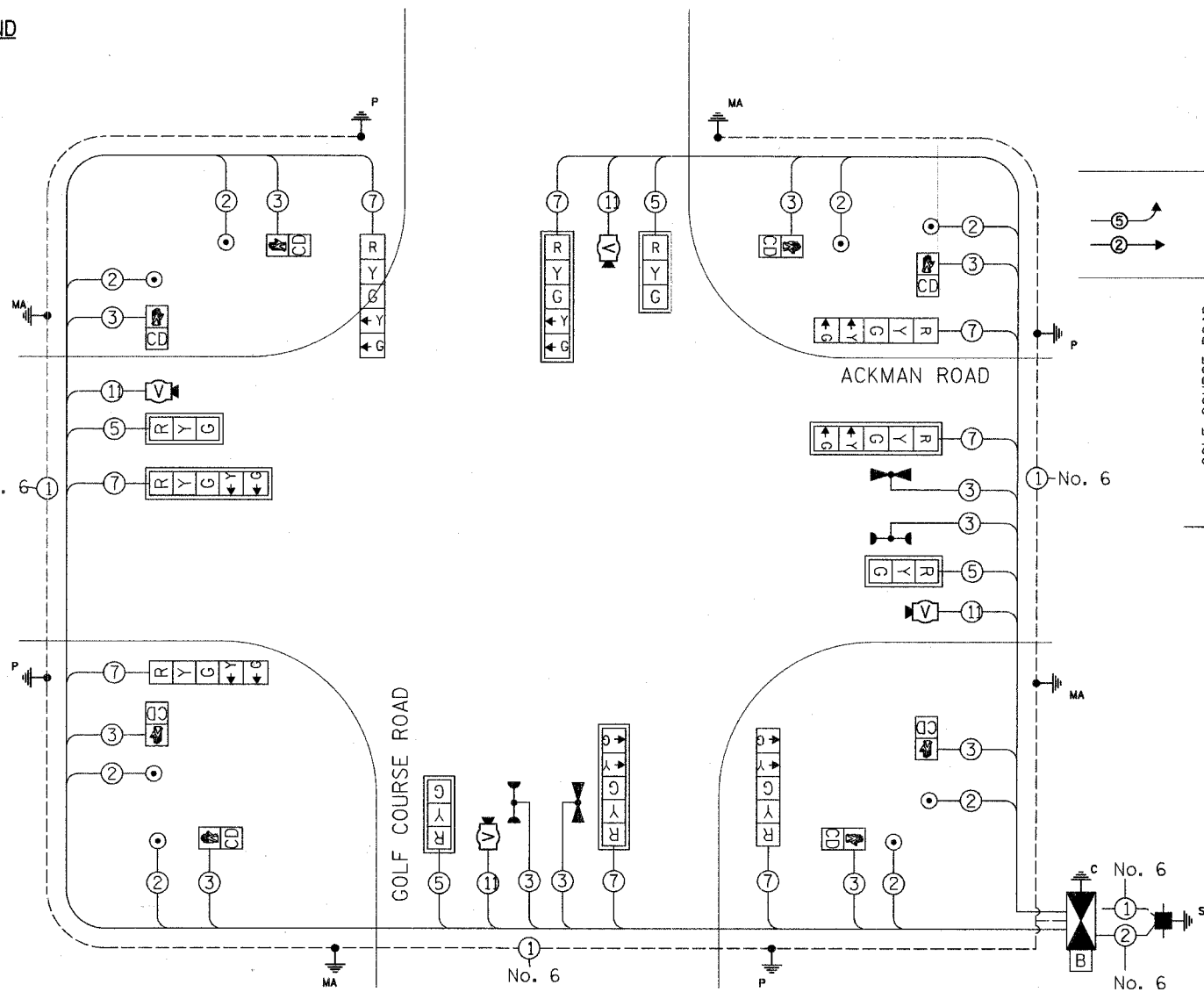


F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	04-00101-00-TL	MCHENRY	22	5
STA. -		TO STA. -		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

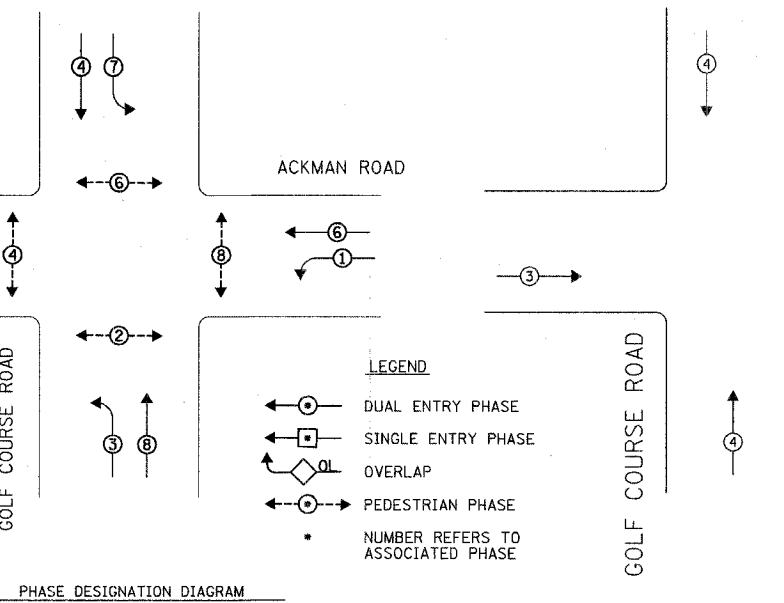
CABLE PLAN LEGEND

- PROPOSED**
- 8" (200mm) TRAFFIC SIGNAL SECTION
 - 12" (300mm) TRAFFIC SIGNAL SECTION
 - 12" (300mm) PEDESTRIAN SIGNAL SECTION, TOP - HAND/MAN OVERLAY, BOTTOM - COUNTDOWN TIMER
 - CONTROLLER CABINET
 - SERVICE INSTALLATION
 - TELEPHONE CONNECTION
 - MAGNETIC DETECTOR
 - EMERGENCY VEHICLE LIGHT DETECTOR
 - CONFIRMATION BEACON
 - PUSHBUTTON DETECTOR
 - VEHICLE DETECTOR, INDUCTION LOOP
 - DENOTES NUMBER OF CONDUCTORS, ALL CABLE NO. 14 EXCEPT AS INDICATED. ALL LOOP DETECTOR CABLE TO BE SHIELDED.
 - MICROWAVE VEHICLE SENSOR
 - VIDEO DETECTION CAMERA
 - SIGNAL FACE WITH BACKPLATE, "P" INDICATES PROGRAMMED HEAD
 - RAILROAD CONTROL CABINET
 - ILLUMINATED SIGN, FIBER OPTIC "NO LEFT TURN"
 - ILLUMINATED SIGN, FIBER OPTIC "NO RIGHT TURN"
 - GROUND ROD AT HANDHOLE (H), DOUBLE HANDHOLE (H), OR CONTROLLER (C).
 - GROUND ROD AT POST (P), OR MAST ARM POLE (MA).
 - GROUND ROD AT ELECTRIC SERVICE INSTALLATION
 - GROUND CABLE IN CONDUIT NO. 6 SOLID COPPER (GREEN)
 - FIBER OPTIC CABLE IN CONDUIT NO. 62.5/125 MM12F SM12F
 - BATTERY BACKUP SYSTEM

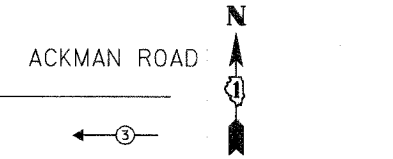


CABLE PLAN

- NOTE:**
- ALL TRAFFIC SIGNAL CONTROL EQUIPMENT SHALL BE ECONOLITE TRAFFIC CONTROL EQUIPMENT.
 - VIDEO DETECTION CAMERA SHALL BE AUTOSCOPE SOLO PRO 2
 - VIDEO DETECTION CABLE SHALL BE BELDEN 5 1/2 PR #16.
 - CONTROLLER SHALL BE ECONOLITE ASC3
 - TYPE IV CABINET
 - EVP CABLE SHALL BE 3C #20, TWISTED, SHIELDED
 - CONFIRMATION BEACON CABLE SHALL BE 3C #14
 - ALL PEDESTRIAN HEADS SHALL BE COUNTDOWN HEADS. COUNTDOWN TIMER IN BOTTOM SECTION, TOP SECTION FULL HAND/MAN OVERLAY.
 - GROUNDING OF SIGNAL EQUIPMENT INCIDENTAL TO FOUNDATION PAY ITEM.
 - CONFIRMATION BEACON SHALL BE LED.



PHASE DESIGNATION DIAGRAM



PROPOSED EMERGENCY VEHICLE PREEMPTORS

EMERGENCY VEHICLE PREEMPTOR	3	4
MOVEMENT	← →	↑ ↓

SCHEDULE OF QUANTITIES

PAY CODE	DESCRIPTION	UNIT	QUANTITY
81000700	CONDUIT IN TRENCH, 2 1/2" DIA., GALVANIZED STEEL	FOOT	244
81001000	CONDUIT IN TRENCH, 4" DIA., GALVANIZED STEEL	FOOT	5
81018900	CONDUIT PUSHED, 4" DIA., GALVANIZED STEEL	FOOT	285
81400400	CONCRETE HANDHOLE	EACH	3
85700205	FULL-ACTUATED CONTROLLER AND TYPE IV CABINET, SPECIAL	EACH	1
87301215	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 2C	FOOT	1036
87301225	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 3C	FOOT	1345
87301245	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 5C	FOOT	625
87301255	ELECTRIC CABLE IN CONDUIT, SIGNAL NO. 14 7C	FOOT	1220
87301805	ELECTRIC CABLE IN CONDUIT, SERVICE, NO. 6 2 C	FOOT	429
87502500	TRAFFIC SIGNAL POST, GALVANIZED STEEL 16 FT.	EACH	4
87702860	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 26 FT.	EACH	1
87702870	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 28 FT.	EACH	1
87702880	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 30 FT.	EACH	1
87702890	STEEL COMBINATION MAST ARM ASSEMBLY AND POLE 32 FT.	EACH	1
87800100	CONCRETE FOUNDATION, TYPE A	FOOT	16
87800200	CONCRETE FOUNDATION, TYPE D	FOOT	4
87800415	CONCRETE FOUNDATION, TYPE E 36-INCH DIAMETER	FOOT	48
88200210	TRAFFIC SIGNAL BACKPLATE, LOUVERED, ALUMINUM	EACH	8
88700200	LIGHT DETECTOR	EACH	2
88700300	LIGHT DETECTOR AMPLIFIER	EACH	1
88800100	PEDESTRIAN PUSH-BUTTON	EACH	8
XX004679	PEDESTRIAN SIGNAL HEAD, LED, 1-FACE BRACKET MOUNTED WITH COUNTDOWN TIMER	EACH	8
XX004657	ELECTRIC CABLE IN CONDUIT, SIGNAL BELDEN 5 1/2 PAIR NO. 16	FOOT	785
X0323370	TRAFFIC SIGNAL BATTERY BACKUP	EACH	1
X8050015	SERVICE INSTALLATION - POLE MOUNTED	EACH	1
X8730250	ELECTRIC CABLE IN CONDUIT NO. 20 3/C, TWISTED, SHIELDED	FOOT	249
X8800020	SIGNAL HEAD, LED, 1-FACE, 3-SECTION, MAST-ARM MOUNTED	EACH	4
X8800040	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, BRACKET MOUNTED	EACH	4
X8800045	SIGNAL HEAD, LED, 1-FACE, 5-SECTION, MAST-ARM MOUNTED	EACH	4
XX003982	VIDEO VEHICLE DETECTION SYSTEM	L SUM	1

I.D.O.T. TRAFFIC SIGNAL INSTALLATION ELECTRICAL SERVICE REQUIREMENTS

TYPE	NO. LAMPS	WATTAGE (INCAND.)	WATTAGE (LED)	*XOPERATION	TOTAL WATTAGE
SIGNAL (RED)	12	135	17	0.50	102.0
(YELLOW)	12	135	25	0.25	75.0
(GREEN)	12	135	15	0.25	45.0
ARROW	16	135	12	0.25	48.0
PED. SIGNAL	8	90	25	1.00	200.0
CONTROLLER	1	100		1.00	100.0
CAMERA	4	20		1.00	80.0
TOTAL =					650.0

ENERGY COSTS TO:
CITY OF CRYSTAL LAKE
100 W. MUNICIPAL COMPLEX
CRYSTAL LAKE, IL 60039-0597

ENERGY SUPPLY CONTACT: **ELLIE SARALLO**
PHONE: **847.608.2400**
COMPANY: **ComEd**

FOUNDATION (DEPTH)	FT. (m)	CABLE SLACK	FT. (m)	VERTICAL	FT. (m)
TYPE A - POST	4 (1.2)	HANDHOLE	6.5 (2.0)	ALL FOUNDATIONS	3.5 (1.0)
D - CONTROLLER	4 (1.2)	DOUBLE HANDHOLE	13 (4.0)	MAST ARM (L) POLE	20'+L-2'=(6m+L-0.6m)=
E - M. ARM POLE		SIGNAL POST	2 (1.0)		
	24" (600mm)	CONTROLLER CAB.	1 (0.5)	BRACKET MOUNTED	13 (4.0)
	30" (750mm)	FIBER OPTIC	13 (4.0)	PED. PUSHBUTTON	4 (1.2)
		ELECTRIC SERVICE	1 (0.5)	ELECTRIC SERVICE	13.5 (4.1)
		GROUND CABLE	1 (0.5)	SERVICE TO GROUND	13.5 (4.1)
				POST MOUNTED	6 (1.8)

RHA&A
Robert H. Anderson & Associates, Inc.
Consulting Engineers & Land Surveyors
Timbers Professional Center
220 West River Drive, St. Charles, Illinois 60174
Phone - 630.584.3530 Fax - 630.584.3041
Email - rha@rhaengr.com

STAFF
PROJECT MANAGER: **MATT GAUNTT, P.E.**
ENGINEER: **T. COLE, E.I., K. JAY, E.I.**
TECHNICIAN: _____
TECHNICIAN: _____

REVISIONS

NAME	DATE
PRLM ENGR SUB1	9/9/05
FNL ENGR SUB1	12/29/05
FNL ENGR SUB2	2/10/06
FNL ENGR SUB3	2/17/06

ILLINOIS DEPARTMENT OF TRANSPORTATION
ACKMAN ROAD (CH 42-A46) AT
GOLF COURSE ROAD
TRAFFIC SIGNAL IMPROVEMENTS

CABLE PLAN AND PHASE DIAGRAM

SCALE: NONE DRAWN BY: CMC
DATE: 2-17-06 CHECKED BY: MAG