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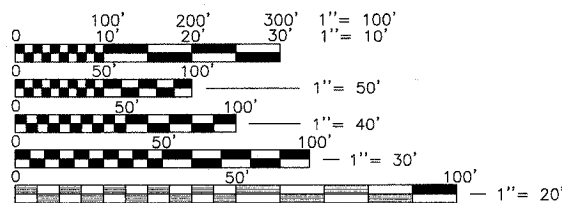
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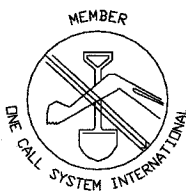
DESIGN DESIGNATION: URBAN MINOR ARTERIAL

SCALES

PLAN 1"=20'
 PROFILES 1"=20' (HORIZONTAL)
 1"=2' (VERTICAL)
 CROSS SECTION 1"=5'



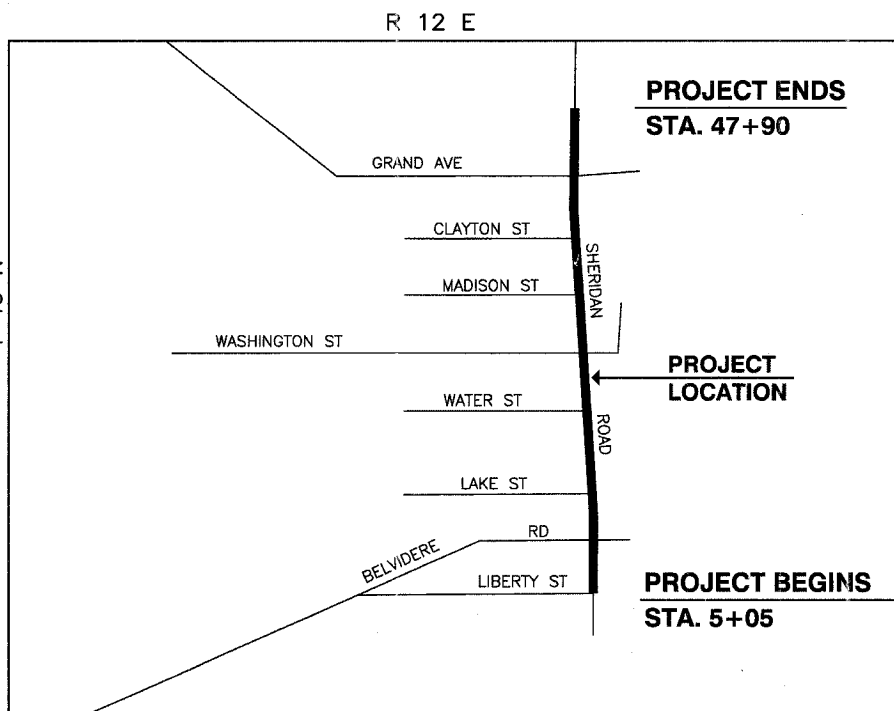
FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES, REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES, IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.



CALL J. U. L. I. E. BEFORE YOU DIG
 1-800-892-0123
 TOLL FREE

CONTRACT NO. 83829

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL AID URBAN PROJECT
F.A.U. ROUTE 2736 SHERIDAN ROAD
(BELVIDERE ROAD TO GRAND AVENUE)
ROADWAY RECONSTRUCTION AND TRAFFIC SIGNALS
SECTION No. 03-00227-00-RS
PROJECT No. M-8003 (453)
CITY OF WAUKEGAN
LAKE COUNTY, ILLINOIS
C-91-190-04



GROSS LENGTH OF PROJECT = 4285 FEET 0.81 MILES
 NET LENGTH OF PROJECT = 4285 FEET 0.81 MILES

SPEED LIMIT
 POSTED SPEED: 30 MPH
 DESIGN SPEED: 35 MPH

TRAFFIC DATA
 ADT: 7300 (2005)
 11542 (2030)

FAU RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2736	03-00227-00-RS	LAKE	122	1
F.H.W.A. REG.	ILLINOIS	PROJECT M-8003 (453)	CONTRACT NO. 83829	



LOCATION OF SECTION INDICATED THUS:

CITY OF WAUKEGAN

APPROVED 07/09/07
John H. Moore
 CITY OF WAUKEGAN, CITY ENGINEER

PASSED July 07-07
C. H. Holt
 DISTRICT ONE ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID
 BASED ON LIMITED REVIEW July 17, 2007
Diane O'Keefe/Cul
 DEPUTY DIRECTOR OF HIGHWAYS, REGION ONE ENGINEER

McCLURE ENGINEERING ASSOCIATES, INC.

2728 Grand Avenue
 Waukegan, Illinois 60085
 TEL 847-336-7100 FAX 847-336-7155

Design Firm License: Illinois #184-000816
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 McClure Engineering Associates, Inc.



Daniel B. Drew
 DANIEL B. DREW
 ILLINOIS LICENSED PROFESSIONAL ENGINEER
 NO. 062-055312
 EXPIRATION DATE 11/30/07

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

ASSOCIATE FIELD ENGINEER: JESSICA FELICIANO (847) 705-4487

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
273603-00227-00-R3	LAKE		123	123
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

BILL OF MATERIALS

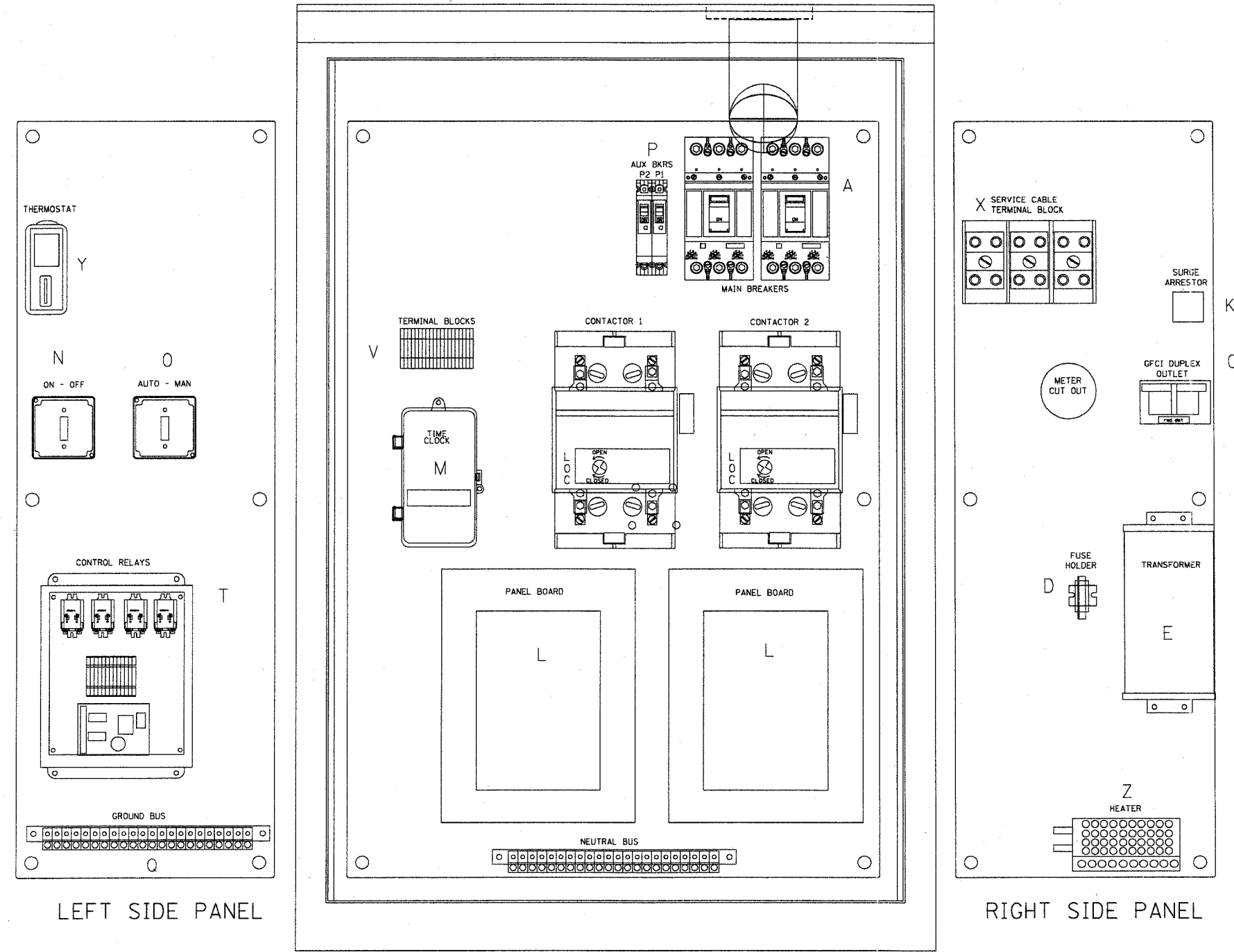
ITEM #	QTY	DESCRIPTION
A	2	FXD62B175 BREAKERS 2 POLE 175 AMP WITH AUX CONTACT
C1,C2	2	MECHANICAL CONTRACTOR 8903PBV10X11V39 2 POLE 200 AMP 240V COIL WITH AUX CONTACTS
D	1	SECTIONAL FUSE HOLDER
E	1	1.5 KVA 277V-240/120 TRANSFORMER
G	1	15 AMP GFCI
H	2	DOOR SWITCH
I	1	LIGHT FIXTURE
J	1	METER FITTING 1 PHASE 3 WIRE 200 AMP
K	1	SURGE ARRESTER
L	2	PANEL BOARD 480/240V 1 PHASE, 250 AMP COPPER BUS
M	1	2 CHANNEL DIGITAL TIME CLOCK
N	1	MOMENTARY SWITCH ON - OF
O	1	DPDT 20 AMP AUTO-MANUAL
P1	1	BREAKER 1P 15A
P2	1	BREAKER 1P 15A
Q	2	COPPER GROUND AND NEUTRAL BUS 1 X 16 X 1/4
T	1	CONTROL RELAY ASSEMBLY 240V COILS WITH DPDT 25 AMP RELAYS (R1,R2,R3,R4), MOMENTARY CONTACT ADAPTER, QTY 12
V	20	TERMINAL BLOCKS
X	1	620 AMP SPLICE BLOCK
Y	1	CHROMALOX WR 80, 40-80 DEG THERMOSTAT
Z	1	HEATREX 276-10 375 WATT HEATER

Added 9-10-07

E-200

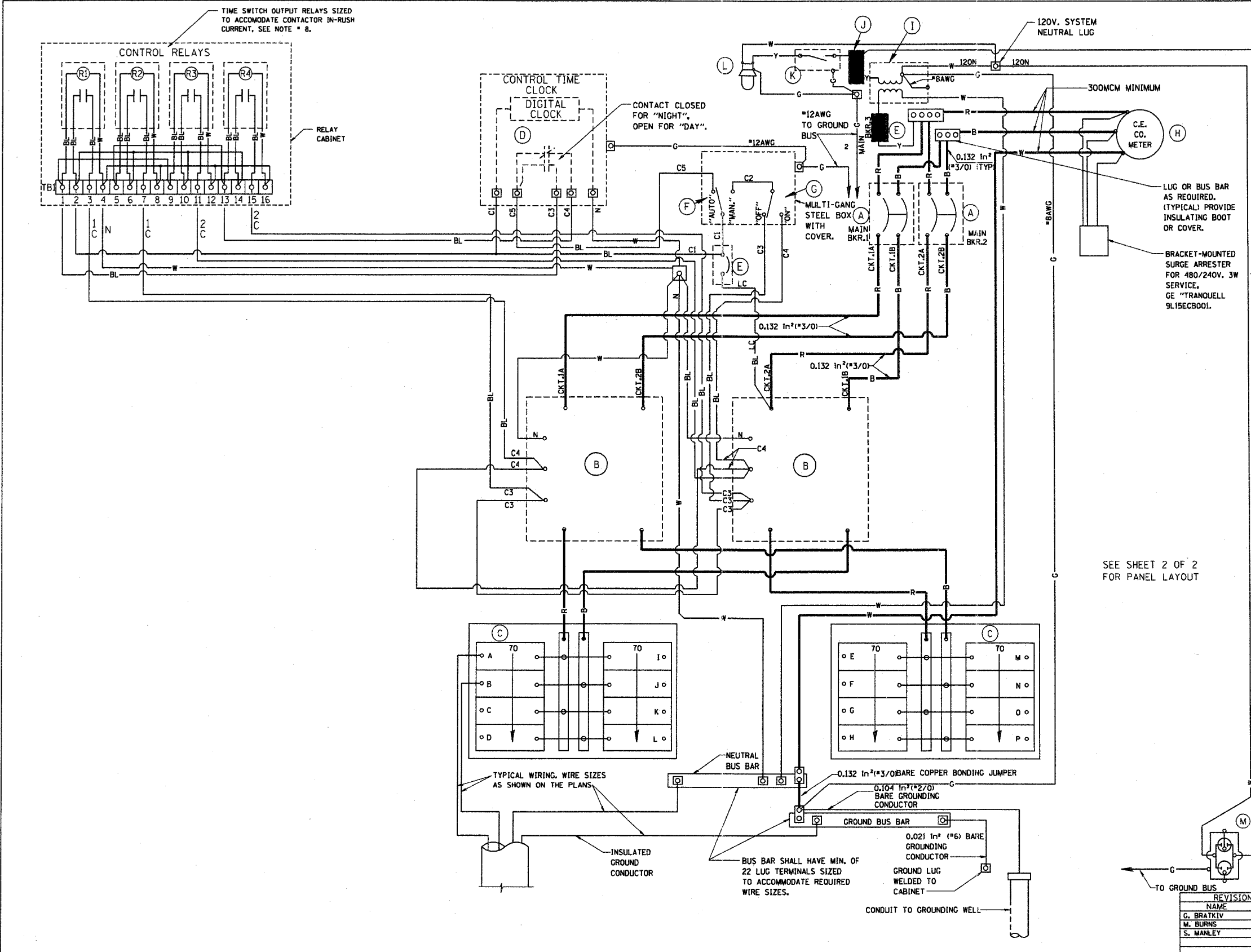
REVISIONS	
NAME	DATE
	12/18/02

ILLINOIS DEPARTMENT OF TRANSPORTATION
 LIGHTING CONTROLLER
 DUPLEX TYPE
 SHT 1 OF 4
 SCALE: VERT. NONE
 HORIZ.
 DRAWN BY CADD
 CHECKED BY
 E-200 (BE-200)



PLT DATE = 1/10/2007
 FILE NAME = K:\projects\1042000.dwg
 PLOT SCALE = 49.3750 / 1.
 USER NAME = bauer-d

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2736 D3-00227-00-RS	LHKE	LHKE	124	124
TO STA.				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



DEVICE SCHEDULE		
ITEM	QUANT.	DESCRIPTION
(A)	2	CIRCUIT BREAKER, MOLDED CASE, THERMAL MAGNETIC, 2-POLE, 600V, A.C., 225A. FRAME, 175A. NON-INTERCHANGABLE TRIP, BOLT-ON TYPE; INTERRUPTING CAPACITY OF NOT LESS THAN 22,000 RMS SYMMETRICAL AMPERES AT 480V.
(B)	2	LIGHTING CONTACTOR (REMOTE CONTROL SWITCH) MECHANICALLY HELD, ASCO 920, MOUNTED ON SUB PANEL 200A., 2P., 600V, WITH 240V. COIL.
(C)	2	PANEL BOARD (INTERIOR ONLY) 480/240V. SINGLE PHASE WITH 200A. COPPER MAINS AND EIGHT 1P-70A BOLT-ON BRANCH BREAKERS EACH RATED 27TV. WITH INTERRUPTING CAPACITY OF NOT LESS THAN 14,000 RMS SYMMETRICAL AMPERES AT 27TV.
(D)	1	TIME CLOCK; 240V, 60 HZ, MICROPROCESSOR BASED 2-CHANNEL CONTROLLER WITH ASTRONOMIC FUNCTIONS. RATED FOR -30 DEGREES C. TO +70 DEGREES C.
(E)	2	CIRCUIT BREAKER, MOLDED CASE, THERMAL MAGNETIC, 1-POLE, 27TV, BOLT-ON TYPE, 15A WITH AN INTERRUPTING RATING OF NOT LESS THAN 14,000 RMS SYMMETRICAL AMPERES AT 27TV.
(F)	1	CONTROL SWITCH, MOMENTARY CONTACT, SPDT, 20A., 240V.
(G)	1	CONTROL SWITCH, TOGGLE TYPE, SPDT, 20A., 240V, PREMIUM SPEC. GRADE
(H)	1	SOCKET FOR ELECTRIC UTILITY COMPANY METER.
(I)	1	STEP DOWN TRANSFORMER 240V.-120V., 1KVA.
(J)	2	FUSE HOLDER (5A., 250V., 5A. FUSE
(K)	1	20A. SPST MICRO SWITCH (MOUNT WITH ACTUATOR TO SWITCH WHEN DOOR OPENED)
(L)	1	60 WATT LIGHT FIXTURE, VAPOR TIGHT, WITH GLOBE AND GUARD AND MOUNTING BOX.
(M)	1	GFI RECEPTACLE, 120V., 20A., PREMIUM SPEC. GRADE, NEMA REFERENCE G-15R IN WEATHER-PROOF BOX WITH FLAP-TYPE COVER.

NOTES:

- ALL CONTROL CABINET ITEMS SHALL HAVE SUITABLE IDENTIFICATION. OPEN CIRCUIT BREAKERS, CONTACTORS AND OTHER OPEN DEVICES SHALL HAVE PERMANENT SELF STICKING TAGS. DEVICES IN ENCLOSURES SHALL HAVE ENGRAVED 2-COLOR LAMINATED PLASTIC NAMEPLATES ATTACHED TO ENCLOSURES WITH SCREWS. NAMEPLATES SHALL BE ENGRAVED TO CORRESPOND TO DESIGNATIONS ON THE DRAWINGS. INTERNAL CABINET WIRING SHALL BE IDENTIFIED AS INDICATED OR AS DIRECTED BY THE ENGINEER BY MEANS OF SELF-STICKING TAGS APPLIED AT EACH CONNECTED END. IDENTIFICATION SHALL BE MADE BY THE CABINET MANUFACTURER.
- ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED.
R = RED BL = BLUE W = WHITE
B = BLACK Y = YELLOW G = GREEN
- PROVIDE SEALING GROMMETS FOR ALL OPEN WIRING EXTENDED FROM DEVICES IN BOXES OR CABINETS WITHIN THE CONTROL CABINET.
- ALL 120 VOLT SYSTEM AND ALL CONTROL WIRING SHALL BE #12AWG STRANDED UNLESS OTHERWISE INDICATED.
- ALL WIRING SHALL BE NEATLY DRESSED AND SUPPORTED.
- THE CONTROLLER SHALL BE CONSTRUCTED TO U.L. STD. 508 AND BEAR THE U.L. LABEL "ENCLOSED INDUSTRIAL CONTROL PANEL"
- SEE CABINET AND FOUNDATION DETAIL SHEET FOR SCHEMATIC DIAGRAM AND DEVICE LAYOUT.
- CONTROL RELAYS CAN BE ELIMINATED IF THE CONTROL TIME CLOCK OUTPUT CONTACTS ARE RATED FOR CONTACTOR INRUSH CURRENT.

SEE SHEET 2 OF 2 FOR PANEL LAYOUT

Added 9-10-07 E-200

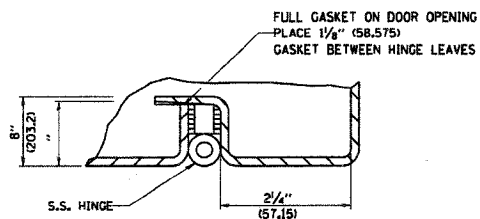
ILLINOIS DEPARTMENT OF TRANSPORTATION
CONTROL CABINET, DUPLEX TYPE
WIRING DETAIL
SHEET 2 OF 4

REVISIONS	
NAME	DATE
G. BRATKIV	06-30-88
M. BURNS	07-25-91
S. MANLEY	10-11-93

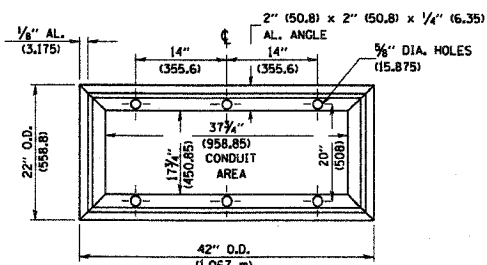
SCALE: VERT. NONE
HORIZ. DRAWN BY
CHECKED BY
E-200 (BE-200)

PLT DATE = 8/21/2007
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PLOT SCALE = 0.80000 / 1.00000
USER NAME = bmanley

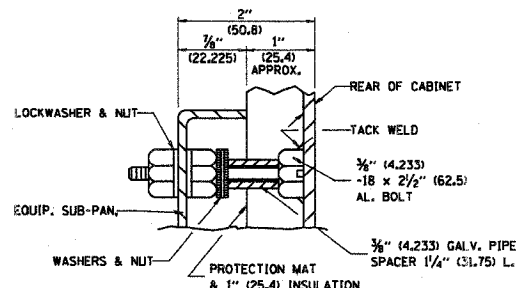
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
273403-00287-05 AS	LAKE		125	125
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



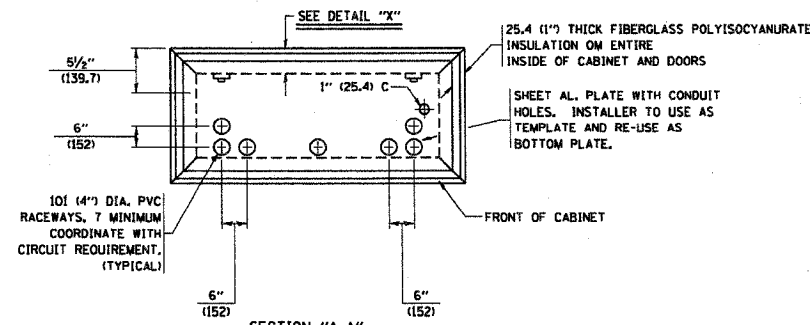
DETAIL "Y"



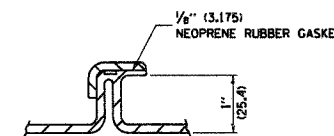
BASE MTG. DETAIL



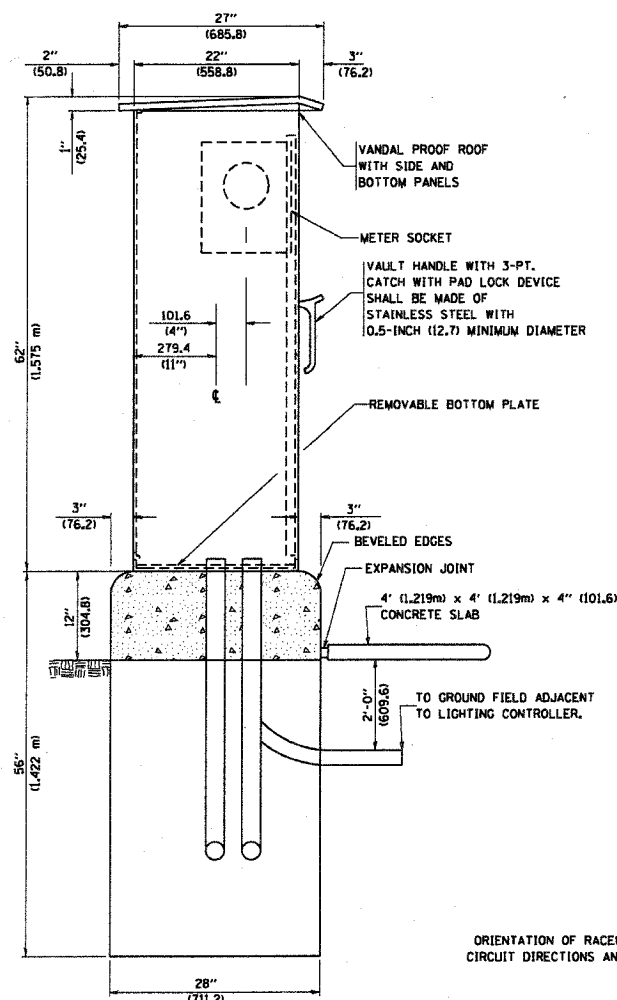
DETAIL "X"



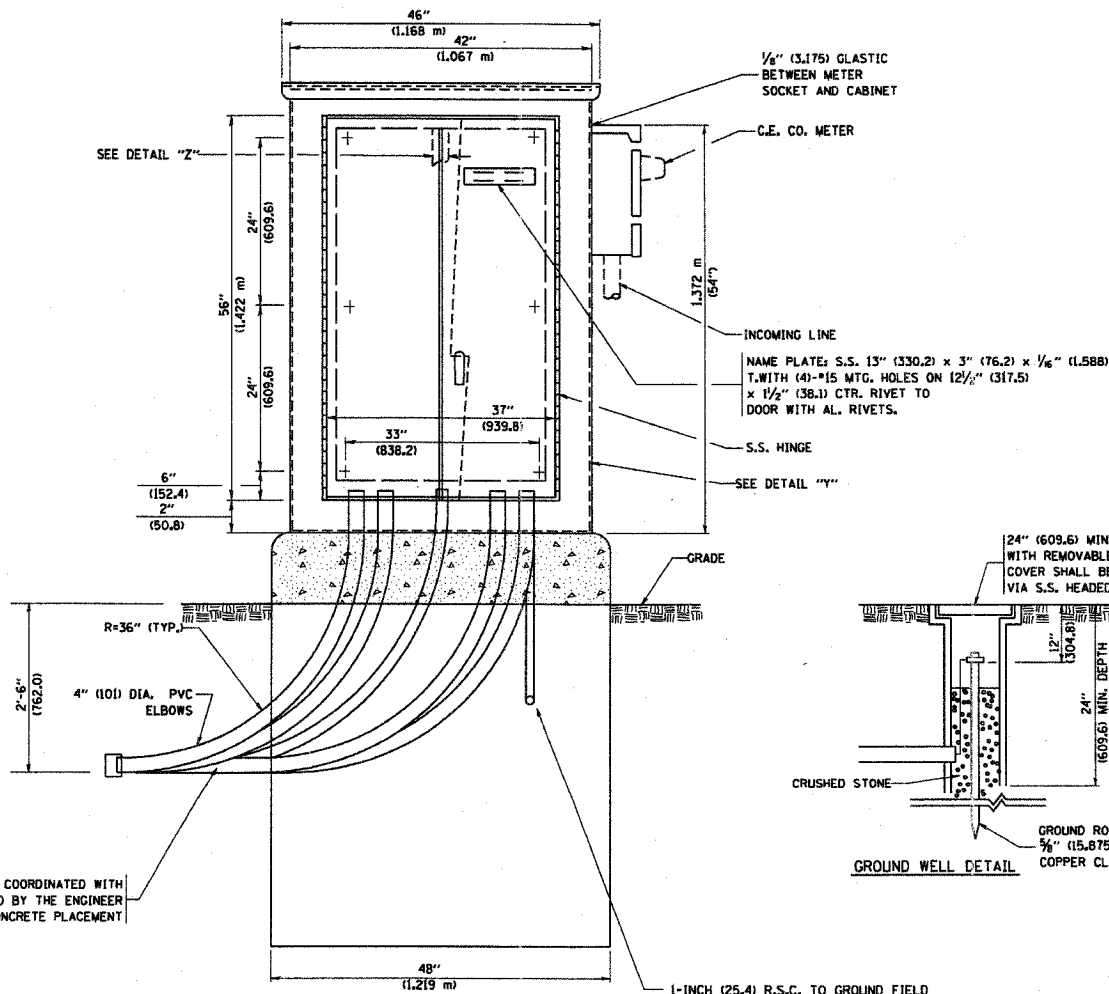
SECTION "A-A"



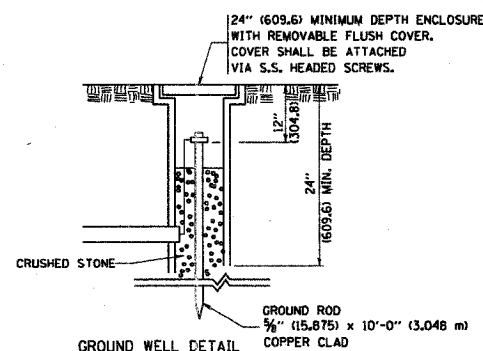
DETAIL "Z"



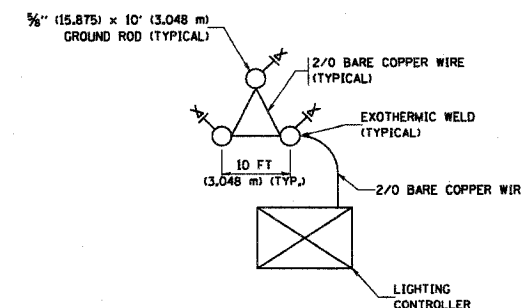
LEFT SIDE ELEVATION



FRONT ELEVATION



GROUND WELL DETAIL



GROUND FIELD DETAIL (N.T.S.)

THE CONTRACTOR SHALL VERIFY EXACT LOCATION WITH THE ENGINEER

Added 9-10-07

E-200

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

LIGHTING CONTROLLER, DUPLEX TYPE SHT 3 OF 4

SCALE: VERT. NONE HORIZ.

DRAWN BY C.A.D.

CHECKED BY

E-200 (BE-200)

F.A. RYE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	03-00227-00-RS			126
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

NOTES

1. CABINET SHALL BE FABRICATED FROM 0.125-INCH (3.175) SHEET ALUMINUM *3003H14, FORMED AND ARC WELDED ASSEMBLY.
2. ALL SCREWS AND HARDWARE SHALL BE PLATED, GALVANIZED, OR MADE OF BRASS, ALUMINUM OR STAINLESS STEEL.
3. NAME PLATE SHALL HAVE ENGRAVED 0.75-INCH (19.05) HIGH LETTERS FILLED IN BLACK; "STATE OF ILLINOIS LIGHTING CONTROLS" UNLESS OTHERWISE SPECIFIED.
4. ONE INCH THICK POLYISOCYANURATE INSULATION SHALL BE INSTALL AND PERMANENTLY CEMENTED ON ALL SIDES OF THE CABINET AND DOORS.
5. CABINET SHALL BE PRIMED AND PAINTED AS SPECIFIED.
6. ELECTRIC UTILITY METER BOX SHALL BE MOUNTED ON THE SIDE OF CONTROL CABINET AS SHOWN ON THE PANEL LAYOUT DIAGRAM.
7. THE COMPLETED CONTROLLER SHALL BE U.L. LISTED AS AN INDUSTRIAL CONTROL PANEL UNDER UL508.
8. METAL MOUNTING PANEL SHALL BE *10 GAUGE GALVANIZED SHEET STEEL FLANGED BACK 0.75-INCHES I.D. ON 4 SIDES.
9. CIRCUIT BREAKERS AND CONTACTORS AND OTHER COMPONENTS SHALL BE MOUNTED ON 0.125-INCH (3.175) THICK GLASTIC INSULATION BACK PANEL.
10. ALL DEVICES SHALL BE FRONT REMOVABLE.
11. TIME CLOCK CHANNEL 1 N.O. CONTACT IS CLOSED NIGHT AND OPEN DAY.
12. SET "ON TIME" TO 30 MINUTES AFTER ASTRONOMICAL SUNSET.
13. BUS BAR SHALL HAVE 22 LUG TERMINALS SIZED TO ACCOMMODATE REQUIRED WIRE SIZES. NEUTRAL BUS SHALL BE PAINTED WHITE. GROUND BUS SHALL BE PAINTED GREEN.
14. ALL LUGS SHALL BE OF COPPER SCREWS AND CONNECTORS, SPRING HELD.
15. ALL WIRING TERMINATIONS SHALL BE RATED NOT LESS THAN 75 DEGREE CENTIGRADE.
16. ALL CONTROL WIRING SHALL BE 600V MACHINE TOOL WIRE TYPE MTW.
17. ALL POWER WIRING SHALL BE 600V TYPE RHH/RHW.
18. ALL WIRING WITHIN THE CABINET SHALL BE COLOR CODED AS INDICATED:
 R - RED Y - YELLOW
 B - BLACK W - WHITE
 BL - BLUE G - GREEN
19. ALL DIMENSIONS ARE IN MILIMETERS (INCHES) UNLESS OTHERWISE INDICATED.
20. SCHEMATIC SHOWN WITH BREAKER OPEN, CONTACTOR OPEN, CABINET DOOR CLOSED, CLOCK NOT ACTIVE.
21. A LAMINATED COPY OF THE CIRCUIT SCHEMATIC AND SCADA I/O DIAGRAM SHALL BE ATTACHED TO THE INSIDE OF THE CONTROLLER.

Added 9-10-07

E-200

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		LIGHTING CONTROLLER DUPLIX TYPE SHT 4 OF 4

SCALE: VERT. NONE
HORIZ.

DRAWN BY CADD
CHECKED BY

E-200 (BE-200)