

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2008-081 L	COOK	18	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 60F83		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

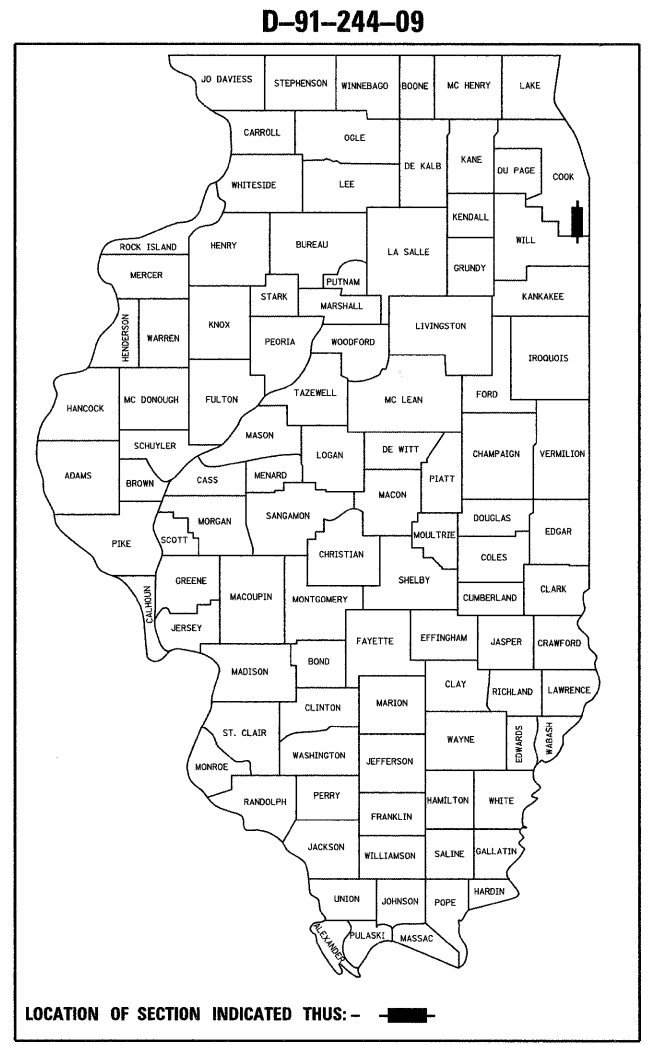
FOR INDEX OF SHEETS, SEE SHEET NO. 2

PROJECT LOCATED IN THE VILLAGE OF GLENWOOD

PLANS FOR PROPOSED
FEDERAL AID HIGHWAY

DISTRICT 1
HIGHWAY SAFETY IMPROVEMENT PROJECT
LIGHTING MODERNIZATION

ILL-394 (BISHOP FORD FWY)
FROM THORNTON LANSING RD.
TO GLENWOOD DYER RD.
GLENWOOD, ILLINOIS
PROJECT: HSIP-0332 (093)
F.A.P. ROUTE 332



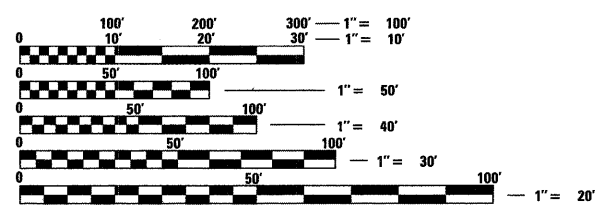
SIGNED Cecil D. Stovall
DATE March 5, 2009
EXPIRES Nov. 30, 2009
FOR DRAWINGS 1 TO 18

IDOT STANDARDS

STD. NO.	DESCRIPTION
701101-02	MULTI-LANE OFF ROAD OPERATION
701901-01	TRAFFIC CONTROL DEVICES

SECTION 2008-081 L
JOB D-91-244-09
COUNTY COOK

C-91-244-09

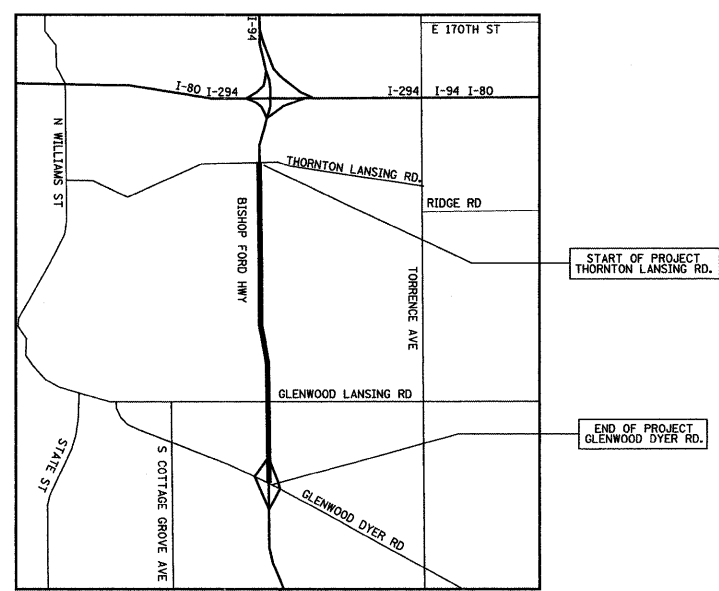


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

PROJECT ENGINEER - LIGHTING: CECIL STOVALL
PROJECT MANAGER - KENNETH GLASSMAN

CONTRACT NO. 60F83



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED MARCH 9, 2009
Diana M. O'Keefe
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 27, 2009
Charles J. Ingersoll
ENGINEER OF DESIGN AND ENVIRONMENT

March 27, 2009
Christine M. Reed
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

DISTRICT 1 - BUREAU OF TRAFFIC: STEVE TRAVIA

SUMMARY OF QUANTITIES

90% FED./10% STATE
URBAN

INDEX OF SHEETS

- 1 TITLE SHEET
- 2 INDEX OF SHEETS & SUMMARY OF QUANTITIES
- 3 GENERAL NOTES & LEGEND
- 4-13 PROPOSED LIGHTING PLAN
- 14 ONE LINE DIAGRAM
- 15 ELECTRICAL DETAILS
- 16-18 DISTRICT 1 STANDARD ELECTRICAL DETAILS

CODE	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY Y030-1E
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	9
67100100	MOBILIZATION	L SUM	1
81018700	CONDUIT PUSHED, 3" DIA., GALVANIZED STEEL	FOOT	253
81100800	CONDUIT ATTACHED TO STRUCTURE, 3" DIA., GALVANIZED STEEL	FOOT	60
81300550	JUNCTION BOX, STAINLESS STEEL, ATTACHED IN STRUCTURE, 12" X 12" X 6"	EACH	4
82102310	LUMINAIRE, SODIUM VAPOR, HORIZONTAL MOUNT, 310 WATT	EACH	98
83600400	POLE FOUNDATION, METAL	EACH	98
83800205	BREAKAWAY DEVICE, TRANSFORMER BASE, 15 INCH BOLT CIRCLE	EACH	98
X0323574	MAINTENANCE OF LIGHTING SYSTEM	CAL MO	9
X0324116	BUCK-BOOST TRANSFORMER, 216 VOLT	EACH	4
X7011015	TRAFFIC CONTROL AND PROTECTION (EXPRESSWAYS)	L SUM	1
X8950130	MODIFY EXISTING LIGHTING CONTROLLER	EACH	2
XX006937	GROUND ROD, 5/8" DIA. X 10 FT.	EACH	2
X0326412	INSTALL UNDERGROUND RACEWAY - SPECIAL	FOOT	22,783
X0326411	EQUIPMENT CABINET AND PEDESTAL MOUNTED BASE	EACH	2
X0326369	LIGHT POLE, ALUMINUM, 47.5 FT. M.H., 15 FT. MAST ARM, INSTALL ONLY, FROM STATE STOCK	EACH	98
X0326370	MAST ARM, ALUMINUM, 15 FT. (FURNISHED)	EACH	49
816032.03	UNIT DUCT, 600V, 3-1C NO.2, 1/C NO.4 GROUND, (EPR-TYPE RHW), 1 1/2" DIA. POLYETHYLENE	FOOT	28,040

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS & SUMMARY OF QUANTITIES

SCALE: NONE	SHEET NO.	OF	SHEETS	STA.	TO STA.
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Rev.

JACOBS ONE NORTH FRANKLIN
CHICAGO IL, 60606
312-251-3000

F.A.P. RTE. 332	SECTION 2008-081 L	COUNTY COOK	TOTAL SHEETS 18	SHEET NO. 2
CONTRACT NO. 60F83				
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE DETAILS IN THE PLANS, THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS, AND THE LATEST EDITION OF THE FOLLOWING STATE OF ILLINOIS SPECIFICATIONS: *THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION* (REFERRED TO AS THE *STANDARD SPECIFICATIONS*), THE *SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS*, THE *MANUAL OF TEST PROCEDURES FOR MATERIALS*. THE STREET LIGHTING IMPROVEMENTS SHALL BE INSTALLED IN ACCORDANCE WITH AMERICAN NATIONAL STANDARD PRACTICE FOR ROADWAY LIGHTING (ANSI/IES RP8 LATEST EDITION) AND THE NATIONAL ELECTRICAL CODE (NEC, NFPA, 70, LATEST EDITION).
2. THE LOCATIONS OF PUBLIC OR PRIVATE UTILITIES SHOWN ON THE PLANS ARE APPROXIMATE AND IDOT DOES NOT GUARANTEE THEIR ACCURACY. THE CONTRACTOR SHALL HAVE THE RESPECTIVE UTILITY COMPANIES FIELD LOCATE ALL THEIR FACILITIES PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL ALSO VERIFY THE DEPTHS OF THE EXISTING UTILITIES IF NECESSARY. ANY RELOCATION OR LOWERING OF UTILITIES SHALL BE COORDINATED BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UNDERGROUND OR SURFACE UTILITIES EVEN THOUGH THEY MAY NOT BE SHOWN ON THE PLANS. ANY UTILITY THAT IS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE ENGINEER OR CITY.
4. THE CONTRACTOR SHALL NOTIFY THE CITY PUBLIC WORKS ADMINISTRATOR AT LEAST 48 HOURS IN ADVANCE OF BEGINNING WORK TO OBTAIN CITY UTILITY LOCATIONS AND SHALL COORDINATE ALL CONSTRUCTION OPERATIONS WITH THE ENGINEER.
5. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL SECTION OR SUBSECTION MONUMENTS OR PROPERTY OR REFERENCE MARKERS AS APPROVED BY THE CITY OF GLENWOOD DIRECTOR OF PUBLIC WORKS OR DESIGNATED PROJECT MANAGER. UNTIL THE OWNERS, HIS AGENT OR AN AUTHORIZED SURVEYOR HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATIONS.
6. ACCESS TO PRIVATE DRIVEWAYS SHALL BE PROVIDED AT ALL TIMES EXCEPT DURING ACTUAL CONSTRUCTION ADJACENT THERE TO.
7. THE CONTRACTOR SHALL PROVIDE WARRANTIES OR GUARANTEES PROVIDING FOR SATISFACTORY IN-SERVICE OPERATION OF THE ELECTRICAL EQUIPMENT AND RELATED COMPONENTS OPERATION OF THE ELECTRICAL EQUIPMENT AND RELATED COMPONENTS AS PER I.D.O.T. STANDARDS.
8. ANY DAMAGE TO PAVEMENT, SIDEWALK, CURB, OR ANY OTHER PORTION OF THE ROADWAY NOT SPECIFICALLY TO BE REMOVED AND REPLACED SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST AND REPLACEMENT SHALL MEET THE APPROVAL OF THE ENGINEER.
9. ALL LIGHT POLE FOUNDATIONS WILL BE HELIX TYPE, UNLESS NOTED OTHERWISE ON PLANS. SEE DETAIL BE-305.
10. ALL CONDUITS UNDER ROADWAYS AND DRIVEWAYS SHALL BE PUSHED. CONDUIT LENGTHS SHOWN ON THE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE ACTUAL DISTANCE REQUIREMENTS IN THE FIELD.
11. THE CONTRACTOR SHALL MAKE SPECIAL NOTE OF THE REQUIREMENTS FOR WIRE MARKERS AND SHALL TAG ALL WIRE MARKERS AND SHALL TAG ALL WIRING ACCORDINGLY.
12. THE CITY AND ENGINEER SHALL BE NOTIFIED 48 HOURS PRIOR TO COMMENCING EACH CONSTRUCTION PHASE.
13. THE CONTRACTOR WILL BE REIMBURSED BY THIS CONTRACT TO THE EXACT AMOUNT OF MONEY AS BILLED BY COM-ED FOR THEIR SERVICES. AND NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR ANY INCIDENTAL MATERIALS AND LABOR REQUIRED TO FULFILL THE REQUIREMENTS AS SHOWN ON THE PLANS AND SPECIFIED HEREIN. SEE SECTION 109.05 *STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION*.
14. ALL ELECTRICAL DEVICES AND MATERIALS SHALL BE U/L LISTED WHERE APPLICABLE.
15. CONTRACTOR IS RESPONSIBLE FOR DECOMMISSIONING EXISTING ISOLATED INTERSECTION LIGHTING PER DIRECTIONS OF THESE PLANS AND SHALL BE REMOVED IN A PROFESSIONAL WORKMANSHIP LIKE MANNER.
16. CONTACT JULIE AT 1-800-892-0123 FOR UTILITY LOCATES PRIOR TO BEGINNING AND EXCAVATION WORK. WORK PROACTIVELY WITH UTILITY COMPANIES FOR THE PURPOSE OF DAMAGE PREVENTION.
17. ALL POLES AND MAST ARMS WILL BE SUPPLIED FROM IDOT STATE STOCK UNLESS NOTED OTHERWISE.
18. ALL POLES SHALL BE POSITIONED 20 FT. OFFSET FROM EDGE OF THE TRAVELED PAVEMENT UNLESS NOTED OTHERWISE.

LEGEND

PROPOSED	EXISTING	
		UNIT DUCT. 600V, 3-1/C NO.2, 1/C NO.4 GROUND (EPR-TYPE RHW), 1-1/2" DIA, POLYETHYLENE UNLESS OTHERWISE NOTED IN DRAWINGS.
		3" RGS PUSHED CONDUIT UNLESS NOTED OTHERWISE.
		EXPOSED CONDUIT. SIZE AS INDICATED.
		LIGHTING CONTROLLER, RADIO CONTROL, DUPLEX CONSOLE TYPE WITH SCADA.
		UTILITY SERVICE CONNECTION. POLE MOUNTED TRANSFORMER 240/480 VOLT, SINGLE PHASE, 3 WIRE.
		ALUMINUM LIGHT POLE. 47.5' MOUNTING HEIGHT WITH 15' MAST ARM AND 310 W H.P.S M-C-III 240 VOLTS LUMINAIRE AND HELIX FOUNDATION. SEE IDOT STANDARD DETAIL BE-400.
		EXISTING LIGHT POLE TO BE REMOVED.
		GROUND ROD, 5/8" DIA. x 10 FT.
		ELECTRICAL HANDHOLE.
		HIGH MAST LIGHTING. ↑ =LUMINAIRE HEAD.
		UTILITY POLE.
		CIRCUIT NUMBER AND STATION REFERENCE: B=CONTROLLER DESIGNATION, xx=CIRCUIT NUMBER STA=STATION NUMBER.
		UTILITY AERIAL LINES.
		RIGHT OF WAY LINE.
		BUCK-BOOST TRANSFORMER
		ELECTRICAL JUNCTION BOX

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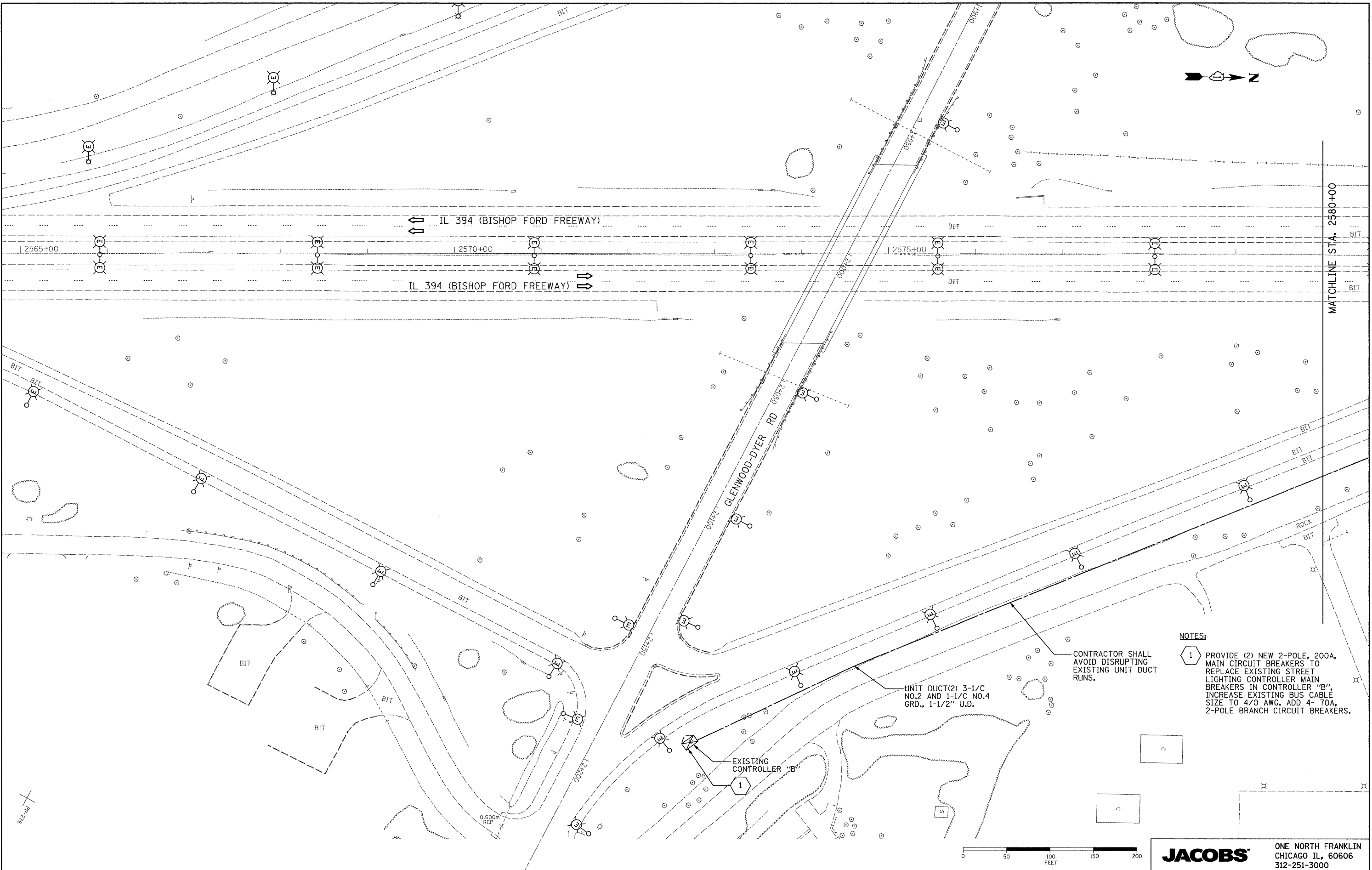
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PROPOSED LIGHTING PLAN
GENERAL NOTES, LEGEND**

SCALE: SHEET NO. OF SHEETS STA. TO STA.

JACOBS		ONE NORTH FRANKLIN CHICAGO IL, 60606 312-251-3000		
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2008-081 L	COOK	18	3
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
		CONTRACT NO. 60F83		

3/5/2009



MATCHLINE STA. 2580+00

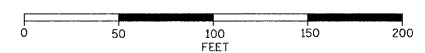
NOTES:

- 1 PROVIDE (2) NEW 2-POLE, 200A, MAIN CIRCUIT BREAKERS TO REPLACE EXISTING STREET LIGHTING CONTROLLER MAIN BREAKERS IN CONTROLLER "B", INCREASE EXISTING BUS CABLE SIZE TO 4/0 AWG. ADD 4- 70A, 2-POLE BRANCH CIRCUIT BREAKERS.

CONTRACTOR SHALL AVOID DISRUPTING EXISTING UNIT DUCT RUNS.

UNIT DUCT(2) 3-1/C NO.2 AND 1-1/C NO.4 GRD., 1-1/2" U.D.

EXISTING CONTROLLER "B"



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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

PROPOSED LIGHTING PLAN

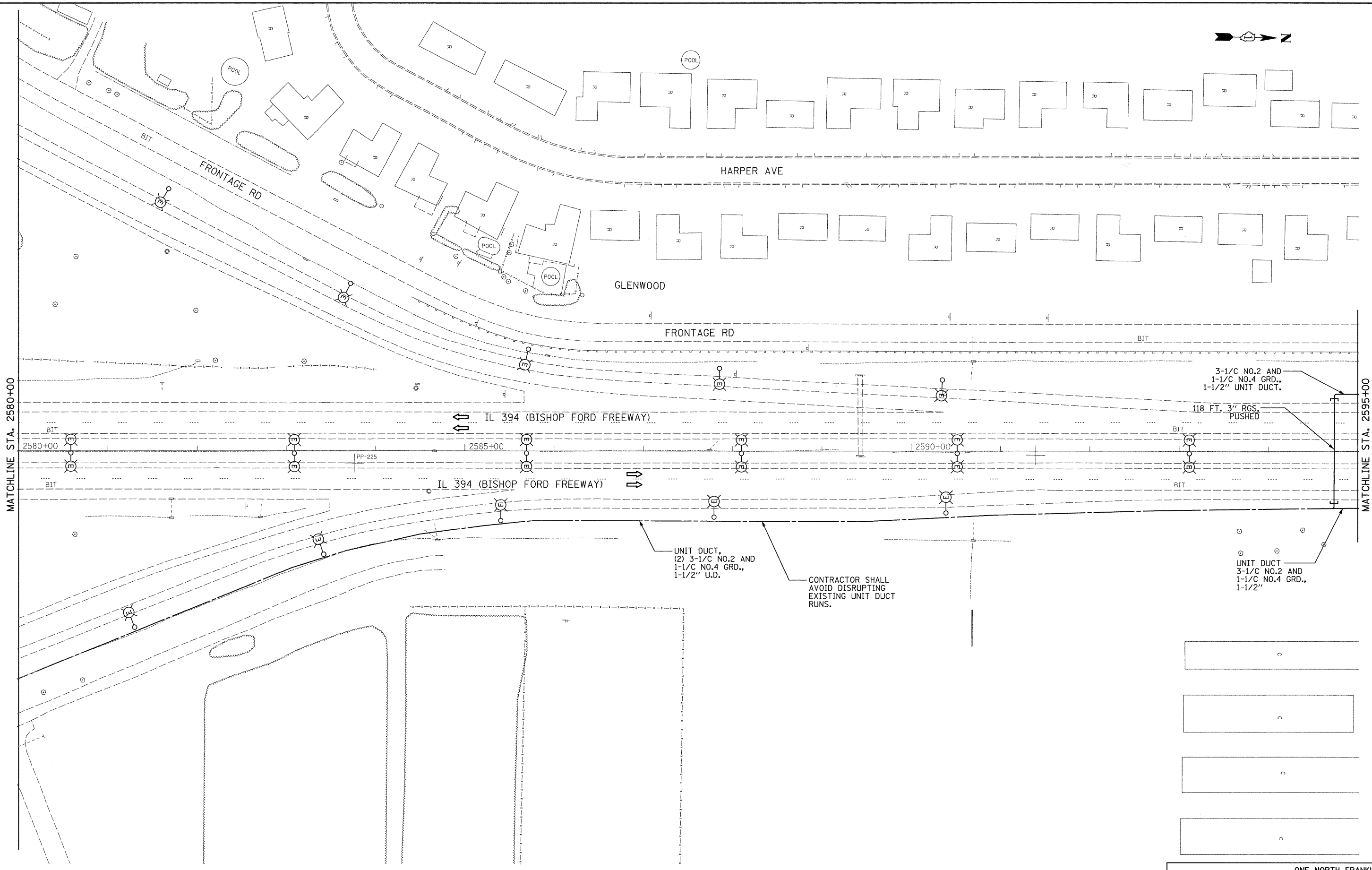
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JACOBS		ONE NORTH FRANKLIN CHICAGO IL, 60606 312-251-3000		
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2008-081 L	COOK	18	4
CONTRACT NO. 60FB3				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

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MATCHLINE STA. 2580+00

MATCHLINE STA. 2595+00

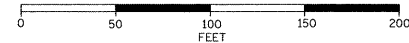
3-1/C NO.2 AND
1-1/C NO.4 GRD.,
1-1/2" UNIT DUCT.

118 FT. 3" RGS.
PUSHED

UNIT DUCT,
(2) 3-1/C NO.2 AND
1-1/C NO.4 GRD.,
1-1/2" U.D.

CONTRACTOR SHALL
AVOID DISRUPTING
EXISTING UNIT DUCT
RUNS.

UNIT DUCT
3-1/C NO.2 AND
1-1/C NO.4 GRD.,
1-1/2"



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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

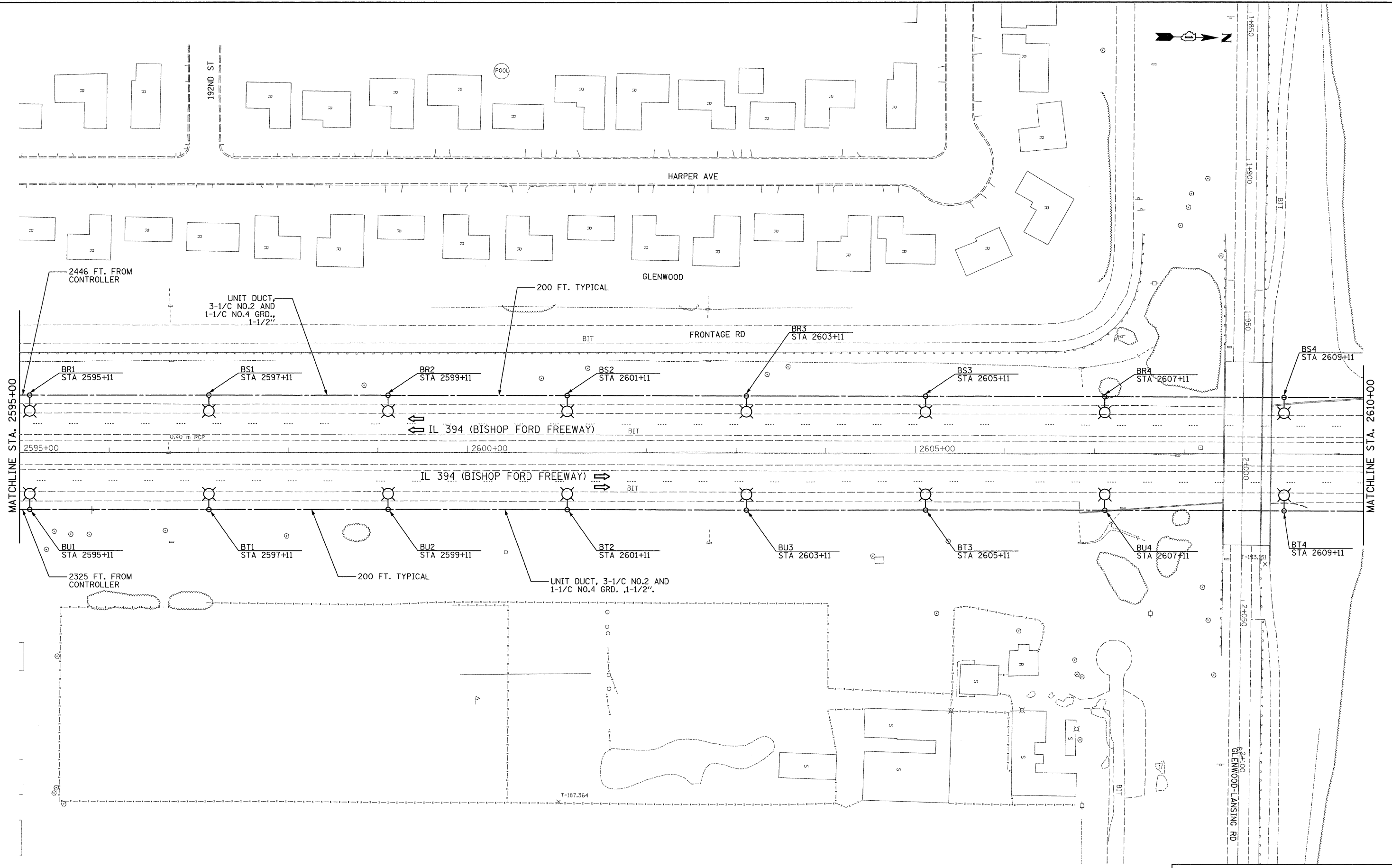
PROPOSED LIGHTING PLAN

SCALE: 1"=50' SHEET NO. OF SHEETS STA. 2580+00 TO STA. 2595+00

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2008-081 L	COOK	18	5
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
		CONTRACT NO. 60F83		

3/5/2009

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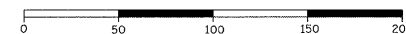
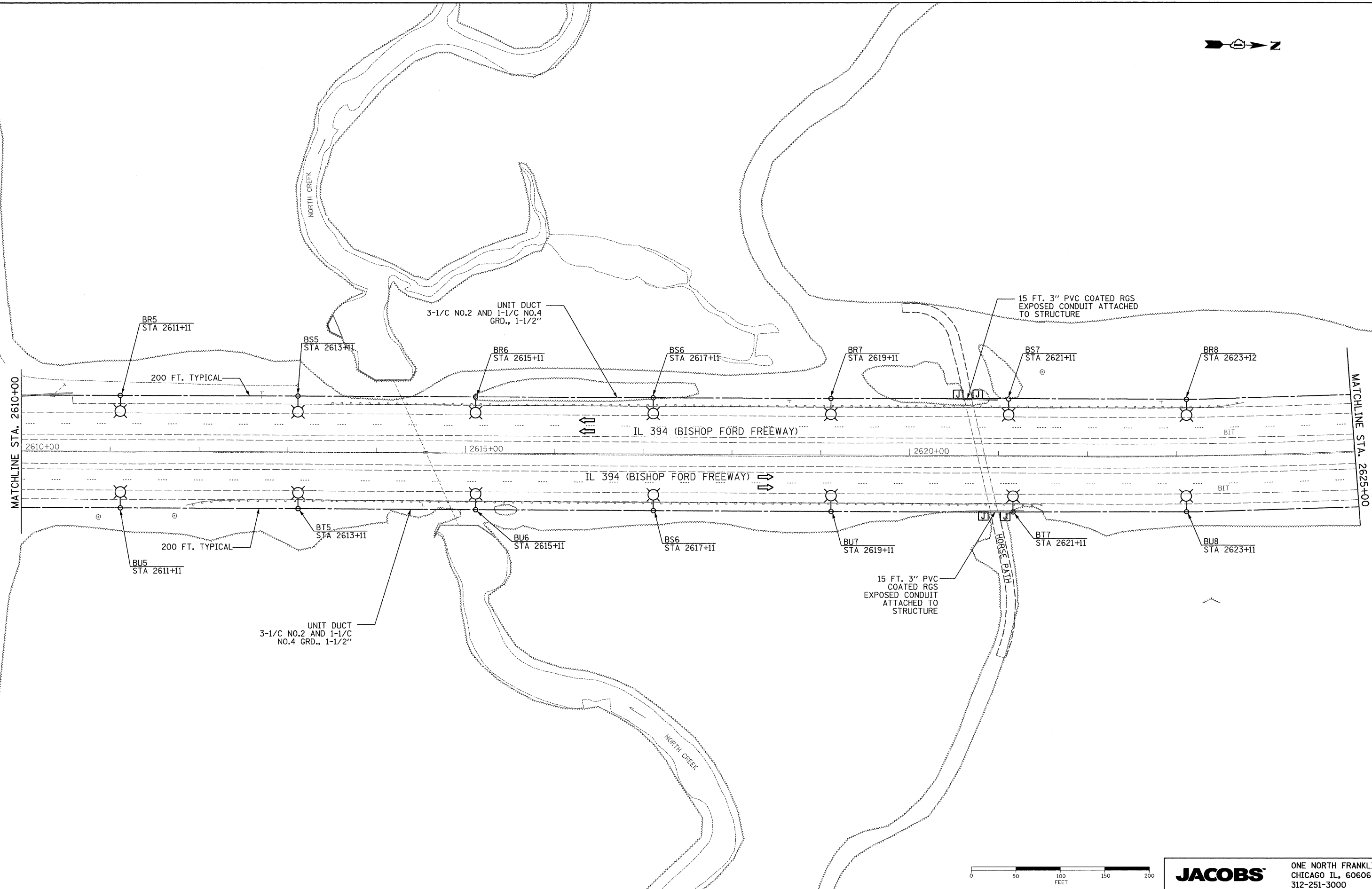
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED LIGHTING PLAN

SCALE: 1"=50' SHEET NO. OF SHEETS STA. 2595+00 TO STA. 2610+00

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F.A.P. RTE. 332	SECTION 2008-081 L	COUNTY COOK	TOTAL SHEETS 18	SHEET NO. 6
CONTRACT NO. 60F83				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

3/5/2009



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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

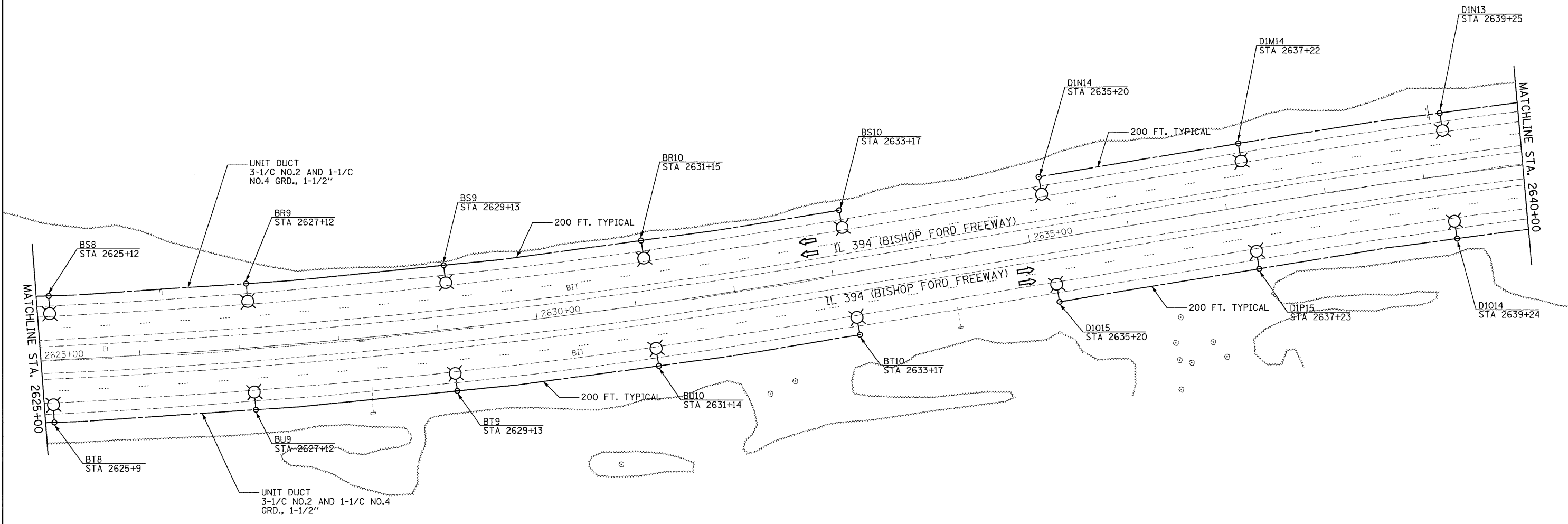
PROPOSED LIGHTING PLAN

SCALE: 1"=50' SHEET NO. OF SHEETS STA. 2610+00 TO STA. 2625+00

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CONTRACT NO. 60F83				

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

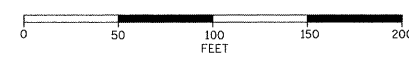
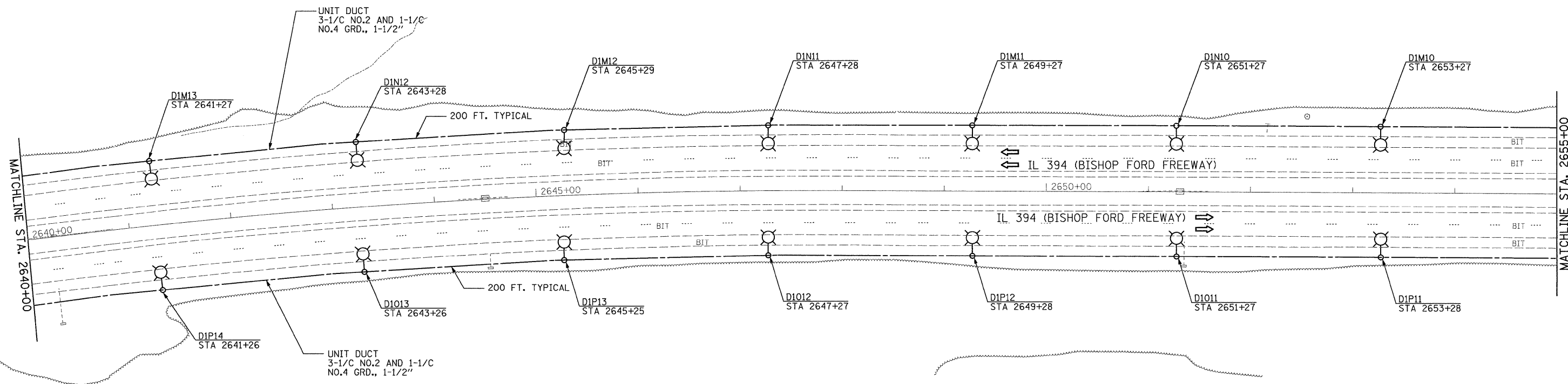
PROPOSED LIGHTING PLAN

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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2008-081 L	COOK	18	8
CONTRACT NO. 60F83				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

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3/5/2009



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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

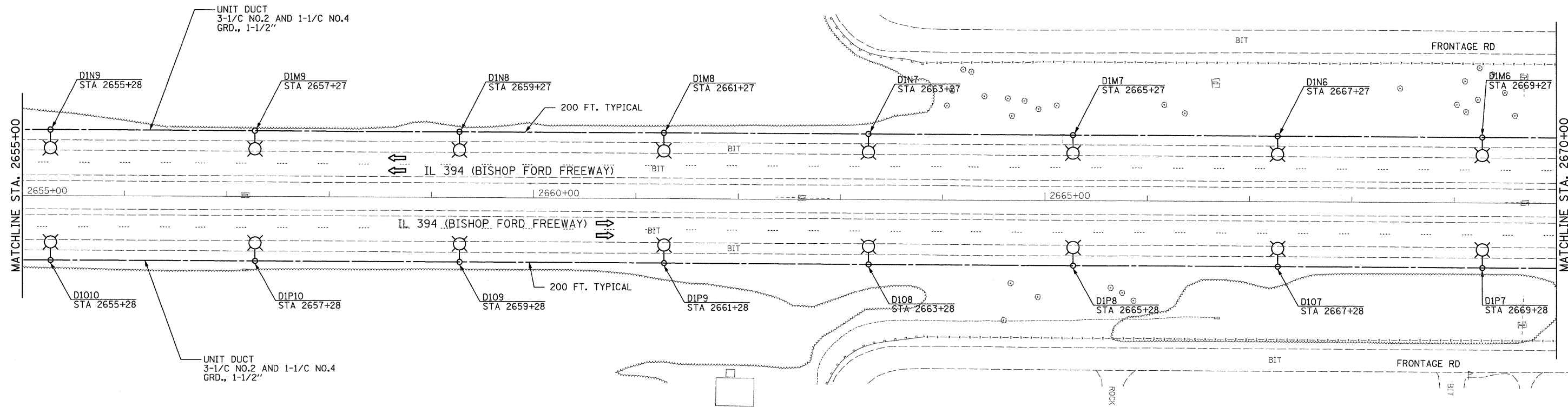
PROPOSED LIGHTING PLAN

SCALE: 1"=50' SHEET NO. OF SHEETS STA. 2640+00 TO STA. 2655+00

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F.A.P. RTE. 332	SECTION 2008-081 L	COUNTY COOK	TOTAL SHEETS 18	SHEET NO. 9
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 60F83				

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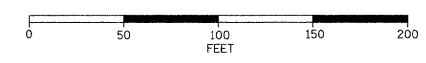
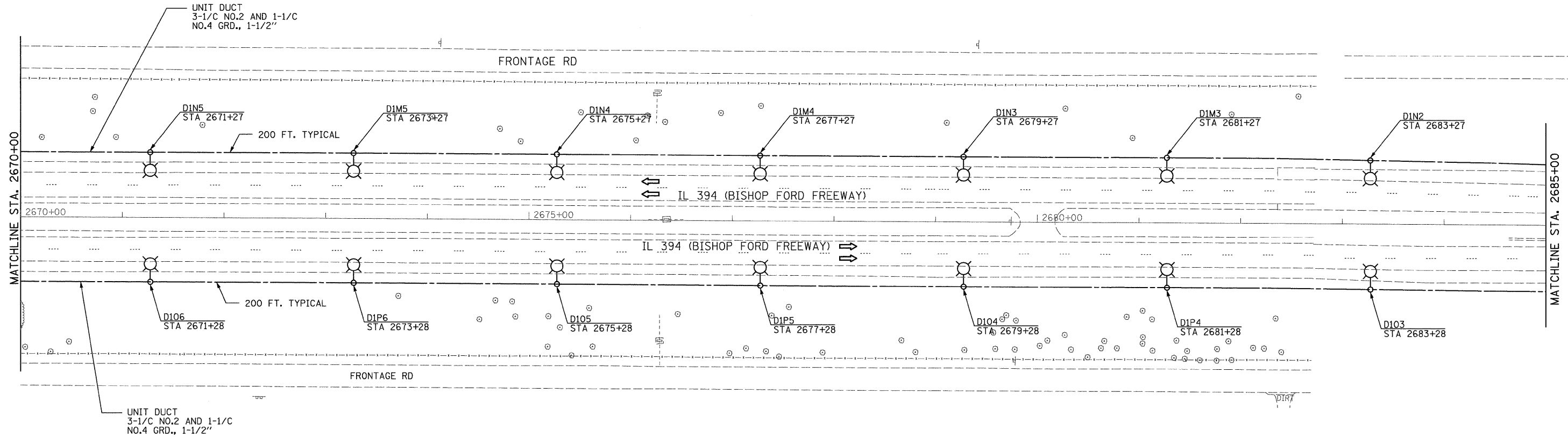
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED LIGHTING PLAN

SCALE: 1"=50' SHEET NO. OF SHEETS STA. 2655+00 TO STA. 2670+00

JACOBS		ONE NORTH FRANKLIN CHICAGO IL, 60606 312-251-3000		
F.A.P. RTE. 332	SECTION 2008-081 L	COUNTY COOK	TOTAL SHEETS 18	SHEET NO. 10
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 60F83				

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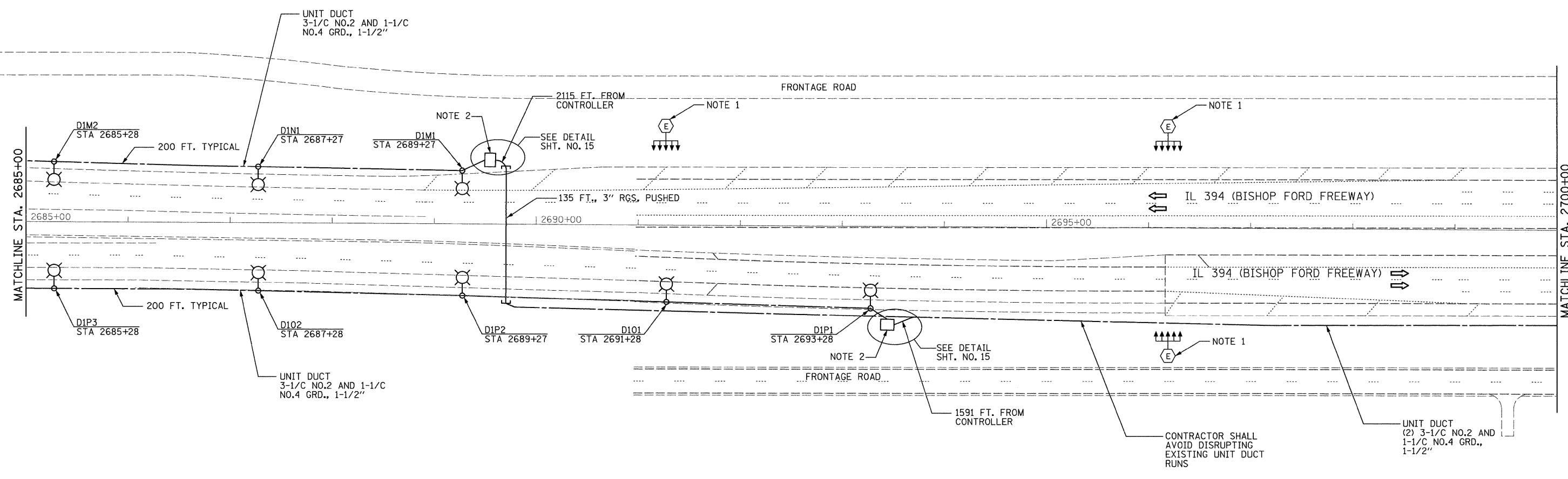
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED LIGHTING PLAN

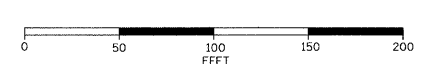
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F.A.P. RTE. 332	SECTION 2008-081 L	COUNTY COOK	TOTAL SHEETS 18
		SHEET NO. 11	
		CONTRACT NO. 60F83	
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			

3/5/2009



- NOTES:**
- EXISTING HIGH MAST LIGHTING ON LIGHTING CONTROLLER "D1", (5) 400W FIXTURES PER TOWER IS SHOWN FOR INFORMATION ONLY- NOT PART OF THIS CONTRACT.
 - (2) 7.5 KVA BUCK BOOST TRANSFORMERS, SINGLE PHASE, 216 IN - 258 OUT, IN NEMA-3R PEDESTAL MOUNT ENCLOSURE (TYPICAL 2 PLACES). SEE ELECTRICAL DETAILS SHEET FOR MOUNTING DETAIL. TRANSFORMERS SHALL BE LOCATED 30 FT. SETBACK FROM THE EDGE OF TRAVELED PAVEMENT.



JACOBS ONE NORTH FRANKLIN
CHICAGO IL, 60606
312-251-3000

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2008-081 L	COOK	18	12
CONTRACT NO. 60F83				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				

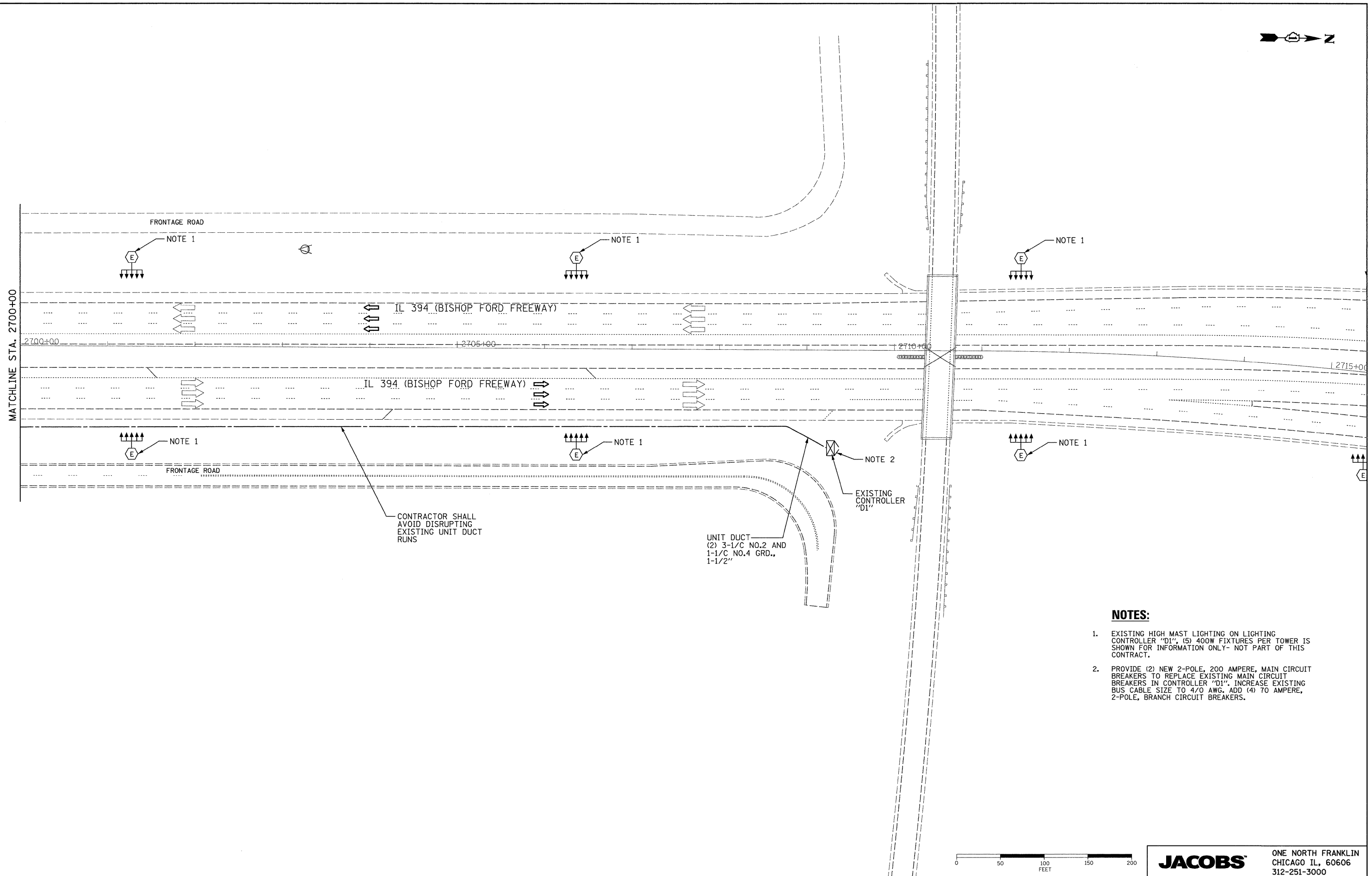
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED LIGHTING PLAN

FILE NAME =	USER NAME = default	DESIGNED - HS	REVISED -
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PLOT SCALE = #SCALE#		CHECKED - CDS	REVISED -
PLOT DATE = 3/5/2009		DATE - 3/5/2009	REVISED -

SCALE: 1"=50' SHEET NO. OF SHEETS STA. 2685+00 TO STA. 2700+00

P:_2809\C9X93600\CADD\Sheets\Lighting\Proposed_Sheet_10.dgn



NOTES:

1. EXISTING HIGH MAST LIGHTING ON LIGHTING CONTROLLER "D1", (5) 400W FIXTURES PER TOWER IS SHOWN FOR INFORMATION ONLY- NOT PART OF THIS CONTRACT.
2. PROVIDE (2) NEW 2-POLE, 200 AMPERE, MAIN CIRCUIT BREAKERS TO REPLACE EXISTING MAIN CIRCUIT BREAKERS IN CONTROLLER "D1". INCREASE EXISTING BUS CABLE SIZE TO 4/0 AWG. ADD (4) 70 AMPERE, 2-POLE, BRANCH CIRCUIT BREAKERS.



FILE NAME =	USER NAME = default	DESIGNED - HS	REVISED -
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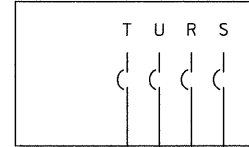
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PROPOSED LIGHTING PLAN

SCALE: 1"=50' SHEET NO. OF SHEETS STA. 2700+00 TO STA.

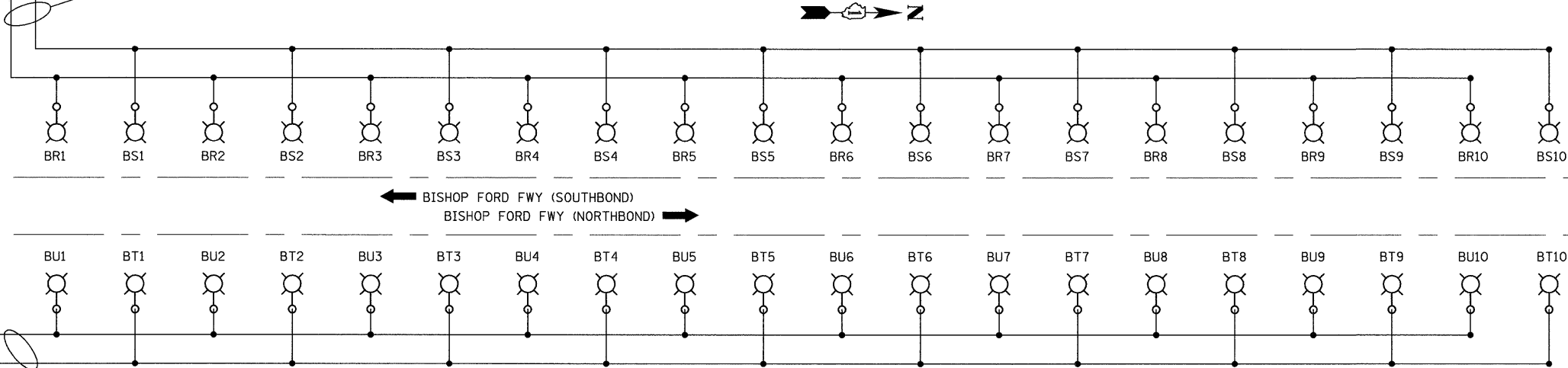
JACOBS		ONE NORTH FRANKLIN CHICAGO IL, 60606 312-251-3000		
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2008-081 L	COOK	18	13
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
		CONTRACT NO. 60F83		

EXISTING CONTROL CABINET "B"



LOAD TABLE LIGHTING CONTROLLER "B"					
CIRCUIT	BLACK PHASE		CIRCUIT	RED PHASE	
	AMPS	WATTS		AMPS	WATTS
R	16.875	4050	S	16.875	4050
T	16.875	4050	U	16.875	4050
TOTAL	33.75	8100	TOTAL	33.75	8100

3-1/C NO.2 AND 1-1/C NO.4 GRD.



← BISHOP FORD FWY (SOUTHBOUND)
BISHOP FORD FWY (NORTHBOUND) →

3-1/C NO.2 AND 1-1/C NO.4 GRD.

**PROPOSED SINGLE LINE DIAGRAM
LIGHTING CONTROLLER "B"**

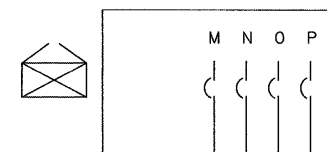
NOT TO SCALE

LEGEND

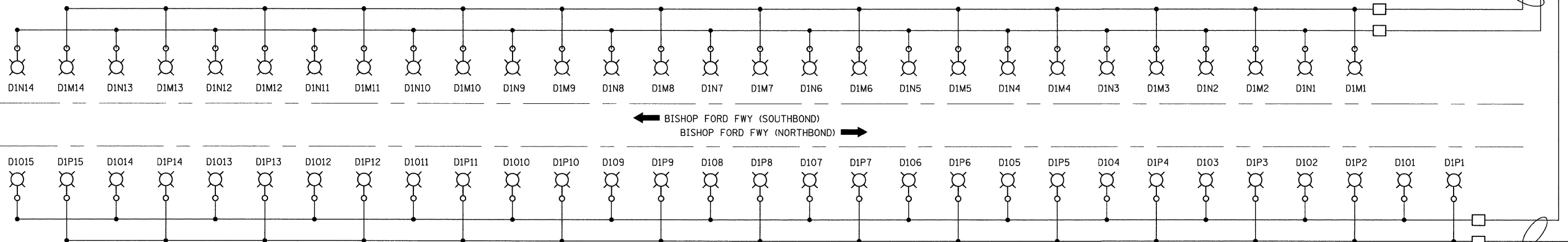
- 310 W. H.P.S. LUMINAIRE - PROPOSED
- LIGHTING CONTROLLER - EXISTING
- BUCK-BOOST TRANSFORMER - PROPOSED

LOAD TABLE LIGHTING CONTROLLER "D1"					
CIRCUIT	BLACK PHASE		CIRCUIT	RED PHASE	
	AMPS	WATTS		AMPS	WATTS
M	23.625	5670	N	23.625	5670
O	25.313	6075	P	25.313	6075
TOTAL	48.938	11745	TOTAL	48.938	11745

EXISTING CONTROL CABINET "D1"



3-1/C NO.2 AND 1-1/C NO.4 GRD.



← BISHOP FORD FWY (SOUTHBOUND)
BISHOP FORD FWY (NORTHBOUND) →

3-1/C NO.2 AND 1-1/C NO.4 GRD.

**PROPOSED SINGLE LINE DIAGRAM
LIGHTING CONTROLLER "D1"**

NOT TO SCALE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

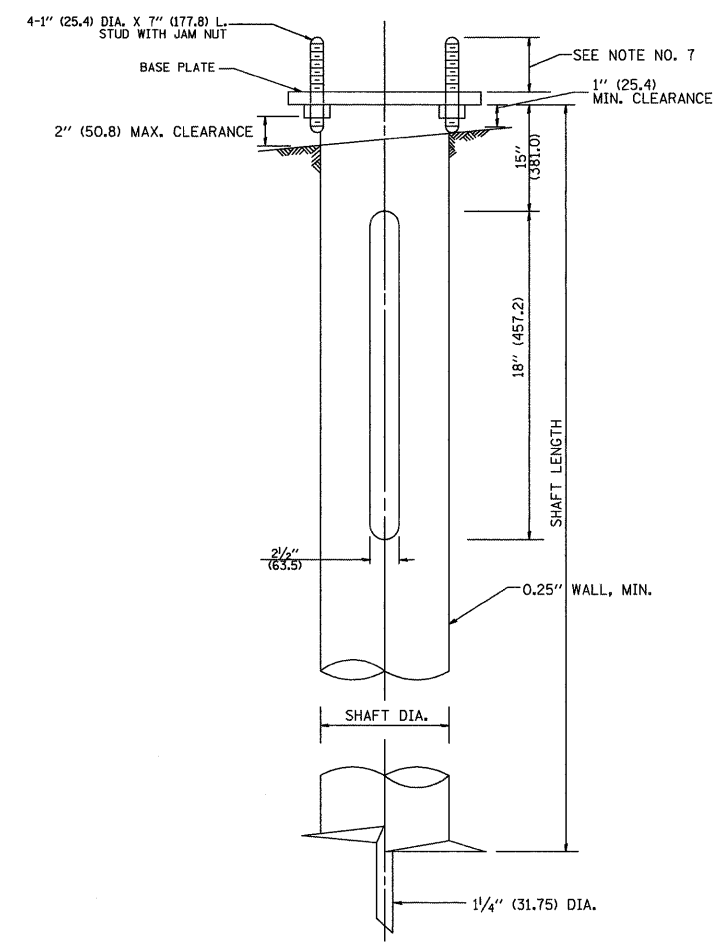
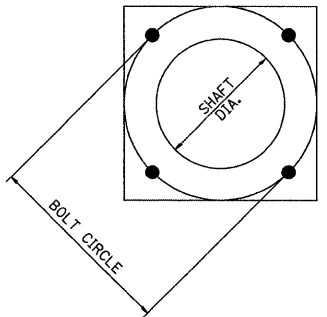
PROPOSED LIGHTING PLAN
ONE LINE DIAGRAM

SCALE: N.T.S. SHEET NO. OF SHEETS STA. - TO STA. -

JACOBS		ONE NORTH FRANKLIN CHICAGO IL, 60606 312-251-3000		
F.A.P. RTE. 332	SECTION 2008-081 L	COUNTY COOK	TOTAL SHEETS 18	SHEET NO. 14
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 60F83				

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F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2008-081.L	COOK	18	16
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	



HELIX FOUNDATION SIZE

POLE MOUNTING HEIGHT	BOLT CIRCLE	SHAFT DIAMETER	SHAFT LENGTH	BASEPLATE
30 FT.	11 1/2"	8 3/4"	6 FT.	12"x12"x1"
31 FT.-35 FT.	11 1/2"	8 3/4"	6 FT.	12"x12"x1"
36 FT.-40 FT.	15"	8 3/4"	6 FT.	15"x15"x1 1/4"
41 FT.-45 FT.	15"	8 3/4"	6 FT.	15"x15"x1 1/4"
46 FT.-50 FT.	15"	10"	8 FT.	15"x15"x1 1/4"

METAL HELIX FOUNDATION MATERIALS

ITEM	MATERIAL REQUIREMENT
BASEPLATE	AASHTO M 270M, GRADE 36 (M270M, GRADE 250)
SHAFT	ASTM A 252, GRADE 2 (PHOSPHOROUS 0.04% MAXIMUM, SULFUR 0.05% MAXIMUM)
HELIX SCREW	AASHTO M 183 (ASTM A 635)
PILOT POINT	AASHTO M 270 (ASTM A 575)
ANCHOR RODS/STUDS	AASHTO M 314 (ASTM F 1554)
HEXAGON NUTS	AASHTO M 291M (ASTM A 563) GRADE DH, OR AASHTO M 292 (ASTM A 194) GRADE 2H
WASHERS	AASHTO M 293 (ASTM F 436)

NOTES:

- ALL DIMENSION IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- ALL MATERIAL SHALL BE GALVINIZED ACCORDING TO AASHTO M11, UNLESS OTHERWISE SPECIFIED.
- ALL WELDS SHALL BE CONTINUOUS AND NOT LESS THAN 1/4" (6.35 mm) FILLET WELDS. THE WELDED FOUNDATION SHALL BE CAPABLE OF WITHSTANDING 10,000 FT/LBS (13558.18 n.m) OF INSTALLATION TORQUE APPLIED ABOUT THE AXIS OF THE FOUNDATION.
- THE HELIX FOUNDATION SHAFT SHALL BE INSTALLED VERTICAL AND THE BASE PLATE SHALL BE IN LEVEL. THE BREAKAWAY COUPLINGS AND HARDWARE SHALL NOT BE USED TO ALIGN THE POLE INSTALLATION.
- THE CABLE TRENCH SHALL BE BACKFILLED AND FIRMLY COMPACTED BEFORE THE INSTALLATION OF THE LIGHT POLE.
- THE CONTRACTOR SHALL COORDINATE EXTENSION OF ANCHOR BOLTS ABOVE TOP OF THE BASE PLATE WITH THE BREAKAWAY DEVICE MANUFACTURER'S REQUIREMENTS.
- ANY VOIDS WITHIN THE METAL FOUNDATION SHALL BE FILLED WITH FINE AGGREGATE.
- METAL FOUNDATIONS SHALL BE INSTALLED IN UNDISTURBED SOIL. PREDRILLING A PILOT HOLE AND/OR BACKFILLING AROUND THE FOUNDATION IS NOT ALLOWED.
- THE METAL FOUNDATION SHALL NOT BE INSTALLED TO A TORQUE WHICH EXCEEDS THE MANUFACTURER'S MAXIMUM TORQUE RATING NOR SHALL IT BE INSTALLED TO AN INSTALLATION TORQUE VALUE OF LESS THAN 3,500 FT LB (4,750 KNM). METAL FOUNDATIONS THAT ARE NOT INSTALLED TO FULL INSTALLATION DEPTH OR DO NOT ACHIEVE THE MINIMUM INSTALLATION TORQUE SHALL BE REMOVED AND REPLACED WITH A CONCRETE FOUNDATION AT NO ADDITIONAL COST.
- THE BASEPLATE SHALL BE PERPENDICULAR TO THE SHAFT AXIS ($\pm 1^\circ$) AND THE HOLE CENTERLINE SHALL BE CONCENTRIC (± 0.188) TO THE SHAFT AXIS.
- THE PILOT POINT AND SHAFT AXIS SHALL BE CONCENTRIC (± 0.125) AND IN LINE ($\pm 2^\circ$).
- THE BASEPLATE SHALL BE STAMPED WITH THE MANUFACTURERS NAME AND DATE OF MANUFACTURE.

BE-305

ILLINOIS DEPARTMENT OF TRANSPORTATION
LIGHT POLE FOUNDATION, METAL

SCALE: NONE
DATE 2/27/2007
DRAWN BY DB
CHECKED BY

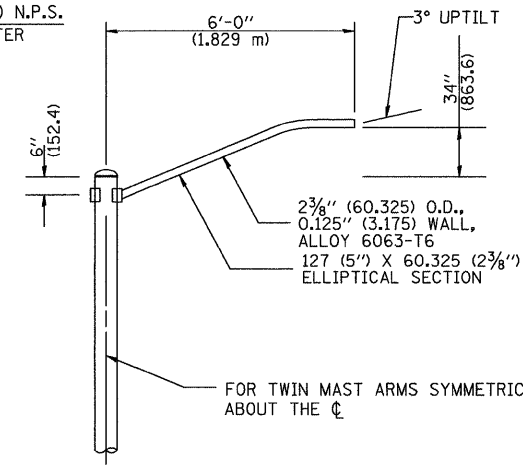
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P:_2009\C9X93600\CADD\Sheets\Lighting_Proposed_Sheet_14_BE305.dgn	Proposed_Sheet_14_BE305.dgn	DRAWN -	REVISED -									332	2008-081 L	COOK	18	16
PLOT SCALE = #SCALE#	CHECKED -	REVISED -	REVISED -	SCALE: N.T.S.				SHEET NO.	OF	SHEETS	STA. -	TO STA. -	CONTRACT NO. 60F83			
PLOT DATE = 3/5/2009	DATE -	REVISED -	REVISED -					FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT					

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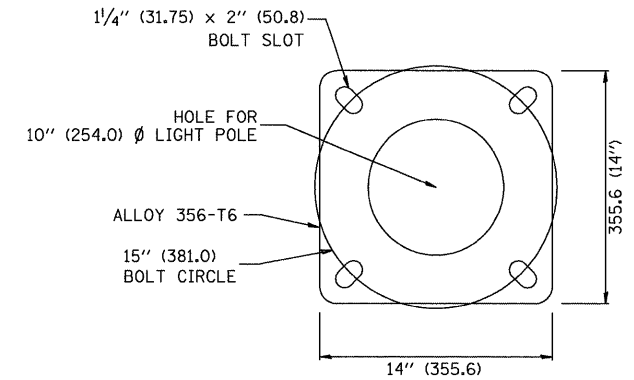
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332	2008-081.L	COOK	18	17
STA. _____		TO STA. _____		
FED. ROAD DIST. NO. _____		ILLINOIS FED. AID PROJECT _____		

NOTES:

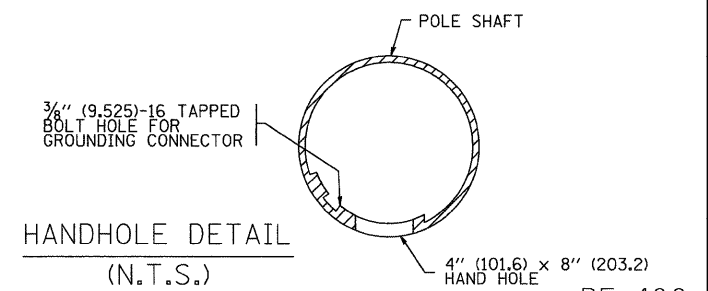
- ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.
- MOUNTING HEIGHT IS DEFINED AS THE DISTANCE FROM THE CENTERLINE OF THE TENON TO THE BOTTOM OF THE ANCHOR BASE.
- TWO PIECE SHAFT WILL BE MATCHED MARKED AND INTERCHANGEABLE BETWEEN DIFFERENT UNITS. FIELD DRILLING OF THE HOLES WILL NOT BE ALLOWED.
- THE LIGHT POLE WILL MEET AASHTO DESIGN CRITERIA AS SPECIFIED.
- THE INSTALLING CONTRACTOR WILL PROVIDE A UL LISTED GROUNDING CONNECTOR. BURNDY K2C23, T&B SP4DL OR APPROVED EQUAL.
- LIGHT POLES WILL NOT BE INSTALLED WITHOUT MAST ARMS AND LUMINAIRES.
- LIGHT POLES WILL BE SET PLUMB ON THE FOUNDATION WITHOUT THE USE OF LEVELING NUTS, WASHERS OR SHIMS.
- LIGHTING UNIT IDENTIFICATION NUMBERS SHALL BE INSTALLED BEFORE THE LIGHTING UNIT IS ENERGIZED.



6' (1.8 m) SINGLE MEMBER MAST ARM (N.T.S.)



LIGHT POLE BASE PLATE DETAIL
15 INCH (381.0) BOLT CIRCLE



HANDHOLE DETAIL (N.T.S.)
BE-400

47'-6" (14.478 m) MOUNTING HEIGHT
SEE NOTE #2

REVISIONS	
NAME	DATE
R. TOMSONS	9-6-00
R. TOMSONS	8-12-03

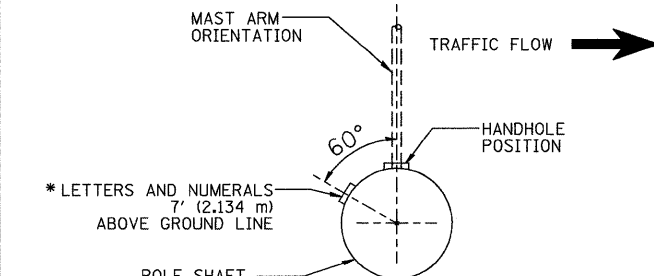
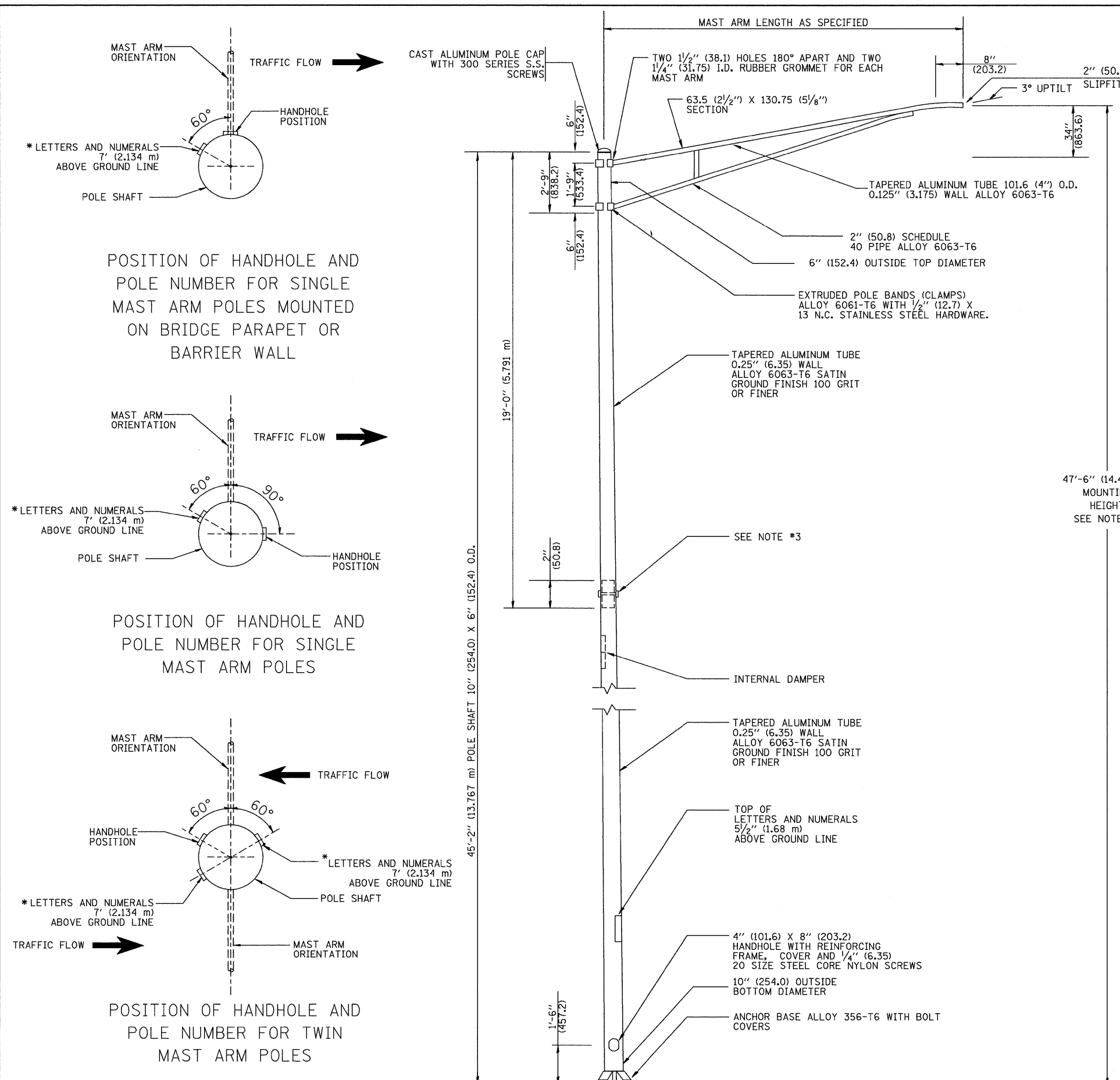
ILLINOIS DEPARTMENT OF TRANSPORTATION

ALUMINUM LIGHT POLE
47'-6" (14.478 m)
MOUNTING HEIGHT

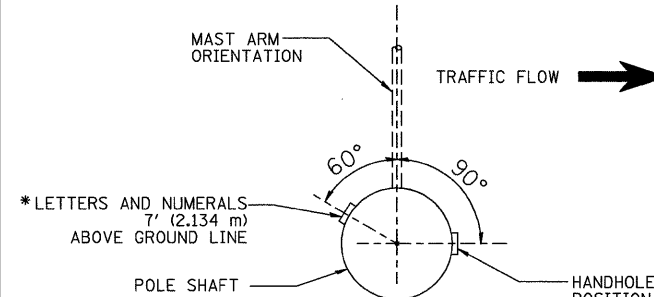
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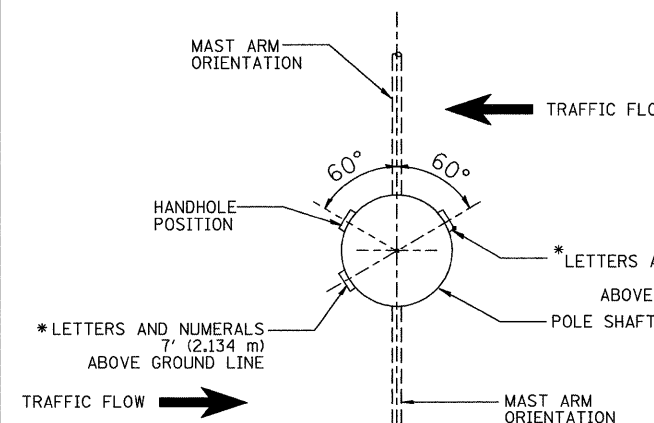
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POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES MOUNTED ON BRIDGE PARAPET OR BARRIER WALL



POSITION OF HANDHOLE AND POLE NUMBER FOR SINGLE MAST ARM POLES



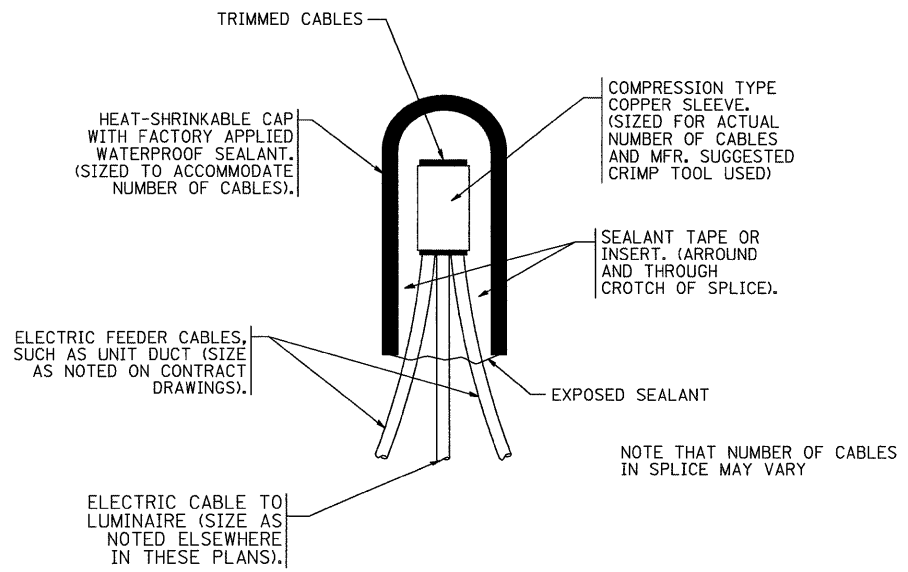
POSITION OF HANDHOLE AND POLE NUMBER FOR TWIN MAST ARM POLES

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PLOT DATE = 3/5/2009		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

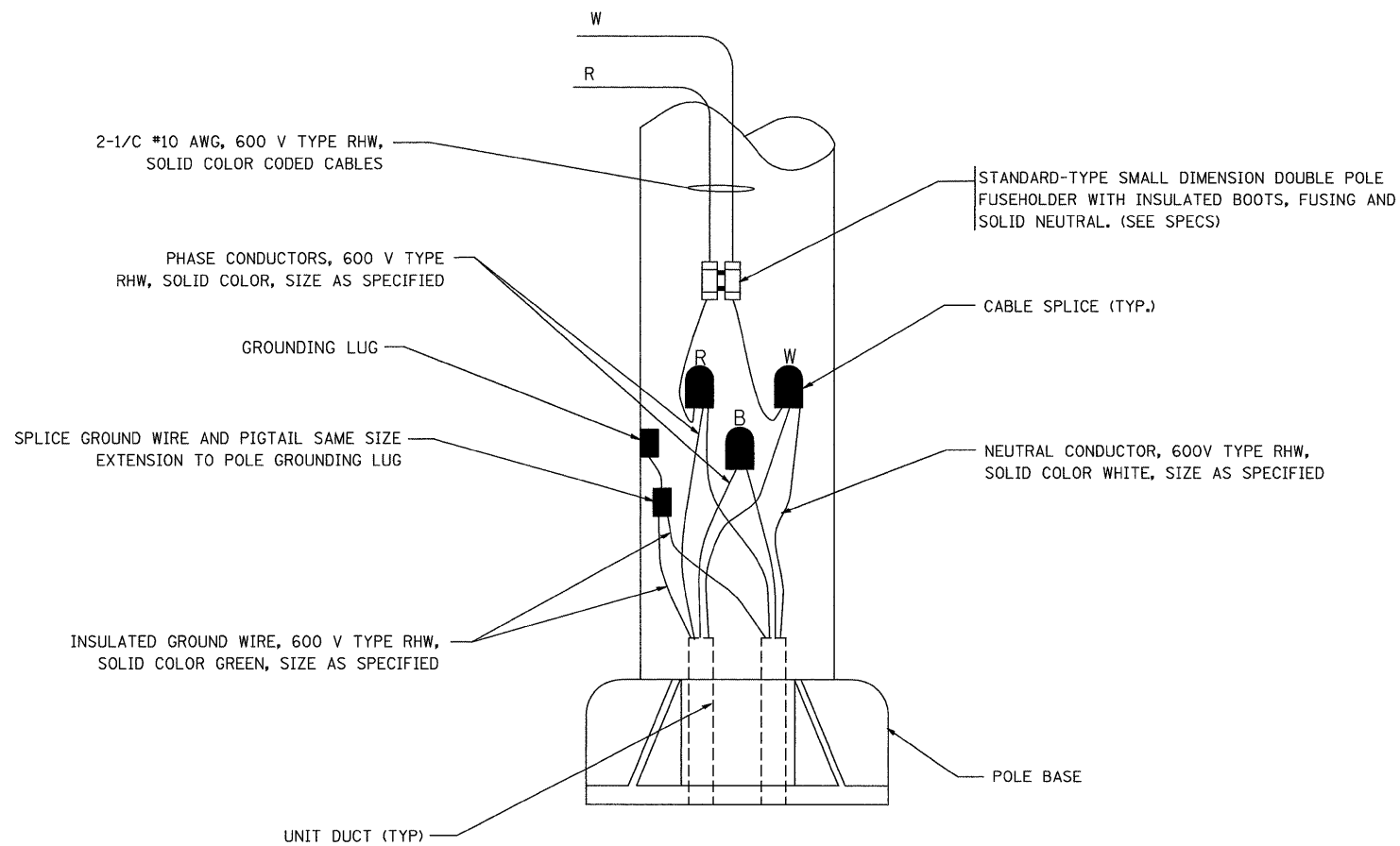
ALUMINUM LIGHT POLE 47'-6" (14.478 m) MOUNTING HEIGHT BE-400				
SCALE: N.T.S.	SHEET NO. OF	SHEETS	STA. -	TO STA. -
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2008-081 L	COOK	18	17
CONTRACT NO. 60F83				
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2008-081.L	COOK	18	18
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



TYPICAL SPLICE DETAIL

N.T.S.



POLE WIRING DETAIL

N.T.S.

REVISIONS	
NAME	DATE
	08/08/03

ILLINOIS DEPARTMENT OF TRANSPORTATION

MISC. ELECTRICAL DETAILS
SHEET A

SCALE: VERT. NONE
HORIZ.

DRAWN BY

CHECKED BY

FILE NAME =	USER NAME = default	DESIGNED -	REVISED -
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		CHECKED -	REVISED -
		DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

MISC. ELECTRICAL DETAILS
SHEET A
BE-702

SCALE: N.T.S. SHEET NO. OF SHEETS STA. - TO STA. -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
332	2008-081 L	COOK	18	18
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 60F83				