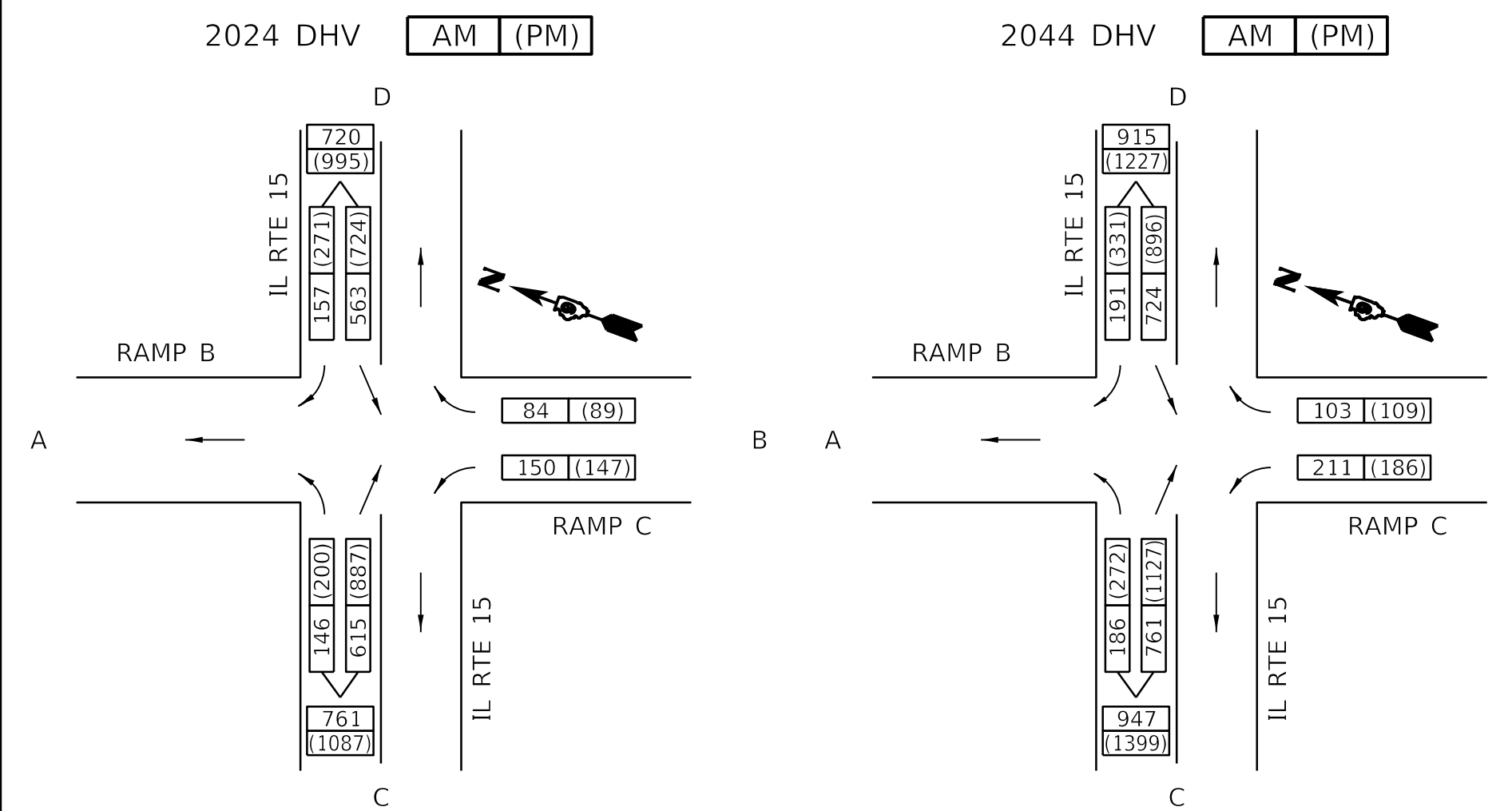


SIGNALIZED CAPACITY DESIGN ANALYSIS

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. 9.8 SECONDS LOS A P.M. 7.6 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		1				3	1		1	2	
2044 30TH MAX. HOUR TRAFFIC (veh/h)	A.M. 211 P.M. 186		103				724	191		186	761	
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		P.M. 0				A.M. 0 P.M. 0	P.M. 0		A.M. 0 P.M. 0	P.M. 0	
PEDESTRIANS/HOUR (ped/h)	A.M. 0 P.M. 0		P.M. 0				A.M. 0 P.M. 0	P.M. 0		A.M. 0 P.M. 0	P.M. 0	
ARRIVAL TYPE	3						4			4		
LANE UTILIZATION ADJ. FACTOR	1.00		1.00				0.95	1.00		1.00	0.95	
GREEN TIME (SECONDS)	A.M. 40.1 P.M. 40.5		27.9				27.9	80		80	40.1	
GREEN RATIO (g/C)	A.M. 0.50 P.M. 0.54		0.35				0.35	1.00		1.00	0.50	
CAPACITY (c)	A.M. 528 P.M. 689		792				2263	764		1240	1290	
v/c RATIO (X)	A.M. 0.40 P.M. 0.27		0.13				0.32	0.25		0.15	0.59	
STORAGE QUEUE (FEET)	A.M. 166 P.M. 132		80				180	0		0	217	
LANE GROUP DELAY(SECONDS)	A.M. 12.3 P.M. 7.0		89				229	0		0	278	
LANE GROUP LEVEL-OF-SERVICE	A.M. B P.M. A		A				B	A		A	B	
APPROACH DELAY (SECONDS/VEHICLE)	A.M. 9.2 P.M. 8.3						8.9			10.8		
APPROACH LEVEL-OF-SERVICE	A.M. A P.M. A						A			B		



ELEMENTS CONTROLLING DESIGN

PREFERRED ROUTE:
 F.A.P. ROUTE NUMBER: 821. MARKED ROUTE NUMBER: ILLINOIS ROUTE 15.
 STREET NAME: BROADWAY ST. SRA ROUTE Y(0).
 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: 57 / 64. MARKED ROUTE NUMBER: NB I-57/64 RAMP(S).
 STREET NAME: RAMP B & RAMP C. SRA ROUTE Y(0).
 FUNCTIONAL CLASSIFICATION: INTERSTATE RAMP OSOW DESIGN Y/N.
 EXISTING ADT: 3,300 RAMP C VPD (2024). DESIGN YEAR ADT: 3,600 RAMP C VPD (2044).
 5,600 RAMP B VPD (2024). DESIGN YEAR ADT: 5,900 RAMP B 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 (I-57/64) IS A CLASS I TRUCK ROUTE.
 DESIGN CRITERIA: FHWA DDI GUIDE.

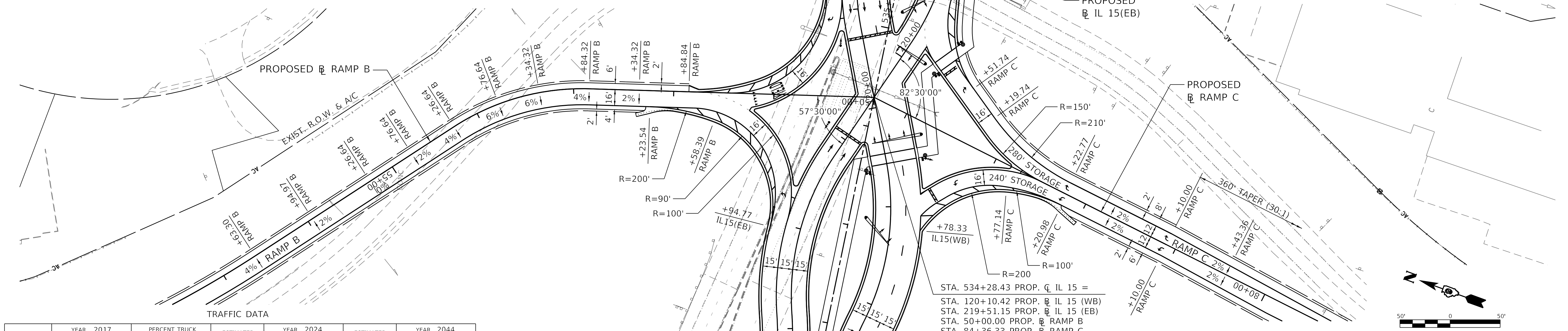
GENERAL NOTES

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 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.

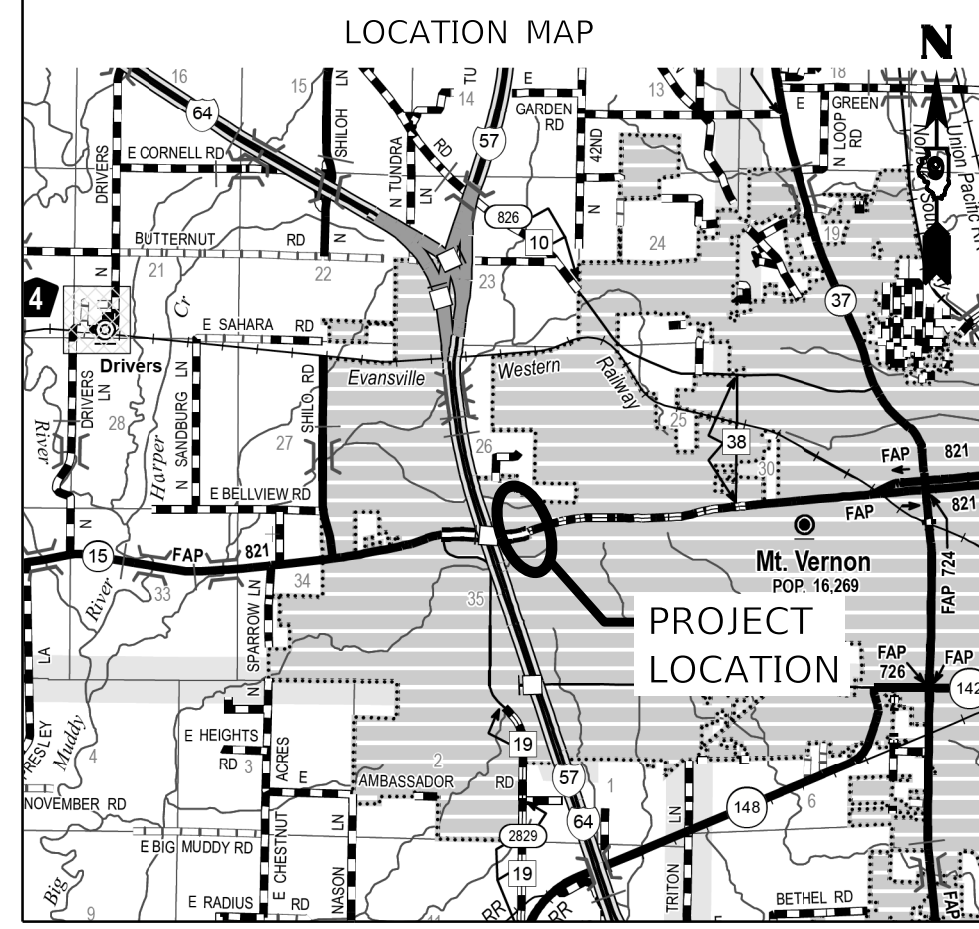
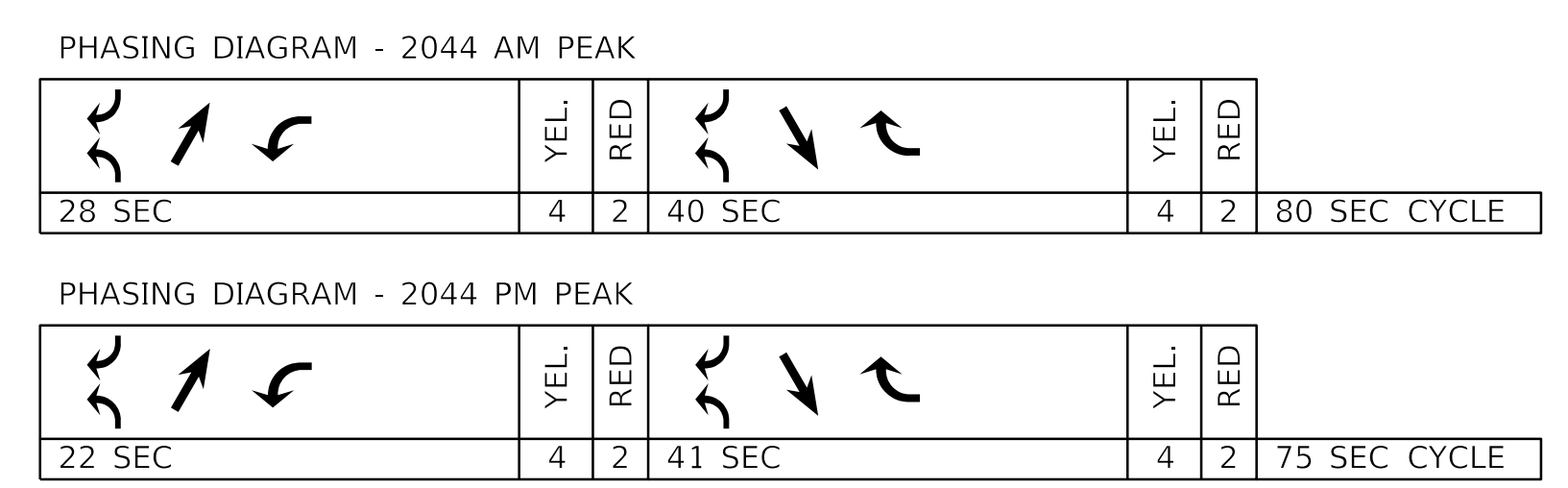
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 PLOT SCALE: 50,000' / 1" = 1" = 50,000' / 1"
 USER NAME: Rob Healy



TRAFFIC DATA

MOVEMENT	YEAR 2017 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)										
AB (T)										
AC (R)										
BC (L)	143	140	42%	48%	5%	150	147	40%	211	186
BA (T)										
BD (R)	80	85	7%	10%	5%	84	89	28%	103	109
CA (L)	139	190	33%	37%	5%	146	200	39%	186	272
CD (T)	585	844	3%	3%	5%	615	887	32%	761	1127
CB (R)										
DB (L)										
DC (T)	536	689	3%	3%	5%	563	724	32%	724	896
DA (R)	149	258	10%	3%	5%	157	271	28%	191	331
TOTAL A	288	448				303	471		377	603
TOTAL B	223	225				234	236		314	295
TOTAL C	1403	1863				1474	1958		1882	2481
TOTAL D	1350	1876				1419	1971		1779	2463

T = THROUGH, L = LEFT, R = RIGHT



INTERSECTION DESIGN STUDY

FAI ROUTE 57 WITH (NB I-57/64 RAMP(S))
 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 27 OF 42