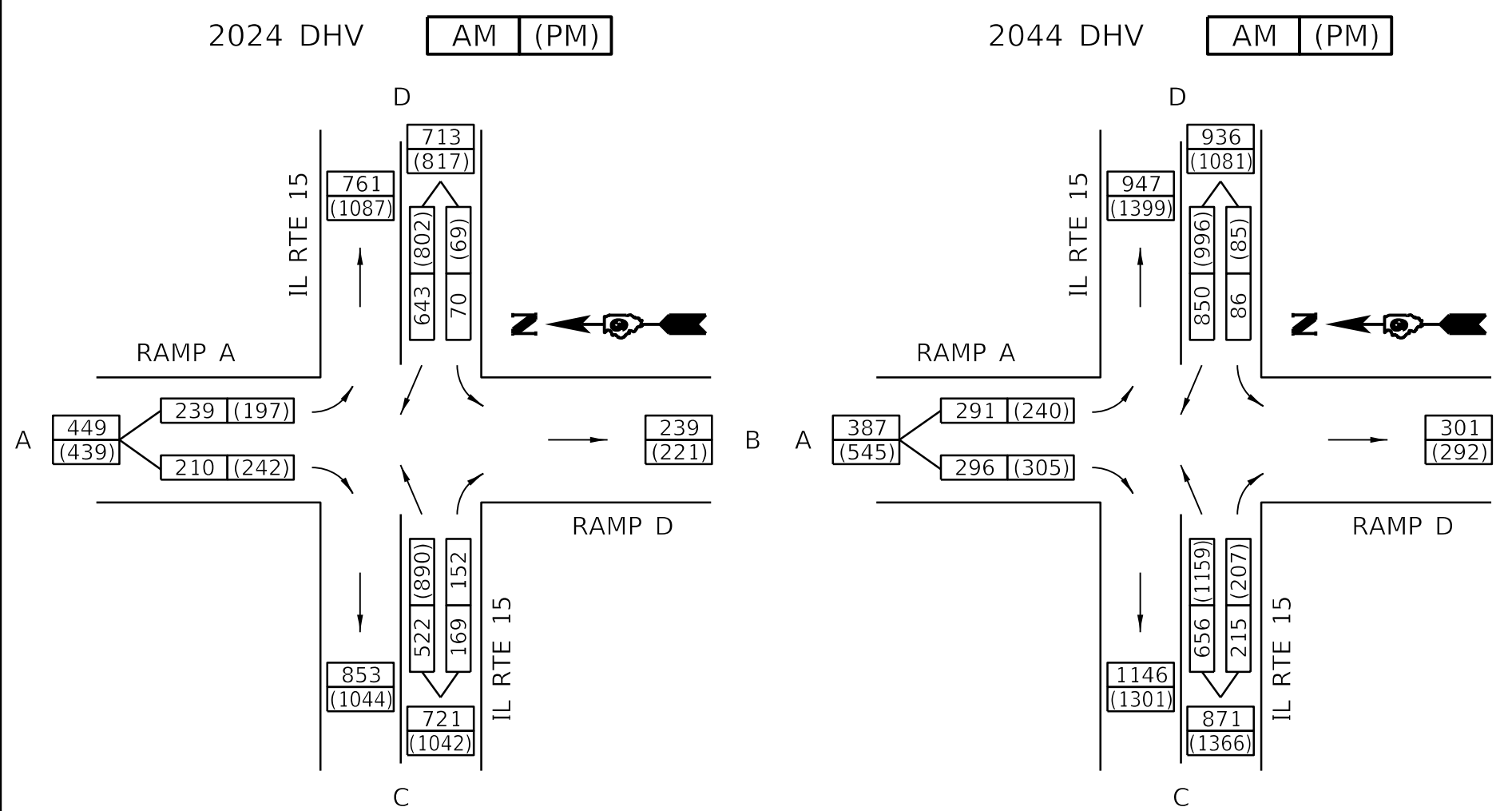


SIGNALIZED CAPACITY DESIGN ANALYSIS

PROGRAM USED: Synchro , VERSION: 10.00 SIGNAL TYPE: ACTUATED AREA TYPE: NON-CBD
 NUMBER OF PHASES: (A.M.) 2 (P.M.) 2 CYCLE LENGTH: (A.M.) 80 SEC. (P.M.) 75 SEC. PEAK HOUR FACTOR: 0.92
 INTERSECTION DELAY/LEVEL-OF-SERVICE A.M. 10.4 SECONDS LOS B P.M. 8.9 SECONDS LOS A

APPROACH		NORHTBOUND (B)			SOUTHBOUND (A)			WESTBOUND (D)			EASTBOUND (C)		
LANE GROUP		L	T	R	L	T	R	L	T	R	L	T	R
NUMBER OF LANES					1	2		1	2	2	3	1	
2044 30TH MAX. HOUR TRAFFIC (veh/h)		A.M.			227	200		67	612		497	161	
		P.M.			240	305		85	996		1159	207	
BASE SATURATION FLOW RATE (veh/h)					1900	1900		1900	1900		1900	1900	
LANE WIDTH (FT)					12	12		15	15		15	15	
VOLUME OF RIGHT TURN ON RED (veh/h)		A.M.	0	P.M.	0	A.M.	0	P.M.	0	A.M.	0	P.M.	0
PEDESTRIANS/HOUR (ped/h)		A.M.	0	P.M.	0	A.M.	0	P.M.	0	A.M.	0	P.M.	0
ARRIVAL TYPE					3			4			4		
LANE UTILIZATION ADJ. FACTOR					1.00	0.95		0.95	0.95		0.95	1.00	
GREEN TIME (SECONDS)		A.M.			34.5	31.7		80	34.5		31.7	80	
		P.M.			28.5	32.7		75	28.5		32.7	75	
GREEN RATIO (g/C)		A.M.			0.43	0.40		1.00	0.43		0.40	1.00	
		P.M.			0.38	0.44		1.00	0.38		0.44	1.00	
CAPACITY (c)		A.M.			757	500		1340	1200		1343	350	
		P.M.			706	924		1700	1364		2273	647	
v/c RATIO (X)		A.M.			0.30	0.40		0.05	0.51		0.49	0.46	
		P.M.			0.34	0.33		0.05	0.73		0.51	0.32	
STORAGE QUEUE (FEET)		A.M.			148	91		0	197		123	0	
		P.M.			163	130		0	328		252	0	
LANE GROUP DELAY(SECONDS)		A.M.			7.1	12.1		0.1	7.6		17.6	5.2	
		P.M.			12.6	10.8		0.0	9.0		9.4	1.8	
LANE GROUP LEVEL-OF-SERVICE		A.M.			A	B		A	A		B	A	
		P.M.			B	B		A	A		A	A	
APPROACH DELAY (SECONDS/VEHICLE)		A.M.			9.6			6.9			14.6		
		P.M.			11.6			8.3			8.3		
APPROACH LEVEL-OF-SERVICE		A.M.			A			A			B		
		P.M.			A			A			A		



PREFERRED ROUTE:
 F.A.P. ROUTE NUMBER: 821 MARKED ROUTE NUMBER: ILLINOIS ROUTE 15.
 STREET NAME: BROADWAY ST. SRA ROUTE Y0.
 FUNCTIONAL CLASSIFICATION: PRINCIPAL ARTERIAL OSOW DESIGN Y/N.
 EXISTING ADT: 25,000 VPD (2024). DESIGN YEAR ADT: 27,300 VPD (2044).
 PROPOSED DESIGN SPEED: 30 MPH. PROPOSED POSTED SPEED: 30 MPH.

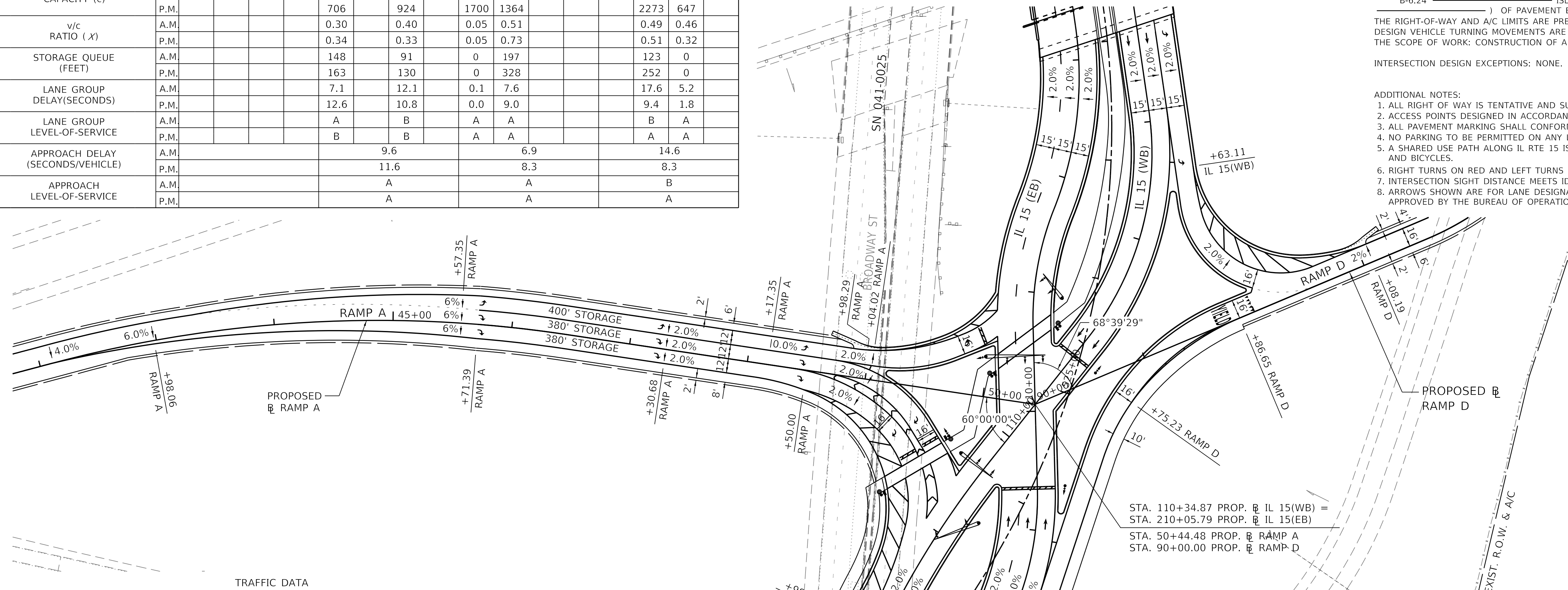
SECONDARY ROUTE:
 F.A.I. ROUTE NUMBER: I-57/64 MARKED ROUTE NUMBER: SB I-57/64 RAMPS.
 STREET NAME: RAMP A & RAMP D. SRA ROUTE Y0.
 FUNCTIONAL CLASSIFICATION: INTERSTATE RAMP OSOW DESIGN Y/N.
 EXISTING ADT: 4,850 RAMP A VPD (2024). DESIGN YEAR ADT: 5,400 RAMP A VPD (2044).
 4,200 RAMP D VPD (2024). DESIGN YEAR ADT: 4,500 RAMP D VPD (2044).
 PROPOSED DESIGN SPEED: 30 MPH. PROPOSED POSTED SPEED: 30 MPH.

IMPROVEMENT TYPE: RECONSTRUCTION. ANTICIPATED YEAR OF CONSTRUCTION: 2024.
 EXISTING METHOD OF TRAFFIC CONTROL: SIGNALIZED. PROPOSED METHOD: SIGNALIZED.
 SIGNAL WARRANT: MEETS WARRANTS 1, 2, 3.
 DESIGN VEHICLE: WB-67: DUAL TURNS: WB-67 OUTSIDE & INSIDE.
 DESIGN YEAR: 2044 WHICH IS A 20 YEAR DESIGN.
 TRUCK ROUTE DESIGNATION: PREFERRED ROADWAY: FAP 821 (IL 15) IS A CLASS II TRUCK ROUTE.
 SECONDARY ROADWAY: FAI 57/64 (I-57/64) IS A CLASS I TRUCK ROUTE.
 DESIGN CRITERIA: FHWA DDI GUIDE.

GENERAL NOTES
 ARE PROFILES PROVIDED? YES NO. IF NOT, STATE REASON WHY:
 TYPE B-6.24 CURB AND GUTTER ON THE APPROACH MEDIAN.
 B-6.24 ISLANDS.
) OF PAVEMENT EXCEPT.
 THE RIGHT-OF-WAY AND A/C LIMITS ARE PRELIMINARY.
 DESIGN VEHICLE TURNING MOVEMENTS ARE ACCOMMODATED PER AUTOTURN SOFTWARE, VERSION 10.2.
 THE SCOPE OF WORK: CONSTRUCTION OF A DDI INTERCHANGE WITH SIGNALIZED INTERSECTIONS.

INTERSECTION DESIGN EXCEPTIONS: NONE.
 ADDITIONAL NOTES:
 1. ALL RIGHT OF WAY IS TENTATIVE AND SUBJECT TO CHANGE.
 2. ACCESS POINTS DESIGNED IN ACCORDANCE WITH IDOT POLICY "ACCESS TO STATE HIGHWAYS".
 3. ALL PAVEMENT MARKING SHALL CONFORM TO THE LATEST IDOT AND MUTCD POLICIES.
 4. NO PARKING TO BE PERMITTED ON ANY LEG.
 5. A SHARED USE PATH ALONG IL RTE 15 IS TO BE PROVIDED TO ACCOMMODATE PEDESTRIANS AND BICYCLES.
 6. RIGHT TURNS ON RED AND LEFT TURNS ON RED WILL NOT BE PERMITTED.
 7. INTERSECTION SIGHT DISTANCE MEETS IDOT POLICY.
 8. ARROWS SHOWN ARE FOR LANE DESIGNATION ONLY. ALL PAVEMENT MARKING TO BE APPROVED BY THE BUREAU OF OPERATIONS.

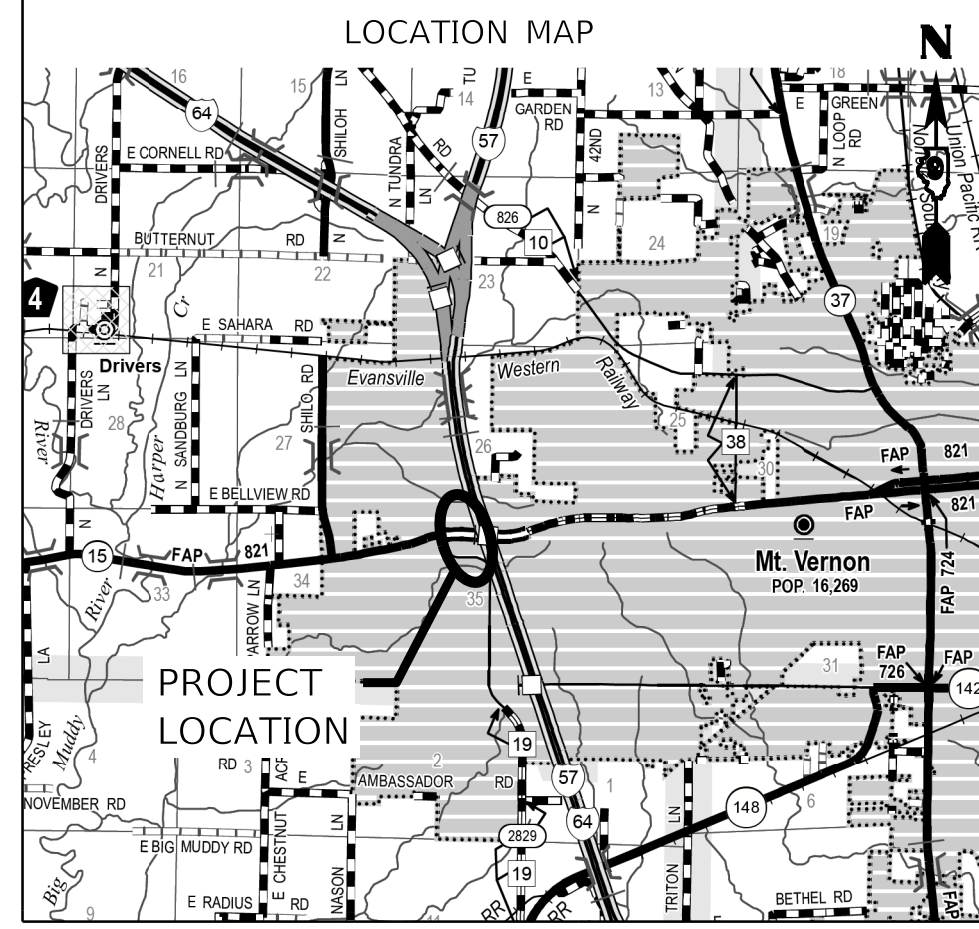
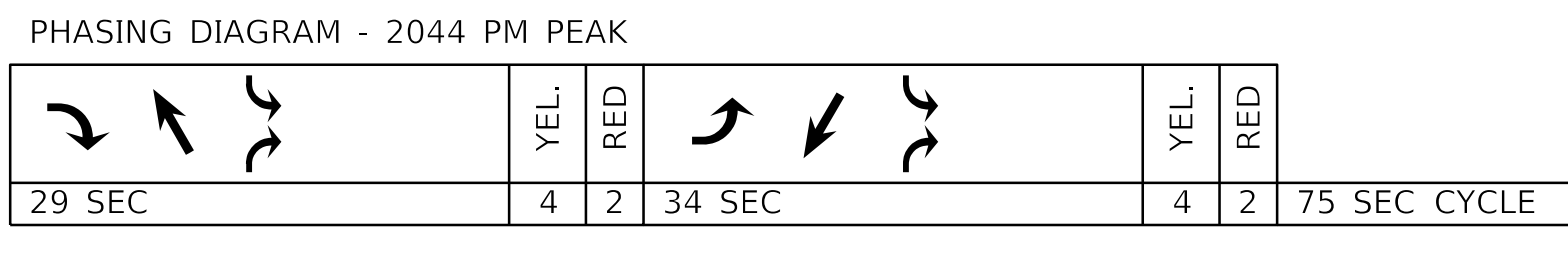
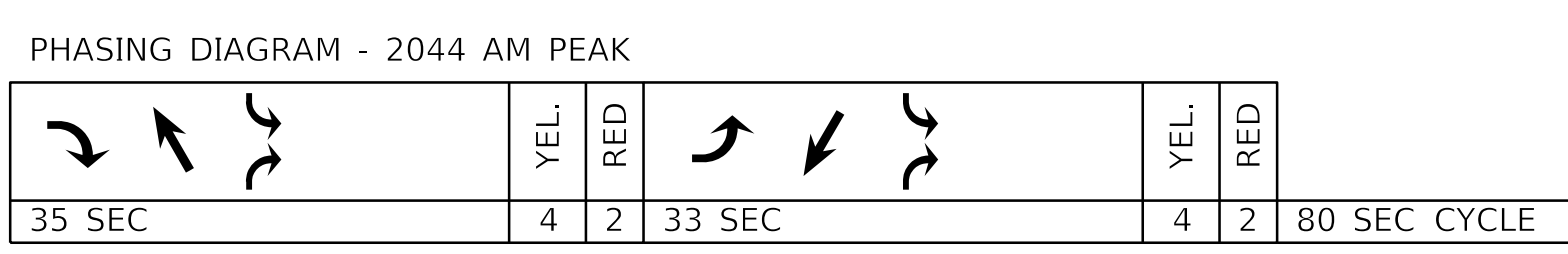
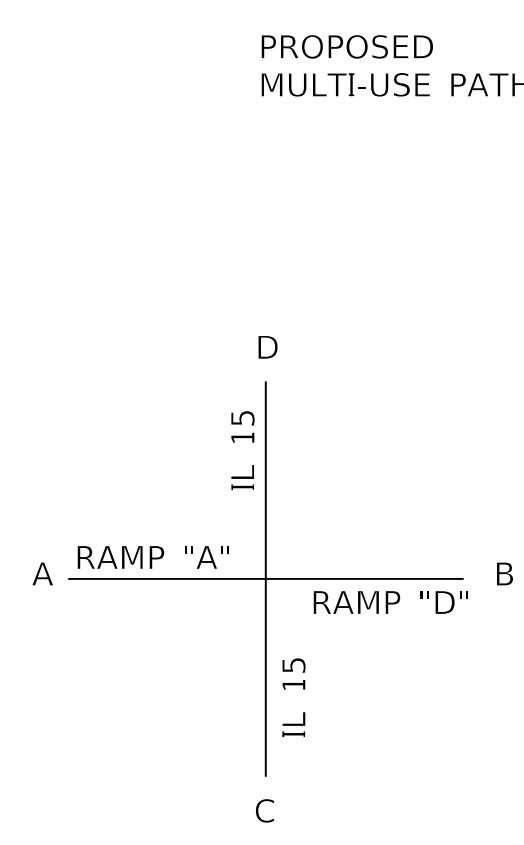
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 PLOT SCALE: 50,000' / in.
 USER NAME: Rob Healy



TRAFFIC DATA

MOVEMENT	YEAR 2019 30TH MAXIMUM HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN 30TH MAX. HOUR		ESTIMATED PERCENT INCREASE BY 2024	YEAR 2024 30TH MAXIMUM HOUR TRAFFIC		ESTIMATED PERCENT INCREASE BY 2044	YEAR 2044 30TH MAXIMUM HOUR TRAFFIC	
	A.M.	P.M.	A.M.	P.M.		A.M.	P.M.		A.M.	P.M.
AD (L)	227	187	3%	5%	5%	239	197	28%	291	240
AB (T)										
AC (R)	200	230	36%	45%	5%	210	242	40%	296	305
BC (L)										
BA (T)										
BD (R)										
CA (L)										
CD (T)	497	847	11%	11%	5%	522	890	35%	656	1159
CB (R)	161	145	44%	33%	5%	169	152	38%	215	207
DB (L)	67	66	2%	4%	5%	70	69	29%	86	85
DC (T)	612	763	12%	11%	5%	643	802	34%	850	996
DA (R)										
TOTAL A	427	417				449	439		587	545
TOTAL B	228	211				239	221		301	292
TOTAL C	1470	1985				1544	2086		2017	2667
TOTAL D	1403	1863				1474	1958		1883	2480

T = THROUGH, L = LEFT, R = RIGHT



INTERSECTION DESIGN STUDY

FAI ROUTE 57 WITH (SB I-57/64 RAMPS)
 FAP ROUTE 821 WITH (IL RTE 15)

SEC. NO. VARIES PROJ. NO. _____
 SCALE 1" = 50' COUNTY JEFFERSON
 SIN: _____ REV. NO. _____

DESIGNED BY EMM (CMT, INC.) DATE MAR. 2022

SATISFACTORY _____ DISTRICT GEOMETRICS ENGINEER _____ DATE _____
 SATISFACTORY _____ DISTRICT PROGRAM DEVELOPMENT ENGINEER _____ DATE _____
 SATISFACTORY _____ DISTRICT OPERATIONS ENGINEER _____ DATE _____

APPROVED _____ REGIONAL ENGINEER _____ DATE _____

CADD FILE NAME: [] I.D.S. SHEET 24 OF 42