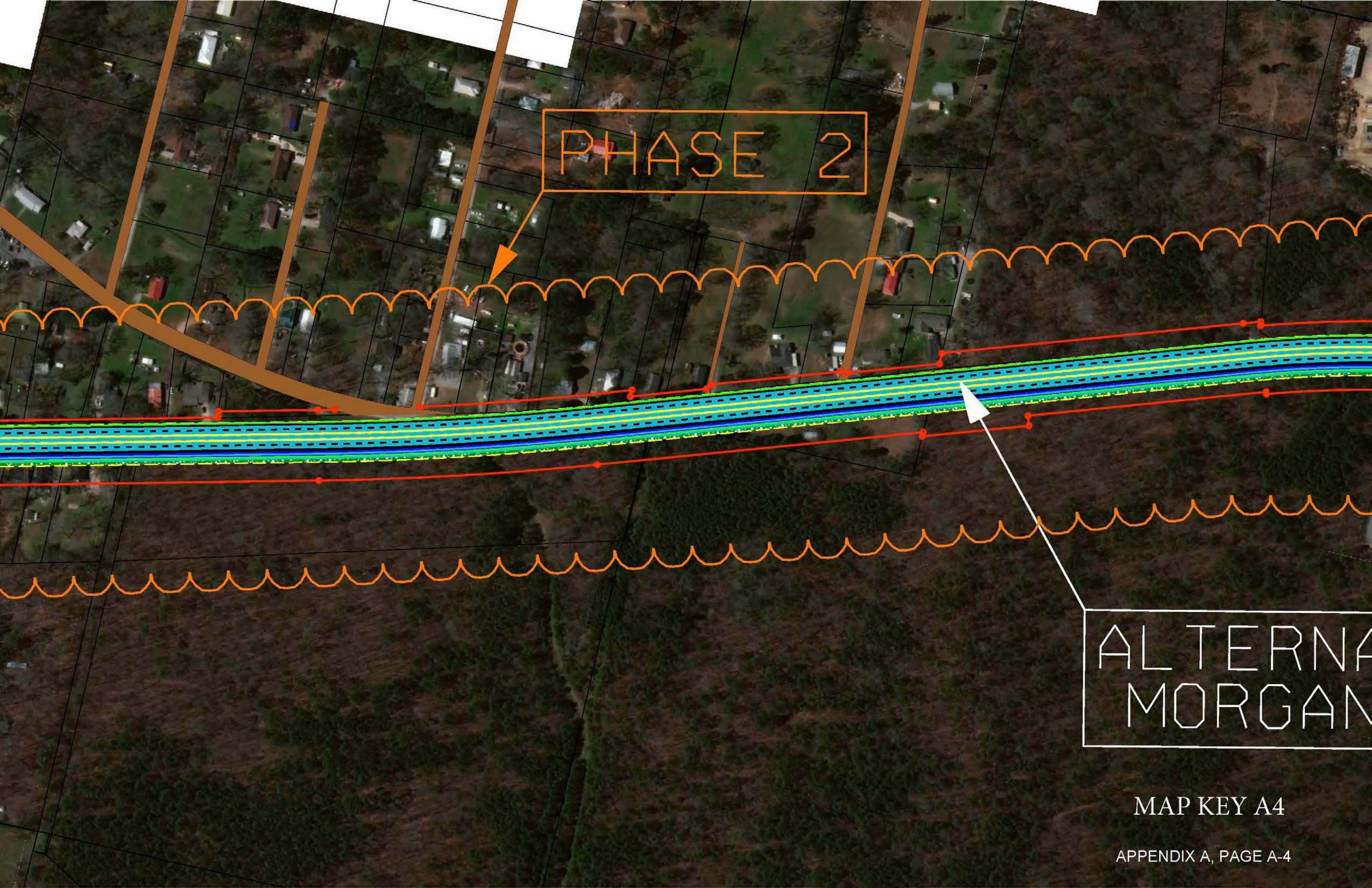




PHASE 3

MAP KEY A3

APPENDIX A, PAGE A-3



PHASE 2

ALTERNATIVE
MORGAN

MAP KEY A4

APPENDIX A, PAGE A-4



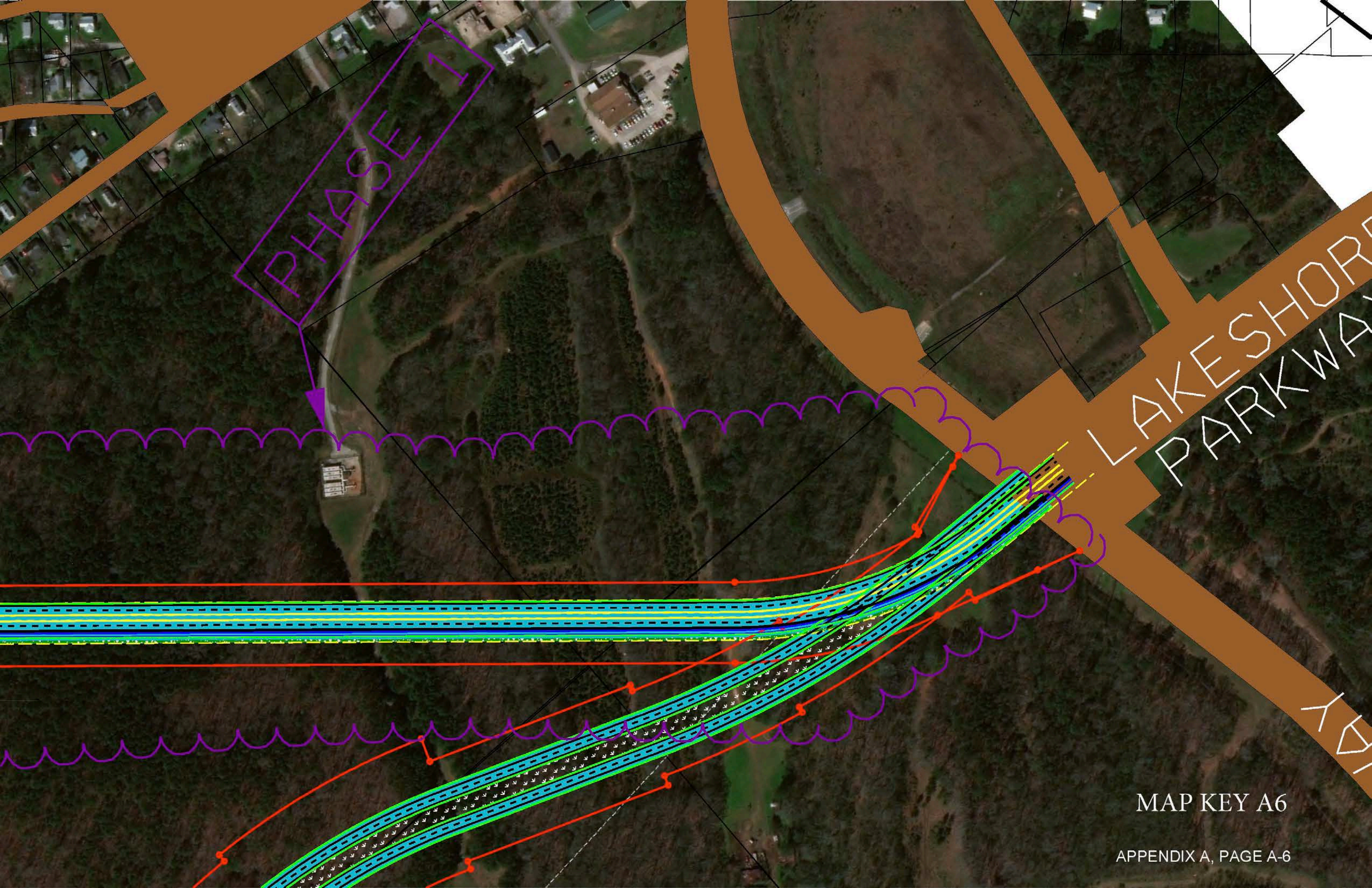
ALTERNATE "A"
DUGAN ROAD

MAP KEY A5

APPENDIX A, PAGE A-5

PHASE 1

LAKESHORE
PARKWAY



MAP KEY A6

APPENDIX A, PAGE A-6



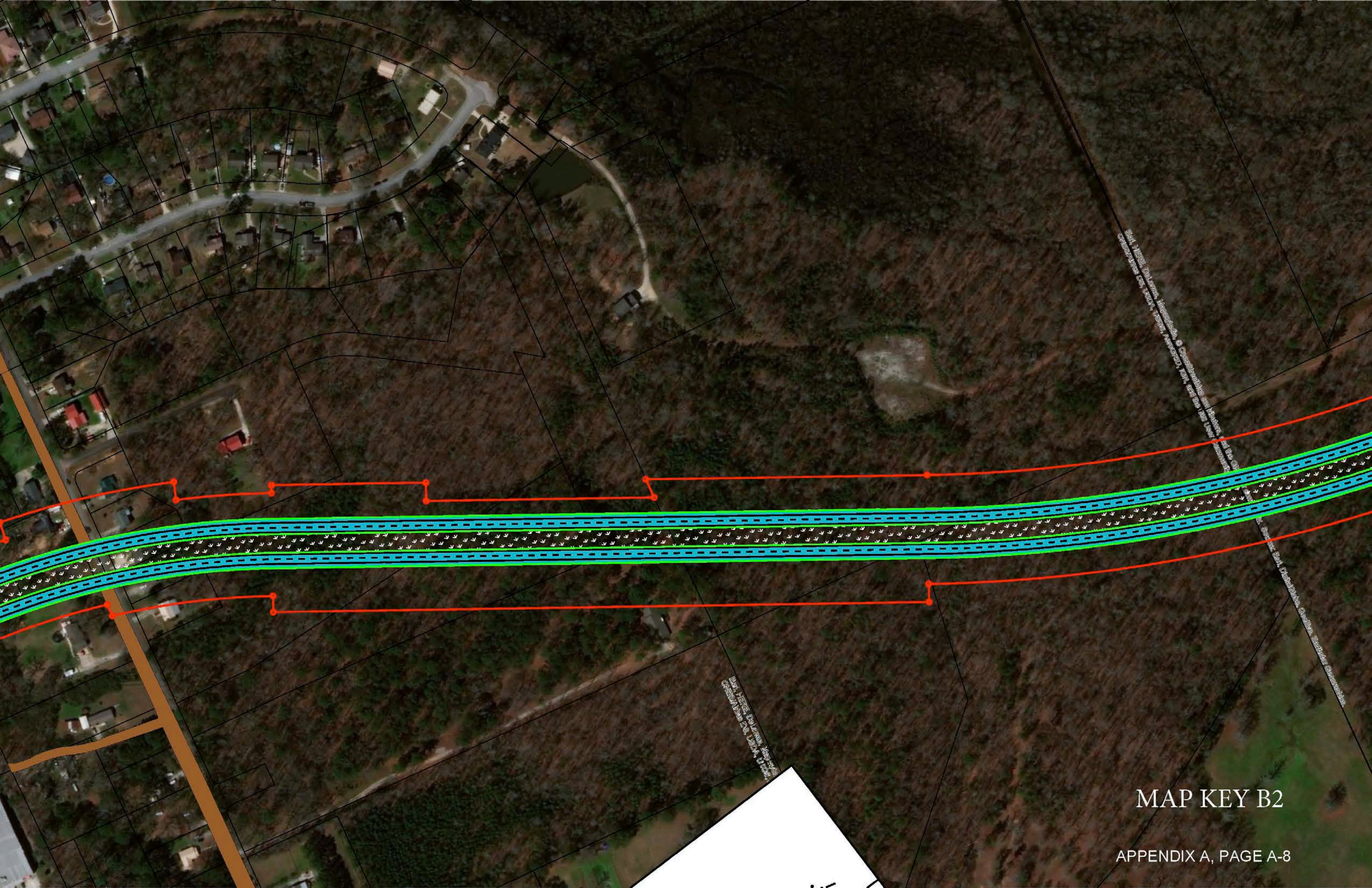
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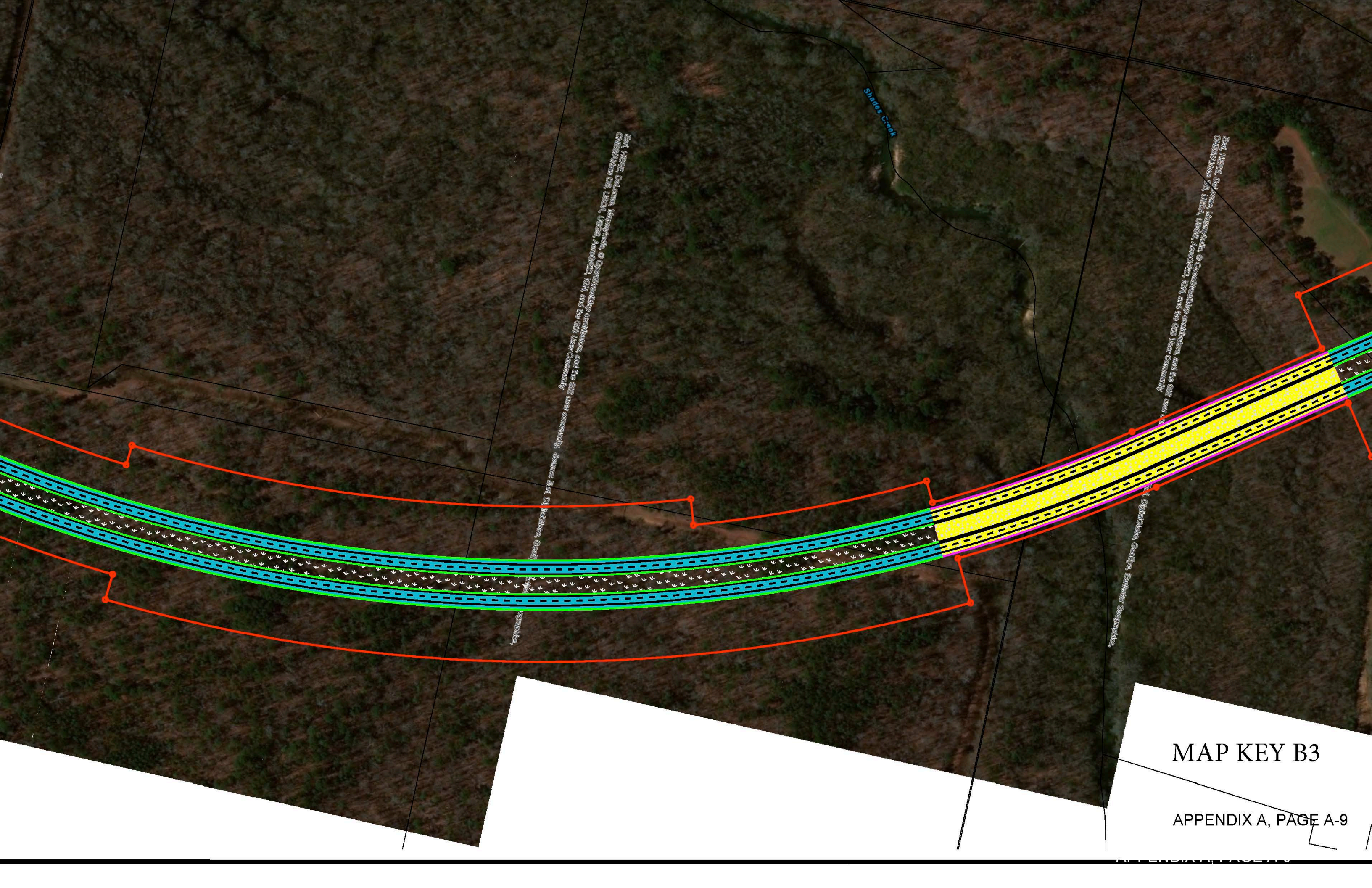
MAP KEY B1

APPENDIX A, PAGE A-7

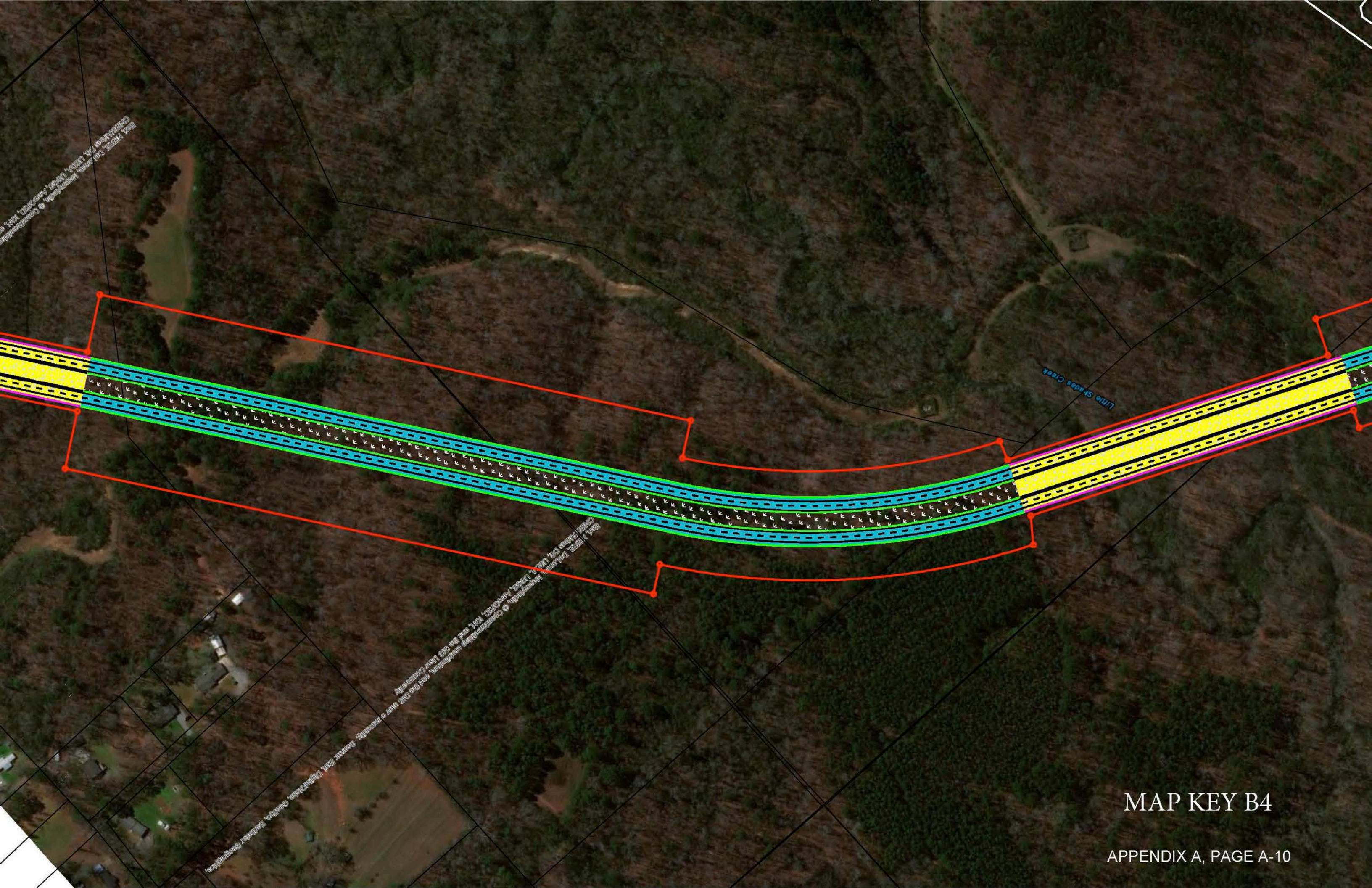
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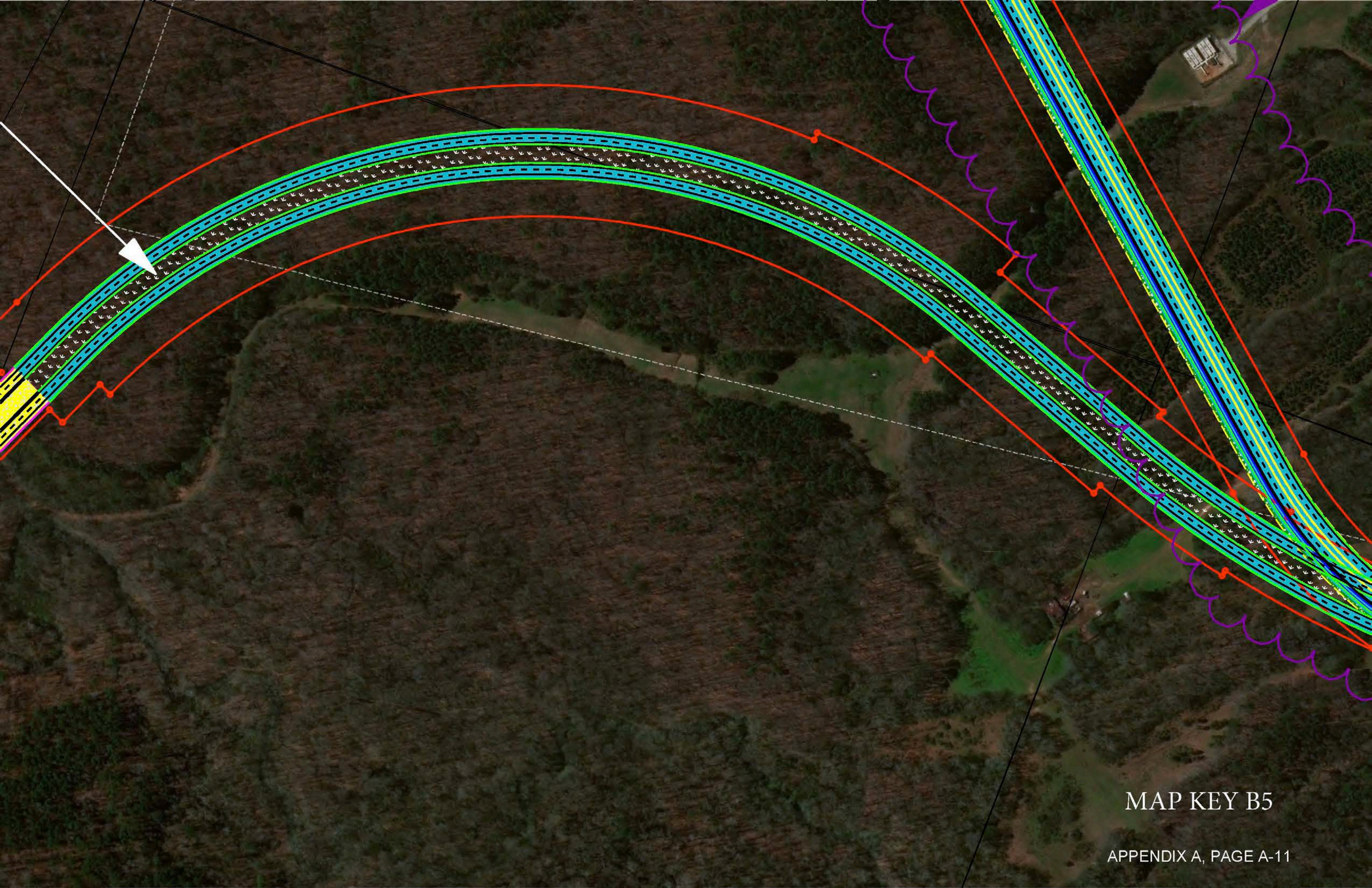
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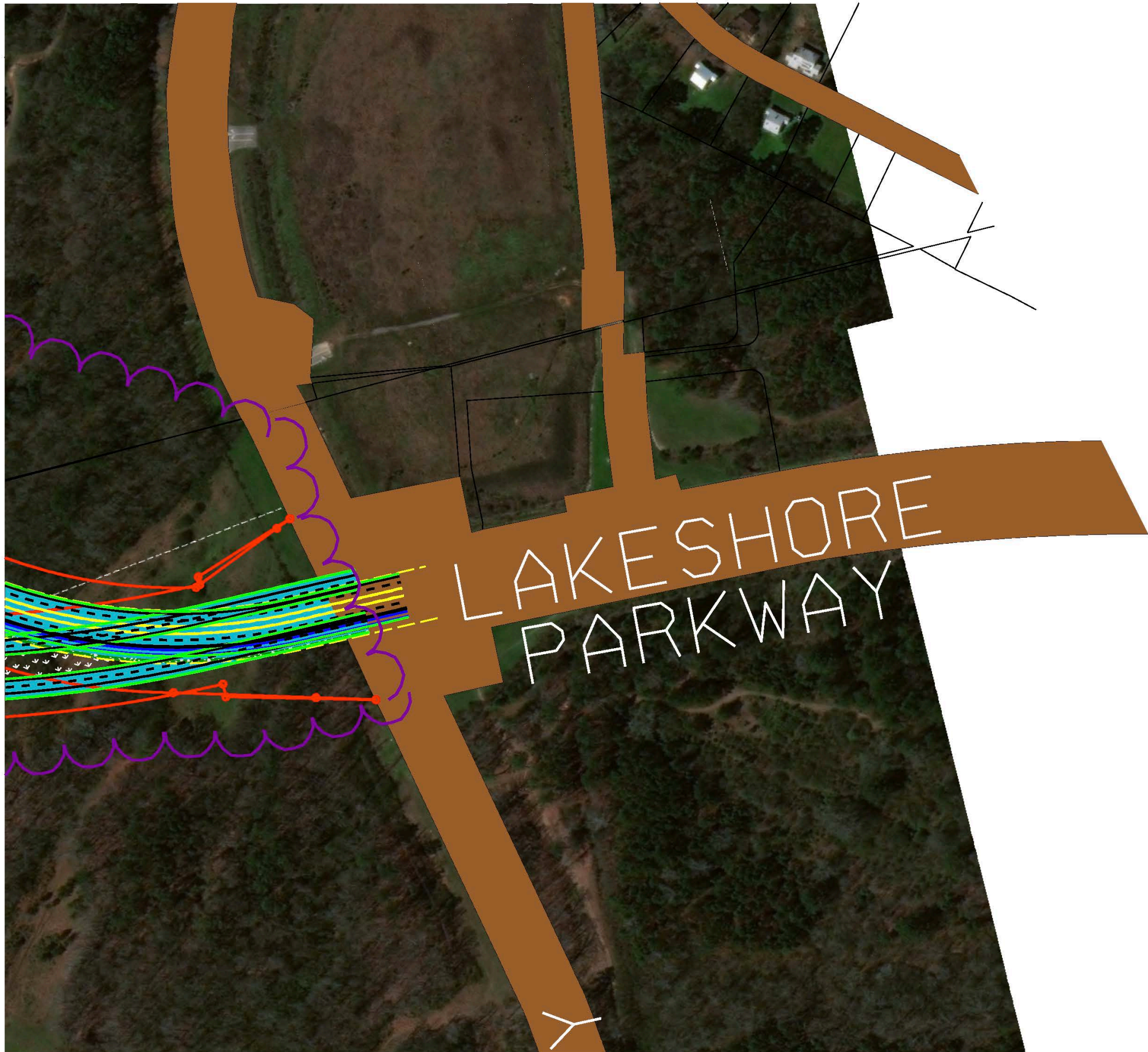
MAP KEY B3



MAP KEY B4



MAP KEY B5



MAP KEY B6

APPENDIX B

RIGHT OF WAY COST ESTIMATE

ALTERNATE A

From I-459 along Morgan Road to Lakeshore Drive at SR-150

ALTERNATE B

From I-459 on new location to Lakeshore Drive at SR-150

PHASE 1

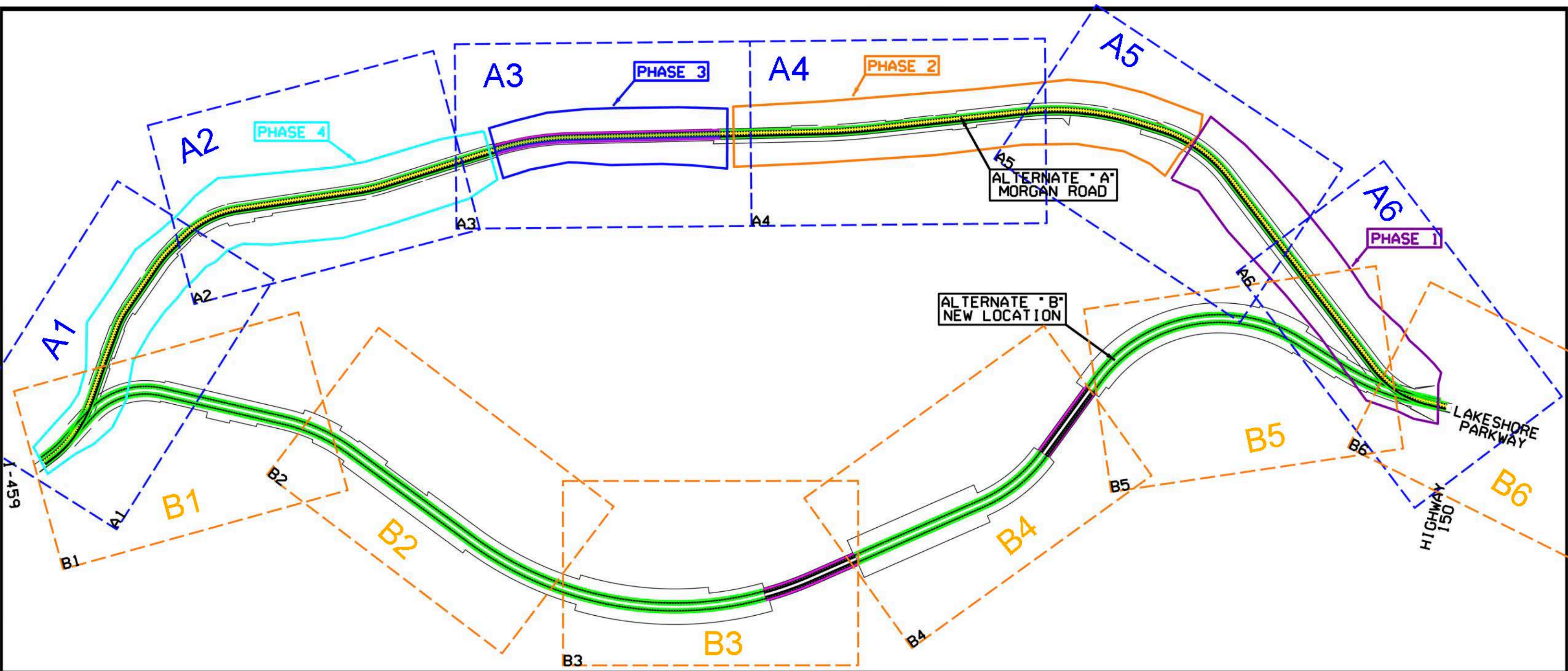
PHASE 2

PHASE 3

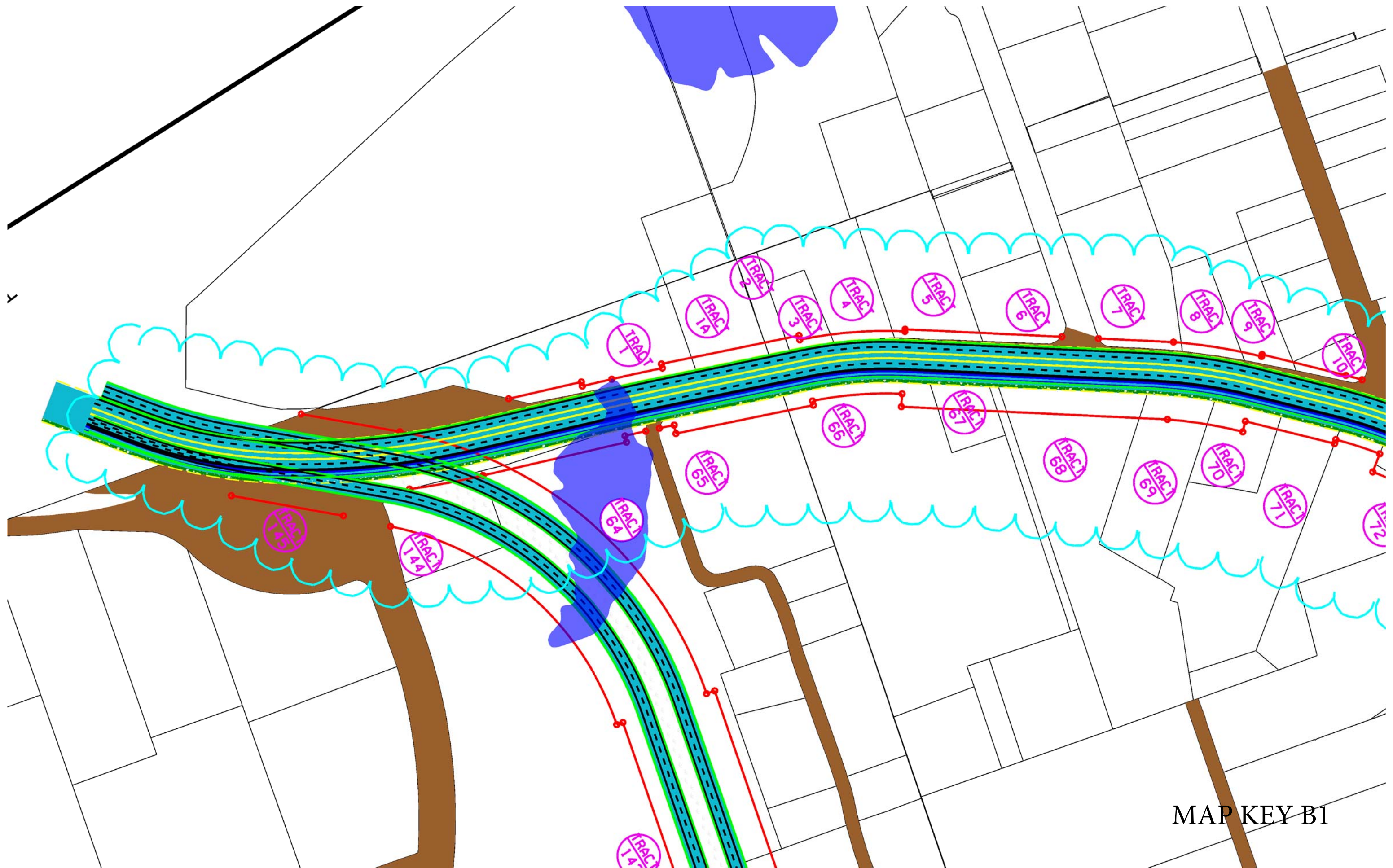
PHASE 4

TRACT NO.	COST PER ACRE	REQ'D ROW (ACRES)	TOTAL TAKE (ACRES)	ROW COST	TRACT NO.	COST PER ACRE	REQ'D ROW (ACRES)	TOTAL TAKE (ACRES)	ROW COST	TRACT NO.	COST PER ACRE	REQ'D ROW (ACRES)	TOTAL TAKE (ACRES)	ROW COST	TRACT NO.	COST PER ACRE	REQ'D ROW (ACRES)	TOTAL TAKE (ACRES)	ROW COST	TRACT NO.	COST PER ACRE	REQ'D ROW (ACRES)	TOTAL TAKE (ACRES)	ROW COST	
112	\$50,000	12.516		\$625,800	39	\$100,000	0.017		\$1,700	27	\$100,000	0.021		\$2,100	1	\$300,000	0.217		\$65,100	114A	\$50,000	5.764		\$288,200	
113	\$50,000	0.972		\$48,600	40	\$100,000	0.011		\$1,100	28	\$100,000	0.020		\$2,000	1A	\$300,000	0.137		\$41,100	115	\$50,000	6.630		\$331,500	
114	\$50,000	5.243		\$262,150	41	\$100,000	0.008		\$800	29	\$100,000	0.020		\$2,000	2	\$300,000	0.036		\$10,800	116	\$50,000	16.507		\$825,350	
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					46	\$100,000	0.108		\$10,800	34	\$100,000	0.030		\$3,000	7	\$300,000	0.078		\$23,400	120	\$50,000	0.508		\$25,400	
					47	\$100,000	0.028		\$2,800	35	\$300,000	0.117	0.460	\$138,000	8	\$300,000	0.066		\$19,800	121	\$50,000	2.169		\$108,450	
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					49	\$100,000	0.076		\$7,600	37	\$300,000		0.141	\$42,300	10	\$300,000	0.052		\$15,600	123	\$50,000	10.687		\$534,350	
					50	\$300,000		0.500	\$150,000	38	\$100,000	0.016		\$1,600	11	\$300,000	0.010		\$3,000	124	\$50,000	4.211		\$210,550	
					51	\$300,000		0.798	\$239,400	93	\$300,000		0.430	\$129,000	11A	\$300,000	0.019		\$5,700	125	\$50,000	4.560		\$228,000	
					52	\$300,000		0.500	\$150,000	94	\$100,000	0.183		\$18,300	12	\$300,000	0.019		\$5,700	125A	\$50,000	0.633		\$31,650	
					53	\$300,000		0.269	\$80,700	95	\$100,000	0.162		\$16,200	12A	\$300,000	0.020		\$6,000	126	\$50,000	1.254		\$62,700	
					54	\$300,000		0.406	\$121,800	96	\$100,000	0.151		\$15,100	13	\$300,000	0.074		\$22,200	127	\$50,000	0.470		\$23,500	
					55	\$300,000		0.500	\$150,000	97	\$100,000	1.004		\$100,400	14	\$300,000	0.081		\$24,300	128	\$50,000	2.236		\$111,800	
					56	\$300,000		0.480	\$144,000	98	\$100,000	1.187		\$118,700	15	\$300,000	0.091		\$27,300	129	\$50,000	3.378		\$168,900	
					57	\$300,000		0.346	\$103,800	99	\$100,000	0.328		\$32,800	16	\$300,000	0.192		\$57,600	130	\$300,000	0.504		\$151,200	
					58	\$100,000	0.787		\$78,700						17	\$300,000	0.078		\$23,400	130A	\$300,000		0.339	\$101,700	
					59	\$300,000	0.310		\$93,000						18	\$300,000	0.074		\$22,200	131	\$300,000		0.319	\$95,700	
					60	\$300,000	0.399		\$119,700						19	\$300,000	0.076		\$22,800	132	\$300,000		0.372	\$111,600	
					61	\$300,000	0.373		\$111,900						20	\$300,000	0.057		\$17,100	133	\$300,000		0.376	\$112,800	
					62	\$300,000	0.062		\$18,600						21	\$300,000	0.043		\$12,900	134	\$300,000		0.474	\$142,200	
					63	\$300,000	0.160		\$48,000						22	\$300,000	0.143		\$42,900	135	\$300,000		0.435	\$130,500	
					100	\$100,000	0.163		\$16,300						23	\$300,000	0.187		\$56,100	136	\$300,000		0.945	\$283,500	
					101	\$300,000		0.521	\$156,300						24	\$300,000	0.046		\$13,800	136A	\$300,000	0.019		\$5,700	
					102	\$300,000		0.488	\$146,400						25	\$300,000	0.048		\$14,400	136B	\$300,000	0.011		\$3,300	
					103	\$300,000		0.479	\$143,700						26	\$300,000	0.053		\$15,900	137	\$300,000		2.499	\$749,700	
					104	\$300,000		0.958	\$287,400						64	\$100,000	0.239		\$23,900	138	\$300,000	0.194		\$58,200	
					104A	\$100,000	0.075		\$7,500						65	\$100,000	0.404		\$40,400	139	\$300,000	0.615		\$184,500	
					105	\$100,000	3.032		\$303,200						66	\$100,000	0.582		\$58,200	140	\$300,000	1.045		\$313,500	
					106	\$100,000	1.300		\$130,000						67	\$100,000	0.314		\$31,400	141	\$300,000	1.388		\$416,400	
					107	\$100,000	2.887		\$288,700						68	\$100,000	0.800		\$80,000	142	\$600,000	1.930		\$1,158,000	
					108	\$300,000	0.616		\$184,800						69	\$100,000	0.364		\$36,400	143	\$300,000	5.280		\$1,584,000	
					109	\$300,000	0.383		\$114,900						70	\$100,000	0.335		\$33,500	144	\$300,000		1.092	\$327,600	
					110	\$300,000	0.122		\$36,600						71	\$100,000	0.272		\$27,200	145	\$300,000	0.140		\$42,000	
					111	\$300,000	0.886		\$265,800						72	\$100,000	0.453		\$45,300						
															73	\$100,000	0.470		\$47,000						
															74	\$100,000	0.957		\$95,700						
															75	\$100,000	0.368		\$36,800						
															76	\$100,000	0.300		\$30,000						
															77	\$100,000	0.352		\$35,200						
															78	\$100,000	0.220		\$22,000						
															79	\$100,000	0.890		\$89,000						
															79A	\$100,000	0.044		\$4,400						
															80	\$100,000	0.227		\$22,700						
															81	\$300,000	0.464		\$139,200						
															82	\$100,000	0.425		\$42,500						
															83	\$100,000	0.237		\$23,700						
															84	\$100,000	0.222		\$22,200						
															85	\$100,000	0.137		\$13,700						
															86	\$100,000	0.217	0.471	\$47,100						
															87	\$300,000		0.415	\$124,500						
															88	\$300,000		0.372	\$111,600						
															89	\$300,000		0.217	\$65,100						
															90	\$300,000		0.400	\$120,000						
															91	\$300,000		0.443	\$132,900						
															92	\$300,000		0.153	\$45,900						
TOTAL		18.731		\$936,550	TOTAL		11.862	7.654	\$4,144,600	TOTAL		3.438	1.531	\$891,400	TOTAL		11.531	2.471	\$2,318,900	TOTAL		103.836	6.851	\$10,607,600	
															TOTAL ALTERNATE A = \$8,291,450					TOTAL ALTERNATE B = \$10,607,600					

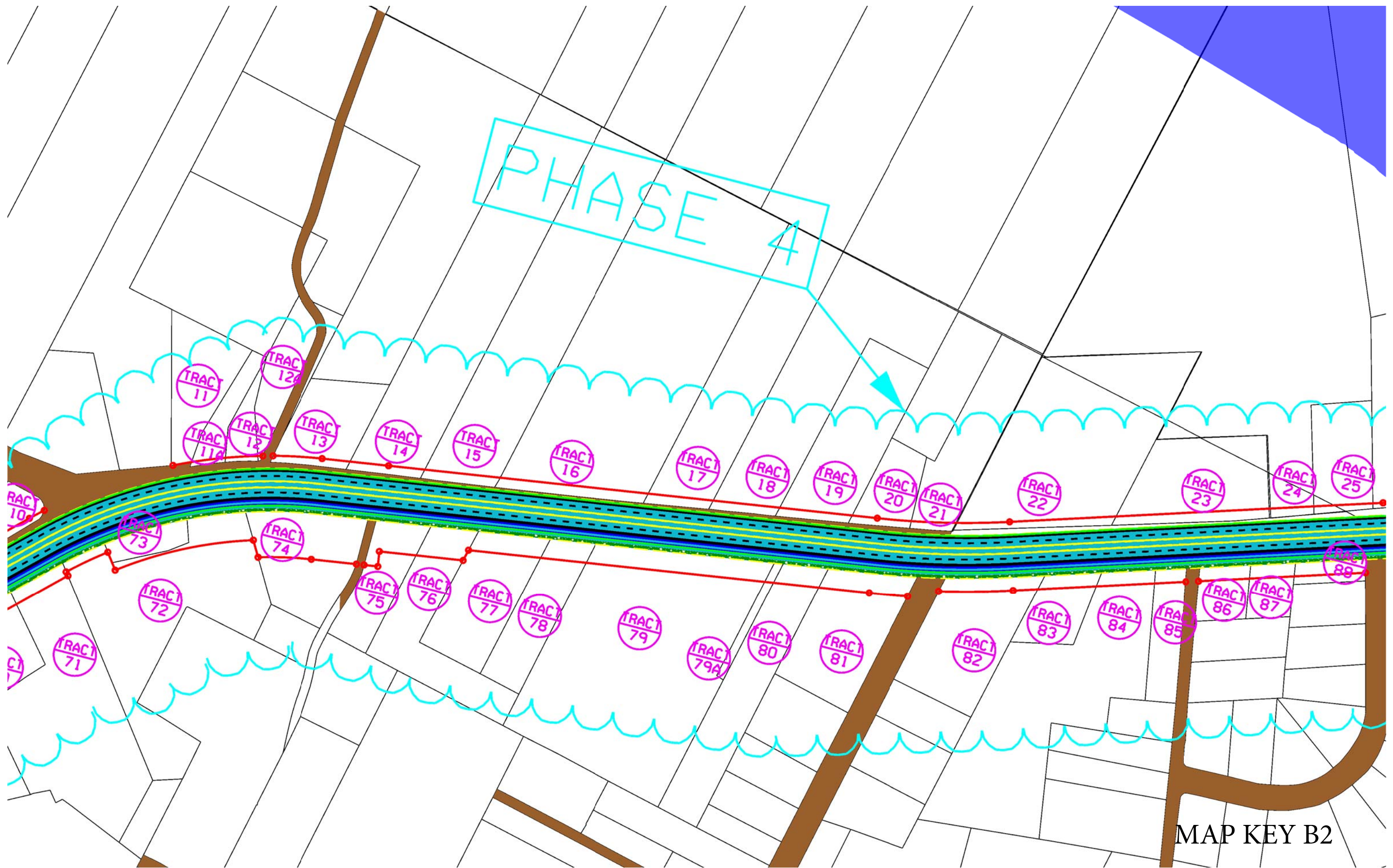
Legend	
Commercial	\$300,000
Residential w/damages	\$100,000
Vacant Land	\$50,000
Total/Residential	\$300,000
Total/Commercial	\$600,000



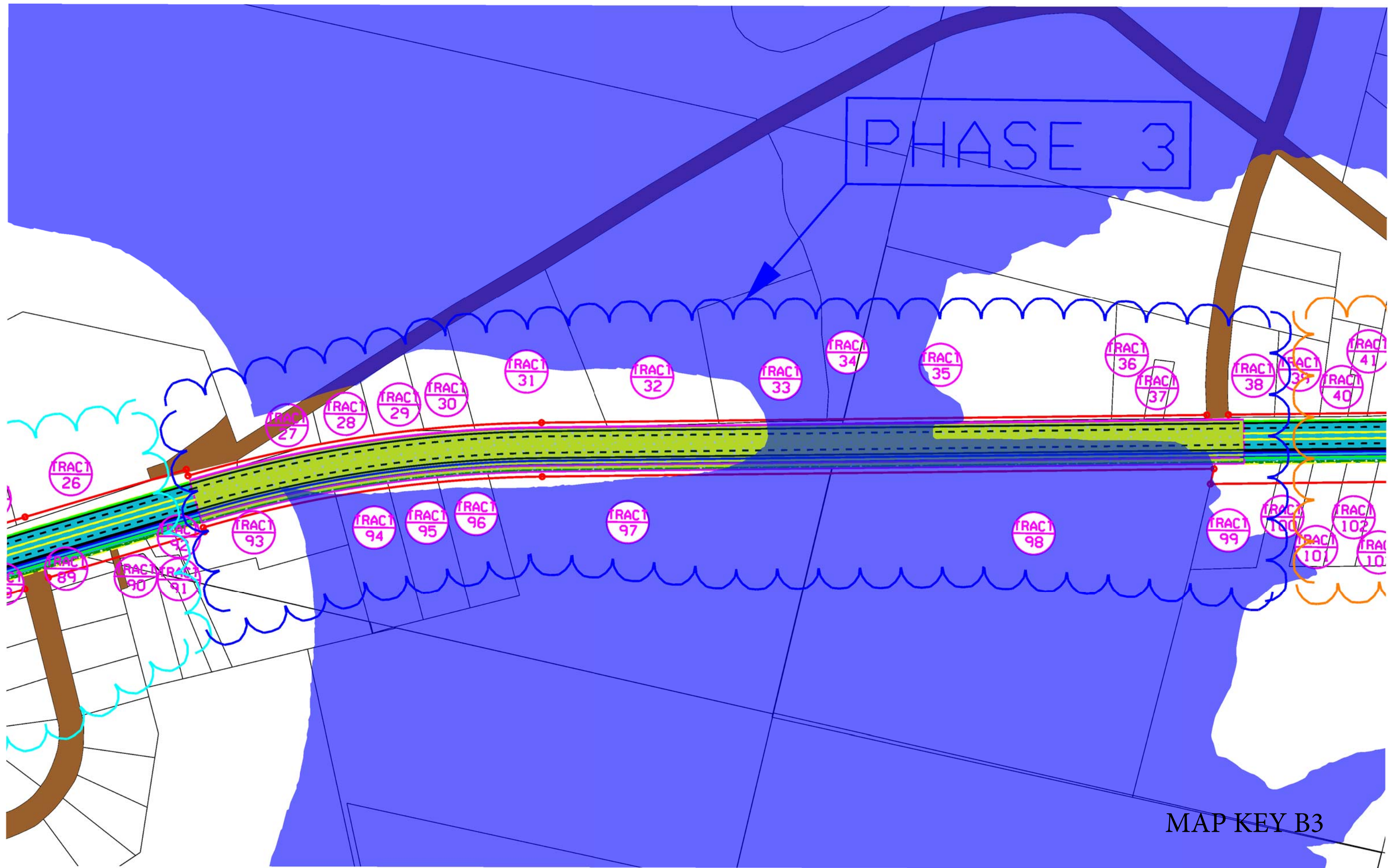
RIGHT OF WAY MAP KEY



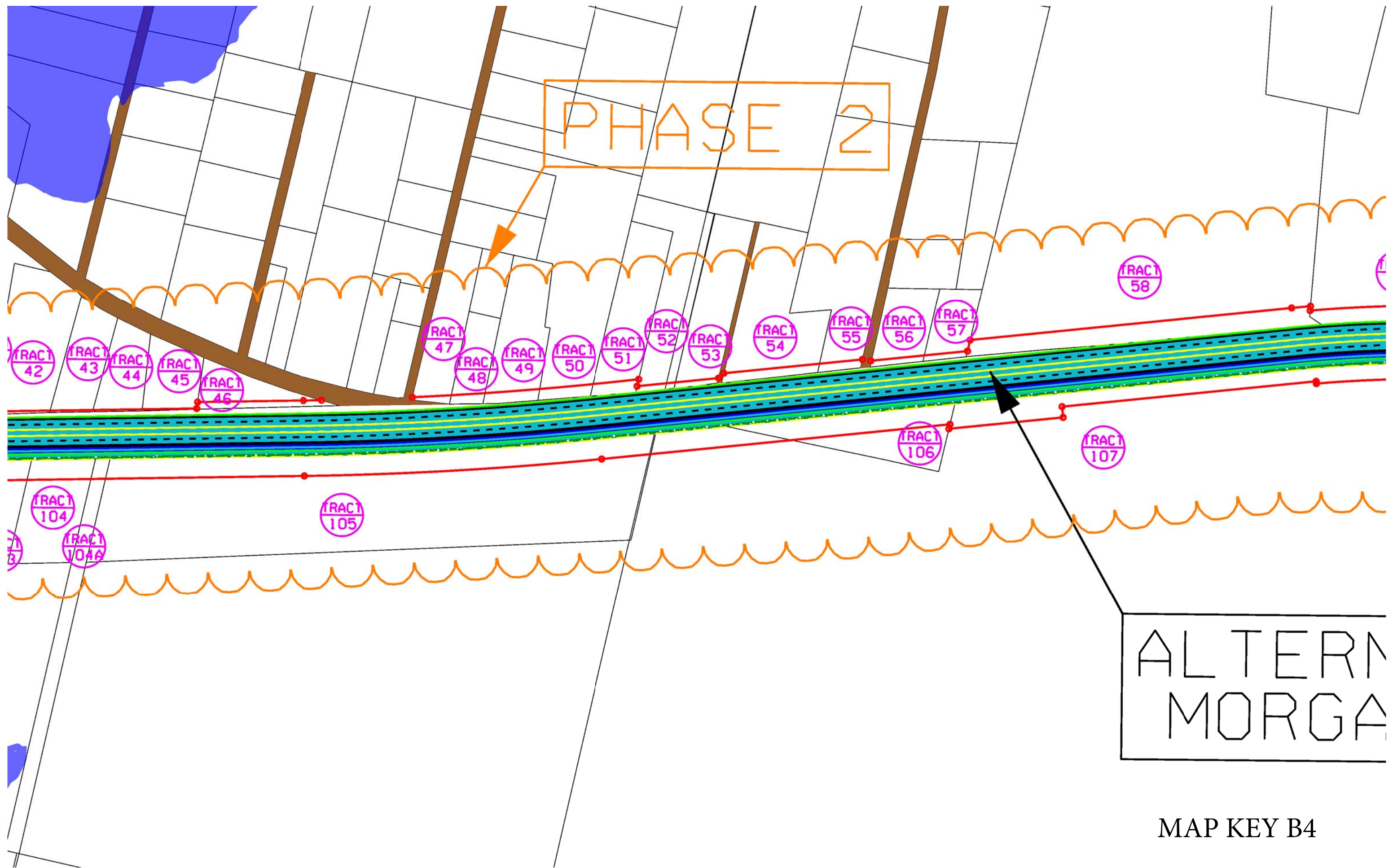
MAP KEY B1



MAP KEY B2



MAP KEY B3



PHASE 2

ALTERN
MORGAN

MAP KEY B4

APPENDIX B, PAGE B-6



FERNATE ROAD

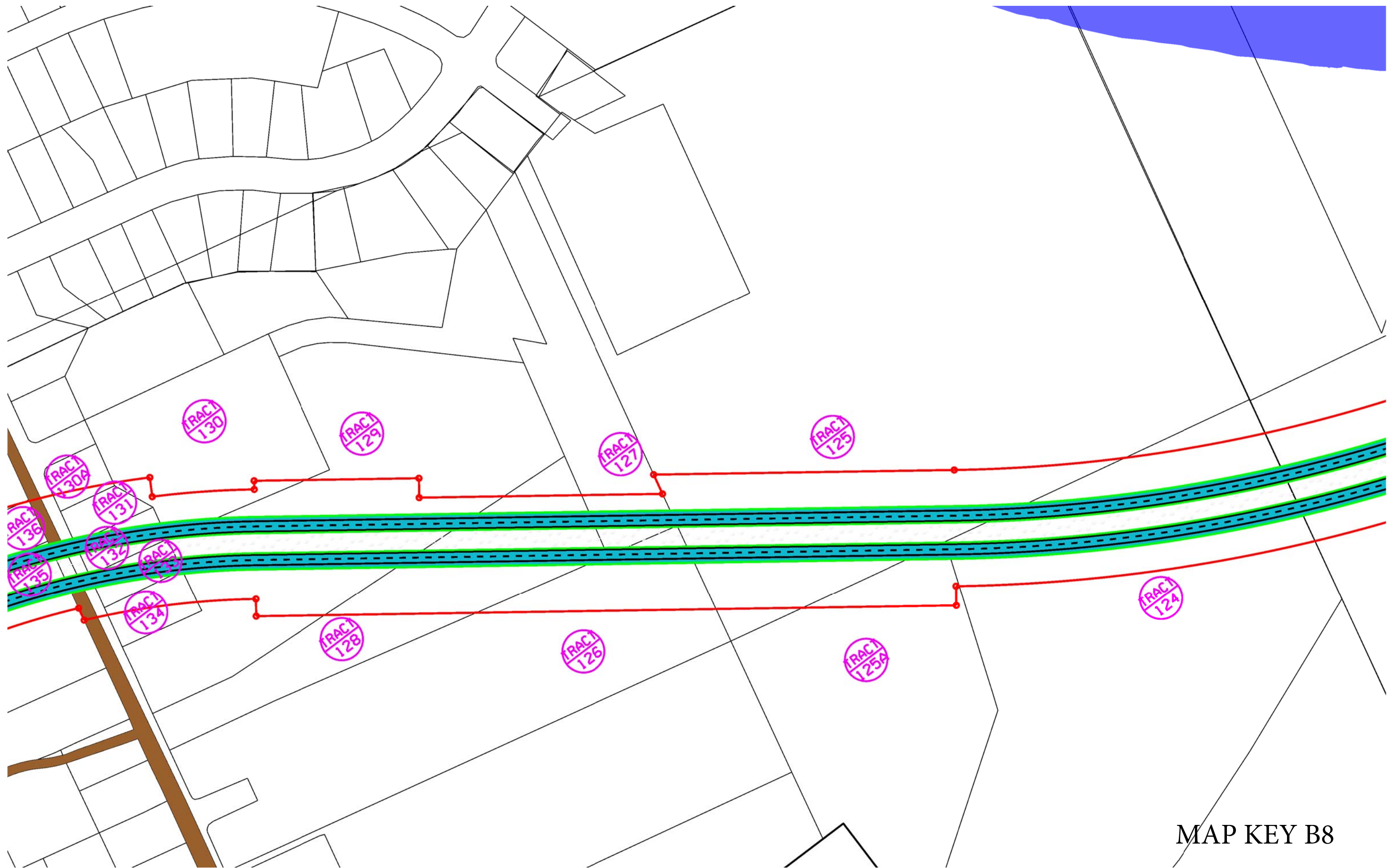
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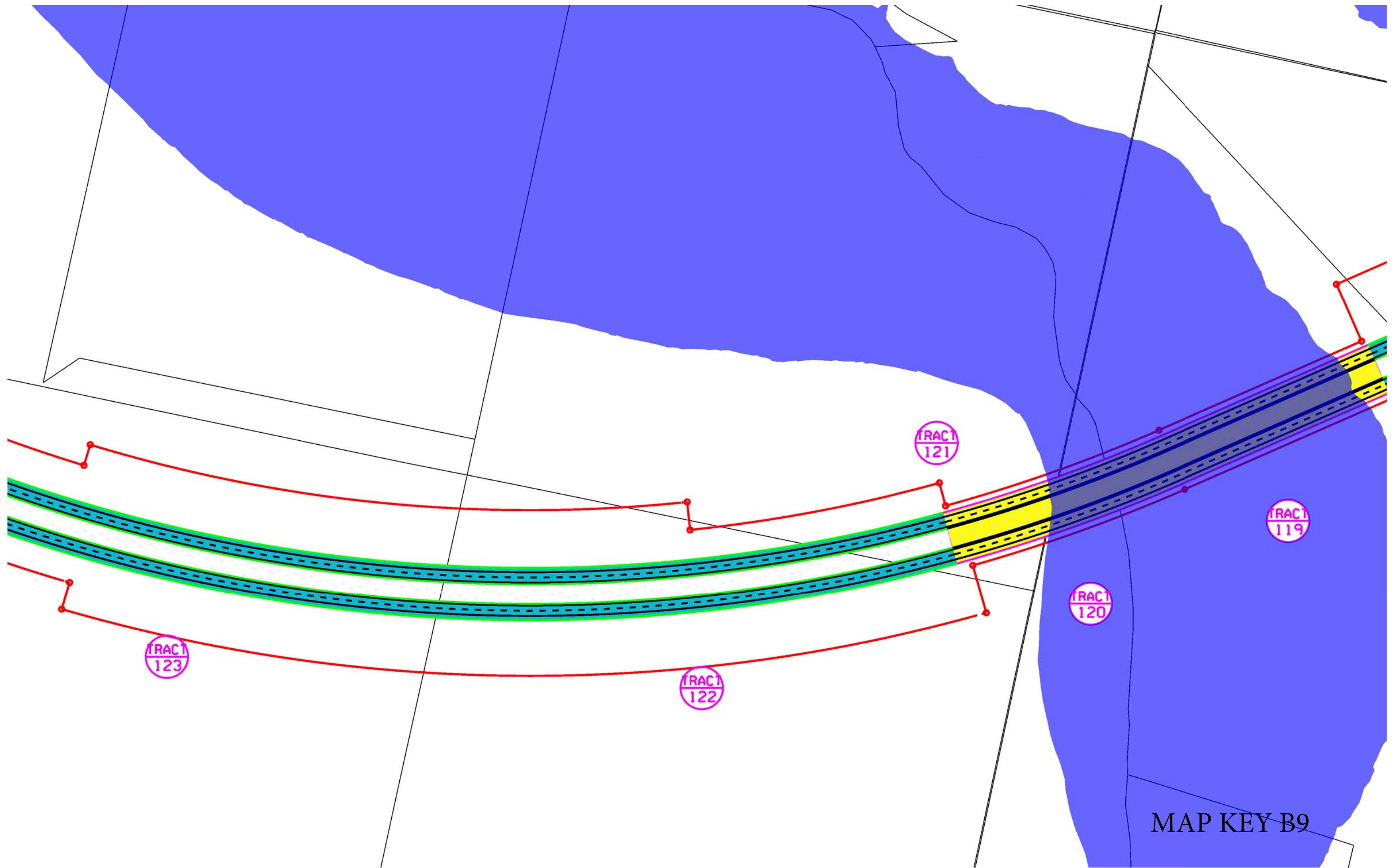
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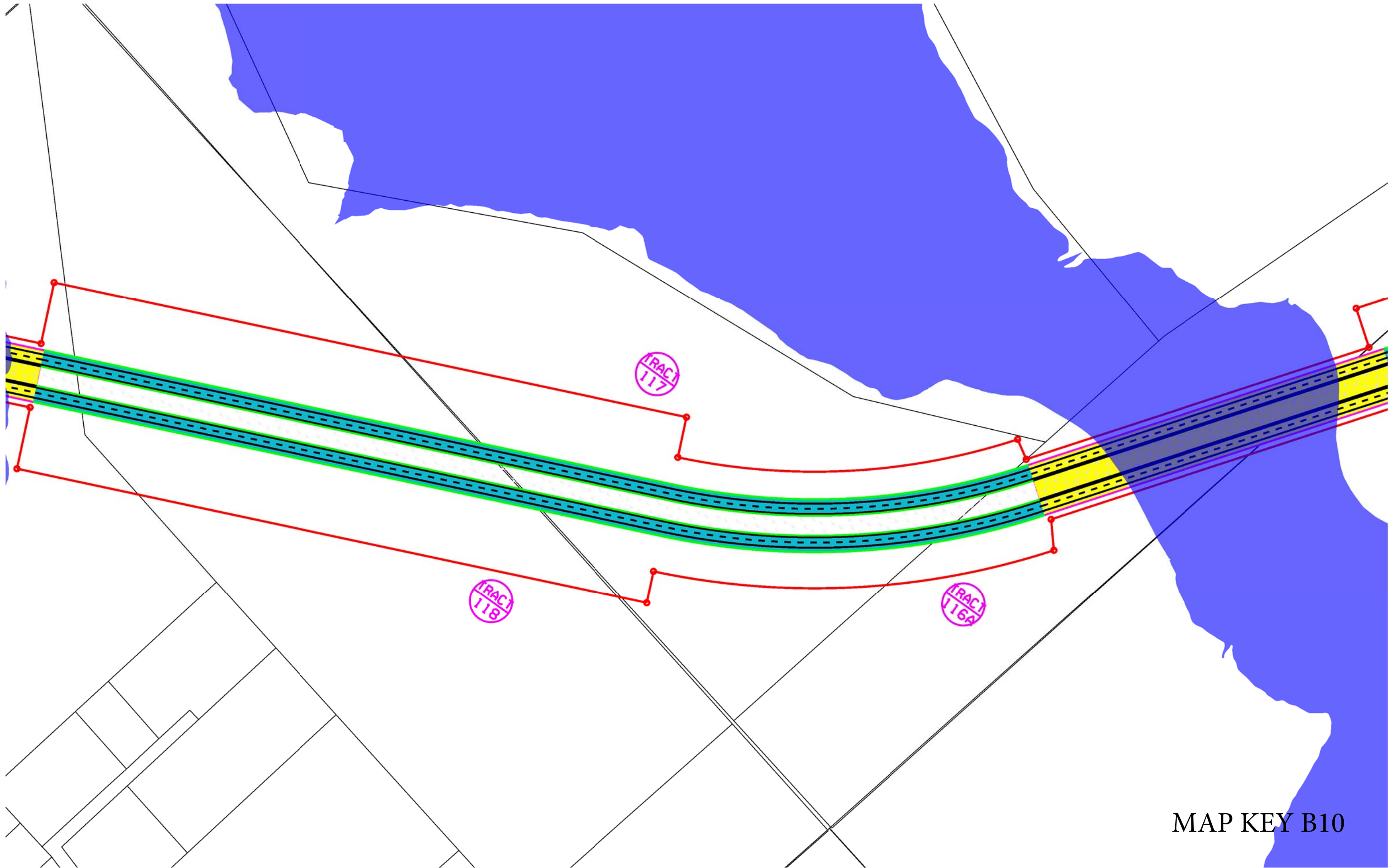
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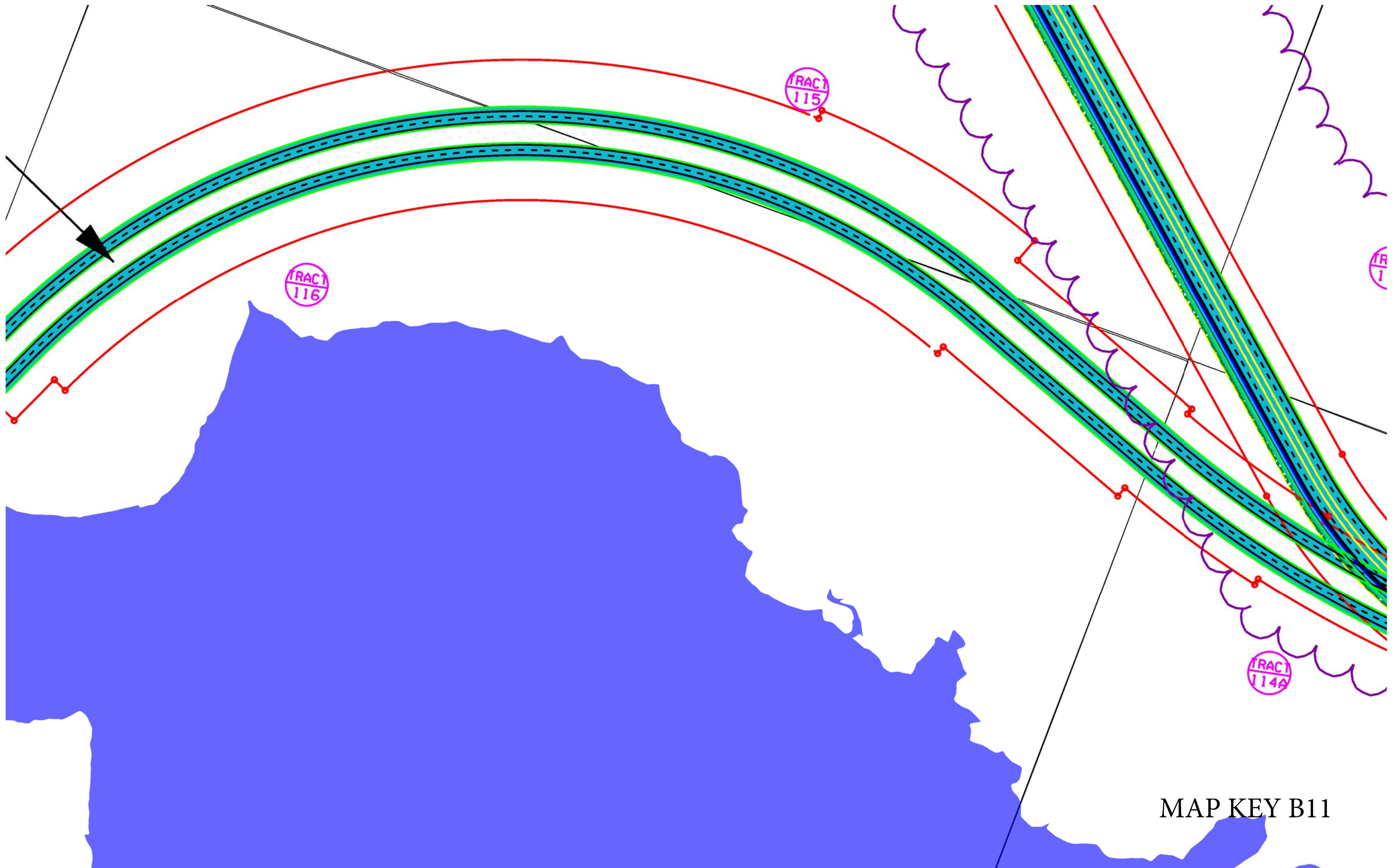
MAP KEY B8



MAP KEY B9



MAP KEY B10



MAP KEY B11



MAP KEY B12

APPENDIX C

Project No.:		
County:	Jefferson County	
Description:	Lakeshore Extension	
Scope of Work:	Corridor Study	
Project Length:	3.89 - 3.93	Miles
Consultant:	Neel-Schaffer, Inc.	
PRELIMINARY COST ESTIMATE		
Alternate No.	Alternate A - Morgan Rd	Alternate B - New Location
Bridge Length (ft)	550	1,880
Roadway Length (ft)	19,976	18,850
Total Project Length (mi)	3.89	3.93
Grade & Drain	\$ 7,145,051	\$ 7,491,447
Base & Pavement	\$ 12,276,750	\$ 10,531,581
New Bridge	\$ 4,510,000	\$ 15,416,000
Remove Old Bridge	\$ 235,200	\$ -
Sidewalk/Multi-use Path	\$ 572,646	\$ 540,367
Traffic Handling	\$ 132,388	\$ 59,933
Curb & Gutter	\$ 1,478,224	\$ -
Traffic Signals	\$ 200,000	\$ 150,000
SUBTOTAL	\$ 26,550,259	\$ 34,189,328
Engineering Controls (1.3%)	\$ 345,154	\$ 444,461
Mobilization (9.7%)	\$ 2,575,375	\$ 3,316,365
E & I (15%)	\$ 3,982,539	\$ 5,128,399
Construction Cost	\$ 33,453,327	\$ 43,078,553
P.E. (15%)	\$ 5,018,000	\$ 6,461,783
Indirect Cost (13.63%)	\$ 3,618,800	\$ 4,660,005
R.O.W.	\$ 8,291,450	\$ 10,607,600
Utility	\$ 10,944,925	\$ 864,808
TOTAL COST	\$ 61,326,502	\$ 65,672,749

Project No.	
County:	Jefferson County
Description:	Lakeshore Parkway Extension Study
Scope of Work:	Alternate A - Phase 1
Project Length:	0.94 Miles
Consultant:	Neel-Schaffer, Inc.

PRELIMINARY COST ESTIMATE

Alternate No.	Alternate A - Phase 1
Bridge Length (ft)	
Roadway Length (ft)	4,955
Total Project Length (mi)	0.94
Grade & Drain	\$ 1,772,313
Base & Pavement	\$ 3,045,219
New Bridge	\$ -
Remove Old Bridge	
Sidewalk/Multi-use Path	\$ 142,043
Traffic Handling	\$ 12,200
Curb & Gutter	\$ 366,670
Traffic Signals	\$ 200,000
SUBTOTAL	\$ 5,538,445
Engineering Controls (1.3%)	\$ 72,000
Mobilization (9.7%)	\$ 537,229
E & I (15%)	\$ 830,767
Construction Cost	\$ 6,978,441
P.E. (15%)*	\$ 1,046,766
Indirect Cost (13.63%)	\$ 754,890
R.O.W.	\$ 936,550
Utility	\$ 974,780
TOTAL COST	\$ 10,691,427

*Includes Corridor Study, Survey, G&D Plans, B&P Plans

Project No.	
County:	Jefferson County
Description:	Lakeshore Parkway Extension Study
Scope of Work:	Alternate A - Phase 2
Project Length:	1.11 Miles
Consultant:	Neel-Schaffer, Inc.

PRELIMINARY COST ESTIMATE

Alternate No.	Alternate A - Phase 2	
Bridge Length (ft)		
Roadway Length (ft)	5,842	
Total Project Length (mi)	1.11	
Grade & Drain	\$ 2,089,577	
Base & Pavement	\$ 3,590,347	
New Bridge	\$ -	
Remove Old Bridge	\$ -	
Sidewalk/Multi-use Path	\$ 167,471	
Traffic Handling	\$ 107,988	
Curb & Gutter	\$ 432,308	
Traffic Signals	\$ -	
SUBTOTAL	\$ 6,387,691	
Engineering Controls (1.3%)	\$ 83,040	
Mobilization (9.7%)	\$ 619,606	
E & I (15%)	\$ 958,154	
Construction Cost	\$ 8,048,491	
P.E. (15%)*	\$ 1,207,274	
Indirect Cost (13.63%)	\$ 870,642	
R.O.W.	\$ 4,144,600	
Utility	\$ 4,231,875	
TOTAL COST	\$ 18,502,882	

*Includes Corridor Study, Survey, G&D Plans, B&P Plans

Project No.	
County:	Jefferson County
Description:	Lakeshore Parkway Extension Study
Scope of Work:	Alternate A - Phase 3
Project Length:	0.46 Miles
Consultant:	Neel-Schaffer, Inc.

PRELIMINARY COST ESTIMATE

Alternate No.	Alternate A - Phase 3
Bridge Length (ft)	550
Roadway Length (ft)	1,900
Total Project Length (mi)	0.46
Grade & Drain	\$ 679,595
Base & Pavement	\$ 1,167,693
New Bridge	\$ 4,510,000
Remove Old Bridge	\$ 235,200
Sidewalk/Multi-use Path	\$ 54,467
Traffic Handling	\$ 12,200
Curb & Gutter	\$ 140,600
Traffic Signals	\$ -
SUBTOTAL	\$ 6,799,755
Engineering Controls (1.3%)	\$ 88,397
Mobilization (9.7%)	\$ 659,576
E & I (15%)	\$ 1,019,963
Construction Cost	\$ 8,567,691
P.E. (15%)*	\$ 1,285,154
Indirect Cost (13.63%)	\$ 926,807
R.O.W.	\$ 891,400
Utility	\$ 477,020
TOTAL COST	\$ 12,148,072

*Includes Corridor Study, Survey, G&D Plans, B&P Plans

Project No.	
County:	Jefferson County
Description:	Lakeshore Parkway Extension Study
Scope of Work:	Alternate A - Phase 4
Project Length:	1.38 Miles
Consultant:	Neel-Schaffer, Inc.

PRELIMINARY COST ESTIMATE

Alternate No.	Alternate A - Phase 4
Bridge Length (ft)	
Roadway Length (ft)	7,279
Total Project Length (mi)	1.38
Grade & Drain	\$ 2,603,566
Base & Pavement	\$ 4,473,491
New Bridge	\$ -
Remove Old Bridge	\$ -
Sidewalk/Multi-use Path	\$ 208,665
Traffic Handling	\$ -
Curb & Gutter	\$ 538,646
Traffic Signals	
SUBTOTAL	\$ 7,824,368
Engineering Controls (1.3%)	\$ 101,717
Mobilization (9.7%)	\$ 758,964
E & I (15%)	\$ 1,173,655
Construction Cost	\$ 9,858,704
P.E. (15%)*	\$ 1,478,806
Indirect Cost (13.63%)	\$ 1,066,461
R.O.W.	\$ 2,318,900
Utility	\$ 5,261,250
TOTAL COST	\$ 19,984,121

*Includes Corridor Study, Survey, G&D Plans, B&P Plans

Project No.	
County:	Jefferson County
Description:	Lakeshore Parkway Extension Study
Scope of Work:	Alternate B - New Location
Project Length:	3.93 Miles
Consultant:	Neel-Schaffer, Inc.

PRELIMINARY COST ESTIMATE

Alternate No.	Alternate B - New Location	
Bridge Length (ft)	1,880	
Roadway Length (ft)	18,850	
Total Project Length (mi)	3.93	
Grade & Drain	\$7,491,447	
Base & Pavement	\$10,531,581	
Multi-Use Path		
New Bridge	\$15,416,000	
Remove Old Bridge		
Sidewalk/Multi-use Path	\$540,367	
Traffic Handling	\$59,933	
Curb & Gutter		
Traffic Signals	\$150,000	
SUBTOTAL	\$34,189,328	
Engineering Controls (1.3%)	\$444,461	
Mobilization (9.7%)	\$3,316,365	
E & I (15%)	\$5,128,399	
Construction Cost	\$43,078,553	
P.E. (15%)*	\$6,461,783	
Indirect Cost (13.63%)	\$4,660,005	
R.O.W.	\$10,607,600	
Utility	\$864,808	
TOTAL COST	\$65,672,749	

*Includes Corridor Study, Survey, G&D Plans, B&P Plans