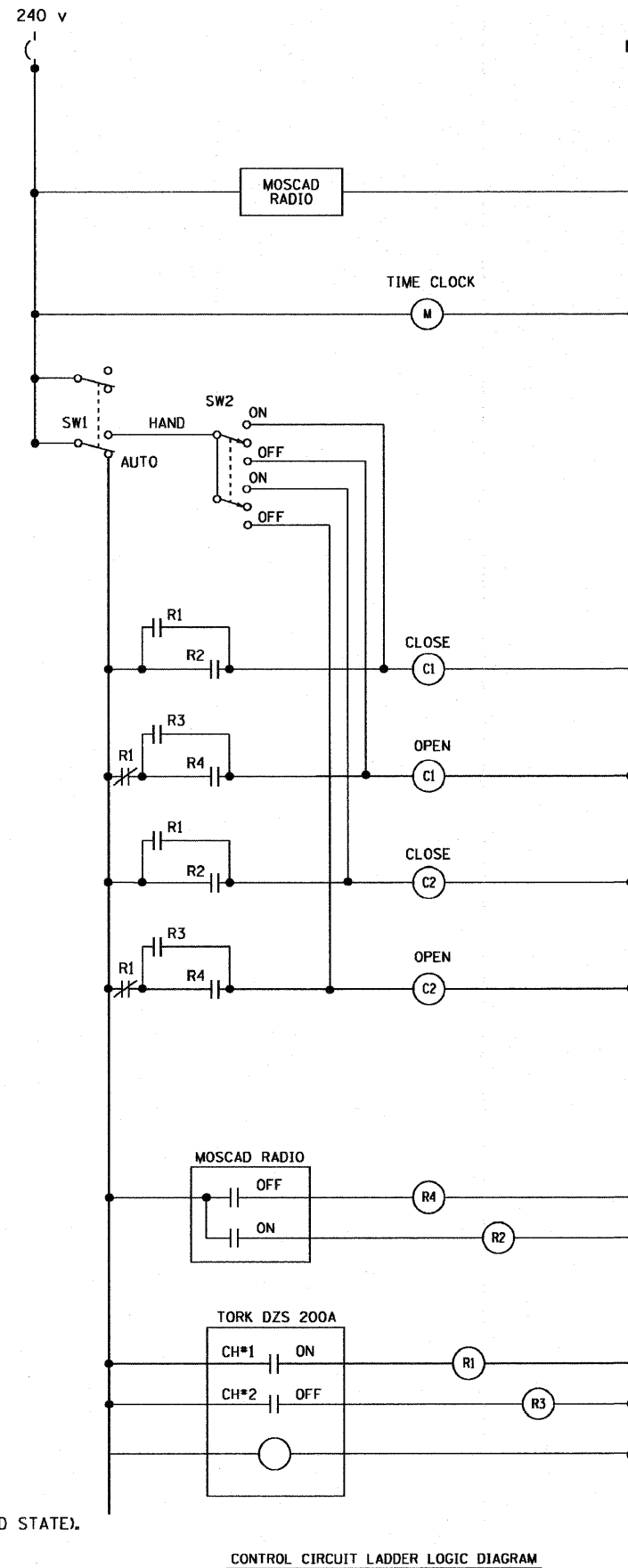


NOTES

- CABINET SHALL BE FABRICATED FROM 3.175 (0.125-INCH) SHEET ALUMINUM # 3003H14, FORMED AND ARC WELDED.
- ALL SCREWS AND HARDWARE SHALL BE PLATED, GALVANIZED, OR MADE OF BRASS, ALUMINUM OR STAINLESS STEEL, UNLESS OTHERWISE NOTED.
- NAME PLATE SHALL HAVE ENGRAVED 19.05 (0.75-INCH) HIGH LETTERS FILLED IN BLACK: "STATE OF ILLINOIS LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED.
- ONE INCH THICK POLYISOCYANURATE INSULATION SHALL BE INSTALL AND PERMANENTLY CEMENTED ON ALL SIDES OF THE CABINET AND DOORS.
- CABINET SHALL BE PRIMED AND PAINTED AS SPECIFIED.
- ELECTRIC UTILITY METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET AS SHOWN ON THE PANEL LAYOUT DIAGRAM.
- THE COMPLETED CONTROLLER SHALL BE U.L. LISTED AS AN INDUSTRIAL CONTROL PANEL UNDER UL508.
- METAL MOUNTING PANEL SHALL BE FABRICATED FROM THE SAME MATERIAL AS THE CABINET AND SHALL BE FLANGED BACK 0.75-INCHES I.D. ON 4 SIDES.
- CIRCUIT BREAKERS AND CONTACTORS AND OTHER COMPONENTS SHALL BE MOUNTED ON 3.175 (0.125-INCH) THICK GLASTIC INSULATION BACK PANEL.
- ALL DEVICES SHALL BE FRONT REMOVABLE.
- TIME CLOCK CHANNEL 1 N.O. CONTACT IS CLOSED NIGHT AND OPEN DAY (LIGHTS ON).
- SET LATITUDE TO 42 DEGREES, SET CH.1 TO 25 MINUTES AFTER ASTRONOMICAL SUNSET, 40 MINUTES BEFORE ASTRONOMICAL SUNRISE. SET CH.2 TO 60 MINUTES AFTER ASTRONOMICAL SUNSET (WITH A SIGNAL LENGTH OF 1 SECOND), +20 MINUTES AFTER ASTRONOMICAL SUNRISE (WITH A SIGNAL LENGTH OF 7 SECONDS).
- BUS BAR SHALL HAVE 22 LUG TERMINALS SIZED TO ACCOMMODATE REQUIRED WIRE SIZES. 240V NEUTRAL BUS SHALL BE PAINTED WHITE, GROUND BUS SHALL BE PAINTED GREEN, AND THE 120V NEUTRAL BUS SHALL BE PAINTED GREY.
- ALL LUGS SHALL BE OF COPPER SCREWS AND CONNECTORS, SPRING HELD.
- ALL WIRING TERMINATIONS SHALL BE RATED NOT LESS THAN 75 DEGREE CENTIGRADE
- ALL CONTROL WIRING SHALL BE 600V #12 TYPE MTW.
- ALL POWER WIRING SHALL BE 600V TYPE RHH/RHW.
- ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED:

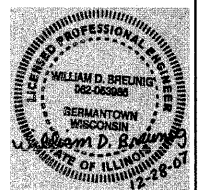
R - RED	Y - YELLOW
B - BLACK	W - WHITE
BL- BLUE	G - GREEN
	C - GREY
- MOSCAD I/O WIRING SHALL BE:
 - DIGITAL INPUT (DI) WIRING SHALL BE #16 MTW PURPLE
 - ANALOG INPUT (AI) WIRING SHALL BE #18, 2/C SHIELDED.
 - AI AND DI WIRING MAY BE BUNDLED TOGETHER, BUT SHALL NOT BE BUNDLED WITH OTHER WIRING.
- ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE INDICATED.
- SCHEMATIC SHOWN WITH BREAKER OPEN, CONTACTOR OPEN, CABINET DOOR CLOSED, CLOCK NOT ACTIVE (DE-ENERGIZED STATE).
- A LAMINATED COPY OF THE CIRCUIT SCHEMATIC AND SCADA I/O DIAGRAM (NO SMALLER THAN 11"x17" EACH) SHALL BE ATTACHED TO THE INSIDE OF THE CONTROLLER WITH STAINLESS STEEL SCREWS.



MOSCAD I/O ASSIGNMENTS		
TERM	MOSCAD DESTINATION	DESCRIPTION OF INPUT
1	Analog Input 1 (+)	CABINET NEUTRAL CURRENT
2	Analog Input 1 (-)	CABINET NEUTRAL CURRENT
3	Analog Input 2 (+)	CABINET SERVICE VOLTAGE
4	Analog Input 2 (-)	CABINET SERVICE VOLTAGE
5	P. Ground	GROUND
6	Digital Input 1	ALARM KNOWLEDGE
7	Digital Input 2	DOOR OPEN
8	Digital Input 3	MAINS BREAKER OPEN
9	Digital Input 4	CONTACTOR 1 OPEN
10	Digital Input 5	CONTACTOR 2 OPEN
11	Digital Input 6	CABINET IN NON-AUTO
12	Digital Input 7	BACK-UP CLOCK OFF CALL
13	Digital Input 8	BACK-UP CLOCK ON CALL
14	DI Common	COMMON
15	K1 NO	LIGHTS ON CALL
16	K1 C	K1 COMMON
17	K2 NO	LIGHTS OFF CALL
18	K2 C	K2 COMMON
19	24 V+	24+VDC
20	24 V-	24-VDC

All analog inputs will be 4-20 mA only. Digital output relays will be Electrically energized and momentarily held
Mixed I/O module model number V436

CONTROL CIRCUIT LADDER LOGIC DIAGRAM



Rev. Sheet 2-14-08

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

IL 394 SAFETY IMPROVEMENTS - GOODNOW ROAD TO BURRVILLE ROAD
LIGHTING DETAILS - IDOT BE-205

F.A.P. RTE. 332	SECTION 2007-044 I	COUNTY WILL & COOK	TOTAL SHEETS 53	SHEET NO. 49
SCALE: 1" = 50'		SHEET NO. 49 OF 53 SHEETS		STA. TO STA.
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		CONTRACT NO. 60D34

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USER NAME = #USER#	DESIGNED - BDB/CMP	REVISED -
PLOT SCALE = #SCALE#	DRAWN - JCC	REVISED -
PLOT DATE = 2/8/2008	CHECKED - BDB	REVISED -
	DATE - 12-31-07	REVISED -