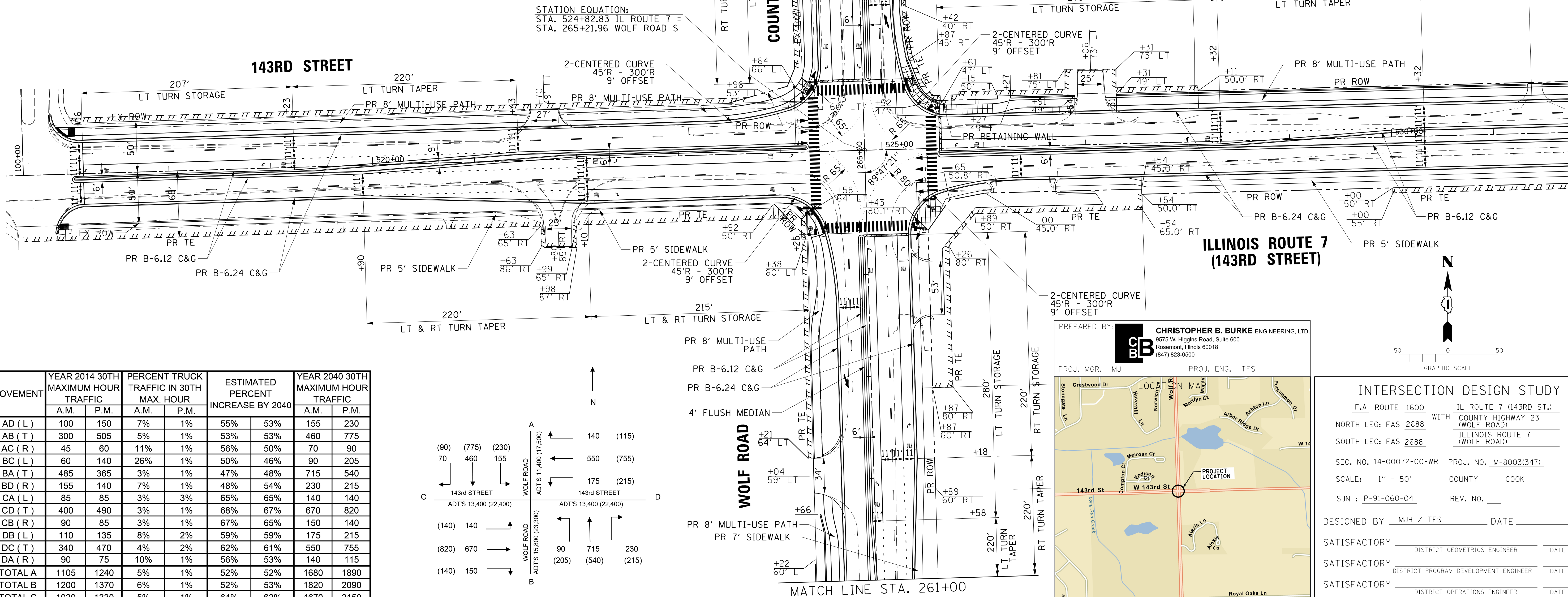
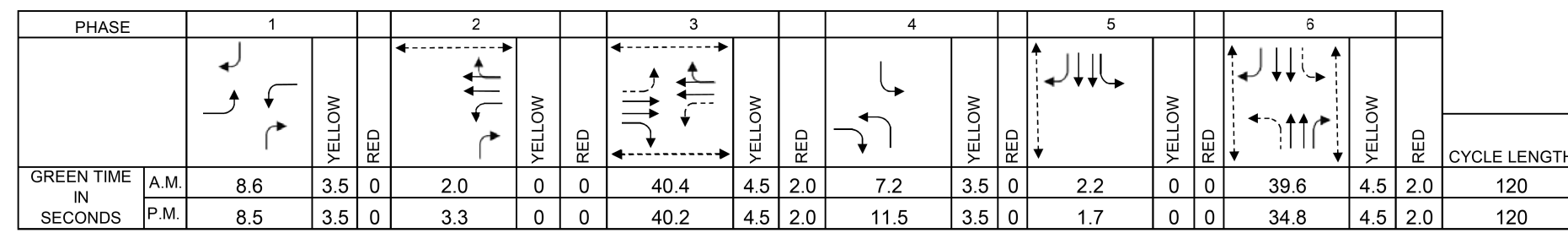
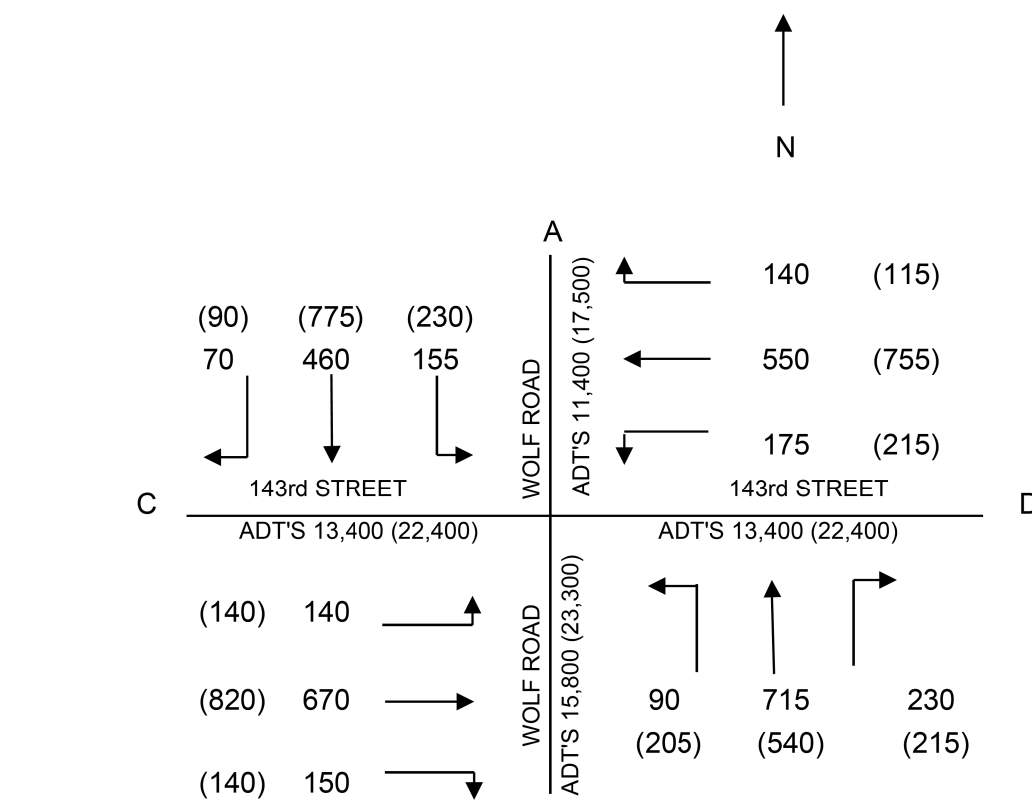


SIGNALIZED CAPACITY DESIGN ANALYSIS																	
PROGRAM USED: HCS 2010				VERSION: 7.20				SIGNAL TYPE: ACTUATED				AREA TYPE: NON-CBD					
NUMBER OF PHASES: (A.M.) 6 (P.M.) 6				CYCLE LENGTH: (A.M.) 120 SEC. (P.M.) 120 SEC.				PEAK HOUR FACTOR: 0.95									
INTERSECTION DELAY/LEVEL-OF-SERVICE (A.M.) 29.4 SECONDS				LOS C (P.M.) 33.0 SECONDS				LOS C									
APPROACH		EASTBOUND (C)				WESTBOUND (D)				NORTHBOUND (B)				SOUTHBOUND (A)			
LANE GROUP		L	T	R		L	T	T+R		L	T	R		L	T	R	
NUMBER OF LANES		1	2	1		1	1	1		1	2	1		1	2	1	
2040 30TH MAX. HOUR TRAFFIC (veh/h)	A.M.	140	670	150		175	550	140		90	715	230		155	460	70	
	P.M.	140	820	140		215	755	115		205	540	215		230	775	90	
BASE SATURATION FLOW RATE (veh/h)		1900	2000	1900		1900	1900	1900		1900	2000	1900		1900	2000	1900	
LANE WIDTH (FT)		11	22	11		11	11	11		11	22	11		11	22	11	
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	A.M.	0	P.M.	0
PEDESTRIANS/HOUR (ped/h)		A.M.	50	P.M.	50	A.M.	50	P.M.	50	A.M.	50	P.M.	50	A.M.	50	P.M.	50
ARRIVAL TYPE		4				4				3				3			
LANE UTILIZATION ADJ. FACTOR		1.00	0.95	1.00		1.00	1.00	1.00		1.00	0.95	1.00		1.00	0.95	1.00	
GREEN TIME (SECONDS)	A.M.	29.90	40.40	47.60		34.20	42.40	42.40		35.10	39.60	50.20		28.60	41.80	50.40	
	P.M.	25.80	40.20	51.70		30.20	43.50	43.50		23.00	34.80	46.60		32.90	36.50	45.00	
GREEN RATIO (g/C)	A.M.	0.25	0.34	0.40		0.29	0.35	0.35		0.29	0.33	0.42		0.24	0.35	0.42	
	P.M.	0.22	0.34	0.43		0.25	0.36	0.36		0.19	0.29	0.39		0.27	0.30	0.38	
CAPACITY (C)	A.M.	315	1252	600		349	650	592		318	1227	614		303	1275	597	
	P.M.	272	1267	665		333	678	638		297	1095	596		397	1149	575	
v/c RATIO (X)	A.M.	0.468	0.563	0.263		0.528	0.583	0.587		0.298	0.614	0.394		0.538	0.380	0.124	
	P.M.	0.542	0.681	0.222		0.679	0.696	0.696		0.727	0.519	0.380		0.610	0.710	0.165	
STORAGE QUEUE [FT] (RED TIME)	A.M.	180	381	155		225	616	391		134	411	239		211	262	75	
	P.M.	189	459	134		274	818	453		279	323	221		281	454	95	
LANE GROUP DELAY (SECONDS)	A.M.	25.9	28.4	25.5		24.9	29.1	32.2		25.1	34.9	24.9		27.1	29.6	21.4	
	P.M.	28.2	31.1	22.3		29.2	31.7	33.8		37.7	36.2	27		28.8	39.3	25.2	
LANE GROUP LEVEL-OF-SERVICE	A.M.	C	C	C		C	C	C		C	C	C		C	C	C	
	P.M.	C	C	C		C	C	C		D	D	C		C	D	C	
APPROACH DELAY (SECONDS/VEHICLE)	A.M.	27.6				29.4				31.8				28.2			
	P.M.	29.6				32.0				34.5				35.9			
APPROACH LEVEL-OF-SERVICE	A.M.	C				C				C				C			
	P.M.	C				C				C				D			



MOVEMENT	YEAR 2014 30TH MAXIMUM HOUR TRAFFIC		PERCENT TRUCK TRAFFIC IN 30TH MAX. HOUR		ESTIMATED PERCENT INCREASE BY 2040		YEAR 2040 30TH MAXIMUM HOUR TRAFFIC	
	A.M.	P.M.	A.M.	P.M.			A.M.	P.M.
AD (L)	100	150	7%	1%	55%	53%	155	230
AB (T)	300	505	5%	1%	53%	53%	460	775
AC (R)	45	60	11%	1%	56%	50%	70	90
BC (L)	60	140	26%	1%	50%	46%	90	205
BA (T)	485	365	3%	1%	47%	48%	715	540
BD (R)	155	140	7%	1%	48%	54%	230	215
CA (L)	85	85	3%	3%	65%	65%	140	140
CD (T)	400	490	3%	1%	68%	67%	670	820
CB (R)	90	85	3%	1%	67%	65%	150	140
DB (L)	110	135	8%	2%	59%	59%	175	215
DC (T)	340	470	4%	2%	62%	61%	550	755
DA (R)	90	75	10%	1%	56%	53%	140	115
TOTAL A	1105	1240	5%	1%	52%	52%	1680	1890
TOTAL B	1200	1370	6%	1%	52%	53%	1820	2090
TOTAL C	1020	1330	5%	1%	64%	62%	1670	2150
TOTAL D	1195	1460	5%	1%	61%	61%	1920	2350



2040 D.H.V.'S AM (PM)
ADT 2014 (2040)

PHASE		1		2		3		4		5		6		CYCLE LENGTH				
		YELLOW	RED	YELLOW	RED	YELLOW	RED	YELLOW	RED	YELLOW	RED	YELLOW	RED					
GREEN TIME	A.M.	8.6	3.5	0	2.0	0	40.4	4.5	2.0	7.2	3.5	0	2.2	0	39.6	4.5	2.0	120
SECONDS	P.M.	8.5	3.5	0	3.3	0	40.2	4.5	2.0	11.5	3.5	0	1.7	0	34.8	4.5	2.0	120

ELEMENTS CONTROLLING DESIGN

PREFERRED ROUTE :

F.A. ROUTE NUMBER: 1600
STREET NAME: 143rd STREET
FUNCTIONAL CLASSIFICATION: MINOR ARTERIAL
EXISTING ADT: 13,400 VPD
PROPOSED DESIGN SPEED: 40 MPH (EAST)
45 MPH (WEST)

MARKED ROUTE NUMBER: IL ROUTE 7 (EAST)
SRA ROUTE: NO
OSOW DESIGN: NO
DESIGN YEAR ADT: 22,400 VPD
PROPOSED POSTED SPEED: 40 MPH (EAST)
45 MPH (WEST)

SECONDARY ROUTES

F.A. ROUTE NUMBER: 2688
STREET NAME: WOLF ROAD
FUNCTIONAL CLASSIFICATION:
MAJOR COLLECTOR (NORTH)
MINOR ARTERIAL (SOUTH)
EXISTING ADT: 11,400 VPD (NORTH)
15,800 VPD (SOUTH)
PROPOSED DESIGN SPEED: 45 MPH

MARKED ROUTE NUMBER: IL ROUTE 7 (SOUTH)
SRA ROUTE: NO
OSOW DESIGN: NO

IMPROVEMENT TYPE:	ANTICIPATED YEAR OF CONSTRUCTION: 2020
EXISTING METHOD OF TRAFFIC CONTROL: TRAFFIC SIGNALS	PROPOSED METHOD: TRAFFIC SIGNALS
SIGNAL WARRANT: EXISTING TRAFFIC SIGNAL	
DESIGN VEHICLE: WB-65	
DESIGN YEAR: 2040	
TRUCK ROUTE DESIGNATION: NONE	PREFERRED ROADWAY: US ROUTE 7 (143RD ST)

PREFERRED ROADWAY: US ROUTE 7 (143RD STREET)

DESIGN CRITERIA: BDE MANUAL CHAPTER 48
BLRS CHAPTER 32

GENERAL NOTES

ARE PROFILES PROVIDED: YES IF NOT, STATE REASON WHY: N/A

TYPE B-6.12 CURB AND GUTTER ON THE OUTSIDE OF THE ROADWAY / SHOULDERS

TYPE N/A CURB AND GUTTER ON THE APPROACH MEDIAN.

TYPE N/A CURB AND GUTTER ON THE CORNER ISLANDS.

ALL DIMENSIONS ARE E-E OF PAVEMENT, UNLESS OTHERWISE NOTED.

THE RIGH-OF-WAY LIMITS ARE PRELIMINARY

DESIGN VEHICLE TURNING MOVEMENTS ARE ACCOMMODATED PER AUTOTURN SOFTWARE VERSUS

THE SCOPE OF WORK: INTERSECTION RECONSTRUCTION, ROADWAY REALIGNMENT, AND TRAFFIC SIGNAL RELOCATION.

INTERSECTION DESIGN EXCEPTIONS:
 NORTH APPROACH LEFT TURN STORAGE 215 FT PROVIDED VS 285 FT REQUIRED (PM)
 SOUTH APPROACH LEFT TURN STORAGE 215 FT PROVIDED VS 280 FT REQUIRED (PM)
 SOUTH APPROACH RIGHT TURN STORAGE 215 FT PROVIDED VS 240 FT/225 FT REQUIRED (AM/PM)
 EAST APPROACH LEFT TURN STORAGE 215 FT PROVIDED VS 225 FT/275 FT REQUIRED (AM/PM)

ADDITIONAL NOTES:
ALL SIDEWALKS AND RAMPS AS SHOWN ARE IN COMPLIANCE WITH THE AMERICAN DISABILITIES ACT

A graphic scale bar is located at the bottom of the map. It consists of a horizontal line with tick marks. Below the line, the numbers '50' and '0' are printed at the left and right ends, respectively. Above the line, a north arrow points upwards, and a circled '1' is placed near the center of the bar.

INTERSECTION DESIGN STUDY

F.A. ROUTE 1600	WITH	IL ROUTE 7 (143RD ST.)
NORTH LEG: FAS 2688		COUNTY HIGHWAY 23 (WOLF ROAD)
SOUTH LEG: FAS 2688		ILLINOIS ROUTE 7 (WOLF ROAD)

SEC. NO. 14-00072-00-WR PROJ. NO. M-8003(347)
SCALE: 1" = 50' COUNTY COOK

SJN : P-91-060-04 REV. NO.

DESIGNED BY MJH / TFS DATE

SATISFACTORY _____
DISTRICT GEOMETRICS ENGINEER DATE

SATISFACTORY _____
DISTRICT PROGRAM DEVELOPMENT ENGINEER DATE _____

APPROVED _____ DISTRICT OPERATIONS ENGINEER _____ DATE _____

CADD FILE NAME : [] I.D.S. SHEET 1 OF 6

BDE-9908