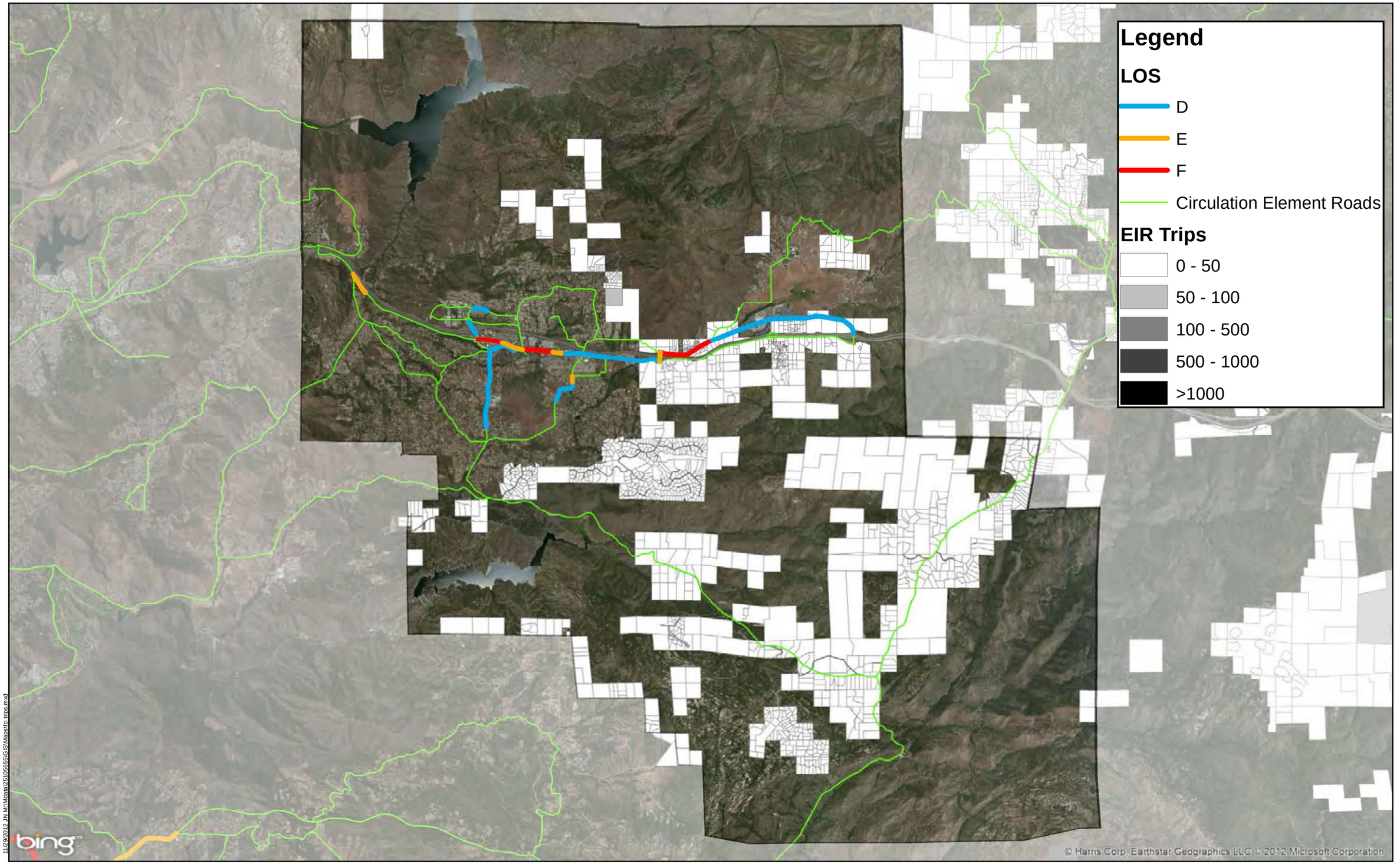
APPENDIX A

Trip Generation Maps

- **GPU EIR Land Uses**
- **Proposed GPA Land Uses**

GPU EIR Land Uses



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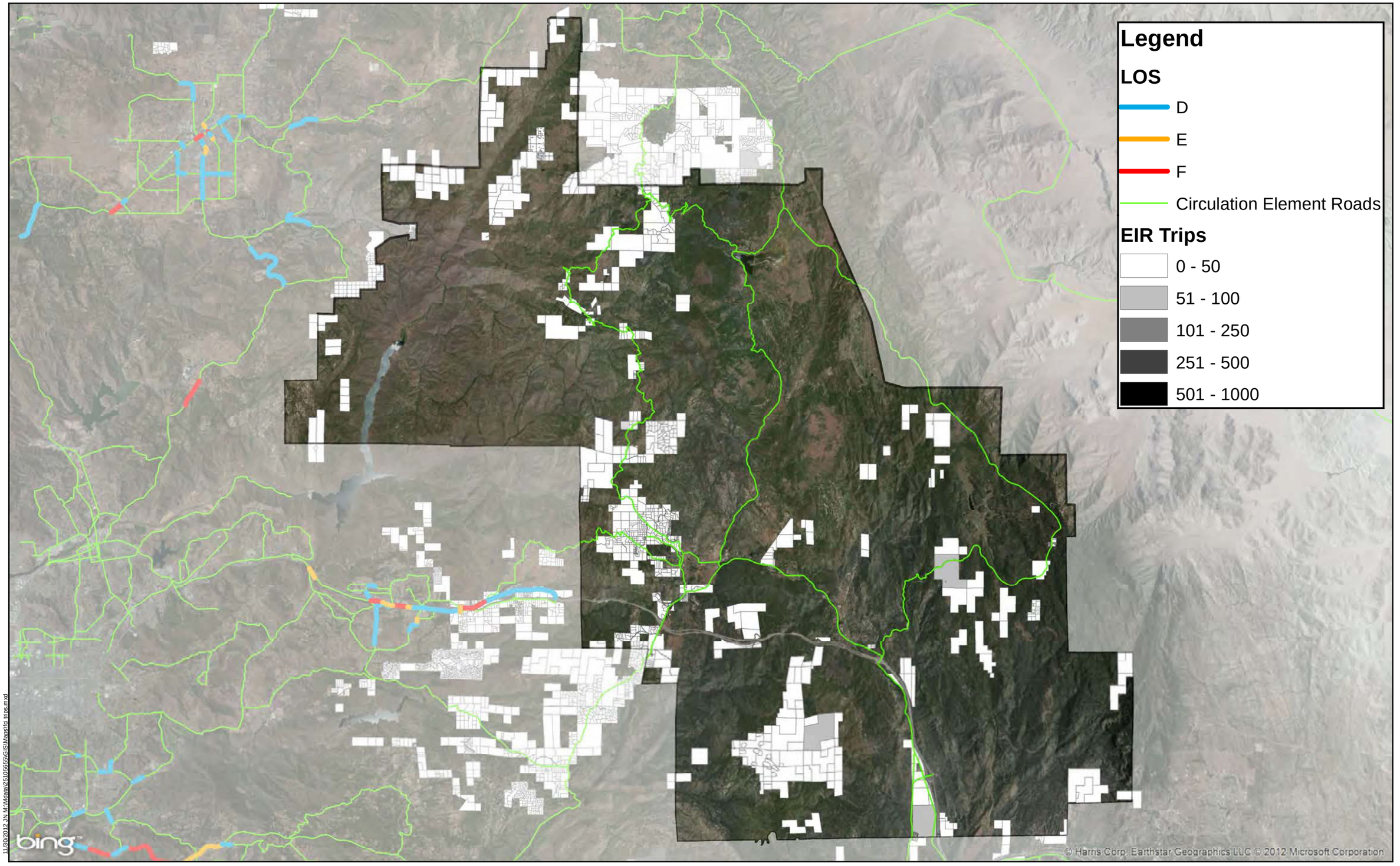
RBF CONSULTING A Baker Company GIS

SanGIS

0 0.5 1 2 Miles

EIR Trips: Alpine



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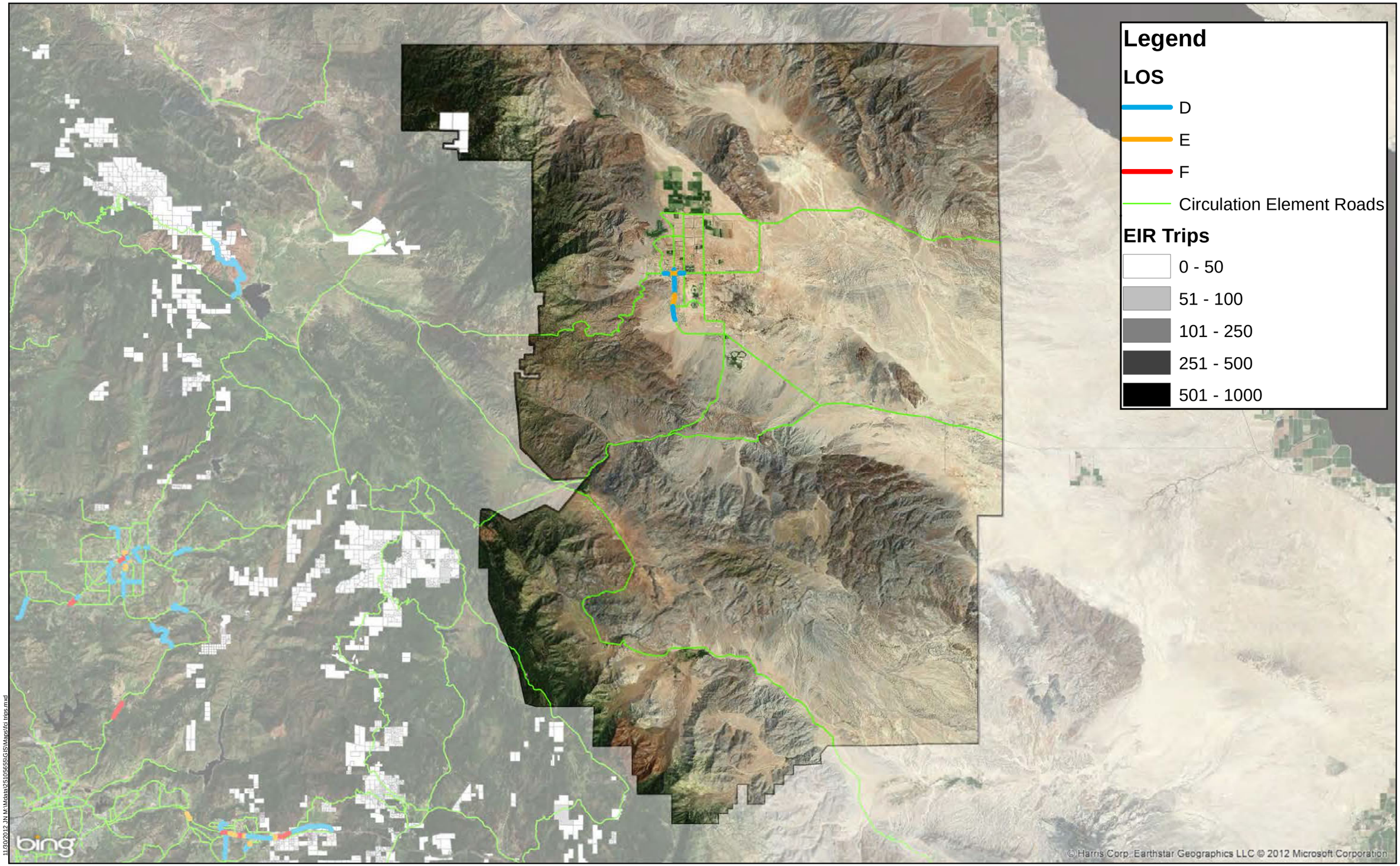
RBF CONSULTING A Stantec Company GIS

SanGIS

0 1 2 4 Miles

EIR Trips: Central Mountain



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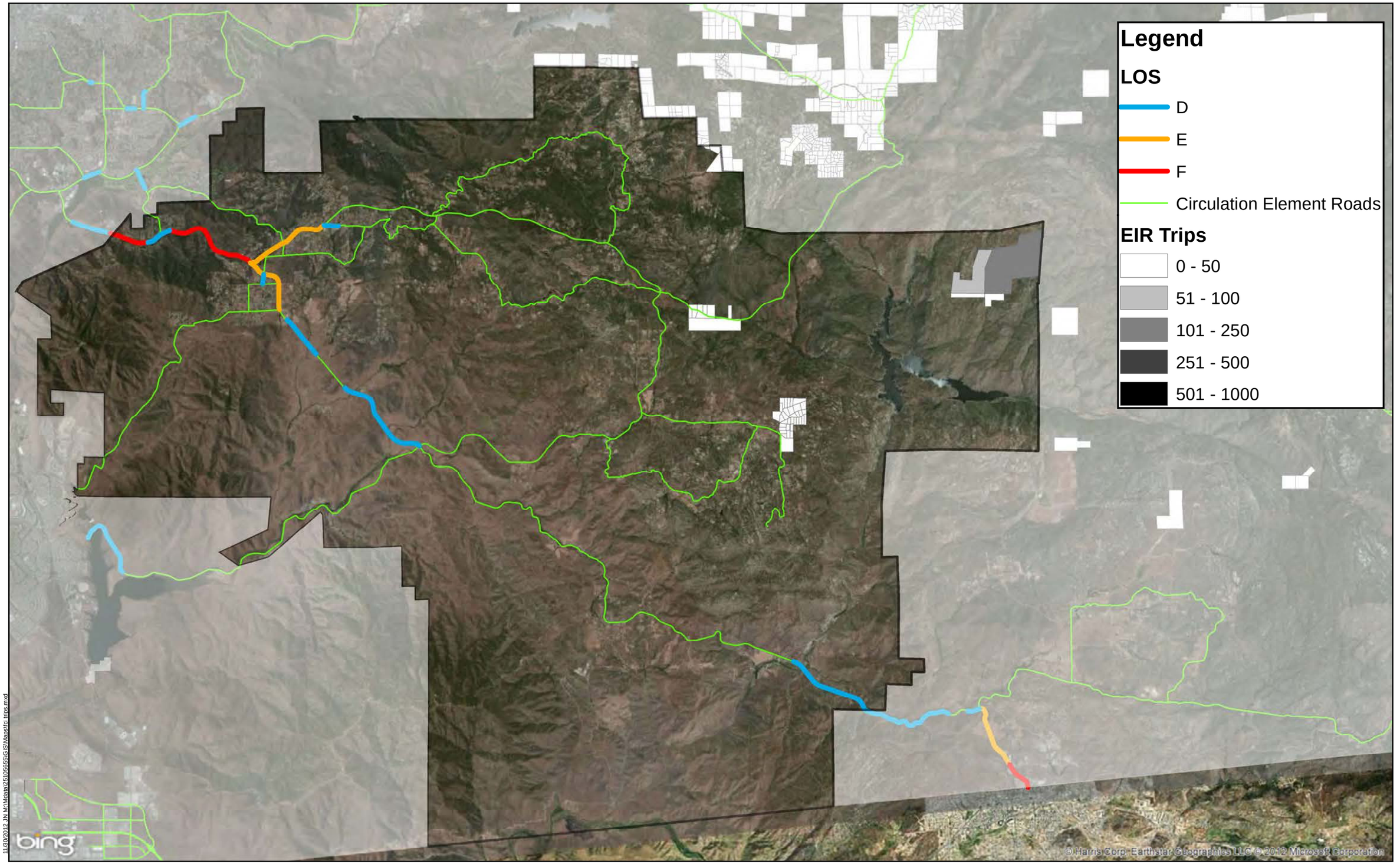
SanGIS

0 1 2 4
Miles

EIR Trips: Desert



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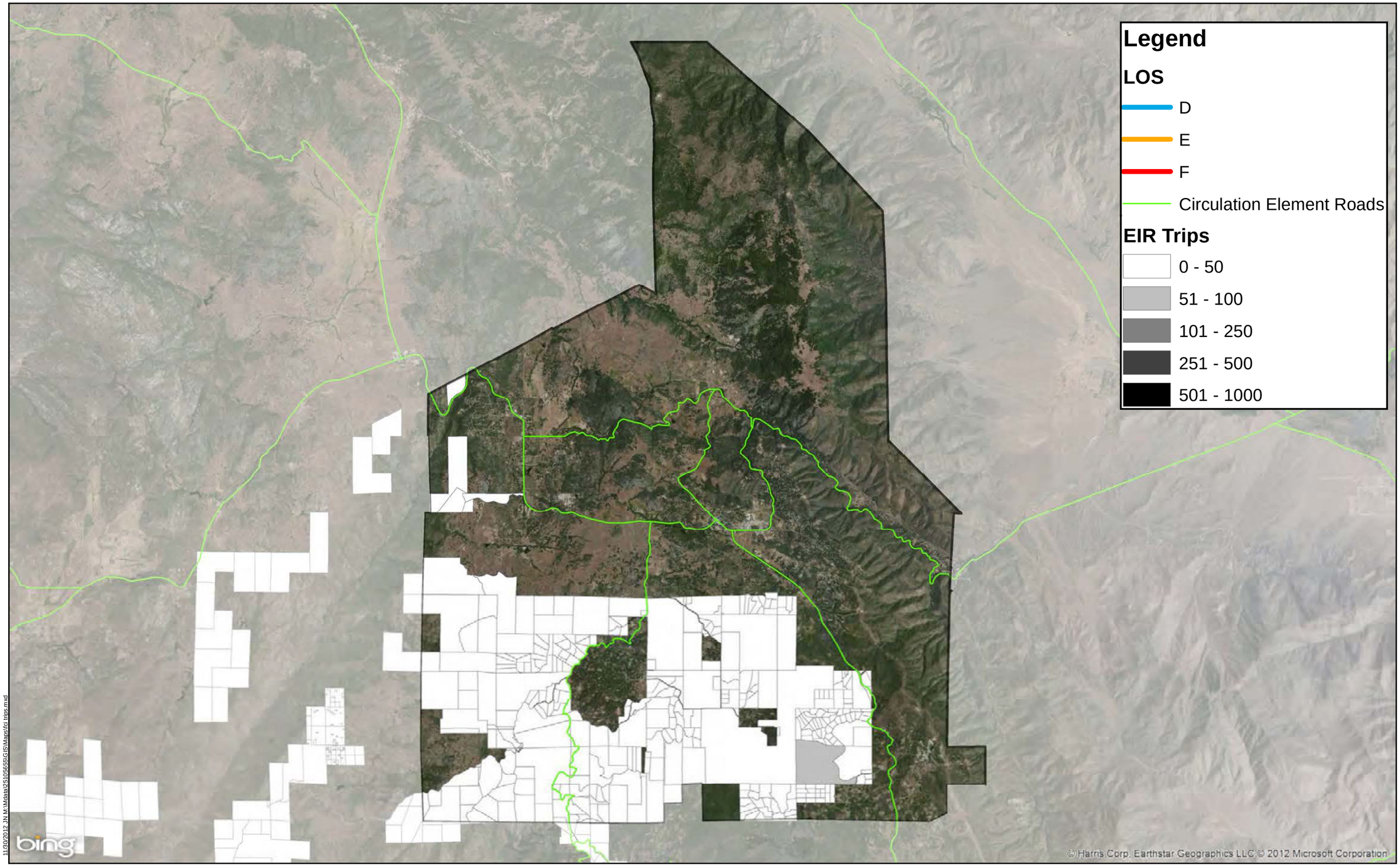
RBF CONSULTING A Baker Company GIS

SanGIS

0 1 2 4 Miles

EIR Trips: Jamul-Dulzura



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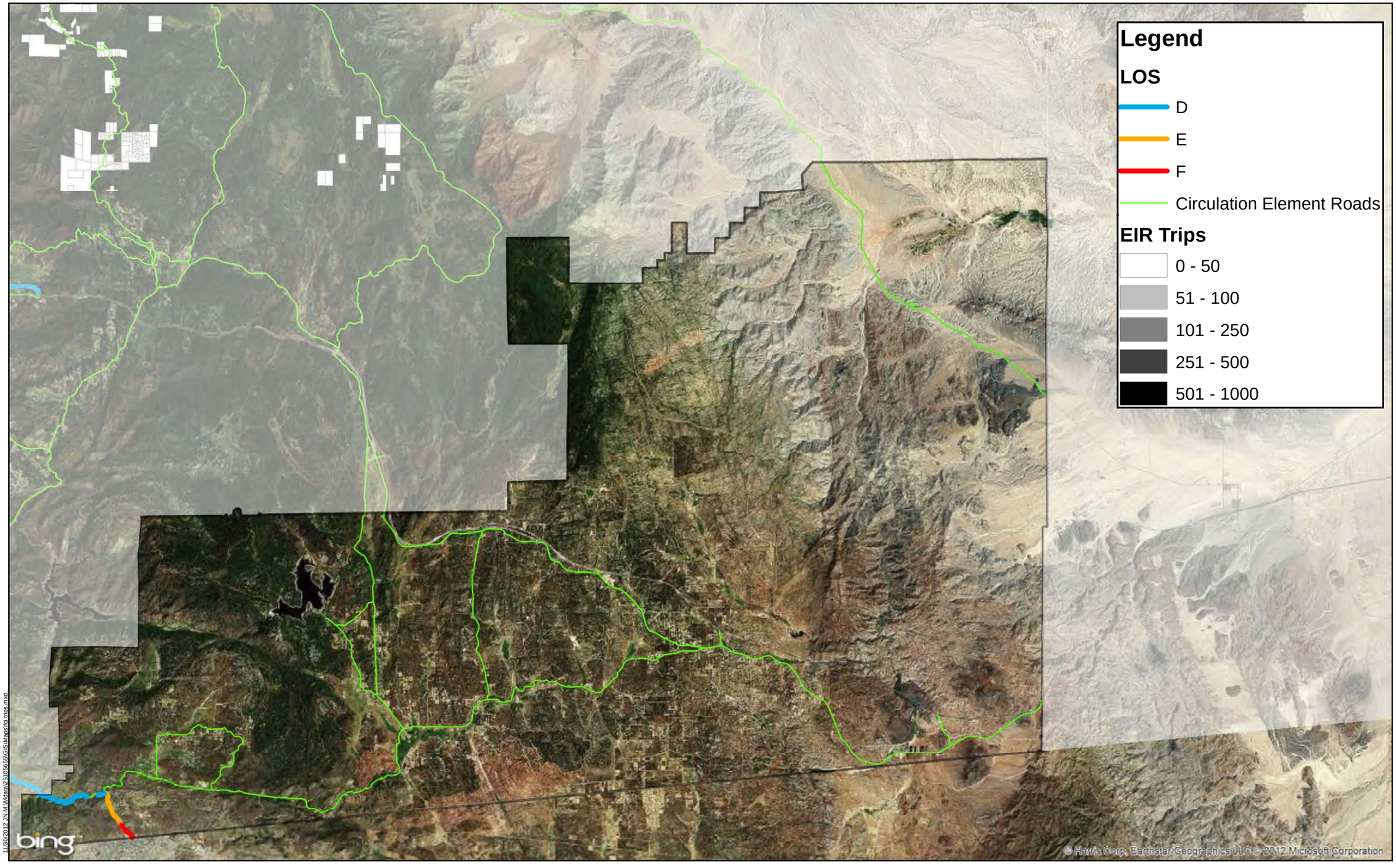
RBF CONSULTING A Baker Company GIS

SanGIS

0 0.5 1 2 Miles

EIR Trips: Julian



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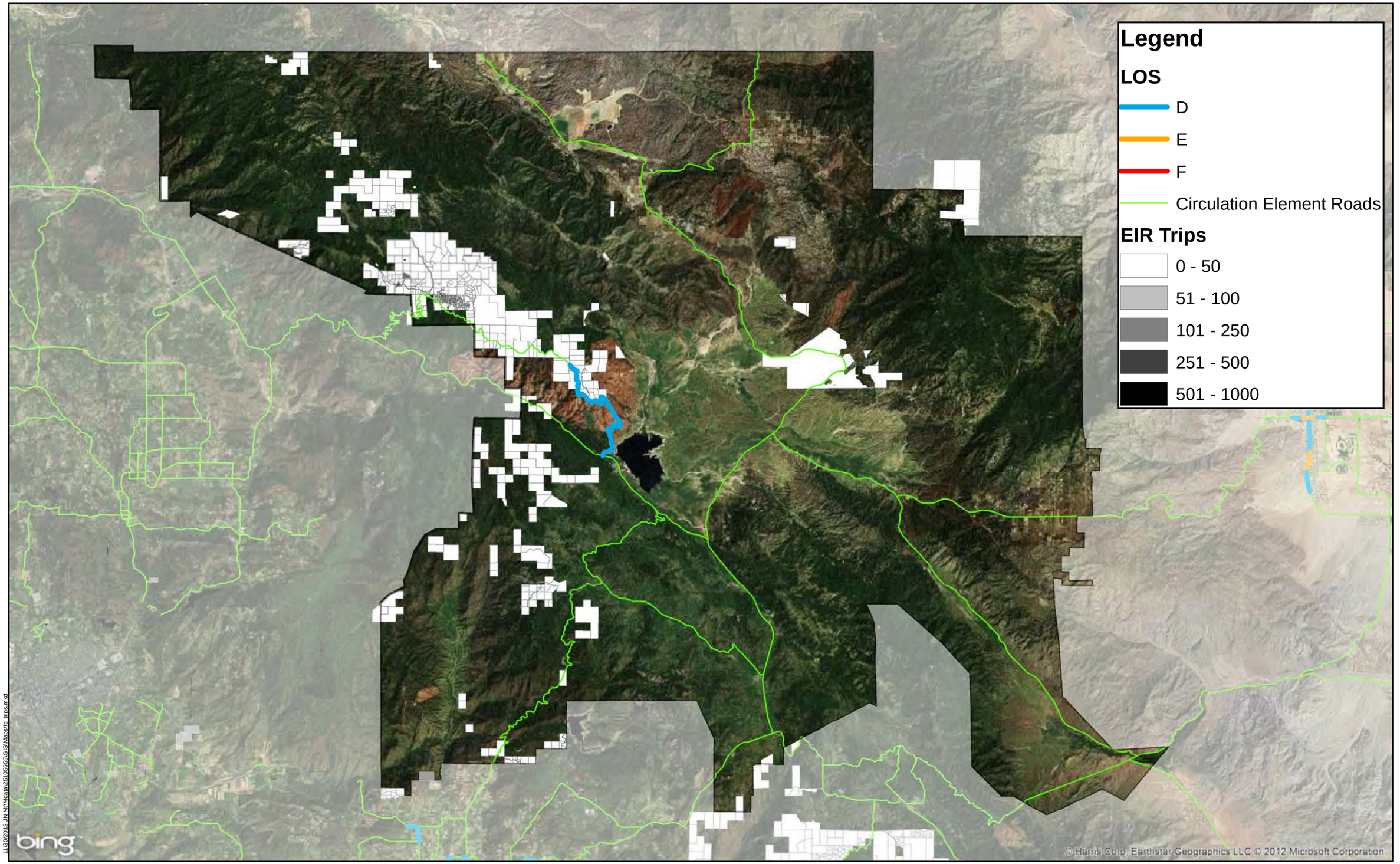
RBF CONSULTING GIS

SanGIS

0 1 2 4 Miles

EIR Trips: Mountain Empire



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SanGIS

0 1 2 4 Miles

EIR Trips: North Mountain

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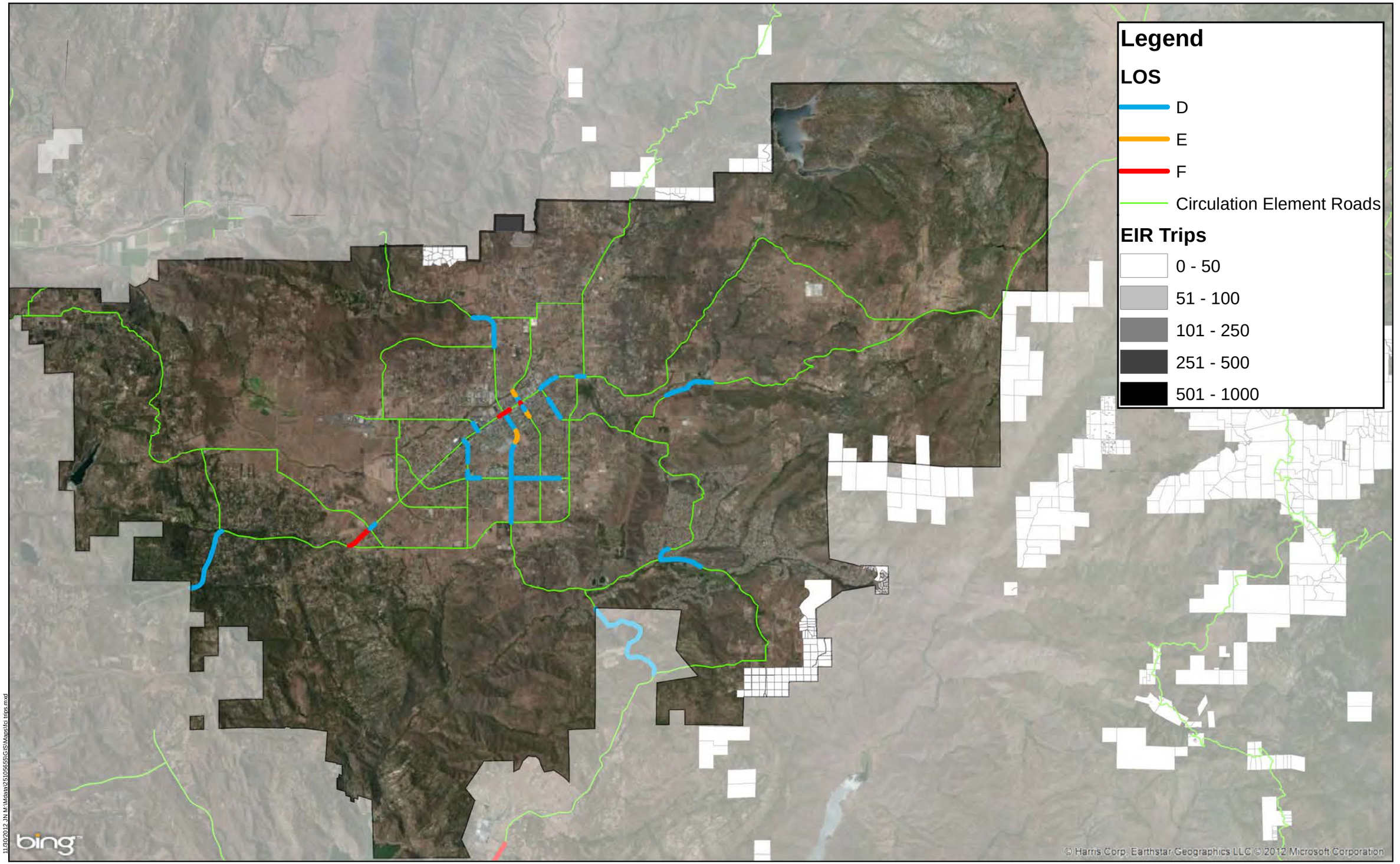
SanGIS

0 0.5 1 2 Miles

EIR Trips: Pendleton-De Luz



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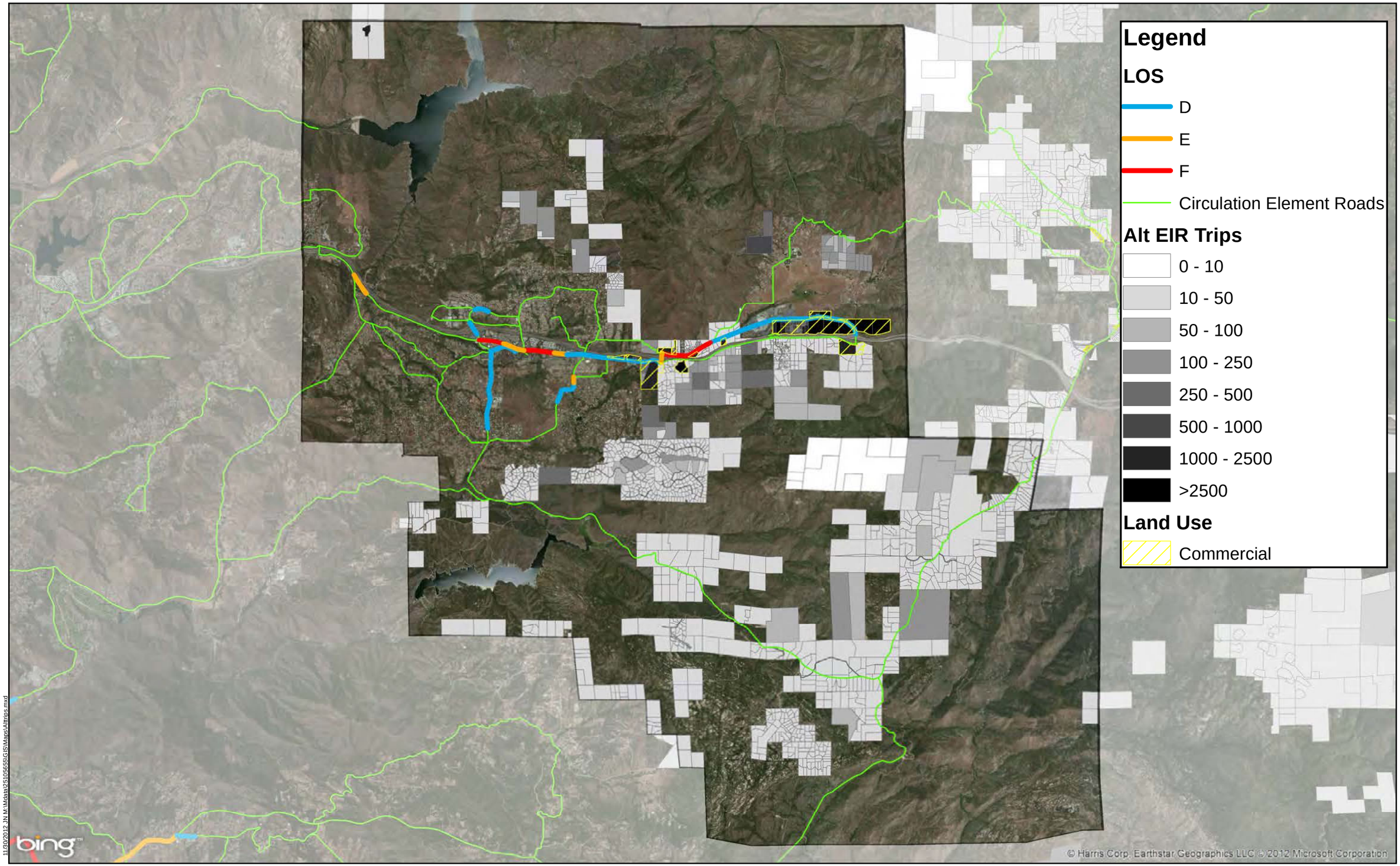
RBF CONSULTING GIS

SanGIS

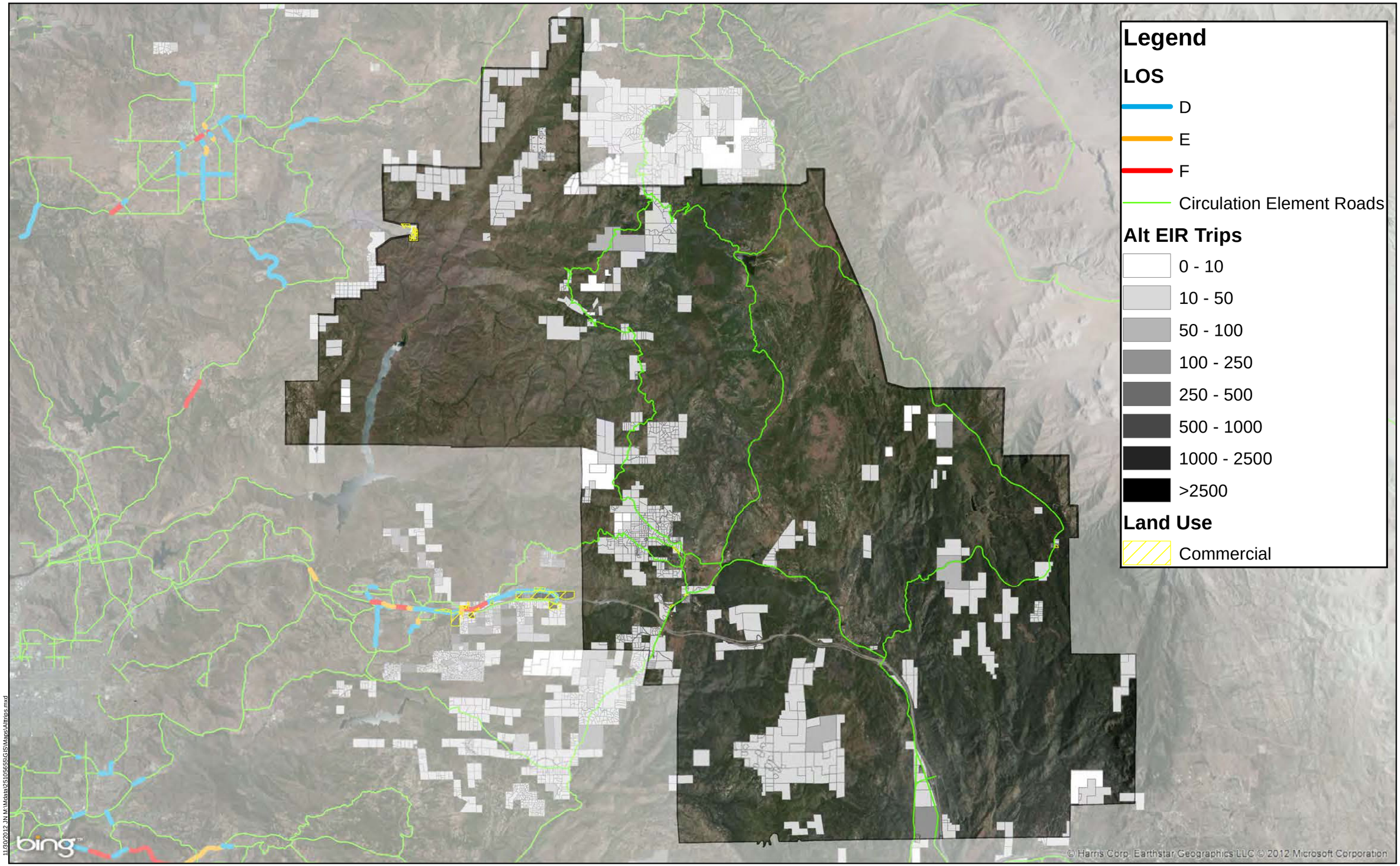
0 0.5 1 2 Miles

EIR Trips: Ramona

Proposed GPA Land Uses



Alt EIR Trips: Alpine



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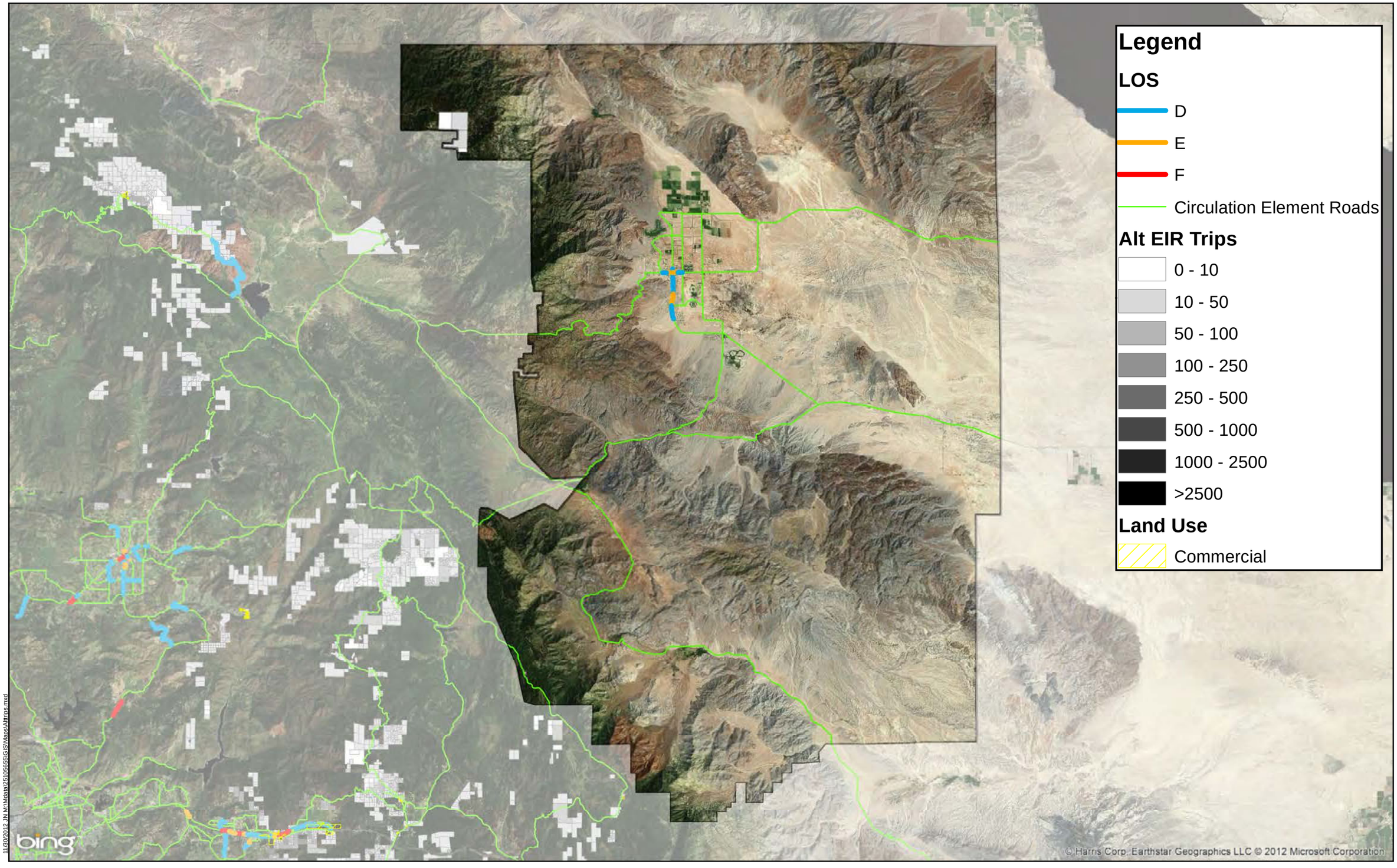
SanGIS

0 1 2 4 Miles

Alt EIR Trips: Central Mountain



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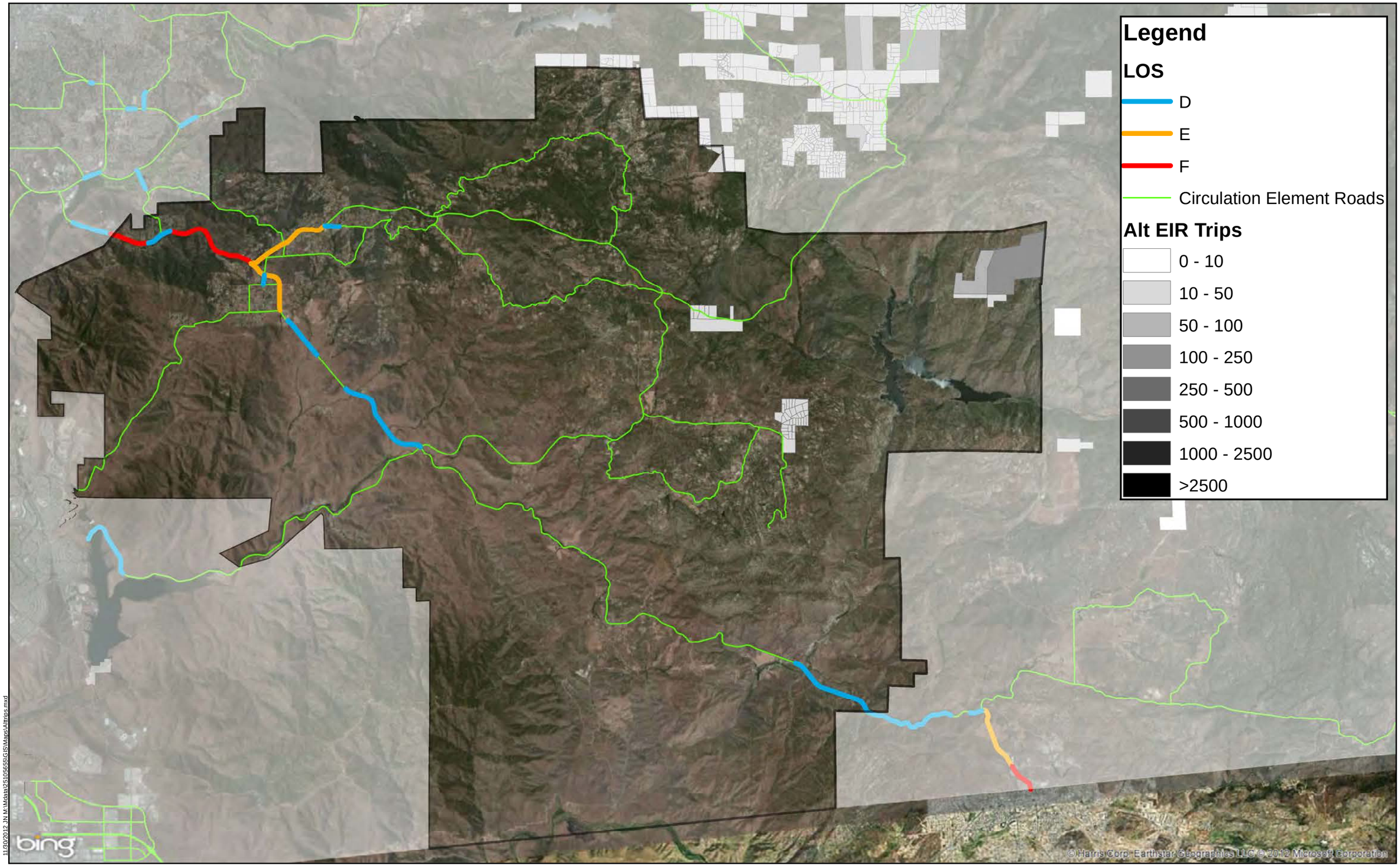
RBF CONSULTING A Baker Company GIS

SanGIS

0 1 2 4 Miles

Alt EIR Trips: Desert



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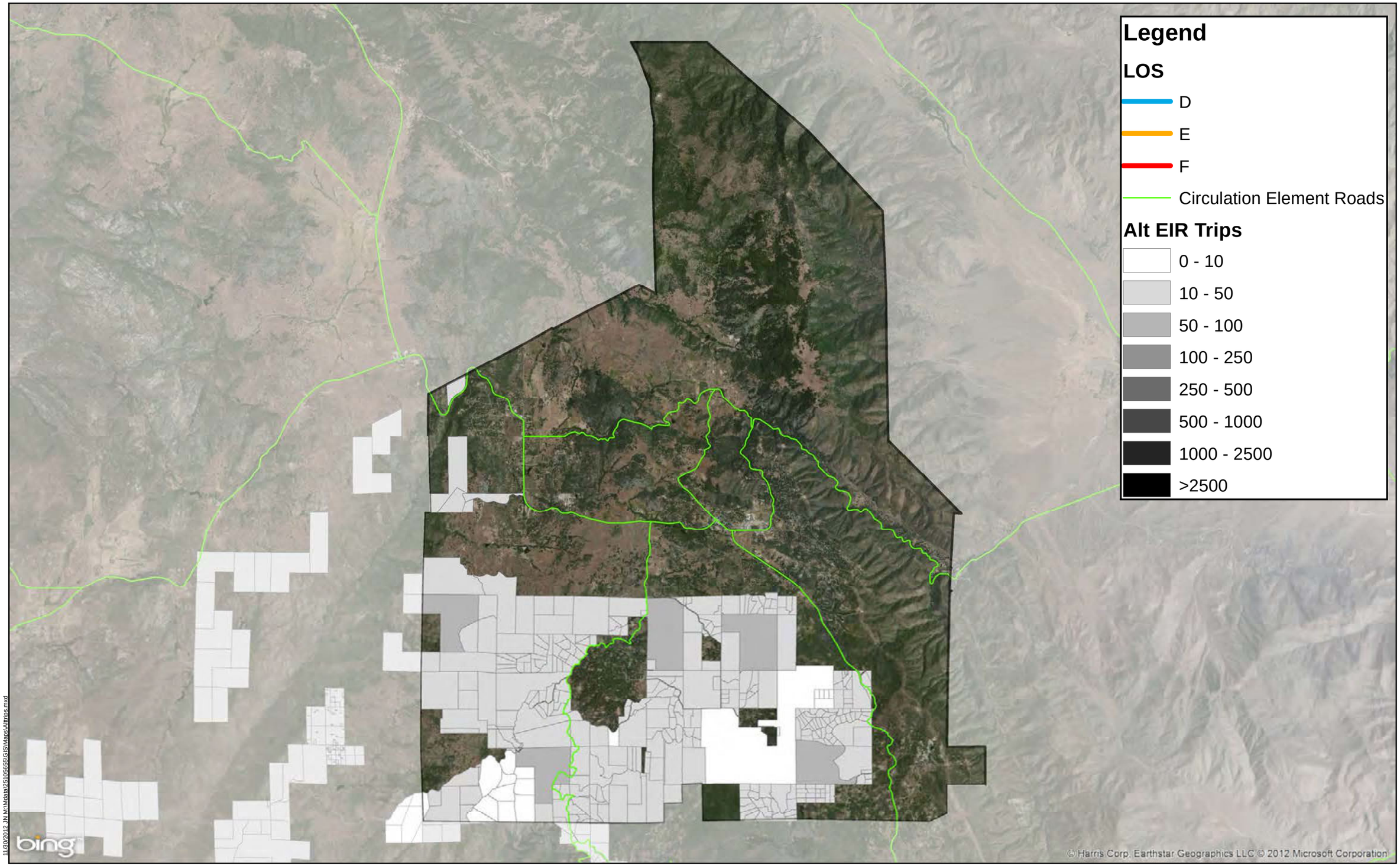
RBF CONSULTING GIS

SanGIS

0 1 2 4 Miles

Alt EIR Trips: Jamul-Delzura



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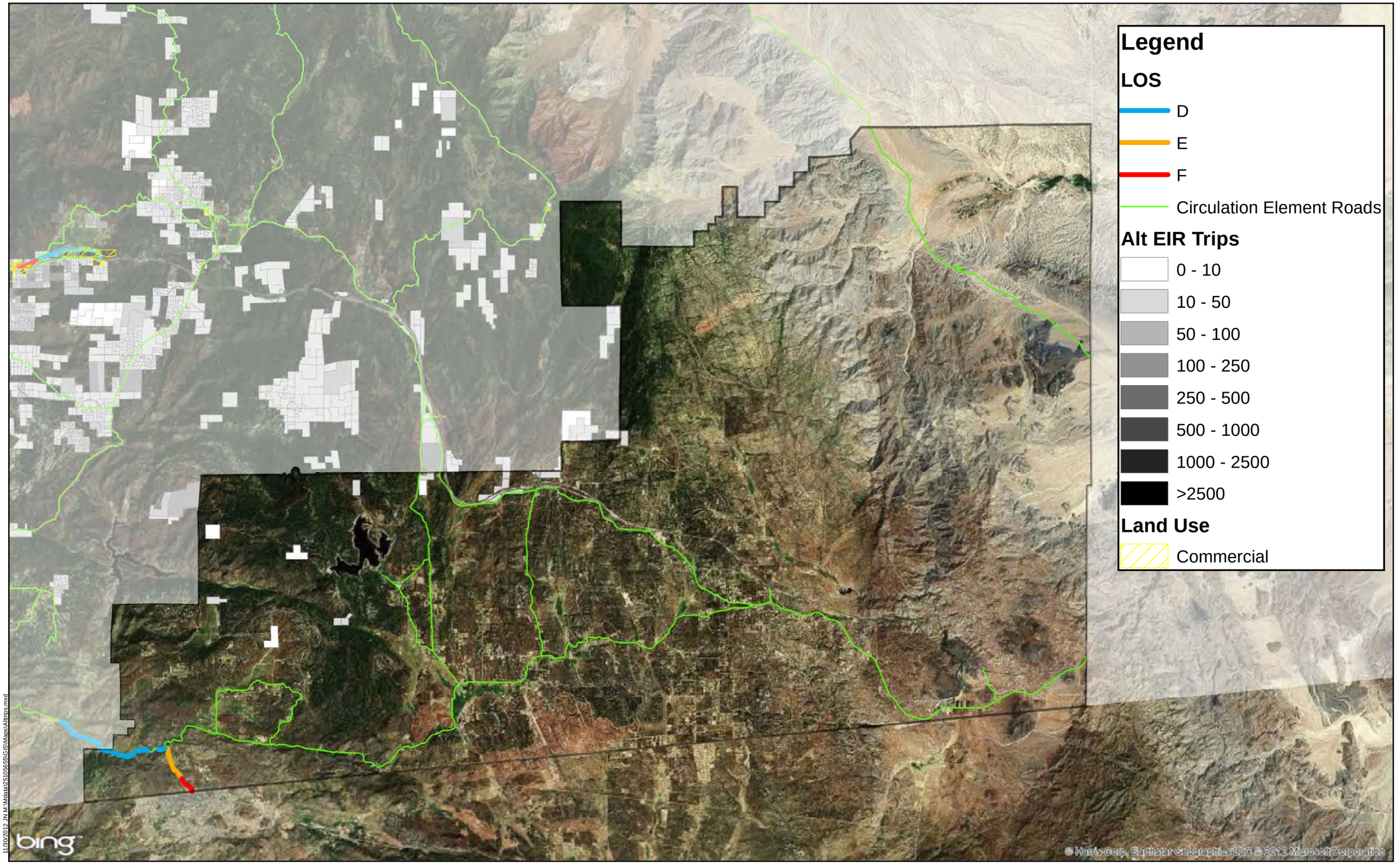
RBF CONSULTING GIS

SanGIS

0 0.5 1 2 Miles

Alt EIR Trips: Julian



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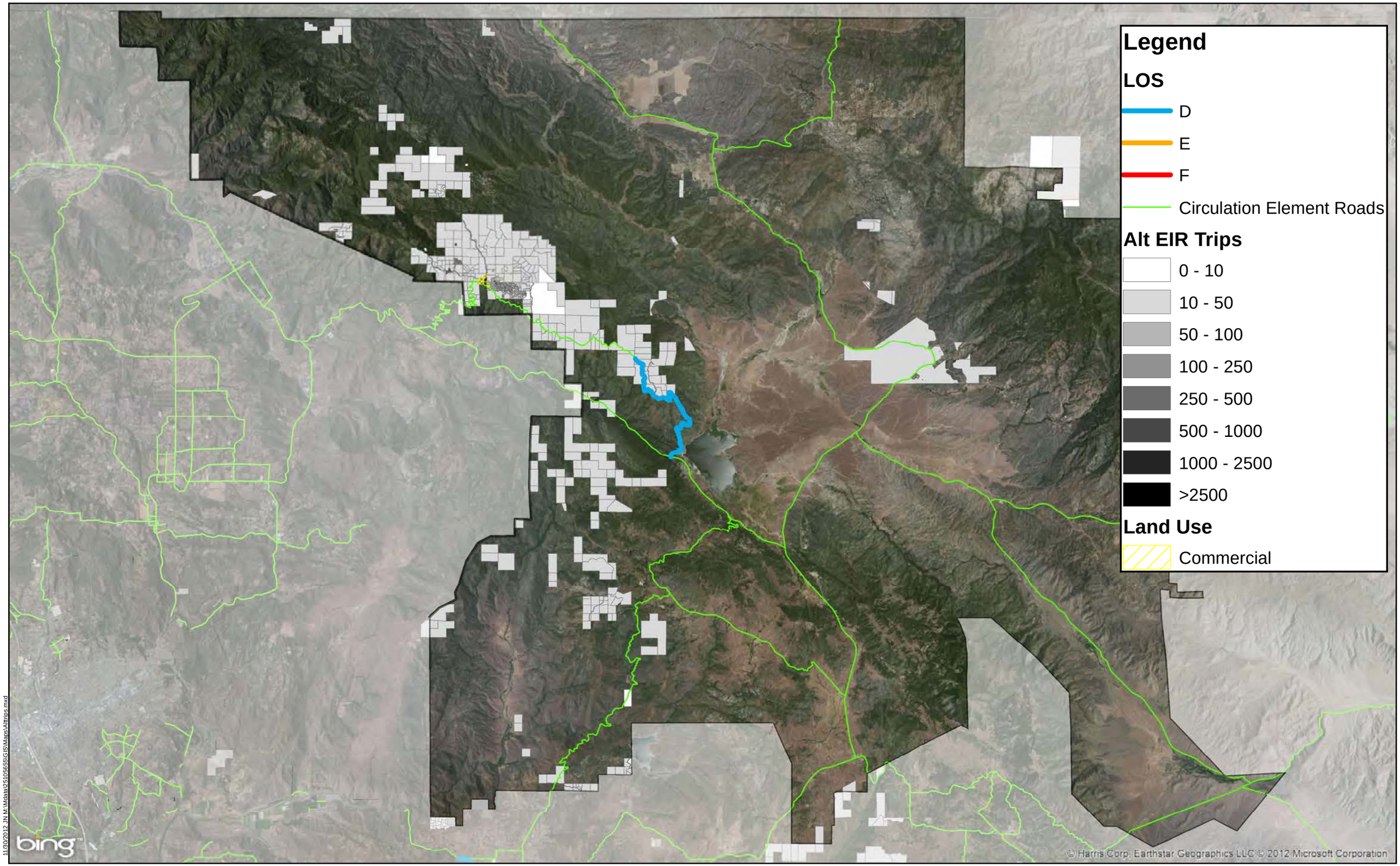
RBF CONSULTING GIS

SanGIS

0 1 2 4 Miles

Alt EIR Trips: Mountain Empire



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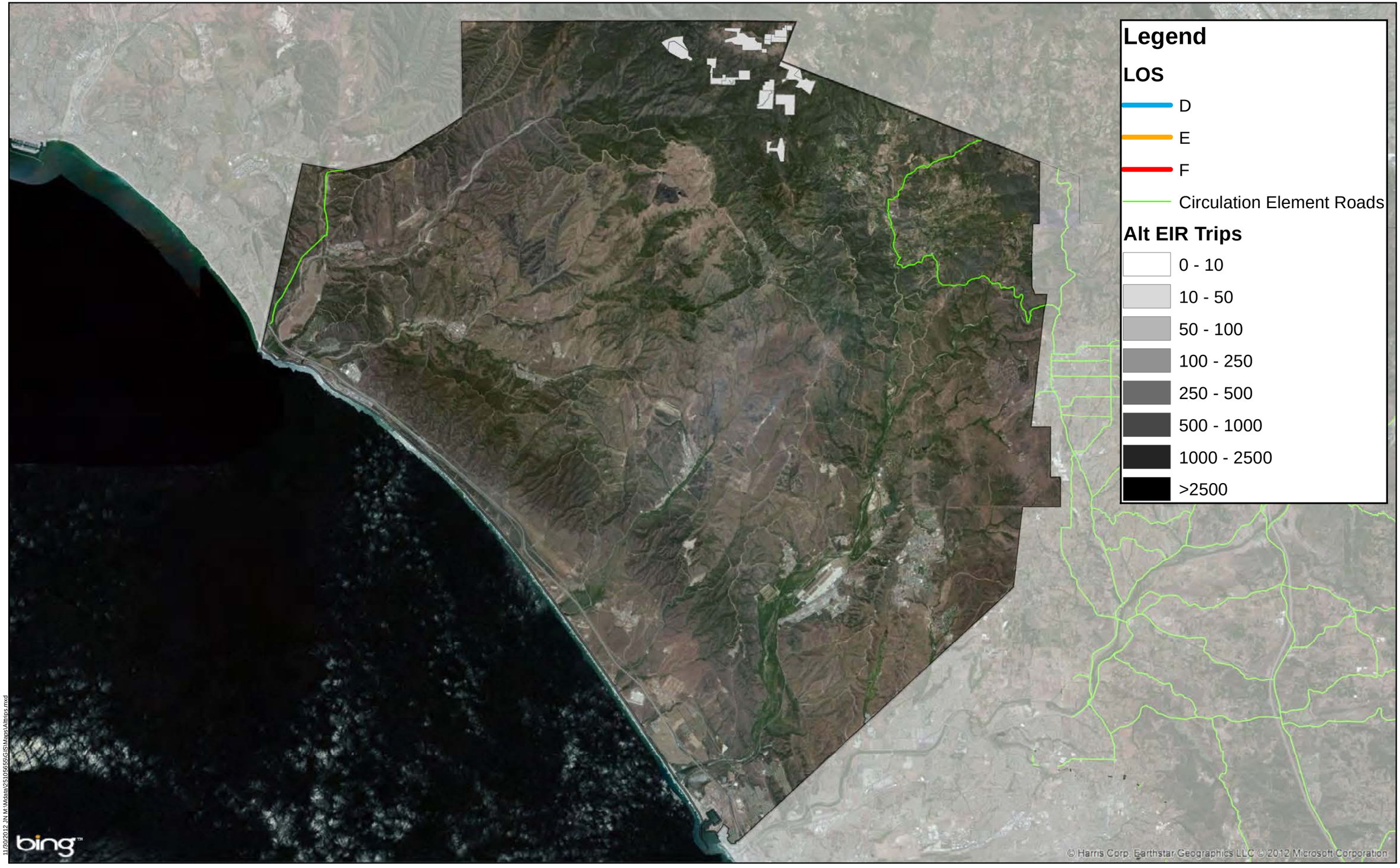
RBF CONSULTING A Baker Company GIS

SanGIS

0 1 2 4 Miles

Alt EIR Trips: North Mountain



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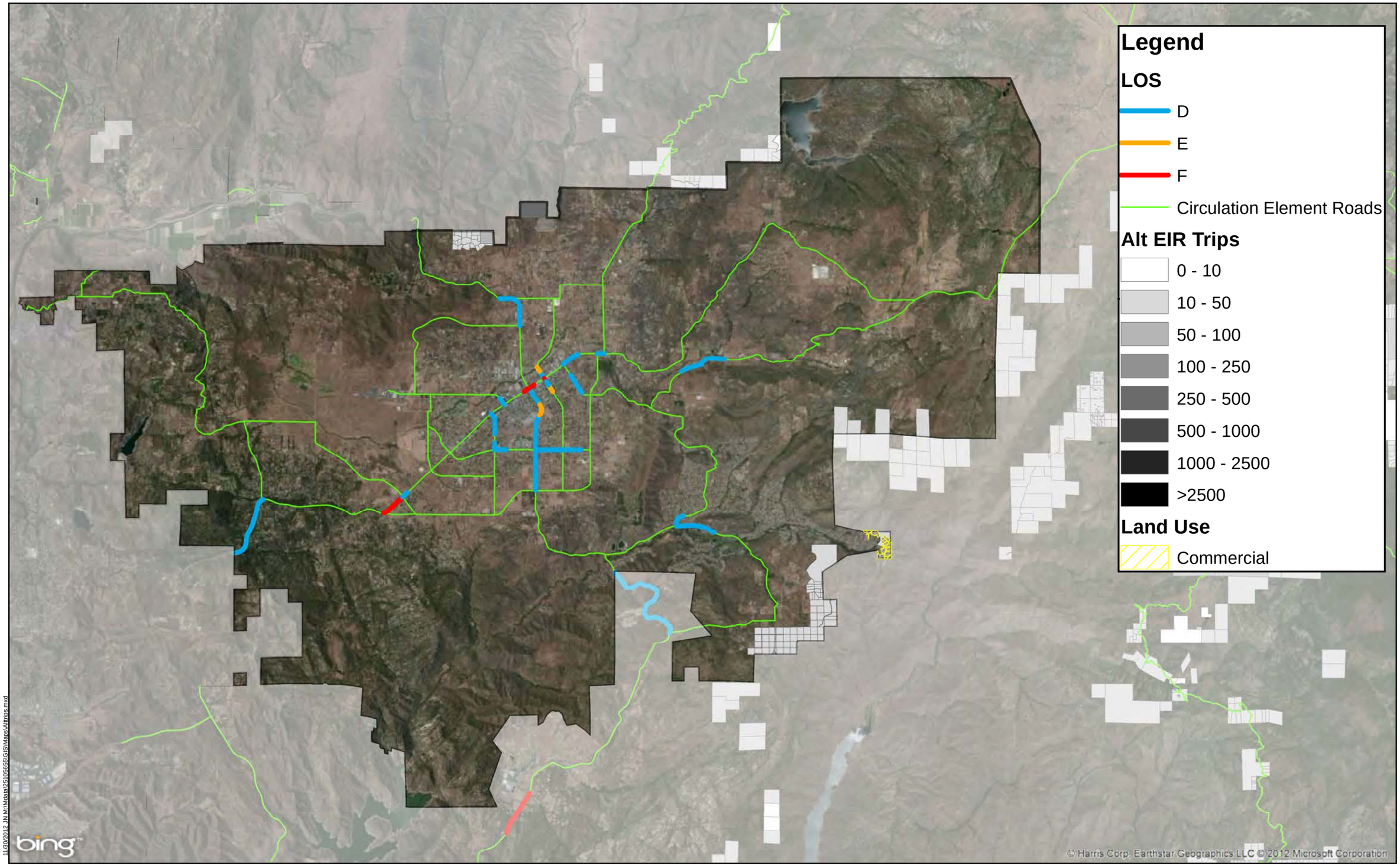
RBF CONSULTING GIS

SanGIS

0 1 2 4 Miles

Alt EIR Trips: Pendleton-De Luz



11/30/2012 JN M:\Mdata\25\10955\GIS\Maps\Altrips.mxd

RBF CONSULTING A Baker Company GIS

SanGIS

0 1 2 4 Miles

Alt EIR Trips: Ramona

APPENDIX B

Buildout ADT Volume Sources

- **GPU EIR Volume IV Appendix E (July 5, 2011)**
- **City of San Diego Forecast Model Plots**

GPU EIR Volume IV Appendix E (July 5, 2011)

EIR Volume IV
Appendix E

Technical Memorandum
Fehr & Peers

This appendix consists of a memorandum that presents an evaluation of the "Recommended Project 2011" Mobility Element road network alternative for the County of San Diego's General Plan Update.

FEHR PEERS

TECHNICAL MEMORANDUM

Date: July 5, 2011

To: Kim Howlett, ATKINS

From: Monique Chen, PE, Fehr & Peers

Phuong Nguyen, Fehr & Peers

Subject: ***County General Plan Update – Recommended Project 2011***

SD10-0019.02

This memorandum presents an evaluation of the "Recommended Project 2011" for the County of San Diego's General Plan Update. This latest alternative was based upon the Planning Commission Recommendation of 2010 ("Recommended Project 2010", memo dated September 20, 2010) with minor land use changes directed by the Board of Supervisors in the Spring of 2011.

Due to the on-going difficulties with SANDAG's ability to run the Series 10 Regional Transportation Model, this latest alternative was analyzed based upon manual adjustments to recent forecast data. The August 2010 SANDAG model output (Planning Commission "Recommended Project 2010") was utilized as the base model and was subjected to the manual adjustments. For the purpose of this update, only Traffic Analysis Zones (TAZs) with an Average Daily Traffic (ADT) change of $\pm$ 100 or greater were included in the evaluation.

As shown in **Table 1** below, a total of 49 TAZs were identified and trips from these TAZs were manually distributed onto the roadway network. The County has recently approved an EIR for the Campus Park Project in Fallbrook which included a Traffic Impact Study (TIS) prepared by LOS Engineering, Inc. dated May 12, 2009. The TIS utilized a 30% internal capture rate given the mixed-use nature of the project. As per County staff approval, the 30% internal capture was also applied to those TAZs in the vicinity of the Campus Park project, including TAZs 110, 127, and 4631.

TABLE 1
Recommended Project 2011 ADT Changes by TAZ

CPA	TAZ	Change in ADT		
		Residential	Non-Residential	Total
Alpine	2361	(22)	(144)	(167)
Alpine	2215	(6)	200	193
Bonsall	172	(2)	(1,289)	(1,291)
Bonsall	159	(0)	(613)	(613)
Bonsall	156	254	0	254
Bonsall	245	296	0	296

FEHR PEERS

TABLE 1
Recommended Project 2011 ADT Changes by TAZ

CPA	TAZ	Change in ADT		
		Residential	Non-Residential	Total
Borrego Springs	420	0	(286)	(286)
Borrego Springs	202	325	(189)	136
Borrego Springs	237	476	(288)	188
Borrego Springs	282	(37)	7,446	7,409
Central Mountain	4665	(128)	0	(128)
Fallbrook	110	(261)	25,593	25,332
Fallbrook	127	0	5,552	5,552
Fallbrook	18	117	0	117
Fallbrook	140	2	155	157
Fallbrook	4632	991	0	991
Fallbrook	4631	331	802	1,133
Fallbrook	35	4,026	277	4,304
Jamul	3615	(13)	323	311
Julian	1206	179	0	179
Julian	1071	180	1	180
Julian	694	244	0	244
Lakeside	2190	49	(282)	(234)
Lakeside	1784	(190)	16	(174)
Lakeside	1924	322	0	322
North County Metro	1142	(248)	0	(248)
North County Metro	970	0	115	115
North County Metro	590	2,262	0	2,262
North County Metro	551	1,138	0	1,138
North County Metro	591	652	0	652
North County Metro	1180	(23)	793	770
North County Metro	601	1,329	0	1,329
North County Metro	571	(900)	0	(900)
North Mountain	26	(333)	(0)	(333)
Pala - Pauma	104	(2)	111	110
Rainbow	17	0	141	141

FEHR PEERS

TABLE 1
Recommended Project 2011 ADT Changes by TAZ

CPA	TAZ	Change in ADT		
		Residential	Non-Residential	Total
Rainbow	19	5	2,309	2,314
Rainbow	21	(0)	8,177	8,177
Ramona	1282	(1,070)	0	(1,070)
Ramona	1333	(178)	(2)	(179)
Ramona	1322	(4)	(105)	(108)
Ramona	1271	1,759	0	1,759
San Dieguito	1223	(227)	0	(227)
San Dieguito	1490	0	203	203
Spring Valley	3620	(396)	(0)	(396)
Valley Center	268	(3)	125	122
Valley Center	149	151	0	151
Valley Center	430	(94)	831	736
Valley Center	343	852	2,003	2,855

Source: Fehr & Peers; June 2011

Note: (XXX) indicates negative values.

The adjusted model output was then identified to evaluate the roadway operating conditions associated with the Recommended Project 2011 alternative.

The analysis below documents the trip generation, vehicle miles of travel (VMT), roadway lane miles, lane miles by LOS, and deficient facilities associated with the Recommended Project 2011. This memo also provides the rationale and basis for the various refinements made to the SANDAG Regional Transportation Model output to ensure both the validity and reasonableness of the resulting traffic volumes and Level of Service (LOS).

TRIP GENERATION

Trip generation quantifies the amount of trip making as a function of the type and magnitude of the assumed land uses associated with the Recommended Project 2011. Trip generation rates as applied to the various land use types under the Recommended Project 2011 were consistent with those utilized in the SANDAG Regional Transportation Model, with additional refinements by SANDAG and County Staff to reflect the more rural nature and lower densities of typical County land uses.

Table 2 displays forecast daily vehicle trip generation for the Recommended Project 2011 in the unincorporated portions of San Diego County. Trip generation under existing conditions and buildout of the Existing General Plan are also shown, along with the change in vehicle trips from the Recommended Project 2011 when compared with the previously analyzed General Plan Update alternatives.

FEHR PEERS

TABLE 2
AVERAGE DAILY VEHICLE TRIP GENERATION

CPA	Average Daily Vehicle Trips (ADT)								
	Existing	Existing GP	Recommended Project 2011	Change From Recommended Project 2011					
				Referral	Draft Land Use	Hybrid	Environmentally Superior	Cumulative Analysis	Recommended Project 2010
Northwestern Communities									
Bonsall	63,438	112,477	94,024	21,536	20,075	21,135	19,535	21,789	1,354
Fallbrook	286,243	412,923	498,155	(38,401)	(39,456)	(34,845)	(90,743)	(1,228)	(37,585)
North County Metro	203,177	308,971	384,427	12,553	(1,944)	(408)	(50,181)	46,301	(5,118)
Pala - Pauma	61,484	144,156	105,156	2,108	(1,859)	(809)	(3,463)	8,349	(110)
Pendleton - De Luz	153,761	228,679	156,586	(1,510)	(731)	(847)	(1,338)	(731)	0
Rainbow	10,128	38,961	34,379	14,637	(11,490)	(10,608)	(11,922)	14,637	(10,632)
San Dieguito	149,828	258,641	236,933	(2,627)	(3,941)	(4,087)	(2,847)	(2,627)	23
Valley Center	104,633	220,161	277,247	47,923	2,397	7,396	(26,782)	57,470	(3,864)
Northwestern Communities Subtotal	1,032,692	1,724,969	1,786,907	56,219	(36,949)	(23,073)	(167,741)	143,960	(55,932)
Southwestern Communities									
Alpine	214,643	311,826	317,841	43,261	27,847	29,377	13,218	121,619	(27)
County Islands	13,443	15,340	18,153	(2,311)	(68)	(74)	68	(291)	0
Crest - Dehesa	48,729	61,944	56,423	(477)	(480)	(457)	(966)	(457)	0
Jamul - Dulzura	56,987	144,616	101,595	1,280	(417)	(471)	(4,727)	1,280	0
Lakeside	436,719	581,552	587,900	(4,720)	(1,295)	(1,649)	(1,590)	(1,295)	85
Otay	7,496	229,736	351,726	13,171	15,407	15,088	17,257	17,257	0

FEHR PEERS

TABLE 2
AVERAGE DAILY VEHICLE TRIP GENERATION

CPA	Average Daily Vehicle Trips (ADT)								
	Existing	Existing GP	Recommended Project 2011	Change From Recommended Project 2011					
				Referral	Draft Land Use	Hybrid	Environmentally Superior	Cumulative Analysis	Recommended Project 2010
Ramona	304,668	467,882	436,970	8,767	1,115	1,610	2,281	8,767	(401)
Spring Valley	336,273	412,392	411,687	4,299	6,973	6,662	9,723	9,723	396
Sweetwater	59,150	74,793	68,136	1,671	411	371	915	1,671	0
Valle De Oro	383,205	404,852	402,079	4,203	6,718	6,431	9,361	9,361	0
Southwestern Communities Subtotal	1,861,313	2,704,933	2,752,510	69,144	56,211	56,888	45,540	167,635	53
Eastern Communities									
Central Mountain	36,942	49,814	43,362	41	103	100	(152)	103	128
Desert	72,198	285,884	200,602	5,054	1,071	3,639	(8,529)	40,908	(7,447)
Julian	30,945	56,872	43,423	(686)	(1,537)	(1,282)	(1,507)	(686)	(603)
Mountain Empire	77,193	297,344	192,976	43,029	(7,061)	(7,178)	(20,831)	56,198	0
North Mountain	31,568	62,470	40,547	4,277	324	736	81	5,658	333
Eastern Communities Subtotal	248,846	752,384	520,910	51,715	(7,100)	(3,985)	(30,938)	102,181	(7,589)
Total	3,142,851	5,182,286	5,060,327	177,078	12,162	29,830	(153,139)	413,776	(63,468)

Source: Fehr & Peers; June 2011

Note: (XXX) indicates negative values.

As shown in the table, the Recommended Project 2011 would generate a total of 5,060,327 daily vehicle trips with 1,786,907 in the Northwestern Communities, 2,752,510 in the Southwestern Communities, and 520,910 in the Eastern Communities. The Recommended Project 2011 would result in approximately 122,000 fewer daily vehicle trips (-2.4%) than the Existing General Plan, and approximately 63,500 more daily vehicle trips (+1.3%) than the Planning Commission Recommended Project 2010. With consideration of the other previously analyzed General Plan Update alternatives, the Environmentally Superior alternative would generate fewer daily vehicle trips (approximately 153,100) than the Recommended Project 2011.

VEHICLE MILES OF TRAVEL (VMT)

Vehicle Miles of Travel (VMT) is a measurement of the total miles traveled by all motor vehicles in the area for a specified time period. VMT is an indicator of the overall magnitude of travel associated with each of the land use and roadway network alternatives. In general, a mix of land uses within closer proximity and requiring less driving distance for interaction can result in a reduction in VMT. Typically more dispersed and segregated (not mixed) land uses result in greater VMT.

Table 3 displays daily VMT for existing conditions, the existing General Plan and the Recommended Project 2011, as well as the change in daily VMT between the Recommended Project 2011 and the previously analyzed General Plan Update alternatives. As shown in the table, the Recommended Project 2011 would result in approximately 3.8 million less daily VMT (about 13.5%) than the Existing General Plan and approximately 155,000 less daily VMT (about 0.6%) than the Planning Commission Recommended Project 2010. All of the previously analyzed alternatives would result in more VMT than the Recommended Project 2011, except for the Environmentally Superior alternative.

LANE MILES BY FACILITY TYPE

Table 4 displays lane miles by facility type (State highways, ME roads and local public roads), as well as by subregion and CPA for the Recommended Project 2011. Note that the Recommended Project 2011 includes the following roadway network changes from the Planning Commission Recommended Project 2010:

- Deletion of New Road 3A
- Upgrade of a portion of Old Highway 395 from the I-15 interchange to West Lilac Road from a two-lane Community Collector (2.1D) to a four-lane Boulevard (4.2B)
- Upgrade of a portion of West Lilac Road from New Road 3 to Old Highway 395 from a two-lane Light Collector with Reduced Shoulder (2.2F) to a Light collector with Intermittent Turn Lane (2.2C)

FEHR & PEERS

TABLE 3
DAILY VEHICLE MILES OF TRAVEL (VMT)

CPA	Daily Vehicle Miles of Travel (VMT)								
	Existing	Existing GP	Recommended Project 2011	Change From Recommended Project 2011					
				Referral	Draft Land Use	Hybrid	Environmentally Superior	Cumulative Analysis	Recommended Project 2010
Northwestern Communities									
Bonsall	1,179,857	2,198,576	1,707,381	380,409	396,822	383,790	325,306	441,255	365,406
Fallbrook	1,356,481	2,468,641	2,581,691	(208,193)	(204,481)	(211,979)	(283,373)	(143,653)	(209,045)
North County Metro	1,645,889	3,074,185	2,822,841	(6,907)	(14,275)	(21,866)	(105,249)	86,507	(29,115)
Pala - Pauma	270,007	623,253	417,104	3,626	(5,485)	(3,209)	(19,390)	6,477	(6,659)
Pendleton - De Luz	2,734,946	3,938,832	3,819,540	(20,439)	(17,831)	(19,026)	(23,936)	(17,831)	(20,192)
Rainbow	422,169	806,804	569,255	242,363	225,957	226,516	224,874	243,318	226,387
San Dieguito	503,845	819,883	734,513	(12,821)	(12,217)	(13,370)	(13,260)	(12,217)	(11,961)
Valley Center	402,685	834,261	755,800	58,683	6,534	13,672	(76,203)	82,458	(12,322)
Northwestern Communities Subtotal	8,515,879	14,764,435	13,408,125	436,721	375,024	354,528	28,769	686,314	302,499
Southwestern Communities									
Alpine	745,350	1,144,080	1,012,838	137,856	126,145	128,751	112,263	224,009	(101,644)
County Islands	320,638	385,062	391,693	(2,970)	(1,467)	(1,583)	88	88	(399)
Crest - Dehesa	151,969	218,408	206,753	(1,748)	(2,958)	(2,605)	(5,250)	3,643	(20,165)
Jamul - Dulzura	315,670	739,375	514,230	70,374	(2,111)	(1,687)	(21,983)	70,374	35,109
Lakeside	1,483,082	2,127,527	2,195,690	(12,643)	(4,837)	(5,733)	(14,831)	1,715	(71,093)
Otay	24,779	366,917	443,543	17,496	19,429	19,085	20,381	20,381	(1,462)

FEHR & PEERS

TABLE 3
DAILY VEHICLE MILES OF TRAVEL (VMT)

CPA	Daily Vehicle Miles of Travel (VMT)								
	Existing	Existing GP	Recommended Project 2011	Change From Recommended Project 2011					
				Referral	Draft Land Use	Hybrid	Environmentally Superior	Cumulative Analysis	Recommended Project 2010
Ramona	685,606	1,118,342	840,007	28,309	2,143	10,000	(11,105)	32,129	1,580
Spring Valley	870,515	1,194,885	1,153,630	14,910	19,540	19,151	27,048	27,048	13,071
Sweetwater	571,218	881,328	859,649	928	5,185	4,867	10,716	10,716	236
Valle De Oro	568,211	707,773	628,472	8,874	10,501	9,776	9,706	10,501	6,466
Southwestern Communities Subtotal	5,737,038	8,883,697	8,246,504	261,387	171,571	180,023	127,034	400,605	(138,300)
Eastern Communities									
Central Mountain	559,722	229,028	851,897	167	2,024	5,707	(23,865)	40,759	(11,906)
Desert	161,005	686,572	307,219	16,353	(2,541)	5,573	(22,516)	28,552	(529)
Julian	66,945	1,301,424	89,446	5,757	(3,166)	(260)	(7,271)	14,559	10,122
Mountain Empire	623,737	1,655,818	1,242,533	63,152	(45,464)	(45,412)	(100,752)	119,568	(26,447)
North Mountain	257,823	857,490	399,102	42,526	(2,620)	7,244	(17,112)	54,755	19,752
Eastern Communities Subtotal	1,669,232	4,730,332	2,890,197	127,955	(51,767)	(27,148)	(171,516)	258,193	(9,008)
Total	15,922,149	28,378,464	24,544,826	826,063	494,828	507,403	(15,713)	1,345,112	155,191

Source: Fehr & Peers; July 2011

Note: (XXX) indicates negative values.

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TABLE 4
ROADWAY LANE MILES BY SUBREGION AND CPA
RECOMMENDED PROJECT 2011

CPA	Lane Miles			
	State Highway	ME Roads	Local Public Roads	Total
Northwestern Communities				
Bonsall	17.2	85.1	21.6	123.9
Fallbrook	26.1	151.5	50.0	227.6
North County Metro	15.2	200.8	34.7	250.7
Pala - Pauma	60.0	46.1	3.4	109.5
Pendleton - De Luz	-	57.7	2.4	60.1
Rainbow	-	18.7	-	18.7
San Dieguito	-	105.7	54.2	159.9
Valley Center	-	177.6	36.4	214.0
Northwestern Communities Subtotal	118.5	843.2	202.7	1,164.4
Southwestern Communities				
Alpine	-	107.7	32.5	140.2
County Islands	-	3.9	-	3.9
Crest - Dehesa	-	63.0	9.1	72.1
Jamul - Dulzura	54.7	99.5	59.6	213.8
Lakeside	31.5	180.5	52.6	264.6
Otay	-	61.1	6.5	67.6
Ramona	64.6	149.8	51.8	266.2
Spring Valley	-	62.4	31.8	94.2
Sweetwater	-	25.0	8.1	33.1
Valle De Oro	10.8	98.7	34.0	143.5
Southwestern Communities Subtotal	161.6	851.6	286.0	1299.2
Eastern Communities				
Central Mountain	42.6	146.2	66.2	255.0
Desert	60.3	266.2	8.1	334.6
Julian	35.0	24.5	1.4	60.9
Mountain Empire	70.7	144.2	76.4	291.3
North Mountain	123.9	120.1	61.7	305.7
Eastern Communities Subtotal	332.5	701.2	213.8	1,247.5
Total	612.6	2,396.0	702.5	3,711.1

Source: Fehr & Peers; June 2011

As shown in Table 4, the Recommended Project 2011 includes 612.6 lane miles of State highways, 2,396.0 lane miles of County ME roads, and 702.5 lane miles of local public roads, for a total of 3,711.1 roadway lane miles in the unincorporated County. Under the Recommended Project 2011, County ME roadway lane miles are fairly evenly distributed amongst the three subregions (35.2% in the Northwestern Communities, 35.5% in the Southwestern Communities, and 29.3% in the Eastern Communities). A little over half (54.3%) of the State highway lane miles are located in the Eastern Communities. Local public road lane miles are also fairly evenly distributed amongst the three subregions (28.9% in the Northwestern Communities, 40.7% in the Southwestern Communities, and 30.4% in the Eastern Communities).

REFINEMENT AND APPLICATION OF MODEL OUTPUT

Output from the SANDAG traffic model included forecast traffic volumes (ADTs) and plots displaying roadway segment LOS for the Recommended Project 2011. In addition to manually adjusting the model to account for the land use changes associated with the Recommended Project 2011, additional review of the model output was undertaken to ensure both the validity and reasonableness of the resulting traffic volumes and LOS.

Based upon detailed review of the model output, in a number of instances the LOS as reported by the model was adjusted to account for the following:

1. Variability in traffic forecasts associated with centroid loadings – The coding and location of centroid connectors (connect the TAZ to the roadway network) can impact the loading of traffic onto the adjacent roadway segments. TAZ sizes can vary with large TAZs more common in less developed, more rural areas with fewer roadway facilities. The traffic model in these situations can result in excess volume loadings specifically on the immediately adjacent links. Forecast traffic volumes and associated deficiencies were reviewed to ensure a balanced and reasonable loading pattern from the TAZs onto the adjacent roadway network.

2. Variability in traffic forecasts associated with local streets – The SANDAG regional model roadway network does not reflect all local streets, which could result in potential over-forecasting on adjacent Mobility Element roads. Forecast traffic volumes and associated deficiencies were reviewed to ensure reasonable trip distribution and assignment to the modeled roadway network.

3. Overall accuracy of forecast traffic volumes – Traffic forecasts have an associated level of accuracy, which is typically and conservatively assumed as plus or minus ten percent (10%) for roadway segments. Identified deficiencies from the traffic model were examined to ensure reasonability within the expected accuracy of the model.

Conduct of the model adjustments and the aforementioned reasonability checks and adjustments resulted in a refined list of roadway segment deficiencies associated with the Recommended Project 2011. **Table 5** displays the specific roadway segment deficiency adjustments, by CPA, that resulted in deletion of the subject segment as a deficiency, along with the rationale. Note that the number indicated in the "Adjustment Rationale" column represents one or more of the three situations referenced above.

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TABLE 5
ADDITIONAL MODEL OUTPUT MANUAL ADJUSTMENTS
RECOMMENDED PROJECT 2011

CPA	Facility Type	Roadway	Segment Limits	Adjustment Rationale
Northwestern Communities				
Bonsall	ME Road	Old Hwy 395	Dublin (W) Rd to West Lilac Rd	3
Fallbrook	ME Road	Pankey Road	Pala Rd to Shearer Crossing	1 & 3
		Stage Coach Lane	Alvarado St to Fallbrook St	2 & 3
		Mission Road	Clemmens Ln to Ohearn Rd	2 & 3
Fallbrook	ME Road	Mission Road	Ohearn Rd to Laurine Ln	2 & 3
		Mission Road	De Luz Rd to Vine St	2 & 3
		Mission Road	Vine St to Brandon Rd	3
		Mission Road	Stage Coach Ln to Davis Dr	3 & 2
		Alvarado Street	Main Ave to West of Brandon Rd	3
		Fallbrook Street	Old Stage Rd to Mandarin Dr	2
		Old Hwy 395	Stewart Canyon Rd to Pala Mesa Dr	3
		Reche Road	Fallbrook St to Green Canyon Rd	2 & 3
North County Metro	State Hwy	SR-78	Smilax Rd to Sycamore Ave	1 & 3
	ME Road	Deer Springs Road	Mesa Rock Rd to I-15 NB Ramps	3
		Bear Valley Parkway	Eldorado Dr to San Pasqual Valley Rd	3
Pala - Pauma	-	-	-	-
Pendleton - De Luz	-	-	-	-
Rainbow	-	-	-	-
San Dieguito	ME Road	Paseo Delicias	Via De La Valle to La Granada	3
		El Camino Del Norte	Via de Fortuna to Via Roswitha	2
Valley Center	ME Road	Valley Center Road	Lilac Rd to Canyon Rd	3
Valley Center	ME Road	Valley Center Road	Canyon Rd to New Southern Pass	3
		Valley Center Road	New Southern Pass to Miller Rd	3
		Valley Center Road	Turtle Rock to Rock Hill Ranch	3 & 2
Southwestern Communities				
Alpine	ME Road	Alpine Boulevard	Arnold Wy to Peutz Valley Rd	1
		Alpine Boulevard	Tavern Rd to Boulders Rd	3
		South Grade Road	Eltinge Dr to Olive View Rd	3

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TABLE 5
ADDITIONAL MODEL OUTPUT MANUAL ADJUSTMENTS
RECOMMENDED PROJECT 2011

CPA	Facility Type	Roadway	Segment Limits	Adjustment Rationale
Alpine	ME Road	Tavern Road	I-8 WB Ramps to Alpine Blvd	3
County Islands	-	-	-	-
Crest - Dehesa	-	-	-	-
Jamul - Dulzura	State Hwy	Campo Road/SR-94	Fair Acres Ln to Steele Canyon Rd	3
Lakeside	ME Road	Lake Jennings Park Road	I-8 WB Off-Ramp to I-8 EB Off-Ramp	3
		Julian Avenue	Los Coches Rd to Cypress Ln	2 & 3
		Mapleview Street	SR-67 SB Off Ramp to Maine Ave/SR-67 On Ramp	2
		Greenfield Drive	Graves Ave to Ballantyne St	2 & 3
		Graves Avenue	Graves Ave to Bradley Ave	2 & 3
Otay	ME Road	Otay Mesa Road	Enrico Firmi to west of Alta Road	2 & 3
		Enrico Firmi	SR-11 to Otay Mesa Rd	2
		Sempre Viva Road	SR-11 EB Ramps to Loop Rd	3
Ramona	State Hwy	SR-67	East of Ranchro de Oro Dr to Mussey Grade Rd	1 & 3
	ME Road	San Vicente Road	H St to 11th St	1 & 3
		San Vicente Road	Warnock Dr to Wildcat Canyon Rd	3
		San Vicente Road	Wildcat Canyon Rd to west of Serra Wy	3
		Pine Street	Ash St to Cedar St	3
		Wildcat Canyon Road	San Vicente Oak Rd to Harry Hertzberg Wy	3
Spring Valley	ME Road	Jamacha Boulevard	Sweetwater Rd to Kempton St	2 & 3
		Paradise Valley Road	Worthington St to Elkelton Blvd	3
Spring Valley	ME Road	Kenwood Drive	Bancroft Dr to James Circle	3
		Kenwood Drive	Andreen St to SR-94 EB Ramps	3
Sweetwater	ME Road	Sweetwater Road	Plaza Bonita Center Wy to Mesa Vista Wy	3
		Sweetwater Road	Mesa Vista Wy to Willow St	3
		Sweetwater Road	Willow St to Orchard Hill Rd	3
Valle De Oro	ME Road	Conrad Drive	Sierra Madre Rd to Campo Rd	2 & 3
		Kenwood Drive	Campo Rd to SR-94 WB Ramps	2 & 3

TABLE 5
ADDITIONAL MODEL OUTPUT MANUAL ADJUSTMENTS
RECOMMENDED PROJECT 2011

CPA	Facility Type	Roadway	Segment Limits	Adjustment Rationale
Valle De Oro	ME Road	Avocado Boulevard	SR-94 WB Ramps to Madrid Wy	2 & 3
		North Barcelona Street	Campo Rd to Delores St	2
Eastern Communities				
Central Mountain	-	-	-	-
Desert	ME Road	Palm Canyon Drive	Ocotillo Cir to Borrego Springs Rd	1
		Christmas Circle	Palm Canyon Dr to Sunset Rd	2 & 3
		Christmas Circle	Sunset Rd to Borrego Springs Rd	2
		Borrego Spring Road	Diamond Bar Rd to Tilting T Dr	2 & 3
		Palm Canyon Drive	Christmas Circle to Stirrup Rd	2
Julian	-	-	-	-
Mountain Empire	State Hwy	Tecate Road/SR-188	Campo Rd to Airport Rd	1 & 3
	ME Road	Ribbonwood Road	Manzanita Dulce Rd to I-8 EB Ramps	1
		Carrizo Gorge Road	Carrizo Gorge Rd to I-8 EB Ramps	1
North Mountain	-	-	-	-

Source: Fehr & Peers; June 2011

As noted, the segments displayed in Table 5 were deleted from the list of roadway segments considered to be operating at substandard LOS E/F.

LANE MILES BY LOS

Table 6 displays roadway network performance for the Recommended Project 2011. Roadway lane miles by LOS category are reported by facility type (State highways and ME roads), as well as by subregion and CPA. This analysis incorporates the model output refinements and LOS adjustments outlined in the previous sections. Lane miles operating at LOS E and F were identified as deficiencies and subject to mitigation.

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TABLE 6
ROADWAY LANE MILES BY LEVEL OF SERVICE
RECOMMENDED PROJECT 2011

CPA	Lane Miles								
	LOS A-D			LOS E			LOS F		
	State Hwy	ME Roads	Total	State Hwy	ME Roads	Total	State Hwy	ME Roads	Total
Northwestern Communities									
Bonsall	4.8	85.1	89.9	2.7	-	2.7	9.7	-	9.7
Fallbrook	25.5	132.2	157.7	0.6	6.2	6.8	-	13.1	13.1
North County Metro	15.2	199.4	214.6	-	-	-	-	1.4	1.4
Pala - Pauma	55.8	46.1	101.9	-	-	-	4.2	-	4.2
Pendleton - De Luz	-	57.7	57.7	-	-	-	-	-	-
Rainbow	-	15.5	15.5	-	3.1	3.1	-	0.1	0.1
San Dieguito	-	71.4	71.4	-	10.1	10.1	-	24.2	24.2
Valley Center	-	161.0	161.0	-	8.7	8.7	-	7.9	7.9
Northwestern Communities Subtotal	101.3	768.4	869.7	3.3	28.1	31.4	13.9	46.7	60.6
Southwestern Communities									
Alpine	-	104.0	104.0	-	0.3	0.3	-	3.4	3.4
County Islands	-	3.6	3.6	-	-	-	-	0.3	0.3
Crest - Dehesa	-	63.0	63.0	-	-	-	-	-	-
Jamul - Dulzura	54.7	96.4	151.1	-	3.1	3.1	-	-	-
Lakeside	24.7	162.5	187.2	5.6	4.5	10.1	1.2	13.5	14.7
Otay	-	61.1	61.1	-	-	-	-	-	-
Ramona	63.7	146.8	210.5	0.9	0.2	1.1	-	2.8	2.8
Spring Valley	-	58.9	58.9	-	2.2	2.2	-	1.3	1.3
Sweetwater	-	24.3	24.3	-	0.7	0.7	-	-	-
Valle De Oro	10.8	90.6	101.4	-	3.2	3.2	-	4.9	4.9
Southwestern Communities Subtotal	153.9	811.2	965.1	6.5	14.2	20.7	1.2	26.2	27.4

TABLE 6
ROADWAY LANE MILES BY LEVEL OF SERVICE
RECOMMENDED PROJECT 2011

CPA	Lane Miles								
	LOS A-D			LOS E			LOS F		
	State Hwy	ME Roads	Total	State Hwy	ME Roads	Total	State Hwy	ME Roads	Total
Eastern Communities									
Central Mountain	42.6	146.2	188.8	-	-	-	-	-	-
Desert	60.3	266.2	326.5	-	-	-	-	-	-
Julian	35.0	24.5	59.5	-	-	-	-	-	-
Mountain Empire	70.7	144.2	214.9	-	-	-	-	-	-
North Mountain	123.9	120.1	244.0	-	-	-	-	-	-
Eastern Communities Subtotal	332.5	701.2	1,033.7	-	-	-	-	-	-
Total	587.7	2,280.8	2,868.5	9.8	42.3	52.1	15.1	72.9	88.0

Source: Fehr & Peers; June 2011

As shown in Table 6, a total of 52.1 lane miles of facilities (9.8 lane miles of State highways and 42.3 lane miles of ME roads) would operate at LOS E. A total of 88.0 lane miles of facilities (15.1 lane miles of State highways and 72.9 lane miles of ME roads) would operate at LOS F under buildout of Recommended Project 2011. The Northwestern Communities would have the most deficient roadway lane miles at 92.0; the Southwestern Communities are projected to have 48.1 lane miles of deficient facilities (approximately half of the Northwestern Communities), with the Eastern Communities having no deficient roadways.

Table 7 summarizes the projected total number of deficient roadway segments and corresponding deficient roadway lane miles throughout the unincorporated County under buildout of the Recommended Project 2011.

TABLE 7
SUMMARY OF DEFICIENT ROADWAYS
RECOMMENDED PROJECT 2011

Type	State Highways	ME Roads	Total
Deficient Segments (#)	11	69	80
Deficient Lane Miles	24.9	115.2	140.1

Source: Fehr & Peers; June 2011

DEFICIENT FACILITIES

Table 8 lists the deficient roadway segments (LOS E and F) in the unincorporated portion of the County of San Diego under the Recommended Project 2011. This table also includes forecast ADT, LOS, roadway classification type, and mitigated classification. The roadway classification represents the General Plan Update classification as indicated for the Recommended Project 2011, and the mitigated roadway classification represents the classification which would be required to mitigate the identified deficiency.

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TABLE 8
DEFICIENT FACILITIES (LOS E/F) BY SUBREGION AND CPA
RECOMMENDED PROJECT 2011

CPA	Facility Type	Roadway	Segment Limits	Classification	ADT	LOS	Mitigated Classification
Northwestern Communities							
Bonsall	State Hwy	Mission Road/SR-76	Oceanside/County Boundary to Vista Wy	4-Ln State Highway	55,100	F	6-Ln State Highway
		Mission Road/SR-76	Vista Wy to Holly Ln	4-Ln State Highway	44,400	E	6-Ln State Highway
		Mission Road/SR-76	Holly Ln to North River Rd	4-Ln State Highway	44,400	E	6-Ln State Highway
		Mission Road/SR-76	North River Rd to Via Montellano	4-Ln State Highway	54,300	F	6-Ln State Highway
		Mission Road/SR-76	Via Montellano to Mission Rd	4-Ln State Highway	54,400	F	6-Ln State Highway
Fallbrook	State Hwy	Pala Road/SR-76	Old Hwy 395 to I-15 SB Ramps	4-Ln State Highway	48,000	E	6-Ln State Highway
	ME Road	De Luz Road	Dougherty St to Mission Rd	2.2C	14,900	E	2.1A
		Mission Road	Live Oak Park Rd to Old Hwy 395	4.2B	34,000	F	6.2
		Mission Road	Old Hwy 395 to I-15 SB Ramps	4.2B	41,200	F	6.2
		Old Hwy 395	Rainbow CPA Boundary to Mission Rd	2.1D	18,900	E	4.2B
		Old Hwy 395	Mission Rd to Reche Rd	2.1A	22,400	F	4.2B
		Old Hwy 395	Reche Rd to Stewart Canyon Rd	2.1A	28,500	F	4.1B
		Old Hwy 395	Steward Canyon Rd to Pala Mesa Dr	2.1A	22,100	F	4.2A
		Old Hwy 395	Pala Rd to Dublin (E) Rd	2.1D	14,900	E	4.2B
		Old Hwy 395	Dublin (E) Rd to Dublin (W) Rd	2.1D	16,700	E	4.2B
North County Metro	ME Road	Deer Springs Road	I-15 NB Ramps to N Centre City Pkwy	4.1B	45,100	F	6.2
		Mountain Meadows Road / Mirar De Valle	North Broadway to Alps Ln	2.1D	20,200	F	4.2B

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TABLE 8
DEFICIENT FACILITIES (LOS E/F) BY SUBREGION AND CPA
RECOMMENDED PROJECT 2011

CPA	Facility Type	Roadway	Segment Limits	Classification	ADT	LOS	Mitigated Classification
Pala - Pauma	State Hwy	Pala Road/SR-76	Pala Del Norte Rd to 6th St	2-Ln State Highway	26,300	F	4-Ln State Highway
Rainbow	ME Road	Rainbow Valley Boulevard	I-15 NB Ramps to Old Hwy 395	2.2E	22,400	F	4.2B
		Old Highway 395	5th St to Rainbow Valley Blvd	2.1D	17,400	E	4.2B
		Old Highway 395	Rainbow Valley Blvd to Rainbow/Fallbrook CPA Boundary	2.1D	18,100	E	4.2B
San Dieguito	ME Road	Del Dios Highway	Via Rancho Pkwy to El Camino Del Norte	2.1D	29,000	F	4.1B
		Paseo Delicias	El Camino Del Norte to El Montevideo	2.2A	24,300	F	4.2B
		Paseo Delicias	El Montevideo to Via De La Valle	2.2A	23,100	F	4.2B
		Rancho Santa Fe Road	City of Encinitas/San Dieguito CPA Boundary to El Mirlo	2.2F	24,400	F	4.2B
		La Bajada	El Mirlo to Los Morros	2.2F	24,400	F	4.2B
		La Granada	Los Morros to Rambla De Las Flores	2.2F	19,000	F	4.2B
		La Granada	Rambia de las Flores to Avenida De Acacias	2.2F	14,900	E	4.2B
		La Granada	Avenida De Acacias to Paseo Delicias	2.2F	16,800	F	4.2B
		Linea Del Cielo	El Camino Real to Rambla De Las Flores	2.2F	11,000	E	2.2D
		Via De La Valle	El Camino Real to Las Planideras	2.1B	25,300	F	4.2A
		Via De La Valle	Las Planideras to Calzada Del Bosque	2.1E	24,800	F	4.2A
		Via De La Valle	Calzada Del Bosque to Via de Santa Fe	2.1E	25,200	F	4.2A
		Via De La Valle	Via de Santa Fe to Paseo Delicias	2.1E	16,300	E	4.2B

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TABLE 8
DEFICIENT FACILITIES (LOS E/F) BY SUBREGION AND CPA
RECOMMENDED PROJECT 2011

CPA	Facility Type	Roadway	Segment Limits	Classification	ADT	LOS	Mitigated Classification
San Dieguito	ME Road	El Camino Del Norte	Aliso Canyon Rd to Del Dios Hwy	2.2F	13,700	E	2.1A
		El Apajo	Via De La Valle to Via De Santa Fe	2.1A	17,200	E	4.2B
		San Dieguito Road	El Apajo to Circa Oriente	2.1A	17,600	E	4.2B
Valley Center	ME Road	Mountain Meadows Road/ Mirar De Valle Road	Alps Ln to Burnt Mountain Rd	2.1D	21,800	F	4.2B
		Mountain Meadows Road/ Mirar De Valle Road	Burnt Mountain to Red Ironbark Dr	2.1D	20,500	F	4.2B
		Mountain Meadows Road/ Mirar De Valle Road	Red Ironbark Dr to Cypress Ridge	2.1D	28,000	F	4.2A
		Lilac Road	Cypress Ridge to Valley Center Rd	4.2B	33,900	F	6.2
		Valley Center Road	Miller Rd to Indian Creek Rd	4.2A	33,000	F	4.1A
		Wood Valley Road	Oakmont Rd to Augusta Dr	2.2C	17,900	E	4.2B
		Wood Valley Road	Augusta Dr to Karibu Ln	2.2C	14,600	E	2.1A
		New Road 19	Lilac Rd to Mirar de Valle	4.2B	30,000	E	4.1B
Southwestern Communities							
Alpine	ME Road	Alpine Boulevard	Boulders Rd to Alpine Special Treatment Center	2.2A	20,300	F	4.2B
		Alpine Boulevard	Alpine Special Treatment Center to W. Victoria Dr	2.2A	15,200	E	4.2B
		Alpine Boulevard	W. Victoria Dr to Louis Dr	2.2A	20,000	F	4.2B
		Willows Road	Alpine Blvd to Otto Ave	2.2E	20,400	F	4.2B
		Willows Road	Otto Ave to Viejas Grade Rd	2.2E	27,200	F	4.1B

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TABLE 8
DEFICIENT FACILITIES (LOS E/F) BY SUBREGION AND CPA
RECOMMENDED PROJECT 2011

CPA	Facility Type	Roadway	Segment Limits	Classification	ADT	LOS	Mitigated Classification
County Island	ME Road	Pomerado Road	I-15 NB Ramps to Willow Creek Rd	4.1A	35,400	F	6.2
Jamul - Dulzura	ME Road	Lyons Valley Road	Campo Rd to Skyline Truck Trail	2.2B	18,200	E	4.2B
Lakeside	State Hwy	SR-67	Poway/County Boundary to Scripps Poway	4-Ln State Highway	35,700	F	6-Ln State Highway
		SR-67	Scripps Poway Pkwy To Sycamore Park	4-Ln State Highway	46,200	E	6-Ln State Highway
		SR-67	Johnson Lake Rd to Posthill Rd	4-Ln State Highway	46,600	E	6-Ln State Highway
	ME Road	Maine Avenue	Mapleview St to Lakeshore Dr	2.2E	16,200	F	4.2B
		Maine Avenue	Lakeshore Dr to Parkside St	2.2E	17,200	F	4.2B
		Maine Avenue	Parkside St to Woodside Ave	2.2E	15,000	E	4.2B
		Lake Jennings Park Road	I-8 Business Route to I-8 WB Off-Ramp	4.1B	37,300	F	6.2
		Los Coches Road	Woodside Ave to Julian Ave	2.1D	18,000	E	4.2B
		Los Coches Road	Julian Ave to I-8 Business Route	2.1D	17,900	E	4.2B
		Mapleview Street	Maine Ave to Ashwood St	4.1A	48,900	F	6.2
		Woodside Avenue	SR-67 NB Off-Ramp to Riverford Rd	4.2A	30,200	F	4.1A
		Wildcat Canyon Road	Willow Rd to Lakeside/Ramona CPA Boundary	2.1D	28,600	F	4.1B
Ramona	State Hwy	Main Street/SR-78	9th St to 11th St	4-Ln State Highway	29,300	E	6-Ln State Highway
	ME Road	7th Street	Elm St to A St	2.2E	12,900	E	2.1D
		7th Street	Main St to D St	2.2E	14,500	F	2.1D

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TABLE 8
DEFICIENT FACILITIES (LOS E/F) BY SUBREGION AND CPA
RECOMMENDED PROJECT 2011

CPA	Facility Type	Roadway	Segment Limits	Classification	ADT	LOS	Mitigated Classification
Ramona	ME Road	Wildcat Canyon Road	Harry Hertzberg Way to Lakeside/Barona CPA Boundary	2.1D	35,100	F	6.2
Spring Valley	ME Road	Paradise Valley Road	Elkelton Blvd to Sweetwater Rd	4.1B	35,000	F	6.2
		Jamacha Road	SR-125 SB Ramps to SR-125 NB Ramps	4.1B	34,100	E	6.2
		Jamacha Road	SR-125 NB Ramps to Sweetwater Rd	4.1B	39,100	F	6.2
		Bancroft Drive	Troy St to SR-94 EB Ramps	2.2D	18,600	E	4.2B
Sweetwater	ME Road	Briarwood Road	SR-54 WB Ramps to Robinwood Rd	2.1D	17,700	E	4.2B
		Central Avenue	Sweetwater Rd to Bonita Rd	2.2C	15,400	E	4.2B
		Central Avenue	Bonita Rd to Frisbee St	2.2B	15,500	E	4.2B
Valle De Oro	ME Road	Jamacha Road	Campo Rd/SR-94 to Fury Ln	6.2	62,200	F	6.1
		Campo Road	Kenwood Dr to Conrad Dr	4.2B	47,800	F	6.2
		Fuerte Drive	Bancroft Dr to Lemon Ave	2.2E	13,000	E	4.2B
		Fuerte Drive	Lemon Ave to Grandview Dr	2.2E	19,300	F	4.2B
		Fuerte Drive	Grandview Dr to Avocado Blvd	2.2E	13,500	E	4.2B

Source: Fehr & Peers; June 2011

City of San Diego Forecast Model Plots

5.1
1.5
9.0
2.6

0.2
0.5
0.3
0.4
0.2
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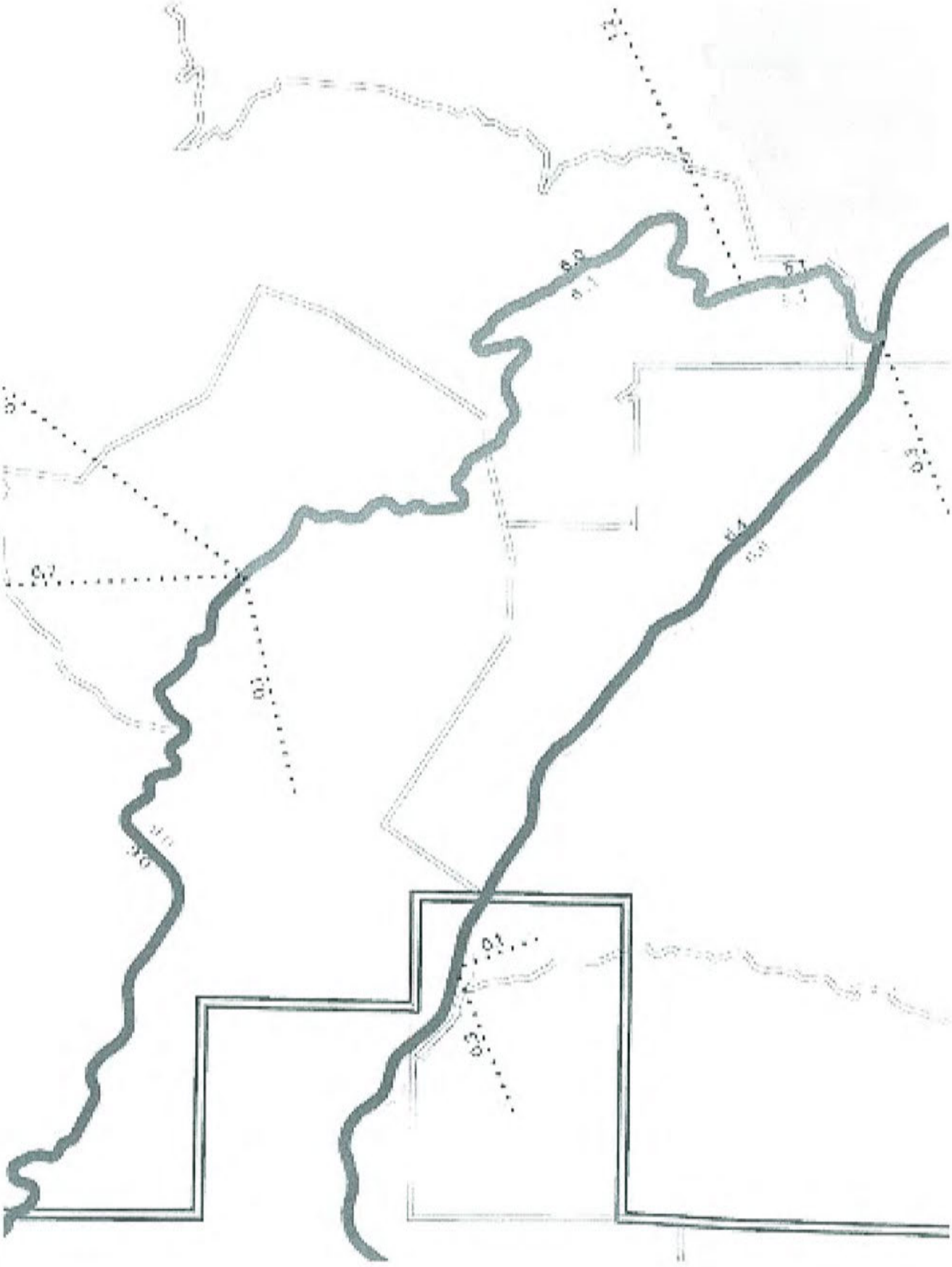

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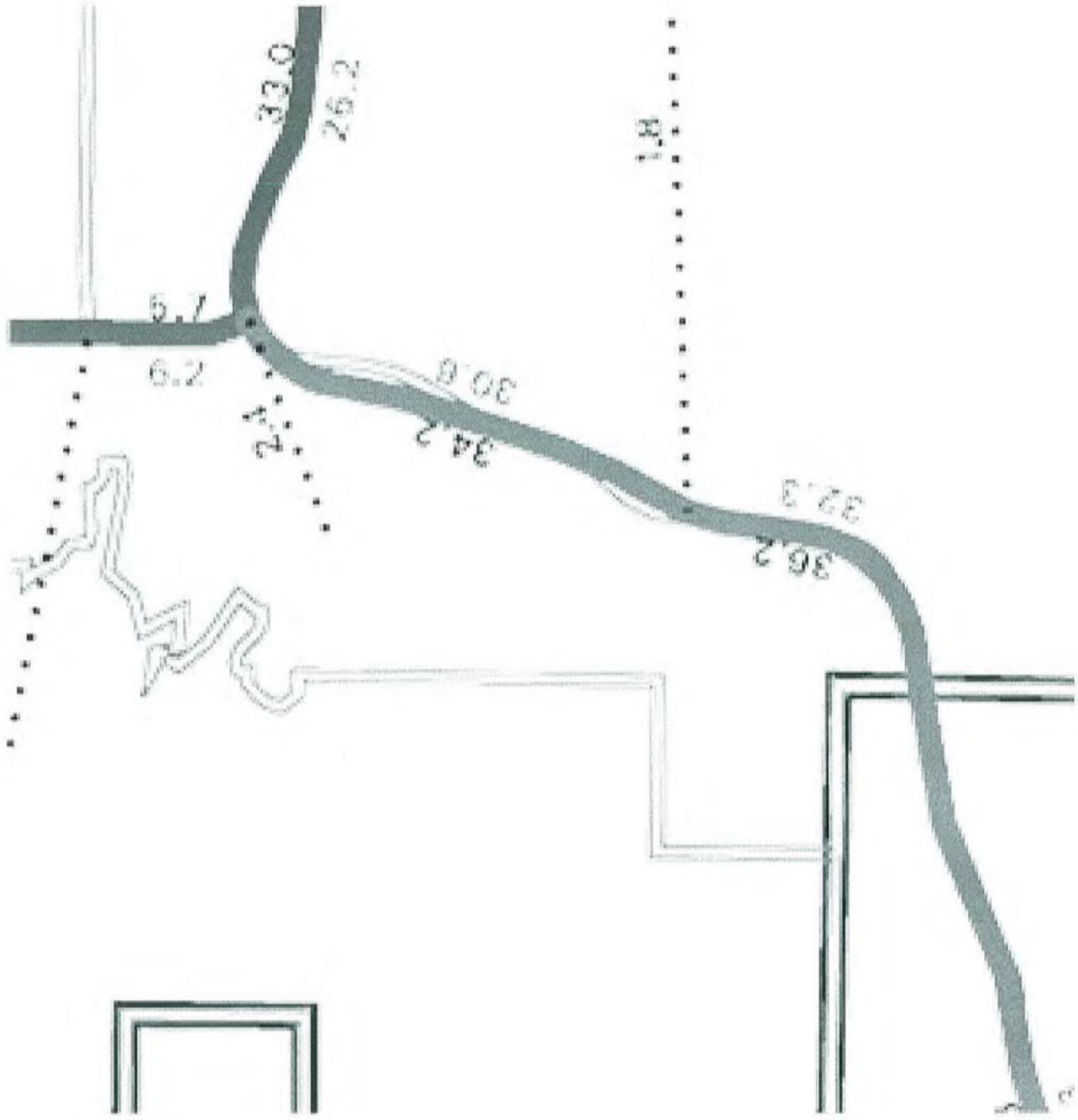
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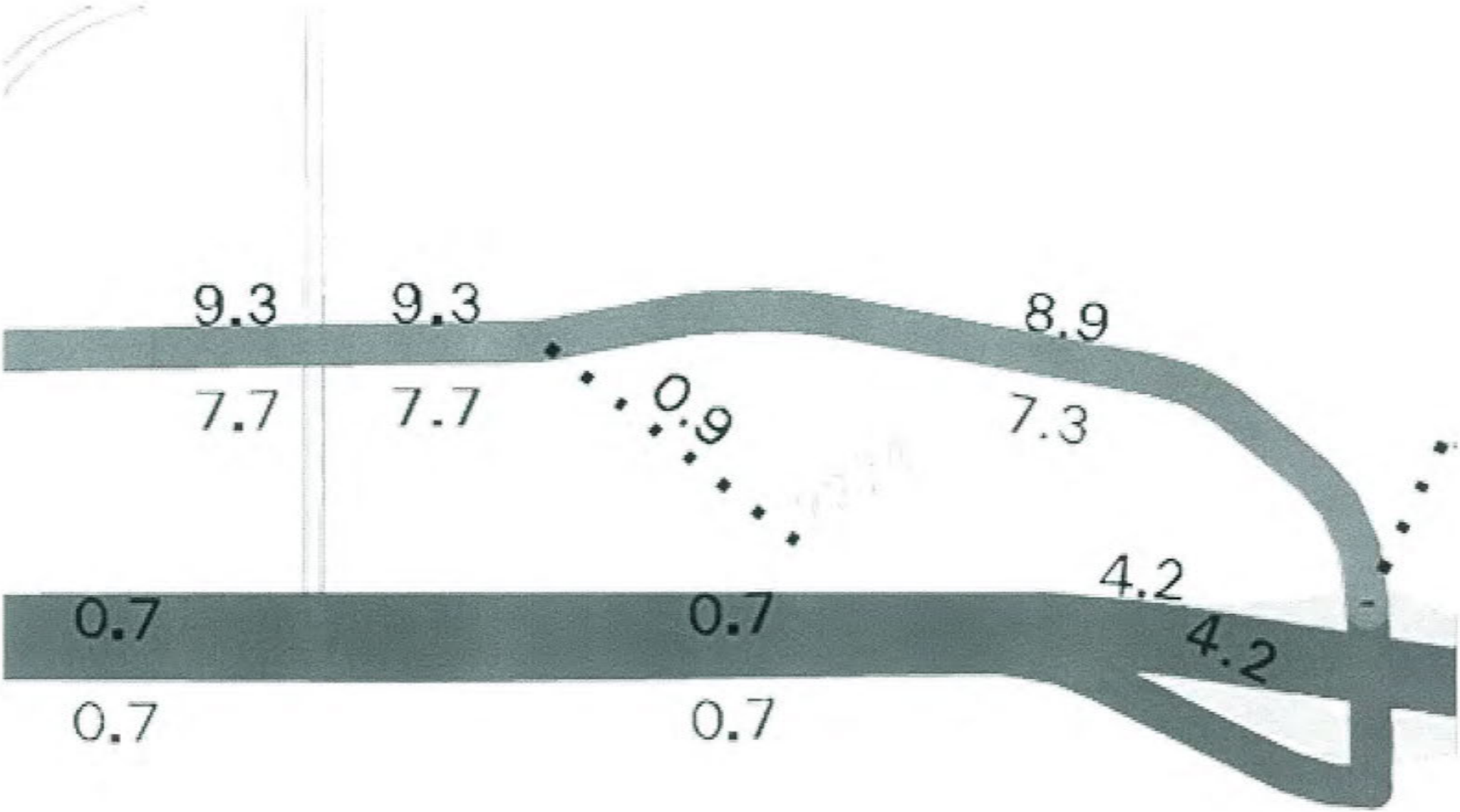
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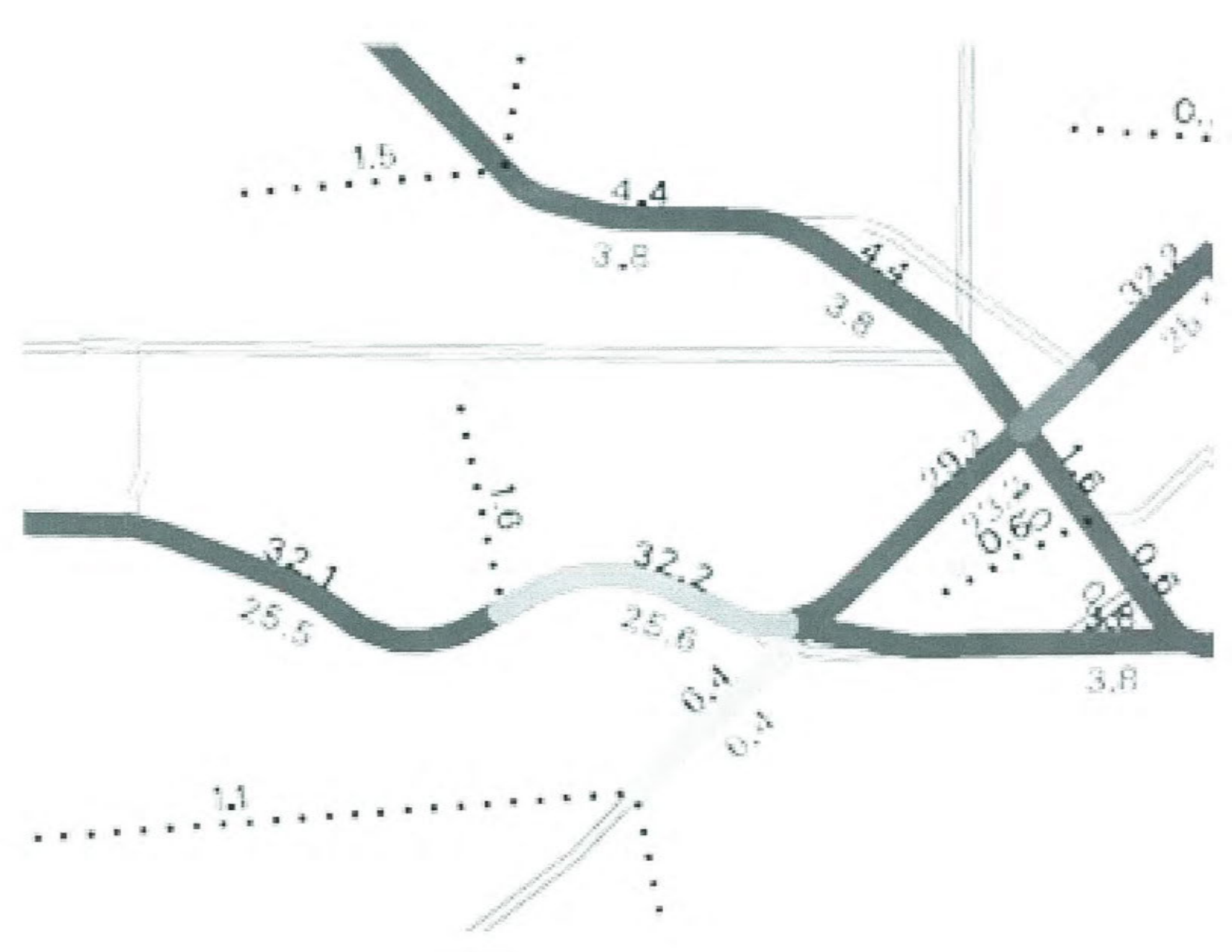
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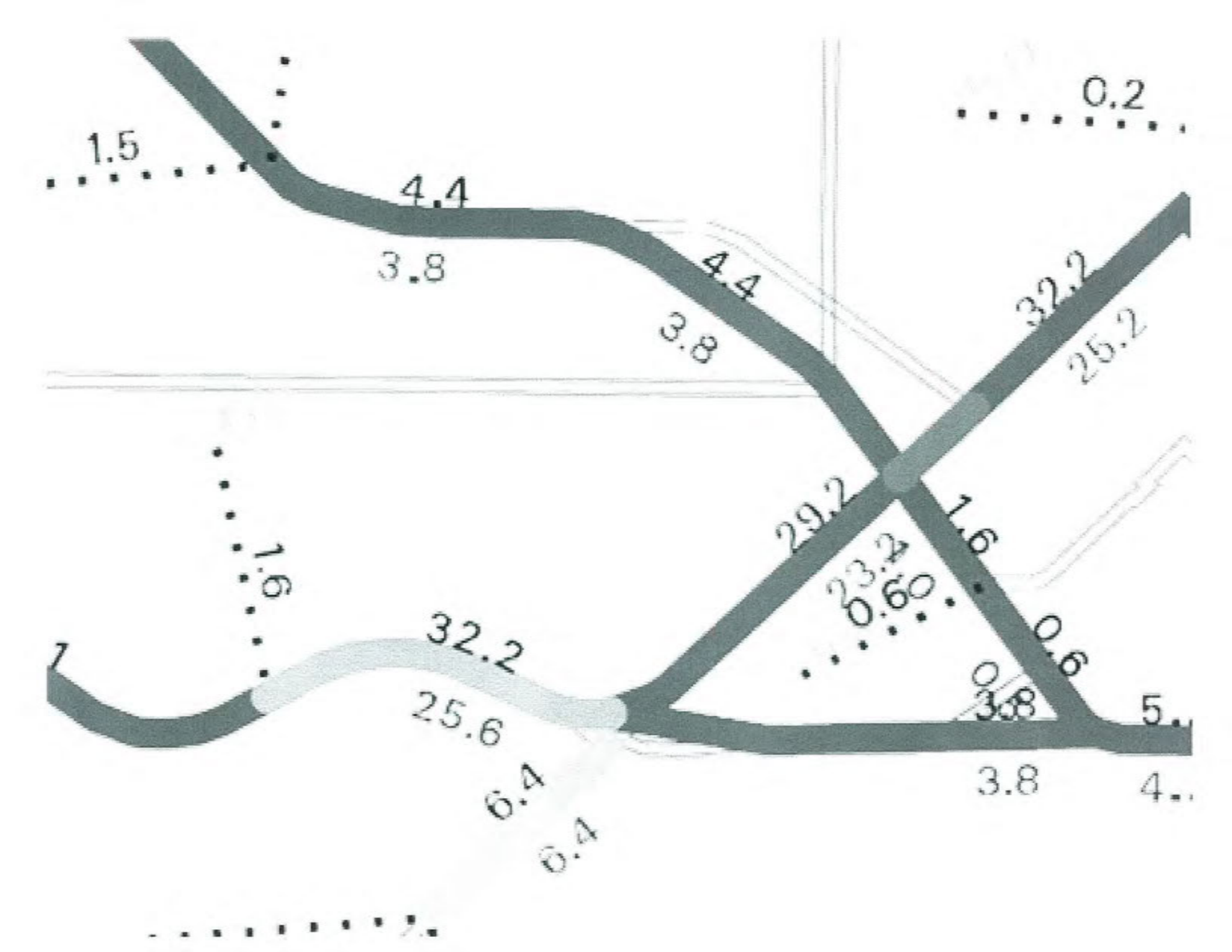
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