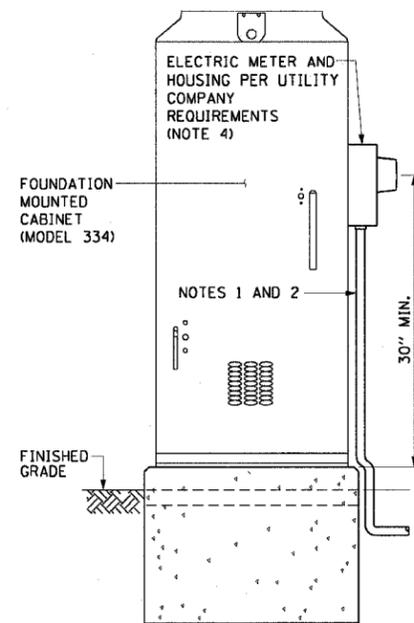


F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0311	COOK	976	901
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		

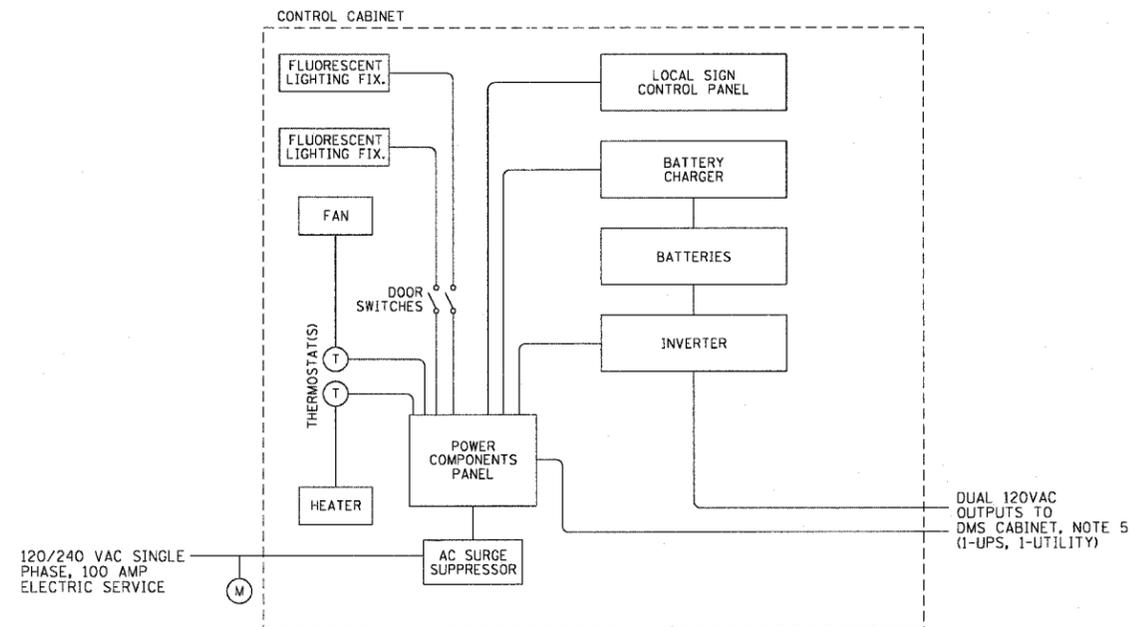
62583

NOTES:

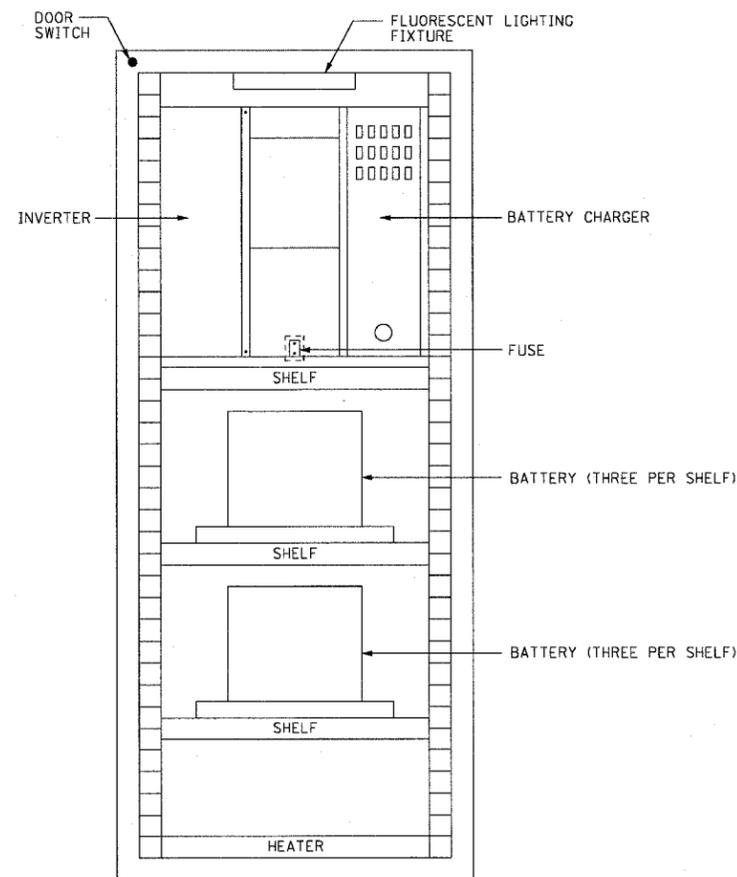
- SEE DMS-01 THROUGH DMS-08, DYNAMIC MESSAGE SIGN SITE LAYOUT, FOR CONDUIT AND CABLE SIZES.
- 120/240V, 1 PHASE, 3 WIRE, 100 AMP GROUNDED UTILITY SERVICE TO UTILITY SERVICE POLE.
- SEE DRAWING DT-07 FOR WIRING DIAGRAMS.
- METER REQUIRED ON ALL DMS-UPS CABINETS EXCEPT DMS-UPS-08.
- SEE DRAWING DT-05 FOR CONNECTION TO DMS CONTROLLER CABINETS. SEE DRAWING DT-41 FOR DMS/SYSTEM DETECTOR SURVEILLANCE CABINETS.



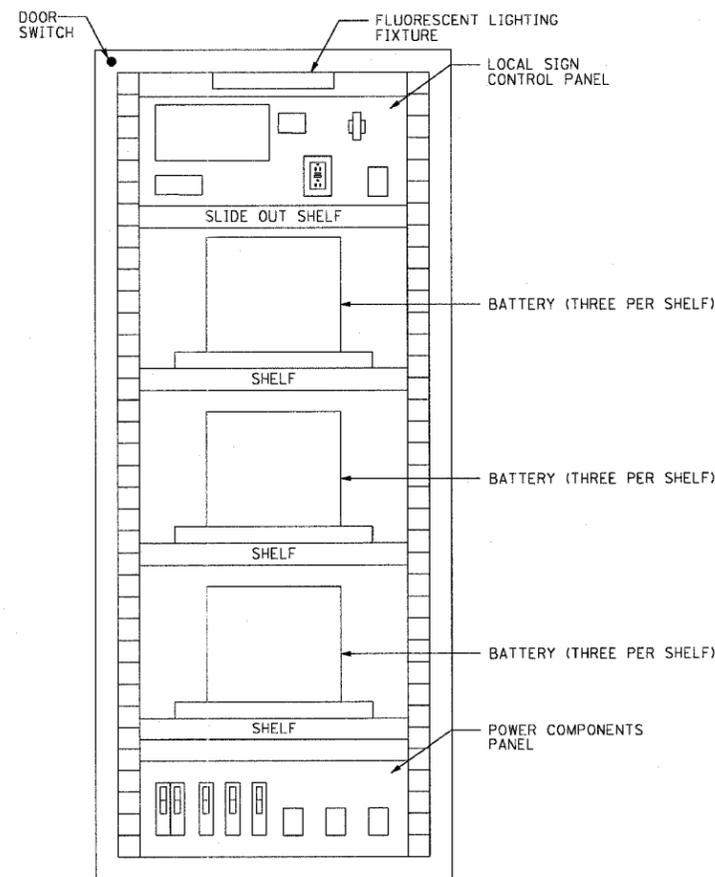
UPS CABINET FRONT VIEW (MODEL 334)



DMS UPS CABINET SINGLE LINE DIAGRAM (TYPICAL) (MODEL 334)



UPS CABINET LAYOUT FRONT VIEW (TYPICAL) (MODEL 334)



UPS CABINET LAYOUT BACK VIEW (TYPICAL) (MODEL 334)

REVISIONS	
NAME	DATE
REVISED	1/21/05

DT-06

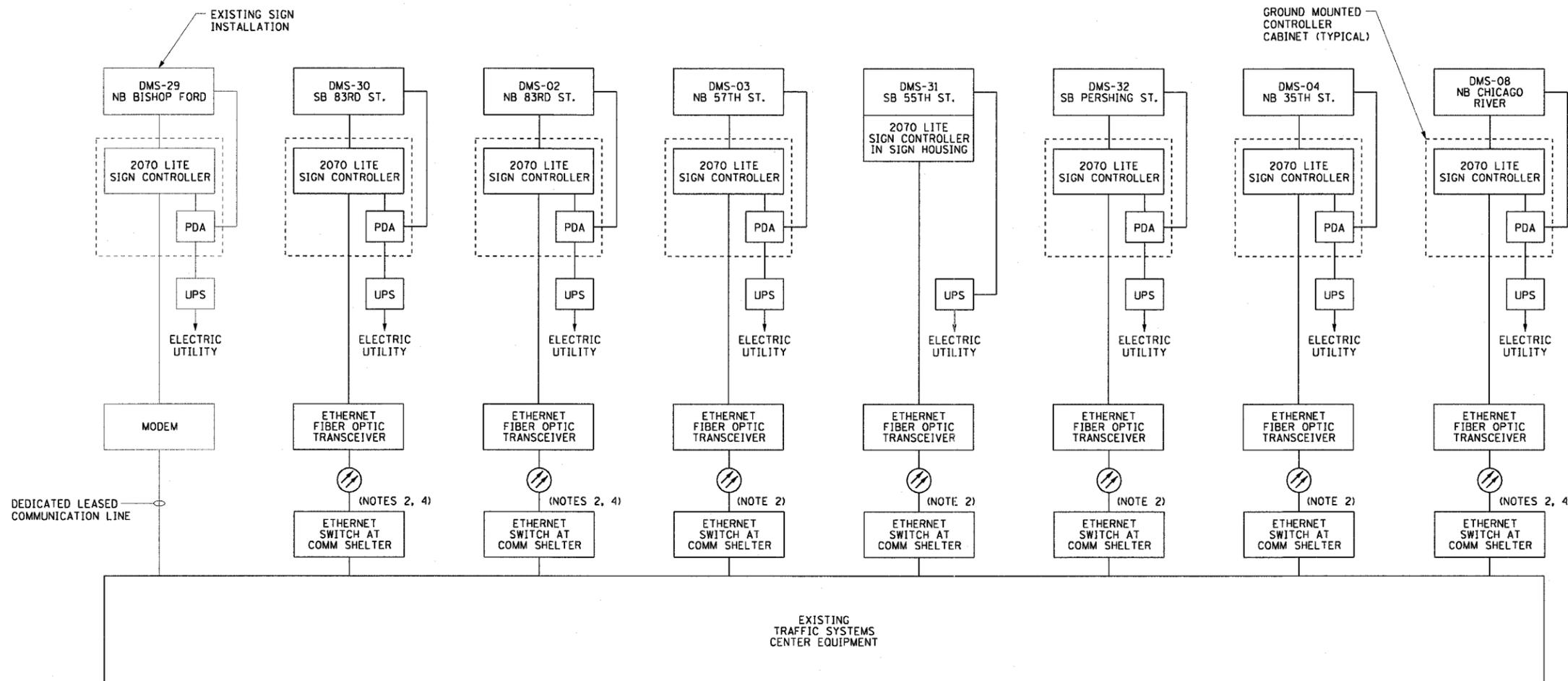
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0311	COOK	976	902
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

62583

NOTES:

1. SEE DRAWINGS ME-01 AND ME-02 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
2. FIBER OPTIC CABLES AND SWITCHES MUST BE AS SHOWN IN THE COMMUNICATIONS DRAWINGS AND SPECIFICATIONS.
3. SEE DRAWINGS DMS-01 THROUGH DMS-08, DYNAMIC MESSAGE SIGN SITE LAYOUT, FOR CONDUIT AND CABLE SIZES.
4. A DEDICATED LEASED LINE CONNECTION AND MODEM WILL BE TEMPORARILY USED FOR SIGNS DMS-30, DMS-02, AND DMS-08. TEMPORARY CONNECTIONS WILL REQUIRE FIBER OPTIC DATA TRANSCEIVERS ONCE THE COMMUNICATION NETWORK IS IN PLACE.



DT-07

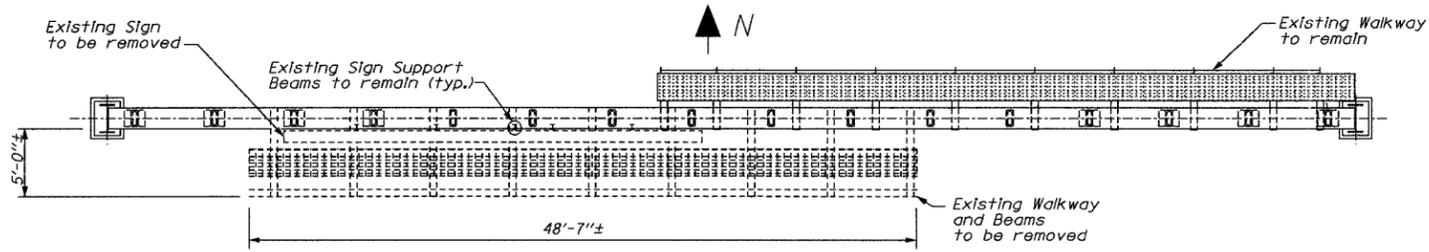


REVISIONS	
NAME	DATE
REVISED	1/21/05

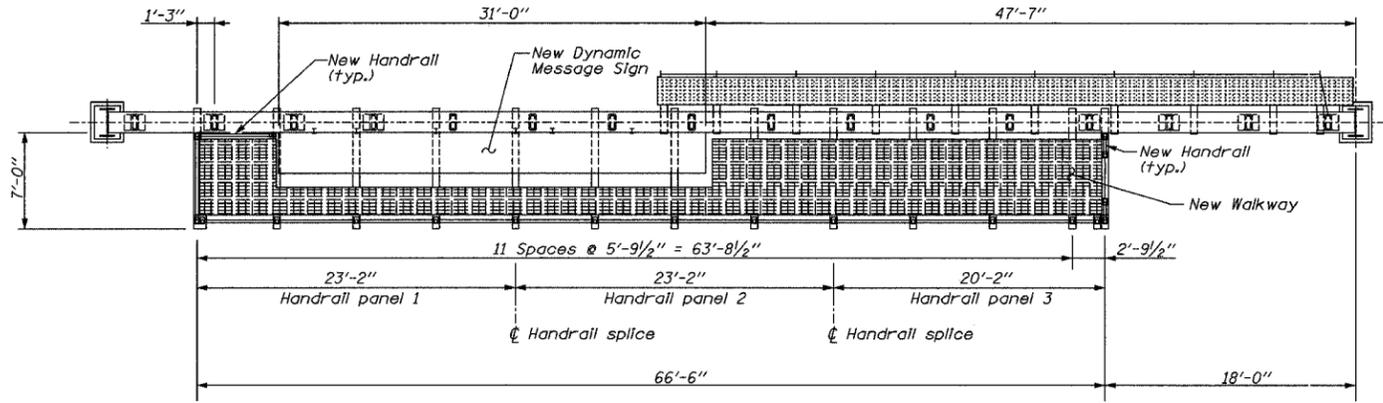
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 90/94 (DAN RYAN EXPRESSWAY)
 31st STREET TO I-57
DYNAMIC MESSAGE SIGN SYSTEM DIAGRAM
 SCALE: NOT TO SCALE
 DATE: October 29, 2004
 DRAWN BY: BHP
 CHECKED BY: BMW

01/21/2005 02:16:44 PM

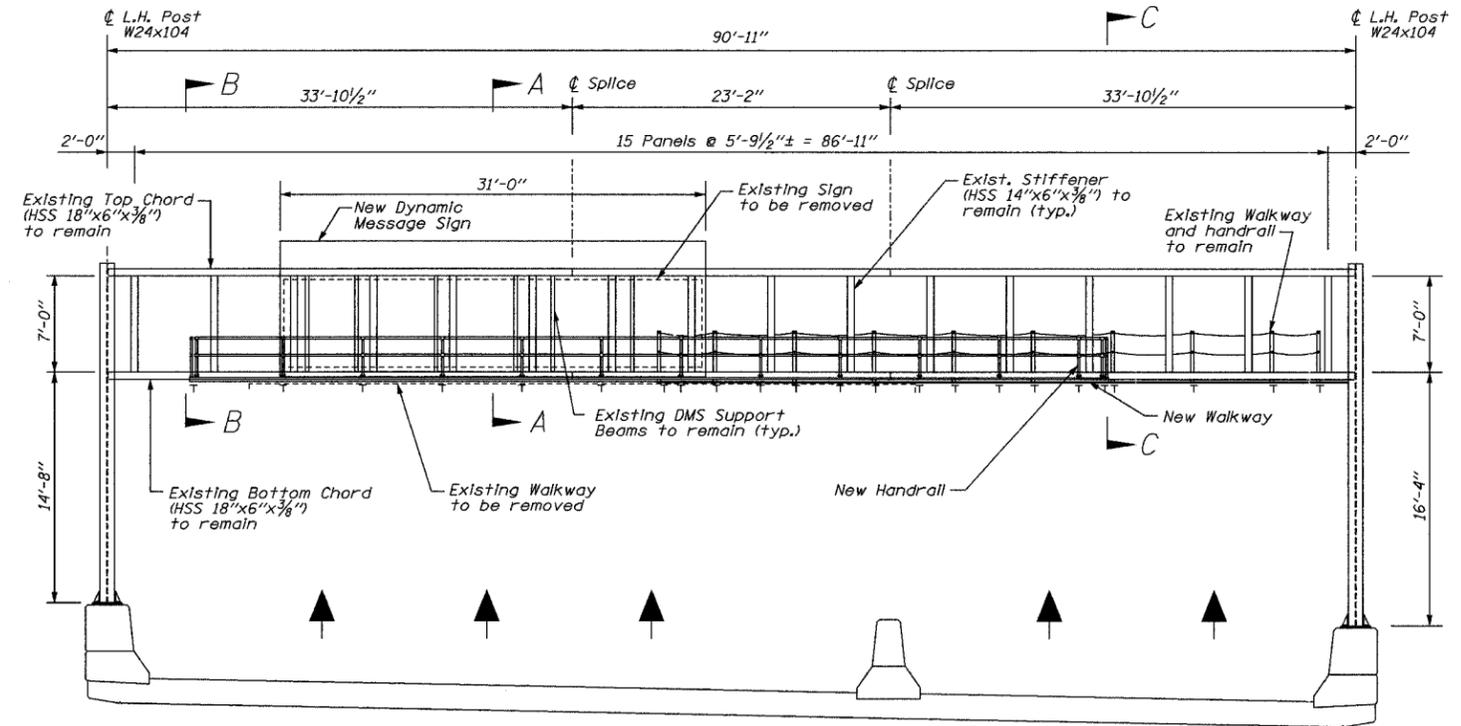
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0311	COOK	976	903
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62583				



EXISTING PLAN



NEW PLAN



ELEVATION
(LOOKING NORTH)

GENERAL NOTES

1. PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO ORDERING MATERIALS AND CONSTRUCTION. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK.
2. PRIOR TO BEGINNING FABRICATION AND/OR INSTALLATION, THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS SHOWN OR OTHERWISE INFERRED INCLUDING INTERFACING OR ABUTTING AREAS AND NOTIFY ENGINEER OF ANY CONFLICTS OR CHANGES. FAILURE TO DO SO SHALL MAKE THE CONTRACTOR RESPONSIBLE FOR ALL MISFITS OR REWORK WHICH HE MUST CORRECT, REPLACE, OR REVISE TO THE SATISFACTION OF THE OWNER OR ENGINEER AT CONTRACTOR'S SOLE EXPENSE.
3. SHOP DRAWINGS BASED ON FIELD DIMENSIONS SHALL BE SUBMITTED TO ENGINEER PRIOR TO FABRICATION.
4. WELDING: ALL WELDING TO BE CONTINUOUS UNLESS OTHERWISE SHOWN. ALL WELDING TO BE MADE IN ACCORDANCE WITH CURRENT A.W.S. SPECIFICATIONS. ALUMINUM ALLOY FILLER WIRE FOR WELDING ALUMINUM SHALL CONFORM TO ASTM B-285 ER 5356.
5. HANDRAIL: HANDRAIL PIPE SHALL BE 1/4" Ø SCHED 40 ASTM B241 ALLOY 6063-T6 OR 6061-T6. HANDRAIL SUPPORT PIPE SHALL BE SPACED 6'-0" MAX ON CENTER.
6. STRUCTURAL STEEL SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 270 GRADE 36 (ASTM A36) AND SHALL BE GALVANIZED IN ACCORDANCE WITH THE SPECIFICATIONS FOR ZINC (HOT-GALVANIZED) COATINGS ON PRODUCTS FABRICATED FROM ROLLED STEEL, SHAPE PLATES, BARS, AND STRIP, AASHTO M 111 (ASTM A 123).
7. HIGH STRENGTH BOLTS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M164 (ASTM A325). PROVIDE TWO WASHERS AND HEX. LOCKNUT FOR EACH BOLT. FASTENERS AND HARDWARE ITEMS SHALL BE GALVANIZED IN ACCORDANCE WITH THE SPECIFICATION FOR ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE, AASHTO M 232 (ASTM A 153).
8. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR DMS ATTACHMENT TO OVERHEAD SIGN STRUCTURE.

LOADING:

80 MPH WIND VELOCITY PLUS 30% GUST FACTOR
WIND LOADING: 35 PSF NORMAL TO SIGN PANEL AREA
WALKWAY LOADING: DEAD LOAD PLUS 500# CONCENTRATED COST

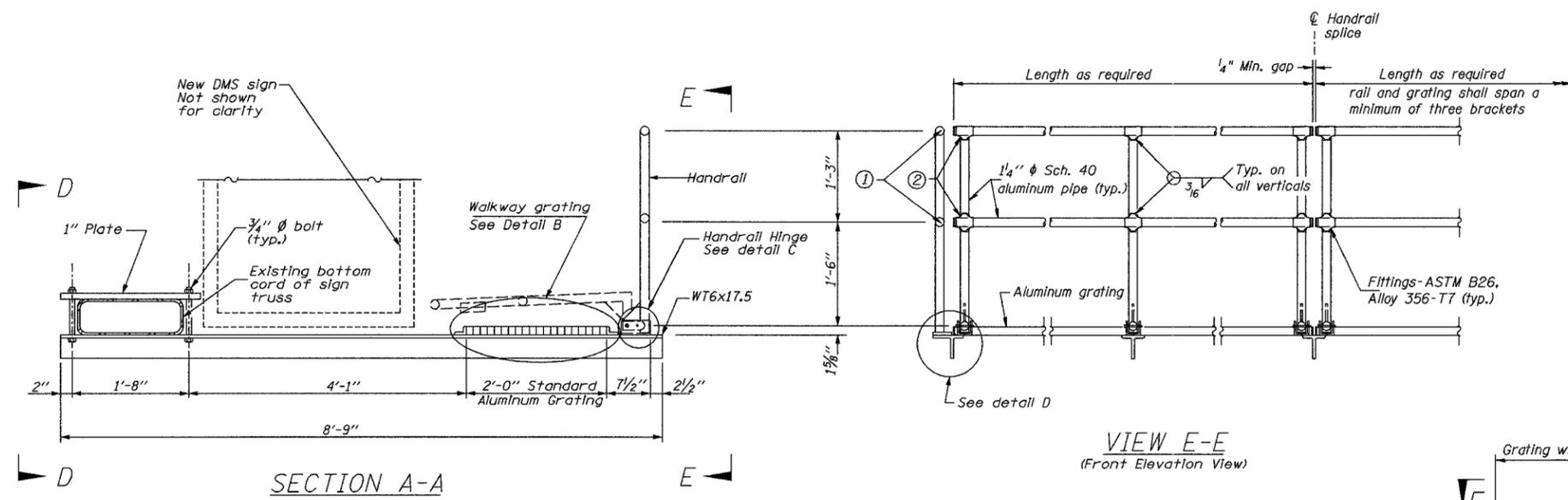
DT-08

Edwards AND Kelcey
ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EKCORP.COM

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) 31st STREET to I-57
NAME	DATE	
		OVERHEAD DYNAMIC MESSAGE SIGN (DMS-08) GENERAL PLAN & ELEVATION
SCALE: NONE		DRAWN BY: RLK
DATE: October 29, 2004		CHECKED BY: JAP

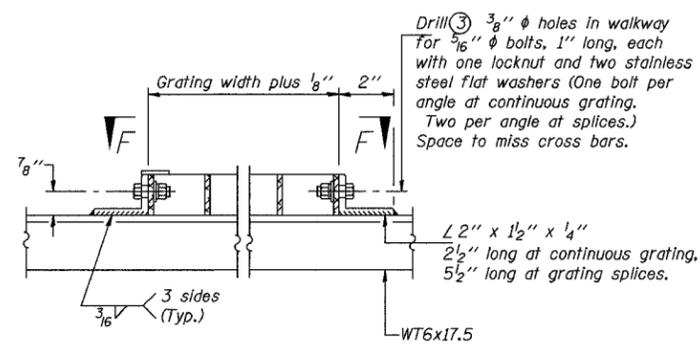
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0311	COOK	976	904
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
	62583			

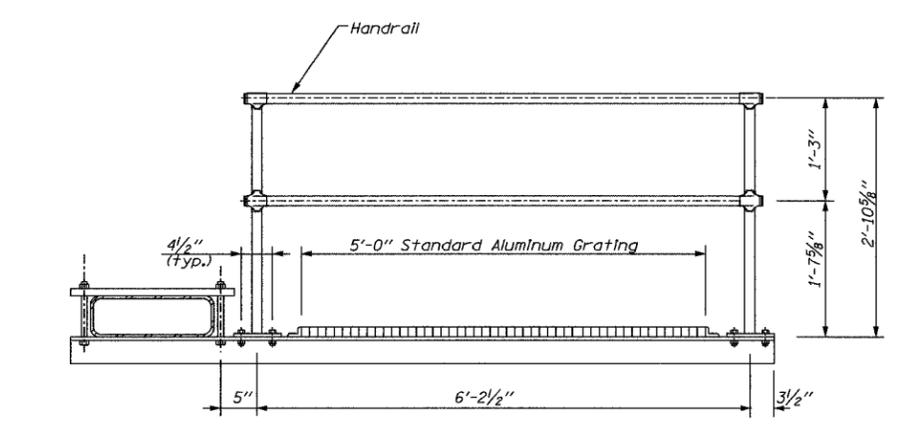


- ① Install standard force-fit end caps or weld 1/8" end plates with 1/8" c.f.w. and grind smooth. (All rail ends)
- ② Horizontal handrail member shall be continuous thru fitting. Provide 1/16" hole in fitting for 3/8" bolt. Field drill 1/16" hole in horizontal rail member. Provide locknut and two stainless steel washers for bolt. (Use 5/16" eyebolts in 7/16" holes on top rail at ends only.)

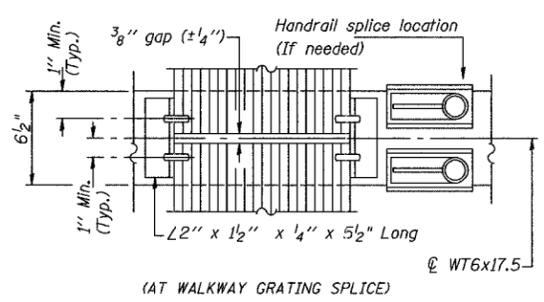
VIEW E-E
(Front Elevation View)



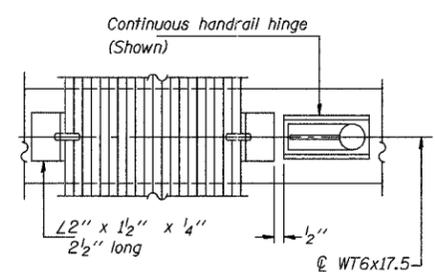
DETAIL B
(Walkway grating)



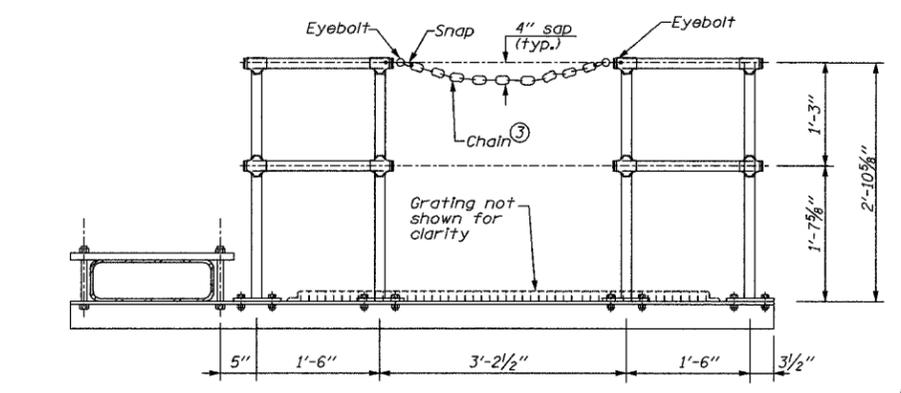
VIEW B-B
(Side Elevation)



(AT WALKWAY GRATING SPLICE)



SECTION F-F
(At Continuous Walk Grating)



SECTION C-C
(Side Elevation)

③ 3/16" galvanized steel chain, approximately 12 links per foot. Chain to be hot dip galvanized after manufacture and suitable for prolonged exterior exposure. Alternate materials may be substituted with the Engineer's approval.

SPECIFICATIONS FOR STANDARD ALUMINUM GRATING

1. Main Bearing Bars shall be 3/8" x 1 1/2" on 1 3/8" centers and conform to ASTM B221 Alloy 6061-T6.
Cross bars shall be 3/8" x 1 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.
- OR
2. Aluminum Grating with modified "+" sections for main bearing bars shall meet the following requirements:
Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.³ per bar, a depth of 1 1/2", spaced on 1 3/8" centers.
Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.
3. Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.

DT-09

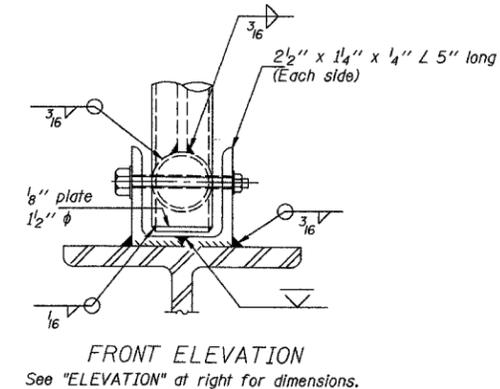
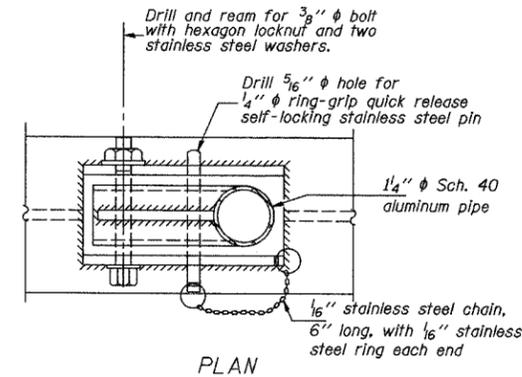
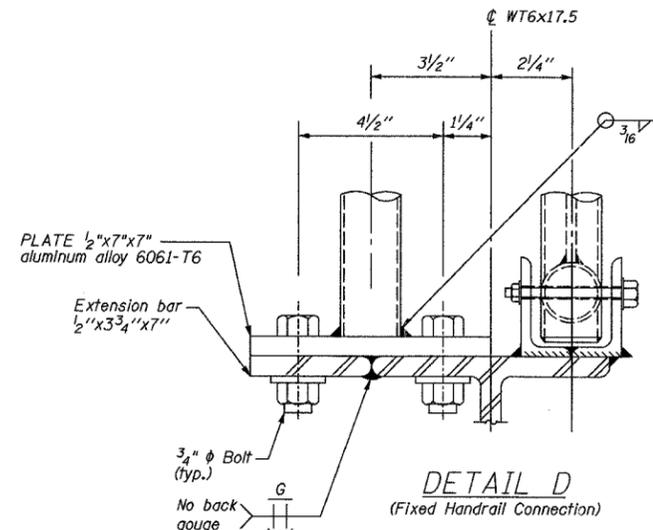
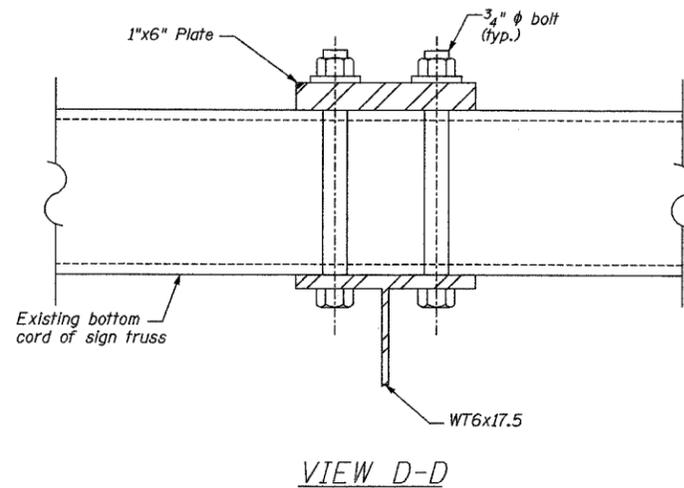
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57
OVERHEAD DYNAMIC MESSAGE SIGN (DMS-08)
WALKWAY DETAILS
SCALE: NONE
DATE: October 29, 2004
DRAWN BY: RLK
CHECKED BY: JAP

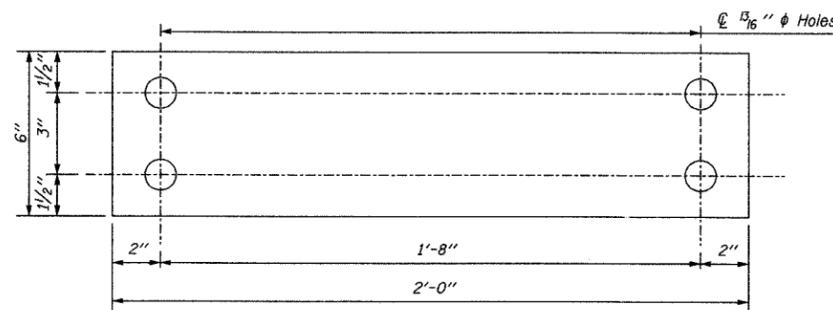
Edwards AND Kelcey
ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EKCORP.COM

11/23/2004 10:50:51 AM

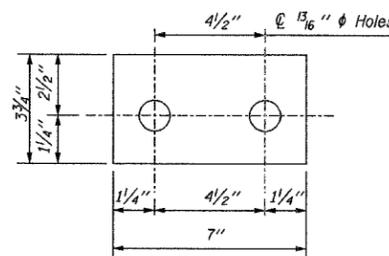
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0311	COOK	976	105
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62583				



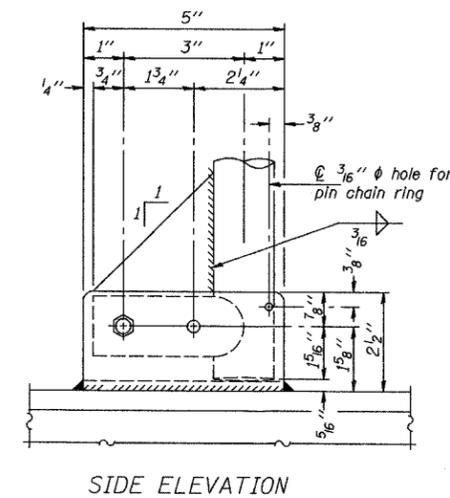
Extrusions may be used in lieu of the details shown, with approval of the Engineer.



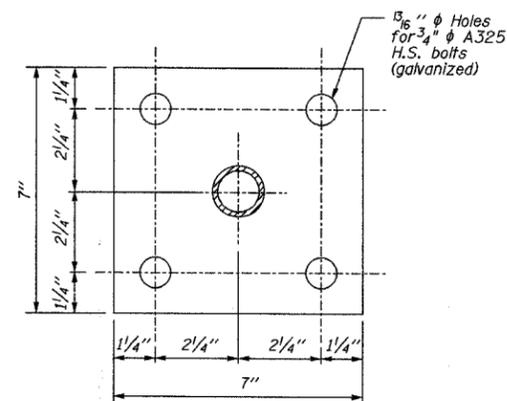
1" WALKWAY CONNECTION PLATE
(AT WT 6X17.5 & BOTTOM CHORD)



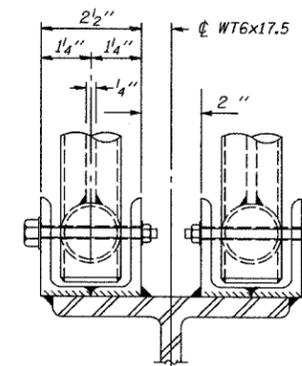
1/2" RAILING CONNECTION PLATE
(AT WT 6X17.5 & EDGE POST)



DETAIL C



1/2" ALUMINUM BASE PLATE
(AT BOTTOM OF RAILING POST)



ELEVATION
(At Handrail Joint)

DT-10

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) 31st STREET to I-57
NAME	DATE	
		OVERHEAD DYNAMIC MESSAGE SIGN (DMS-08) CONNECTION DETAILS
		SCALE: NONE
		DATE: October 29, 2004
		DRAWN BY: RLK
		CHECKED BY: JAP

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CHICAGO, IL 60606
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FAX: (312) 251-3015
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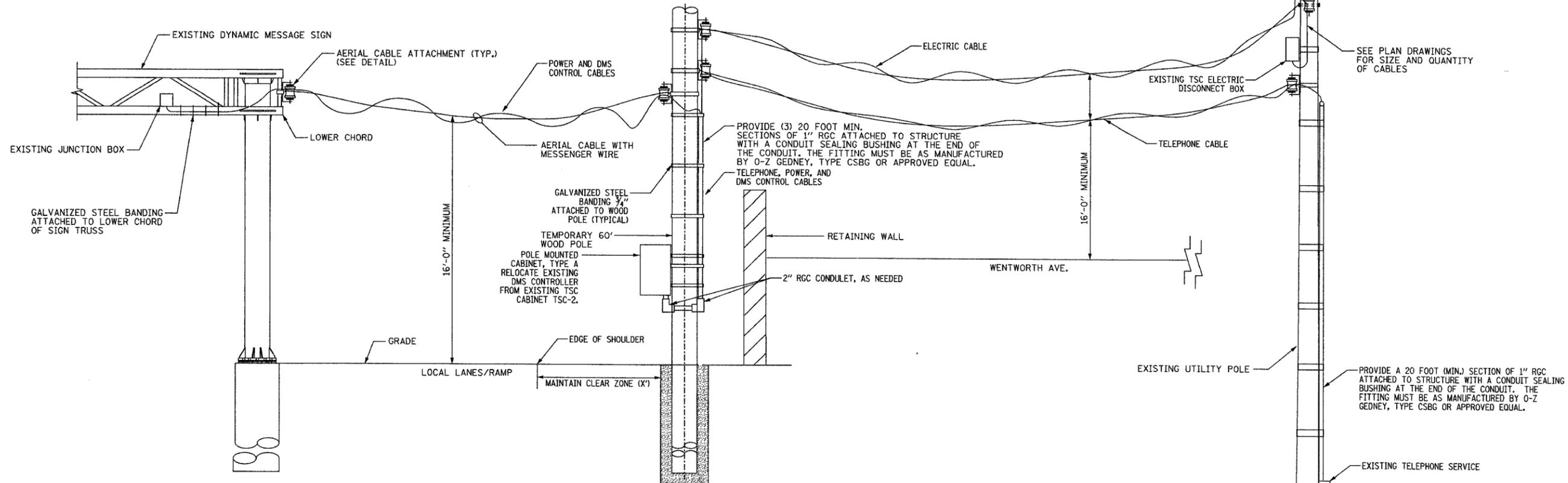
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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	106
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			

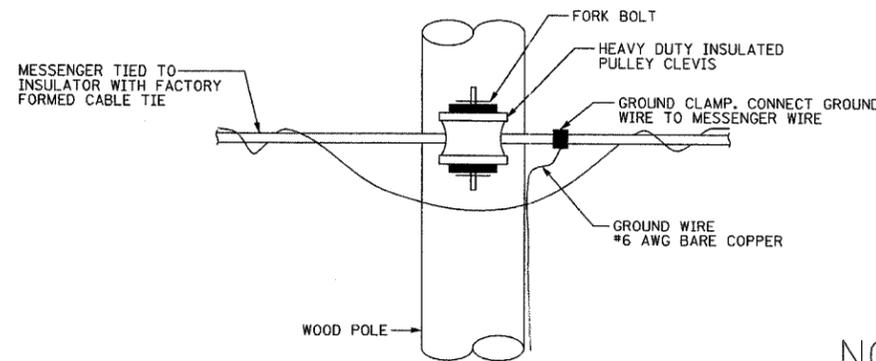
NOTES:

- SEE DRAWINGS ME-01 AND ME-02 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
- ALL WORK SHOWN WILL BE INCLUDED WITH THE COST OF THE AERIAL CABLE.
- HEAVY DUTY INSULATED PULLEY CLEVIS AND CLAMPS MAY BE SUBSTITUTED WITH OTHER EQUIPMENT AND MOUNTING METHOD UPON APPROVAL FROM THE ENGINEER.
- SEE PLAN DRAWINGS FOR CABLE SIZE AND QUANTITY OF CABLE.
- MAINTAIN EXISTING DMS UNTIL NEW DMS LOCATED APPROX. 450' NORTH OF EXISTING IS OPERATIONAL.

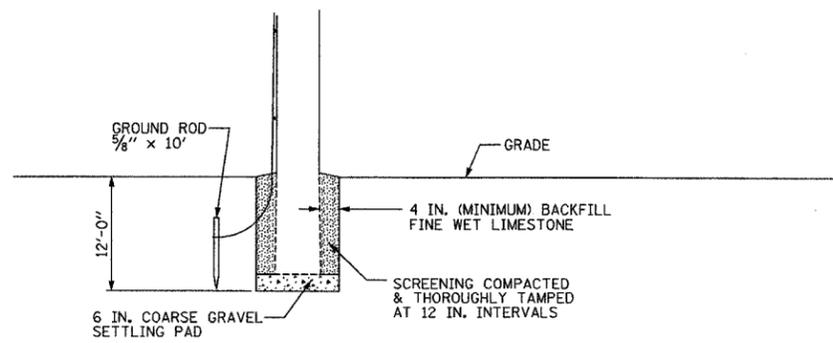
TEMPORARY CONNECTION TO SIGN STRUCTURE DETAIL



**TEMPORARY WOOD POLE
AERIAL CABLE ATTACHMENT DETAIL**



NOT TO SCALE



FOUNDATION DETAIL

**Edwards
AND Kelcey**
ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57
TEMPORARY POWER FEED TO
DYNAMIC MESSAGE SIGN DETAIL
(57TH STREET)

SCALE: NOT TO SCALE
DATE: October 29, 2004
DRAWN BY: CJH
CHECKED BY: DH

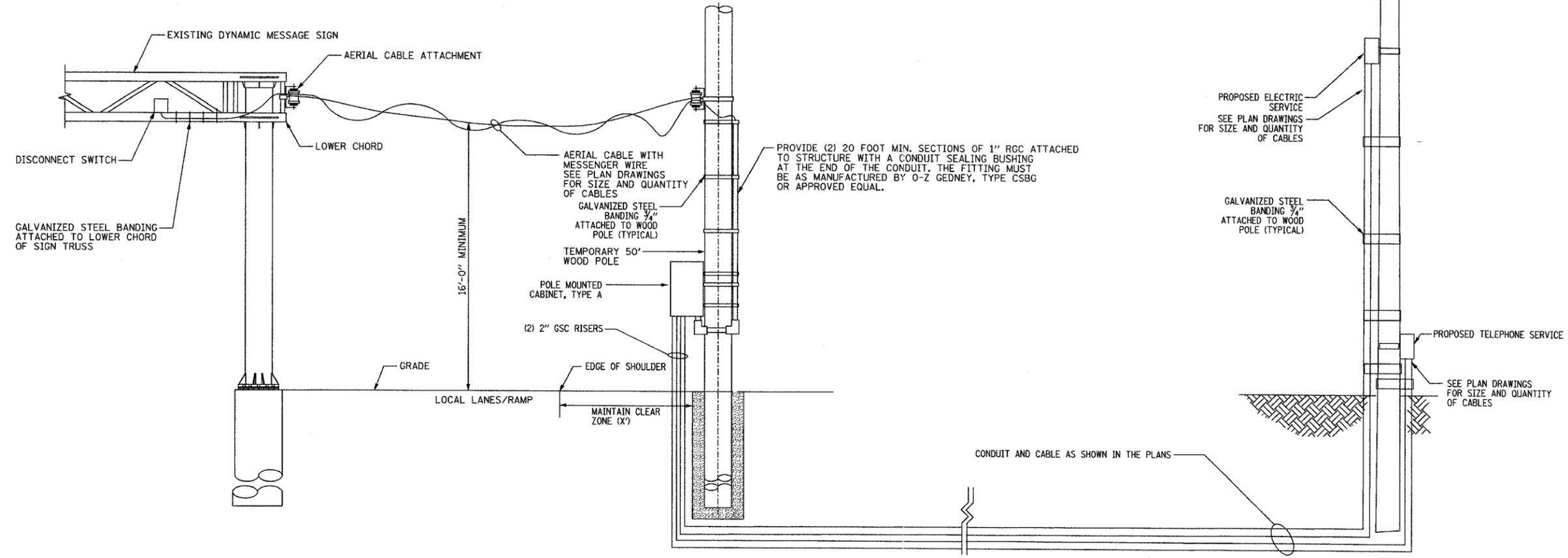
DT-11

10/15/2004 03:37:42 PM

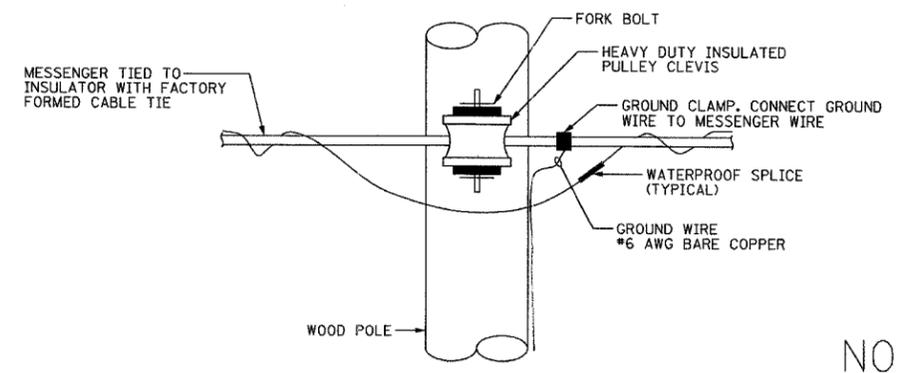
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	407
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			

- NOTES:**
- SEE DRAWINGS ME-01 AND ME-02 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
 - ALL WORK SHOWN WILL BE INCLUDED WITH THE COST OF THE AERIAL CABLE.
 - HEAVY DUTY INSULATED PULLEY CLEVIS AND CLAMPS MAY BE SUBSTITUTED WITH OTHER EQUIPMENT AND MOUNTING METHOD UPON APPROVAL FROM THE ENGINEER.
 - SEE PLAN DRAWINGS FOR CABLE SIZE AND QUANTITY OF CABLE.
 - MAINTAIN EXISTING DMS UNTIL NEW DMS LOCATED APPROX. X' NORTH OF EXISTING IS OPERATIONAL.

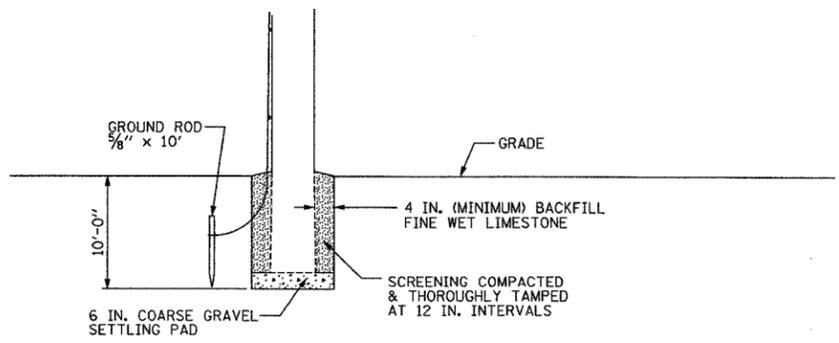
TEMPORARY CONNECTION TO SIGN STRUCTURE DETAIL



**TEMPORARY WOOD POLE
AERIAL CABLE ATTACHMENT DETAIL**



NOT TO SCALE



FOUNDATION DETAIL

**Edwards
AND Kelcey**
ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57
TEMPORARY POWER FEED TO
DYNAMIC MESSAGE SIGN DETAIL
(37TH STREET)

SCALE: NOT TO SCALE
DATE: October 29, 2004

DRAWN BY: CJH
CHECKED BY: DH

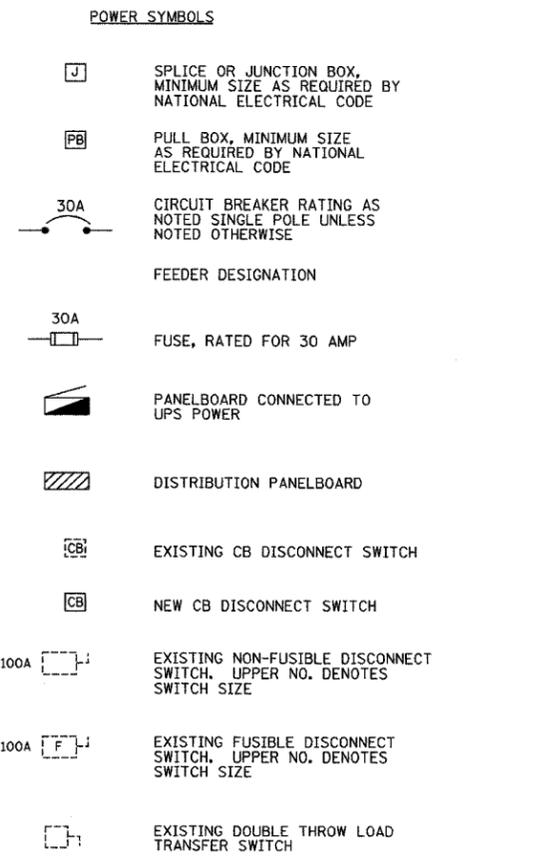
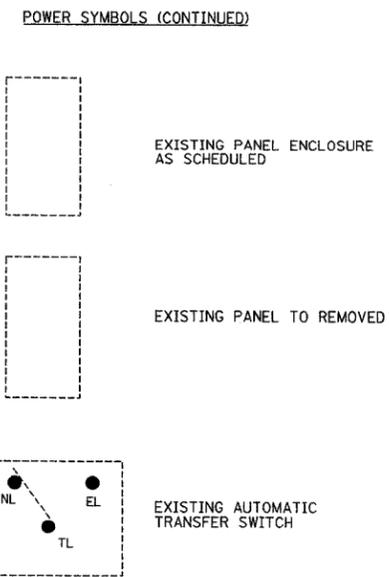
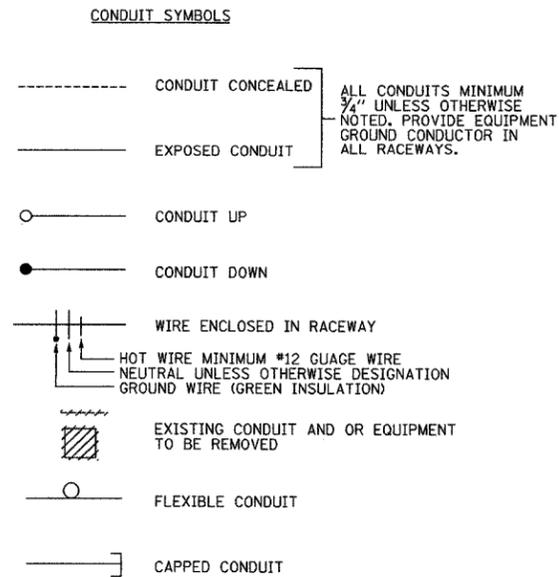
DT-12

10/15/2004 03:37:42 PM

UPS SYSTEM LEGEND AND SYMBOLS

ABBREVIATIONS

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	908
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			



AC	ALTERNATING CURRENT
AFF	ABOVE FINISHED FLOOR
AIC	AMPS
AMP, A	AMPERE
AMPAY	AMPACITY
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AWG	AMERICAN WIRING GAUGE
BATT	BATTERY
BR	BRANCH
BRKR	BREAKER
C	CONDUIT
CAP	CAPACITY
CB	CIRCUIT BREAKER
CCT, CKT	CIRCUIT
CONT	CONTACTOR
DC	DIRECT CURRENT
DISC	DISCONNECT
DN	DOWN
DPDT	DOUBLE POLE DOUBLE THROW
EC	EMPTY CONDUIT
ECH	ELECTRIC CABINET HEATER
EMERG	EMERGENCY
EMP	EMERGENCY PANEL
EMT	ELECTRIC METALLIC TUBING
EO	ELECTRICALLY OPERATED
F	FUSE
FDR	FEEDER
FLA	FULL LOAD AMPERES
FLC	FULL LOAD CURRENT
FLR	FLOOR
GA	GAGE, GAUGE
GEN	GENERATOR
GRD, GND	GROUND
HDG	HOT - DIPPED, GALVANIZED
HP	HORSEPOWER
HZ	HERTZ (CYCLE)
IC	INTERRUPTING CAPACITY
INV	INVERTER
ITC	INTERFACE
JB	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
KW	KILOWATT
KWHR	KILOWATT-HOUR
M	METER
MAN	MANUAL
MAX	MAXIMUM
MTG	MOUNTING
NC	NORMALLY CLOSED
NEG	NEGATIVE
NEUT, N	NEUTRAL
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
PB	PULL BOX
PF	POWER FACTOR
PH	PHASE
PNL	PANELBOARD
POS	POSITIVE
PRI	PRIMARY
RECPT	RECEPTACLE
REC	RECTIFIER
REST	RESISTANCE
RGS	RIGID GALVANIZED STEEL CONDUIT
SCA	SHORT CIRCUIT AMPERES
SEC	SECONDARY
SP	SINGLE POLE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SS	STAINLESS STEEL
SW	SWITCH
SWBD	SWITCHBOARD
TERM	TERMINAL
TGL	TOGGLE
TP	TAMPER PROOF
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLT
VA	VOLT-AMPER
VIF	VERIFY IN FIELD
XFMR, TRANSF	TRANSFORMER

NOTES

- PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT AND APPURTENANCES, AND LABOR NECESSARY TO EFFECT ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- ALL CONTRACTORS WILL VISIT THE JOB SITE (SCHAUMBURG COMMUNICATION CENTER) AND SHALL FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE GENERAL CONSTRUCTION DEMOLITION AND ELECTRICAL INSTALLATION AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN.
- THE ELECTRICAL CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN THE DRAWINGS, THE GENERAL NOTES, AND THE SEQUENCE OF CONSTRUCTION PHASING AND FIELD CONDITIONS. CLARIFICATION SHALL BE REQUESTED IN WRITING PRIOR TO SUBMISSION OF BIDS.
- THE SUBMISSION OF A PROPOSAL SHALL BE CONSTRUED AS EVIDENCE THAT SUCH EVIDENCE AN EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT, OR MATERIAL REQUIRED OR FOR DIFFICULTIES ENCOUNTERED, WHICH WOULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE, WILL NOT BE RECOGNIZED.
- THE ELECTRICAL CONTRACTOR UPON AGREEMENT AND APPROVAL OF THE DRAWINGS ASSUMES FULL RESPONSIBILITY FOR THE MATERIALS, AND WORKMANSHIP OF THE WORK DESCRIBED IN THESE NOTES AND DRAWINGS, AND HE WILL BE EXPECTED TO COMPLY WITH THE SPIRIT AS WELL AS THE LETTER IN WHICH THEY WERE WRITTEN.

Edwards AND Kelcey
 ONE NORTH FRANKLIN
 CHICAGO, IL 60606
 PHONE: (312) 251-3000
 FAX: (312) 251-3016
 WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57

UNINTERRUPTIBLE POWER SUPPLY
 LEGENDS, SYMBOLS AND ABBREVIATIONS

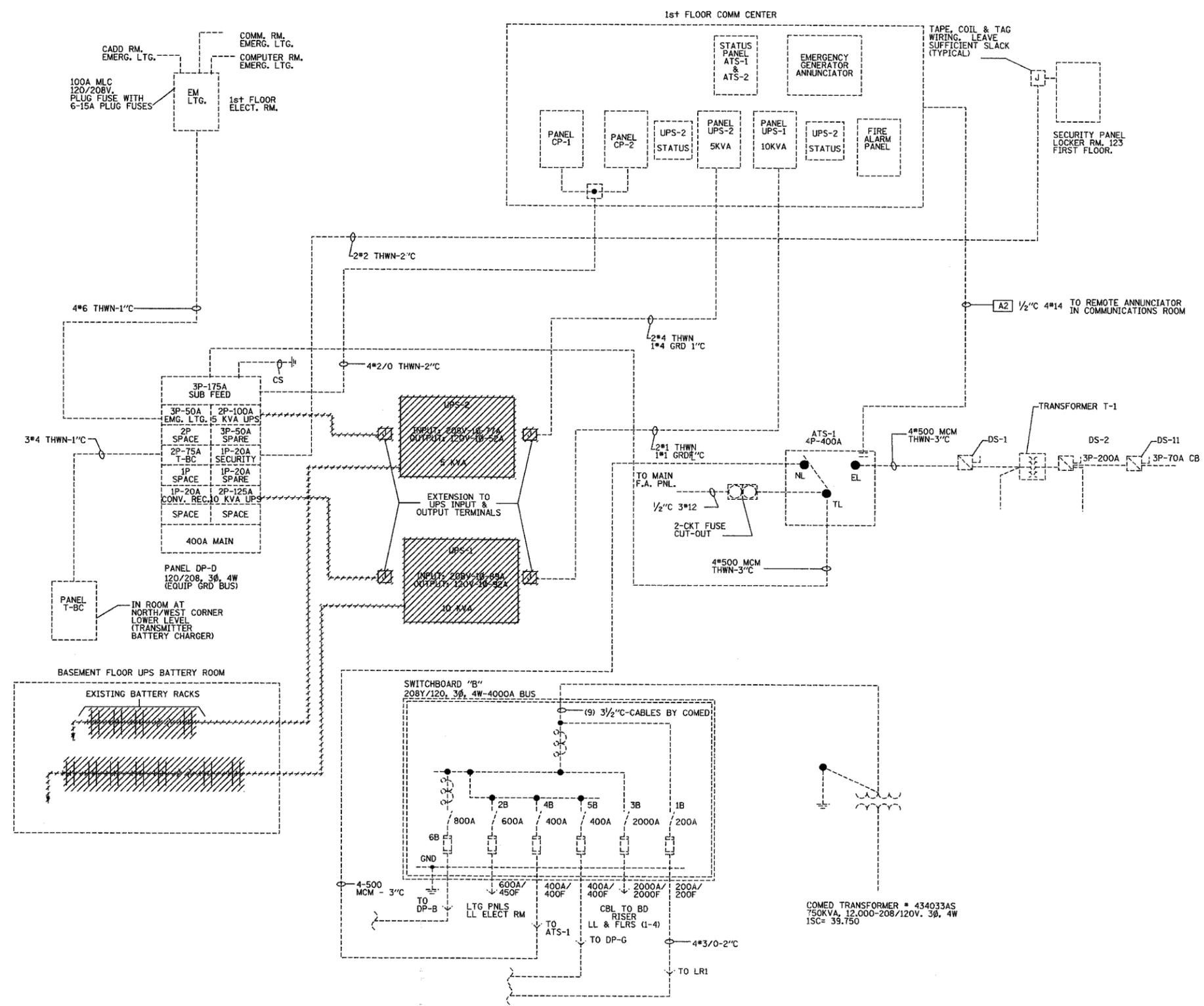
SCALE: NONE
 DATE: October 29, 2004

DRAWN BY: SST
 CHECKED BY: CS

DT-12A

10/15/2004 11:53:13 AM

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0311	COOK	976	909
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62583				



LEGEND
 EXISTING CONDUIT AND OR EQUIPMENT TO BE REMOVED

REVISIONS	
NAME	DATE

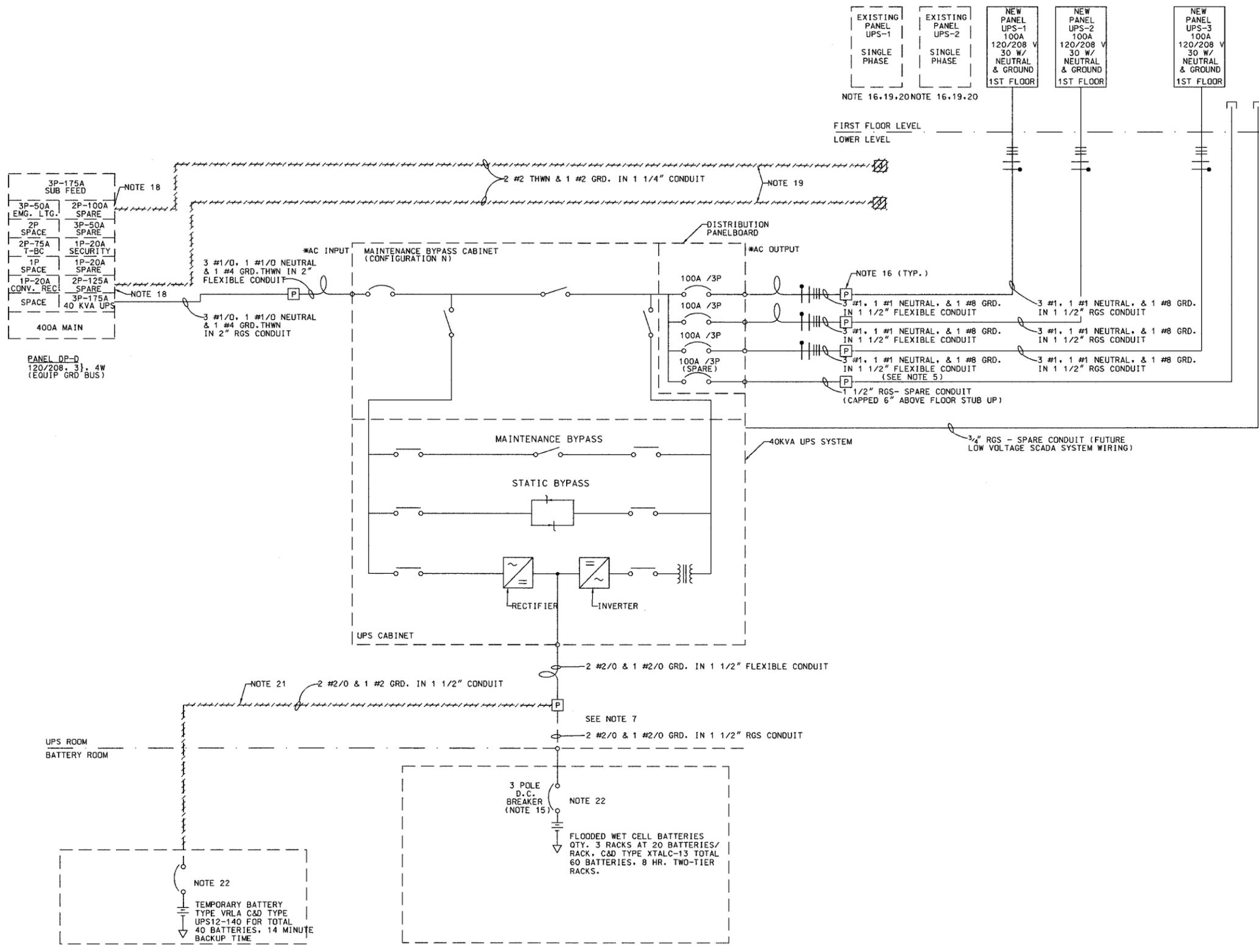
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57
 EXISTING SINGLE LINE DIAGRAM
 SCALE: NOT TO SCALE
 DATE: October 29, 2004
 DRAWN BY: SST
 CHECKED BY: CS

Edwards AND Kelcey
 ONE NORTH FRANKLIN
 CHICAGO, IL 60606
 PHONE: (312) 251-3000
 FAX: (312) 251-3015
 WEB: WWW.EDKORP.COM

DT-12B

10/15/2004 11:53:13 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	910
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			



- NOTES**
- INSTALL IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES
 - INPUT SOURCE MUST BE SOLIDLY GROUND WYE.
 - A NEUTRAL IS REQUIRED FROM THE AC INPUT SOURCE.
 - WHEN THE LOAD REQUIRES A NEUTRAL, THE NEUTRAL CONDUCTOR SHOULD BE FULL CAPACITY (OR LARGER FOR NON-LINEAR LOADS).
 - UPS OUTPUT NEUTRAL CONNECTION MUST BE CONNECTED TO THE AC INPUT SOURCE NEUTRAL. THE EQUIPMENT GROUND CONNECTION MUST BE CONNECTED TO THE SYSTEM GROUND BUS.
 - POWER CABLES FROM UPS DC LINK TO BATTERIES SHOULD BE SIZED FOR A TOTAL MAXIMUM 2 VOLT LINE DROP AT MAXIMUM DISCHARGE CURRENT.
 - DC POWER WIRING IS PROVIDED BY ELECTRICAL CONTRACTOR.
 - UPS AC INPUT AND AC OUTPUT CABLES MUST BE RUN IN SEPARATE CONDUIT.
 - CONTROL WIRING AND POWER WIRING MUST BE RUN IN SEPARATE CONDUITS.
 - SEE ELECTRICAL SPECIFICATION FOR UPS CONFIGURATION.
 - ALL LUGS TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
 - ALL WIRE WILL BE THWN, UNLESS OTHERWISE NOTED.
 - REFERENCE CONSTRUCTION PHASING FOR THE TIMELY INSTALLATION AND REMOVAL OF EQUIPMENT
 - DURING NORMAL UPS OPERATIONS, SHORT TERM CURRENT DEMAND FROM THE AC INPUT SOURCE MAY REACH 10 TIMES THE UPS FULL LOAD OUTPUT CURRENT RATING. THE INSTANTANEOUS TRIP SETTING OF THE UPSTREAM AC INPUT FEEDER BREAKER MUST BE SET ACCORDINGLY.
 - SEE 40KVA BREAKER DETAIL, SHEET DT-12I
 - CONTRACTOR TO INTERCEPT EXISTING BRANCH CIRCUIT WIRING AND TRANSFER LOADS FROM EXISTING SINGLE PHASE PANELS UPS-1 & UPS-2 TO NEW THREE PHASE PANELS UPS-1 & UPS-2 RESPECTIVELY.
 - AFTER SUCCESSFUL TRANSFER OF LOADS FROM 5KVA UPS TO NEW 40KVA UPS THE EXISTING 100A BREAKER TO REMAIN IN PANELBOARD AS SPARE.
 - AFTER SUCCESSFUL TRANSFER OF LOADS FROM 10KVA UPS TO NEW 40KVA UPS THE EXISTING 125A BREAKER TO REMAIN IN PANELBOARD AS SPARE.
 - CONTRACTOR TO REMOVE PANEL AND FEEDER WIRING AFTER NEW UPS SYSTEM HAS BEEN INSTALLED AND HAS BEEN ACCEPTED BY IDOT AS BEING A COMPLETE AND WORKABLE SYSTEM.
 - EXISTING UPS PANELS UPS-1, UPS-2 TO BE REMOVED, INCLUDING ALL FEEDER CONDUIT AND WIRING, UPON COMPLETION OF INSTALLATION OF NEW 3 UPS PANEL UPS-1,2.
 - TEMPORARY WIRING TO BE REMOVED BETWEEN TEMPORARY SEALED BATTERY CABINET AND PULL BOX AFTER CUTOVER TO NEW FLOODED WET CELL BATTERIES.
 - SIZE BREAKER PER MANUFACTURER'S RECOMMENDATION.

LEGEND

EXISTING CONDUIT AND OR EQUIPMENT TO BE REMOVED

DT-12C

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) 31st STREET to I-57
NAME	DATE	
		PROPOSED SINGLE LINE DIAGRAM 40 KVA UPS SYTEM

SCALE: NOT TO SCALE DRAWN BY: SST
DATE: October 29, 2004 CHECKED BY: CS

Edwards AND Kelcey
ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EKCORP.COM

*EXTERNAL OVERCURRENT PROTECTION BY ELECTRICAL CONTRACTORS
— FIELD SUPPLIED WIRING BY ELECTRICAL CONTRACTOR
— WIRE SIZE, CONDUIT SIZE

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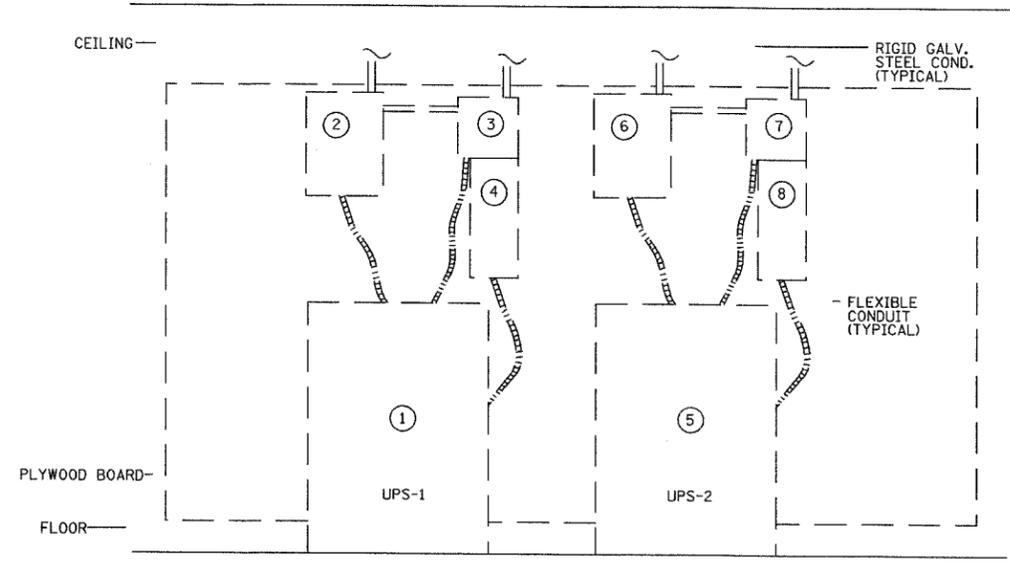
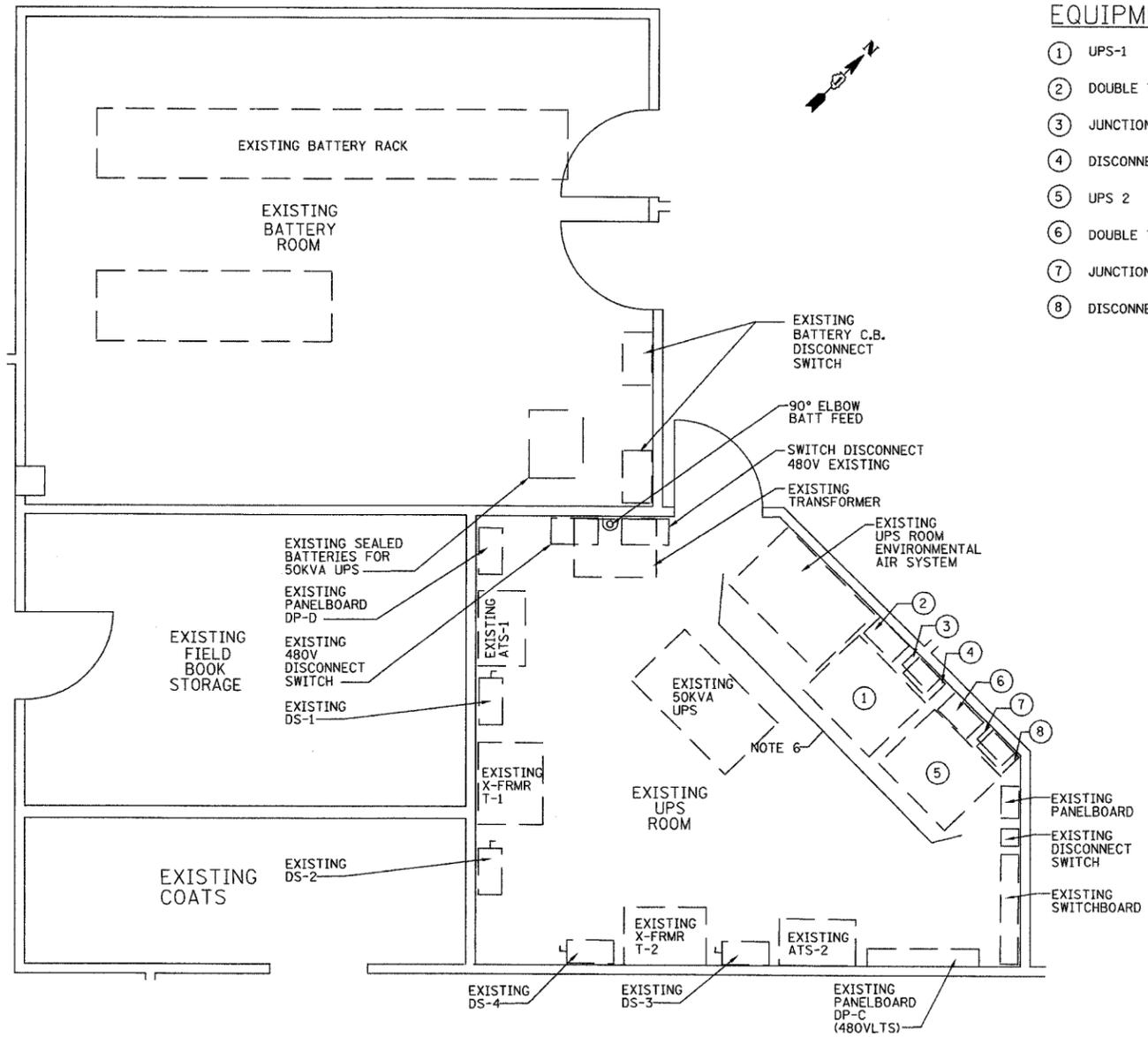
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0311	COOK	976	911
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			
62583				

EQUIPMENT IDENTIFICATION KEY

- ① UPS-1
- ② DOUBLE THROW MANUAL TRANSFER SWITCH
- ③ JUNCTION BOX
- ④ DISCONNECT SWITCH-DP-S1
- ⑤ UPS 2
- ⑥ DOUBLE THROW MANUAL TRANSFER SWITCH
- ⑦ JUNCTION BOX
- ⑧ DISCONNECT SWITCH-DP-S2

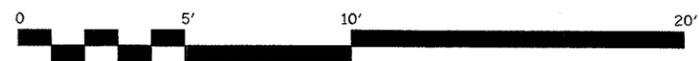
NOTES

1. FOR GENERAL NOTES, ABBREVIATIONS AND SYMBOL LIST, SEE SHEET DT-12A
2. THE CONTRACTOR SHALL ENSURE THE EXISTING UPS SYSTEMS TO REMAIN OPERATIONAL 24 HOURS PER DAY. ANY INTERRUPTION OF UPS POWER SHALL BE COORDINATED WITH IDOT A MINIMUM OF 48 HOURS IN ADVANCE FOR ANY CUT-OVER OR PRIOR APPROVED INTERRUPTION OF SERVICE.
3. EXISTING UPS SYSTEMS TO BE DISCONNECTED AND REMOVED IN PRESCRIBE SEQUENCE, AFTER NEW UPS INSTALLATION IS INSTALLED AND CONNECTED AND ALL EXISTING LOADS ARE TRANSFERRED FROM THE EXISTING UPS SYSTEMS.
4. THE CONTRACTOR SHALL DISCONNECT AND COMPLETELY REMOVE THE TWO EXISTING UPS SYSTEMS FROM THE EXISTING UPS EQUIPMENT ROOM AND ALL THE ASSOCIATED CONDUIT AND WIRING BACK TO THEIR SOURCES.
5. EXISTING UPS SYSTEMS SHALL BE INVENTORIED AND DELIVERED TO THE IDOT MAINTENANCE STORAGE SHOP OR AS OTHERWISE DIRECTED BY IDOT.
6. SEE EQUIPMENT IDENTIFICATION KEY THIS SHEET FOR CIRCLED ITEMS.



EXISTING UPS SERVICE & DISTRIBUTION EQUIPMENT
N.T.S.

PARTIAL LOWER LEVEL PLAN



Edwards and Kelcey
 ONE NORTH FRANKLIN
 CHICAGO, IL 60606
 PHONE: (312) 251-3000
 FAX: (312) 251-3015
 WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57

EXISTING UPS ROOM EQUIPMENT LAYOUT
 (SCHAUMBURG COMMUNICATION CENTER)

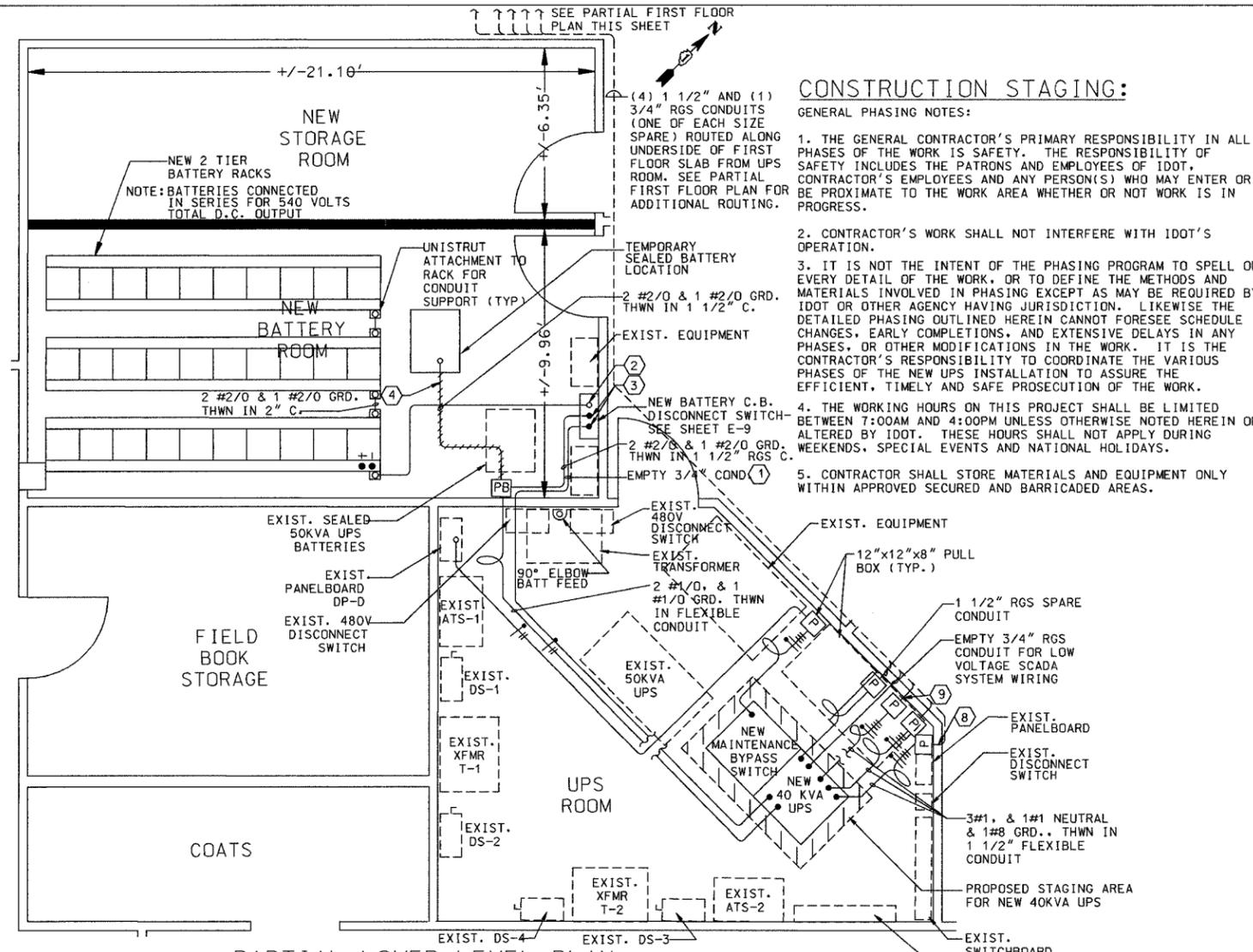
SCALE: AS SHOWN ON PLANS
 DATE: October 29, 2004

DRAWN BY: JM
 CHECKED BY: CS

DT-12D

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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	912
STA. TO STA.		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	
		62583	



CONSTRUCTION STAGING:

- GENERAL PHASING NOTES:
1. THE GENERAL CONTRACTOR'S PRIMARY RESPONSIBILITY IN ALL PHASES OF THE WORK IS SAFETY. THE RESPONSIBILITY OF SAFETY INCLUDES THE PATRONS AND EMPLOYEES OF IDOT, CONTRACTOR'S EMPLOYEES AND ANY PERSON(S) WHO MAY ENTER OR BE PROXIMATE TO THE WORK AREA WHETHER OR NOT WORK IS IN PROGRESS.
 2. CONTRACTOR'S WORK SHALL NOT INTERFERE WITH IDOT'S OPERATION.
 3. IT IS NOT THE INTENT OF THE PHASING PROGRAM TO SPELL OUT EVERY DETAIL OF THE WORK, OR TO DEFINE THE METHODS AND MATERIALS INVOLVED IN PHASING EXCEPT AS MAY BE REQUIRED BY IDOT OR OTHER AGENCY HAVING JURISDICTION. LIKEWISE THE DETAILED PHASING OUTLINED HEREIN CANNOT FORESEE SCHEDULE CHANGES, EARLY COMPLETIONS, AND EXTENSIVE DELAYS IN ANY PHASES, OR OTHER MODIFICATIONS IN THE WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE THE VARIOUS PHASES OF THE NEW UPS INSTALLATION TO ASSURE THE EFFICIENT, TIMELY AND SAFE PROSECUTION OF THE WORK.
 4. THE WORKING HOURS ON THIS PROJECT SHALL BE LIMITED BETWEEN 7:00AM AND 4:00PM UNLESS OTHERWISE NOTED HEREIN OR ALTERED BY IDOT. THESE HOURS SHALL NOT APPLY DURING WEEKENDS, SPECIAL EVENTS AND NATIONAL HOLIDAYS.
 5. CONTRACTOR SHALL STORE MATERIALS AND EQUIPMENT ONLY WITHIN APPROVED SECURED AND BARRICADED AREA.

6. ALL UNFURNISHED WORK SHALL BE PROPERLY SECURED IN PLACE AND PRESENT NO DANGER TO IDOT PATRONS, PERSONNEL, AND EQUIPMENT. AT EACH WORK PERIOD COMPLETION, THE CONTRACTOR SHALL REMOVE AND RETRIEVE INTO THE STORAGE AREA ALL CONSTRUCTION EQUIPMENT, MATERIALS, DEBRIS AND CLEAR AREA FOR IDOT OPERATIONS. IF THE CONTRACTOR USES ANY PARTIALLY COMPLETED FINISHED WORK AREA FOR STORAGE, CARE SHALL BE TAKEN TO AVOID DAMAGE TO SUCH WORK. ANY DAMAGE WILL BE REPAIRED/ REPLACED AT CONTRACTOR'S EXPENSE.
7. NO FUEL POWERED EQUIPMENT OF ANY KIND SHALL BE USED BELOW GROUND LEVEL.

SEQUENCE OF PRELIMINARY STAGING

- PHASE ONE
- STEP-A. THE CONTRACTOR MUST PREPARE THE EXIST. UPS ROOM FOR TEMPORARY OPERATION OF THE NEW UPS SYSTEM. AREA OF TEMPORARY OPERATION SHALL BECOME NEW EQUIPMENT LOCATION AFTER CUTOVER IS COMPLETE. SEE PARTIAL PLAN THIS SHEET.
- STEP-B. THE CONTRACTOR SHALL FABRICATE TEMPORARY AC & DC FEEDER CABLE OF SUFFICIENT LENGTH TO BE ABLE TO RELOCATE UPS-1 & UPS-2 OUT OF THE WAY OF THE DESIGNATED STAGING AREA FOR INSTALLATION OF THE NEW UPS SYSTEM.
- STEP-C. THE CONTRACTOR MUST POSITION AND INSTALL A TEMPORARY SEALED BATTERY CABINET IN THE BATTERY ROOM TO SUPPORT NEW UPS SYSTEM DURING BURN IN, CHECKOUT AND TESTING. THE CONTRACTOR SHALL INSTALL D.C. CABLES FROM TEMPORARY BATTERY CABINET TO NEW 40 KVA UPS PRIOR TO CUTOVER. NOTE: THE TEMPORARY SEALED BATTERIES WILL ALSO SERVE AS THE PRIMARY SOURCE OF DC POWER (10 MINUTE RESERVE) FOR THE NEW 40 KVA UPS SYSTEM WHILE THE WET CELL BATTERIES ARE BEING INSTALLED & UPGRADED IN THE EXIST. BATTERY ROOM.
- STEP-D. POSITION NEW 40 KVA UPS SYSTEM AS SHOWN ON PLANS IN THE STAGING AREA OF UPS ROOM. THIS IS A TWO STEP PROCEDURE. THE FIRST STEP INVOLVES GETTING THE UPS SYSTEM ON-LINE FOR BURN-IN, CHECKOUT & TESTING, AND CONNECTING TO WALL MOUNTED 3 PHASE PANELS UPS-1, UPS-2 AND UPS-3. AFTER CHECKOUT & TESTING AND LOADS HAVE BEEN TRANSFERRED TO THE NEW UPS SYSTEM. THE UPS WILL BE PLACED IN BYPASS AND ROLLED ON CASTERS TO ITS FINAL POSITION AGAINST THE WALL AFTER REMOVAL OF EXIST. ENCLOSURES.

- PHASE TWO
- STEP-A. THE CONTRACTOR SHALL INSTALL A NEW 175 AMP BREAKER IN PANEL DP-D TO SERVE AS OVERCURRENT PROTECTION AND PRIMARY AC FEEDER TO THE NEW 40KVA UPS.
- STEP-B. INSTALL NEW FEEDER CABLE FROM PANEL DP-D TO AC POWER INPUT BUS OF THE NEW 40 KVA UPS.
- STEP-C. PROVIDE A TEMPORARY CONNECTION TO TEMPORARY SEALED BATTERY CABINET TO SUPPORT NEW UPS SYSTEM DURING BURN IN, CHECKOUT AND TESTING. NOTE: TEMPORARY BATTERIES WILL CONTINUE TO BE USED UNTIL DEMOLITION AND RECONSTRUCTION OF EXIST. BATTERY ROOM IS COMPLETE.

PHASE THREE: SEQUENCE OF PHASING CUTOVER

- STEP-A. THE CONTRACTOR SHALL PREPARE FOR THE CUTOVER PHASE BY INSTALLING APPROPRIATE CONDUIT AND WIRE TO PROPOSED PANELS UPS-1, UPS-2 AND UPS-3 BEFORE DECOMMISSIONING EITHER OF THE EXIST. UPS SYSTEMS.
- STEP-B. PRIOR TO BEGINNING CUTOVER WORK THE CONTRACTOR SHALL MAKE PREPARATIONS IN ADVANCE VIA COORDINATION AND COMMUNICATION WITH IDOT'S PROJECT MANAGER TO KEEP ONE OF THE TWO UPS SYSTEMS UP AND RUNNING UNTIL THE SUCCESSFUL TRANSFER OF ALL LOADS ON THAT SYSTEM IS COMPLETED TO THE NEW DESIGNATED PANELBOARD.
- STEP-C. THE CONTRACTOR SHALL MAKE PREPARATIONS IN ADVANCE TO DETERMINE WHAT MISSION CRITICAL LOADS (IF ANY) SHOULD BE TRANSFERRED TO THE SYSTEM TO REMAIN IN OPERATION AS A PRECAUTIONARY MEASURE TO MINIMIZE DISRUPTING OF OPERATIONS IN THE EVENT OF SOME UNFORESEEN DELAYS IN BRINGING THE NEW UPS SYSTEM ON-LINE.

STEP-D. BEFORE CUTOVER THE CONTRACTOR SHALL INSTALL 3 NEW FEEDER CABLES FROM NEW UPS DISTRIBUTION PANELBOARD TO THE FOLLOWING:

UPS-1 PANELBOARD 1ST FLOOR COMMUNICATIONS ROOM:

CONTRACTOR TO INSTALL NEW FEEDER CABLE AND CONDUIT TO UPS-1. CONTRACTOR MUST BE AWARE THAT FLOOR MUST BE CORE DRILLED TO ROUTE CONDUIT RISER TO 1ST FLOOR. SUGGESTED CONDUIT ROUTING IS SHOWN FOR CONTRACTOR REFERENCE ONLY. CONTRACTOR SHALL DETERMINE BEST CONDUIT ROUTING PATH AND CORE DRILLING LOCATIONS AND REVIEW WITH IDOT PRIOR TO PROCEEDING. REFERENCE PARTIAL ELECTRICAL PLAN, THIS SHEET. NOTE: NEW PANELBOARD SHALL BE RECESSED TYPE. AFTER INSTALLATION OF PANELBOARD THE WALL SHALL BE RESTORED TO MATCH PRIOR EXIST. CONDITION INCLUDING BUT NOT LIMITED TO PAINT TO MATCH EXISTING WALL COLORS. COORDINATE WITH IDOT PROJECT ENGINEER PRIOR TO ALTERING WALL IN ANYWAY.

UPS-2 PANELBOARD 1ST FLOOR COMMUNICATIONS ROOM:

CONTRACTOR TO INSTALL NEW FEEDER CABLE AND CONDUIT TO UPS-2. CONTRACTOR MUST BE AWARE THAT FLOOR MUST BE CORE DRILLED TO ROUTE CONDUIT RISER TO 1ST FLOOR. CONTRACTOR SHALL DETERMINE BEST CONDUIT ROUTING PATH AND CORE DRILLING LOCATIONS AND REVIEW WITH IDOT PRIOR TO PROCEEDING. REFERENCE PARTIAL ELECTRICAL PLAN, THIS SHEET. NOTE: NEW PANELBOARD SHALL BE RECESSED TYPE. AFTER INSTALLATION OF PANELBOARD THE WALL SHALL BE RESTORED TO MATCH PRIOR EXIST. CONDITION INCLUDING BUT NOT LIMITED TO PAINT TO MATCH EXISTING WALL COLORS. COORDINATE WITH IDOT PROJECT ENGINEER PRIOR TO ALTERING WALL IN ANYWAY. INSTALLATION OF PANELBOARD UPS-3 SHALL BE THE SAME AS DESCRIBED FOR UPS-1 AND UPS-2 ABOVE. ALL THE AFOREMENTIONED PANELBOARDS SHALL BE 100 AMP, 120/208 VOLT, THREE PHASE, 4 WIRE PLUS GROUND BAR. PANELS SHALL HAVE CAPACITY FOR 42 CIRCUITS.

THE ABOVE WIRES SHOULD BE PRE-PULLED IN ADVANCE OF CUTOVER DATE LEAVING 5 FEET OF WIRED COILED FOR FINAL TERMINATION AT PANELBOARD. NOTE: THE EXIST. POWER DISTRIBUTION SYSTEM MUST BE LEFT OPERATIONAL UNTIL PRIOR APPROVAL IS RECEIVED FROM IDOT FOR AN ACCEPTABLE CUTOVER DATE AND TIME. AFTER THE SUCCESSFUL TRANSFER OF LOADS OF THE 1ST SYSTEM, THE SAME PROCEDURE SHOULD BE FOLLOWED FOR TRANSFER OF LOADS FOR THE 2ND UPS SYSTEM. AFTER CUTOVER IS COMPLETE BEGIN REMOVAL OF ENCLOSURES ITEMS 2, 3, 4, 6, 7 & 8 FROM WALL IN UPS ROOM. CONTRACTOR IS TO DELIVER EXIST. ITEMS 1 AND 2 (10KVA & 5KVA RESPECTIVELY) TO DESIGNATED MAINTENANCE STORAGE AREA AS DIRECTED BY IDOT. NOTE: CONDUITS FOR ITEMS 3 AND 4 ARE TO BE REMOVED BACK TO SOURCE.

UPGRADE AND REPLACEMENT OF BATTERIES AFTER UPS ON-LINE PHASE TWO

- STEP-A. THE CONTRACTOR SHALL START THE REMOVAL OF EXIST. WET CELL BATTERIES FROM EXIST. BATTERY ROOM.
- STEP-B. BATTERIES SHALL BE REMOVED AND DISPOSED OF TO MEET ALL EPA REGULATIONS AND GUIDELINES FOR DISPOSAL OF HAZARDOUS MATERIAL.
- STEP-C. INSTALL NEW BATTERY RACKS TO COMPLY WITH SEISMIC 1 CONSIDERATIONS FOR EARTHQUAKES.
- STEP-D. IF APPLICABLE, INCREASE SIZE OF EXIST. WALL MOUNTED BATTERY BREAKER TO COMPLY WITH MANUFACTURERS RECOMMENDATION.
- STEP-E. CONTRACTOR TO INSTALL NEW CONDUIT AND WIRING FROM BATTERY BANK TO NEW 40 KVA UPS SYSTEM AS REQUIRED TO MEET MANUFACTURERS REQUIREMENTS. NOTE: EXIST. CONDUIT AND/OR DC CABLING MAY BE RE-USED OR RUN IN PARALLEL WITH NEW WIRING TO MEET INCREASED CAPACITY REQUIREMENTS FOR NEW 40KVA UPS.

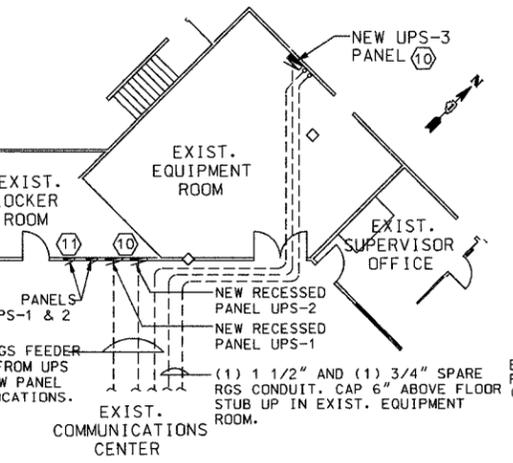
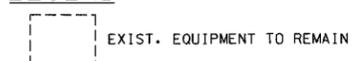
BATTERY ROOM FACILITY MODIFICATIONS

CONTRACTOR TO COORDINATE WITH DEPARTMENT THE PARTIAL REMOVAL OF EXIST. WALLS AT EXIST. LOWER LEVEL BATTERY ROOM AS NECESSARY FOR THE CONSTRUCTION OF NEW DIVIDING WALL PARTITION AND NEW DOOR INSTALLATION FOR THE NEW STORAGE ROOM. CONTRACTOR TO MATCH EXIST. WALL CONSTRUCTION AND FINISHES UNLESS OTHERWISE DIRECTED BY DEPARTMENT. THE CEILING AREA AROUND THE AIR CONDITIONING DUCTS SHALL BE SEALED. A NEW DOOR SHALL BE INSTALLED ON NORTHEAST WALL OF STORAGE ROOM AS SHOWN ON PARTIAL LOWER LEVEL PLAN. DOOR/FRAME SIZE, MATERIAL, HARDWARE, FINISH SHALL MATCH THAT OF EXIST. BATTERY ROOM DOOR AND SHALL HAVE A MATCHED KEY LOCK PER DIRECTION OF THE ENGINEER.

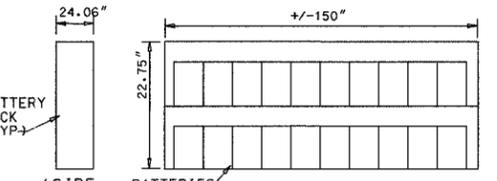
NOTES:

- 1 ELECTRICAL CONTRACTOR TO SUPPLY INTERCONNECTION CABLE TO UPS MODULE; SEE SHEET DT-121 FOR INTERCONNECTION DIAGRAM. CONSULT MANUFACTURER'S SHOP DRAWINGS FOR SIZE OF WIRE AND TYPE OF CABLE.
- 2 POSITIVE AND NEGATIVE DC POWER CABLES NEED TO ENTER FROM THE BOTTOM OF THE ENCLOSURE TO PREVENT CONTACT WITH BATTERY INTERFACE BOARD "BIB".
- 3 LOW VOLTAGE WIRING NEEDS TO ENTER FROM THE TOP OF THE ENCLOSURE.
- 4 TEMPORARY WIRING TO BE REMOVED BETWEEN TEMPORARY SEALED BATTERIES AND PULL BOX AFTER NEW UPS IS ON-LINE.
- 5 ALL WIRING WILL BE INSTALLED IN RIGID GALVANIZED STEEL (RGS) CONDUIT UNLESS OTHERWISE NOTED.
- 6 ALL WIRING SHALL BE TYPE THWN INSULATION UNLESS OTHERWISE NOTED.
- 7 ALL WIRING WILL BE INSTALLED BY QUALIFIED INDIVIDUALS, IN A NEAT WORKMANLIKE MANNER, TO CONFORM TO THE NATIONAL ELECTRICAL CODE AND SHALL MEET ALL STATE AND LOCAL CODES.
- 8 3#1 & 1#1 NEUTRAL & 1#8 GRD THWN IN NEW 1 1/2" CONDUIT TO NEW REPLACEMENT PANELBOARDS UPS-1 & UPS-2 RESPECTIVELY. SEE PARTIAL FIRST FLOOR PLAN THIS SHEET FOR RECOMMENDED LOCATION OF NEW REPLACEMENT PANELS.
- 9 3#1 & 1#1 NEUTRAL & 1#8 GRD THWN IN NEW 1 1/2" CONDUIT TO NEW PANELBOARD UPS-3. SEE PARTIAL FIRST FLOOR PLAN THIS SHEET FOR RECOMMENDED LOCATION OF NEW PANEL WITHIN EXIST. EQUIPMENT ROOM.
- 10 PANELBOARD SHALL BE 120/208V, 3Ø, 4W, PLUS GRD.. WITH 100A MAIN BREAKER, 100A BUS, AND CAPACITY FOR 42 CIRCUITS.
- 11 EXIST. PANELBOARDS UPS-1 AND UPS-2 SHALL BE REMOVED AFTER CUTOVER TO NEW RECESSED PANELS UPS-1 AND UPS-2 IS COMPLETE. AFTER REMOVAL OF PANELBOARD, THE WALL SHALL BE RESTORED TO MATCH EXIST. WALL CONDITIONS. CONTRACTOR TO MATCH EXIST. WALL CONSTRUCTION AND FINISHES UNLESS OTHERWISE DIRECTED BY DEPARTMENT.

LEGEND



PARTIAL FIRST FLOOR PLAN



NEW BATTERY RACKS ELEVATIONS

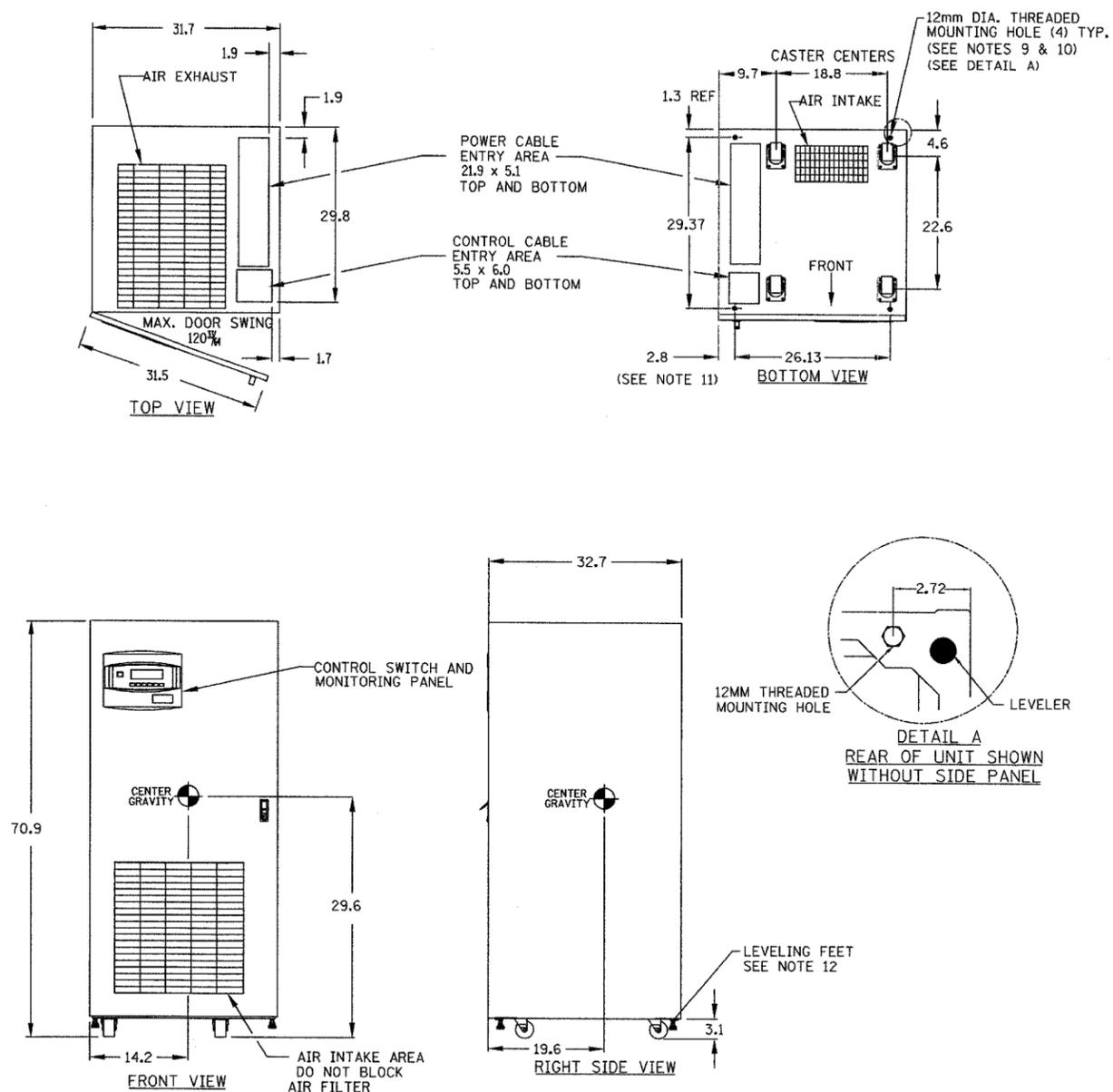
Edwards and Kelcey
 ONE NORTH FRANKLIN
 CHICAGO, IL 60606
 PHONE: (312) 251-3000
 FAX: (312) 251-3015
 WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57
 PROPOSED UPS EQUIPMENT INSTALLATION
 (SCHAUMBURG COMMUNICATION CENTER)
 SCALE: AS SHOWN ON PLANS
 DATE: October 29, 2004
 DRAWN BY: JM
 CHECKED BY: CS

10-5053 4M 1/23/2004

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	913
STA. TO STA.		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	
		62583	



NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. 24" MINIMUM CLEARANCE ABOVE UNIT REQUIRED FOR AIR EXHAUST.
3. INSTALLATION AND SERVICE ACCESS REQUIRED IN FRONT ONLY. RH SIDE ACCESS RECOMMENDED FOR MAXIMUM EASE OF INSTALLATION.
4. KEEP CABINET WITHIN 15 DEG. OF VERTICAL WHILE HANDLING.
5. TOP AND BOTTOM CABLE ENTRY AVAILABLE THROUGH REMOVABLE ACCESS PLATES. REMOVE PUNCH TO SUIT CONDUIT SIZE AND REPLACE.
6. COLOR - IBM OFF WHITE.
7. UNIT BOTTOM IS STRUCTURALLY ADEQUATE FOR FORKLIFT HANDLING.
8. OPEN DOOR TO REPLACE AIR FILTER, DISPOSABLE TYPE. SIZE 1 x 25 x 25
9. THREADED MOUNTING HOLES USED FOR SEISMIC ANCHORING OR FLOOR STAND. NOTE, IF FLOOR STAND IS USED THE WEIGHT OF THE UNIT MUST BE SUPPORTED UNDER ALL CASTERS.
10. EACH MOUNTING LOCATION IS SUPPORTED BY (2) 10 GA. (.135") GALVANIZED STEEL. THE THREADED 12MM INSERT IS APPROX. 3/4" DEEP. MOUNTING BOLTS MUST BE THREADED INTO UNIT MOUNTING HOLES FROM UNDERNEATH UNIT BASE.
11. INCLUDES SIDE PANEL. REFER TO DETAIL A FOR DIMENSION TO FRAME WITH SIDE PANEL REMOVED. SIDE PANELS ARE REMOVED BETWEEN ADJACENT UNITS WHICH ARE BOLTED TOGETHER.
12. LEVELING FEET ARE NOT DESIGNED TO CARRY THE FULL WEIGHT OF THE CABINET. FINGER-TIGHT LEVELER AGAINST THE FLOOR. THEN TIGHTEN WITH A WRENCH LESS THAN 2 TURNS FOR FRICTION FIT AGAINST FLOOR.

KVA RATING	VOLTAGE		WEIGHT		HEAT REJECTION BTU/HR	COOLING AIR CFM
	INPUT	OUTPUT	LBS	KG		
40	208	208	2200	1000	11000	720

Edwards AND Kelcey
 ONE NORTH FRANKLIN
 CHICAGO, IL 60606
 PHONE: (312) 251-3000
 FAX: (312) 251-3015
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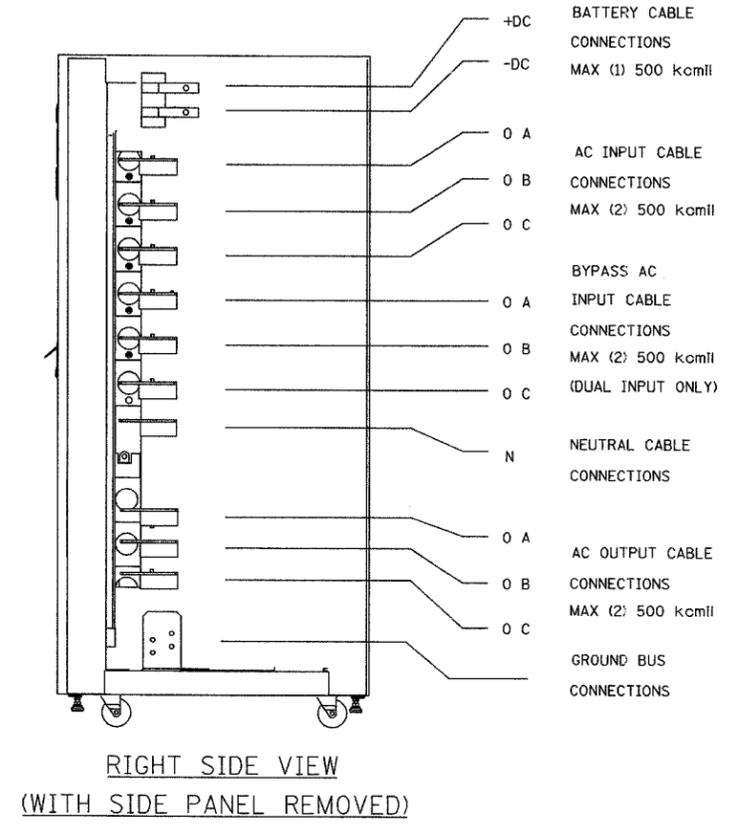
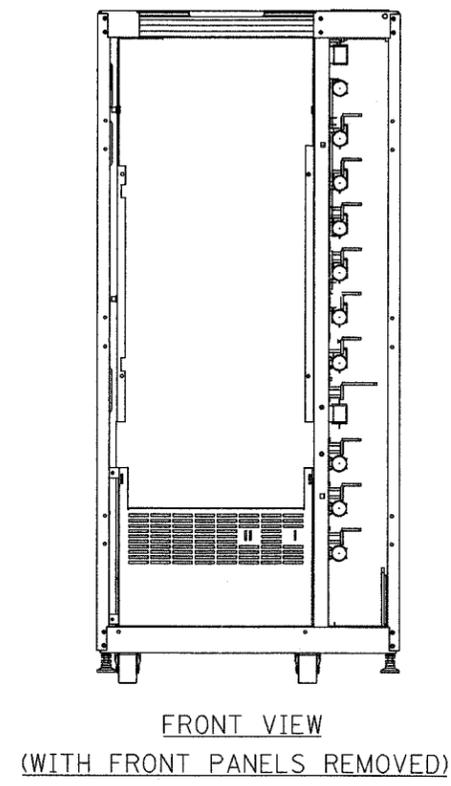
DT-12F

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) 31st STREET to I-57
NAME	DATE	
		OUTLINE DRAWING 40 KVA UPS MODULE NPOWER

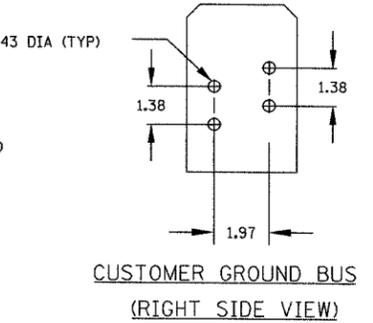
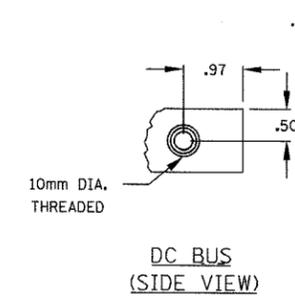
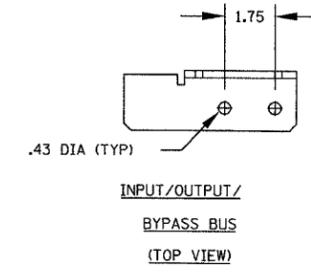
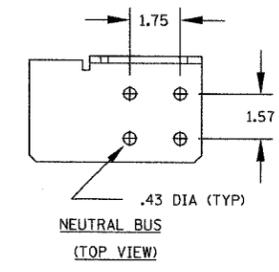
SCALE: NOT TO SCALE DRAWN BY: SST
 DATE: October 29, 2004 CHECKED BY: CS

10/15/2004 11:53:44 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	914
STA. TO STA.		FED. AID PROJECT	
FED. ROAD DIST. NO. 62583		ILLINOIS	



- DC INPUT BATTERY CABLE CONNECTIONS
MAX (1) 500 komil
- +DC
- DC
- 0 A
- 0 B
- 0 C
- AC INPUT CABLE CONNECTIONS
MAX (2) 500 komil
- BYPASS AC INPUT CABLE CONNECTIONS
MAX (2) 500 komil (DUAL INPUT ONLY)
- 0 A
- 0 B
- 0 C
- N
- NEUTRAL CABLE CONNECTIONS
- 0 A
- 0 B
- 0 C
- AC OUTPUT CABLE CONNECTIONS
MAX (2) 500 komil
- GROUND BUS CONNECTIONS



- NOTES:
- ALL DIMENSIONS ARE IN INCHES.
 - TOP AND BOTTOM CABLE ENTRY AVAILABLE THROUGH REMOVABLE ACCESS PLATES. REMOVE, PUNCH TO SUIT CONDUIT SIZE, AND REPLACE.
 - CONTROL WIRING AND POWER WIRING MUST BE RUN IN SEPARATE CONDUIT. OUTPUT CABLES MUST BE RUN IN A SEPARATE CONDUIT FROM INPUT CABLES.
 - ALUMINUM AND COPPER CLAD ALUMINUM CABLES ARE NOT RECOMMENDED.
 - ALL WIRING IS TO BE IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES.

Edwards AND Kelcey
 ONE NORTH FRANKLIN
 CHICAGO, IL 60606
 PHONE: (312) 251-3000
 FAX: (312) 251-3015
 WEB: WWW.EKCORP.COM

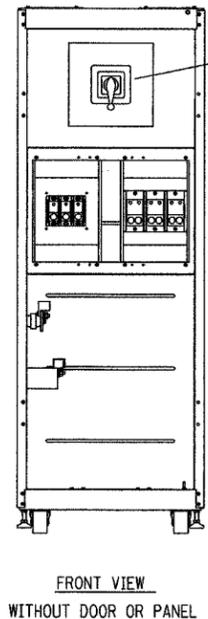
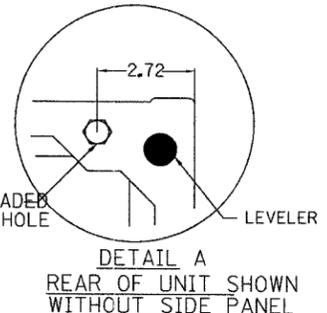
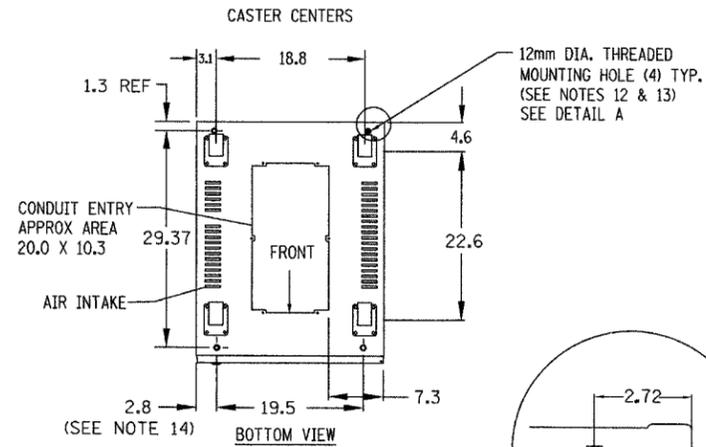
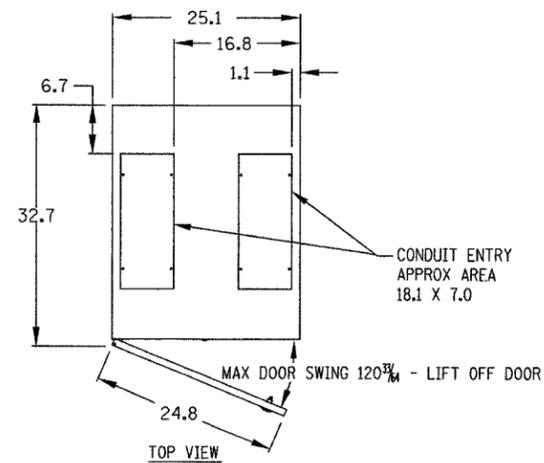
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET TO I-57
 TERMINAL DETAILS
 40 KVA UPS MODULE
 SCALE: NOT TO SCALE
 DATE: October 29, 2004
 DRAWN BY: SST
 CHECKED BY: CS

DT-12G

10/14/2004 09:23:53 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	416
STA. TO STA.			
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT 62583			



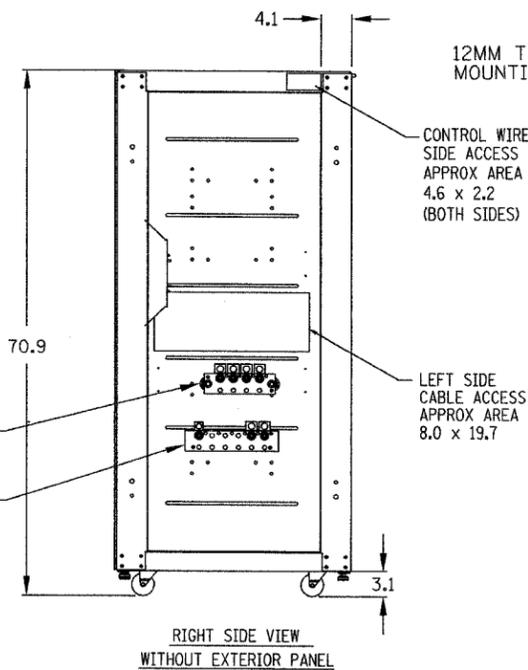
MAINTENANCE BYPASS SWITCH

O A INPUT CABLE
O B CONNECTIONS
O C CONNECTIONS

O A OUTPUT CABLE
O B CONNECTIONS
O C CONNECTIONS

NEUTRAL BUS

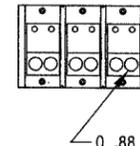
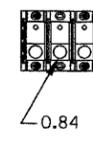
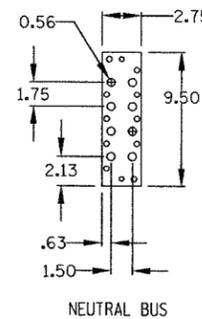
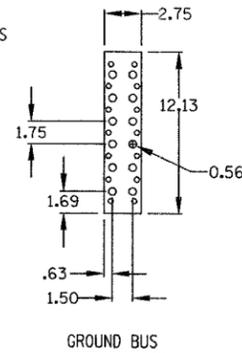
GROUND BUS



12MM THREADED MOUNTING HOLE

CONTROL WIRE SIDE ACCESS APPROX AREA 4.6 x 2.2 (BOTH SIDES)

LEFT SIDE CABLE ACCESS APPROX AREA 8.0 x 19.7



NOTES:

- ALL DIMENSIONS ARE IN INCHES.
- MIN CLEARANCE 36 FRONT, 12 TOP FOR AIR EXHAUST.
- KEEP CABINET WITHIN 15 DEGREES OF VERTICAL WHILE HANDLING.
- TOP AND BOTTOM CABLE ENTRY AVAILABLE THROUGH REMOVABLE ACCESS PLATES. REMOVE, PUNCH TO SUIT CONDUIT SIZE, AND REPLACE.
- CONTROL WIRING AND POWER WIRING MUST BE RUN IN SEPARATE CONDUIT. OUTPUT CABLES MUST BE RUN IN A SEPARATE CONDUIT FROM INPUT CABLES.
- ALUMINUM AND COPPER CLAD ALUMINUM CABLES ARE NOT RECOMMENDED.
- ALL WIRING IS TO BE IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES.
- INTER CABINET WIRING BETWEEN THE UPS AND THE MB CABINET IS SUPPLIED BY LIEBERT, INSTALLATION BY OTHERS.
- MAINTENANCE BYPASS CABINET IS NOT A STAND ALONE UNIT. IT IS BOLTED TO THE RIGHT SIDE OF THE UPS.
- COLOR - IBM OFF WHITE.
- UNIT BOTTOM IS STRUCTURALLY ADEQUATE FOR FORKLIFT HANDLING.
- THREADED MOUNTING HOLES USED FOR SEISMIC ANCHORING OR FLOOR STAND. NOTE, IF FLOOR STAND IS USED THE WEIGHT OF THE UNIT MUST BE BE SUPPORTED UNDER ALL CASTERS.
- EACH MOUNTING LOCATION IS SUPPORTED BY (2) 10 GA. (.135") GALVANIZED STEEL. THE THREADED 12MM INSERT IS APPROX. 3/4" DEEP. MOUNTING BOLTS MUST BE THREADED INTO UNIT MOUNTING HOLES FROM UNDERNEATH UNIT BASE.
- INCLUDES SIDE PANEL. REFER TO DETAIL A FOR DIMENSION TO FRAME WITH SIDE PANEL REMOVED. SIDE PANELS ARE REMOVED BETWEEN ADJACENT UNITS WHICH ARE BOLTED TOGETHER.

DT-12H

Edwards AND Kelcey
ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EKCORP.COM

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) 31st STREET to I-57 TERMINAL DETAILS 25" MAINTENANCE BYPASS CABINET CONFIGURATION "N" SINGLE INPUT (NPOWER)
NAME	DATE	

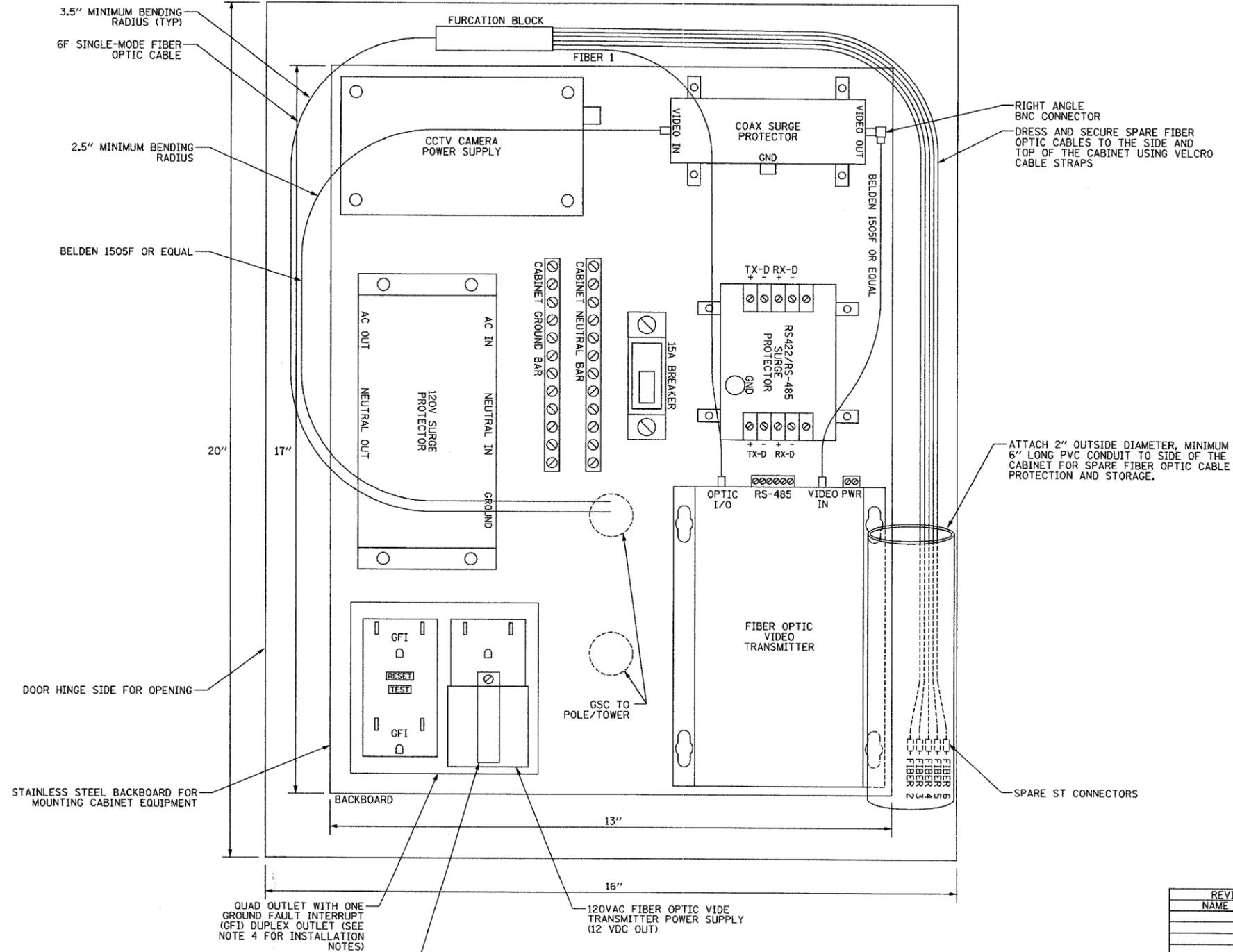
SCALE: AS SHOWN DRAWN BY: SST
DATE: October 29, 2004 CHECKED BY: CS

P:\030105\0311\115315.dwg 11/5/2004 11:53:15 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	917
STA. TO STA.		ILLINOIS FED. AID PROJECT	
FED. ROAD DIST. NO. 62583			

FIBER NO.	COLOR
1	BLUE
2	ORANGE
3	GREEN
4	BROWN
5	SLATE
6	WHITE

FIBER OPTIC COLOR DESIGNATION



- NOTES:
1. THE CCTV CABINET SHALL BE MOUNTED ON SIDE OF LIGHT TOWER AT LOCATIONS INDICATED ON THE PLANS.
 2. ISOLATE NEUTRAL TERMINAL BLOCK FROM CABINET GROUND.
 3. CCTV CABINET SHALL BE A HOFFMAN ENCLOSURES MODEL A-20H1610SSLP OR A ELECTROMATE ENCLOSURES MODEL E-20H1610SS OR APPROVED EQUAL.
 4. GFI DUPLEX RECEPTACLE SHALL BE INSTALLED DOWNSTREAM FROM THE NON-GFI DUPLEX RECEPTACLE.
 5. SEE CCTV SHEETS FOR CCTV POWER CABLE SIZES.

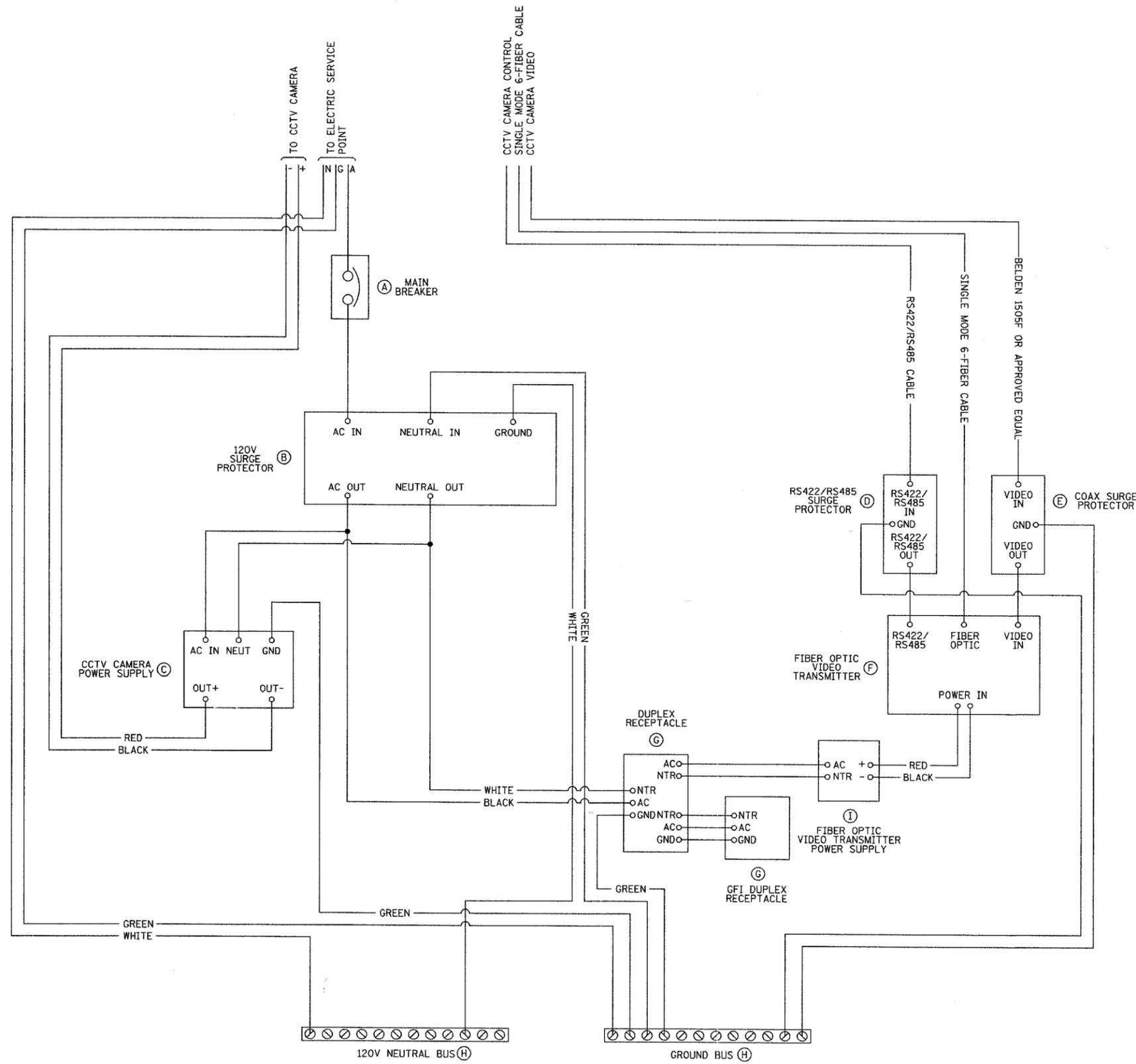
DT-13

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) 31st STREET to I-57 CLOSED CIRCUIT TELEVISION CABINET COMMUNICATIONS AND WIRING DIAGRAMS (SHEET 1 OF 2)
NAME	DATE	
		SCALE: NOT TO SCALE
		DATE: October 29, 2004
		DRAWN BY: DHI
		CHECKED BY: JEZ

Edwards AND Kelcey
 ONE NORTH FRANKLIN
 CHICAGO, IL 60606
 PHONE: (312) 251-3000
 FAX: (312) 251-3015
 WEB: WWW.EKCORP.COM

10/14/2004 09:24:08 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	918
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		
62583			



ITEM NO.	QTY	DESCRIPTION
A	1	MAIN CIRCUIT BREAKER 2 POLE 15 AMP
B	1	120 VAC FILTERING SURGE PROTECTOR
C	1	24 VAC CCTV CAMERA POWER SUPPLY
D	1	RS422/RS485 SURGE PROTECTOR
E	1	VIDEO COAX CABLE SURGE PROTECTOR
F	1	FIBER OPTIC VIDEO TRANSMITTER
G	1	QUAD OUTLET WITH ONE GFI DUPLEX RECEPTACLE AND ONE NON-GFI DUPLEX RECEPTACLE
H	2	COPPER GROUND AND NEUTRAL BUS
I	1	12 VDC FIBER OPTIC VIDEO TRANSMITTER POWER SUPPLY

**Edwards
AND Kelcey**
 ONE NORTH FRANKLIN
 CHICAGO, IL 60606
 PHONE: (312) 251-3000
 FAX: (312) 251-3015
 WEB: WWW.EKCORP.COM

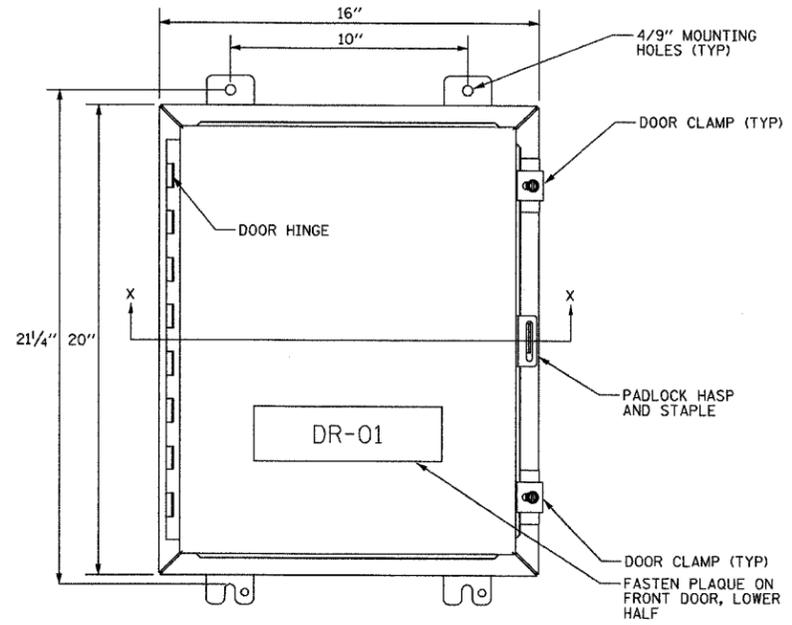
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET TO I-57
 CLOSED CIRCUIT TELEVISION
 CABINET COMMUNICATIONS
 AND WIRING DIAGRAMS
 (SHEET 2 OF 2)
 SCALE: NOT TO SCALE
 DATE: October 29, 2004
 DRAWN BY: DHI
 CHECKED BY: JEZ

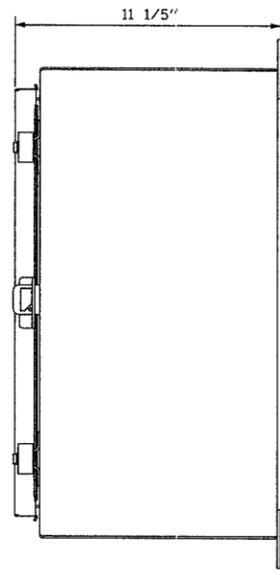
DT-14

10/14/2004 09:40:09 AM

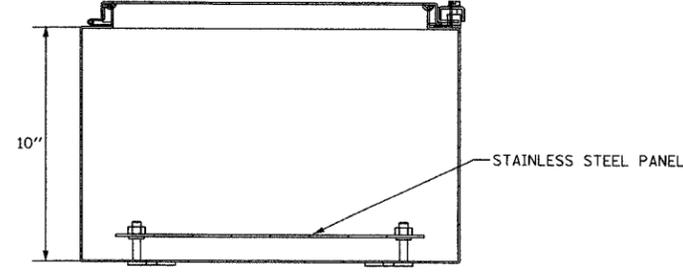
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	919
STA. TO STA.			
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		
62583			



FRONT VIEW

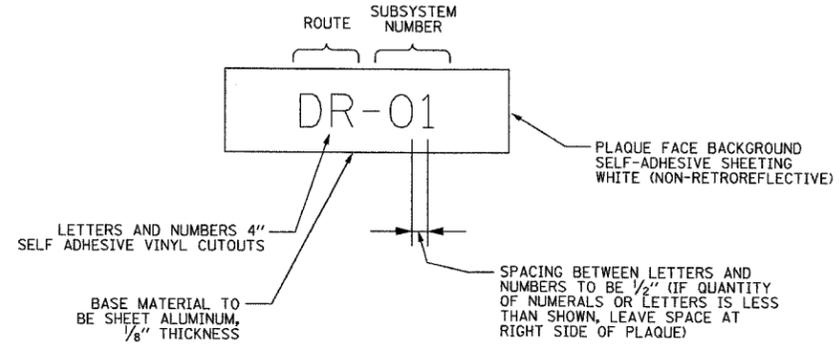


SIDE VIEW



SECTION X-X

CCTV CABINET
DETAIL



CCTV CABINET
IDENTIFICATION PLAQUE DETAIL

CCTV LEGEND
 DR - CLOSED CIRCUIT TELEVISION (DAN RYAN)
 CH - CLOSED CIRCUIT TELEVISION (I-57/CHEVY)
 BF - CLOSED CIRCUIT TELEVISION (BISHOP FORD)

- NOTES:
1. THE CCTV CABINET SHALL BE MOUNTED ON THE SIDE OF HIGH MAST LIGHT TOWER AT LOCATIONS INDICATED ON THE PLANS.
 2. CCTV CABINET SHALL BE A HOFFMAN ENCLOSURES MODEL A-20H1610SSLP OR ELECTROMATE MODEL E-20H1610SS OR APPROVED EQUAL.
 3. SUBSYSTEM NUMBERING SCHEME TO FOLLOW CABINET IDENTIFICATION NUMBERS SHOWN ON THE CCTV SUBSYSTEM SHEETS. CONTRACTOR SHALL VERIFY NUMBERING SCHEME FOR EACH CABINET WITH THE ENGINEER BEFORE PROCURING AND INSTALLING THE IDENTIFICATION PLAQUES.

**Edwards
AND
Kelcey**
 ONE NORTH FRANKLIN
 CHICAGO, IL 60606
 PHONE: (312) 251-3000
 FAX: (312) 251-3015
 WEB: WWW.EKCORP.COM

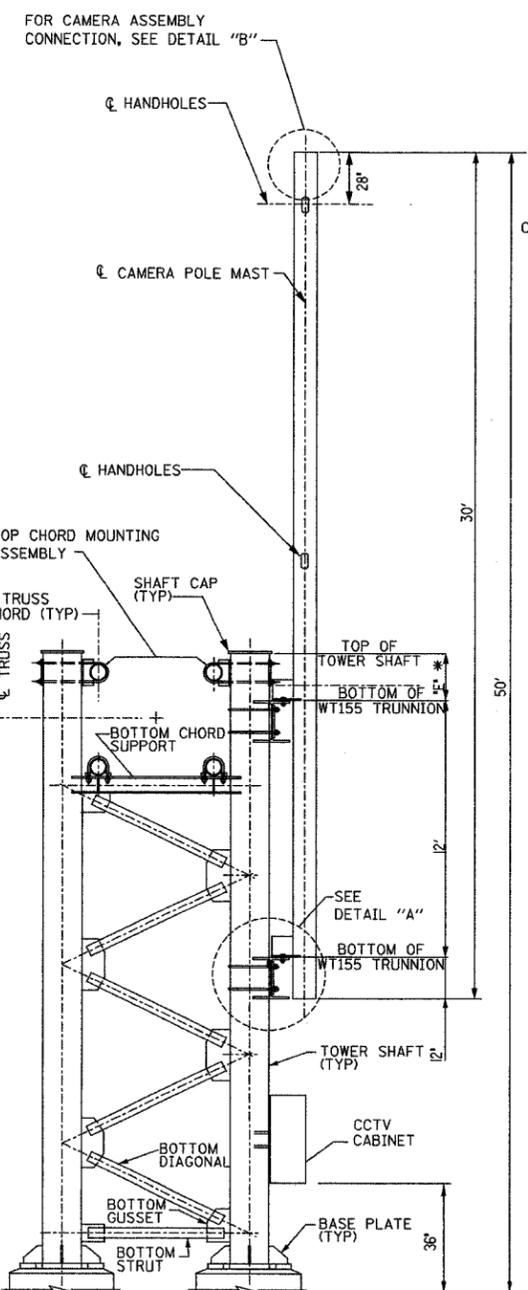
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) 31st STREET to I-57
NAME	DATE	
		CLOSED CIRCUIT TELEVISION CABINET DETAILS

SCALE: NOT TO SCALE
 DATE: October 29, 2004
 DRAWN BY: DHI
 CHECKED BY: JEZ

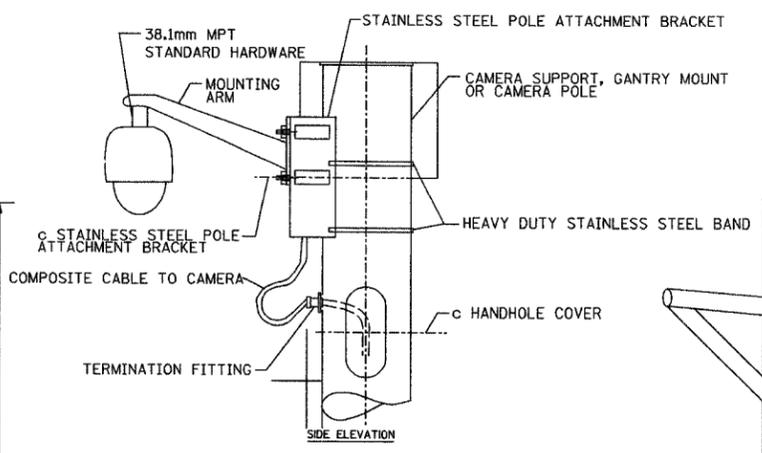
DT-15

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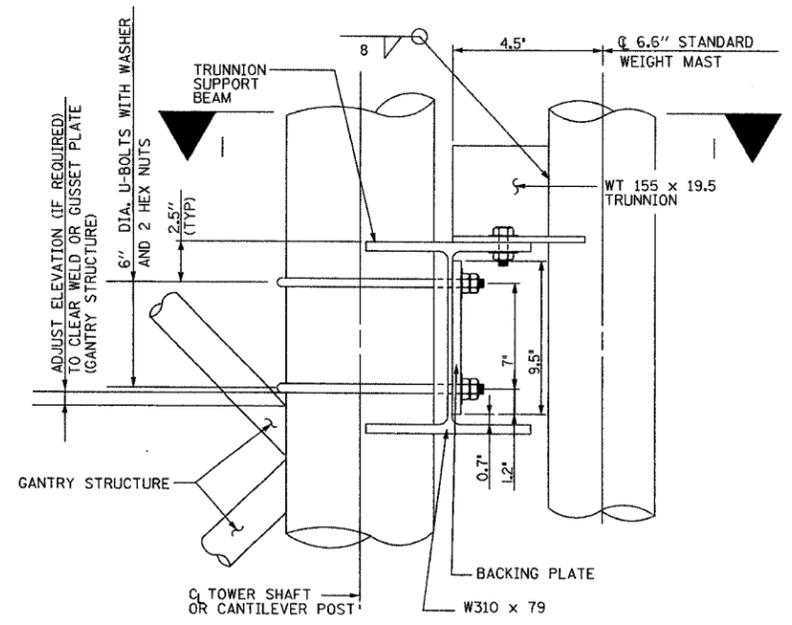
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-031I	COOK	976	420
STA.	TO STA.			
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				
62583				



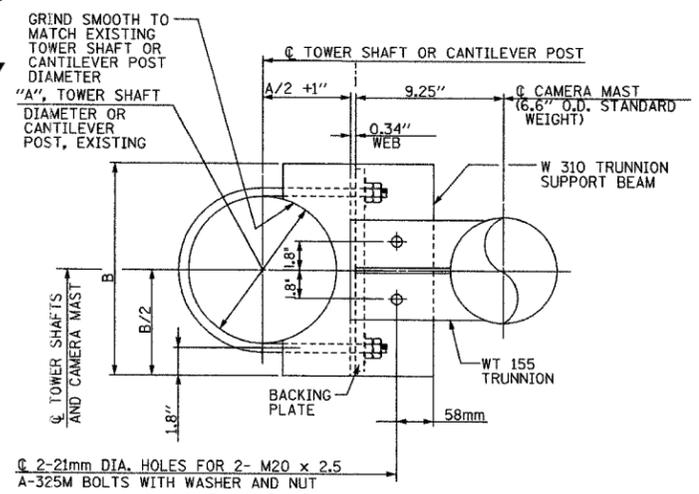
ELEVATION
GANTRY STRUCTURE TYPE 1
DUAL TRUSS POST



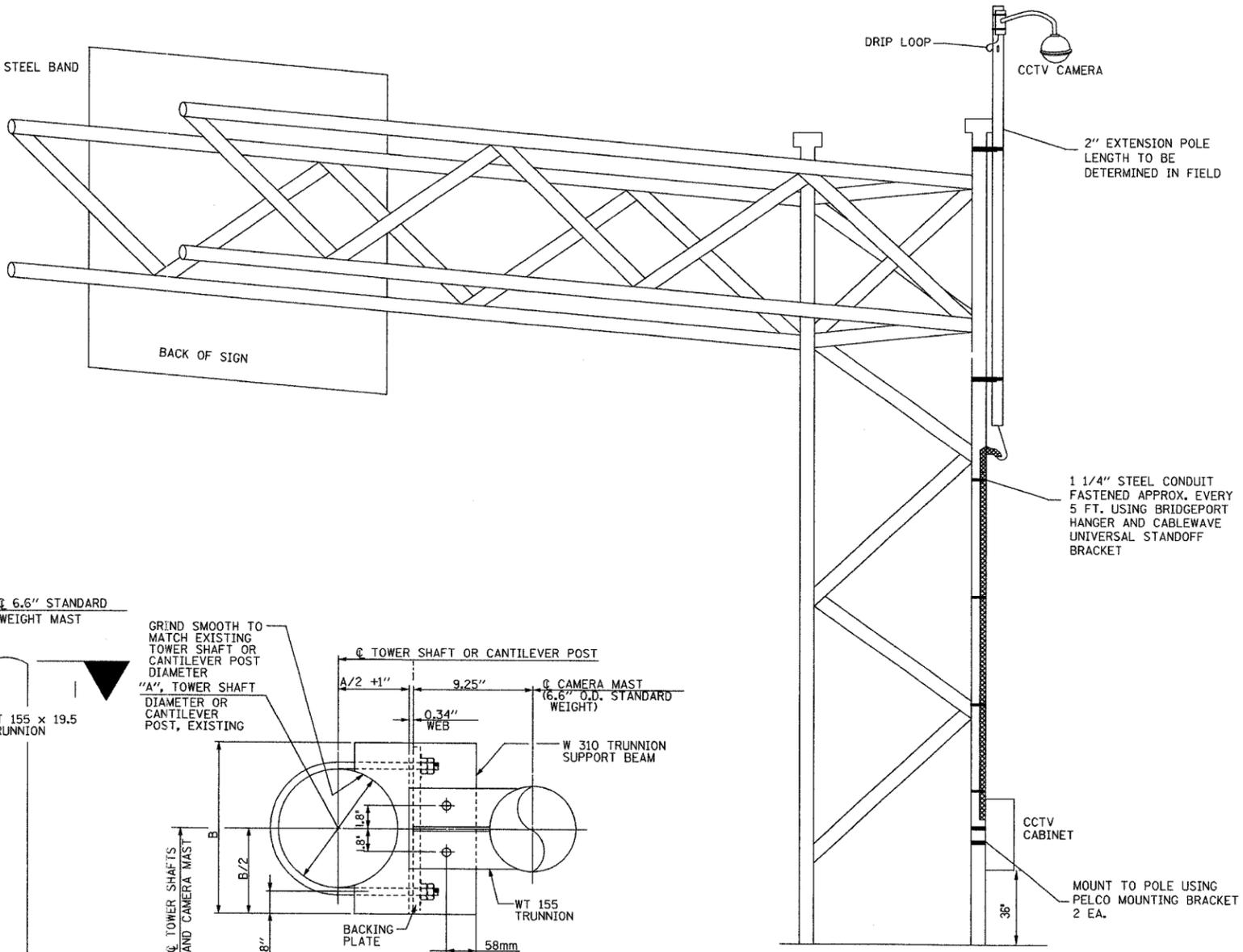
DETAIL B



DETAIL A
SCALE 1/5



SECTION I-I
SCALE 1/5



DT-16

NOTE:
1. FOR CCTV CABINET COMMUNICATIONS
AND WIRING DIAGRAM SEE DT-13 THRU DT-15.

**Edwards
and Kelcey**
ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57

CCTV CAMERA INSTALLATION
ON EXISTING SIGN STRUCTURE

SCALE: 1"=50'
DATE: October 29, 2004
DRAWN BY: SD
CHECKED BY: M.JL

10/14/2004 09:409 AM

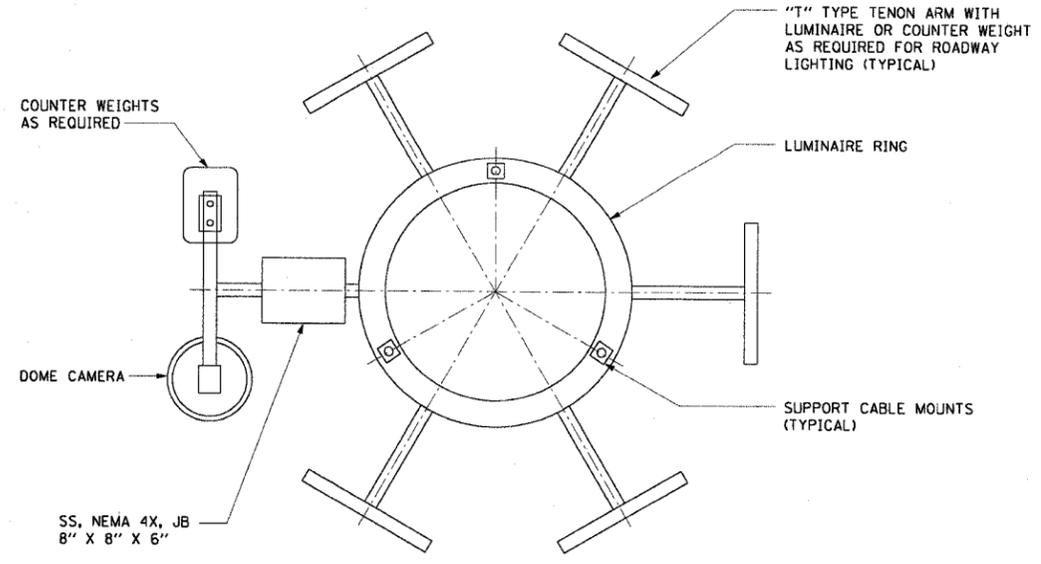
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0311	COOK	976	921
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

62583

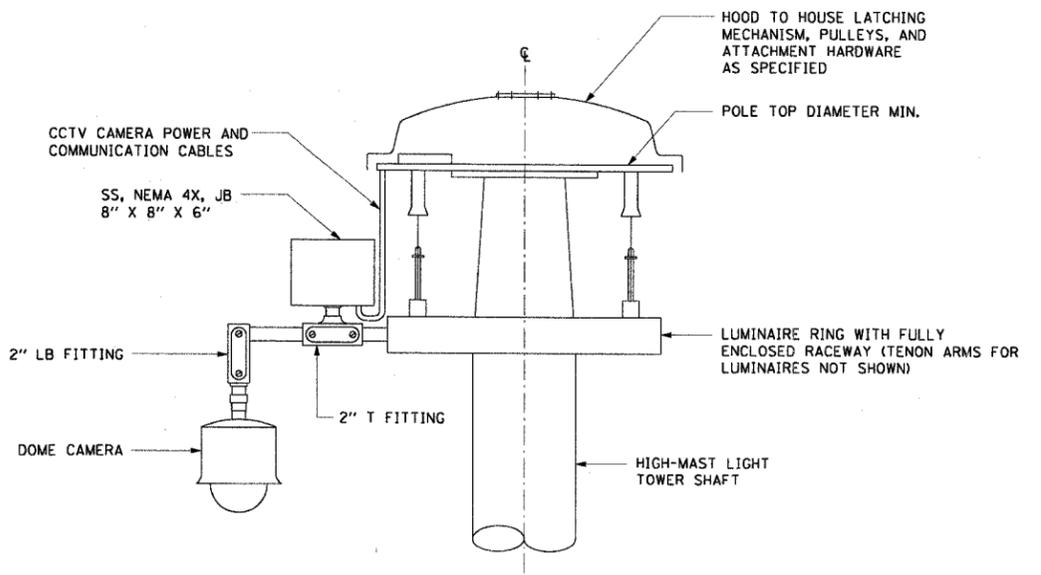
NOTES:

1. SEE SHEETS CCTV-01 THROUGH CCTV-34 FOR PROPOSED CCTV CAMERAS LOCATIONS.
2. HANDHOLE SHALL BE POSITIONED FACING AWAY FROM ONCOMING TRAFFIC.
3. CABINET SHALL BE BOLTED TO MOUNTING CHANNELS. SEE DRAWING DT-15 FOR CABINET DETAILS.
4. BACK OF CABINET SHALL BE PENETRATED TO ACCEPT CONDUIT STUBS IN LIGHT TOWER. ALL PENETRATIONS SHALL BE MADE WATERTIGHT.

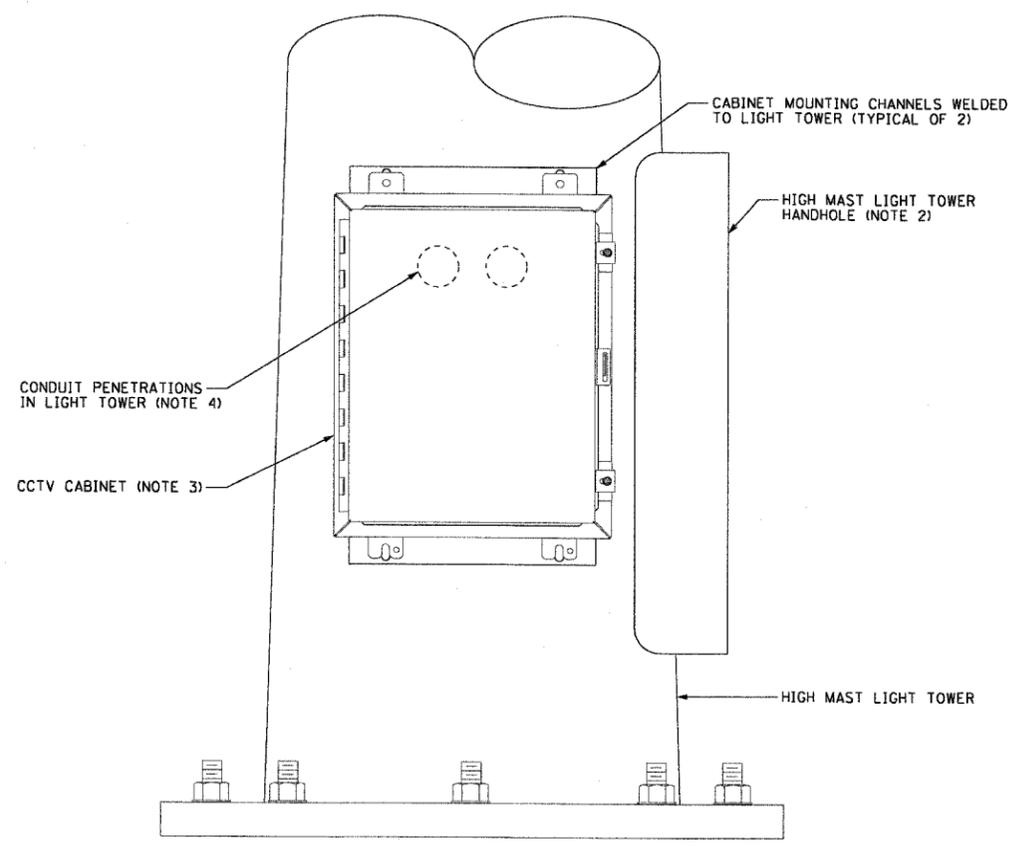
DAN RYAN EXPRESSWAY



DOME CAMERA PLAN VIEW
NOT TO SCALE



CAMERA MOUNTING DETAIL
NOT TO SCALE



CABINET MOUNTING DETAIL
NOT TO SCALE

DT-17

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 90/94 (DAN RYAN EXPRESSWAY)
31st STREET TO I-57

**CLOSED CIRCUIT TELEVISION
HIGH-MAST LIGHTING TOWER
MOUNTING DETAILS**

SCALE: 1"=50'
DATE: October 29, 2004
DRAWN BY: BHP
CHECKED BY: BMW

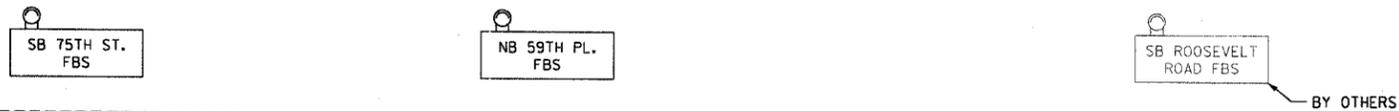
CTE ENGINEERS
CONSOER TOWNSEND ENVIRONMENTAL ENGINEERS, INC.
303 EAST WACKER DRIVE, SUITE 600
CHICAGO ILLINOIS 60601-3221, PHONE: (312) 938-0300

10/19/2004 10:32:18 AM

INBOUND SIGNS

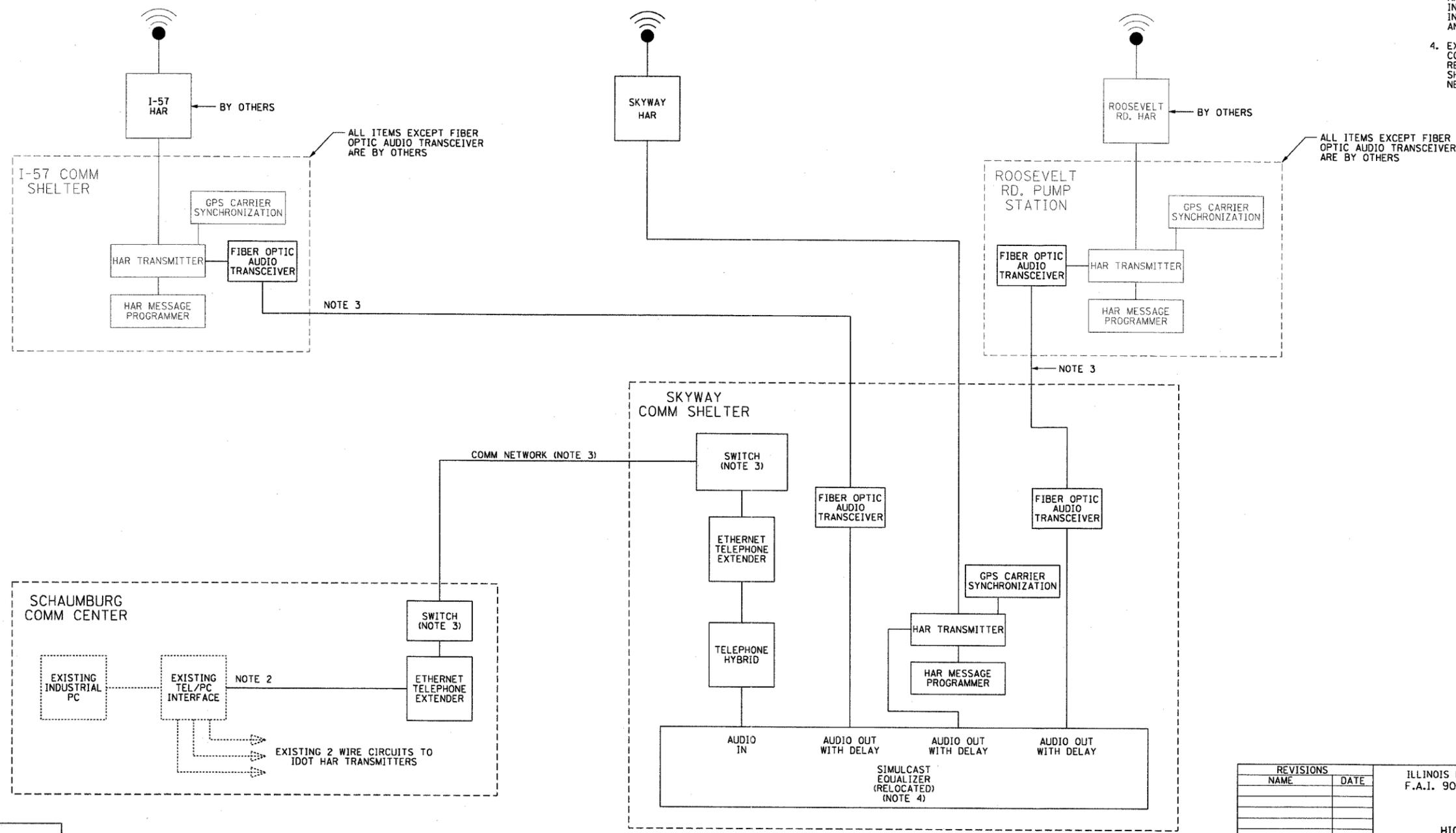


OUTBOUND SIGNS



F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0311	COOK	976	122
STA.	TO STA.			
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

- 62583
- NOTES:
- SEE DRAWINGS ME-01 AND ME-02 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
 - EXISTING COMMUNICATION CIRCUIT CONNECTED TO SIMULCAST EQUALIZER TO BE REUSED AFTER RELOCATION OF EQUALIZER FROM THE COMMUNICATION CENTER TO THE SKYWAY COMMUNICATION SHELTER.
 - THE SWITCHES, FIBER OPTIC CABLE AND ALL COMMUNICATION NETWORK INTERFACES WILL BE AS SPECIFIED IN THE COMMUNICATION DRAWINGS AND SPECIFICATIONS.
 - EXISTING SIMULCAST EQUALIZER IN COMMUNICATION CENTER TO BE RELOCATED TO SKYWAY COMMUNICATION SHELTER ONCE THE NEW FIBER OPTIC NETWORK CONNECTIONS ARE IN PLACE.



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 90/94 (DAN RYAN EXPRESSWAY)
 31st STREET TO I-57

HIGHWAY ADVISORY RADIO
 SYSTEM DIAGRAM

SCALE: NONE
 DATE: October 29, 2004

DRAWN BY: BHP
 CHECKED BY: BMW



DT-18

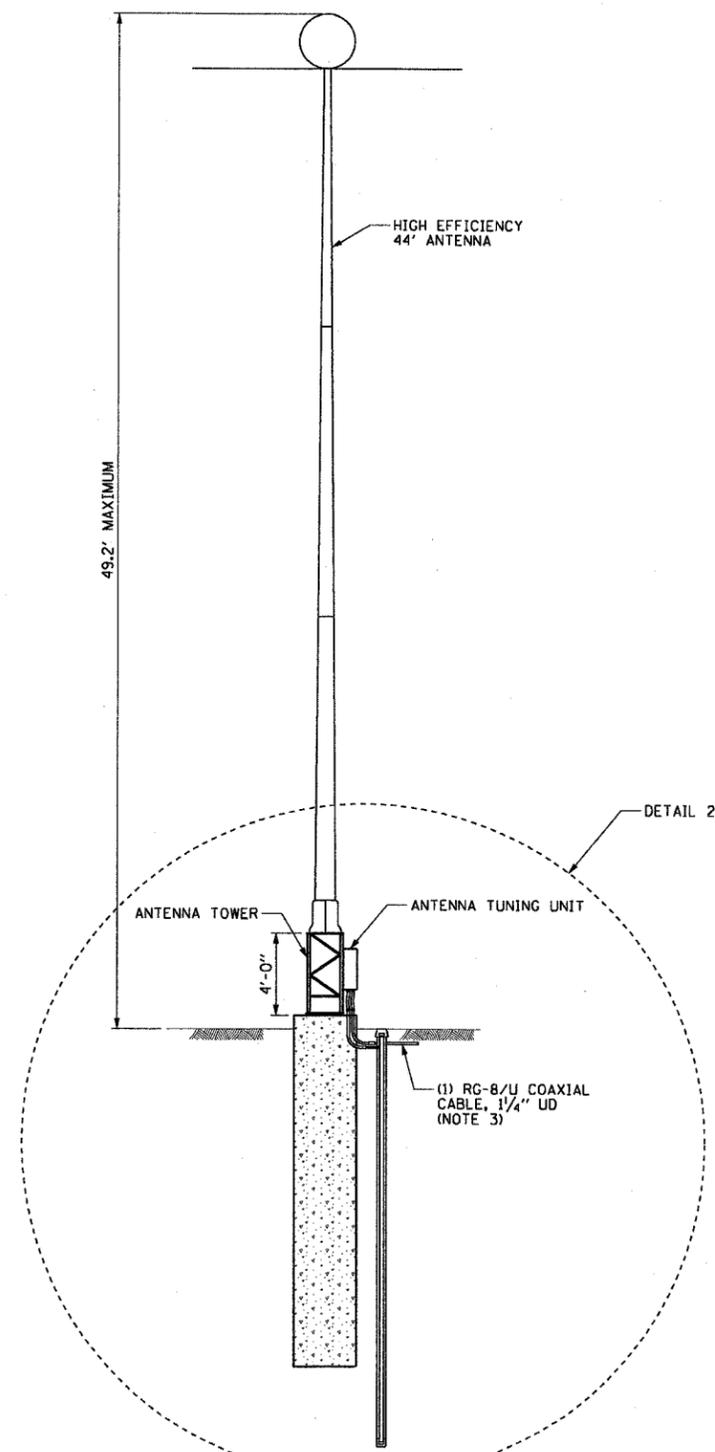
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0311	COOK	976	423
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS FED. AID PROJECT		

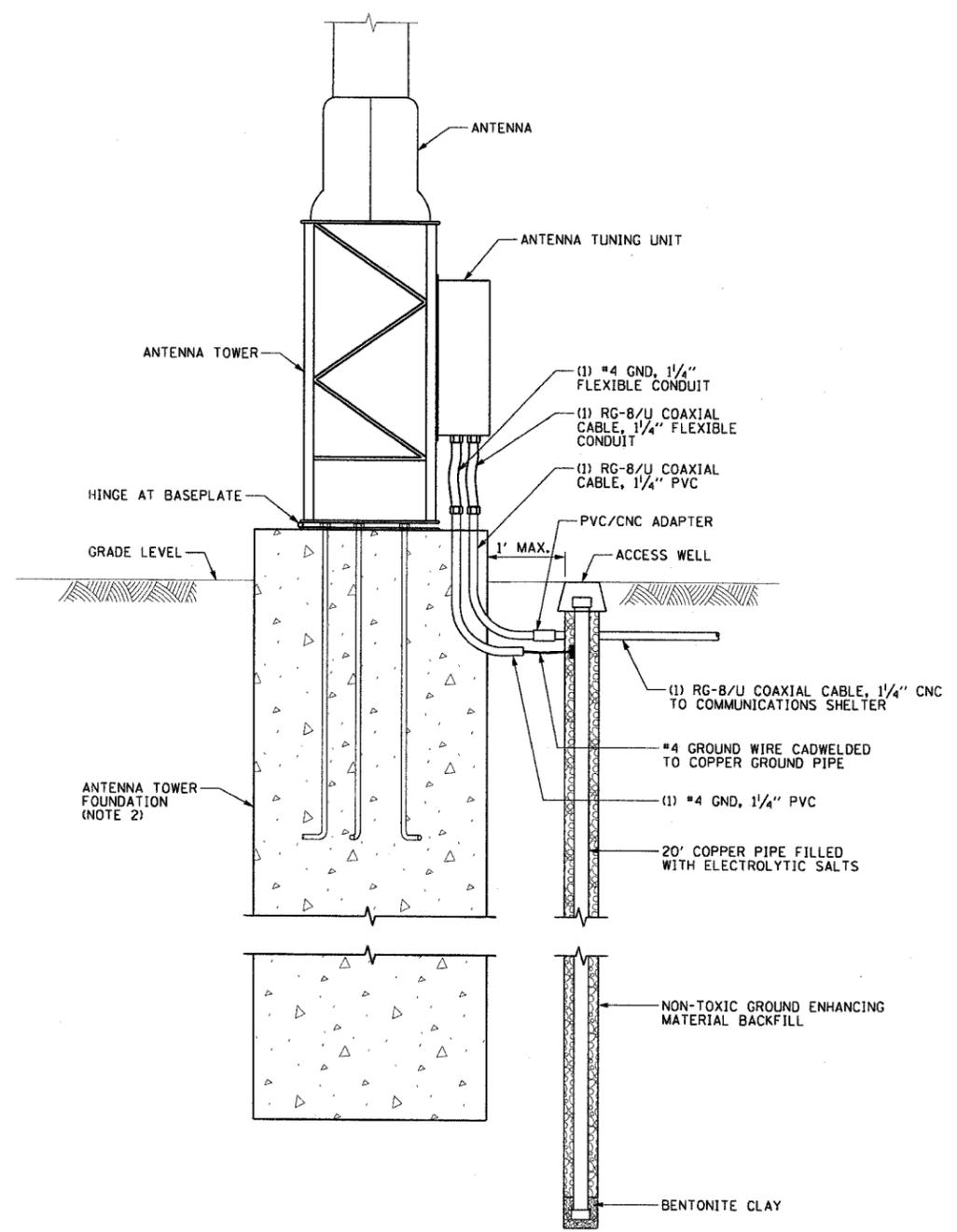
62583

NOTES:

1. SEE DRAWINGS ME-01 AND ME-02 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
2. SEE DRAWING DT-23 FOR FOUNDATION DETAILS.
3. CONDUIT AND CABLE TO COMMUNICATIONS SHELTER AS SHOWN ON THE PLAN DRAWINGS.



1 SITE LAYOUT
DT-19 NOT TO SCALE



2 ANTENNA AND GROUNDING DETAIL
DT-19 NOT TO SCALE

CTE ENGINEERS
CONSOER TOWNSEND ENVIRONMENTAL ENGINEERS, INC.
303 EAST WACKER DRIVE, SUITE 600
CHICAGO, ILLINOIS 60601-5212, PHONE: (312) 938-0300

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 90/94 (DAN RYAN EXPRESSWAY)
31st STREET TO I-57
**HIGHWAY ADVISORY RADIO TRANSMITTER
STATION SITE DETAILS**
SCALE: NONE
DATE: October 29, 2004
DRAWN BY: CJM
CHECKED BY: BMW

DT-19

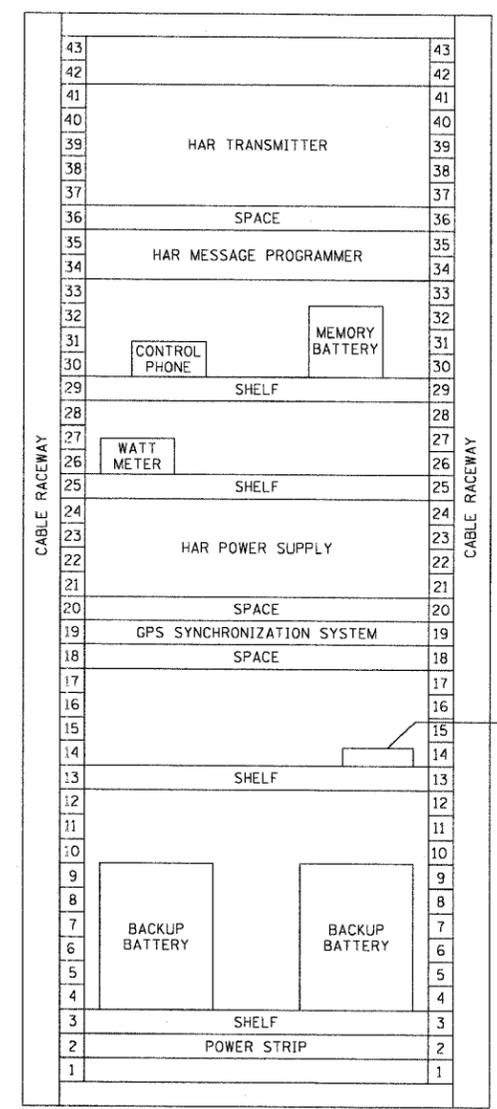
10/15/2004 08:44:48 AM

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0311	COOK	976	924
STA.		TO STA.		
FED. ROAD DIST. NO. 1		ILLINOIS	FED. AID PROJECT	

62583

NOTES:

- SEE DRAWINGS ME-01 AND ME-02 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
- ALL EQUIPMENT AND RACK MUST BE INSTALLED IN COMMUNICATIONS SHELTER AT HAR-02. CONTRACTOR MUST PROVIDE ALL NECESSARY CONDUIT, CABLE TO BRING POWER SERVICE TO THE EQUIPMENT RACK. SEE COMMUNICATIONS DRAWINGS FOR FIBER OPTIC CABLE CONNECTIONS.
- RACK LAYOUT SHOWN IS A TYPICAL CONFIGURATION AND MAY BE MODIFIED TO MEET THE APPROVED MANUFACTURERS REQUIREMENTS ASSUMING THE OVERALL SPACE ALLOTMENT IS SIMILAR.
- FIBER OPTIC AUDIO TRANSMITTER IS THE ONLY EQUIPMENT REQUIRED AT HAR-01 AND HAR-03. ALL OTHER IS EXISTING AT THESE TWO LOCATIONS.



FIBER OPTIC AUDIO TRANSMITTER (NOTE 4)

2 RACK LAYOUT
 NOTES 2 AND 3
 NOT TO SCALE

DT-20



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 90/94 (DAN RYAN EXPRESSWAY)
 31st STREET TO I-57
**HIGHWAY ADVISORY RADIO
 RACK LAYOUT DETAILS**
 SCALE: NONE
 DATE: October 29, 2004
 DRAWN BY: HR
 CHECKED BY: BMW

10/15/2004 08:44:48 AM

SIGN DETAIL



SIGN NUMBER	HAR
WIDTH x HEIGHT	8'-6" x 7'-0"
BORDER WIDTH	1"
CORNER RADIUS	6"
MOUNTING	GROUND MOUNT
BACKGROUND	TYPE: REFLECTIVE
TOP	COLOR: YELLOW
LEGEND/BORDER	TYPE: NON-REFLECTIVE
TOP	COLOR: BLACK
BACKGROUND	TYPE: REFLECTIVE
BOTTOM	COLOR: BLUE
LEGEND/BORDER	TYPE: REFLECTIVE
BOTTOM	COLOR: WHITE

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0311	COOK	976	925
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

62583

DIMENSIONS ARE IN INCHES.TENTHS

LETTER LOCATIONS ARE PANEL EDGE TO LOWER LEFT CORNER

LETTER POSITIONS (X)													LENGTH SERIES, SIZE				
S	P	E	C	I	A	L		A	L	E	R	T				73.4	EM6
13.7	20.1	26.4	32	38.1	40.5	47.7	52.1	58.1	65.4	71	76.7	82.7					
W	H	E	N		F	L	A	S	H	I	N	G				74.5	EM6
13.8	21.3	27.6	33.3	38.1	44.1	49.7	54.5	61.7	68.1	74.4	77.1	83.4					
T	R	A	F	F	I	C		I	N	F	O					84.5	EM8
8.7	16.3	24.3	34	41.5	49	52.6	59	67	70.6	79.1	86.6						
T	U	N	E		R	A	D	I	O		T	O				72.6	EM6
14.7	20.3	26.7	33	37.4	43.4	49.4	56.6	63	65.7	70.7	76.7	82.3					
1	6	7	0													33.9	EM10
34	39.6	49.6	59.6														

DT-21



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 90/94 (DAN RYAN EXPRESSWAY)
 31st STREET TO I-57
 HIGHWAY ADVISORY RADIO
 FLASHING BEACON SIGN PANEL DETAILS
 SCALE: NONE
 DATE: October 29, 2004
 DRAWN BY: BHP
 CHECKED BY: BMW

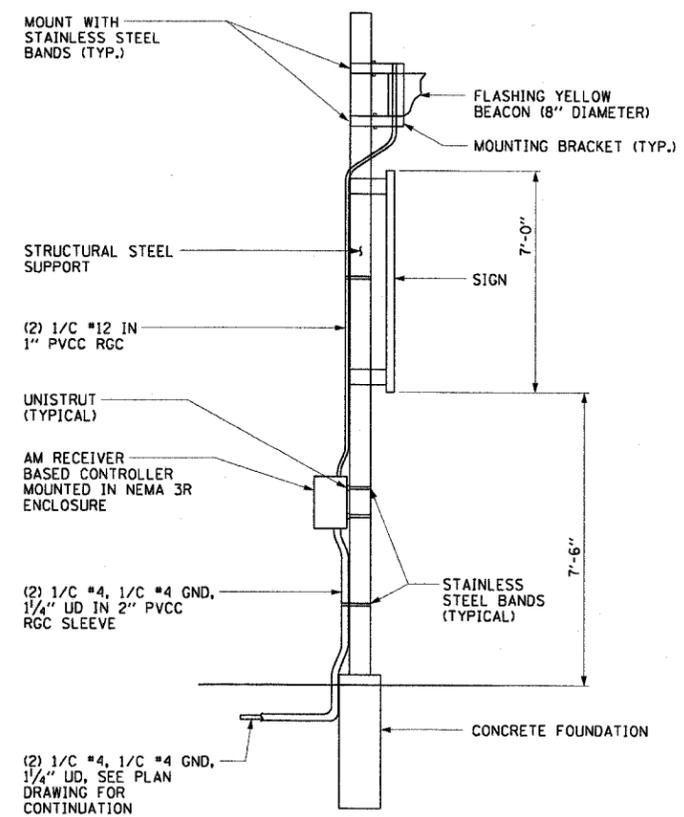
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0311	COOK	976	926
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

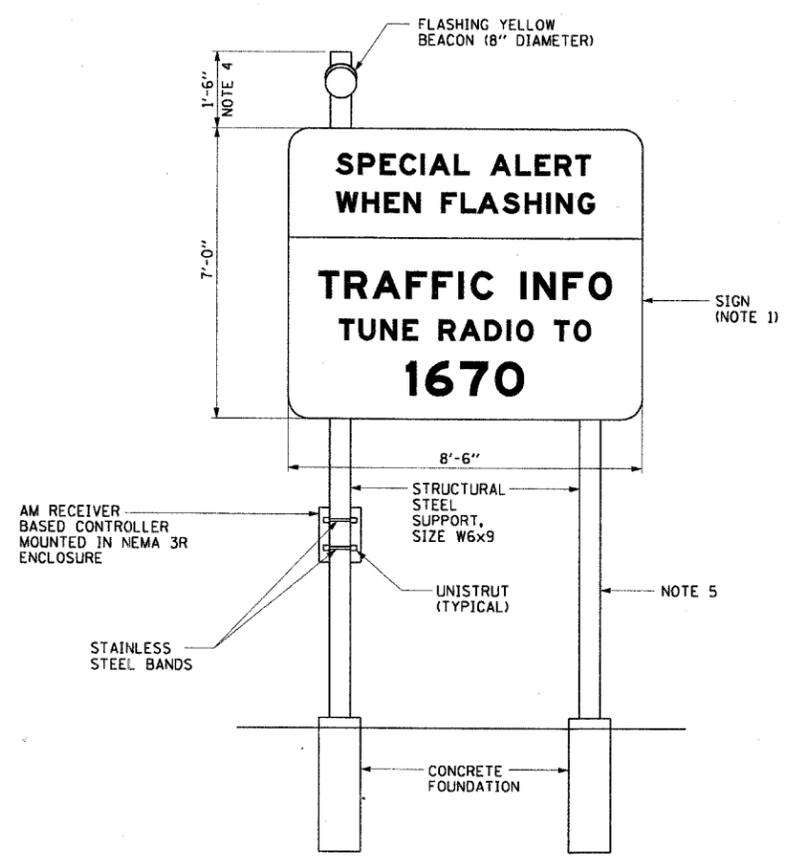
62583

NOTES:

1. SEE DRAWING DT-21 FOR SIGN PANEL DETAILS.
2. SEE PLAN DRAWINGS HAR-04 TO HAR-07 FOR LOCATIONS OF HIGHWAY ADVISORY RADIO FLASHER ASSEMBLY.
3. SIGN SUPPORTS, FOUNDATIONS, AND MOUNTING HARDWARE MUST COMPLY WITH IDOT SIGN STANDARDS.
4. DIMENSION IS 1'-6" MINIMUM AND MUST BE ADJUSTED TO ENSURE ADEQUATE LENGTH FOR MOUNTING THE FLASHING BEACON.
5. SIGN SUPPORT POST LENGTHS ARE TO BE DETERMINED IN THE FIELD BY THE CONTRACTOR, AND SHOULD BE BASED UPON THE DIMENSIONS SHOWN ON THIS DRAWING AND THE FINAL GRADING AT THE SIGN LOCATION.



HIGHWAY ADVISORY RADIO FLASHER ASSEMBLY
SIDE VIEW (TYPICAL)
 NOT TO SCALE



HIGHWAY ADVISORY RADIO FLASHER ASSEMBLY
FRONT VIEW (TYPICAL)
 NOT TO SCALE



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 90/94 (DAN RYAN EXPRESSWAY)
 31st STREET TO I-57
 HIGHWAY ADVISORY RADIO
 FLASHING BEACON SIGN
 ASSEMBLY DETAILS

SCALE: NONE
 DATE: October 29, 2004
 DRAWN BY: BHP
 CHECKED BY: BMW

DT-22

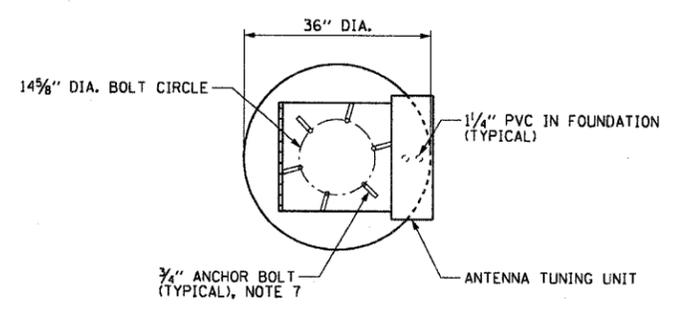
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	2003-0311	COOK	976	927
STA.	TO STA.			
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

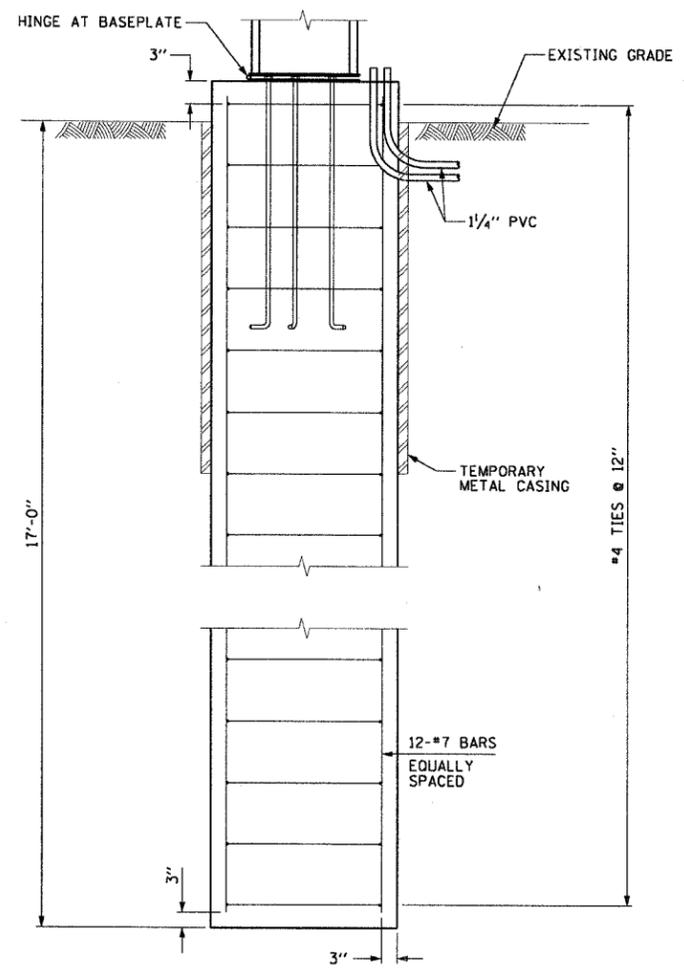
62583

NOTES:

- SEE DRAWINGS ME-01 AND ME-02 FOR ELECTRICAL SYMBOLS AND ABBREVIATIONS.
- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH, F_c , OF 4000 PSI AT 28 DAYS.
- THE FOUNDATION SHALL BE A MONOLITHIC POUR. NO CONSTRUCTION JOINTS WILL BE ALLOWED.
- ALL REINFORCEMENT AND DETAILING SHALL CONFORM TO ACI 318, "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE".
- REINFORCEMENT BARS SHALL BE DEFORMED BILLET STEEL BARS CONFORMING TO ASTM A 615 GRADE 60 WITH $F_y = 60,000$ PSI.
- 3" CONCRETE COVER SHALL BE PROVIDED.
- A TEMPORARY CASING SHALL BE INSTALLED TO A DEPTH BELOW THE EXISTING GROUND LEVEL TO PREVENT SEEPAGE INTO THE SHAFT AND TO A DEPTH NECESSARY TO PREVENT COLLAPSE OF THE SHAFT SIDEWALLS. SEE SOIL BORING LOGS FOR GROUND WATER LEVELS AND SOIL STABILITY INFORMATION AT EACH LOCATION.
- ANCHOR BOLTS AND ANTENNA TOWER SHALL BE AS PER ANTENNA MANUFACTURER. CONTRACTOR MUST ENSURE THAT THE ANCHOR BOLTS AND ANTENNA ARE ORIENTED SUCH THAT THE ANTENNA TOWER CAN ROTATE 90 DEGREES DURING INSTALLATION WITHOUT AFFECTING TRAFFIC MOVEMENTS.



PLAN VIEW



ELEVATION

1 DT-23 HAR ANTENNA FOUNDATION (ANTENNA HAR-02)
NOT TO SCALE

DT-23



REVISIONS	
NAME	DATE

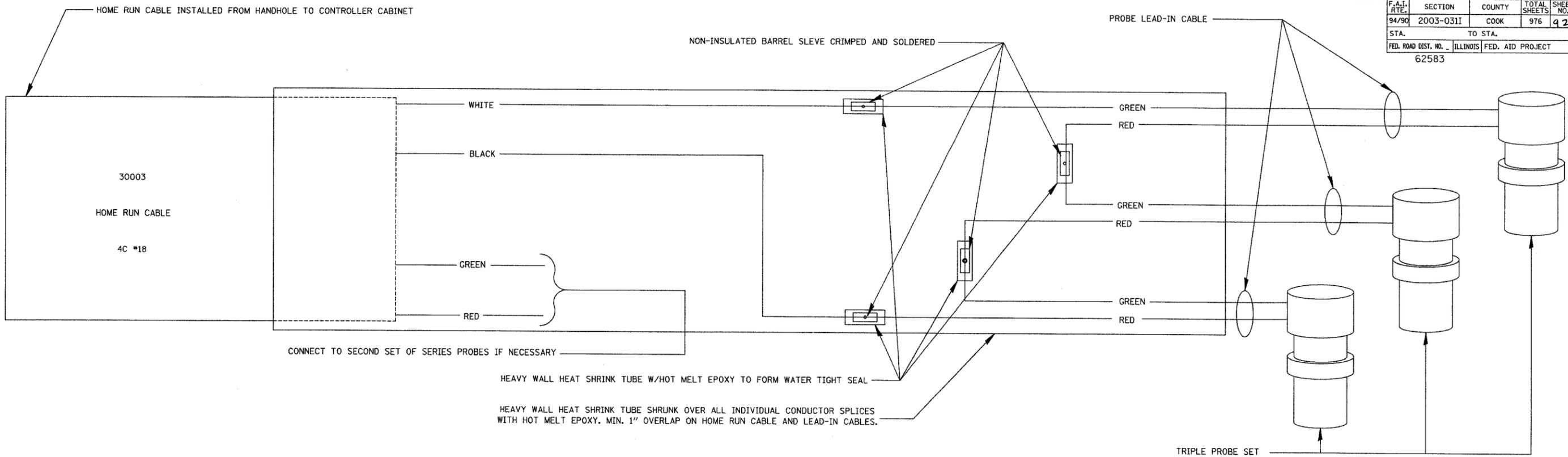
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 90/94 (DAN RYAN EXPRESSWAY)
31st STREET TO I-57

HIGHWAY ADVISORY RADIO
ANTENNA FOUNDATION DETAILS

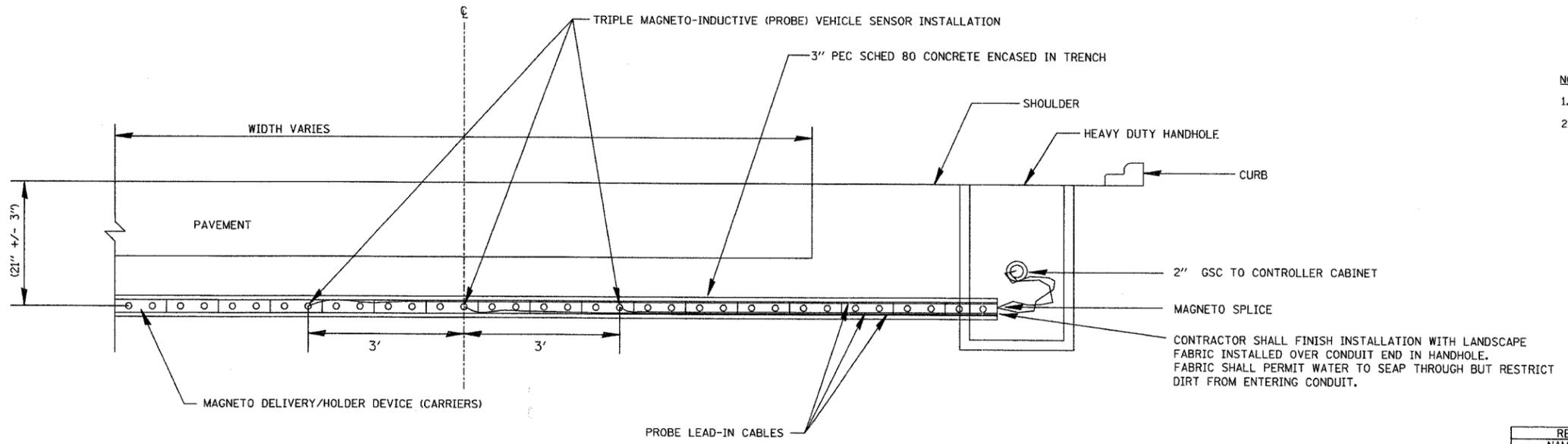
SCALE: NONE
DATE: October 29, 2004
DRAWN BY: CJM
CHECKED BY: BMW

10/15/2004 08:44:49 AM

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0311	COOK	976	428
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62583				



TYPICAL TRIPLE MAGNETO-INDUCTIVE VEHICLE SENSOR SERIES SPLICING DETAIL
SINGLE LANE EXIT & ENTRANCES



- NOTES:
1. THE END OF THE 3" PEC OPPOSITE THE HANDHOLE SHOULD BE CAPPED.
 2. FOR 3" PEC CONCRETE ENCASED IN TRENCH DETAIL SEE SHEET DT-30.

DAN RYAN TYPICAL SINGLE LANE EXIT/ENTRANCE
MULTI MAGNETO-INDUCTIVE VEHICLE SENSOR (PROBE) INSTALLATION

Edwards and Kelcey
ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EDKORP.COM

REVISIONS	
NAME	DATE

DT-23A

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57

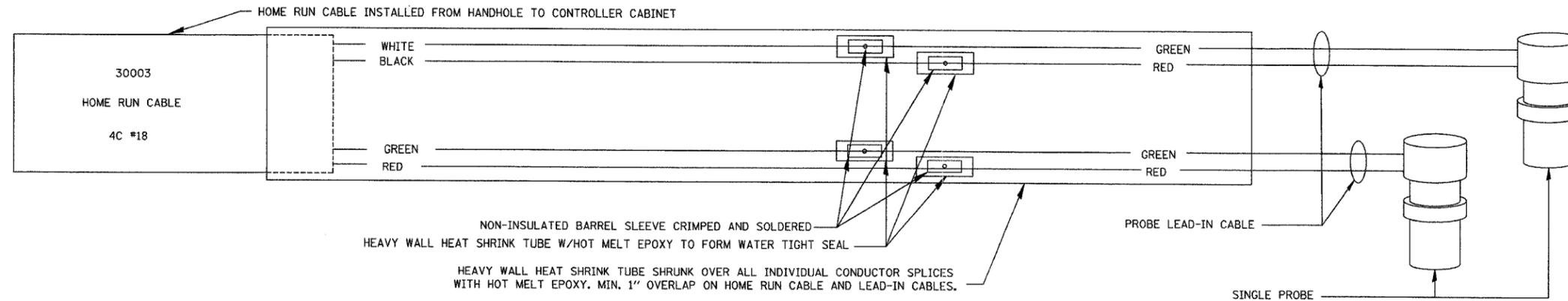
TYPICAL TRIPLE MAGNETO-INDUCTIVE
VEHICLE SENSOR (MICROLOOP) - SINGLE LANE
EXITS & ENTRANCES INSTALLATION

SCALE: NTS
DATE: October 29, 2004

DRAWN BY: NB
CHECKED BY: CTC

10/14/2004 09:24:00 AM

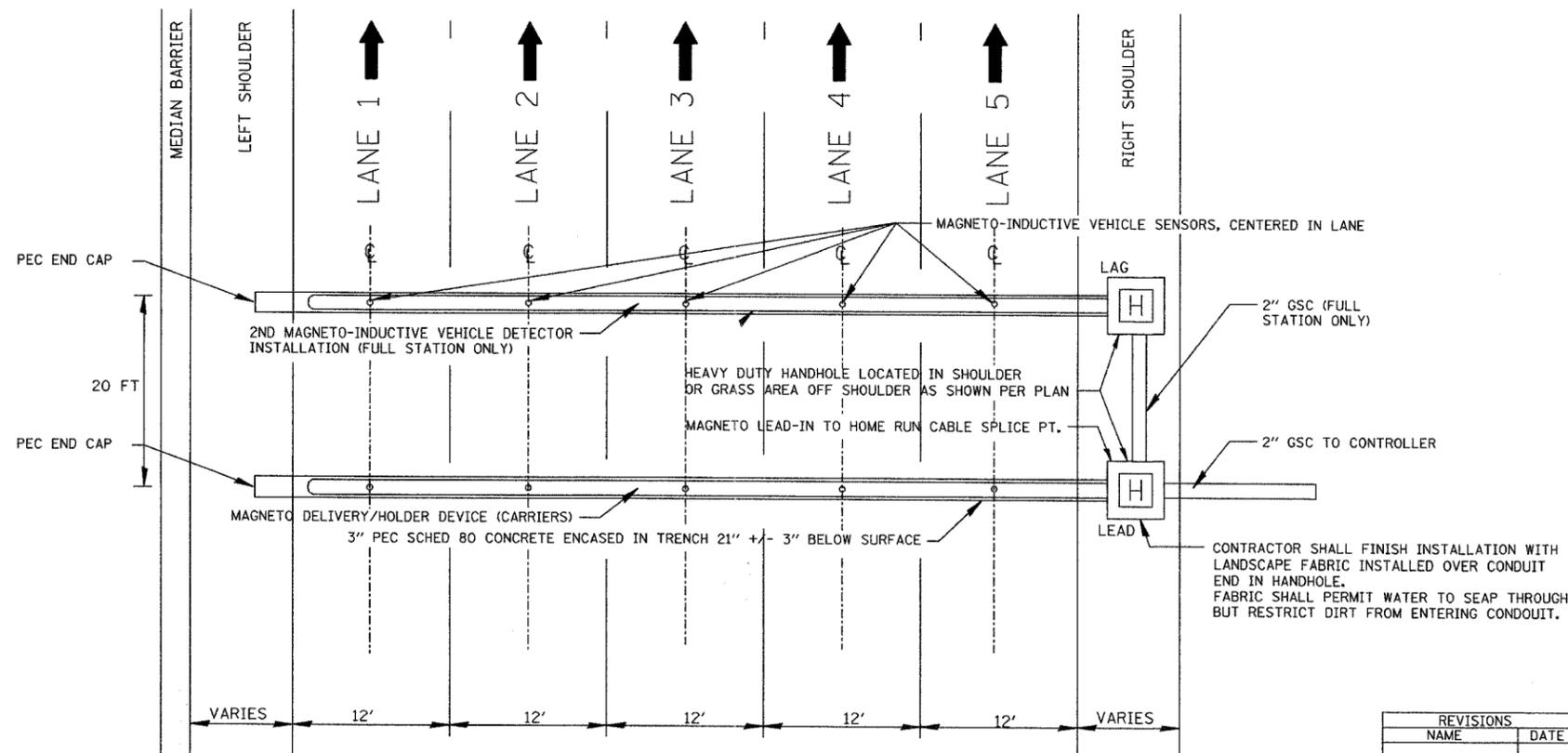
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-03II	COOK	976	429
STA.	TO STA.		
FED. ROAD DIST. NO. - ILLINOIS	FED. AID PROJECT		
62583			



TYPICAL MULTIPLE MAGNETO-INDUCTIVE VEHICLE SENSOR SERIES SPLICING DETAIL
SPEED MEASURING LAYOUT

NOTES:

1. PROBE SHALL BE POSITIONED IN THE CENTER OF EACH LANE. EXACT POSITIONING AND CONFIGURATION TO BE DETERMINED BY MANUFACTURER'S FIELD REPRESENTATIVE.
2. SUFFICIENT NUMBER OF CARRIERS TO BE INSTALLED TO COVER THE DISTANCE FROM THE HANDHOLE TO THE FARTHEST PROBE. FIRST CARRIER INSERTED SHALL BE END CAP CARRIER.
3. ANY DEVIATION IN CONDUIT ALIGNMENT SHALL BE LESS THAN 1/4 IN. PER FT.
4. CONDUIT END CAP TO BE PRESS FITTED (NO ADHESIVE), 3/16 IN. DRAINAGE HOLE TO BE DRILLED IN END CAP. HOLE TO BE POSITIONED AT BOTTOM.
5. CONDUIT TO EXTEND APPROXIMATELY 3 IN. INTO HANDHOLE.
6. LEAD PROBES SHALL USE ODD CHANNELS AND HAVE B/W WIRES; LAG PROBES SHALL USE EVEN CHANNELS AND HAVE R/S WIRES; CHANNELS SHALL BE USED IN INCREASING ORDER BEGINNING WITH LANE 1 OF NEAR LANES AND ENDING WITH OUTER-MOST LANE OF FAR LANES.
7. AT SOME NON-MAINLINE AND NON-C/D LOCATIONS, THE "LAG" PROBE SHALL NOT BE INSTALLED (SEE PLAN SHEETS).
8. FOR 3" PEC CONCRETE ENCASED IN TRENCH DETAIL SEE SHEET DT-29.



DAN RYAN TYPICAL 5 LANE CROSS SECTION WITH NON-INVASIVE
MAGNETO-INDUCTIVE VEHICLE SENSOR (PROBE) INSTALLED IN ALL LANES

**Edwards
AND Kelcey**
ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EDKCORP.COM

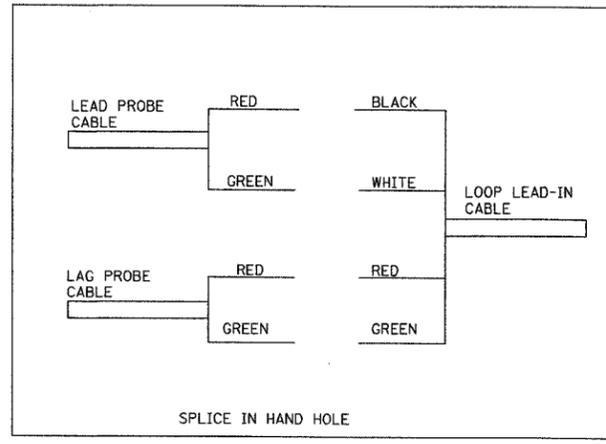
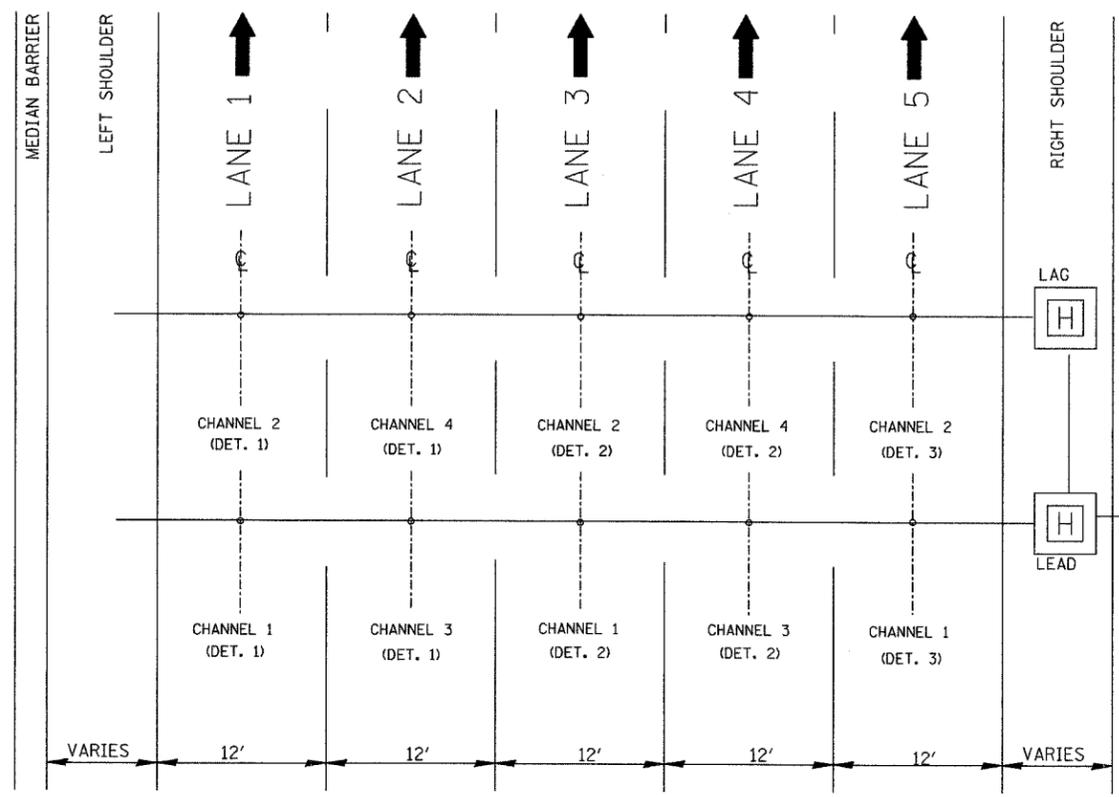
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57
TYPICAL MULTIPLE MAGNETO-INDUCTIVE
VEHICLE SENSOR (MICROLOOP) - FULL
INSTALLATION/SPEED MEASURING LAYOUT
(SHEET 1 OF 2)
SCALE: NTS
DATE: October 29, 2004
DRAWN BY: NB
CHECKED BY: CTC

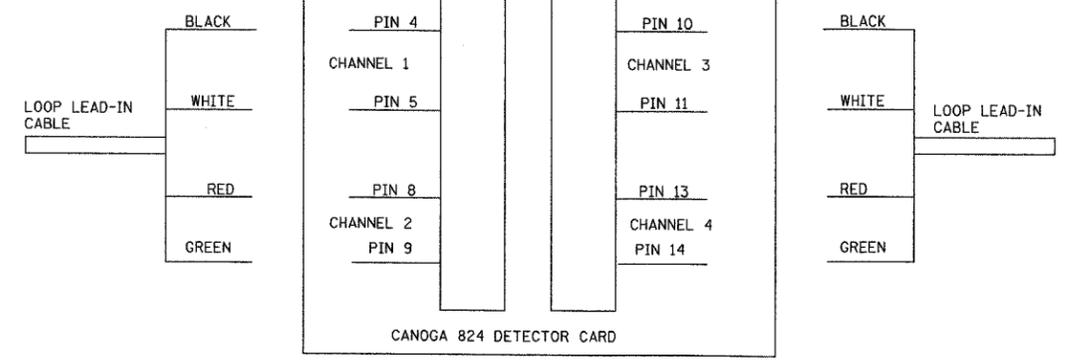
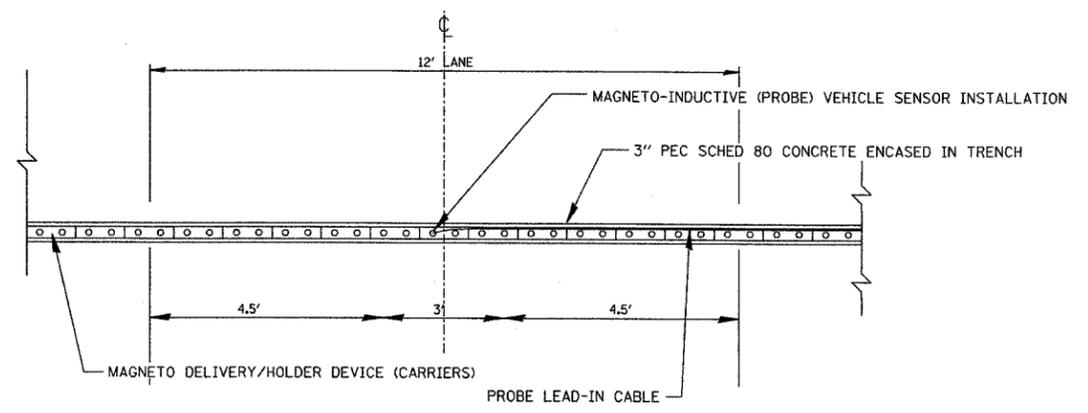
DT-24

10/14/2004 09:24:40 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-03II	COOK	976	430
STA. TO STA.		FED. AID PROJECT	
62583		ILLINOIS	



SAMPLE PROBE CONFIGURATION



DAN RYAN TYPICAL SPEED MEASURING DETECTOR STATION
12' WITH DUAL MAGNETO-INDUCTIVE VEHICLE SENSOR (PROBE) INSTALLATION PER LANE

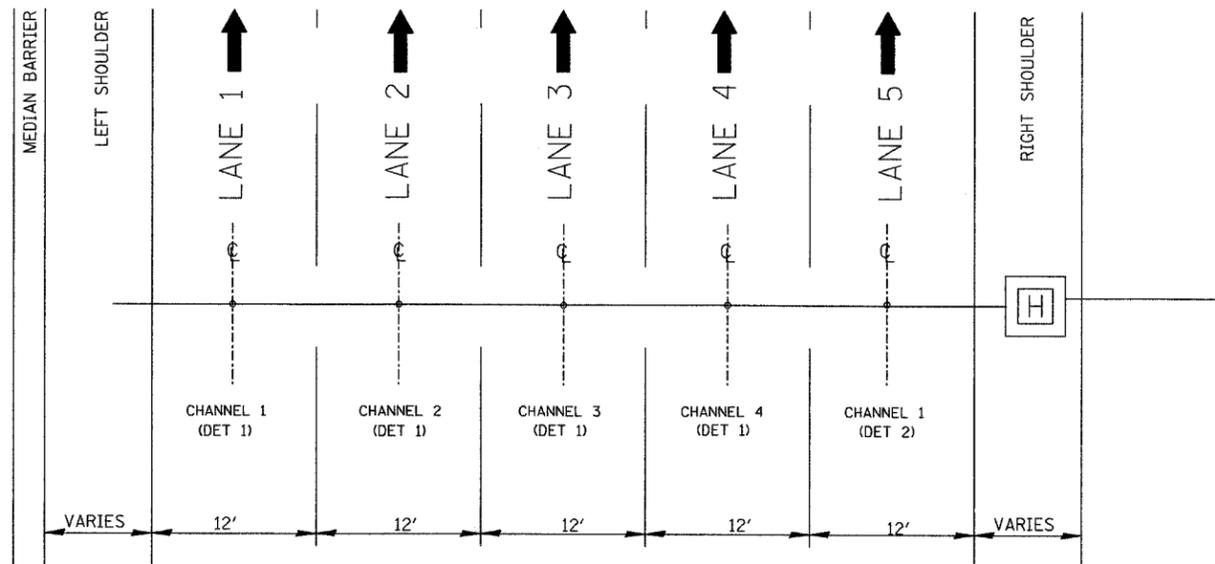
**Edwards
AND
Kelcey**
ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

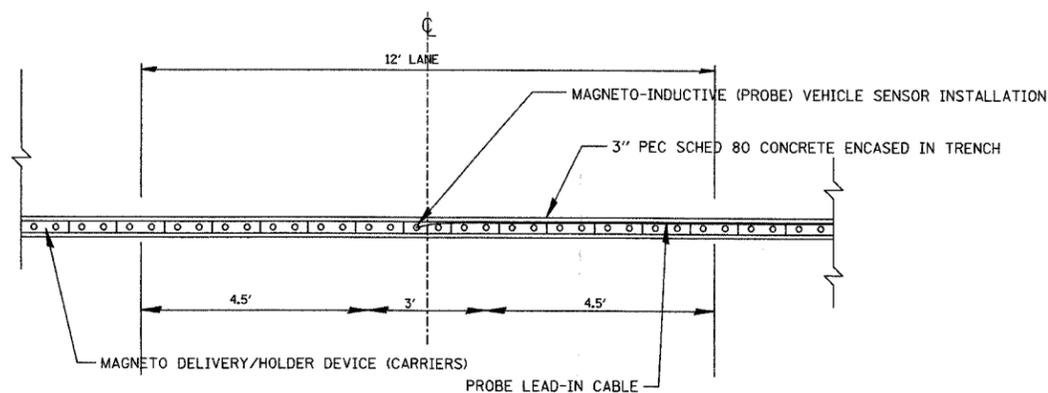
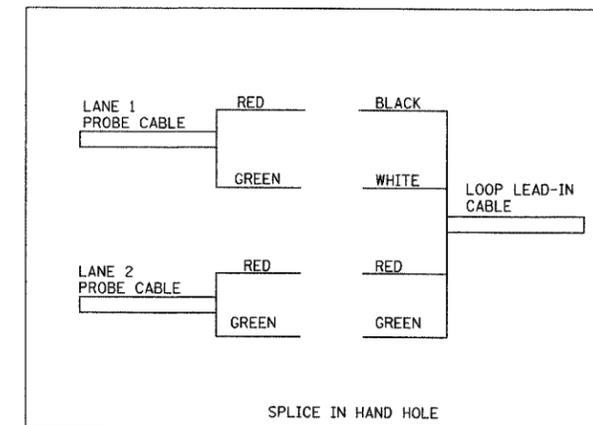
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57
TYPICAL MULTIPLE MAGNETO-INDUCTIVE
VEHICLE SENSOR (MICROLOOP) - FULL
INSTALLATION/SPEED MEASURING LAYOUT
(SHEET 2 OF 2)
SCALE: NTS
DATE: October 29, 2004
DRAWN BY: NB
CHECKED BY: CTC

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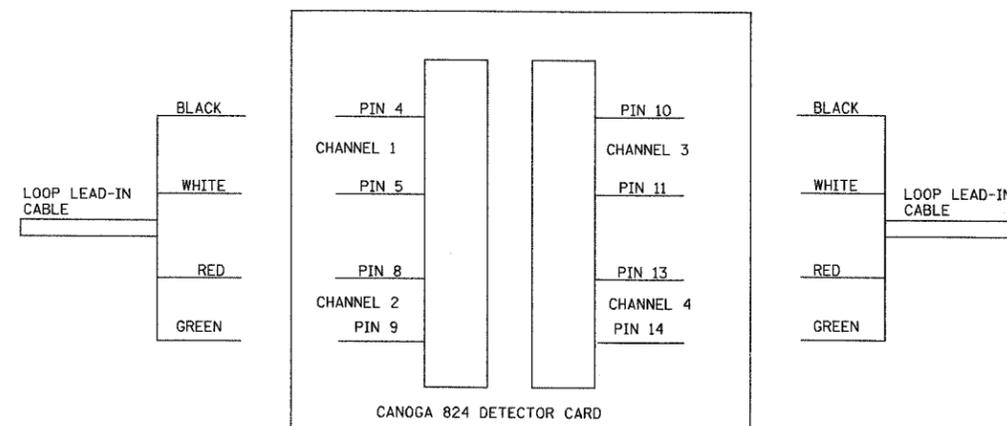
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	932
STA. TO STA.		FED. AID PROJECT	
62583		ILLINOIS	



SAMPLE PROBE CONFIGURATION



DAN RYAN TYPICAL STAND ALONE DETECTOR STATION
12' WITH SINGLE MAGNETO-INDUCTIVE VEHICLE SENSOR (PROBE) INSTALLATION PER LANE



DT-27

**Edwards
AND
Kelcey**

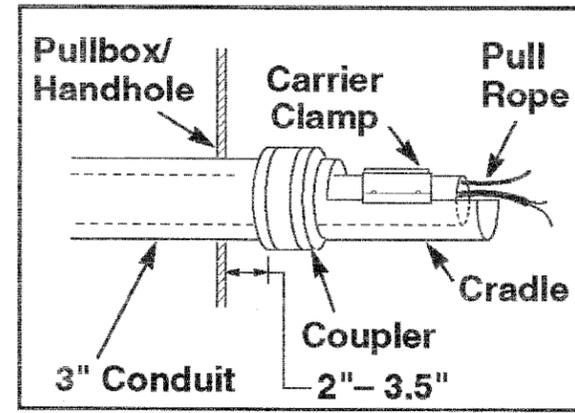
ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

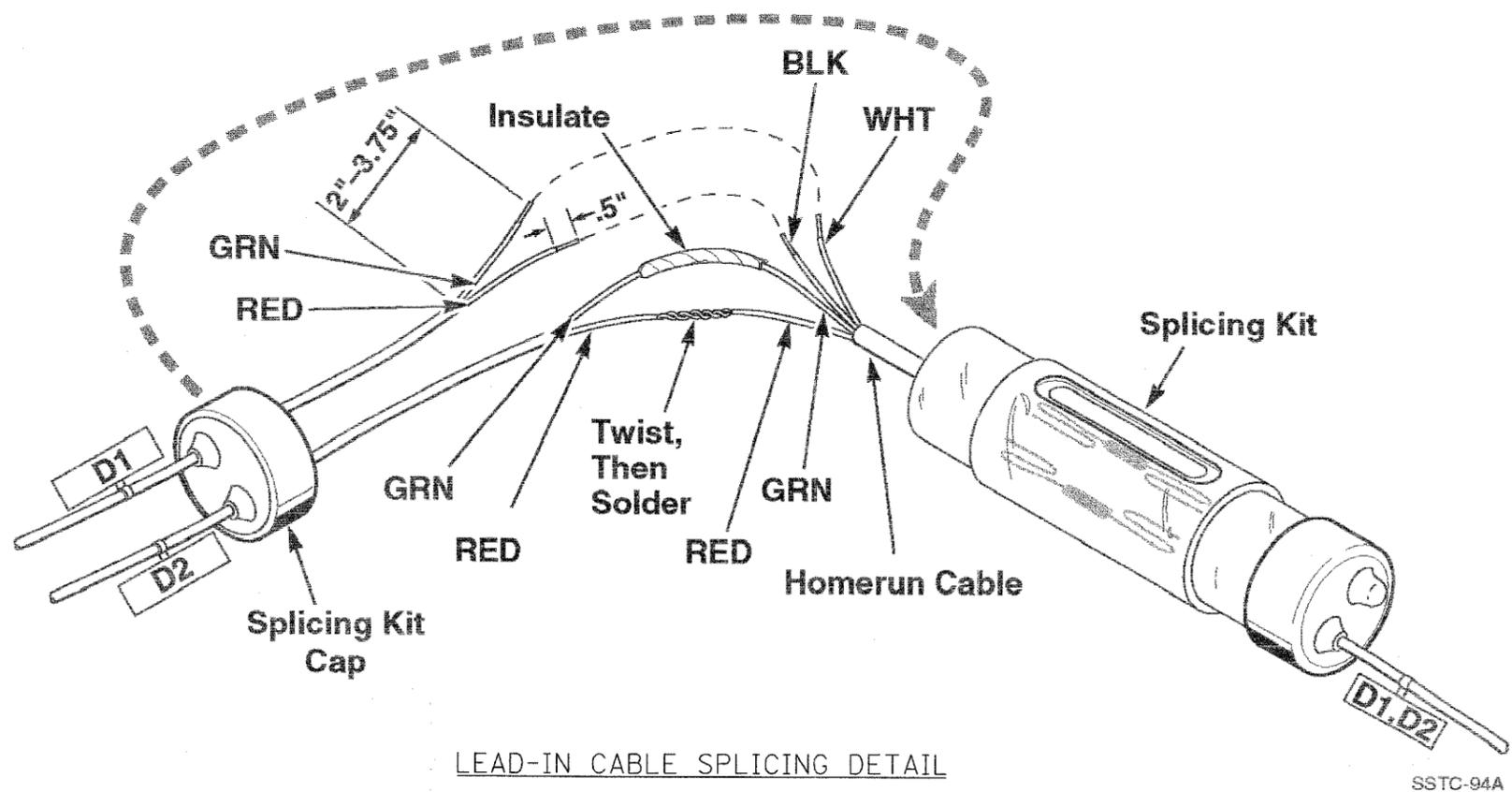
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57
TYPICAL MULTIPLE MAGNETO-INDUCTIVE
VEHICLE SENSOR (MICROLOOP) - MAINLINE,
MULTI LANE, STANDALONE DETECTOR STATION
(SHEET 2 OF 2)
SCALE: NTS
DATE: October 29, 2004
DRAWN BY: NB
CHECKED BY: CTC

10/14/2004 09:24:11 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	133
STA. _____ TO STA. _____			
FED. ROAD DIST. NO. _____	ILLINOIS	FED. AID PROJECT	
62583			



PROBE/CARRIER INSTALLATION DETAIL



LEAD-IN CABLE SPLICING DETAIL

NOTES:

1. ALL SPLICES MUST BE SOLDERED, INSULATED, AND WATERPROOFED.
2. EACH PROBE LEAD-IN SHALL BE TAGGED WITH A PERMANENT IDENTIFICATION TAG WITH THE CORRECT NOMENCLATURE.
3. FOR MICROLOOP SPLICING DETAIL, SEE SHEETS DT 23 - 27.

DT-28

Edwards AND Kelcey
ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57

TYPICAL MAGNETO-INDUCTIVE VEHICLE
SENSOR (MICROLOOP) INSTALLATION DETAIL

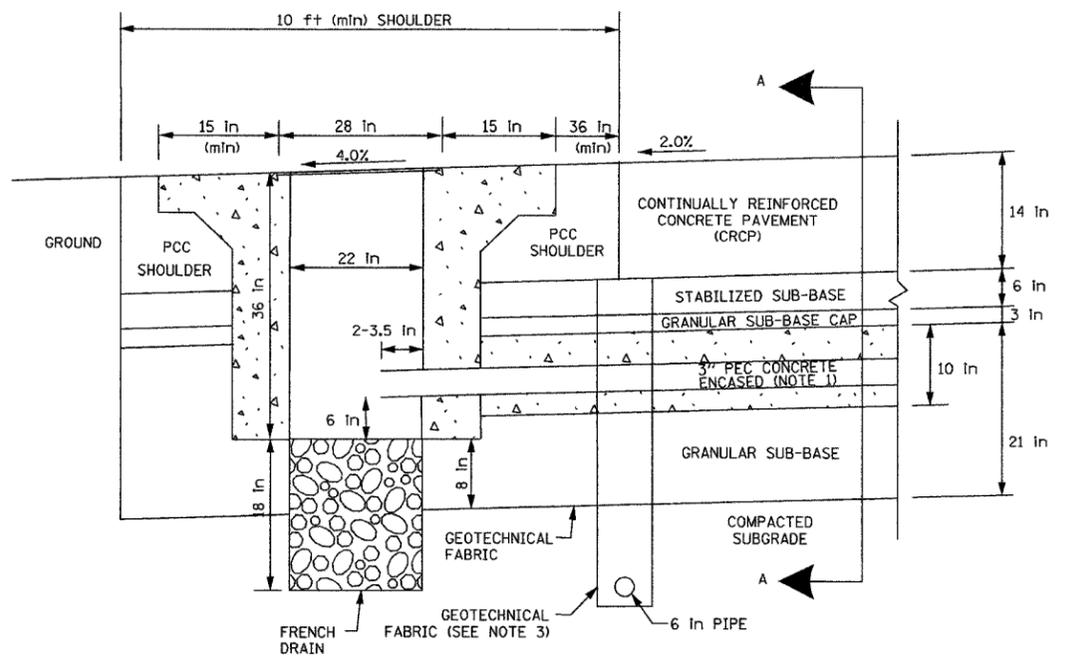
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DATE: October 29, 2004

DRAWN BY: NB
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SSTC-94A

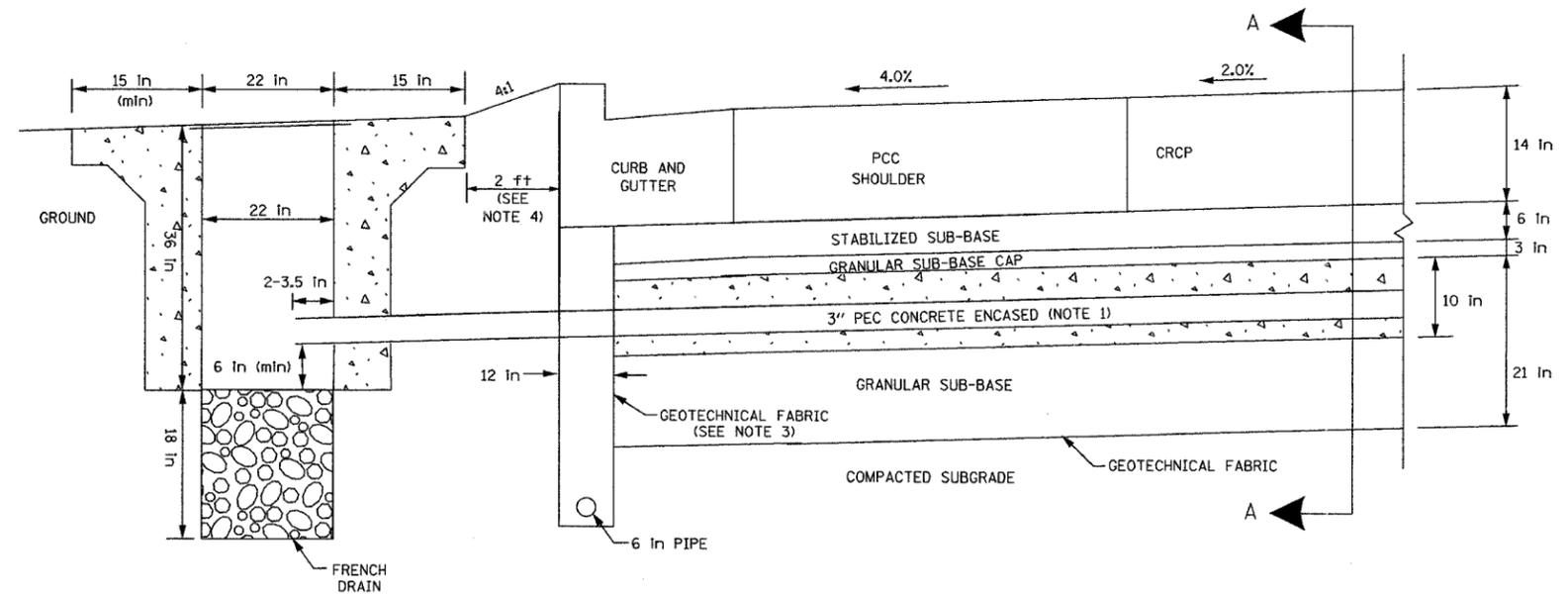
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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	934
STA.	TO STA.		
FED. ROAD DIST. NO. - ILLINOIS	FED. AID PROJECT		
62583			

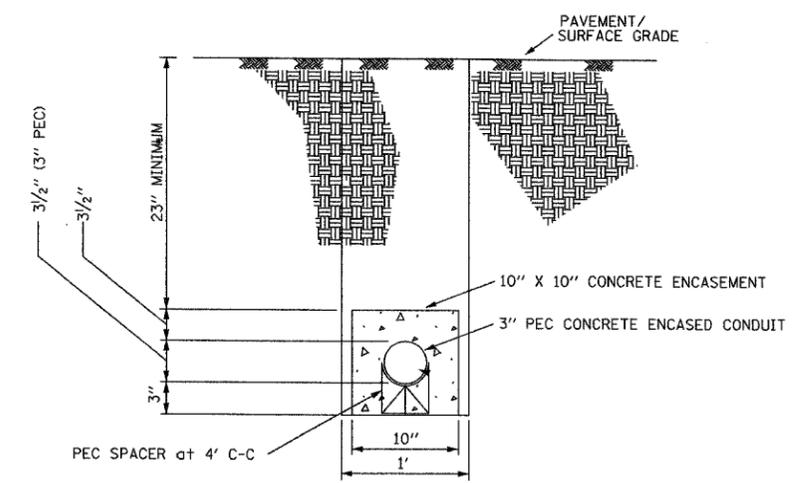


HEAVY DUTY HANDHOLE IN MAINLINE SHOULDER (TYPICAL)

- NOTES
1. 3" PEC CONCRETE ENCASED CONDUIT IS REQUIRED ONLY WHERE SHOWN ON THE PLAN DRAWINGS. WHEN INSTALLED, THE CONDUIT MUST MAINTAIN THE SAME ANGLE AS THE PAVEMENT THROUGHOUT ITS ENTIRE LENGTH.
 2. FOR HANDHOLE DETAIL SEE SHEET DT-47.
 3. WHEN INSTALLING CONDUIT NEAR OR THROUGH UNDERDRAIN GEOTECHNICAL FABRIC, THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY AND UNIFORMITY OF THE UNDERDRAIN FABRIC THROUGH OVERLAP TO THE SATISFACTION OF THE ENGINEER.
 4. FOR HANDHOLE INSTALLATION BEHIND SHOULDER WITHOUT CURB, INSTALL HANDHOLE 2 FT BEHIND EDGE OF SHOULDER.



HEAVY DUTY HANDHOLE OUTSIDE MAINLINE SHOULDER (TYPICAL)



SECTION A-A
TYPICAL 3" PEC CONCRETE ENCASED CONDUIT UNDER PAVEMENT DETAIL
(FOR MICROLOOP INSTALLATION IN PROPOSED MAINLINE PAVEMENT)

**Edwards
AND Kelcey**
ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EKCORP.COM

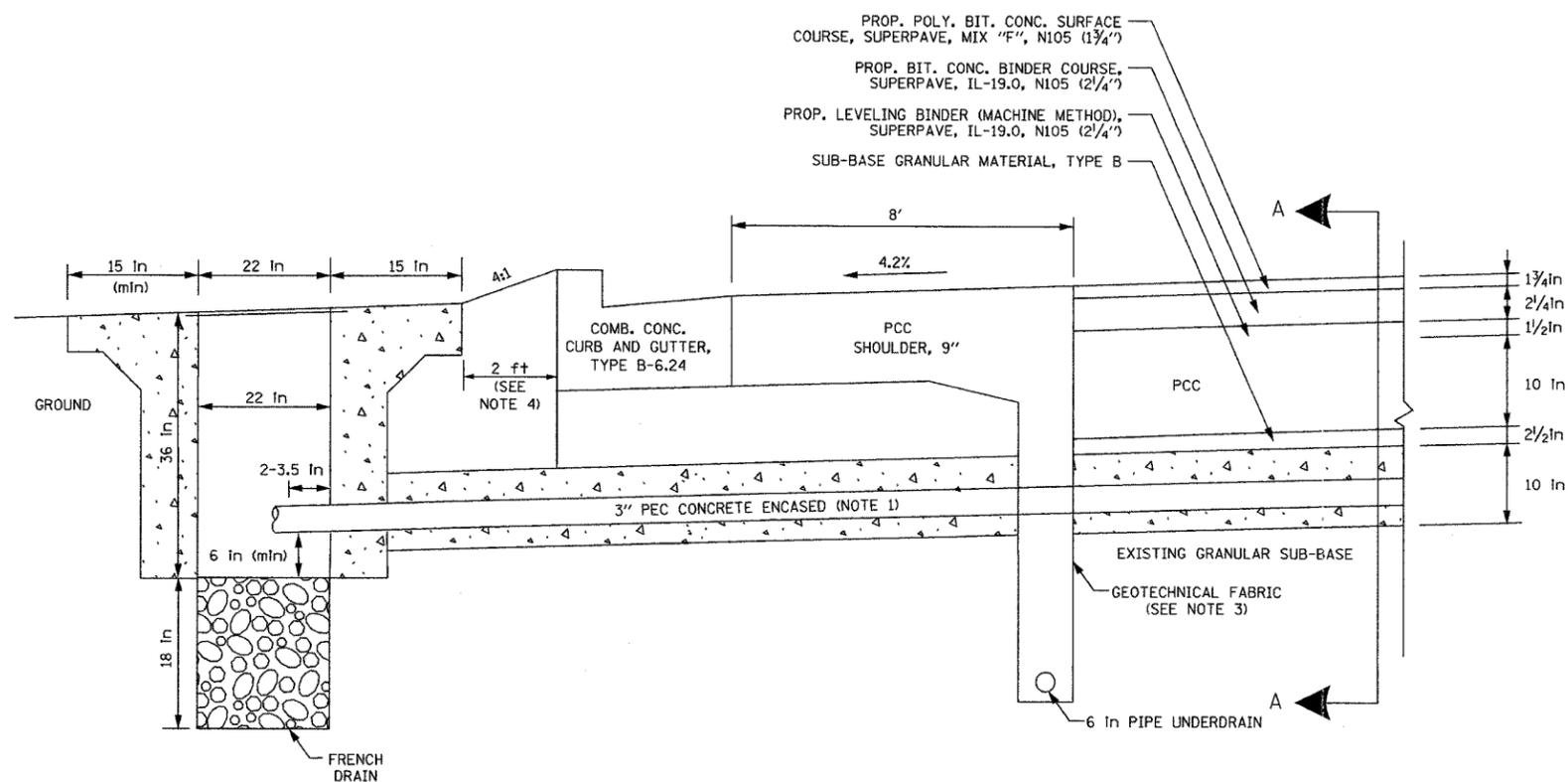
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57
TYPICAL HANDHOLE INSTALLATION DETAIL -
MAINLINE SHOULDER
SCALE: NTS
DATE: October 29, 2004
DRAWN BY: NB
CHECKED BY: CTC

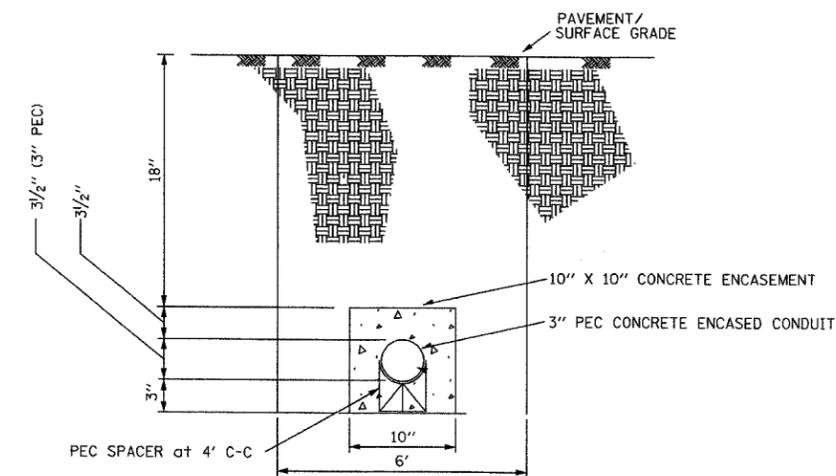
DT-29

09/24/04 10/14/2004

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	435
STA. 2003-0311	TO STA.		
FED. ROAD DIST. NO. 62583	ILLINOIS	FED. AID PROJECT	



HEAVY DUTY HANDHOLE OUTSIDE EXISTING MAINLINE SHOULDER (TYPICAL)



SECTION A-A
TYPICAL 3" PEC CONCRETE ENCASED CONDUIT UNDER PAVEMENT DETAIL
(FOR MICROLOOP INSTALLATION IN EXISTING MAINLINE PAVEMENT)

THIS SHEET PROVIDED FOR REFERENCE ONLY,
ALL WORK SHOWN TO BE BY OTHERS

NOTES

1. 3" PEC CONCRETE ENCASED CONDUIT IS REQUIRED ONLY WHERE SHOWN ON THE PLAN DRAWINGS. WHEN INSTALLED, THE CONDUIT MUST MAINTAIN THE SAME ANGLE AS THE PAVEMENT THROUGHOUT ITS ENTIRE LENGTH.
2. FOR HANDHOLE DETAIL SEE SHEET DT-47.
3. WHEN INSTALLING CONDUIT NEAR OR THROUGH UNDERDRAIN GEOTECHNICAL FABRIC, THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY AND UNIFORMITY OF THE UNDERDRAIN FABRIC THROUGH OVERLAP TO THE SATISFACTION OF THE ENGINEER.
4. FOR HANDHOLE INSTALLATION BEHIND SHOULDER WITHOUT CURB, INSTALL HANDHOLE 2 FT BEHIND EDGE OF SHOULDER.

**Edwards
AND Kelcey**
ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57

TYPICAL HANDHOLE INSTALLATION DETAIL -
EXISTING BISHOP FORD MAINLINE SHOULDER

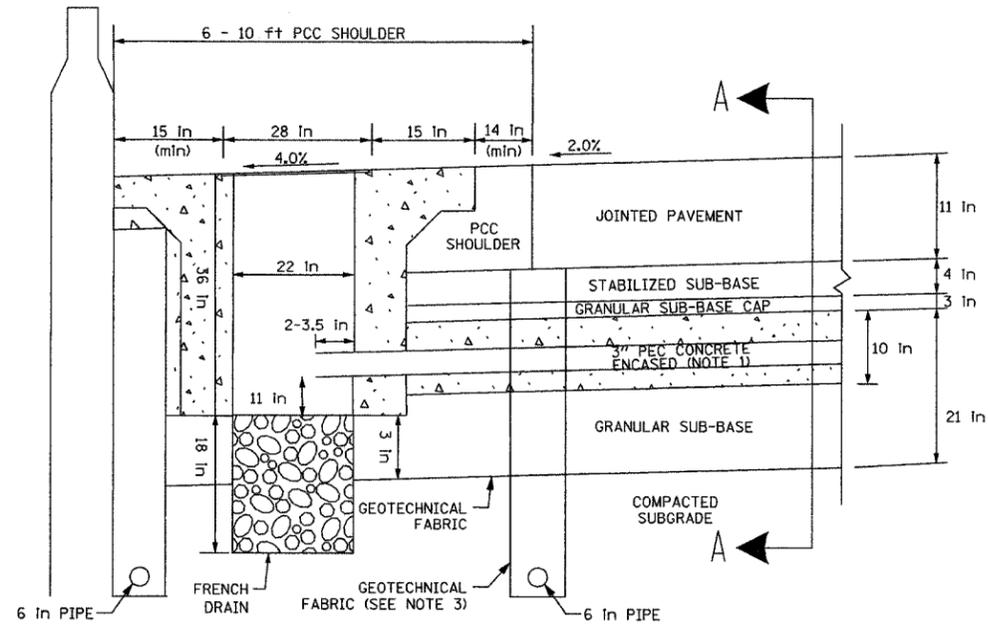
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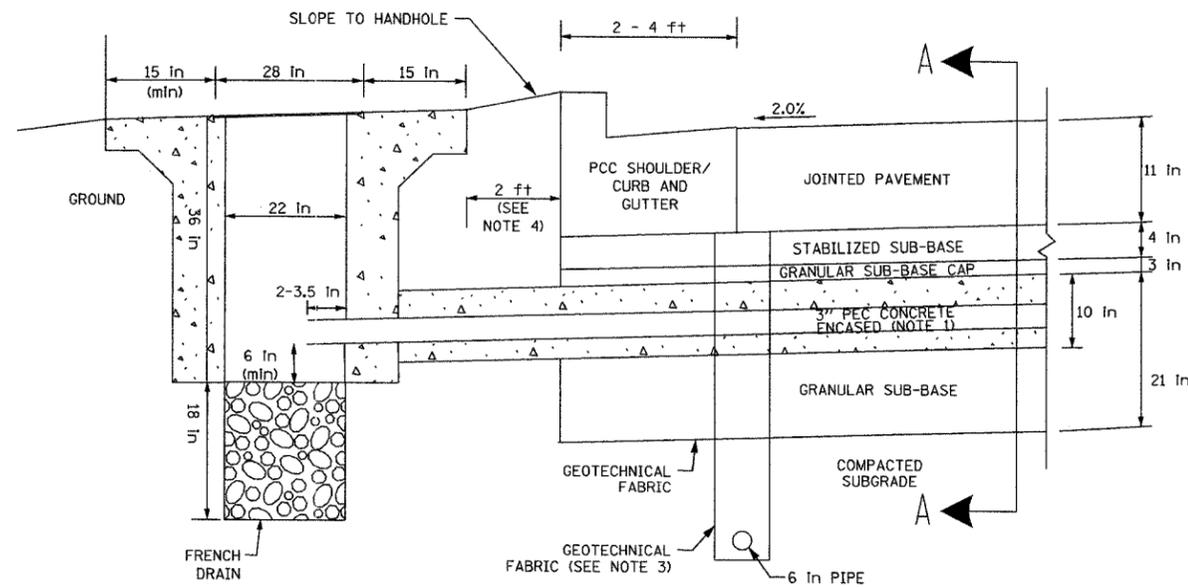
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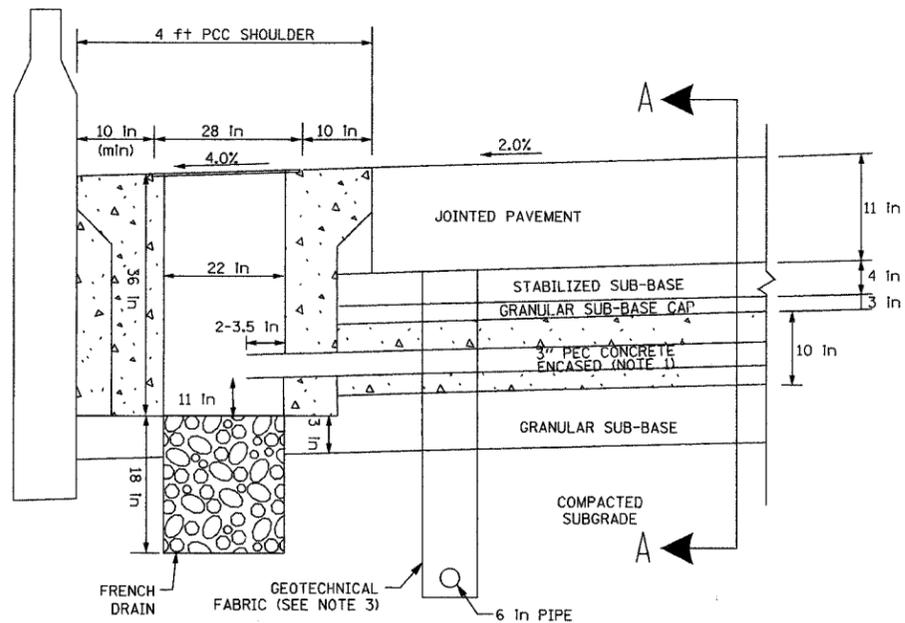
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	936
STA.	TO STA.		
FED. ROAD DIST. NO. 62583	ILLINOIS FED. AID PROJECT		



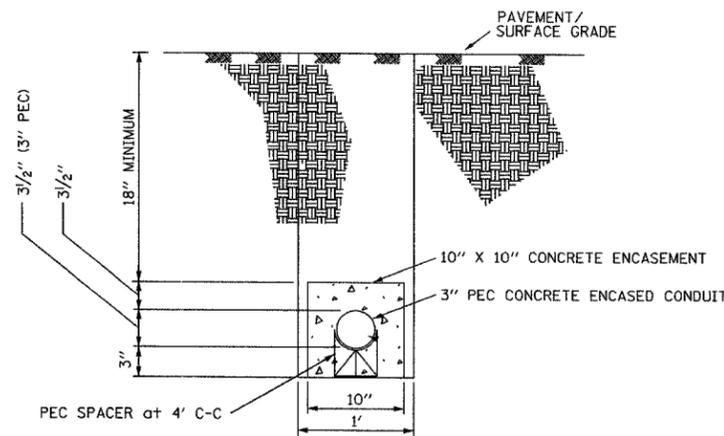
HEAVY DUTY HANDHOLE IN 6' TO 10' RAMP SHOULDER (TYPICAL)



HEAVY DUTY HANDHOLE OUTSIDE 2' TO 4' RAMP SHOULDER WITH CURB AND GUTTER (TYPICAL)



HEAVY DUTY HANDHOLE (SPECIAL) IN 4' RAMP SHOULDER (TYPICAL)



SECTION A-A
TYPICAL 3" PEC CONCRETE ENCASED CONDUIT UNDER PAVEMENT DETAIL
(FOR MICROLOOP INSTALLATION IN PROPOSED RAMP PAVEMENT)

NOTES:

1. 3" PEC CONCRETE ENCASED CONDUIT IS REQUIRED ONLY WHERE SHOWN ON THE PLAN DRAWINGS. WHEN INSTALLED, THE CONDUIT MUST MAINTAIN THE SAME ANGLE AS THE PAVEMENT THROUGHOUT ITS ENTIRE LENGTH.
2. FOR HANDHOLE DETAIL SEE SHEET DT-47.
3. WHEN INSTALLING CONDUIT NEAR OR THROUGH UNDERDRAIN GEOTECHNICAL FABRIC, THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY AND UNIFORMITY OF THE UNDERDRAIN FABRIC THROUGH OVERLAP TO THE SATISFACTION OF THE ENGINEER.
4. FOR HANDHOLE INSTALLATION BEHIND SHOULDER WITHOUT CURB, INSTALL HANDHOLE 2 FT BEHIND EDGE OF SHOULDER.

**Edwards
AND Kelcey**
ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57

TYPICAL HANDHOLE INSTALLATION
DETAIL - RAMP SHOULDER

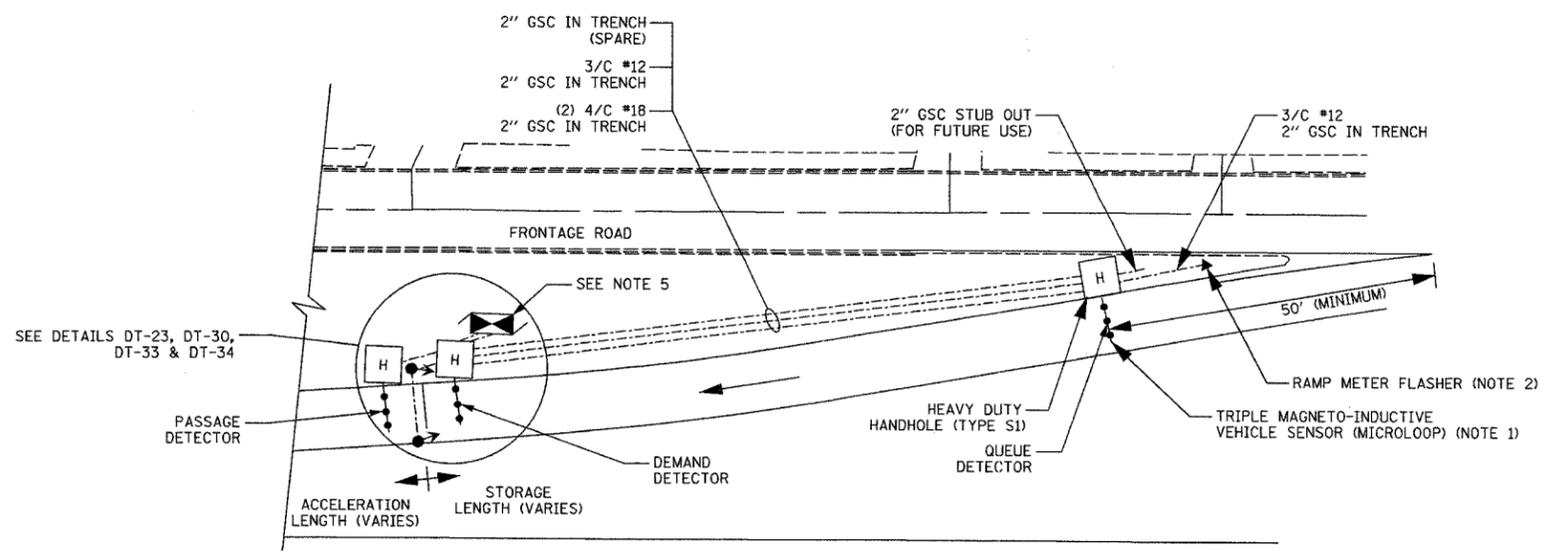
SCALE: NTS
DATE: October 29, 2004

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CHECKED BY: CTC

DT-30

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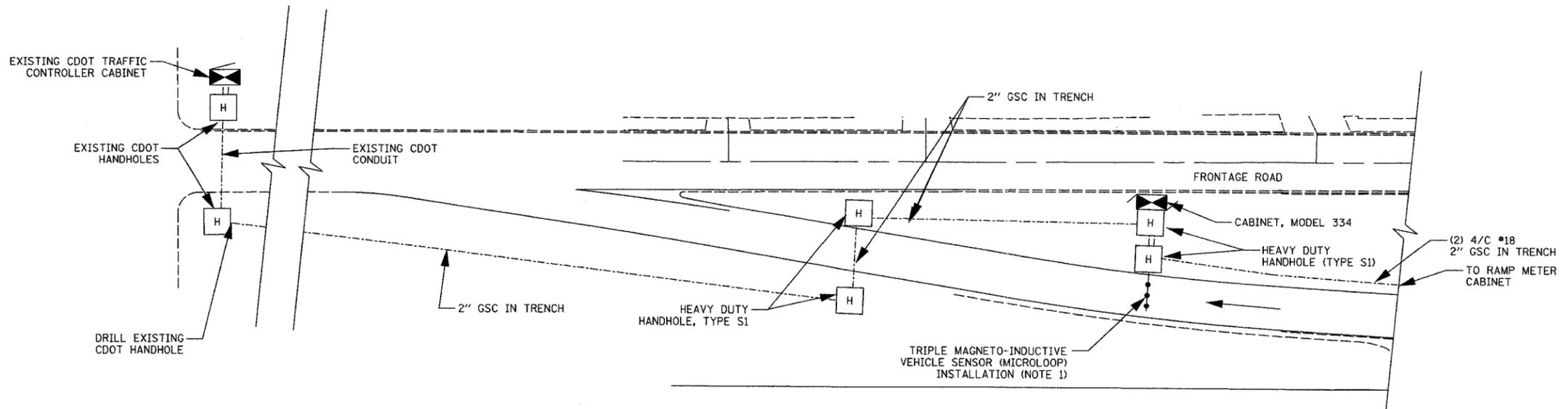
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2003-0311	COOK	976	437
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			



TYPICAL ENTRANCE RAMP METER AND DETECTION SYSTEM LAYOUT

NOTES:

1. FOR TRIPLE MAGNETO-INDUCTIVE VEHICLE SENSOR (MICROLOOP) INSTALLATION, SEE DETAIL DT-23.
2. FOR RAMP METER FLASHER DETAIL, SEE DETAIL DT-35.
3. FOR RAMP METER SIGNAL POST INSTALLATION, SEE DETAILS DT-33 AND DT-34.
4. FOR TYPICAL INSTALLATION DETAILS FOR MAINLINE AND ENTRANCE/EXIT RAMP DETECTION SYSTEM WITH A COLLECTOR-DISTRIBUTOR ROAD, SEE DETAIL DT-32.
5. CABINET LOCATION AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER. CABINET SHALL BE PLACED TO MAXIMIZE THE VIEW OF THE RAMP METER SIGNAL HEADS AND TO MINIMIZE THE CHANCE OF BEING KNOCKED DOWN.



TYPICAL EXIT RAMP DETECTION SYSTEM LAYOUT

DT-31

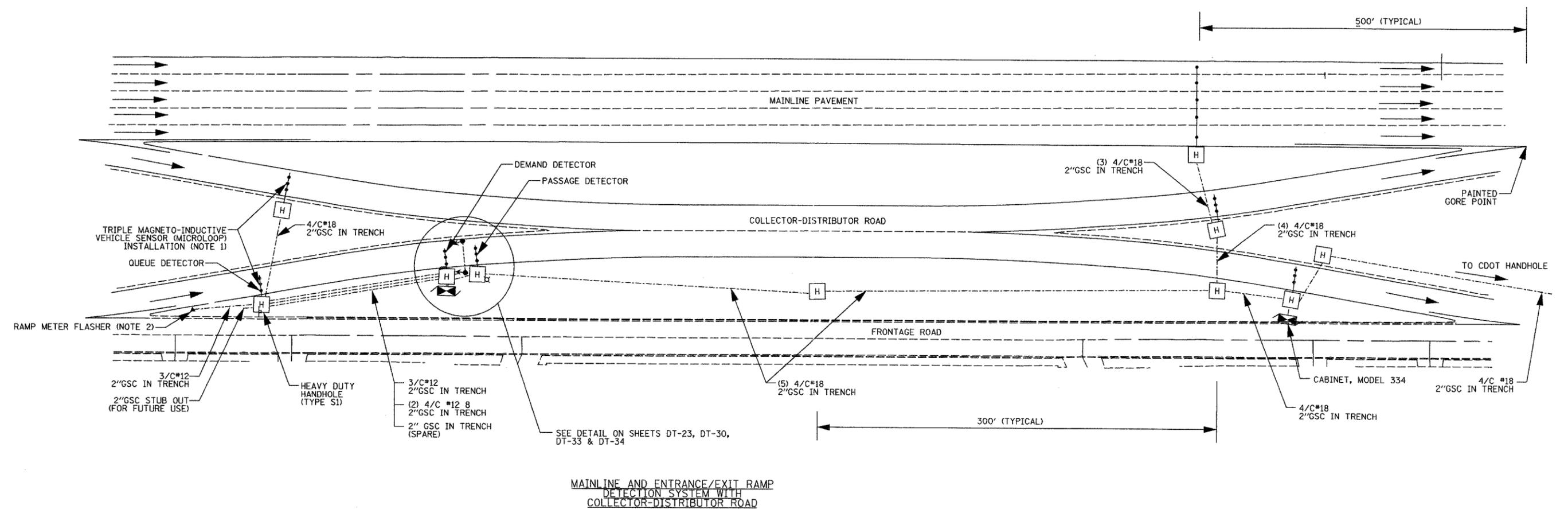
Edwards AND Kelcey
 ONE NORTH FRANKLIN
 CHICAGO, IL 60606
 PHONE: (312) 251-3000
 FAX: (312) 251-3015
 WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET TO I-57
 RAMP METER ENTRANCE AND
 EXIT RAMP DETECTION SYSTEM
 INSTALLATION DETAIL
 SCALE: NTS
 DATE: October 29, 2004
 DRAWN BY: NB
 CHECKED BY: CTC

10/15/2004 01:03:53 PM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	938
STA. TO STA.		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	
		62583	



MAINLINE AND ENTRANCE/EXIT RAMP
DETECTION SYSTEM WITH
COLLECTOR-DISTRIBUTOR ROAD

NOTES:

1. FOR MAGNETO-INDUCTIVE VEHICLE SENSOR (MICROLOOP) INSTALLATION, SEE DETAILS DT-23-27.
2. FOR RAMP METER FLASHER DETAIL, SEE DETAIL DT-35
3. FOR RAMP METER SIGNAL INSTALLATION, SEE DETAILS DT-33 AND DT-34.
4. FOR TYPICAL RAMP METER ENTRANCE AND EXIT RAMP DETECTION SYSTEM INSTALLATION DETAILS WITHOUT A COLLECTOR-DISTRIBUTOR ROAD, SEE DETAIL DT-31.
5. CABINET LOCATION AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. CABINET SHALL BE PLACED TO MAXIMIZE THE VIEW OF THE RAMP METER SIGNAL HEADS AND TO MINIMIZE THE CHANCE OF BEING KNOCKED DOWN.



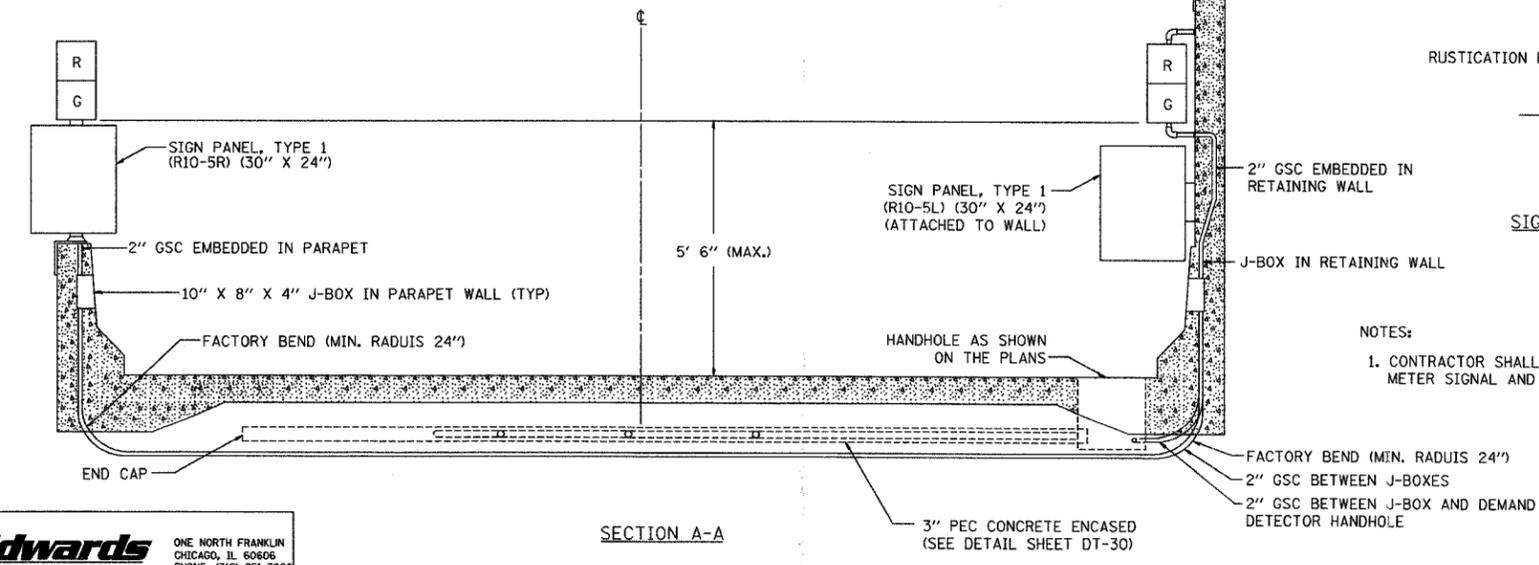
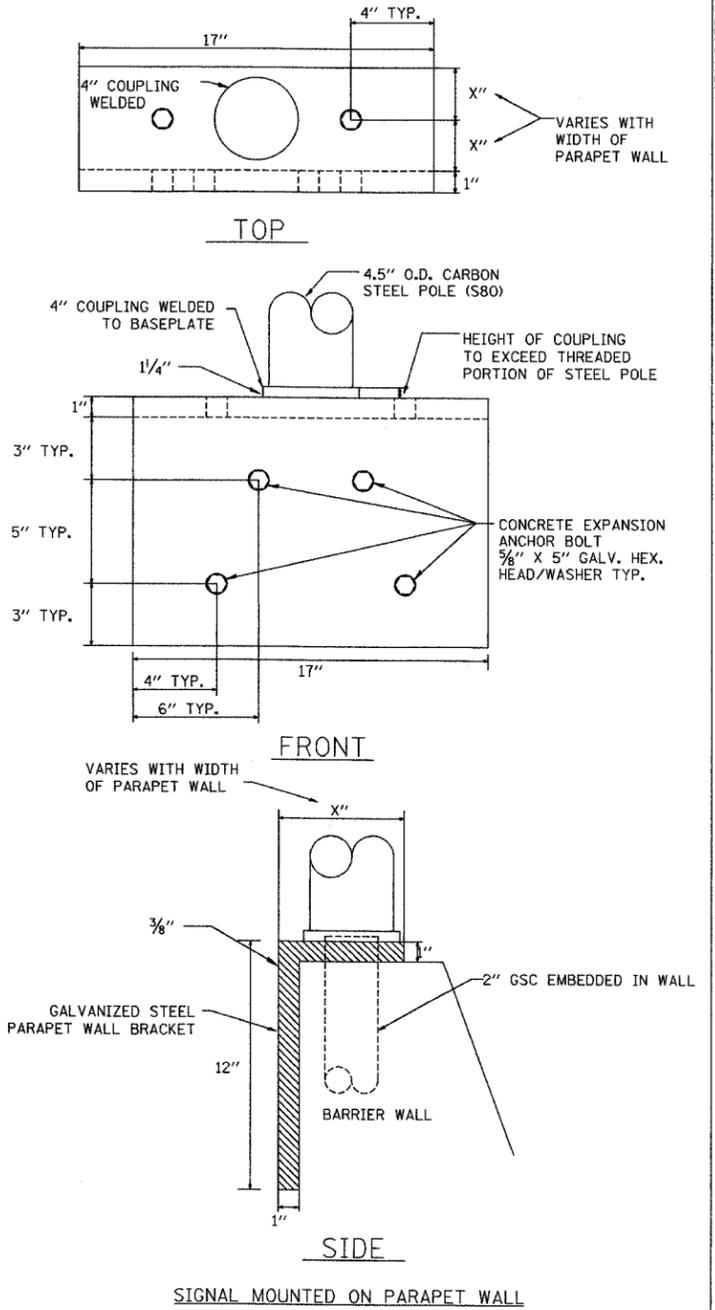
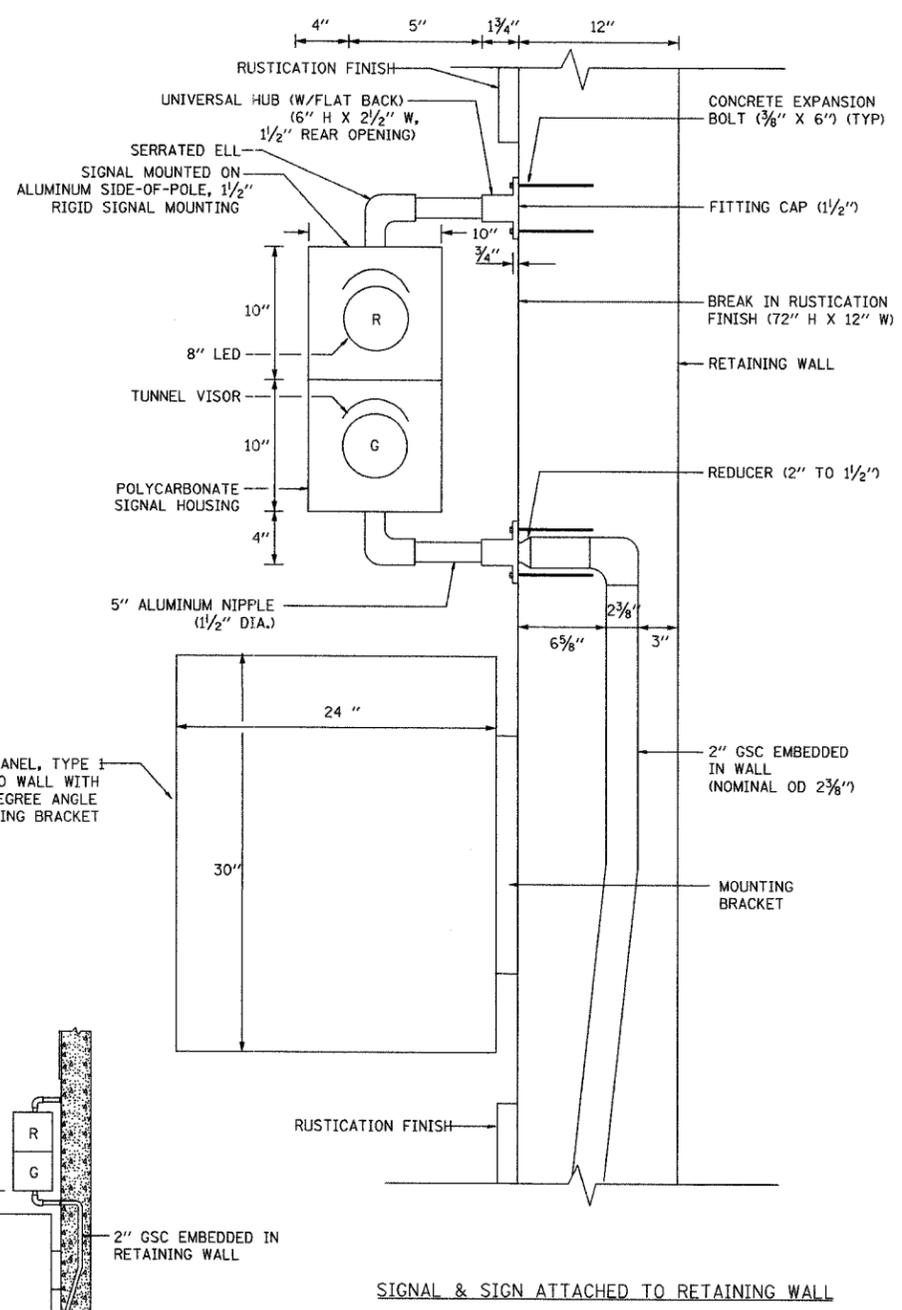
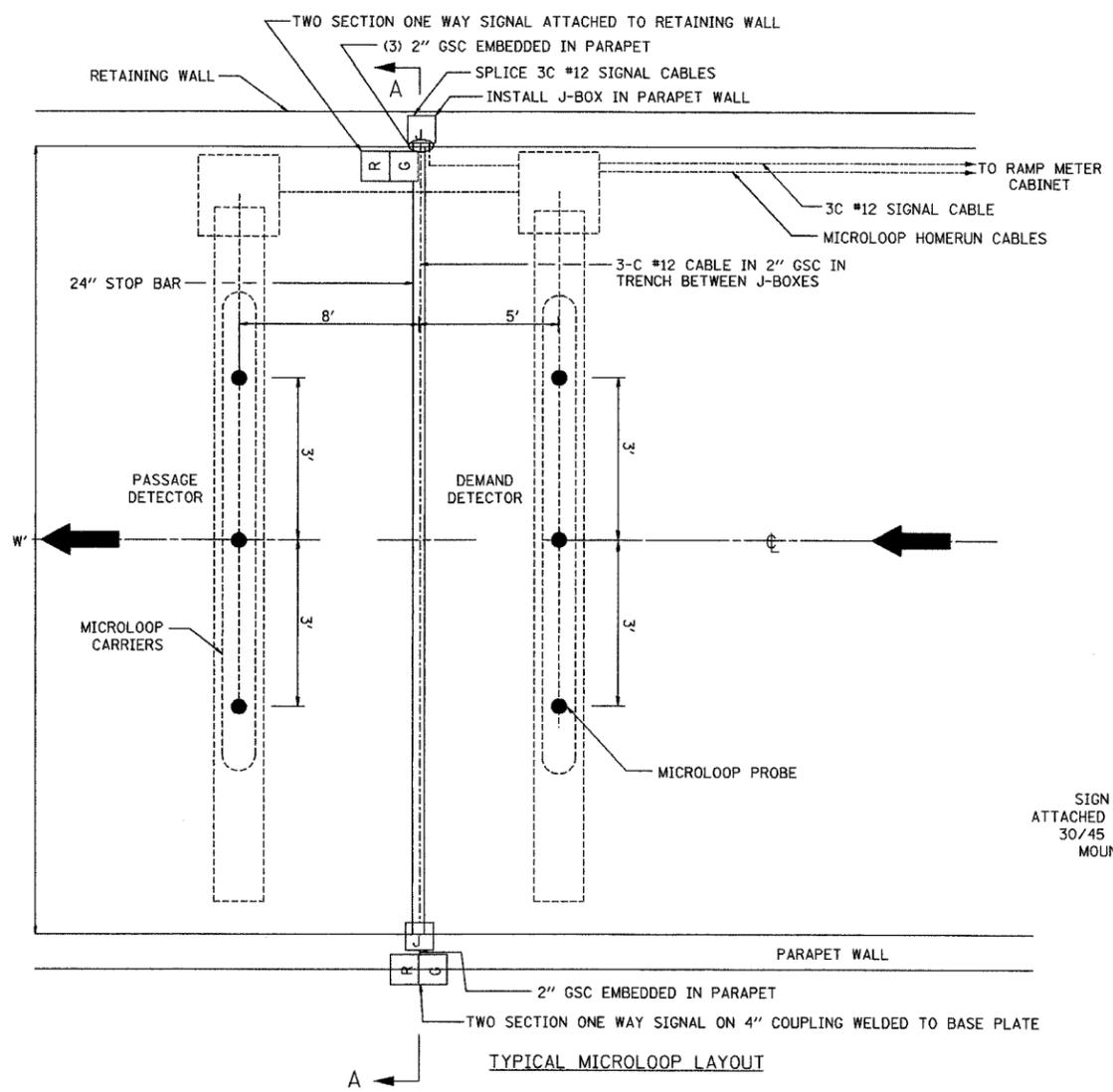
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57
MAINLINE AND ENTRANCE/EXIT RAMP
DETECTION SYSTEM WITH
COLLECTOR-DISTRIBUTOR ROAD
SCALE: NTS
DATE: October 29, 2004
DRAWN BY: NB
CHECKED BY: CC

DT-32

10/15/2004 01:03:56 PM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	440
STA.	TO STA.		
FED. ROAD DIST. NO. 62583	ILLINOIS FED. AID PROJECT		



NOTES:
 1. CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS OF THE RAMP METER SIGNAL AND SIGN MOUNTING HARDWARE FOR APPROVAL BY THE ENGINEER.

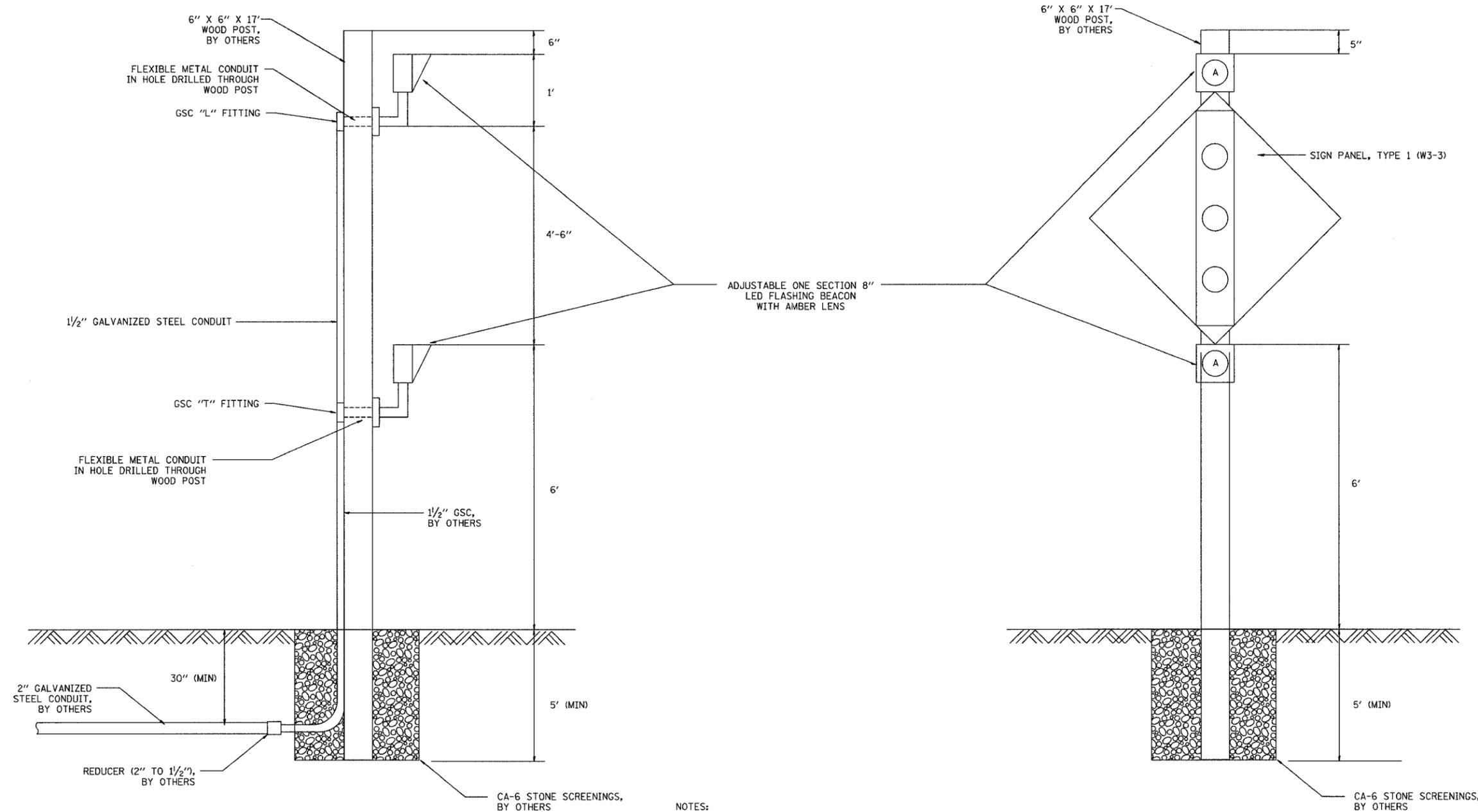
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57
 TYPICAL RAMP METERING
 TYPE III BARRIER WALL AND
 RETAINING WALL INSTALLATION
 SCALE: NTS
 DATE: October 29, 2004
 DRAWN BY: NB
 CHECKED BY: CTC

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 CHICAGO, IL 60606
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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	941
STA.	TO STA.		
FED. ROAD DIST. NO. ILLINOIS	FED. AID PROJECT		
62583			



NOTES:

- SIGN WILL BE PLACED BETWEEN THE FLASHING BEACONS ON THE FRONT FACE OF WOOD POST. THE AREA WHERE THE SIGN IS TO BE INSTALLED (4'-6" DIMENSION) MUST BE KEPT FREE OF CONDUIT AND CONNECTIONS TO PREVENT INTERFERENCE WITH SIGN PLACEMENT.
- FOR WOOD POST INSTALLATION DETAILS, SEE SECTION 730 OF THE STANDARD SPECIFICATIONS (WOOD POST TO BE INSTALLED BY OTHERS).
- A CLEAR LAMP SPECIALLY DESIGNED FOR TRAFFIC SIGNAL SERVICE SHALL BE RATED AT 54 WATTS, 120 VOLTS.
- CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS FOR THE RAMP METER FLASHER AND SIGN MOUNTING HARDWARE FOR APPROVAL BY THE ENGINEER.
- FOR RAMP METER FLASHER INSTALLATIONS NEAR TEMPORARY BARRIER WALL, THE WOOD POST SHALL BE INSTALLED (BY OTHERS) BETWEEN THE BARRIER AND THE IMPACT ATTENUATOR (WITH SUFFICIENT ROOM PROVIDED FOR INSTALLATION OF THE 1/2 INCH CONDUIT).

DT-35

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57

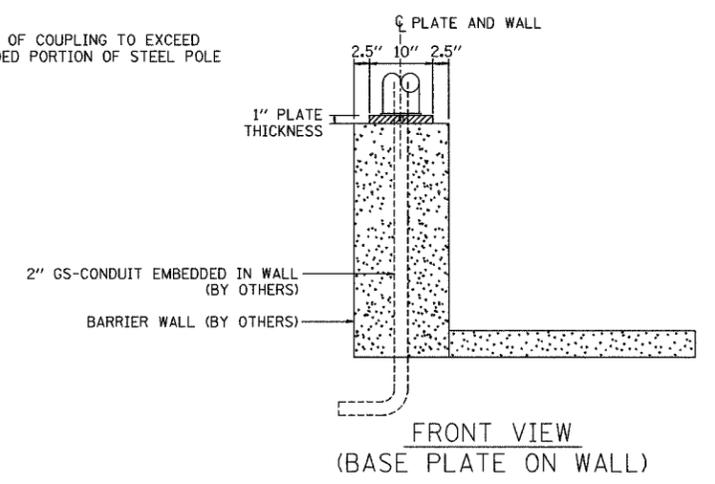
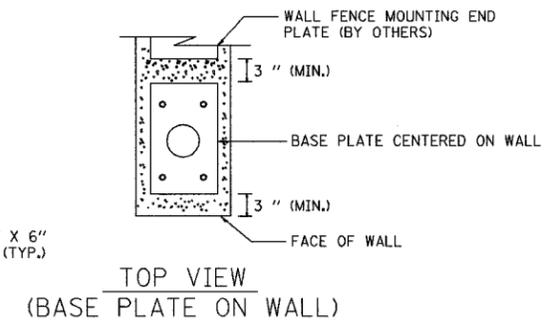
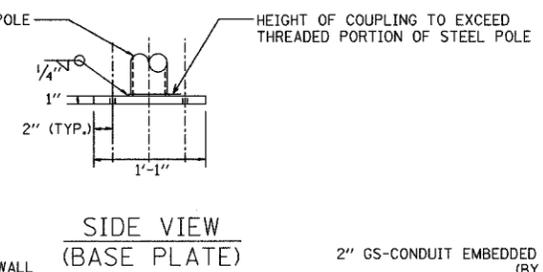
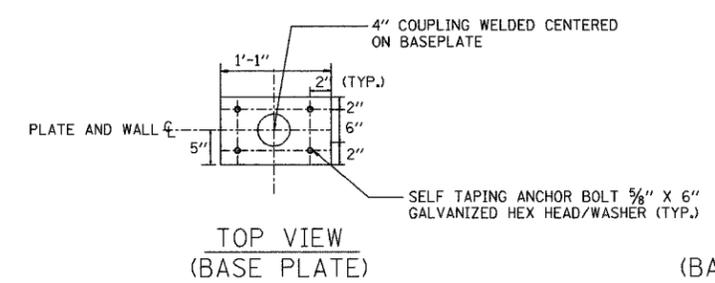
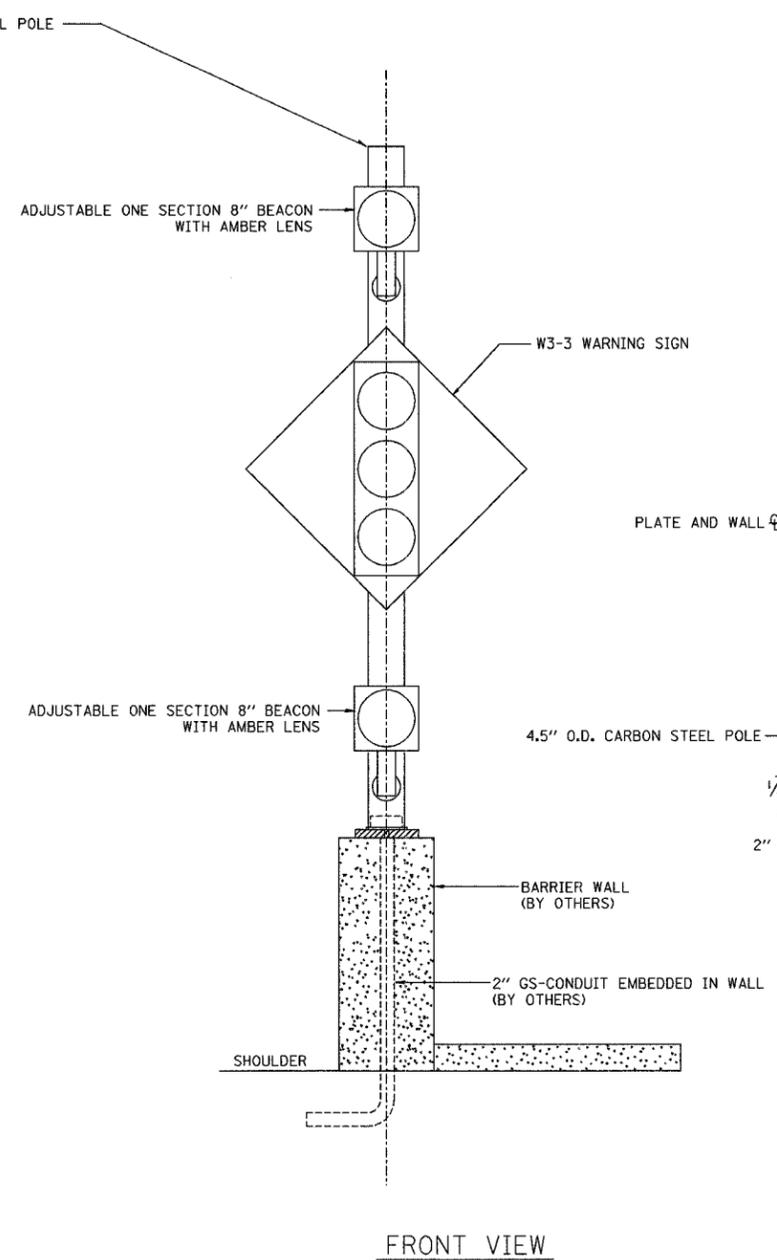
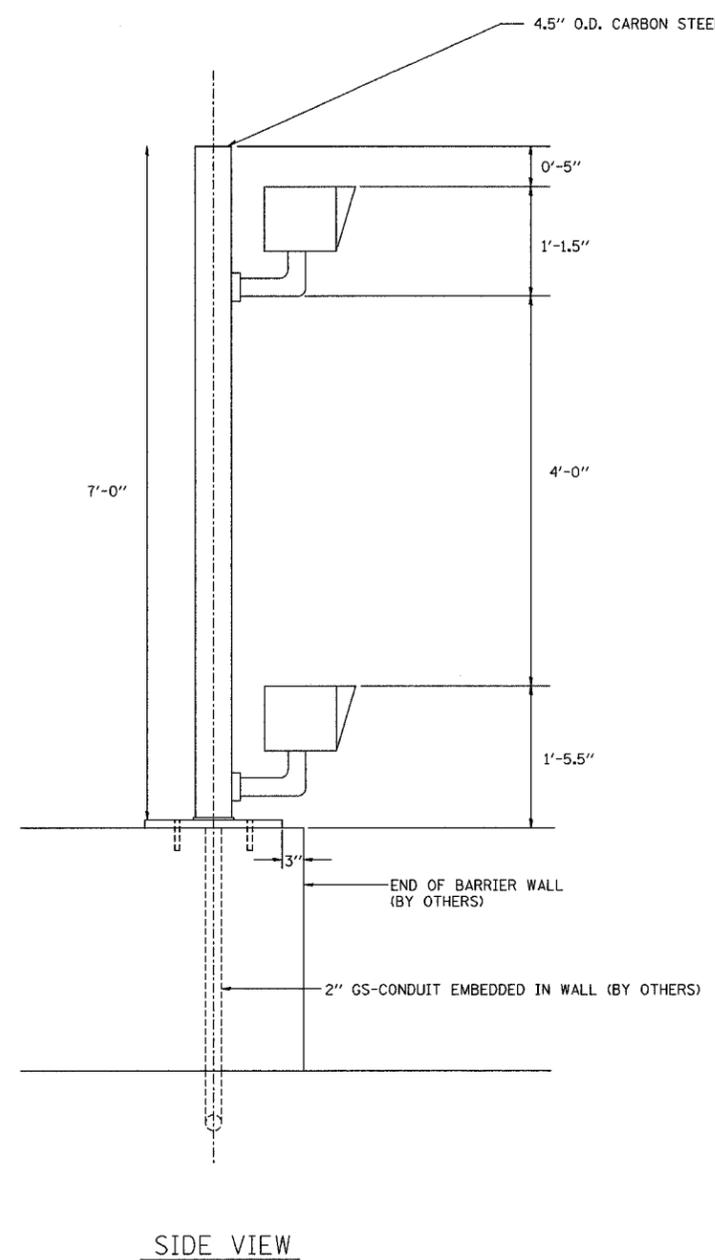
RAMP METER
 FLASHER DETAIL

SCALE: NTS
 DATE: October 29, 2004
 DRAWN BY: MJL
 CHECKED BY: CTC

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 FAX: (312) 251-3015
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11/23/2004 10:50:53 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	942
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		
62583			



FLASHER POST ON BARRIER WALL

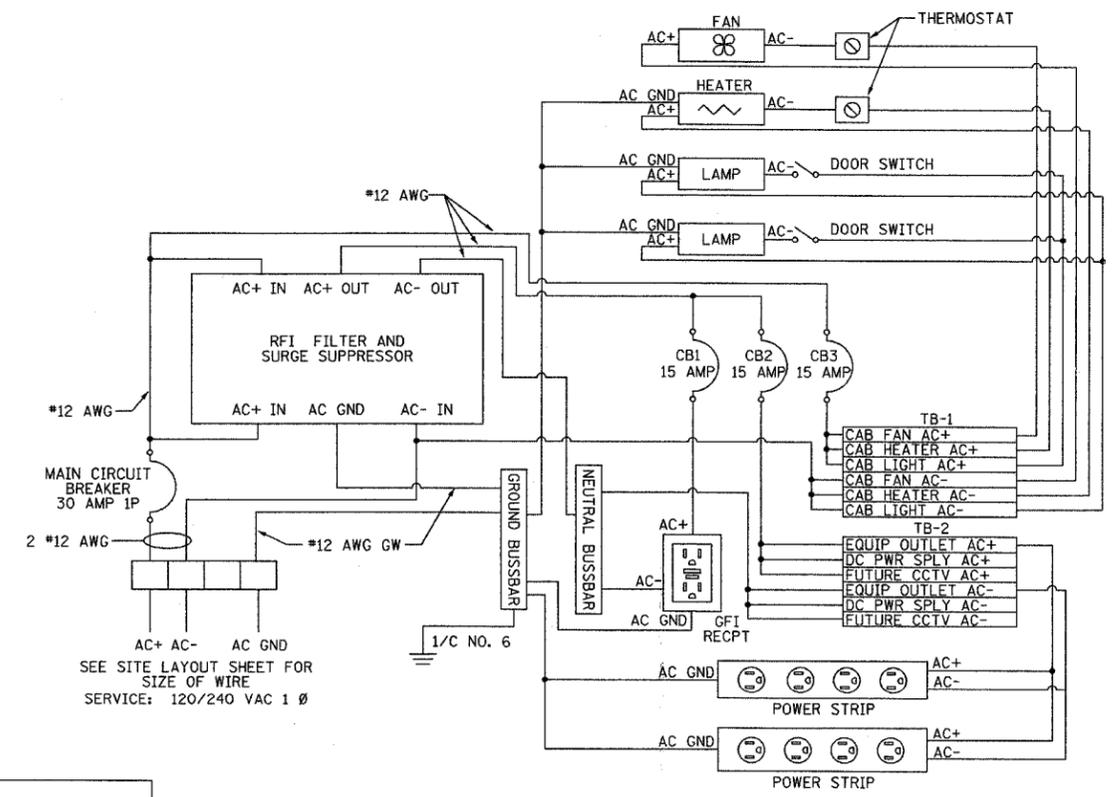
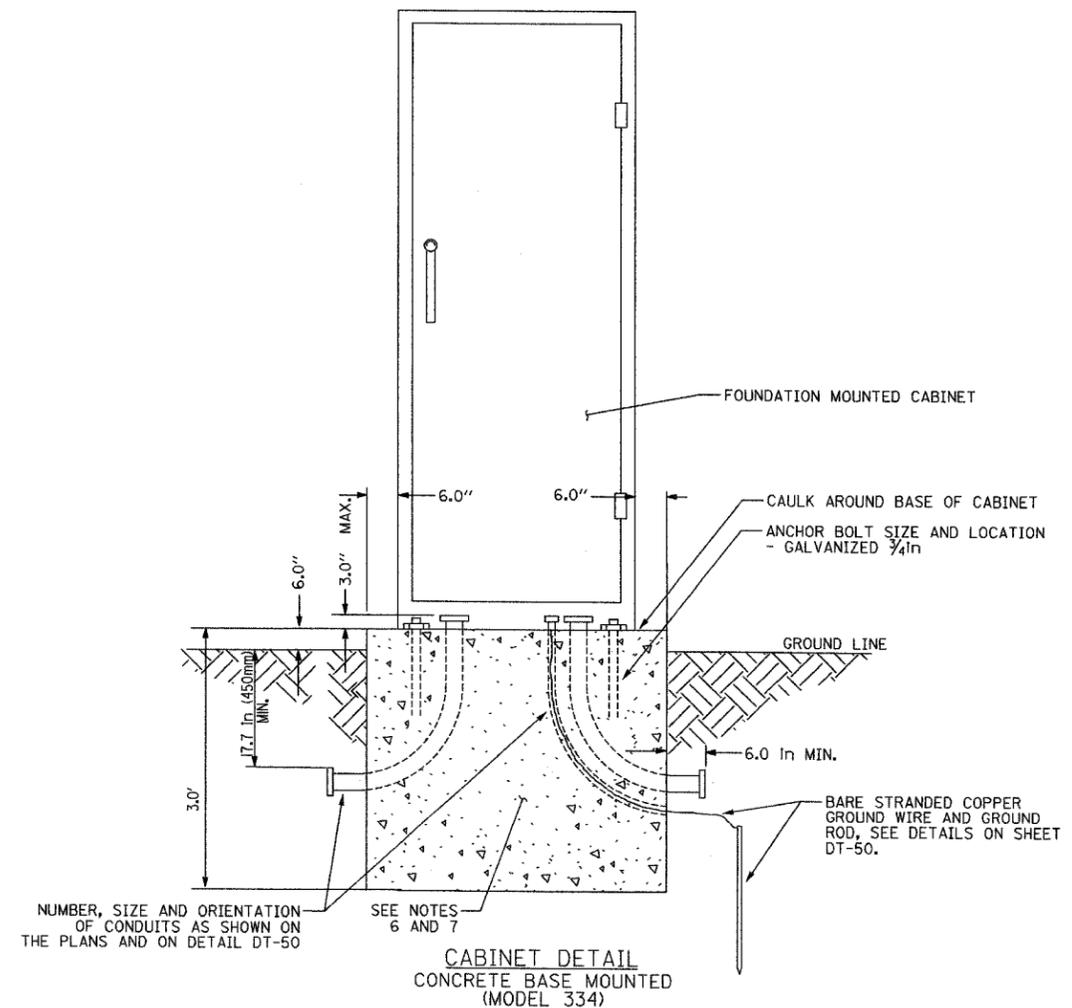
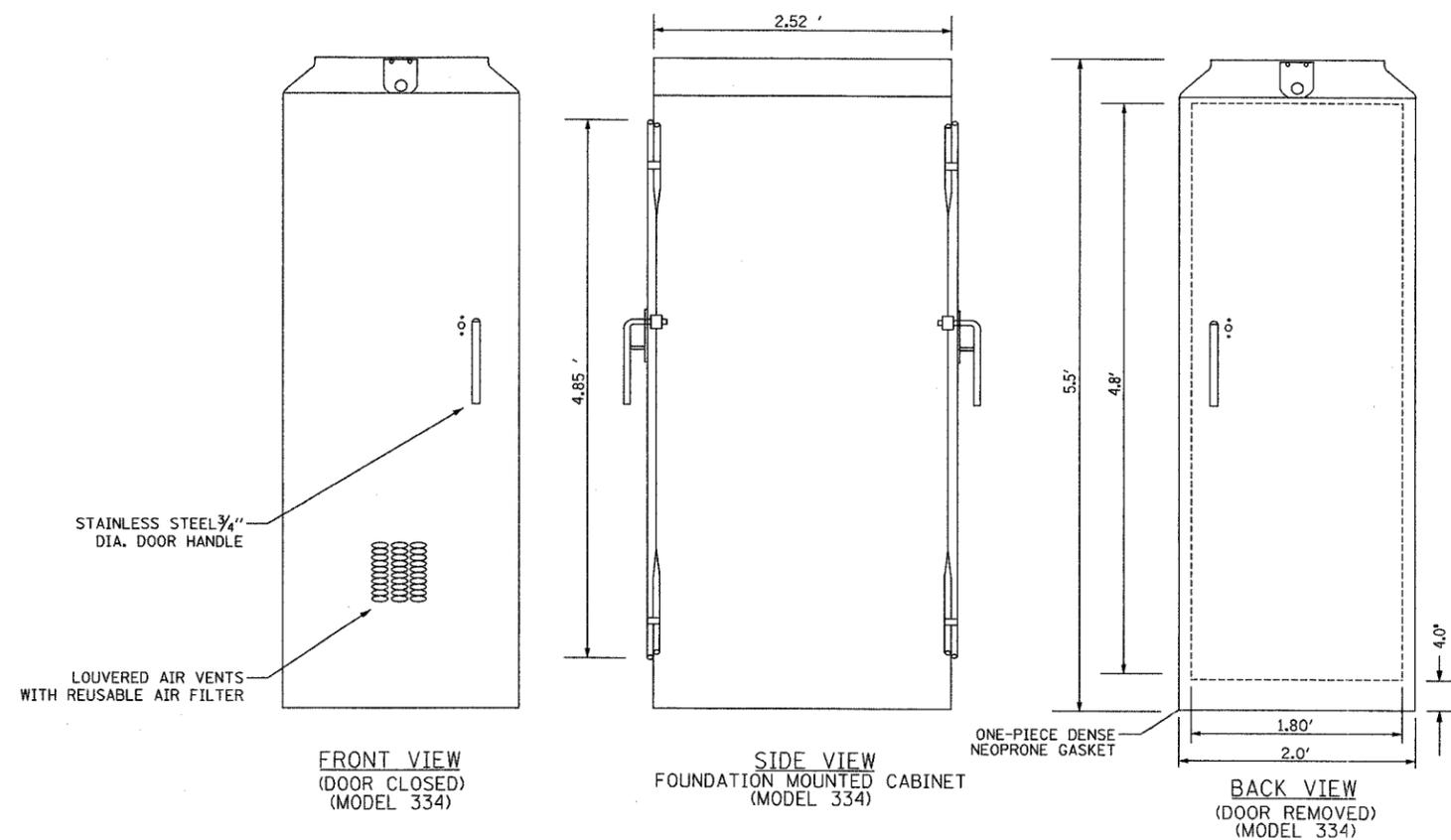
DT-35A

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REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) 31st STREET to I-57
NAME	DATE	
		RAMP METER FLASHER ON BARRIER WALL DETAIL
SCALE: NOT TO SCALE		DRAWN BY: MJL
DATE: October 29, 2004		CHECKED BY: GFR

11/23/2004 10:50:54 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-031I	COOK	976	443
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			



NUMBER, SIZE AND ORIENTATION OF CONDUITS AS SHOWN ON THE PLANS AND ON DETAIL DT-50

NOTES

- REFER TO SPECIAL PROVISIONS FOR CABINET DETAILS AND ADDITIONAL REQUIREMENTS.
- CABINET ENTRIES INCLUDE VERTICAL ARRANGEMENT FOR MAJOR EQUIPMENT ITEMS ONLY.
- INSTALL ADDITIONAL ITEMS ON SIDE AND BACK PANELS PER THE SPECIAL PROVISIONS.
- THE CONTRACTOR SHALL INSTALL INSULATED BUSHINGS AND DUCT SEALANT AT ALL CONDUIT BEND TERMINATIONS IN FOUNDATIONS.
- CONCRETE BASE TO BE FORMED AT LEAST 6.0 IN ABOVE THE GROUND SURFACE.
- CONCRETE BASE MUST BE CAST IN PLACE.
- ALL WORK INDICATED SHALL BE PAID FOR UNDER ITEM CABINET, MODEL 334 EXCLUSIVE OF THE CONCRETE FOUNDATION.
- CABINET BOTTOM CONFIGURATION SHALL BE AS DIRECTED BY THE ENGINEER.

DT-36

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57

CABINET, MODEL 334 DETAILS

SCALE: NTS
 DATE: October 29, 2004

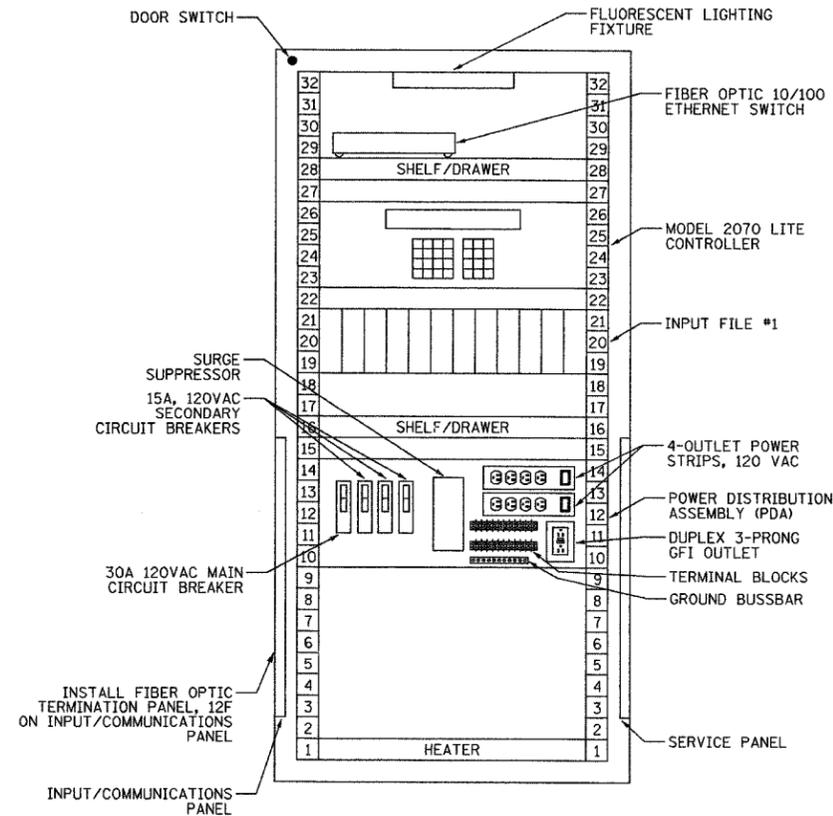
DRAWN BY: MJL
 CHECKED BY: GFR

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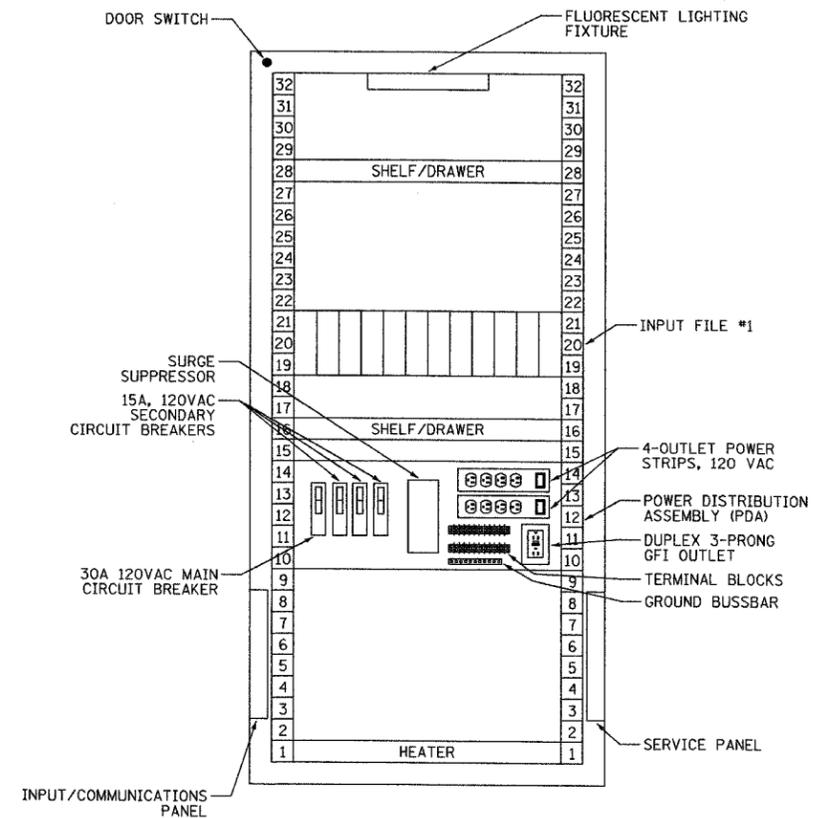
SURVEILLANCE CABINET POWER DISTRIBUTION ASSEMBLY (PDA)
 NOT TO SCALE

10/15/2004 03:02:24 PM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-03II	COOK	976	44
STA.	TO STA.		
FED. ROAD DIST. NO. 62583	ILLINOIS	FED. AID PROJECT	



RAMP METERING, SYSTEM DETECTOR,
RAMP METERING/SYSTEM DETECTOR,
EXIT RAMP QUEUE/SYSTEM DETECTOR
LAYOUT FRONT VIEW (TYPICAL)
NOT TO SCALE



EXIT RAMP QUEUE
FRONT VIEW (TYPICAL)
NOT TO SCALE

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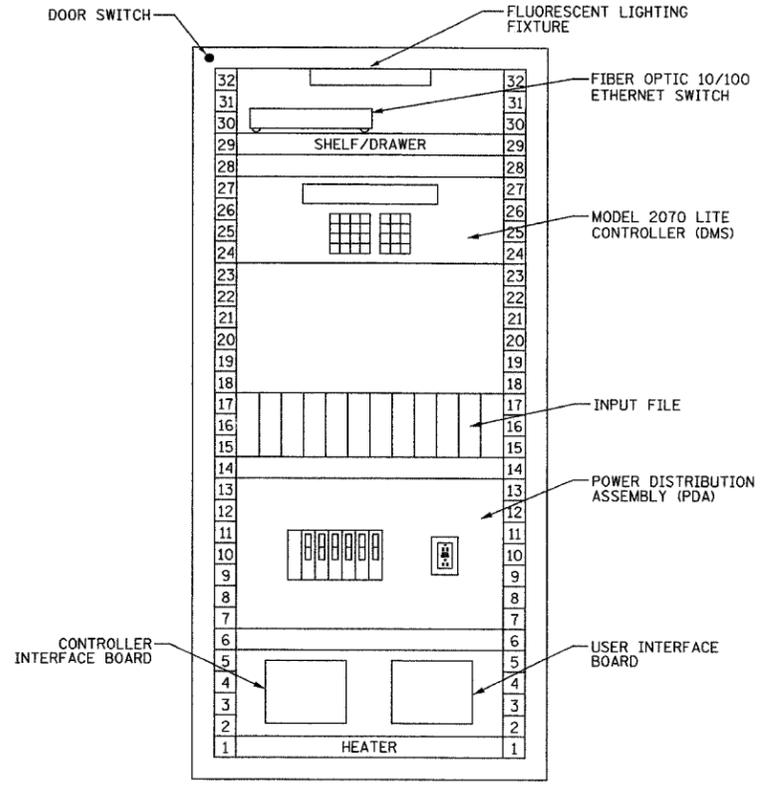
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57
CABINET, MODEL 334 - RACK LAYOUT
(SHEET 1 OF 2)
SCALE: NOT TO SCALE
DATE: October 29, 2004
DRAWN BY: DHI
CHECKED BY: JEZ

DT-37

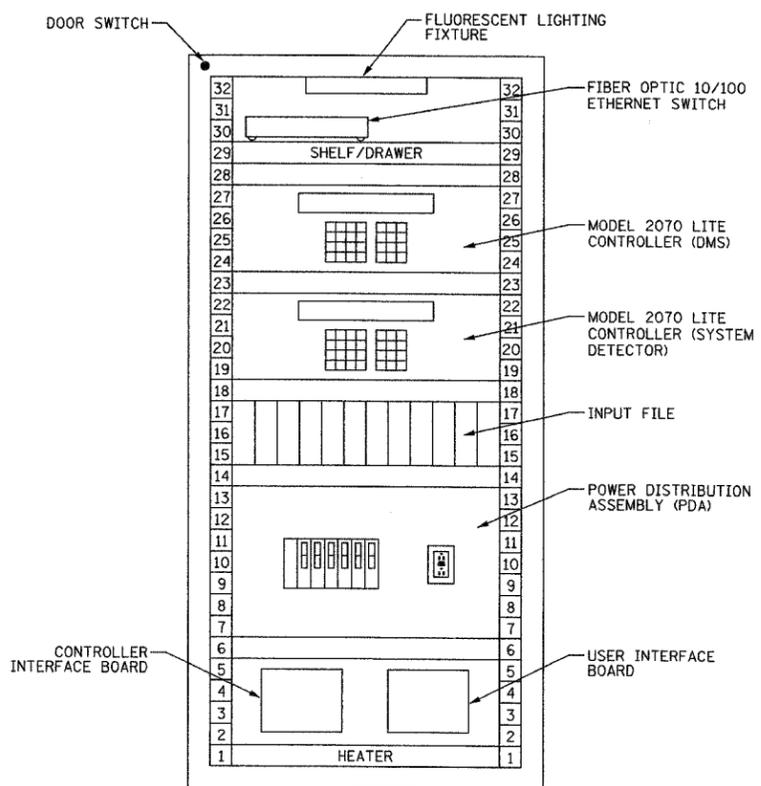
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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	445
STA.	TO STA.		
FED. ROAD DIST. NO. - ILLINOIS	FED. AID PROJECT		
62583			



DMS/EXIT RAMP QUEUE
FRONT VIEW (TYPICAL)
NOT TO SCALE

CASES:
1) DMS/EXIT RAMP QUEUE



DMS/SYSTEM DETECTOR
FRONT VIEW (TYPICAL)
NOT TO SCALE

CASES:
1) DMS/SYSTEM DETECTOR

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ONE NORTH FRANKLIN
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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57

CABINET, MODEL 334 - RACK LAYOUT
(SHEET 2 OF 2)

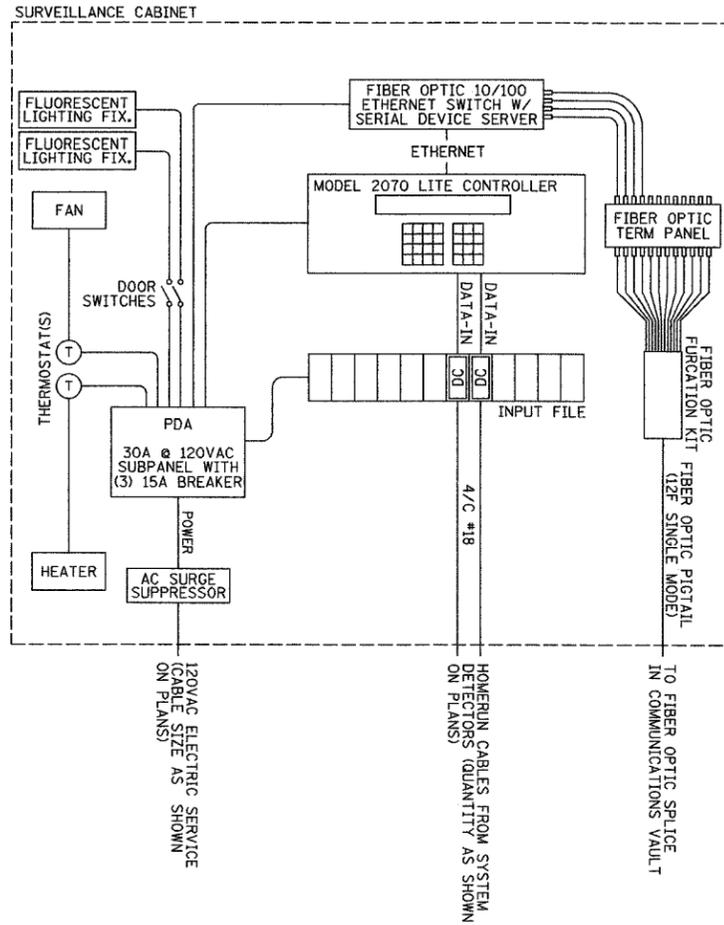
SCALE: NOT TO SCALE
DATE: October 29, 2004

DRAWN BY: DHI
CHECKED BY: JEZ

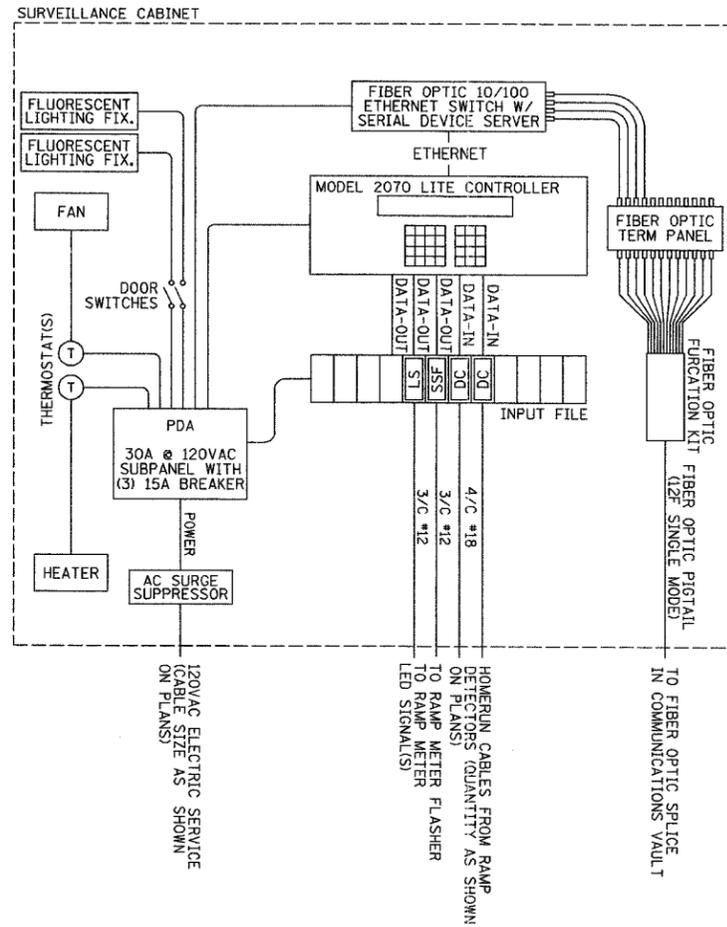
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10/14/2004 09:24:28 AM

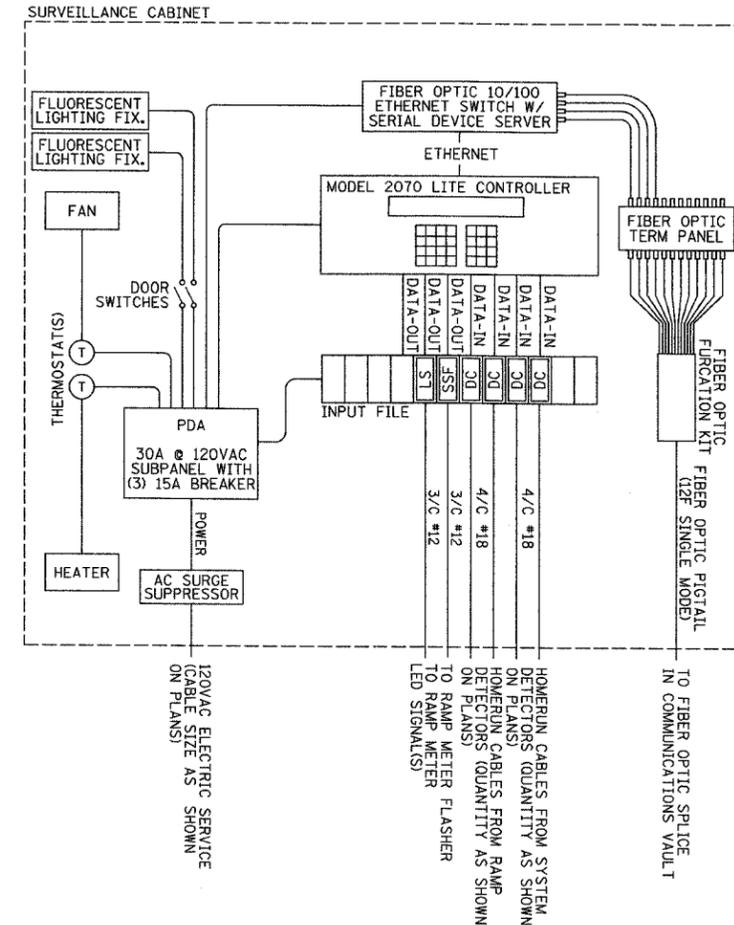
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	446
STA. TO STA.			
FED. ROAD DIST. NO. ILLINOIS		FED. AID PROJECT	
62583			



SYSTEM DETECTOR
SINGLE LINE DIAGRAM (TYPICAL)
NOT TO SCALE



RAMP METERING
SINGLE LINE DIAGRAM (TYPICAL)
NOT TO SCALE



RAMP METERING/SYSTEM DETECTOR
SINGLE LINE DIAGRAM (TYPICAL)
NOT TO SCALE

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ABBREVIATIONS
DC DETECTOR CARD
LS LOAD SWITCH
SSF SOLID STATE FLASHER

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57

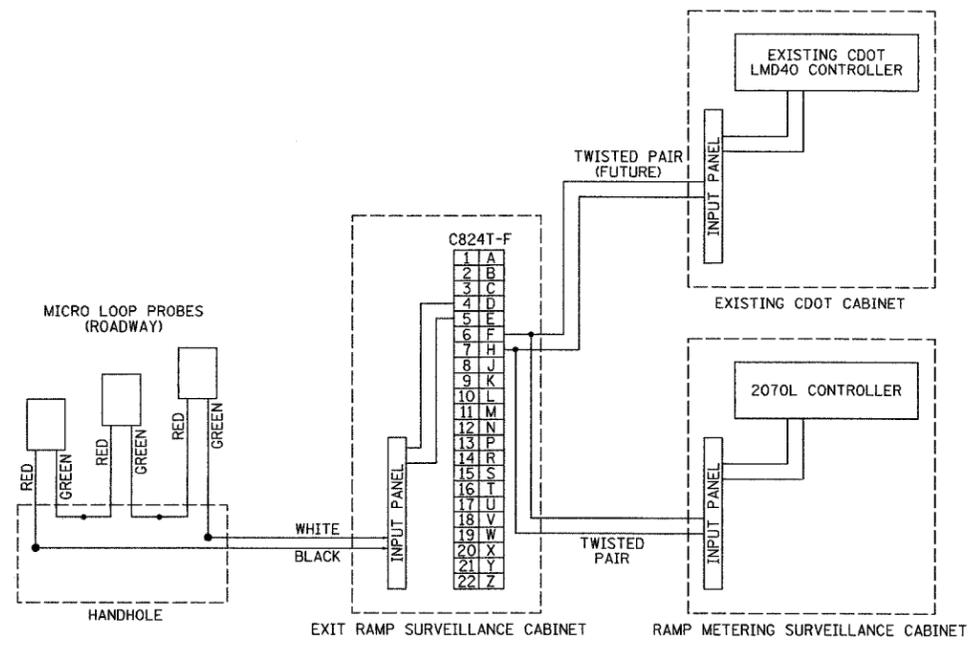
CABINET, MODEL 334 - WIRING DETAILS
AND SCHEMATIC (SHEET 1 OF 3)

SCALE: NOT TO SCALE DRAWN BY: DHI
DATE: October 29, 2004 CHECKED BY: JEZ

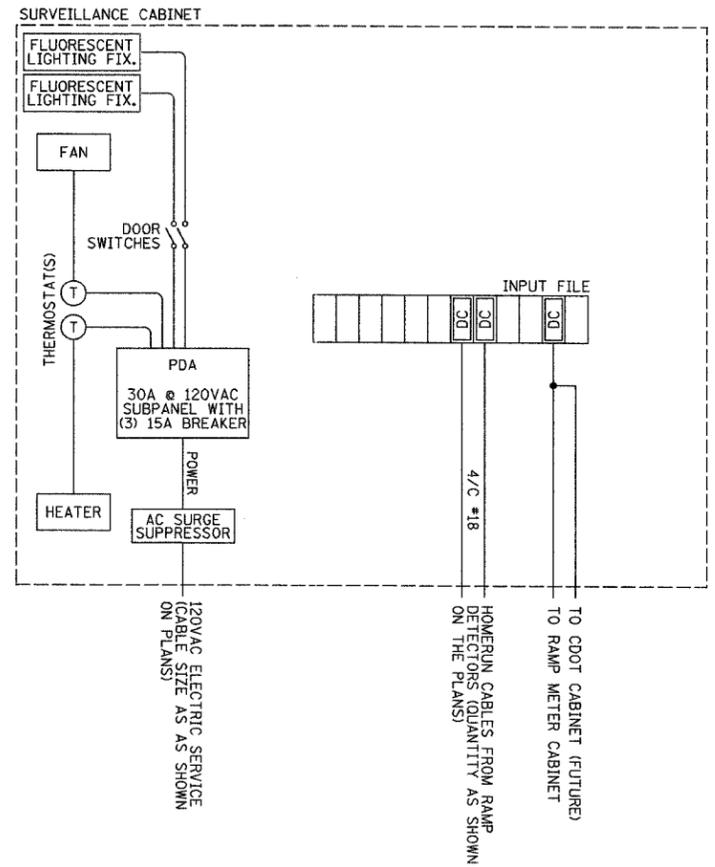
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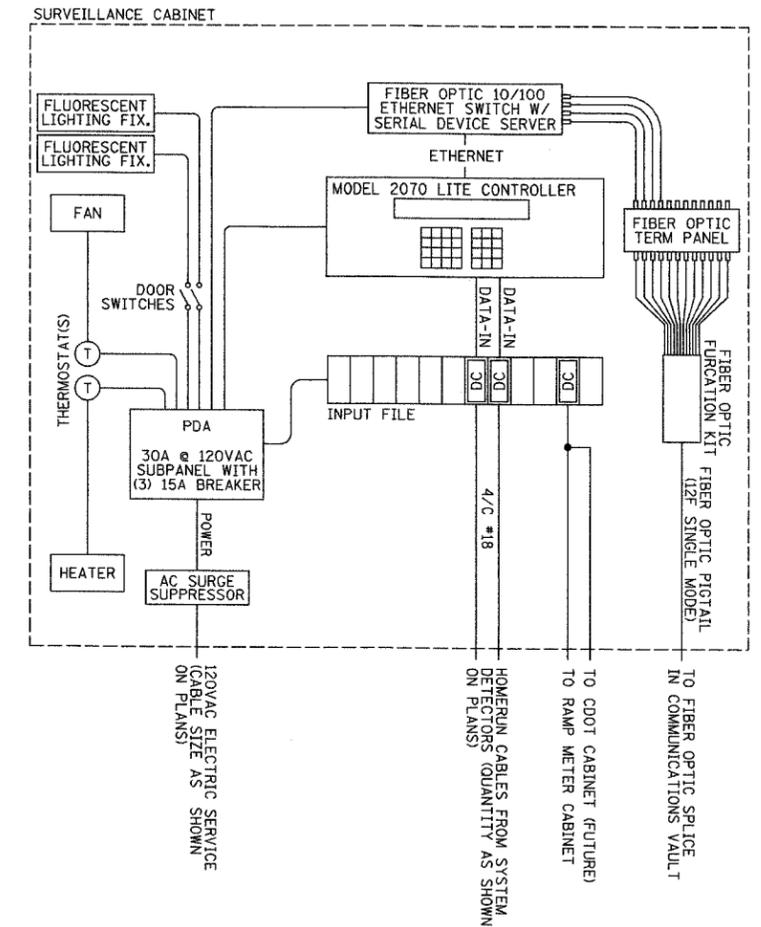
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	947
STA. TO STA.		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	
		62583	



EXIT RAMP CONFIGURATION
NOT TO SCALE



EXIT RAMP QUEUE
LINE DIAGRAM (TYPICAL)
NOT TO SCALE



SYSTEM DETECTOR/EXIT RAMP QUEUE
SINGLE LINE DIAGRAM (TYPICAL)
NOT TO SCALE

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ABBREVIATIONS
DC - DETECTOR CARD
LS - LOAD SWITCH
SSF - SOLID STATE FLASHER

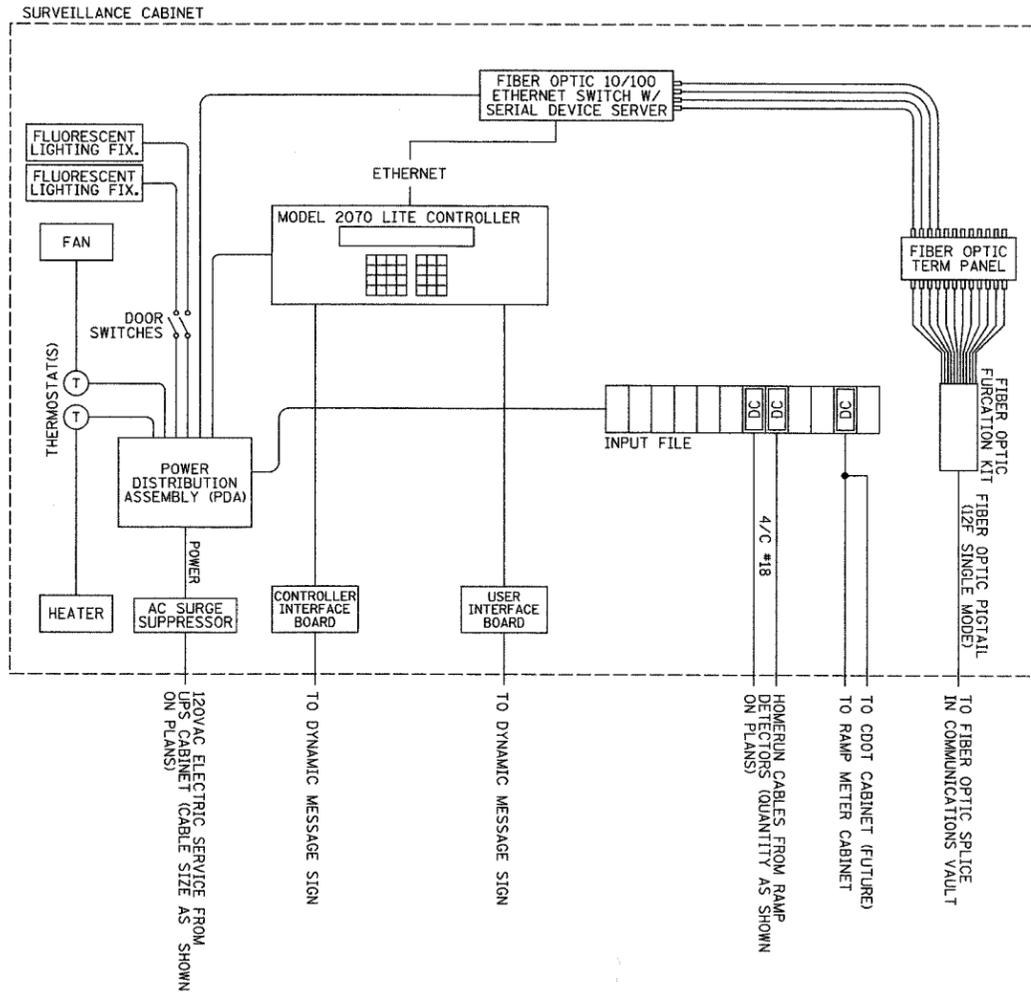
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57
CABINET, MODEL 334 - WIRING DETAILS
AND SCHEMATIC (SHEET 2 OF 3)
SCALE: NOT TO SCALE
DATE: October 29, 2004
DRAWN BY: DHI
CHECKED BY: JEZ

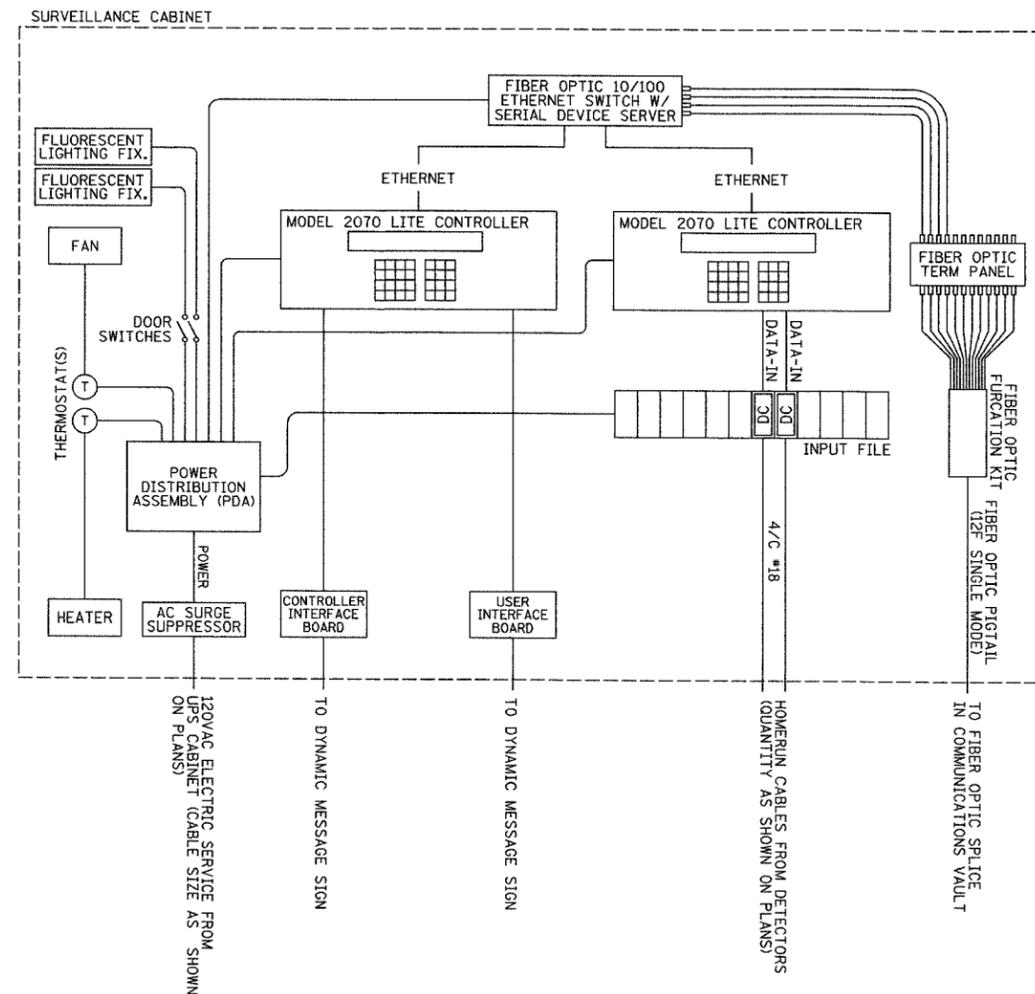
DT-40

PA03001910315 VIS 000010202828-51 10/14/2004 09:24:30 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	448
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		
62583			



DMS/EXIT RAMP QUEUE
SINGLE LINE DIAGRAM (TYPICAL)
NOT TO SCALE



DMS/SYSTEM DETECTOR
SINGLE LINE DIAGRAM (TYPICAL)
NOT TO SCALE

ABBREVIATIONS
DC DETECTOR CARD
LS LOAD SWITCH
SSF SOLID STATE FLASHER

REVISIONS	
NAME	DATE

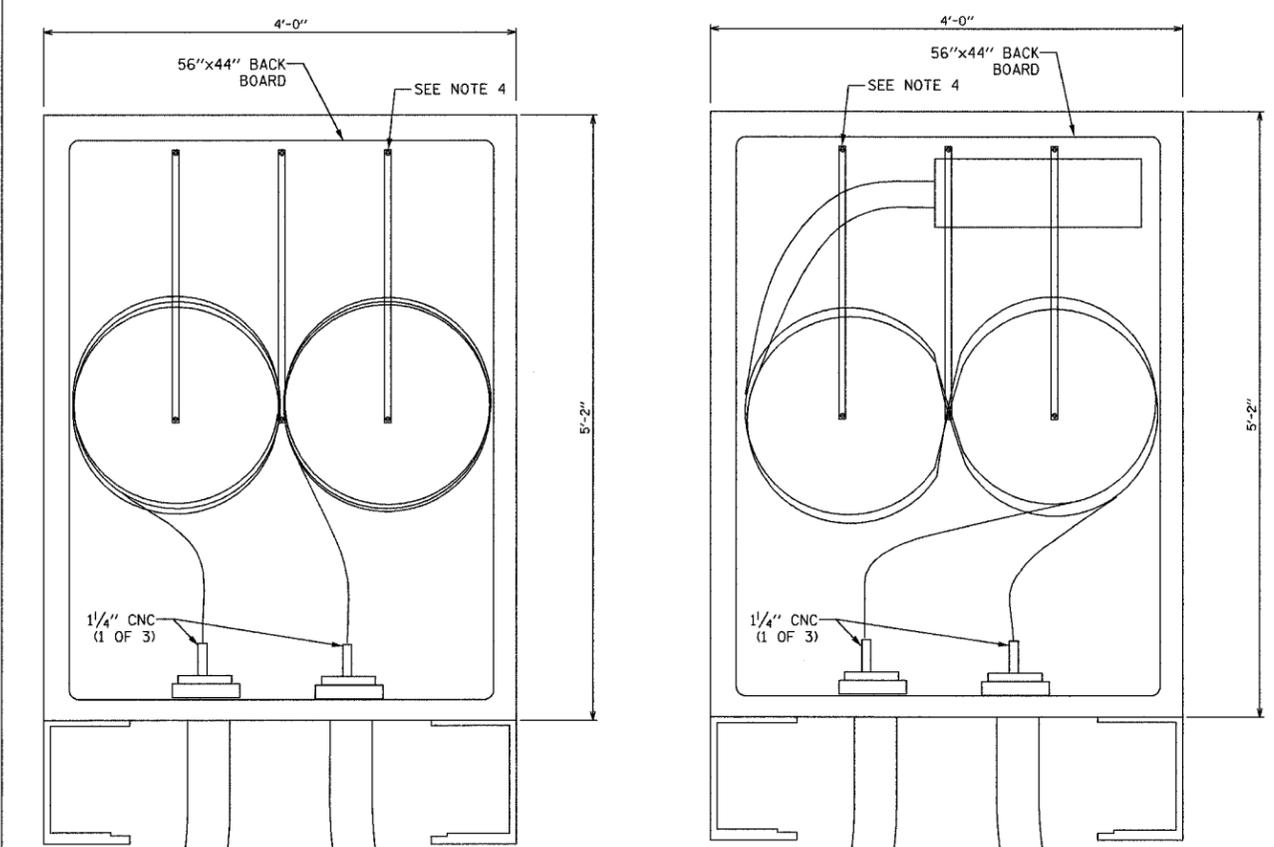
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57
CABINET, MODEL 334 - WIRING DETAILS
AND SCHEMATIC (SHEET 3 OF 3)
SCALE: NOT TO SCALE
DATE: October 29, 2004
DRAWN BY: DHI
CHECKED BY: JEZ

DT-41

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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	949
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		
62583			

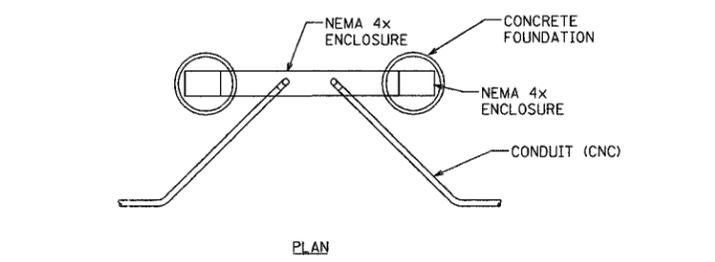
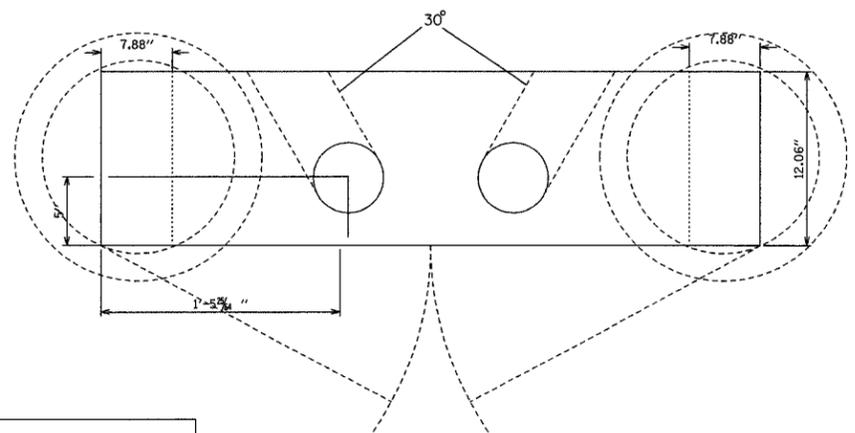


STAINLESS STEEL TWO-DOOR TYPE 4X ENCLOSURE OR APPROVED EQUAL (62" X 48" X 12")

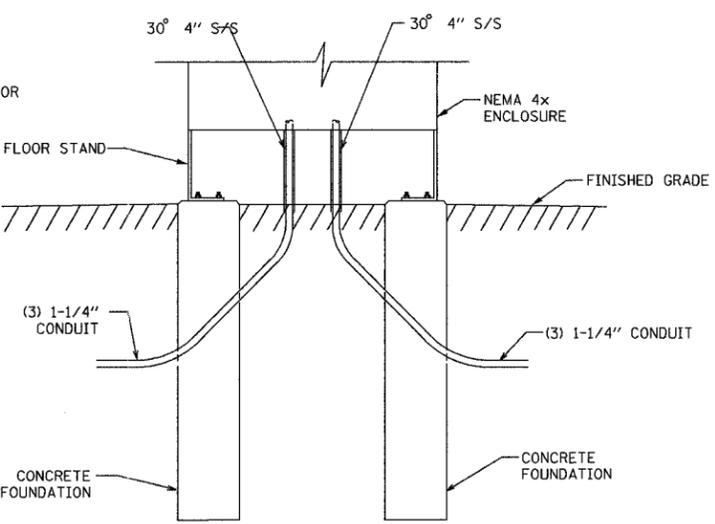
STAINLESS STEEL SLEEVE FACTORY BEND 4.5" OUTSIDE DIAMETER WITH 36" RADIUS

PULL POINT - NO SPLICE

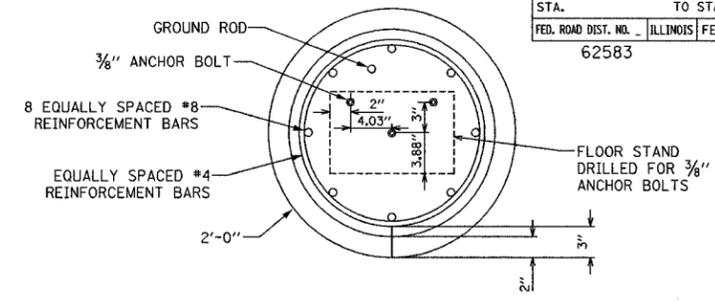
PULL POINT - WITH SPLICE



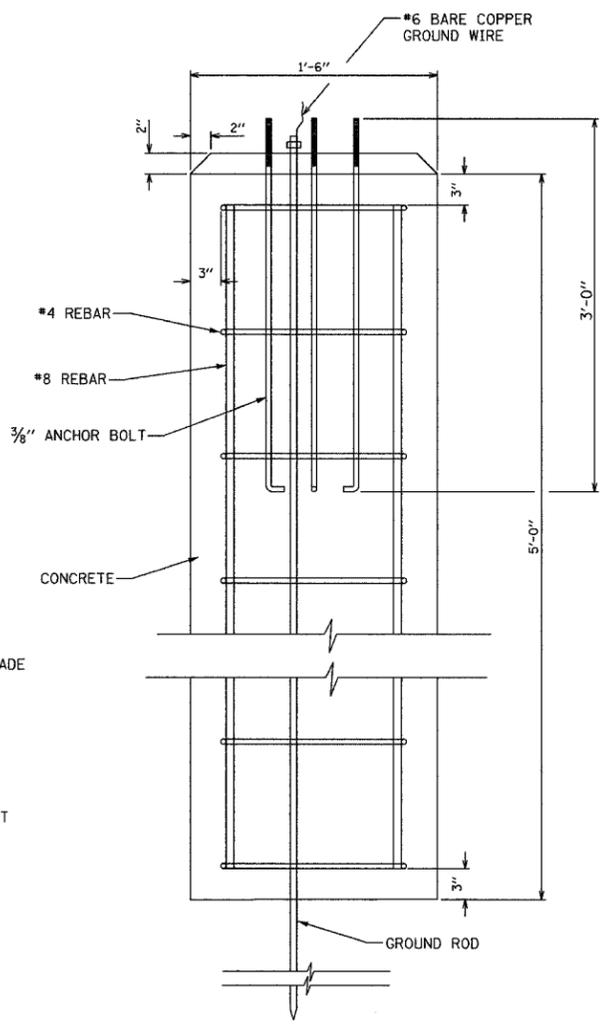
PLAN



ELEVATION



PLAN PANEL FOUNDATION



ELEVATION PANEL FOUNDATION

- NOTES:
1. THREADED END OF ANCHOR BOLT GALVANIZED AT LEAST 6 INCHES.
 2. ALL METALLIC ELEMENTS SHALL BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) 2002, ARTICLE 250, GROUNDING.
 3. GROUND ROD SHALL BE PLACED IN ONE CONCRETE FOUNDATION ONLY.
 4. CONTRACTOR SHALL INSTALL STANDARD MANHOLE CABLE RACKS AND CABLE HOOKS TO HOLD CABLE IN CABINET. SECURE CABLES WITH TY-WRAPPS.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET TO I-57

PULLING PEDESTAL
 DETAIL

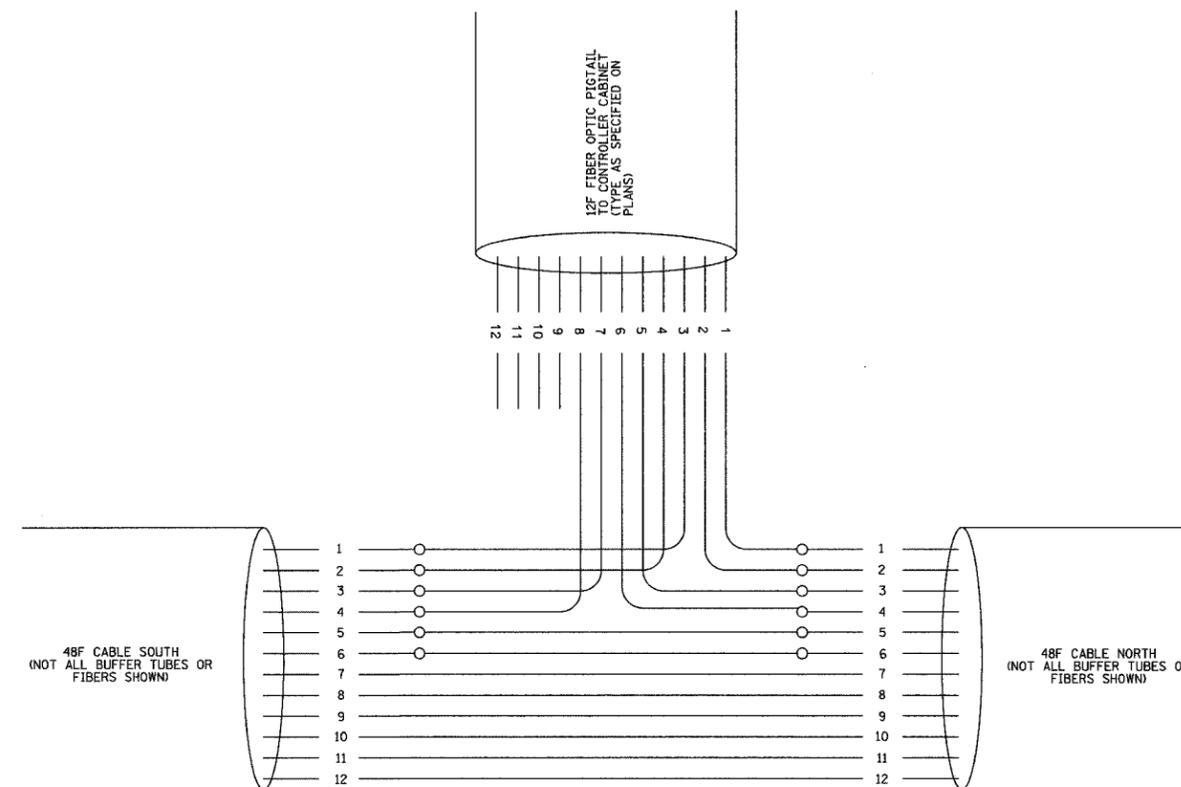
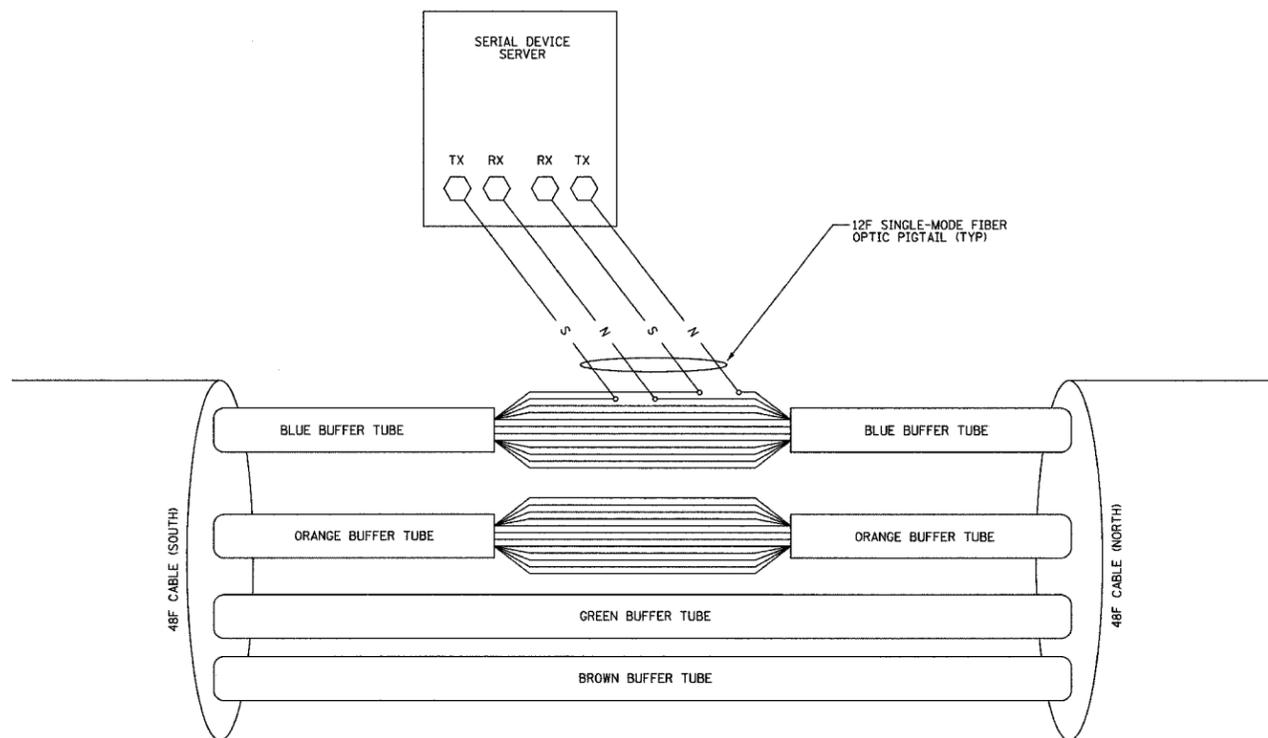
SCALE: NOT TO SCALE
 DATE: October 29, 2004

DRAWN BY: DHI
 CHECKED BY: JEZ

Edwards AND Kelcey
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 CHICAGO, IL 60606
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DT-42

11/23/2004 10:50:55 AM



FIBER NO.	COLOR CODE	FUNCTION	APPLICATION DESCRIPTION
1	BLUE	IN TX	DATA CIRCUIT
2	ORANGE	IN RX	
3	GREEN	OUT RX	
4	BROWN	OUT TX	
5	SLATE	SPARE	FUTURE
6	WHITE	SPARE	
7	RED	SPARE	
8	BLACK	SPARE	DMS
9	YELLOW	IN TX	
10	VIOLET	IN RX	
11	ROSE	OUT RX	
12	AQUA	OUT TX	

STANDARD 12-FIBER CABLE CONFIGURATION

PHYSICAL SPLICE DETAILS (TYP)
NOT TO SCALE

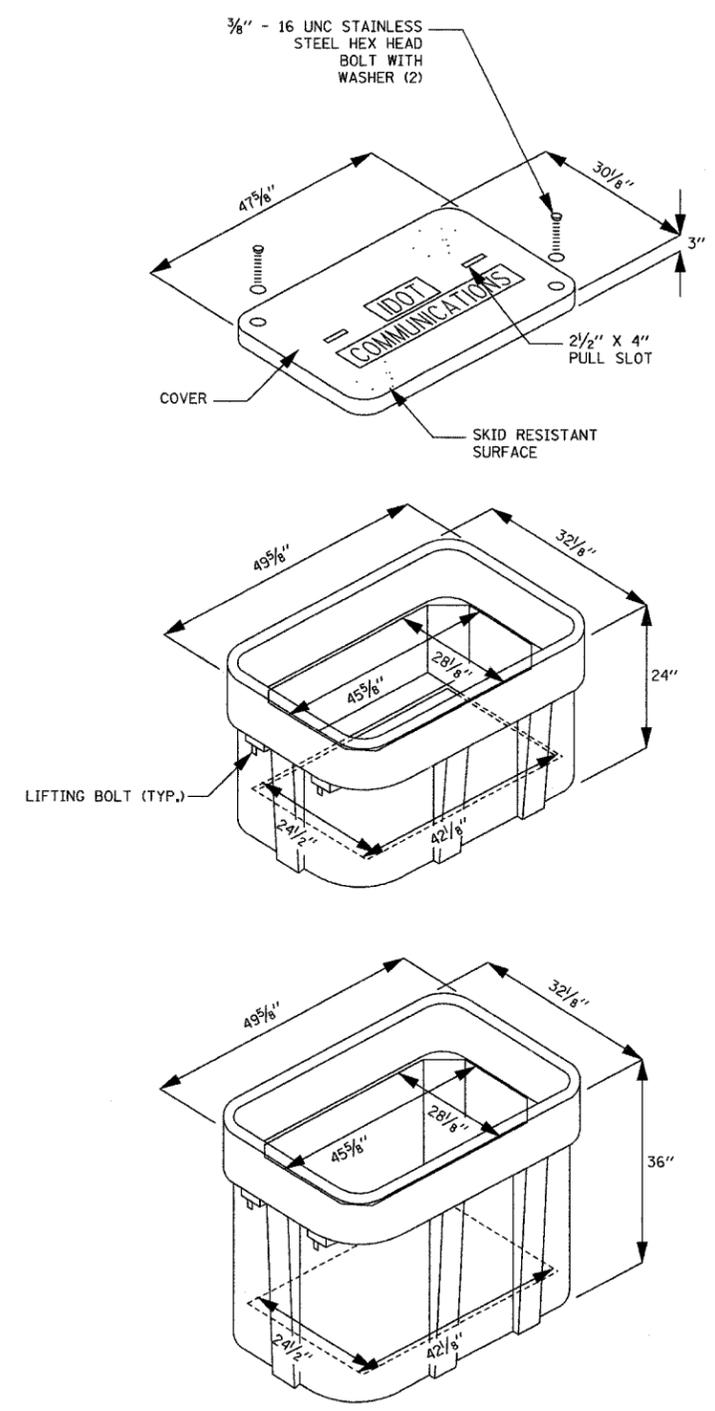
NOTES

- THIS DIAGRAM IS PROVIDED FOR ILLUSTRATION PURPOSES ONLY AND DEPICTS A TYPICAL FIBER OPTIC SPLICE. FOR ACTUAL SPLICE TABLES, SEE SHEETS COMM-62 THRU COMM-69. IN CASE OF CONFLICT, SPECIFICATIONS TO GOVERN.

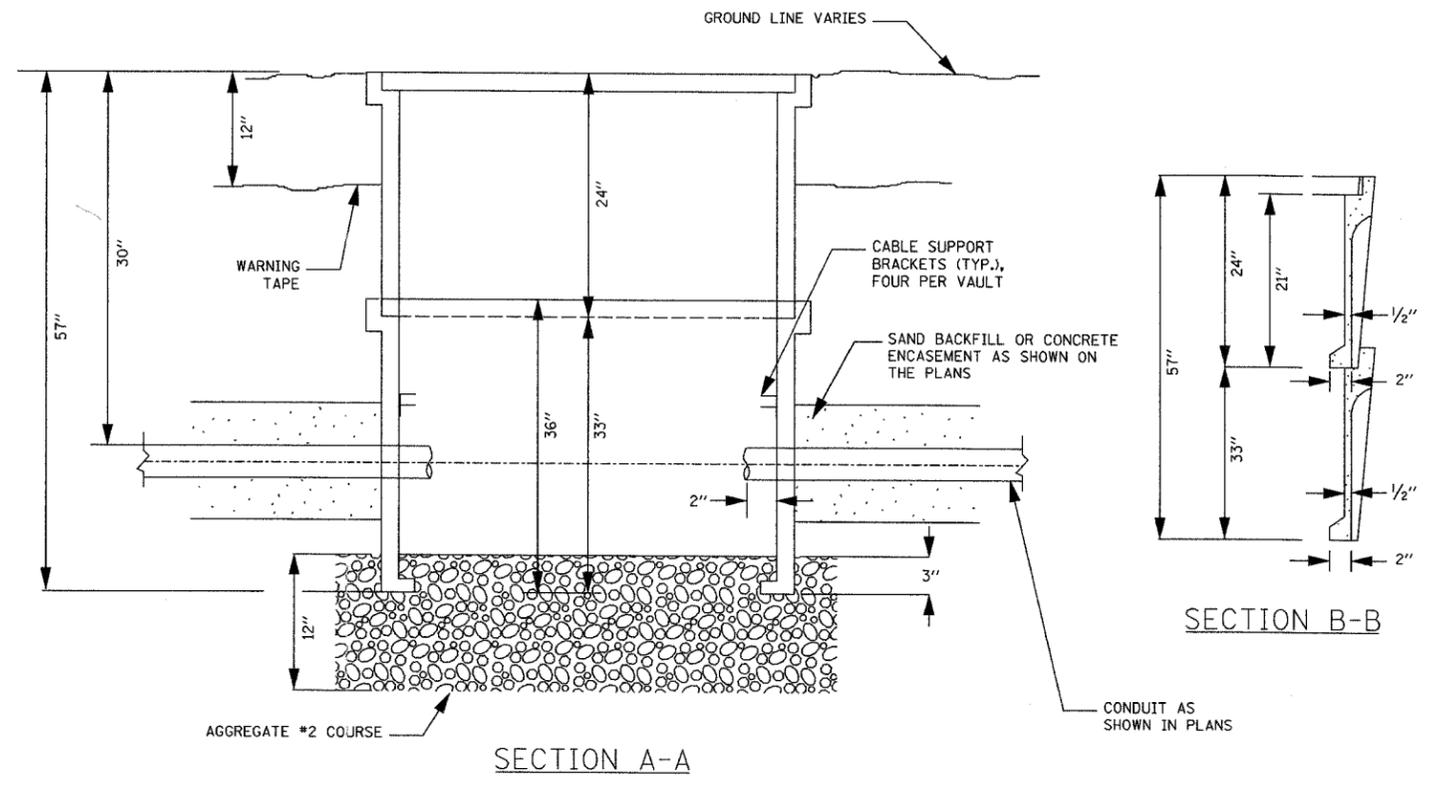
REVISIONS	
NAME	DATE
REVISION 1	12/17/04

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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	COOK		451
STA.	TO STA. 62583		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT		

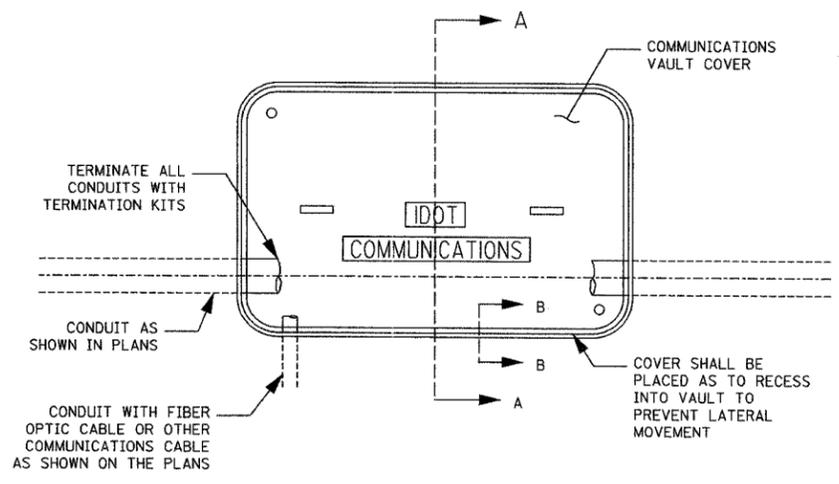


ISOMETRIC



SECTION A-A

SECTION B-B



PLAN

- NOTES:
1. BOX SHALL HAVE AN OPEN BASE.
 2. COVER SHALL WITHSTAND AASHTO H 20 LOADING AND SHALL LOCK.
 3. ALL OPENINGS IN STRUCTURE MUST BE MACHINED AT TIME OF FABRICATION OR PUNCH DRIVEN AT TIME OF PLACEMENT.
 4. FIELD PLACEMENT OF COMMUNICATIONS VAULT SHALL BE AS DIRECTED BY THE ENGINEER.

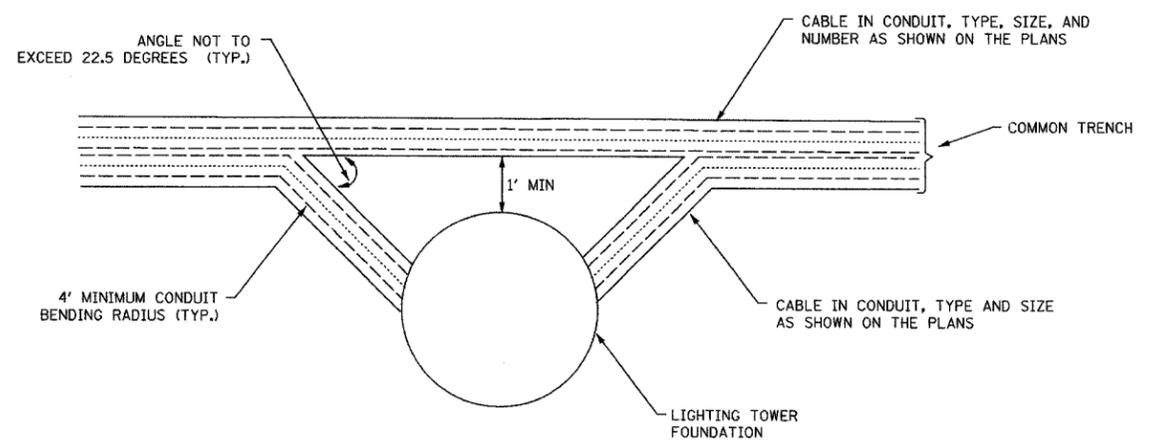
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REVISIONS	
NAME	DATE

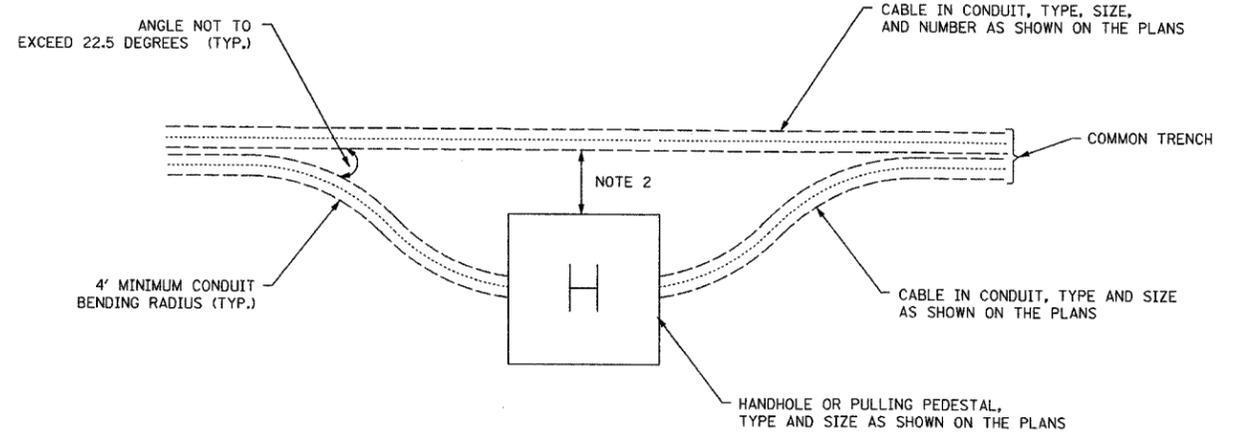
DT-44
 ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET TO I-57
 COMMUNICATIONS VAULT DETAIL
 (HANDHOLE TYPE C1)
 SCALE: NTS
 DATE: October 29, 2004
 DRAWN BY: MJL
 CHECKED BY: GFR

P:\030015035\115\card\010200\025.dwg 03/15/2004 03:02:26 PM

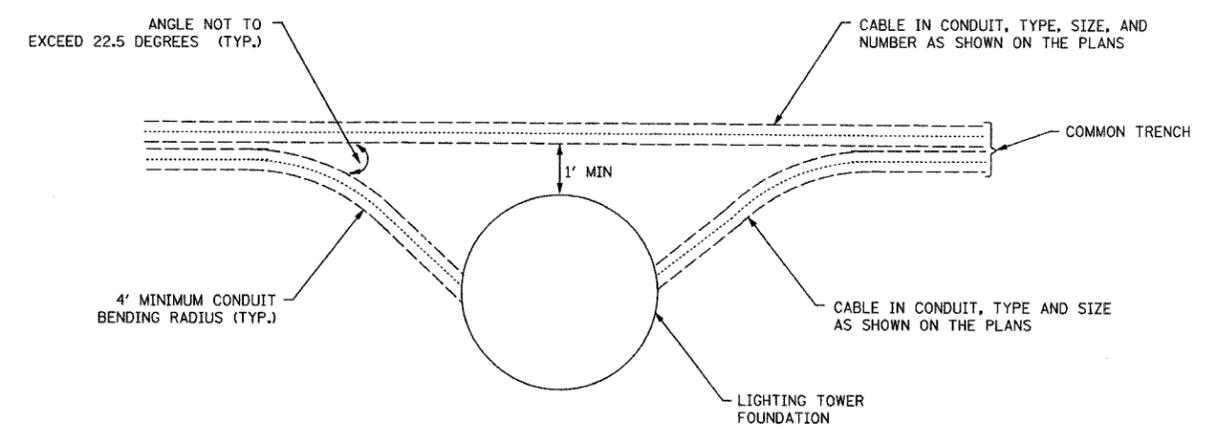
SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-031I	COOK	976	452
STA. 29+00.00 TO STA. 36+57.45			
FED. ROAD DIST. NO. 62583		ILLINOIS FED. AID PROJECT	



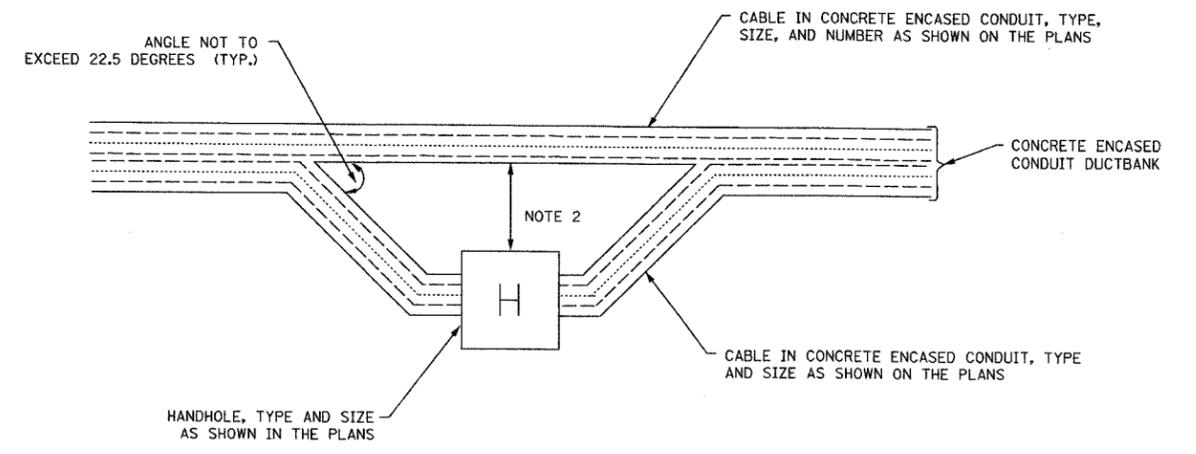
CONDUIT DUCTBANK ROUTING AROUND LIGHTING TOWER FOUNDATION (TYPICAL)



CONDUIT (IN TRENCH) ROUTING AROUND HANDHOLE OR PULLING PEDESTAL (TYPICAL)



CONDUIT (IN TRENCH) ROUTING AROUND LIGHTING TOWER FOUNDATION (TYPICAL)



CONDUIT DUCTBANK ROUTING AROUND HANDHOLE (TYPICAL)

NOTES:

1. FOR HANDHOLE DETAIL, SEE DETAIL DT-47.
2. CONDUIT SHALL BE INSTALLED AROUND HANDHOLE/PULLING PEDESTAL SO THAT IT DOES NOT COMPROMISE THE STRUCTURAL INTEGRITY OF EITHER THE CONDUIT OR THE HANDHOLE/PULLING PEDESTAL.
3. FIBER OPTIC BACKBONE COMMUNICATIONS CONDUIT AND CABLE SHALL NOT BE ROUTED THROUGH ANY HANDHOLES OR LIGHTING TOWER FOUNDATIONS UNLESS OTHERWISE NOTED ON THE PLANS.
4. ONLY FIBER OPTIC BACKBONE COMMUNICATIONS CONDUIT AND CABLE SHALL BE ROUTED THROUGH PULLING PEDESTALS UNLESS OTHERWISE NOTED ON THE PLANS.

DT-45

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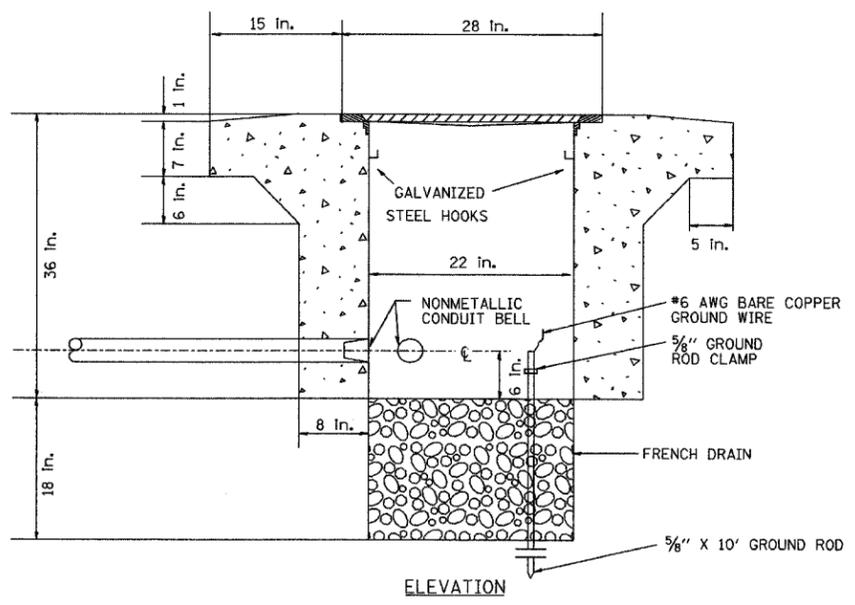
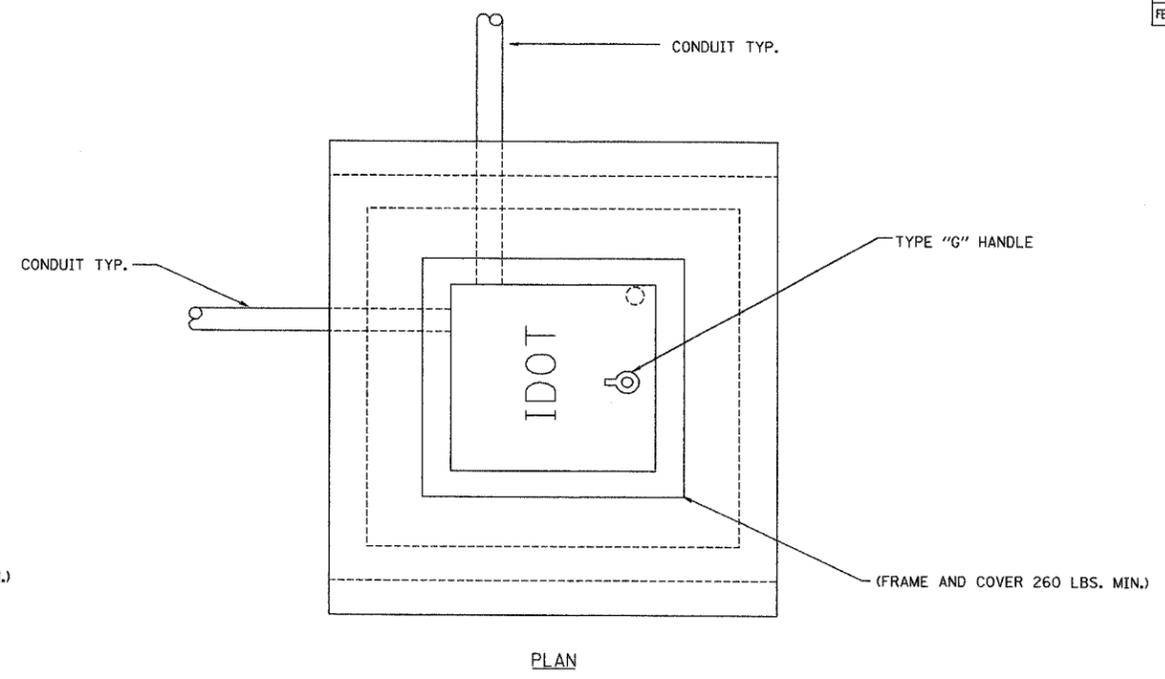
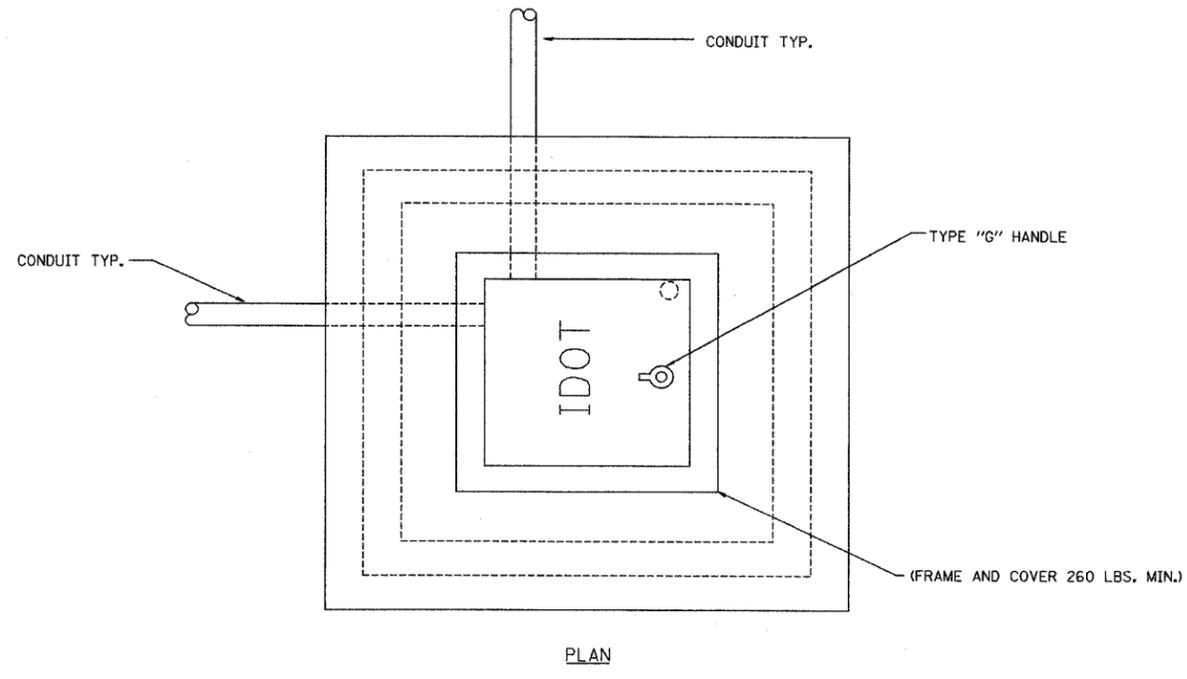
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57
 COMMUNICATIONS CONDUIT
 ROUTING DETAIL
 SCALE: NTS
 DATE: October 29, 2004
 DRAWN BY: NB
 CHECKED BY: CTC

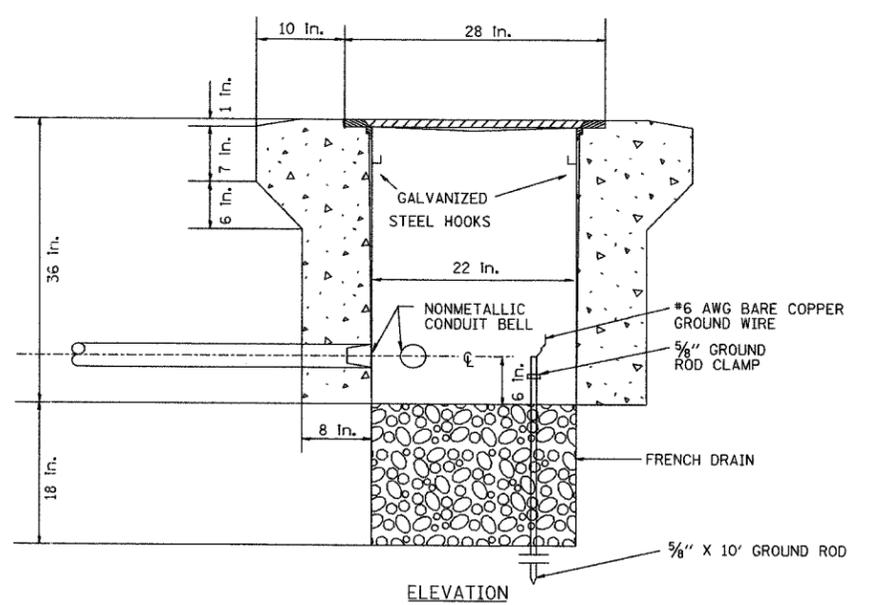
10/14/2004 09:24:34 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	453
STA.	TO STA.		
FED. ROAD DIST. NO. 62583	ILLINOIS FED. AID PROJECT		

PA03009035 Vis wcd6/020329s/17



PC CONCRETE - HEAVY DUTY HANDHOLE



PC CONCRETE - HEAVY DUTY HANDHOLE (SPECIAL)

NOTE:
ALL METALLIC ELEMENTS SHALL BE GROUND IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC), SECTION 250. GROUNDING. METAL COVERS AND OTHER EXPOSED CONDUCTIVE SURFACES SHALL BE BONDED IN ACCORDANCE WITH NEC ARTICLE 250.96 (A).

DT-46

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ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57

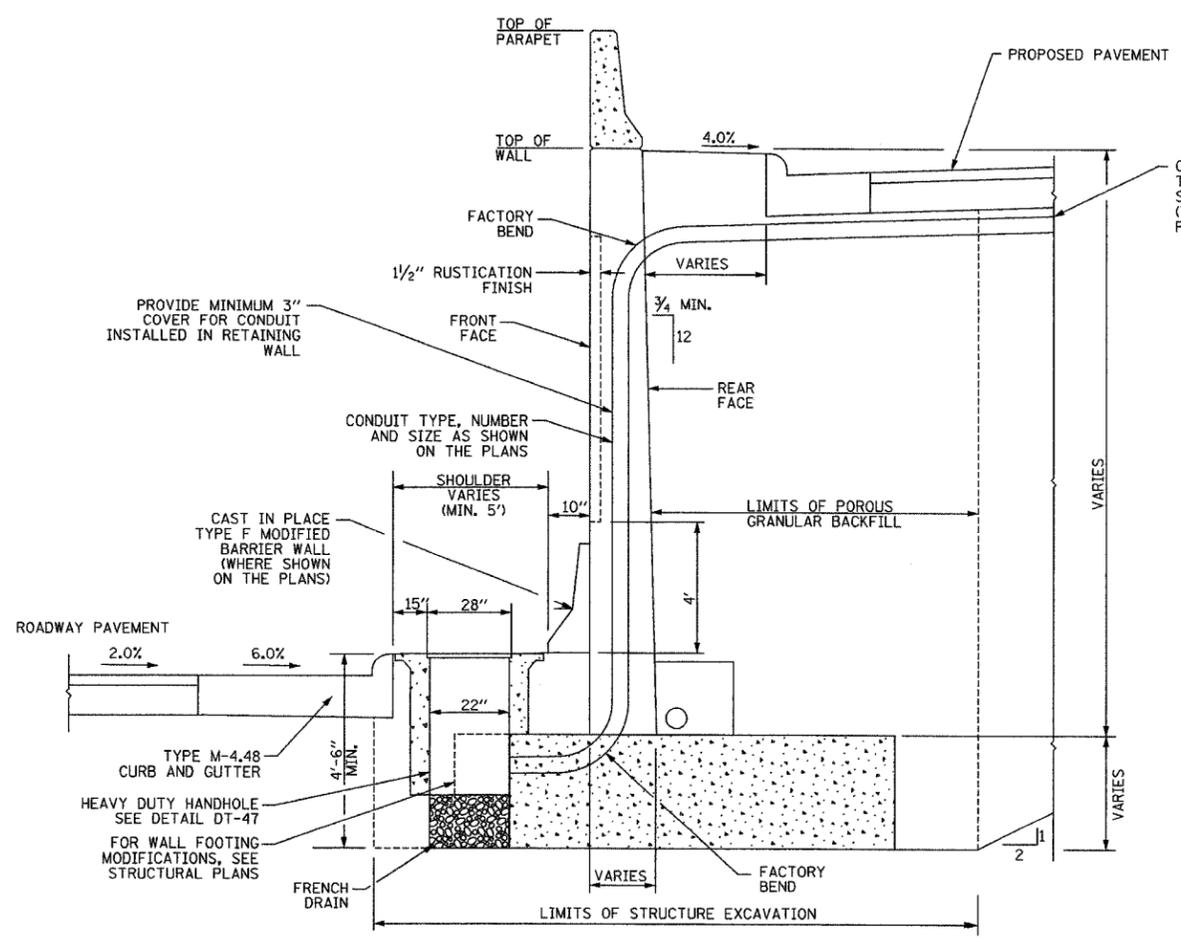
PC CONCRETE - HEAVY DUTY HANDHOLE DETAIL (TYPE S1)

SCALE: NTS
DATE: October 29, 2004
DRAWN BY: CJH
CHECKED BY: MJL

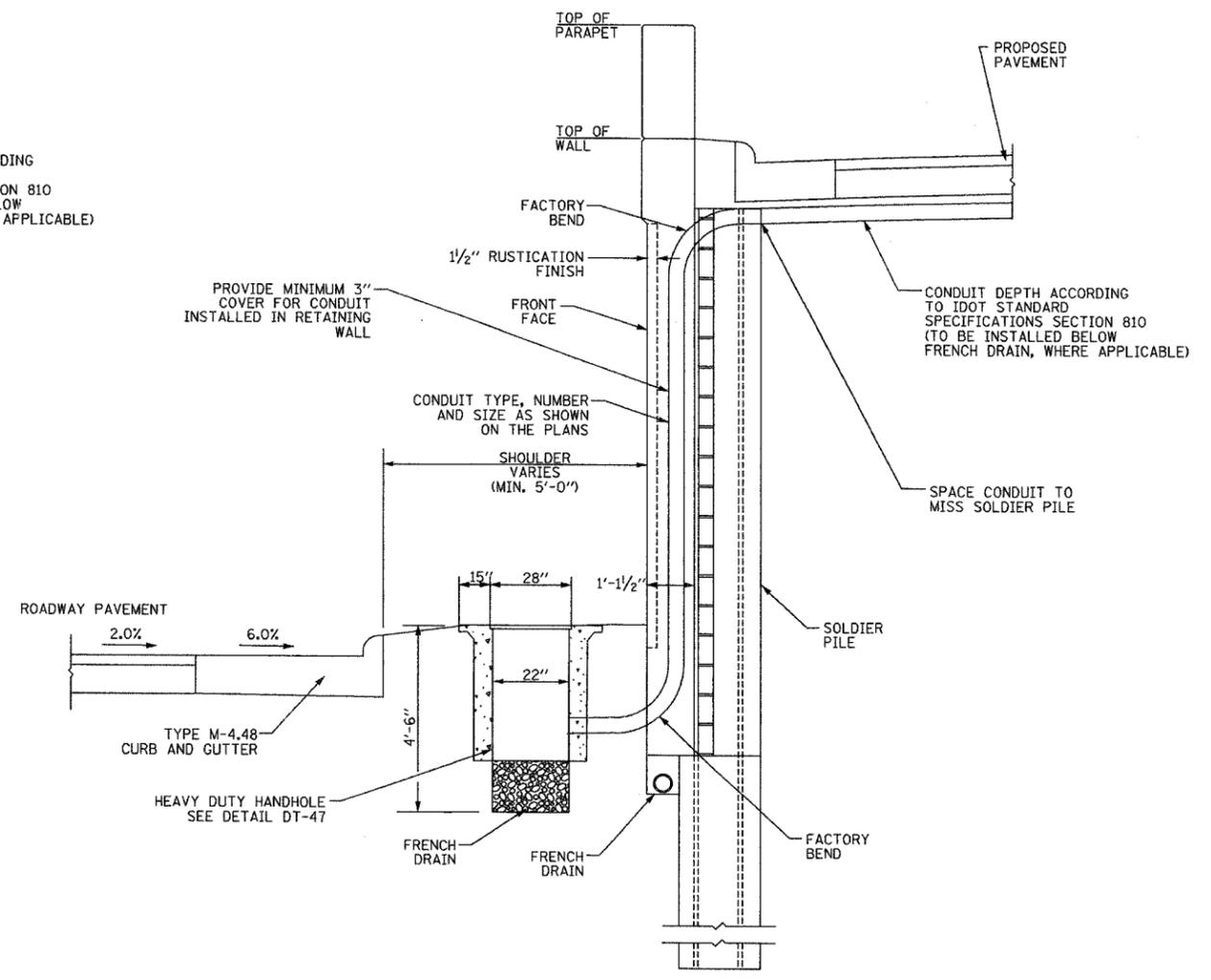
10/14/2004 09:24:34 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	455
STA. 29+00.00 TO STA. 36+57.45		ILLINOIS FED. AID PROJECT	
62583			

PA030009031518000000201528257



TYPICAL SECTION NEW CANTILEVER RETAINING WALL



TYPICAL SECTION NEW SOLDIER PILE RETAINING WALL

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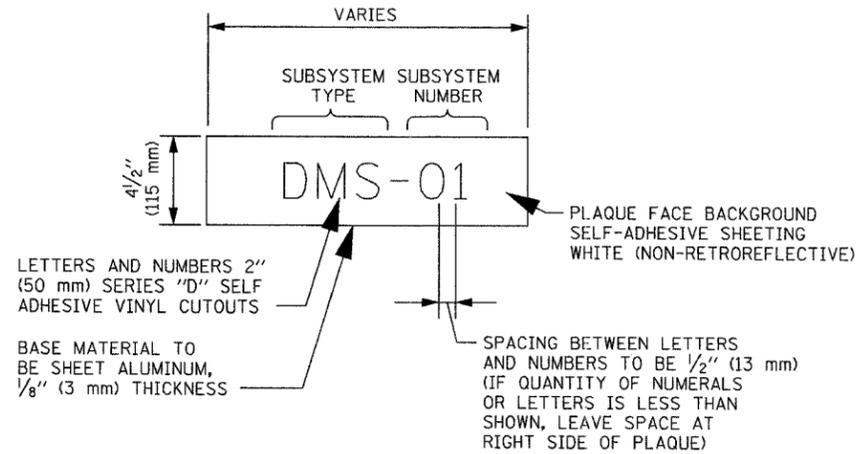
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57
 CONDUIT INSTALLATION IN BARRIER/
 RETAINING WALLS
 TYPICAL DETAIL
 SCALE: NTS
 DATE: October 29, 2004
 DRAWN BY: NB
 CHECKED BY: MJL

DT-48

09/24/04 10/14/2004

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-03II	COOK	976	956
STA. 2003-03II		TO STA.	
FED. ROAD DIST. NO. 62583		ILLINOIS FED. AID PROJECT	



SURVEILLANCE CABINET
IDENTIFICATION PLAQUE DETAIL

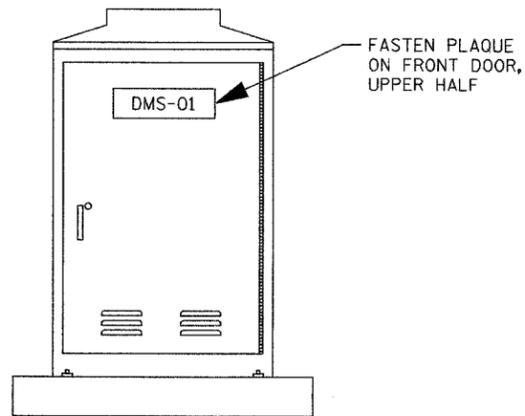
LEGEND

SUBSYSTEM TYPE

- DMS - DYNAMIC MESSAGE SIGN
- HAR - HIGHWAY ADVISORY RADIO
(RAMP METER AND DETECTOR CABINET
PLAQUES TO ONLY INCLUDE CABINET
NUMBER)

NOTES:

1. SUBSYSTEM NUMBERING SCHEME TO FOLLOW CABINET IDENTIFICATION NUMBERS SHOWN ON THE DIFFERENT SUBSYSTEM SHEETS. CONTRACTOR SHALL VERIFY NUMBERING SCHEME FOR EACH CABINET WITH THE ENGINEER BEFORE PROCURING AND INSTALLING THE IDENTIFICATION PLAQUES.
2. FOR CCTV CABINET IDENTIFICATION PLAQUE DETAILS, SEE SHEET DT-15.



SURVEILLANCE CABINET
IDENTIFICATION PLAQUE
PLACEMENT DETAIL
(TYPICAL ALL SURVEILLANCE CABINETS)

DT-49

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CHICAGO, IL 60606
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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57

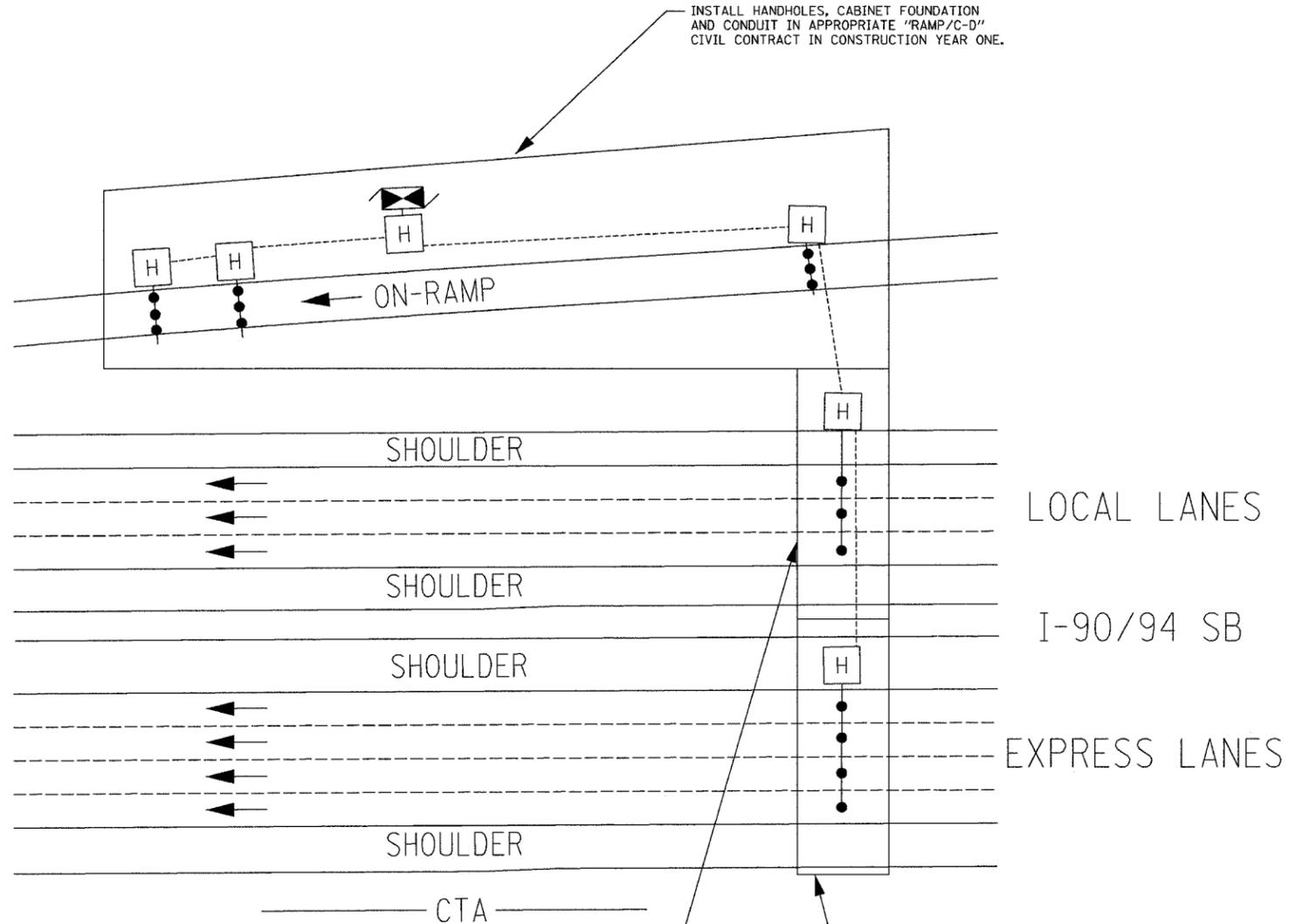
COMMUNICATIONS/SURVEILLANCE
COMPONENT IDENTIFICATION
PLAQUE DETAIL

SCALE: NTS
DATE: October 29, 2004

DRAWN BY: NB
CHECKED BY: CTC

10/14/2004 09:24:37 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	957
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			



INSTALL HANDHOLES, CABINET FOUNDATION AND CONDUIT IN APPROPRIATE "RAMP/C-D" CIVIL CONTRACT IN CONSTRUCTION YEAR ONE.

INSTALL HANDHOLES AND CONDUIT IN APPROPRIATE "LOCAL LANES" CIVIL CONTRACT IN CONSTRUCTION YEAR THREE.

INSTALL HANDHOLES AND CONDUIT IN APPROPRIATE "EXPRESS LANES" CIVIL CONTRACT IN CONSTRUCTION YEAR TWO.

NOTES:

1. DATES ARE APPROXIMATE AND VARY BY LOCATION.
2. ITS CONTRCAT 62583 AND VARIOUS CIVIL CONTRACTS WILL BE UNDER CONSTRUCTION SIMULTANEOUSLY.

CONTRACT 62583 STAGING

- 1) PRIOR TO COMPLETION OF RAMP/C-D CONTRACT, INSTALL RAMP METERING SIGNS/SIGNALS, SIGNAL CABINET AND MICROLOOP PROBES (RAMP CONDUIT ONLY). ACTIVATE RAMP METER SITE.
- 2) UPON COMPLETION OF ALL DETECTOR SITE CONDUIT AND ADJACENT PAVEMENT INSTALLATION, INSTALL MICROLOOP PROBES IN EXPRESS LANE/LOCAL LANE PAVEMENT CONDUIT AND ACTIVATE DETECTOR SITE.

CONSTRUCTION STAGING DETAIL
(North of Skyway)

DT-50

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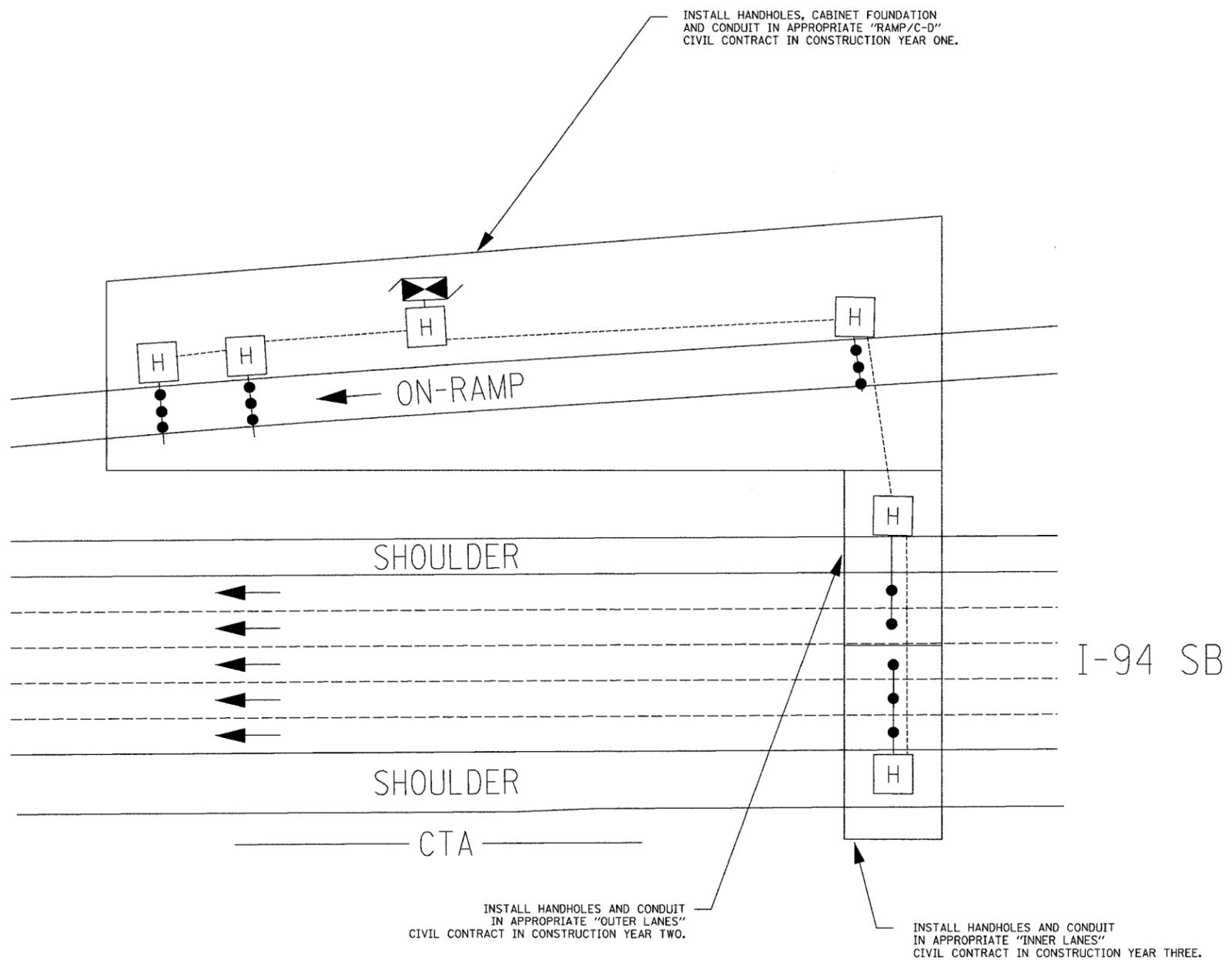
REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION F.A.I. 94/90 (DAN RYAN EXPRESSWAY) 31st STREET to I-57
NAME	DATE	
		LOOP STAGING DETAIL NORTH END SCALE: NTS DATE: October 29, 2004 DRAWN BY: MF CHECKED BY: DH

11/23/2004 10:50:56 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	958
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			

NOTES:

1. DATES ARE APPROXIMATE AND VARY BY LOCATION.
2. ITS CONTRCAT 62583 AND VARIOUS CIVIL CONTRACTS WILL BE UNDER CONSTRUCTION SIMULTANEOUSLY.



CONTRACT 62583 STAGING

- 1) PRIOR TO COMPLETION OF RAMP/C-D CONTRACT, INSTALL RAMP METERING SIGNS/SIGNALS, SIGNAL CABINET AND MICROLOOP PROBES (RAMP CONDUIT ONLY). ACTIVATE RAMP METER SITE.
- 2) UPON COMPLETION OF ALL DETECTOR SITE CONDUIT AND ADJACENT PAVEMENT INSTALLATION, INSTALL MICROLOOP PROBES IN MAINLINE PAVEMENT CONDUIT AND ACTIVATE DETECTOR SITE.

CONSTRUCTION STAGING DETAIL
(South of Skyway)

DT-51

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AND
Kelcey**
ONE NORTH FRANKLIN
CHICAGO, IL 60606
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REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57

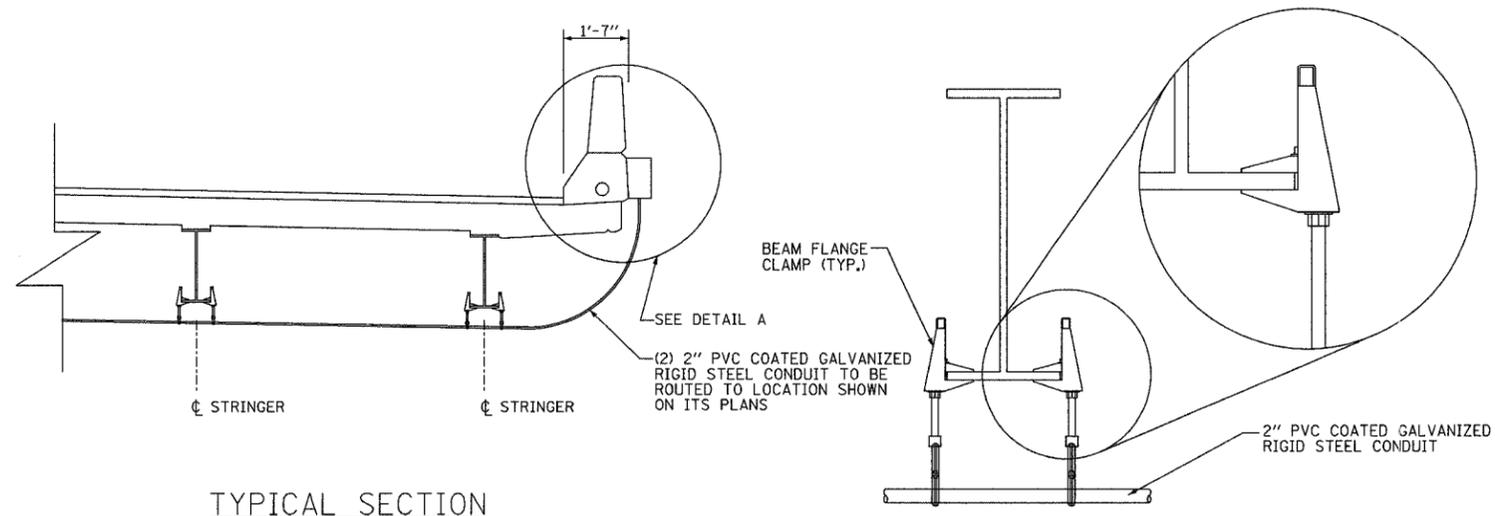
LOOP STAGING DETAIL
SOUTH END

SCALE: NTS
DATE: October 29, 2004

DRAWN BY: MF
CHECKED BY: DH

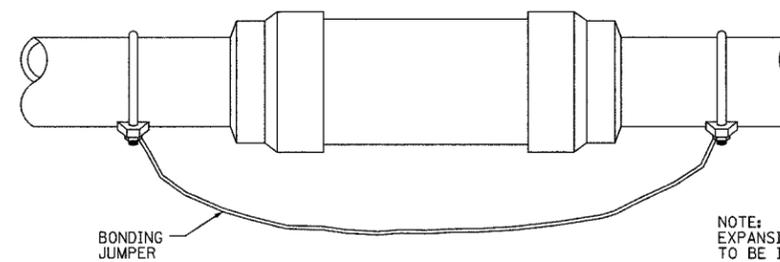
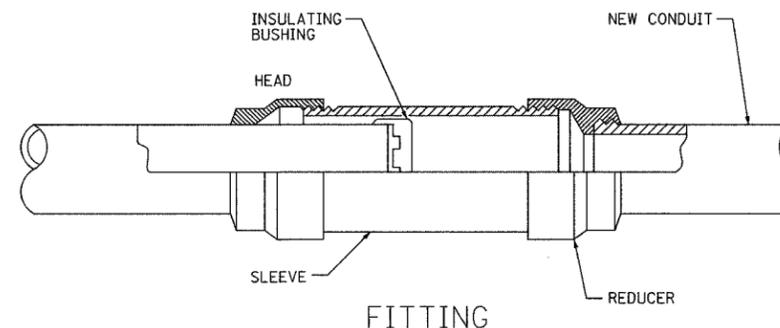
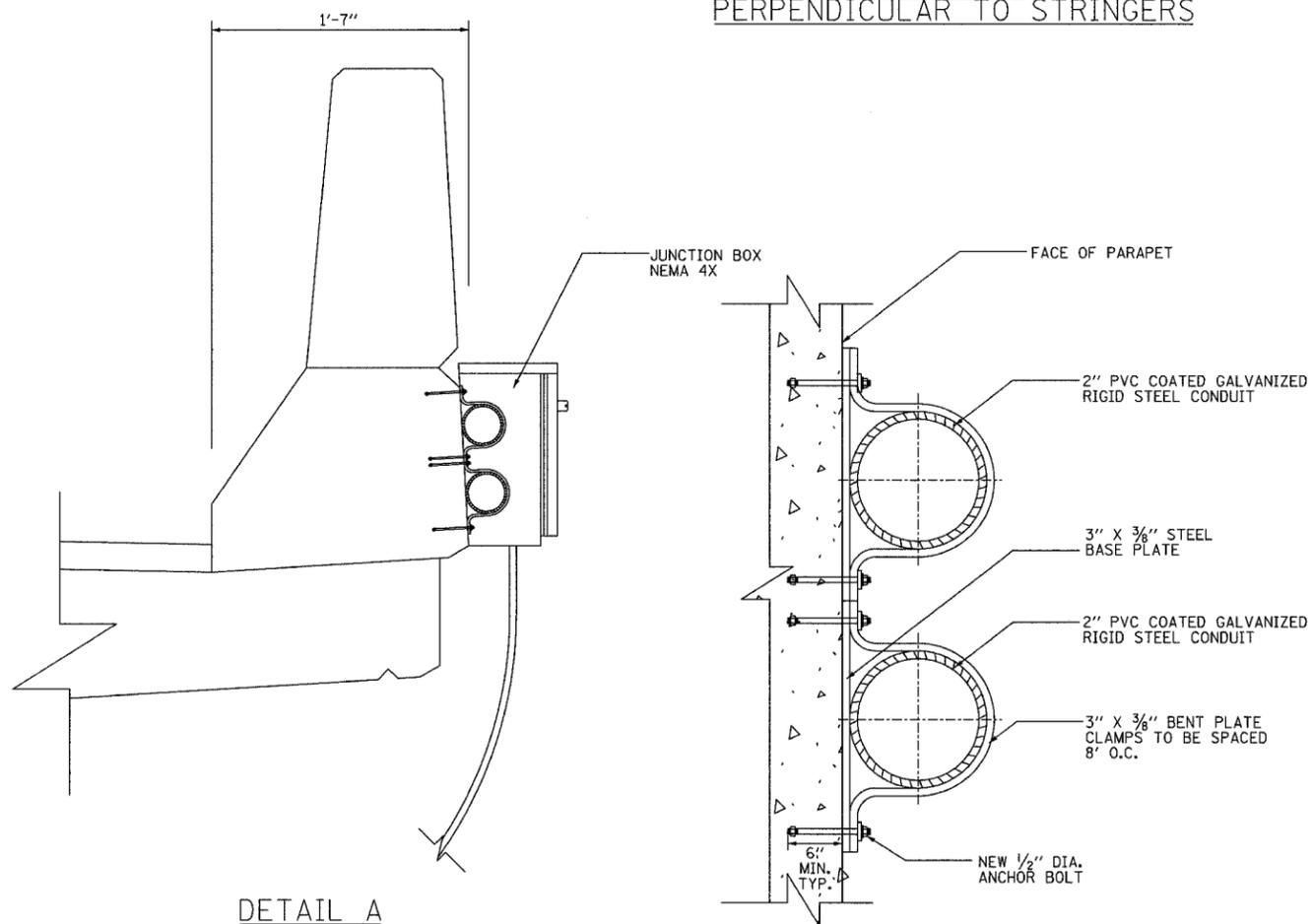
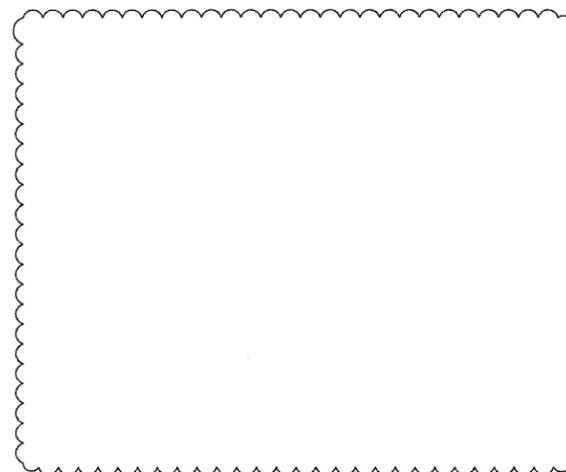
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SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	959
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			



TYPICAL SECTION

DETAIL B
PERPENDICULAR TO STRINGERS



EXPANSION FITTING TYPE EX
(PROPOSED EXPANSION JOINT ASSEMBLY
PRESET EXPANSION DEVICE AT 68° F)

DT-52

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AND Kelcey**

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REVISIONS	
NAME	DATE
REVISION 1	12/17/04

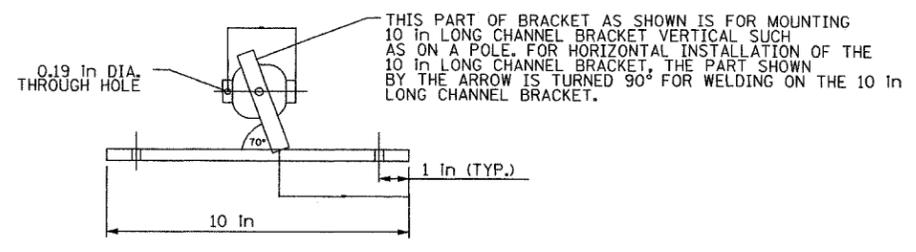
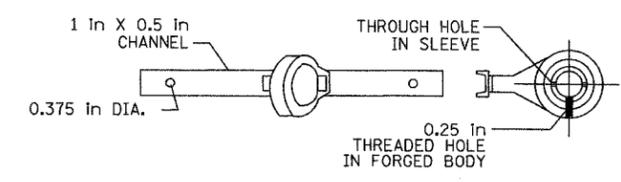
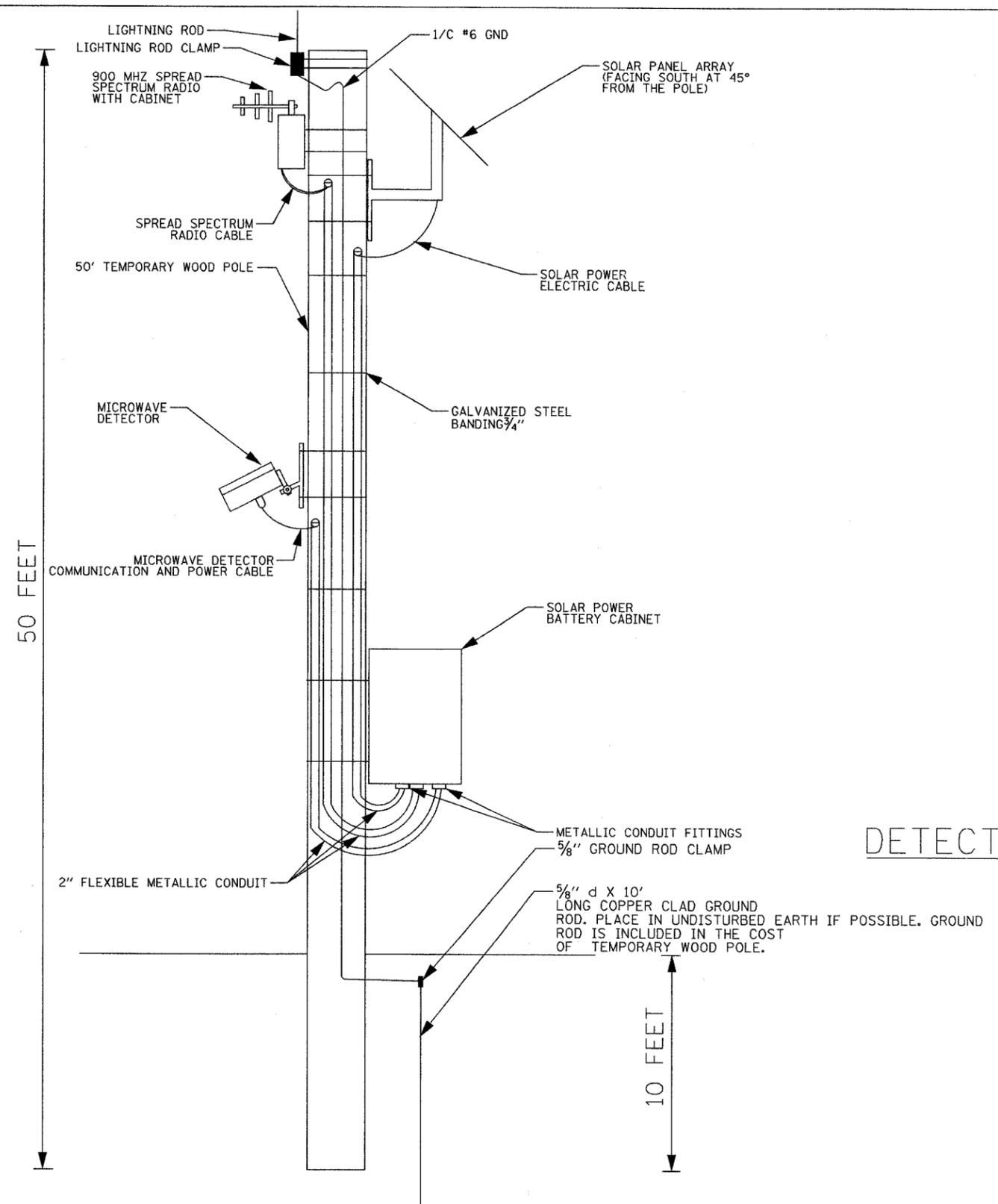
ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57

CONDUIT ATTACHMENT DETAILS
DAN RYAN ELEVATED STRUCTURE
(W. 28TH PLACE TO NORMAL AVENUE)

SCALE: NTS
DATE: October 29, 2004
DRAWN BY: RLK
CHECKED BY: AJN

12/10/2004 03:31:40 PM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-03II	COOK	976	960
STA. TO STA.		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	
		62583	



DETECTOR ASSEMBLY (SUPPLIED BY MANUFACTURER)

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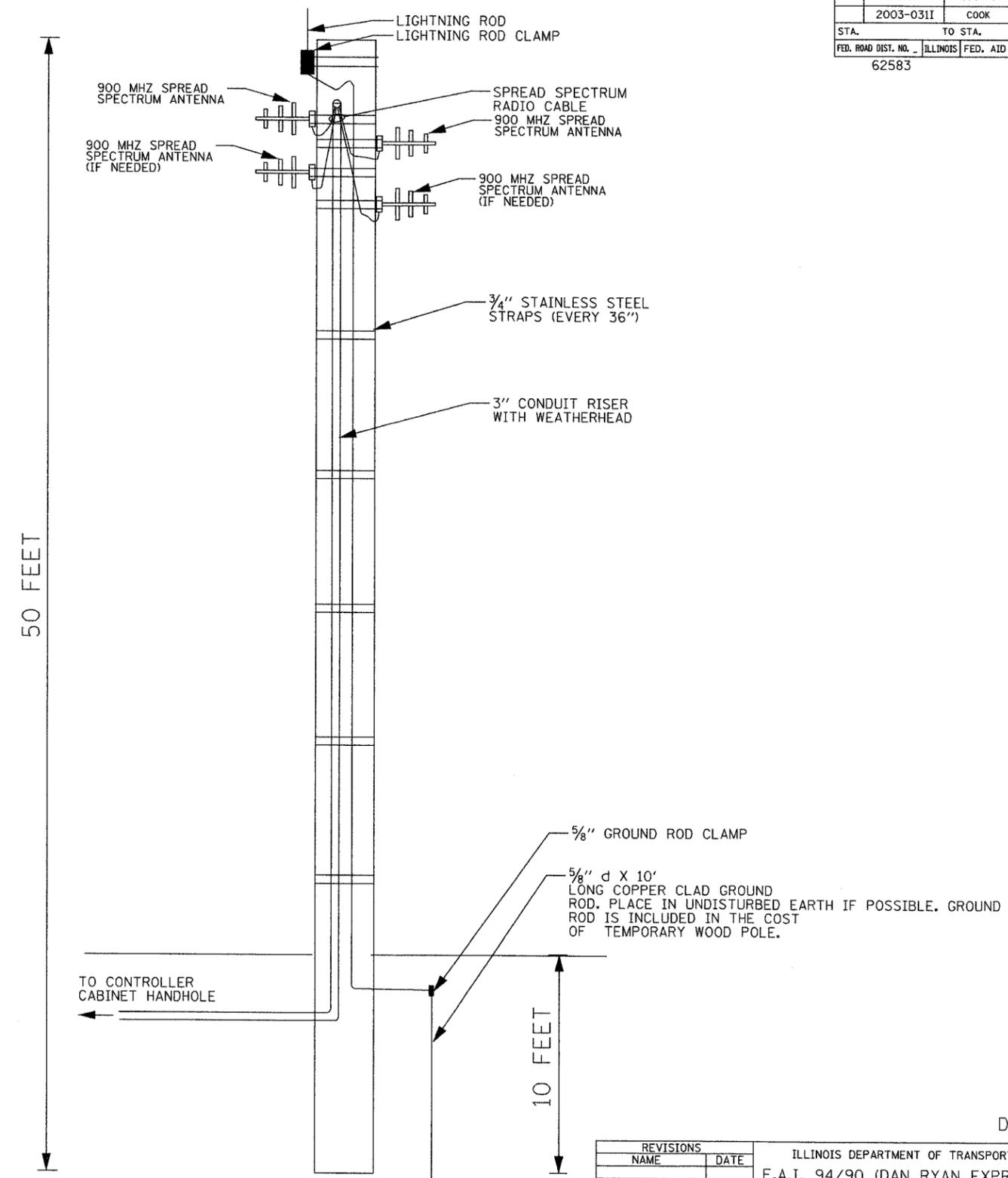
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57
 TEMPORARY MICROWAVE DETECTION
 CONSTRUCTION DETAIL
 SCALE: NTS DRAWN BY: CJH
 DATE: October 29, 2004 CHECKED BY: MJL

DT-53

10/17/2004 09:24:46 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	461
STA. TO STA.		ILLINOIS FED. AID PROJECT	
62583			



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REVISIONS	
NAME	DATE

DT-54
 ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57
 TEMPORARY MICROWAVE DETECTION
 COMMUNICATIONS HUB DETAIL
 SCALE: NTS
 DATE: October 29, 2004
 DRAWN BY: CJH
 CHECKED BY: MJL

10/14/2004 09:24:47 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	962
STA.	TO STA.		
FED. ROAD DIST. NO. 62583	ILLINOIS FED. AID PROJECT		

TABLE 1 - TEMPORARY MICROWAVE DETECTOR LOCATIONS

DETECTOR STATION	DETECTOR ID	LOCATION	No OF LANES	SETBACK* "X"
4633+75	TRVD-NB-001	31st St. Northbound Lanes	8	20'
3634+50	TRVD-SB-001	31st St. Southbound Lanes	8	20'
4580+75	TRVD-NB-002	39th St. Northbound Lanes	8	30'
3580+75	TRVD-SB-002	39th St. Southbound Lanes	8	20'
4527+00	TRVD-NB-003	47th St. Northbound Lanes	8	20'
3527+00	TRVD-SB-003	47th St. Southbound Lanes	8	20'
4473+00	TRVD-NB-004	55th St. Northbound Lanes	8	22'
3473+00	TRVD-SB-004	55th St. Southbound Lanes	8	18'
4424+00	TRVD-NB-005	63rd St. Northbound Lanes	7	20'
3424+00	TRVD-SB-005	63rd St. Southbound Lanes	7	25'
2369+50	TRVD-NB-006	71st St. Northbound Lanes	5	18'
1369+50	TRVD-SB-006	71st St. Southbound Lanes	5	20'
2325+00	TRVD-NB-007	77th St. Northbound Lanes	5	20'
1325+00	TRVD-SB-007	77th St. Southbound Lanes	5	20'
2264+00	TRVD-NB-008	87th St. Northbound Lanes	5	25'
1264+00	TRVD-SB-008	87th St. Southbound Lanes	5	25'
2210+60	TRVD-NB-009	93rd St. Northbound Lanes	5	20'
1210+50	TRVD-SB-009	94th St. Southbound Lanes	5	20'

* SEE MICROWAVE DETECTOR STATION INSTALLATION DETAILS (TABLE 2)

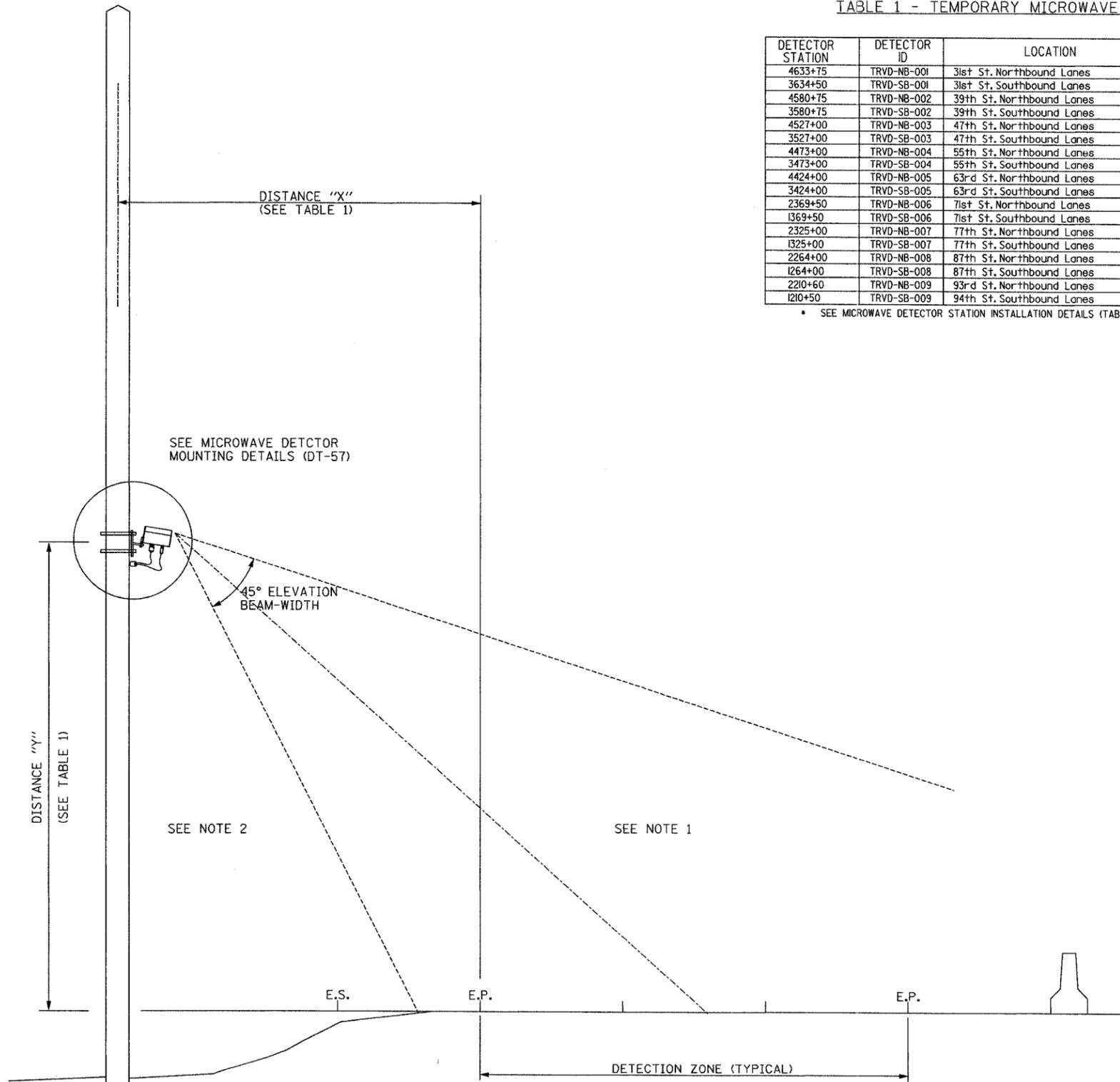


TABLE 2 - MICROWAVE DETECTOR INSTALLATION DETAILS

HORIZONTAL OFFSET FT (M)	MOUNTING HEIGHT FT (M)		
	MINIMUM	MAXIMUM	RECOMMENDED
10.0 (3.0)	17.0 (5.2)	20.0 (6.1)	17.0 (5.2)
15.0 (4.6)	17.0 (5.2)	20.0 (6.1)	17.0 (5.2)
20.0 (6.1)	17.0 (5.2)	20.0 (6.1)	17.0 (5.2)
25.0 (7.6)	17.0 (5.2)	25.0 (7.6)	20.0 (6.1)
30.0 (9.1)	23.0 (7.0)	25.0 (7.6)	23.0 (7.0)
35.0 (10.7)	25.0 (7.6)	25.0 (7.6)	25.0 (7.6)
40.0 (12.2)	25.0 (7.6)	25.0 (7.6)	25.0 (7.6)
45.0 (13.7)	25.0 (7.6)	25.0 (7.6)	25.0 (7.6)
50.0 (15.2)	25.0 (7.6)	25.0 (7.6)	25.0 (7.6)

DIMENSIONS REFERENCED FROM THE EDGE OF PAVEMENT.

NOTES:

- DETECTOR UNIT TO BE AIMED AT CENTER OF DETECTION ZONE. WHEN TWO DETECTORS ARE USED IN TANDEM AT A GIVEN LOCATION, DETECTION ZONE SHALL INCLUDE ALL TRAVEL LANES IN A SINGLE DIRECTION NEAREST EACH DETECTOR. WHEN A SINGLE DETECTOR IS USED AT A GIVEN LOCATION, THE DETECTOR ZONE SHALL INCLUDE ALL TRAVEL LANES IN BOTH DIRECTIONS. FINAL SETUP AND CALIBRATION TO BE PERFORMED BY MANUFACTURER'S FIELD REPRESENTATIVE IN CONJUNCTION WITH THE EQUIPMENT INTEGRATOR.
- POLE SHALL BE INSTALLED OUTSIDE OF THE CLEAR ZONE OR SHALL BE PROTECTED FROM TRAFFIC.

Edwards AND Kelcey
 ONE NORTH FRANKLIN
 CHICAGO, IL 60606
 PHONE: (312) 251-3000
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TYPICAL MICROWAVE DETECTOR INSTALLATION CROSS SECTION VIEW

NOT TO SCALE

REVISIONS	
NAME	DATE

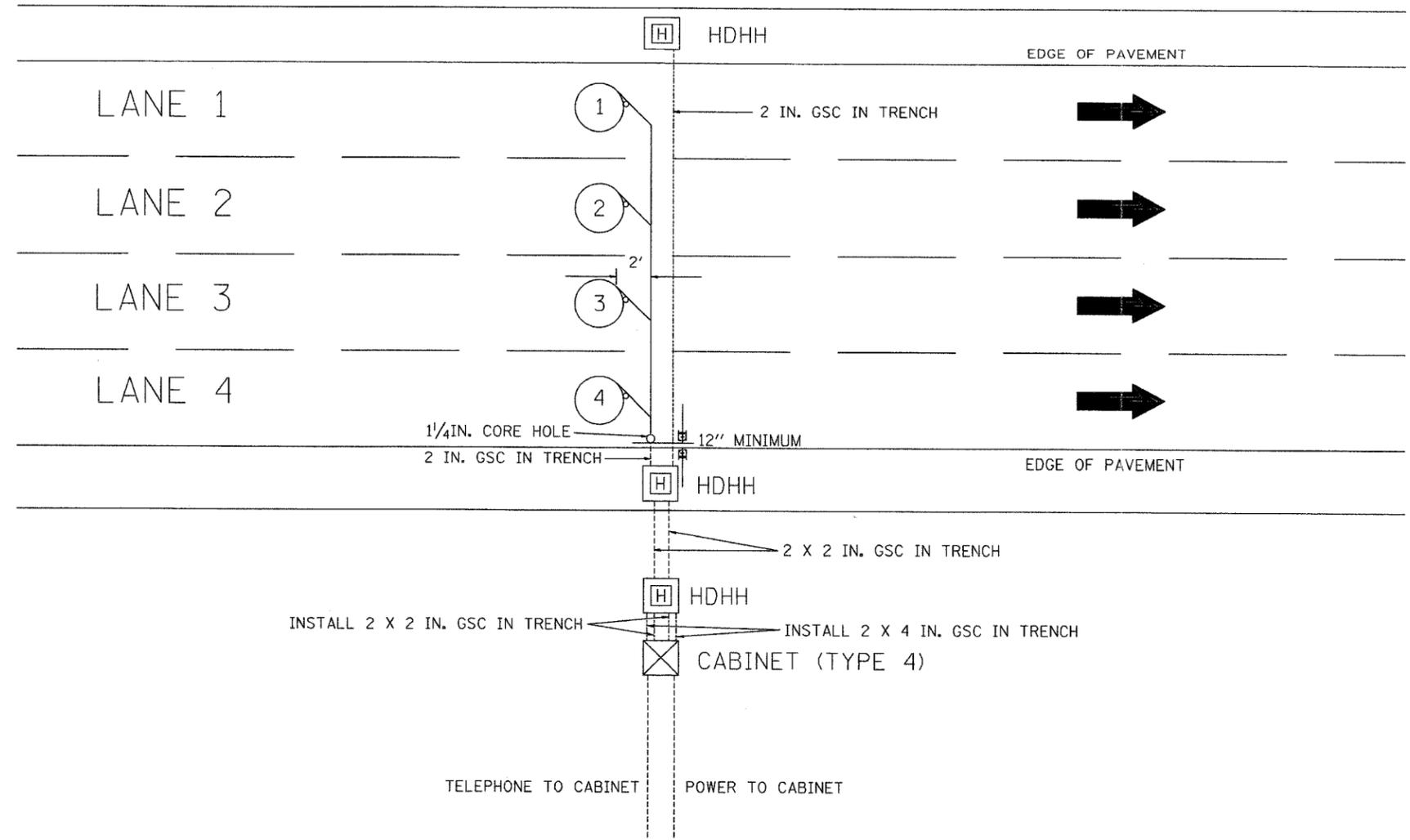
ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57
 TEMPORARY MICROWAVE DETECTION
 CONSTRUCTION DETAIL
 SCALE: NTS
 DATE: October 29, 2004
 DRAWN BY: CJH
 CHECKED BY: MJL

DT-55

10/14/2004 09:24:49 AM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	963
STA. 62583		TO STA.	
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			

NOTE: ALL MAIN LINE LOOPS ARE ROUND 6' DIA.



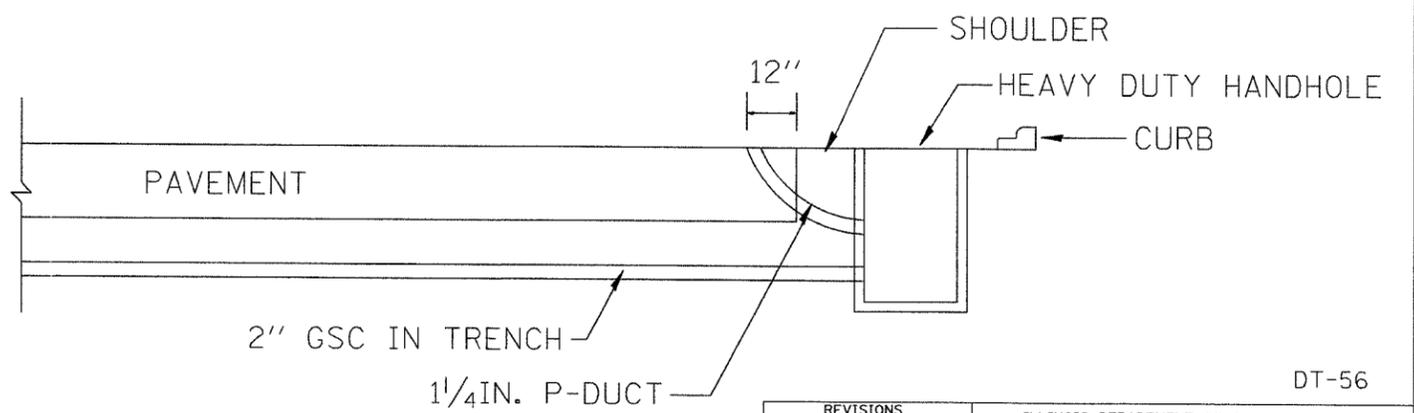
INSTALL 2 X 2 IN. GSC IN TRENCH

INSTALL 2 X 4 IN. GSC IN TRENCH

CABINET (TYPE 4)

TELEPHONE TO CABINET

POWER TO CABINET



- NOTES
1. EACH LOOP SHALL BE SPLICED TO A 4-C NO.18 TWISTED SHIELDED LEAD IN WHEN 150FT. OR MORE FROM CABINET.
 2. LOOPS SHALL BE SPLICED IN HANDHOLES ONLY, OTHERWISE WRITTEN PERMISSION SHALL BE OBTAINED FROM TSC ENGINEER.
 3. LOOPS SHALL NOT BE SPLICED IN SERIES.
 4. EACH LOOP LEAD IN SHALL BE IDENTIFIED AND PERMANENTLY COLOR CODED IN THE COREHOLE, HANDHOLE & CABINETS THRU WHICH THEY ENTER OR PASS AND TAGGED WITH THE CORRECT NOMENCLATURES.

**Edwards
AND Kelcey**

ONE NORTH FRANKLIN
CHICAGO, IL 60606
PHONE: (312) 251-3000
FAX: (312) 251-3015
WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31st STREET to I-57
NEW CONSTRUCTION
PRE-FORMED LOOP
TYPICAL INSTALLATION

SCALE: NTS
DATE: October 29, 2004

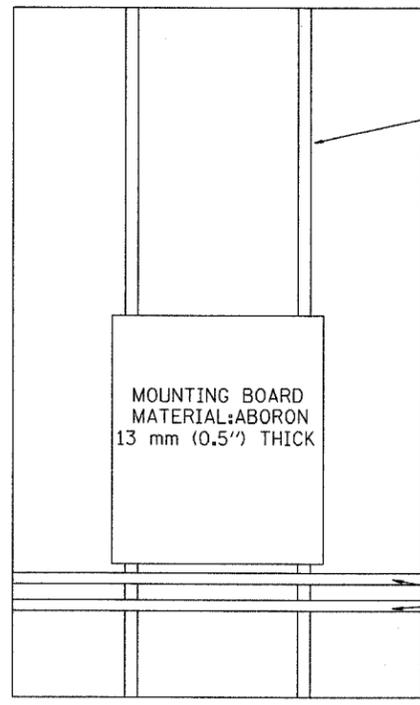
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CHECKED BY: DH

DT-56

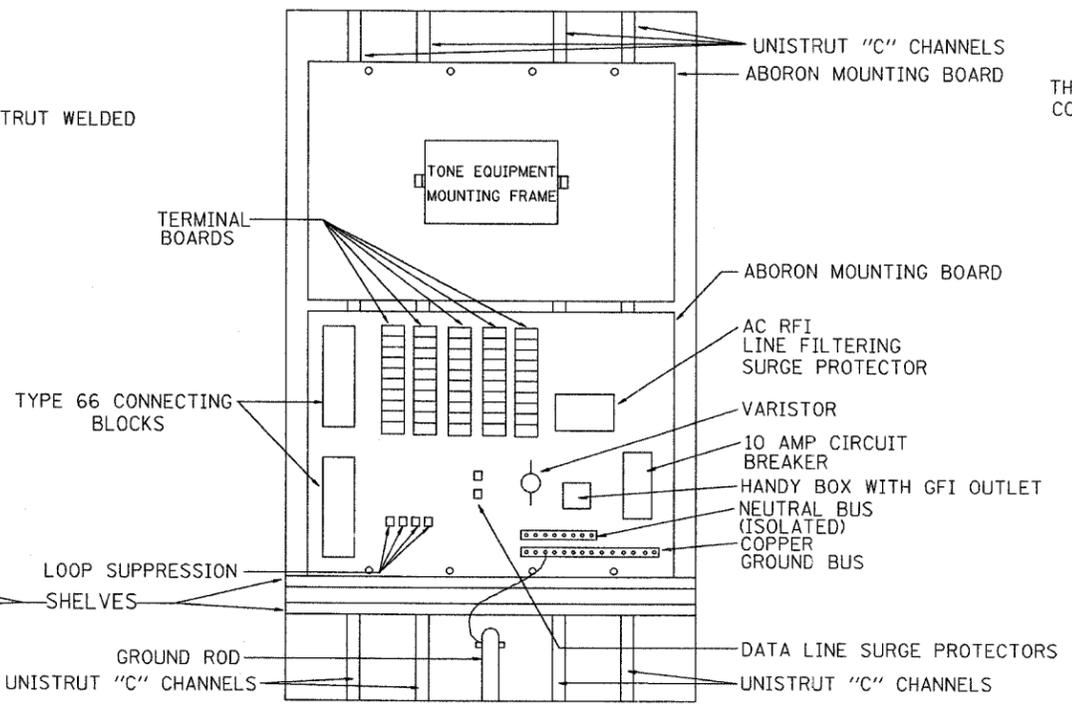
10/15/2004 02:19:42 PM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	464
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			

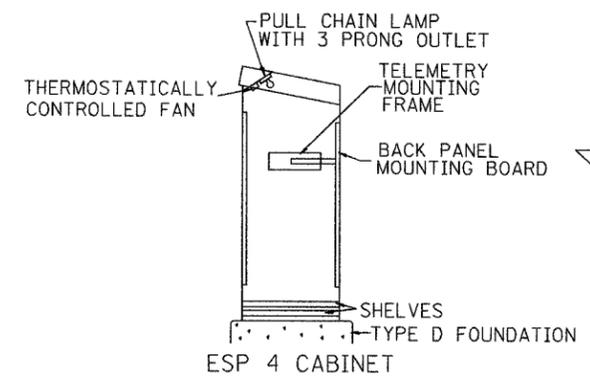
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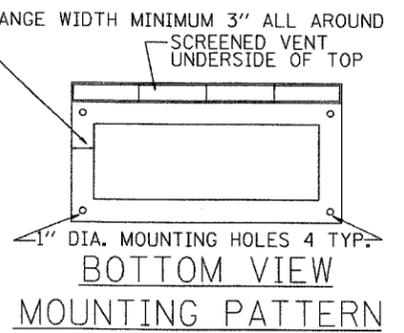
SIDE VIEW ESP 4 CABINET



FRONT VIEW ESP 4 CABINET



PROFILE VIEW



BOTTOM VIEW MOUNTING PATTERN

NOTES:

- ALL CABINETS SHALL HAVE TERMINAL BLOCKS AND SHELVES AS SHOWN. THESE ITEMS SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE CABINET.
- THE CABINET DOOR SHALL BE HINGED ON THE RIGHT SIDE WHEN FACING THE CABINET. THE DOOR SHALL BE FURNISHED WITH A GASKET THAT SHALL FORM A WEATHER TIGHT SEAL BETWEEN THE CABINET AND DOOR. THE HINGES SHALL BE CONTINUOUS AND BOLTED TO THE CABINET AND DOOR UTILIZING 1/4-20 STAINLESS STEEL CARRIAGE BOLTS AND NY-LOCK NUTS. THE HINGES WILL BE MADE OF STAINLESS STEEL WITH A 6.35 mm (0.25 INCH) DIAMETER STAINLESS STEEL HINGE PIN. THE HINGE PIN SHALL BE CAPPED TOP AND BOTTOM BY WELD TO RENDER IT TAMPER PROOF.
- THE LATCHING MECHANISM SHALL BE A 3 POINT DRAW ROLLER TYPE. THE CENTER CATCH AND PUSHRODS SHALL BE EITHER CADMIUM OR ZINC PLATED, TYPE II CLASS I. PUSHRODS WILL BE TURNED EDGEWISE AT THE OUTWARD SUPPORTS AND SHALL BE 6.35 mm (0.25 INCH) BY 19.05 mm (0.75 INCH), MINIMUM. ROLLERS SHALL HAVE A MINIMUM DIAMETER OF 22.22 mm (0.875 INCH) AND WILL BE MADE OF NYLON. THE CENTER CATCH SHALL BE FABRICATED FROM 3.55 mm (0.14 INCH) STEEL, MINIMUM. WHEN THE DOOR IS CLOSED AND LATCHED, IT WILL BE LOCKED. THE LATCHING HANDLE SHALL HAVE A PROVISION FOR PADLOCKING IN THE CLOSED POSITION. AN OPERATING HANDLE SHALL BE FURNISHED WITH EACH LOCK. THE HANDLE WILL BE STAINLESS STEEL WITH A 19.05 mm (0.75 INCH) DIAMETER SHANK.
- THE ENCLOSURE SHALL BE EQUIPPED WITH TWO "C" MOUNTING CHANNELS WELDED ON BOTH SIDE WALLS AND BACK WALL OF THE ENCLOSURE, ALLOWING VERSATILE POSITIONING OF SHELVES OR PANELS. MOUNTING CHANNELS SHALL BE FACTORY PAINTED SAME COLOR AS INTERIOR OF CABINET.
- ALL FIELD CABINETS SHALL BE FITTED WITH BRASS LOCKS.
- ESP TYPE 4 CABINETS FITTED WITH TWO SHELVES AS SHOWN.
- THE CONTROL CABINET SHALL BE SET PLUMB ON THE FOUNDATION AND FASTENED TO THE ANCHOR BOLTS WITH NUTS AND WASHERS. FLAT WASHERS SHALL BE INSTALLED BELOW AND ABOVE THE BASE PLATE OF THE CONTROL CABINET. LOCKWASHERS SHALL BE INSTALLED ON TOP OF THE TOP FLAT WASHER.

DT-57

Edwards AND Kelcey
 ONE NORTH FRANKLIN
 CHICAGO, IL 60606
 PHONE: (312) 251-3000
 FAX: (312) 251-3015
 WEB: WWW.ELCORP.COM

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57

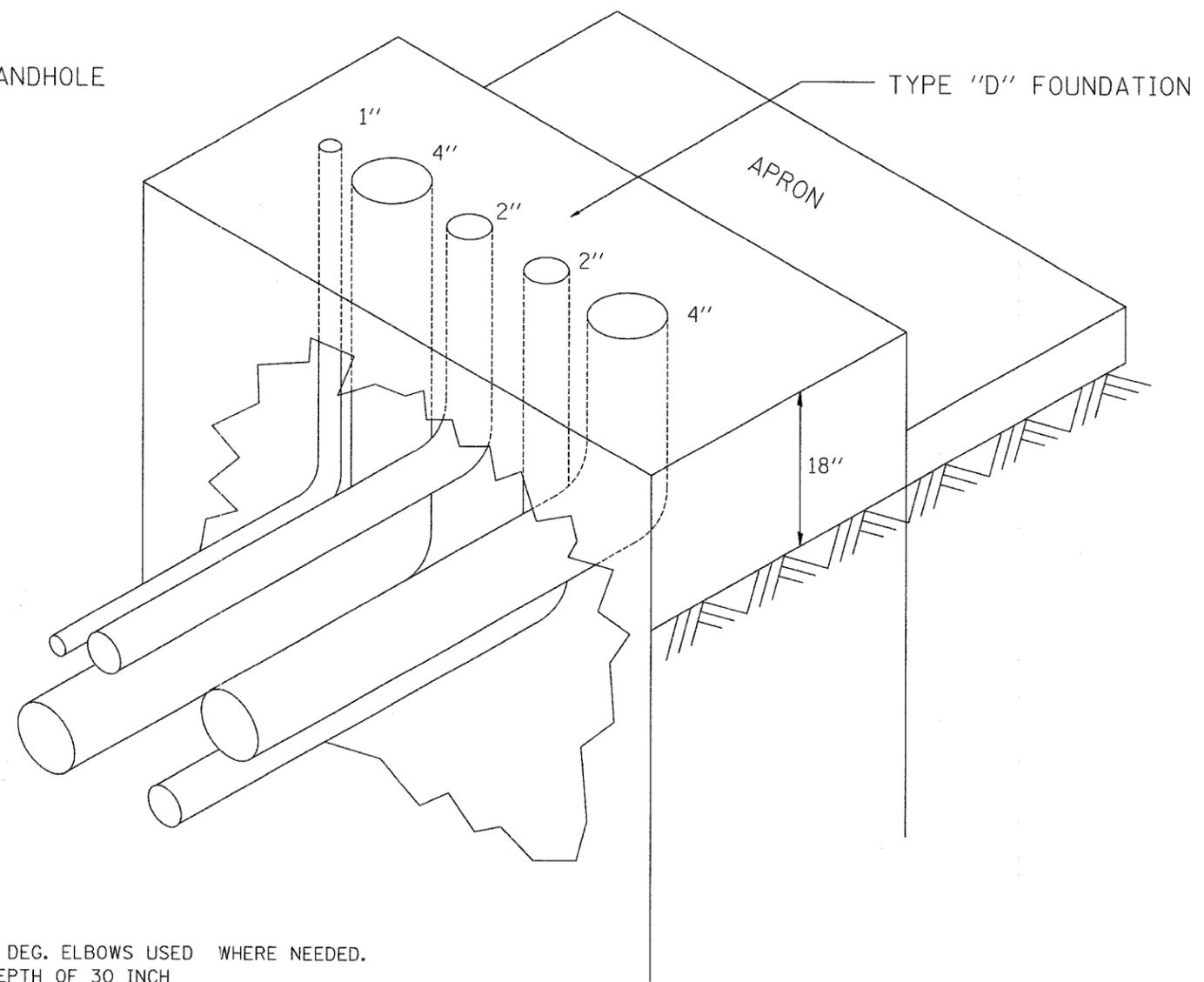
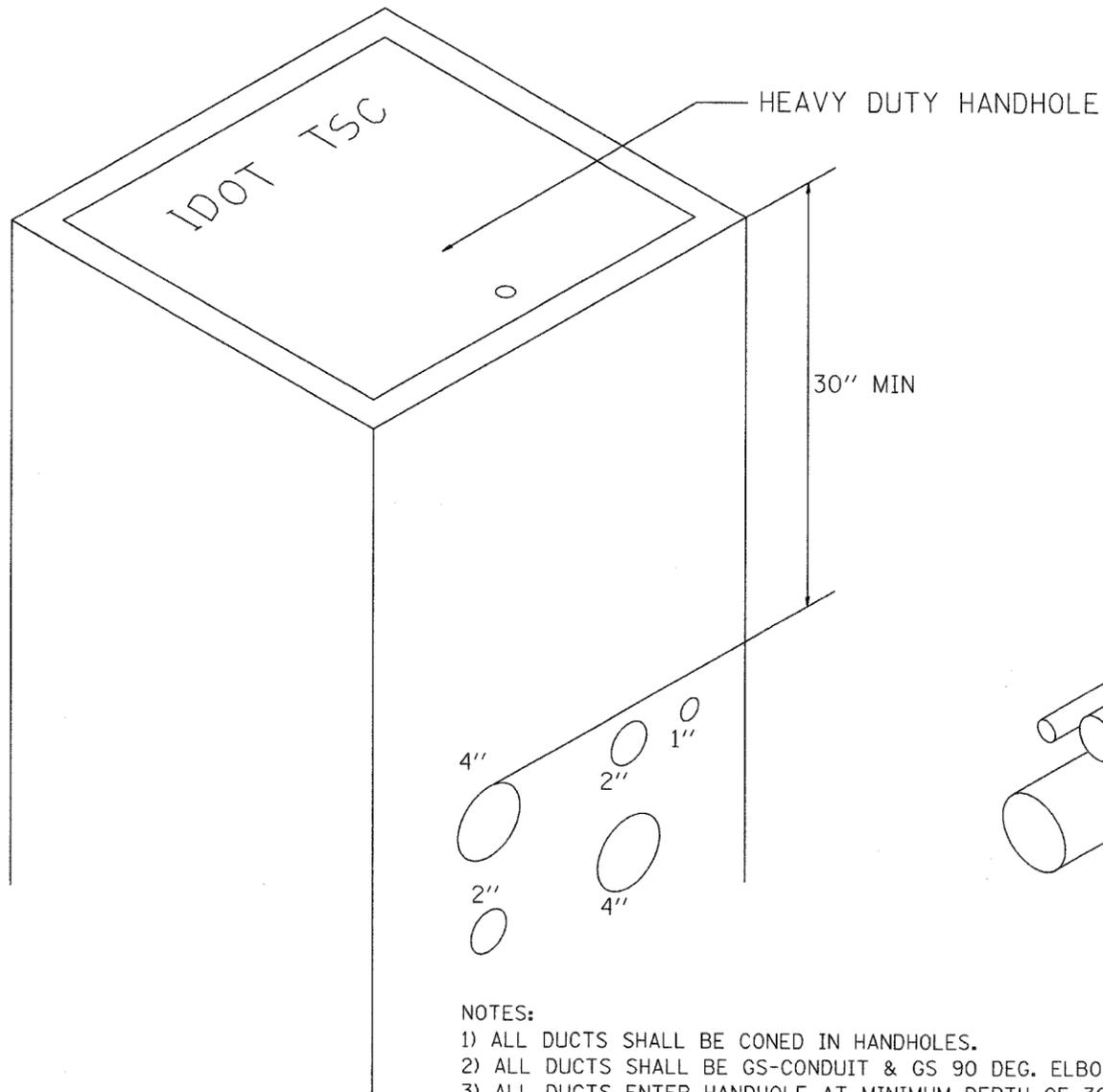
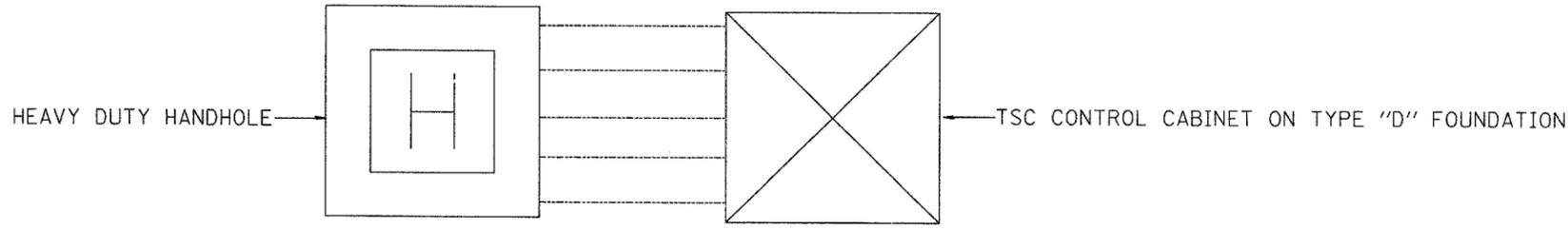
TYPE 4 CABINET
 DETAIL SHEET

SCALE: NTS
 DATE: October 29, 2004

DRAWN BY: MAF
 CHECKED BY: DH

10/15/2004 02:19:42 PM

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2003-0311	COOK	976	465
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	
62583			



- NOTES:
- 1) ALL DUCTS SHALL BE CONED IN HANDHOLES.
 - 2) ALL DUCTS SHALL BE GS-CONDUIT & GS 90 DEG. ELBOWS USED WHERE NEEDED.
 - 3) ALL DUCTS ENTER HANDHOLE AT MINIMUM DEPTH OF 30 INCH
 - 4) ALL HANDHOLE COVERS SHALL READ "IDOT".
 - 5) ALL CABINET HANDHOLES SHALL BE HEAVY DUTY.
 - 6) DUCTS SHALL BE CENTERED IN CABINET FOUNDATION/HANDHOLE AS SHOWN.
 - 7) CONDUITS SHALL BE SPACED 1 FOOT CENTER TO CENTER IN HEAVY DUTY HANDHOLE.
 - 8) INSTALL 3/4" X 10' COPPER CLAD STEEL GROUND ROD IN HDHH PROVIDED AS CABINET PAD. EXOTHERMIC WELD CONNECTION FROM GROUND ROD TO #6 GROUND WIRE INSULATED (GREEN).
 - 9) BOND ALL GSC CONDUITS IN CABINET FOUNDATION.
 - 10) INSTALL #6 GROUND WIRE IN 1" GSC FROM HANDHOLE TO CABINET.
 - 11) TYPE "D" FOUNDATION SHALL BE 18" FROM TOP OF FOUNDATION TO FINISH GRADE.

Edwards AND Kelcey
 ONE NORTH FRANKLIN
 CHICAGO, IL 60606
 PHONE: (312) 251-3000
 FAX: (312) 251-3015
 WEB: WWW.EKCORP.COM

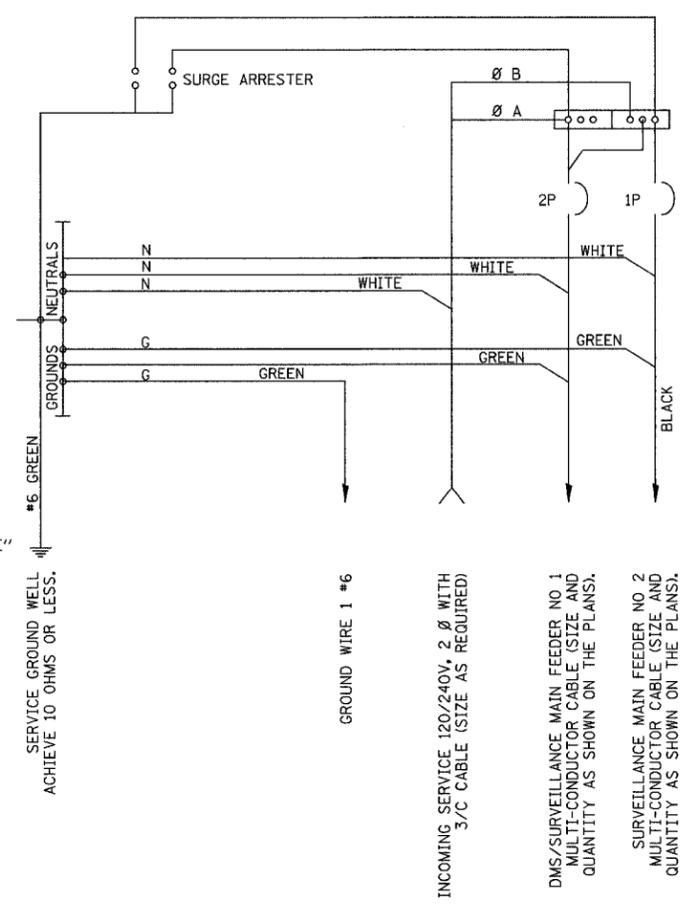
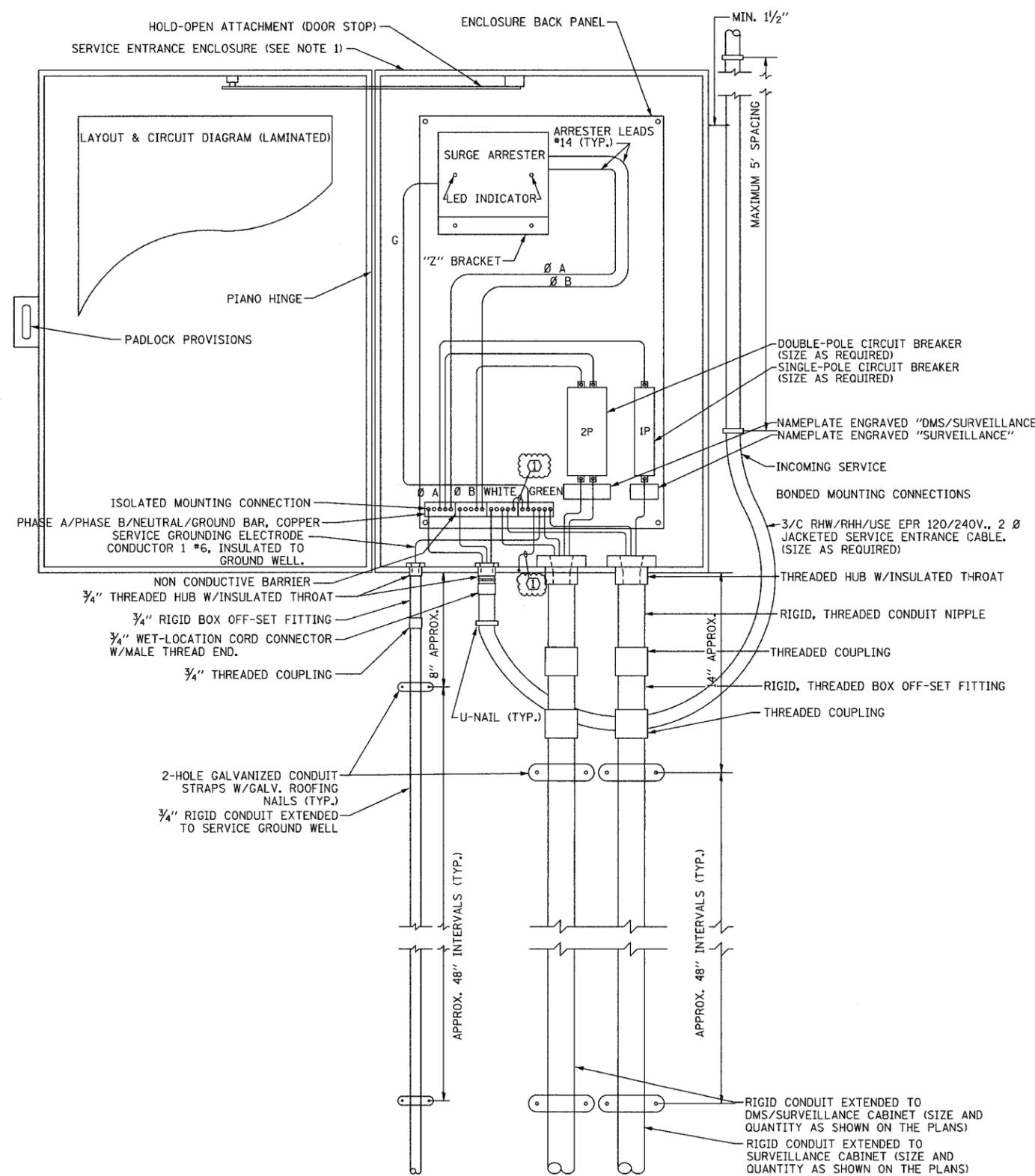
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57
 CONCRETE FOUNDATION
 TYPE D
 SCALE: NTS
 DATE: October 29, 2004
 DRAWN BY: MAF
 CHECKED BY: DH

DT-58

10/15/2004 02:43 PM

FLA.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
94/90	2003-0311	COOK	976	966
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		
62583				



SCHMATIC DIAGRAM

- NOTES:
- ELECTRIC SERVICE SHALL BE OF THE VOLTAGE INDICATED. WHERE 120-VOLT SERVICE IS INDICATED, SERVICE DROP CABLE SHALL BE INSTALLED ACCORDINGLY AND LIGHTING MAIN FEEDER CABLE SHALL BE OMITTED.
 - THE ELECTRIC SERVICE BOX SHALL BE NEMA 4X STAINLESS STEEL, NOMINALLY 12"x18"x18", WITH PIANO HINGED DOOR, STEEL BACK PANEL, FAST-ACTING STAINLESS STEEL ENCLOSURE CLAMPS, PADLOCK PROVISIONS, DOOR STOP KIT AND STEEL BACK PANEL, HOFFMAN CATALOG A-16H1208SS6LP/A-16P2/A-DSTOPK/C-PMK12, OR APPROVED EQUAL.
 - THE ELECTRIC SERVICE EQUIPMENT ASSEMBLY SHALL BE UL LABELED, SUITABLE FOR USE AS SERVICE EQUIPMENT.
 - CIRCUIT BREAKERS SHALL BE THERMAL MAGNETIC BOLT-ON TYPE WITH A MINIMUM INTERRUPTING CAPACITY OF 25,000 SYMMETRICAL AMPHERES AT 240 VOLTS. THEY SHALL BE LOCKABLE IN THE "OFF" POSITION FOR COMPLIANCE WITH OSHA LOCK-OUT/TAG-OUT REQUIREMENTS. HANDLES SHALL BE TRIP FREE.
 - THE SURGE PROTECTOR SHALL BE SUITABLE FOR 240/120 VOLT SINGLE PHASE 60HZ AC ELECTRICAL SERVICE, WITH A SURGE ENERGY CAPABILITY OF 3600 JOULES OR BETTER AT 8/20 MICROSECONDS, RATED -40 TO 65 DEGREES C., WITH LED OPERATING INDICATORS, AND SHALL BE UL LISTED PER UL 1449, CUTLER-HAMMER CMOV 230L056XST OR APPROVED EQUAL. SURGE PROTECTOR SHALL BE WIRED FOR 120 V SERVICE. FOLLOW MANUFACTURER RECOMMENDED WIRING SPECIFICATIONS.
 - BUS BARS, CONNECTORS AND LUGS SHALL BE COPPER, INSULATED AND ISOLATED AND CONFIGURED TO PREVENT SHORTED CONDITIONS FROM TIGHTENING TERMINATIONS, ETC. THE OVERALL BUS SECTION SHALL BE CONFIGURED BEHIND AN INSULATING BARRIER SHIELD WHICH IS REMOVABLE FOR ACCESS TO CONNECTIONS.
 - THE COMBINATION GROUND AND NEUTRAL BAR SHALL BE CONFIGURED WITH SEPARATE GROUND AND NEUTRAL SECTIONS AND SPARE TERMINALS AS INDICATED. THE HEADS OF GROUND SCREWS SHALL BE PAINTED GREEN. THE HEADS OF NEUTRAL SCREWS SHALL BE PAINTED WHITE.
 - A PLASTIC LAMINATED LAYOUT AND CIRCUIT DIAGRAM SHALL BE AFFIXED TO THE INTERIOR SIDE OF THE ENCLOSURE DOOR.
 - A 2-COLOR ENGRAVED PLASTIC NAMEPLATE, ATTACHED WITH SCREWS, AND ENGRAVED AS INDICATED, SHALL BE PROVIDED FOR EACH MAIN BREAKER.
 - PROVIDE ON LAYOUT AND CIRCUIT DIAGRAM A BILL OF MATERIALS USED WITH CATALOG NUMBERS.
 - REFER TO T.S.C. TYPICAL DRAWING TY-1TSC-400*20 FOR POLE MOUNTED DISCONNECT MOUNTING DETAILS.
 - CONTRACTOR SHALL EXCLUDE SINGLE-POLE CIRCUIT BREAKER AT LOCATIONS WHERE IT IS NOT REQUIRED.

CABLE DESIGNATIONS:
 (1) 1/C #6 GND

120/240V ELECTRIC SERVICE
 GENERAL LAYOUT DIAGRAM

Edwards AND Kelcey
 ONE NORTH FRANKLIN CHICAGO, IL 60606
 PHONE: (312) 251-3000
 FAX: (312) 251-3015
 WEB: WWW.EKCORP.COM

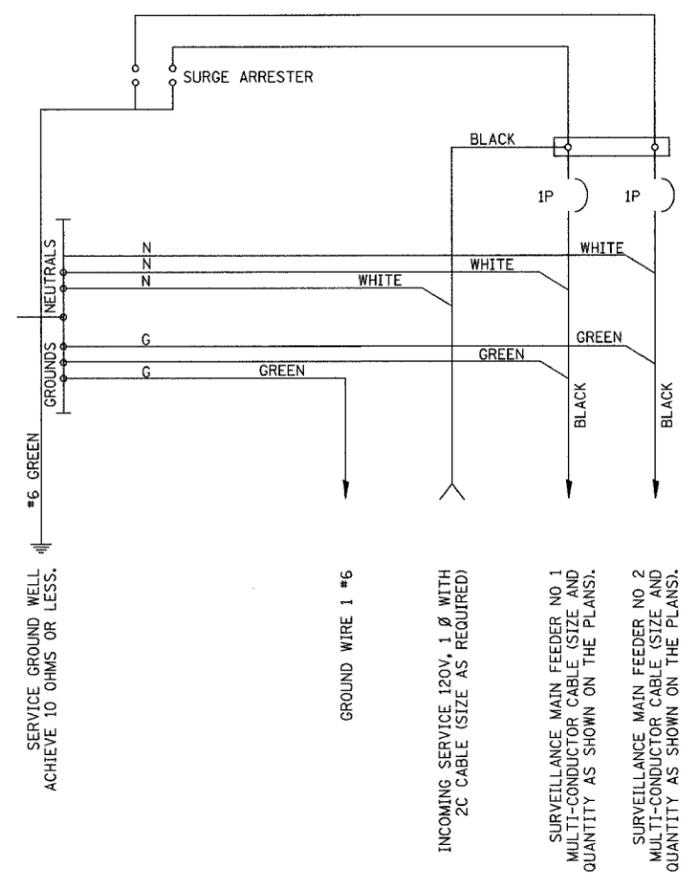
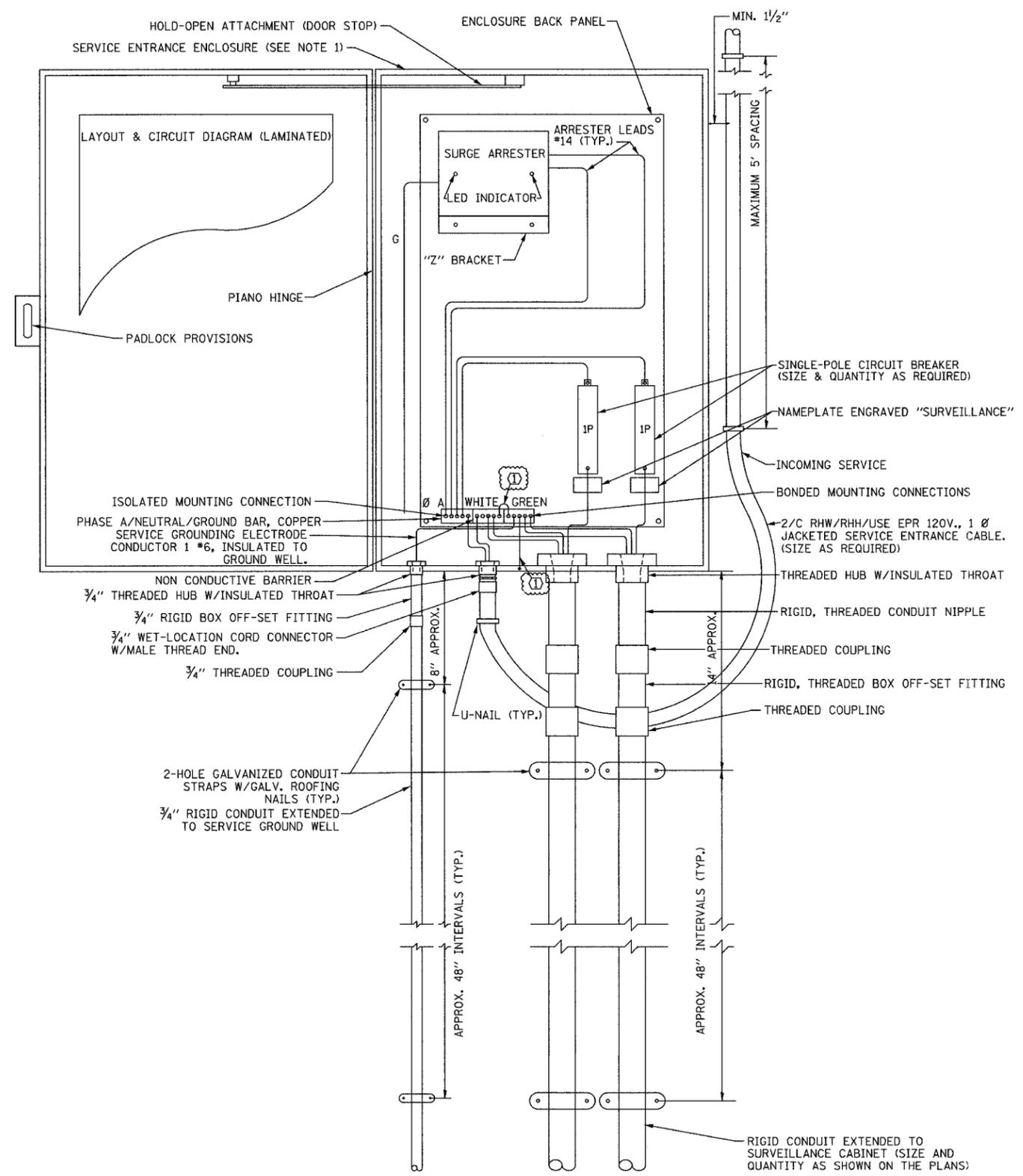
REVISIONS	
NAME	DATE
REVISION 1	12/17/04

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57
 120/240 VOLT ELECTRIC SERVICE
 BOX DETAIL
 SCALE: NOT TO SCALE
 DATE: October 29, 2004
 DRAWN BY: DHI
 CHECKED BY: CS

ESD-01

12/15/2004 01:52:56 PM

F.A.I. DATE:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9/4/90	2003-0311	COOK	976	967
STA.	TO STA.			
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
62583				



SCHEMATIC DIAGRAM

NOTES:

- ELECTRIC SERVICE SHALL BE OF THE VOLTAGE INDICATED. WHERE 120-VOLT SERVICE IS INDICATED, SERVICE DROP CABLE SHALL BE INSTALLED ACCORDINGLY AND LIGHTING MAIN FEEDER CABLE SHALL BE OMITTED.
- THE ELECTRIC SERVICE BOX SHALL BE NEMA 4X STAINLESS STEEL, NOMINALLY 12"x18"x18" WITH PIANO HINGED DOOR, STEEL BACK PANEL, FAST-ACTING STAINLESS STEEL ENCLOSURE CLAMPS, PADLOCK PROVISIONS, DOOR STOP KIT AND STEEL BACK PANEL, HOFFMAN CATALOG A-16H1208SS6LP/A-16P2/A-DSTOPK/C-PMK12, OR APPROVED EQUAL.
- THE ELECTRIC SERVICE EQUIPMENT ASSEMBLY SHALL BE UL LABELED, SUITABLE FOR USE AS SERVICE EQUIPMENT.
- CIRCUIT BREAKERS SHALL BE THERMAL MAGNETIC BOLT-ON TYPE WITH A MINIMUM INTERRUPTING CAPACITY OF 25,000 SYMMETRICAL AMPERES AT 240 VOLTS. THEY SHALL BE LOCKABLE IN THE "OFF" POSITION FOR COMPLIANCE WITH OSHA LOCK-OUT/TAG-OUT REQUIREMENTS. HANDLES SHALL BE TRIP FREE.
- THE SURGE PROTECTOR SHALL BE SUITABLE FOR 240/120 VOLT SINGLE PHASE 60HZ AC ELECTRICAL SERVICE, WITH A SURGE ENERGY CAPABILITY OF 3600 JOULES OR BETTER AT 8/20 MICROSECONDS, RATED -40 TO 65 DEGREES C., WITH LED OPERATING INDICATORS, AND SHALL BE UL LISTED PER UL 1449, CUTLER-HAMMER CMOV 230L056XST OR APPROVED EQUAL. SURGE PROTECTOR SHALL BE WIRED FOR 120 V SERVICE. FOLLOW MANUFACTURER RECOMMENDED WIRING SPECIFICATIONS.
- BUS BARS, CONNECTORS AND LUGS SHALL BE COPPER, INSULATED AND ISOLATED AND CONFIGURED TO PREVENT SHORTED CONDITIONS FROM TIGHTENING TERMINATIONS, ETC. THE OVERALL BUS SECTION SHALL BE CONFIGURED BEHIND AN INSULATING BARRIER SHIELD WHICH IS REMOVABLE FOR ACCESS TO CONNECTIONS.
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- PROVIDE ON LAYOUT AND CIRCUIT DIAGRAM A BILL OF MATERIALS USED WITH CATALOG NUMBERS.
- REFER TO T.S.C. TYPICAL DRAWING TY-1TSC-400*20 FOR POLE MOUNTED DISCONNECT MOUNTING DETAILS.
- CONTRACTOR SHALL EXCLUDE SECOND CIRCUIT BREAKER AND ASSOCIATED WIRING AT LOCATIONS WHERE IT IS NOT REQUIRED.

CABLE DESIGNATIONS:
 ① 1/C #6 GND

**120V ELECTRIC SERVICE
 GENERAL LAYOUT DIAGRAM**

**Edwards
 AND Kelcey**
 ONE NORTH FRANKLIN
 CHICAGO, IL 60606
 PHONE: (312) 251-3000
 FAX: (312) 251-3015
 WEB: WWW.EKCORP.COM

REVISIONS	
NAME	DATE
REVISION 1	12/17/04

ILLINOIS DEPARTMENT OF TRANSPORTATION
 F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
 31st STREET to I-57
 120 VOLT ELECTRIC SERVICE
 BOX DETAIL
 SCALE: NOT TO SCALE
 DATE: October 29, 2004
 DRAWN BY: DHI
 CHECKED BY: CS

ESD-02

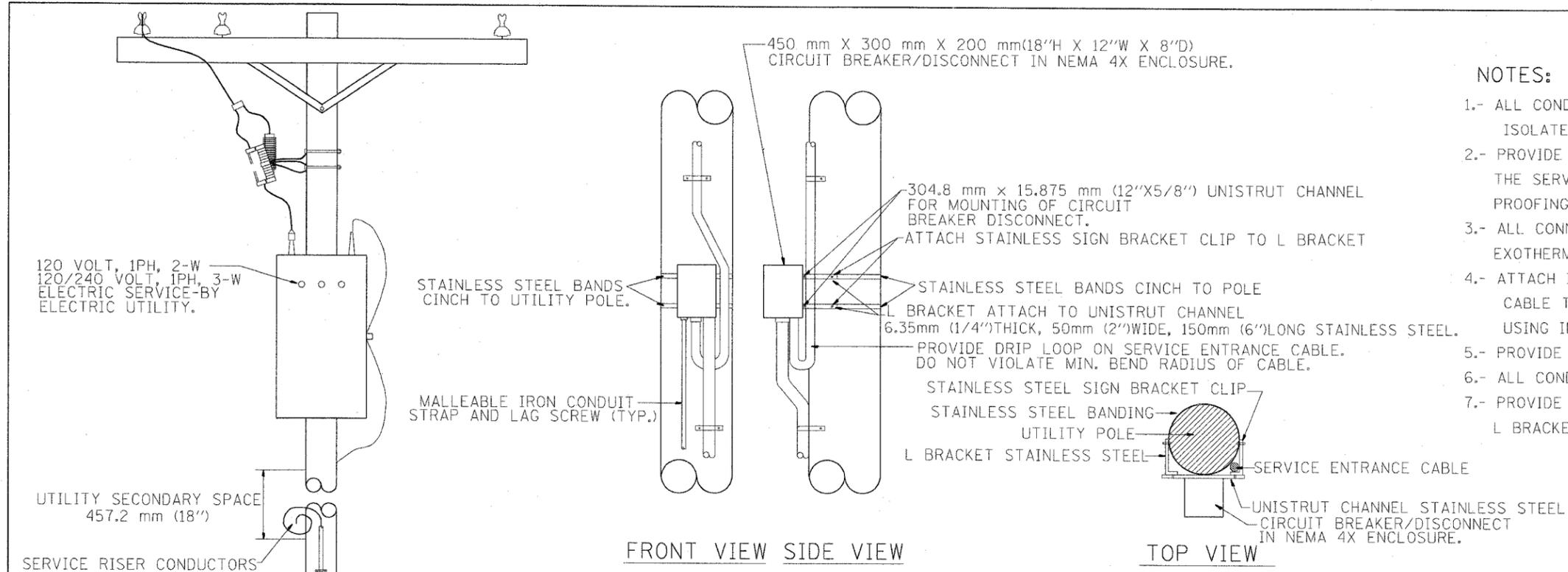
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F.A.T. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
90/94	203-03E	COOK	476	468
STA.		TO STA.		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		

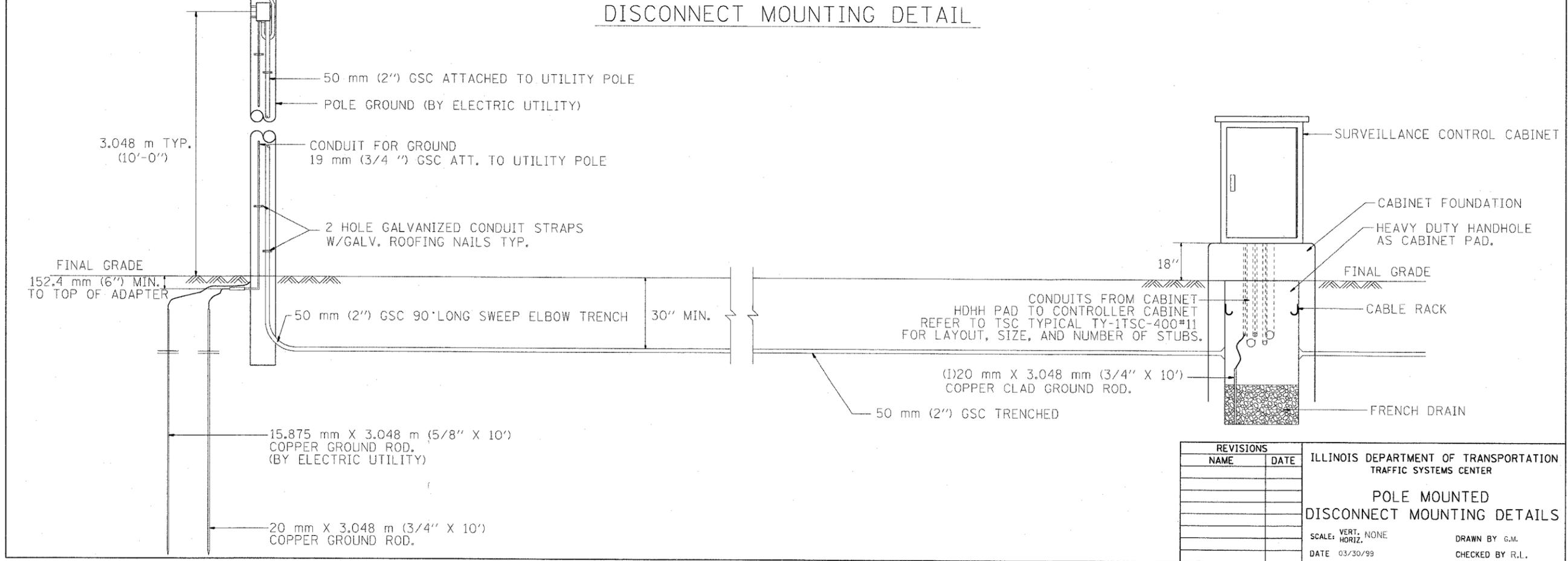
62583

NOTES:

- 1.- ALL CONDUIT BUSHINGS SHALL HAVE AN ISOLATED THROAT.
- 2.- PROVIDE HEAT SHRINK BOOT AT THE TOP OF THE SERVICE ENTRANCE CABLE FOR MOISTURE PROOFING.
- 3.- ALL CONNECTIONS TO GROUND RODS SHALL BE EXOTHERMIC UNLESS OTHERWISE NOTED.
- 4.- ATTACH INCOMING ELECTRIC SERVICE CABLE TO UTILITY POLE EVERY 5 FEET USING INSULATED U-NAIL.
- 5.- PROVIDE CABLE RACK IN HANDHOLES.
- 6.- ALL CONDUCTORS SHALL BE COPPER.
- 7.- PROVIDE STAINLESS STEEL HARDWARE TO ATTACH L BRACKETS TO UNISTRUT AND TO SIGN HANGER.



NTS
DISCONNECT MOUNTING DETAIL



REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION
TRAFFIC SYSTEMS CENTER

POLE MOUNTED
DISCONNECT MOUNTING DETAILS

SCALE: VERT. NONE
HORIZ. DRAWN BY G.M.

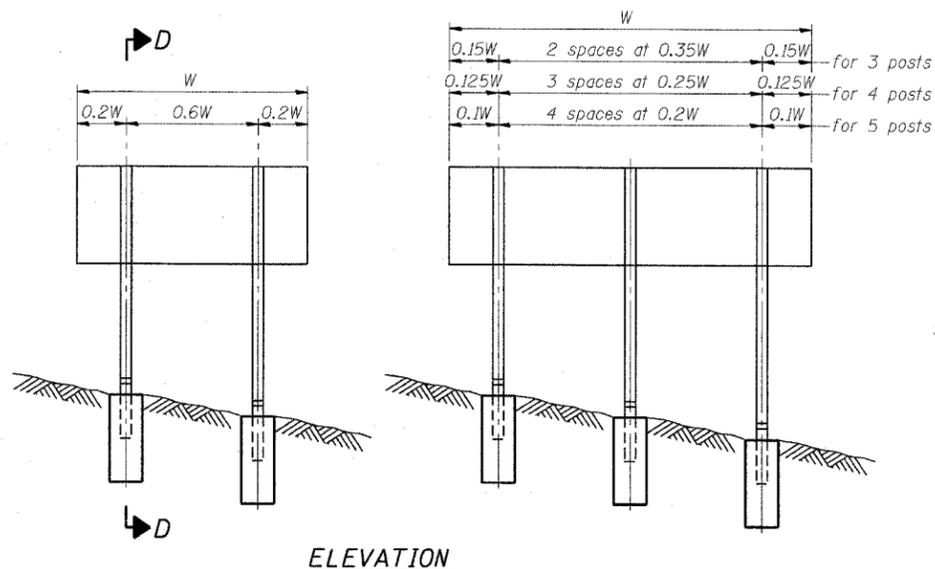
DATE 03/30/99 CHECKED BY R.L.

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RF=

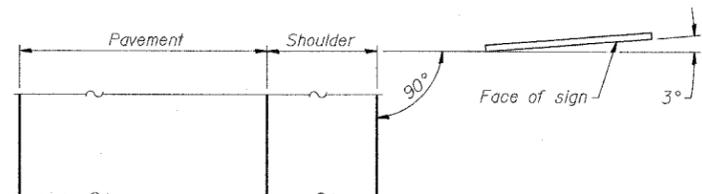
VI-40020

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

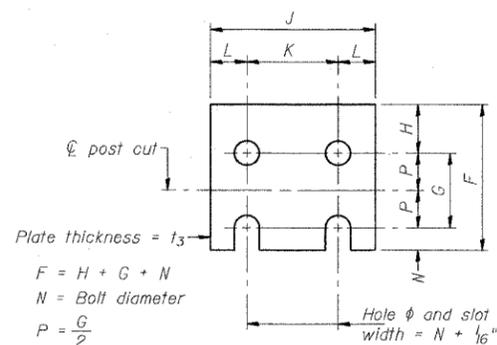
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RTE. 90/94	2003-0311	COOK	976	469
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT	62583	



ELEVATION



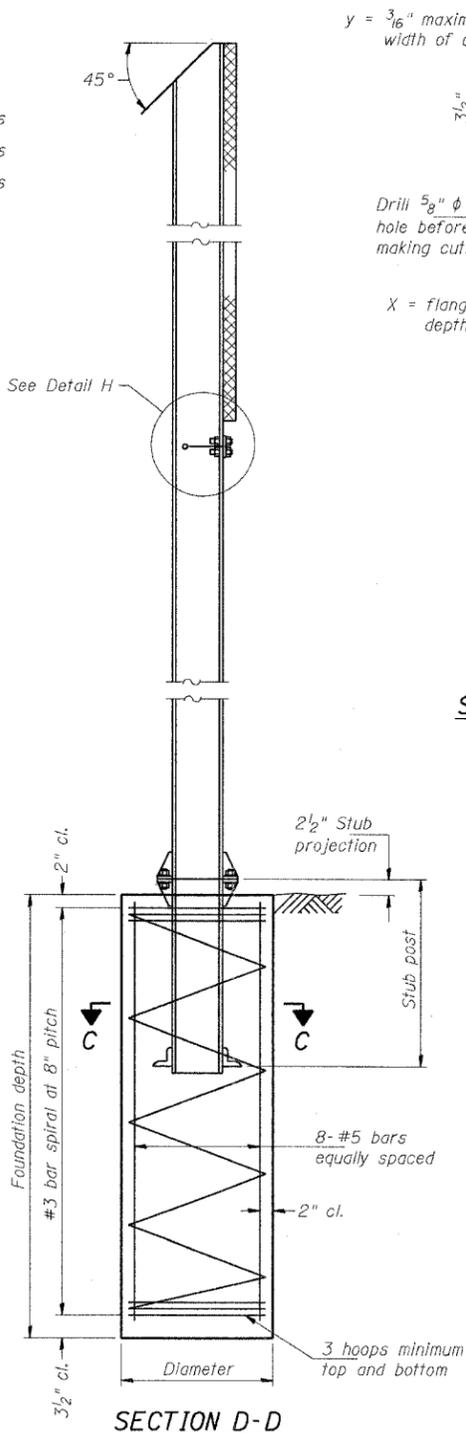
LOCATION SKETCH



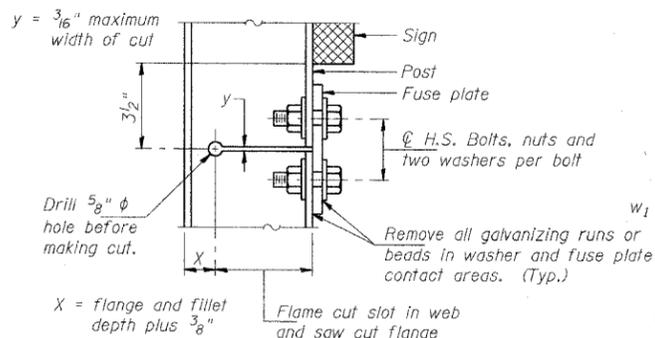
FUSE PLATE DETAIL

(Install with notches down.)

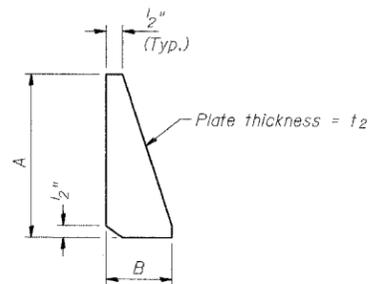
N = Bolt Diameter	G	H
1/2"	2"	1 1/8"
5/8"	2 1/4"	1 1/4"
3/4"	2 1/2"	1 3/8"
7/8"	2 3/4"	1 1/2"
1"	3"	1 5/8"
1 1/8"	3 1/4"	1 3/4"



SECTION D-D

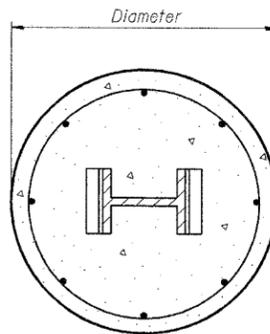


DETAIL H



STIFFENER PLATE DETAIL

(See table for dimensions.)



SECTION C-C

GENERAL NOTES

Posts shall be plumbed by using shims with post-to-stub post connection bolts snug tight only. Final tightening of all High Strength Bolts shall be in accordance with Article 505.04(f)(3), and threads at the junction of the bolt and nut shall be burred or center punched to prevent the nut from loosening.

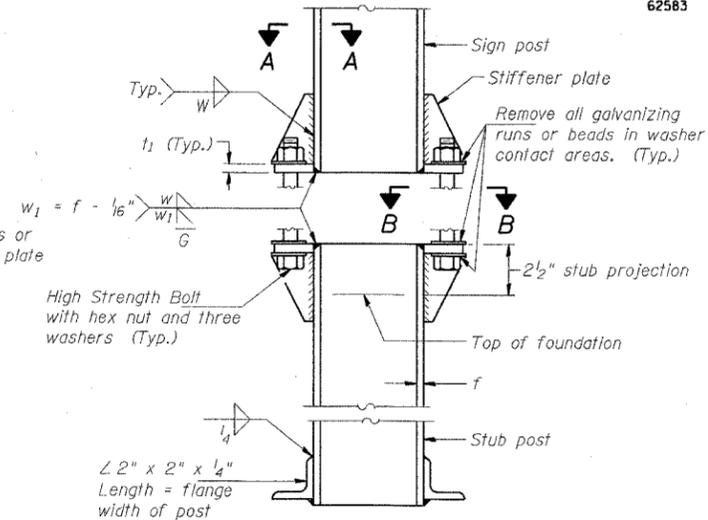
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DESIGN STRESSES:

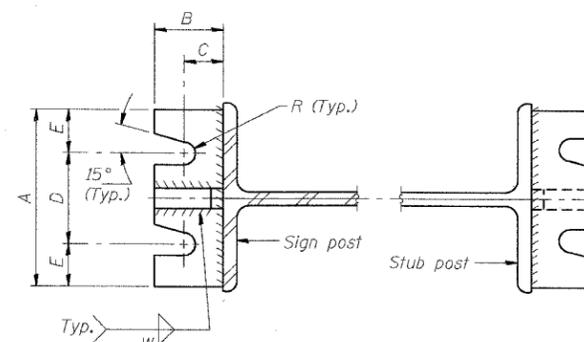
Structural steel - 20,000 p.s.i.
Reinforcing steel - 20,000 p.s.i.
Concrete - 1,400 p.s.i.
Footing soil pressure - 2,000 p.s.f.

After fabrication, the post, fuse plate and upper 6" (Minimum) of the stub post shall be hot-dip galvanized in accordance with AASHTO M111. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M232.

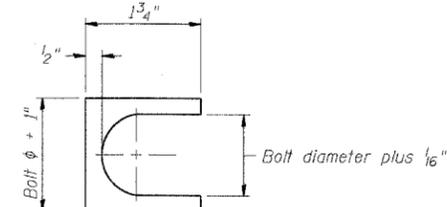
Work this sheet with Base Sheet BAW-A-2.



ELEVATION
SIGN POST & STUB POST



SECTION A-A SECTION B-B



SHIM DETAIL

Furnish two 0.01" thick and two 0.03" thick stainless steel or brass (ASTM B36) shims per post.

BREAK-AWAY WIDE FLANGE
STEEL SIGN POST DETAILS

F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31ST STREET TO I-57

DESIGNED	SLW
CHECKED	PJO
DRAWN	SLW
CHECKED	PJO

BAW-A-1 11/1/2002

EXAMINED	20
PASSED	

NUMBER	REVISION	DATE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

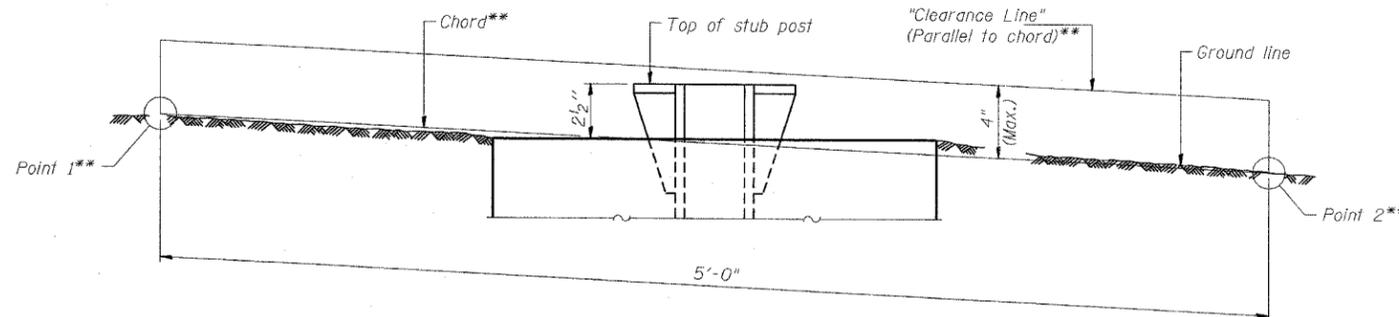
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RTE. 90/94	2003-0311	COOK	976	970
FED. ROAD DIST. NO. 1	ILLINOIS	FED. AID PROJECT		

62583

POST	CONCRETE FOUNDATION TABLE								POST TO STUB POST CONNECTION DATA								FUSE PLATE DATA					
	Foundation			Reinforcement			Stub Post Length	Bolt Size	A	B	C	D	E	t ₁	t ₂	R	W	J	K	L	t ₃	
	Diameter	*Minimum Depth	Concrete (cu. yds.) ①	Vertical Bars Length	Bar Spirals Diameter	Bar Spirals Length																lbs. ②
W6x9	2'-0"	6'-0"	0.70	5'-9"	1'-8 1/2"	79'-0"	78	2'-3"	5/8" x 3 1/4"	6"	2 1/4"	1 1/4"	3 1/2"	1 1/4"	3/4"	1/2"	1 1/2"	1 1/4"	4"	2 1/4"	7/8"	1 1/4"
W6x15	2'-0"	6'-0"	0.70	5'-9"	1'-8 1/2"	79'-0"	78	2'-6"	5/8" x 3 1/4"	6"	2 1/4"	1 1/4"	3 1/2"	1 1/4"	3/4"	1/2"	1 1/2"	1 1/4"	6"	3 1/2"	1 1/4"	3/8"
W8x18	2'-0"	6'-0"	0.70	5'-9"	1'-8 1/2"	79'-0"	78	2'-6"	3/4" x 3 3/4"	6"	2 1/2"	1 3/8"	3 1/4"	1 3/8"	1"	1/2"	1 1/2"	5 1/4"	5 1/4"	2 3/4"	1 1/4"	3/8"
W10x22	2'-6"	6'-6"	1.18	6'-3"	2'-2 1/2"	105'-0"	92	3'-0"	3/4" x 3 3/4"	6"	2 1/2"	1 3/8"	3 1/4"	1 3/8"	1"	1/2"	1 1/2"	5 3/4"	5 3/4"	2 3/4"	1 1/2"	1/2"
W10x26	2'-6"	7'-0"	1.27	6'-9"	2'-2 1/2"	112'-0"	98	3'-0"	7/8" x 4"	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	1 1/2"	5 3/4"	5 3/4"	2 3/4"	1 1/2"	5/8"
W12x26	2'-6"	7'-9"	1.41	7'-6"	2'-2 1/2"	119'-0"	107	3'-0"	7/8" x 4"	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	1 1/2"	6 1/2"	6 1/2"	3 1/2"	1 1/2"	5/8"
W14x30	3'-0"	7'-3"	1.90	7'-0"	2'-8 1/2"	145'-0"	113	3'-0"	7/8" x 4"	7"	2 3/4"	1 1/2"	4"	1 1/2"	1"	3/4"	1 1/2"	6 3/4"	6 3/4"	3 1/2"	1 1/2"	1/2"
W14x38	3'-0"	8'-0"	2.09	7'-9"	2'-8 1/2"	153'-0"	122	3'-6"	1" x 4 1/2"	7 1/2"	3"	1 3/4"	4"	1 3/4"	1 1/4"	3/4"	1 1/2"	6 3/4"	6 3/4"	3 1/2"	1 1/2"	1/2"
W16x45	3'-0"	8'-6"	2.23	8'-3"	2'-8 1/2"	162'-0"	130	3'-6"	1" x 4 1/2"	7 1/2"	3"	1 3/4"	4"	1 3/4"	1 1/4"	3/4"	1 1/2"	7"	7"	3 1/2"	1 3/4"	1/2"

*Dimensional changes required for varying site conditions shall be approved by the Engineer.

POST	FUSE PLATE BOLT SIZE												
	Sign Depth												
	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"
W6x9	1/2" x 1 1/2"	1/2" x 1 1/2"	1/2" x 1 1/2"	5/8" x 1 3/4"									
W6x15	1/2" x 1 3/4"	1/2" x 1 3/4"	5/8" x 2"										
W8x18	1/2" x 1 3/4"	1/2" x 1 3/4"	1/2" x 1 3/4"	5/8" x 2"									
W10x22	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2"									
W10x26	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"									
W12x26	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"									
W14x30	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2"						
W14x38	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"						
W16x45	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	1/2" x 2"	5/8" x 2 1/4"						



ELEVATION
GROUND LINE & STUB POST

**For all "Point 1" and "Point 2" locations, "Clearance Line" must be at or above top of stub post.

- ① Quantity includes all concrete necessary for one foundation.
- ② Includes reinforcement bars and spiral hooping for one foundation.

DESIGNED - SLW	20
CHECKED - PJO	EXAMINED
DRAWN - SLW	ENGINEER OF STRUCTURAL SERVICES
CHECKED - PJO	PASSED
	ENGINEER OF BRIDGES AND STRUCTURES

BAW-A-2 11/1/2002

NUMBER	REVISION	DATE

BREAK-AWAY WIDE FLANGE
STEEL SIGN POST TABLES

F.A.I. 94/90 (DAN RYAN EXPRESSWAY)
31ST STREET TO I-57