

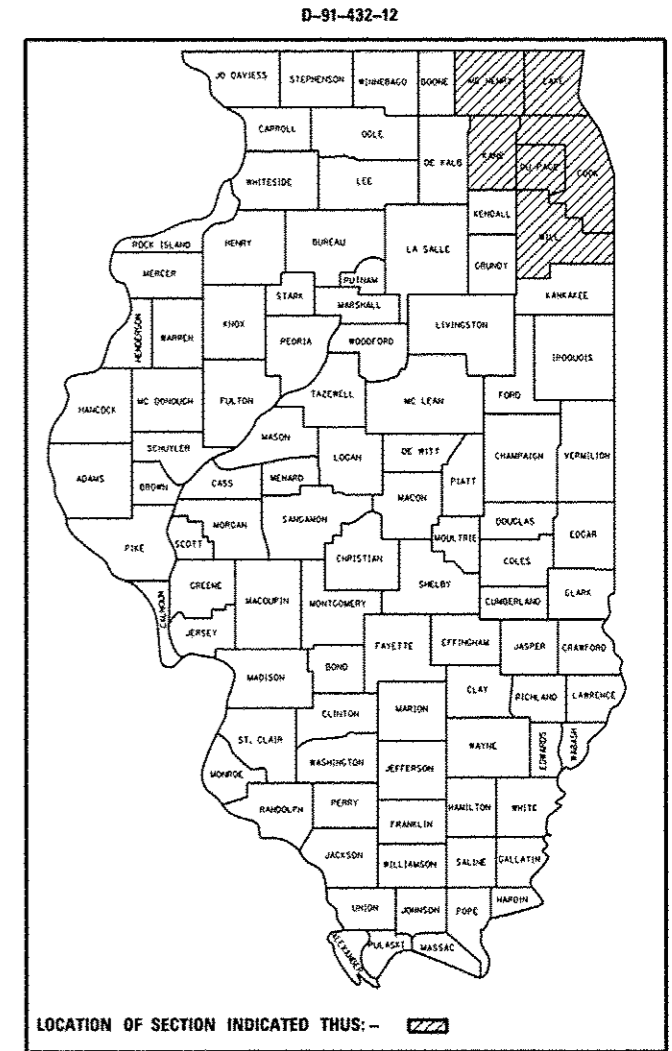
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2012-0271	VARIOUS	15	1
FED. ROAD DIST. NO. 1		ILLINOIS	CONTRACT NO. 60T78	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

VARIOUS ROUTES DISTRICT WIDE  
AT VARIOUS EXPRESSWAY MEDIANS  
SECTION: 2012-0271  
HIGH TENSION CABLE BARRIER REPAIR  
VARIOUS COUNTIES  
C-91-432-12

FOR INDEX OF SHEETS, SEE SHEET NO. 2



SEE LOCATION MAPS  
SHEETS 4-10

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

PROJECT ENGINEER: ROBERT BORO (847) 705-4237  
PROJECT MANAGER: ISSAM RAYYAN (847) 705-4178

CONTRACT NO. 60T78

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED August 23, 2012  
*John Fortmann*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

October 5, 2012  
*John P. Caranzelli, P.E.*  
acting ENGINEER OF DESIGN AND ENVIRONMENT

October 5, 2012  
*William R. Frey, Jr.*  
acting DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

STATE STANDARDS

GENERAL NOTES

<u>SHEET NO.</u>	<u>DESCRIPTION</u>	<u>STANDARD NO.</u>	<u>DESCRIPTION</u>
1	COVER SHEET	701400-05	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
2	INDEX OF SHEETS, STANDARDS AND GENERAL NOTES	701401-06	LANE CLOSURE, FREEWAY/EXPRESSWAY
3	SUMMARY OF QUANTITIES	701406-06	LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
4-10	LOCATION MAPS	701421-04	LANE CLOSURE, MULTILANE, DAY OPERATIONS ONLY
11-12	HIGH TENSION GUARDRAIL DETAILS (BRIFEN USA)	701901-02	TRAFFIC CONTROL DEVICES
13	HIGH TENSION GUARDRAIL DETAILS (GIBLARTAR)		
14	HIGH TENSION GUARDRAIL DETAILS (TRINITY)		
15	HIGHWAY)TRAFFIC CONTROL FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES (TC-17)		

BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL CALL "J.U.L.I.E." AT (800) 892-0123 OR 811 FOR FIELD LOCATIONS OF BURIED ELECTRIC, TELEPHONE AND GAS UTILITIES. 48 HOUR NOTIFICATION IS REQUIRED.

THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH UTILITY COMPANIES.

THE CONTRACTOR WILL NOT BE ALLOWED TO SET UP A YARD OR FIELD OFFICE ON STATE PROPERTY WITHOUT WRITTEN PERMISSION FROM THE DEPARTMENT.

THE CONTRACTOR SHALL CALL STATE ELECTRICAL CONTRACTOR AT (773) 287-7600 TO LOCATE STATE OWNED FACILITIES.

THE CONTRACTOR SHALL WORK IN THE DIRECTION OF TRAFFIC.

THE CONTRACTOR WILL NOT BE ALLOWED TO STORE MATERIALS OVERNIGHT IN THE MEDIAN.

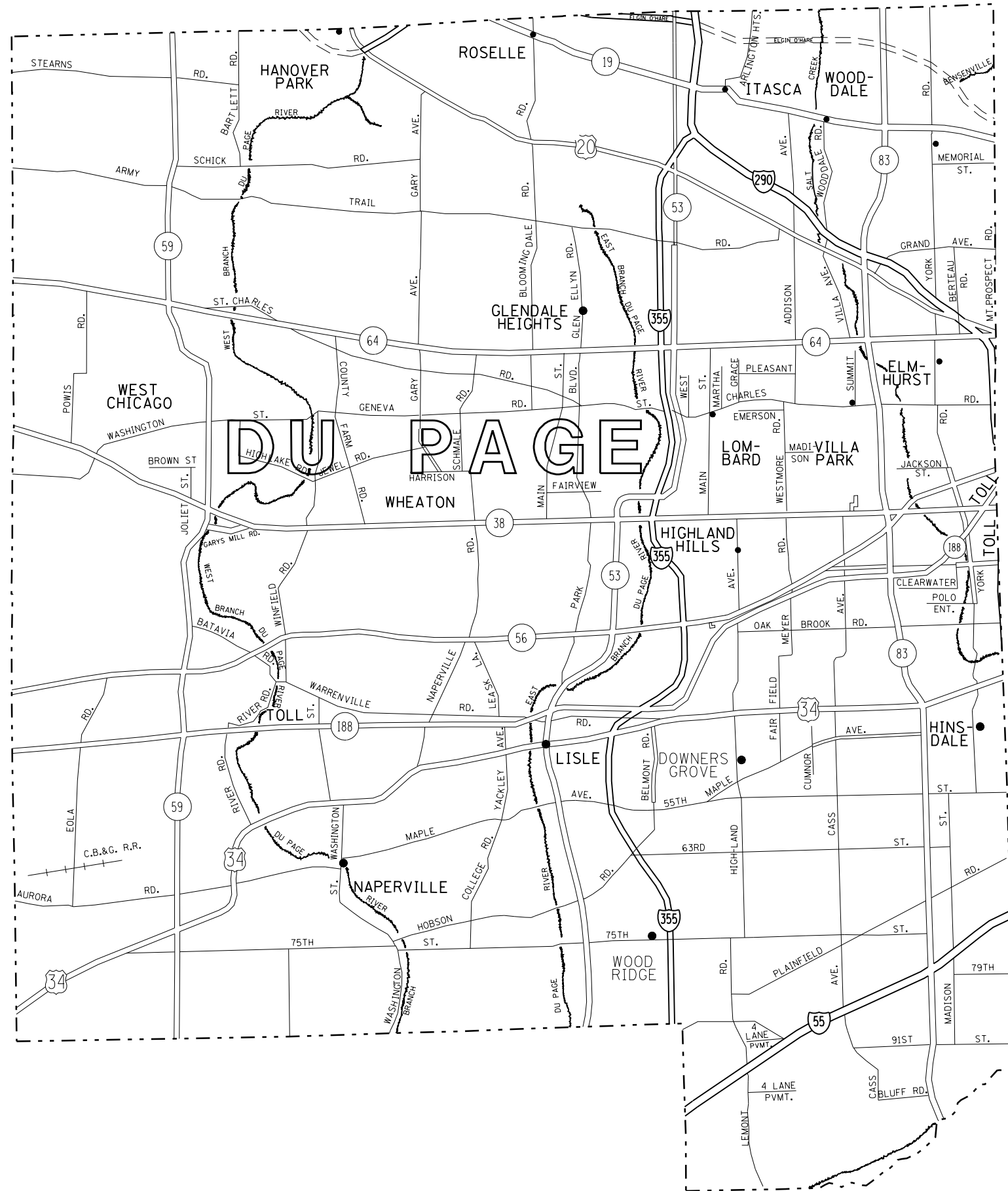
THE PROPOSED DEPTH OF THE CONCRETE SOCKETED FOUNDATIONS SHALL BE 42" (MINIMUM).

FILE NAME *	USER NAME * PerkinsJu	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CABLE BARRIER REPAIR AT VARIOUS EXPRESSWAY MEDIANS INDEX OF SHEETS, STATE STANDARDS &amp; GENERAL NOTES</b>				F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
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	PLOT SCALE * 100.0000 * / in.	CHECKED -	REVISED -												
	PLOT DATE * 8/24/2012	DATE -	REVISED -												
											CONTRACT NO. 60T78				
											FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				





07E05,01 07M05 07E05,02

SUMMARY OF QUANTITIES			URBAN CONSTRUCTION TYPE CODE 0021				SUMMARY OF QUANTITIES			CONSTRUCTION TYPE CODE						
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	100% State CONT. MAINT. 0021	100% MCHD 0021	100% State CRMP 0021										
X0325256	REPAIR HIGH TENSION CABLE (BRIFEN)	FOOT	180	36	12	132										
X0325258	REPAIR HIGH TENSION CABLE SYSTEM END SECTION (BRIFEN)	EACH	8	2	1	5										
X0325260	REPAIR POSTS (BRIFEN)	EACH	750	150	50	550										
X0325899	REPAIR HIGH TENSION CABLE (GIBALTAR)	FOOT	120	24	8	88										
X0325901	REPAIR POSTS (GIBALTAR)	EACH	975	195	65	715										
X0325975	REPAIR HIGH TENSION CABLE SYSTEM END SECTION (GIBALTAR)	EACH	7	1	1	5										
X0326201	REPAIR HIGH TENSION CABLE (TRINITY)	FOOT	90	18	6	66										
X0326202	REPAIR POSTS (TRINITY)	EACH	75	15	5	55										
X0326203	REPAIR HIGH TENSION CABLE SYSTEM END SECTION (TRINITY)	EACH	4	1		3										

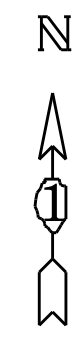
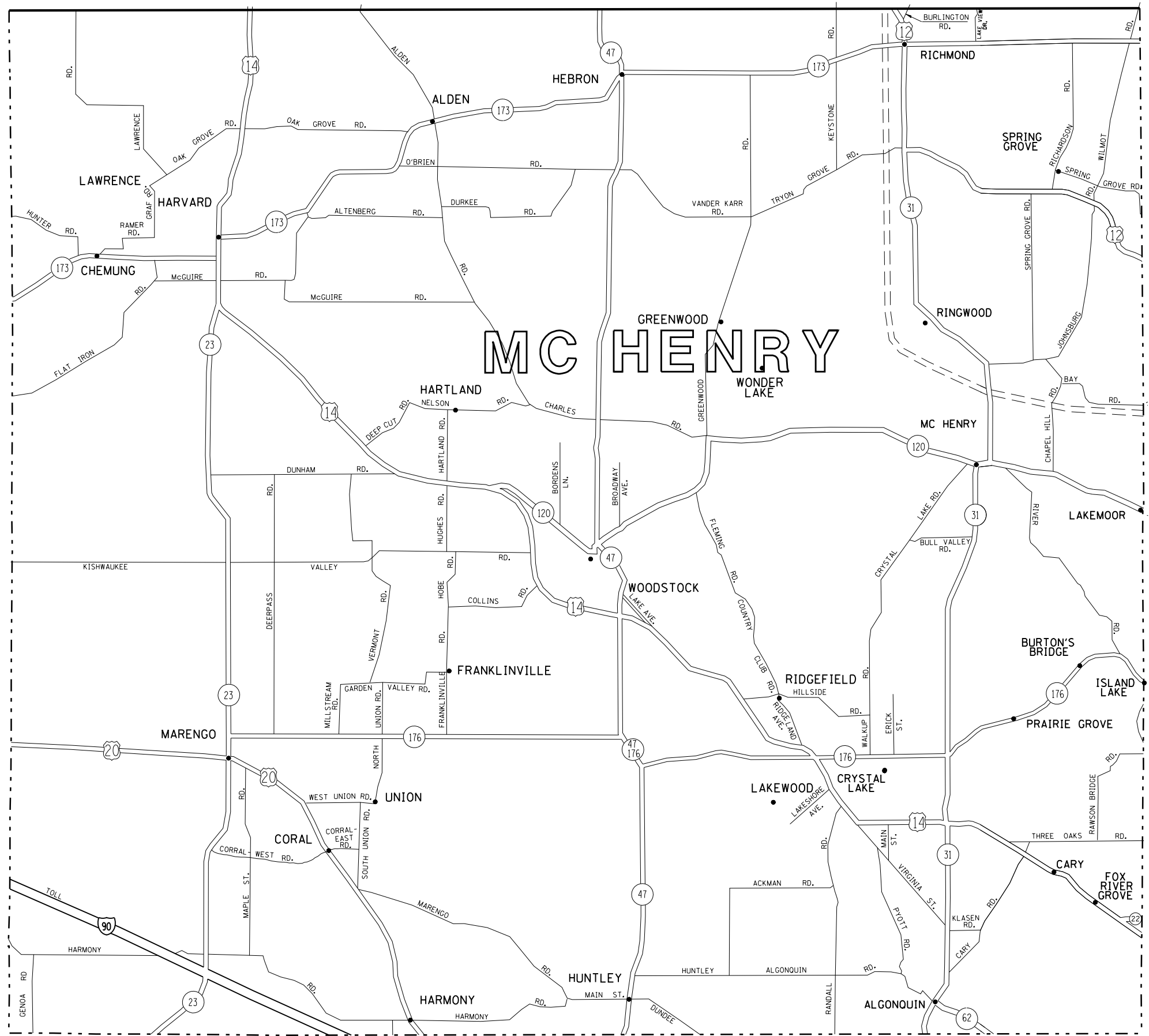
FILE NAME *	USER NAME * PerkinsJu	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
chr_wor\pawls\perkinsju\0306959\043202.sht	DRAWN -	REVISED -	VAR.					2012-0271	VARIOUS	15	3	
PLOT SCALE * 1000000 / in	CHECKED -	REVISED -	CONTRACT NO. 60178									
PLOT DATE * 8/24/2012	DATE -	REVISED -	SCALE:		SHEET NO.	OF SHEETS	STA. TO STA.	FED. ROAD DIST. NO.   ILLINOIS FED. AID PROJECT				







**LEGEND**

	STATE HIGHWAYS & EXPRESSWAYS WITH EXISTING HIGH TENSION BARRIERS.
	STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION. (EXCEPT TOLLWAYS)
	FUTURE HIGHWAYS
	VARIOUS AGENCIES HIGHWAYS

FILE NAME =	USER NAME = PerkinsJu	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CABLE BARRIER REPAIR AT VARIOUS EXPRESSWAY MEDIANS DUPAGE COUNTY LOCATION MAP</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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		DATE -	REVISED -			SCALE:	SHEET NO. 1 OF 7 SHEETS	STA.	TO STA.		



- LEGEND**
-  STATE HIGHWAYS & EXPRESSWAYS WITH EXISTING HIGH TENSION BARRIERS.
  -  STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION. (EXCEPT TOLLWAYS)
  -  FUTURE HIGHWAYS
  -  VARIOUS AGENCIES HIGHWAYS

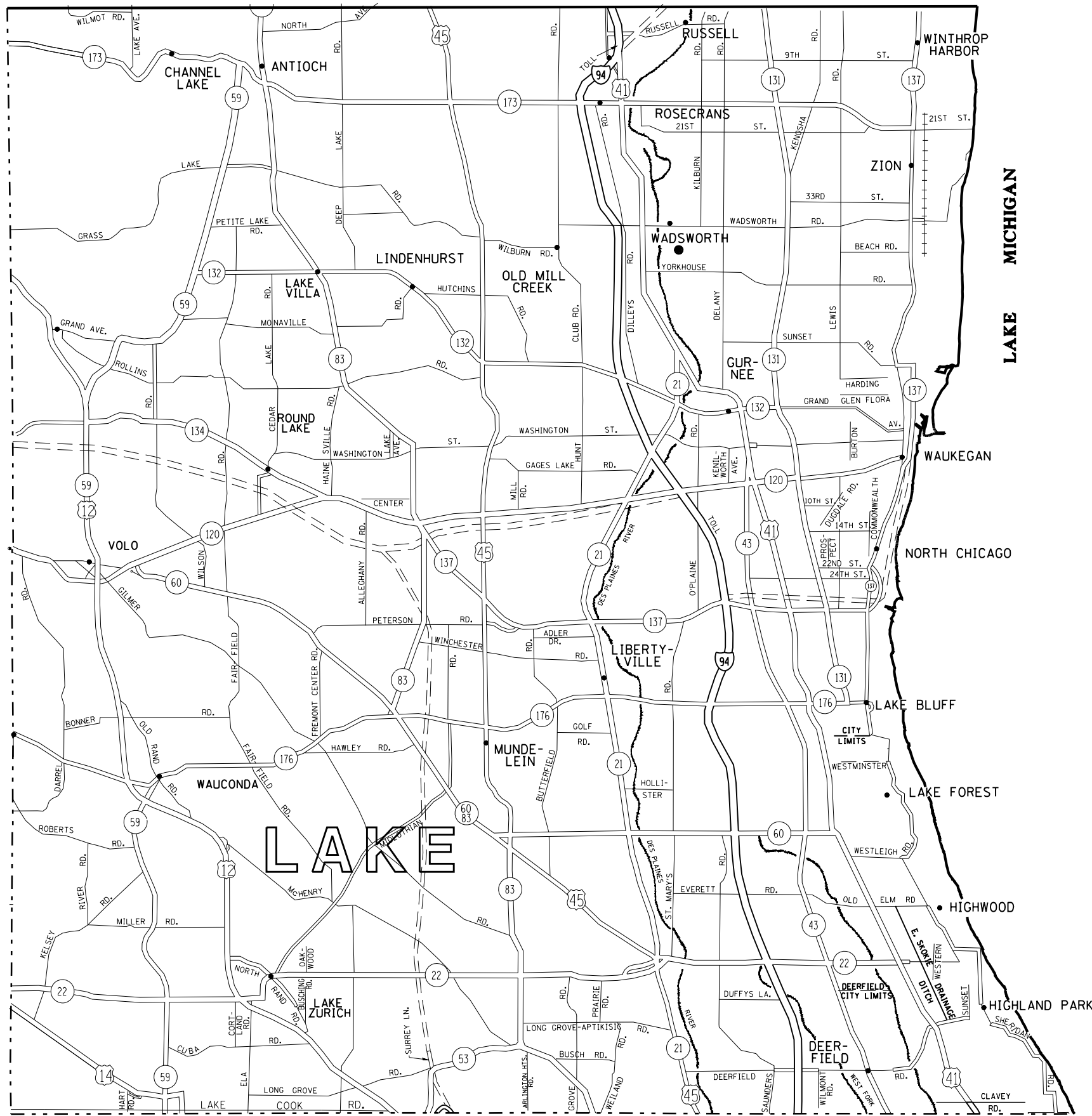
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		CHECKED -	REVISED -
		DATE -	REVISED -





**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CABLE BARRIER REPAIR  
AT VARIOUS EXPRESSWAY MEDIANS  
McHENRY COUNTY LOCATION MAP**

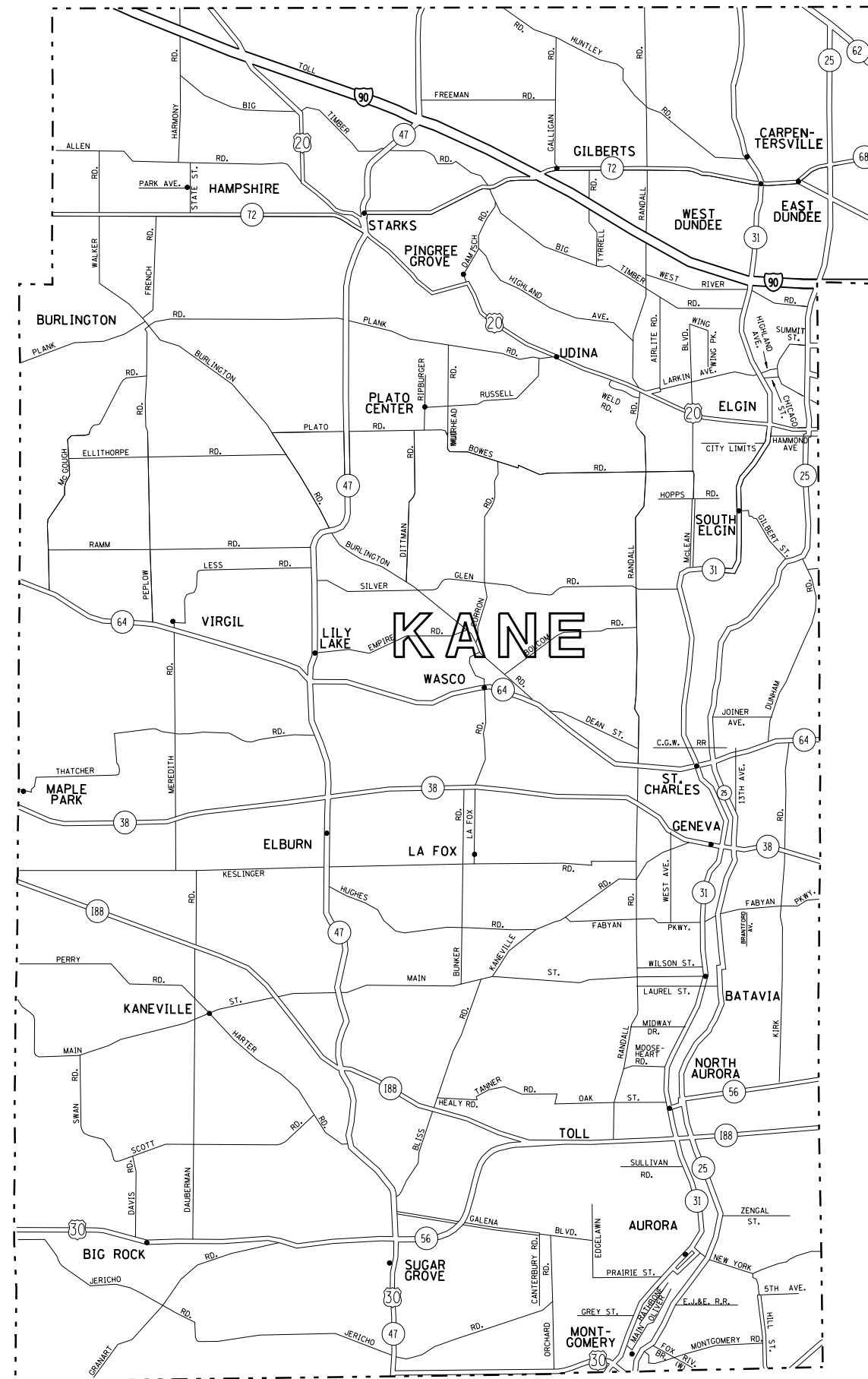
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VAR.	2012-0271	VARIOUS	15	5
<b>CONTRACT NO. 60178</b>				
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				

SCALE: SHEET NO. 2 OF 7 SHEETS STA. TO STA.







- LEGEND**
-  STATE HIGHWAYS & EXPRESSWAYS WITH EXISTING HIGH TENSION BARRIERS.
  -  STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION. (EXCEPT TOLLWAYS)
  -  FUTURE HIGHWAYS
  -  VARIOUS AGENCIES HIGHWAYS

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CONTRACT NO. 60778												



### LEGEND

-  STATE HIGHWAYS & EXPRESSWAYS WITH EXISTING HIGH TENSION BARRIERS.
-  STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION. (EXCEPT TOLLWAYS)
-  FUTURE HIGHWAYS
-  VARIOUS AGENCIES HIGHWAYS

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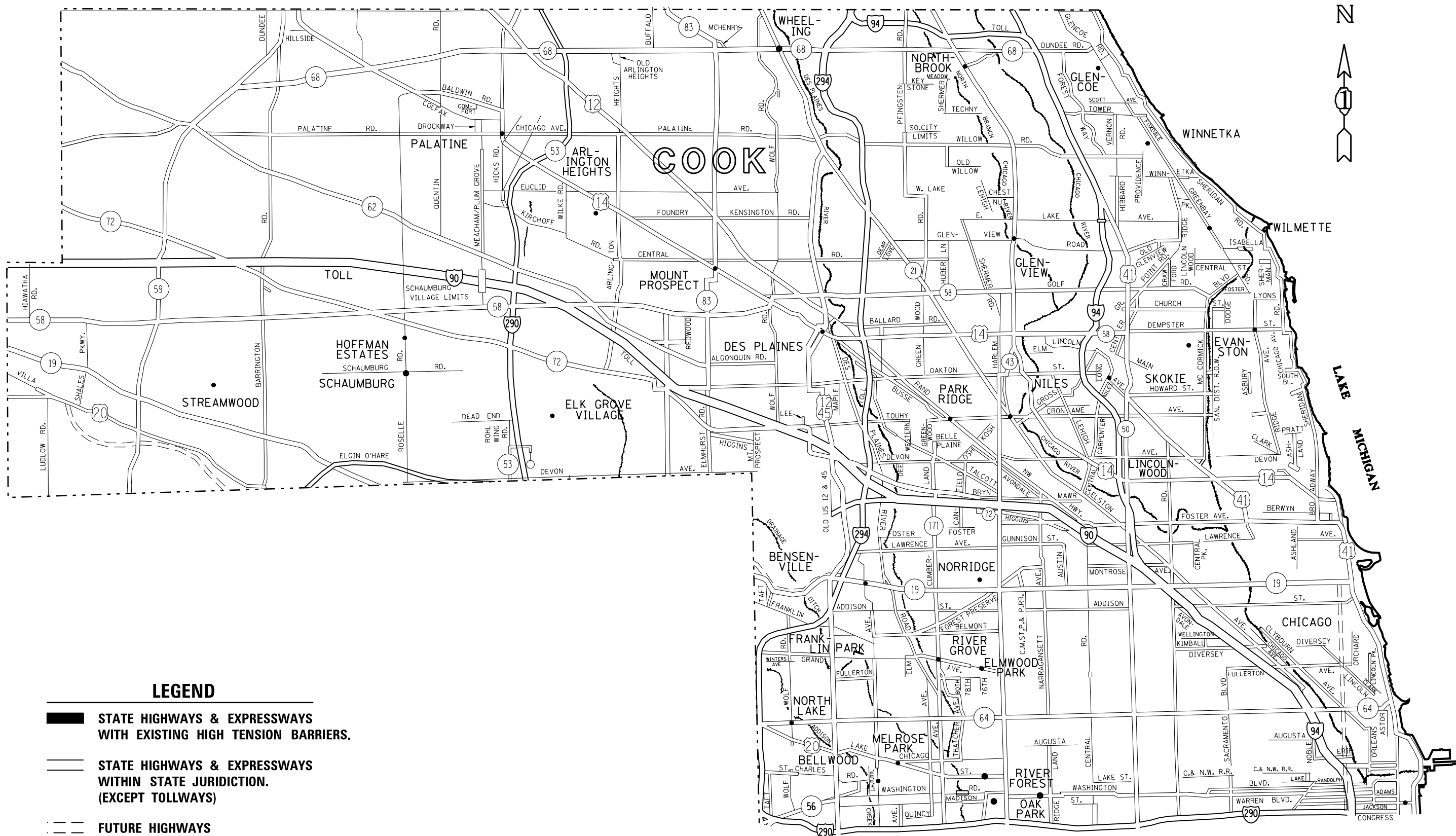
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**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**





**CABLE BARRIER REPAIR  
 AT VARIOUS EXPRESSWAY MEDIANS  
 KANE COUNTY LOCATION MAP**

SCALE: SHEET NO. 4 OF 7 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2012-0271	VARIOUS	15	7
			CONTRACT NO. 60T78	
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				



**LEGEND**

-  STATE HIGHWAYS & EXPRESSWAYS WITH EXISTING HIGH TENSION BARRIERS.
-  STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION. (EXCEPT TOLLWAYS)
-  FUTURE HIGHWAYS
-  VARIOUS AGENCIES HIGHWAYS

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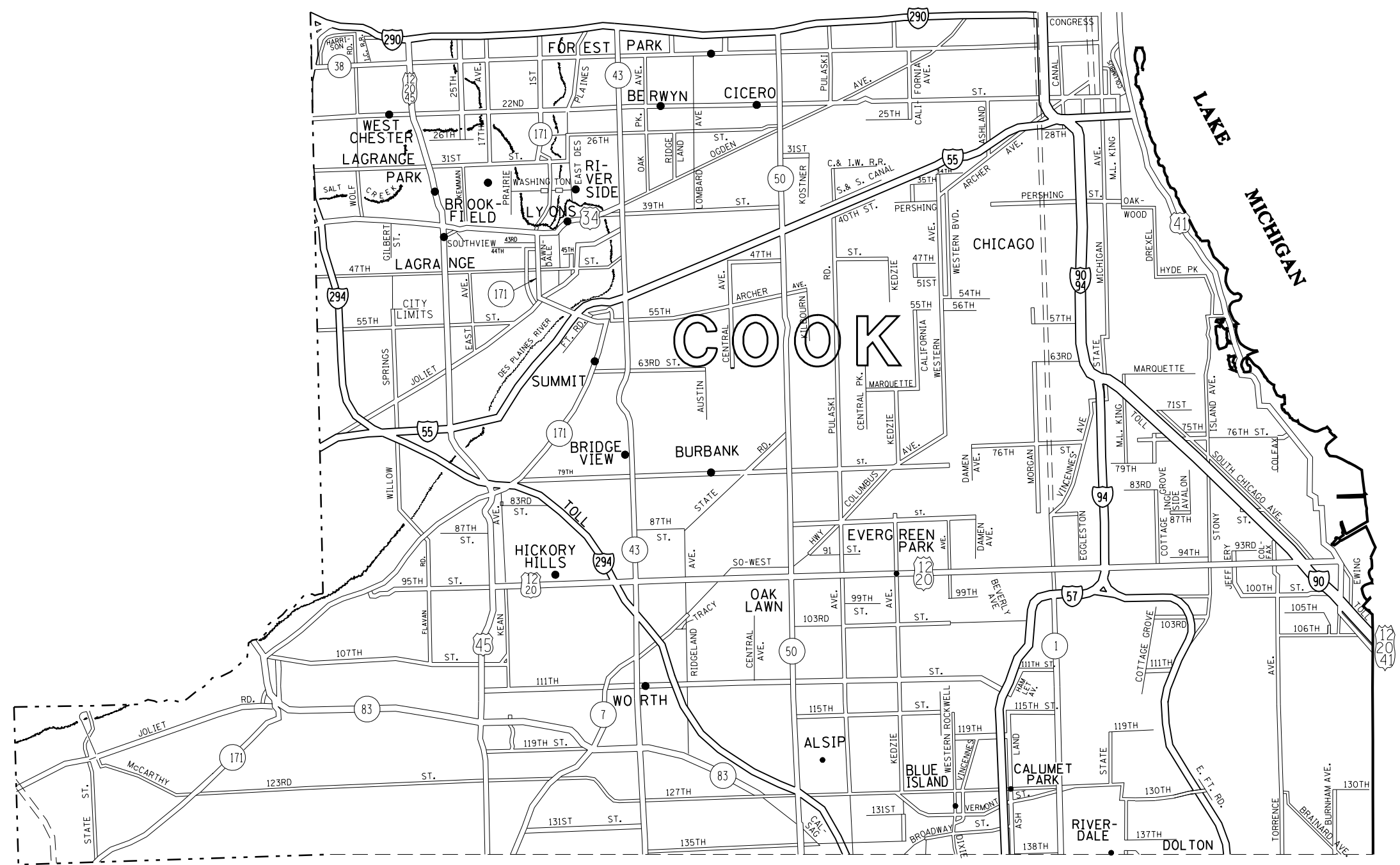
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**CABLE BARRIER REPAIR  
AT VARIOUS EXPRESSWAY MEDIANS  
COOK COUNTY (NORTH) LOCATION MAP**

SCALE: SHEET NO. 5 OF 7 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	2012-0271	VARIOUS	15	8
FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT			CONTRACT NO. 60178	

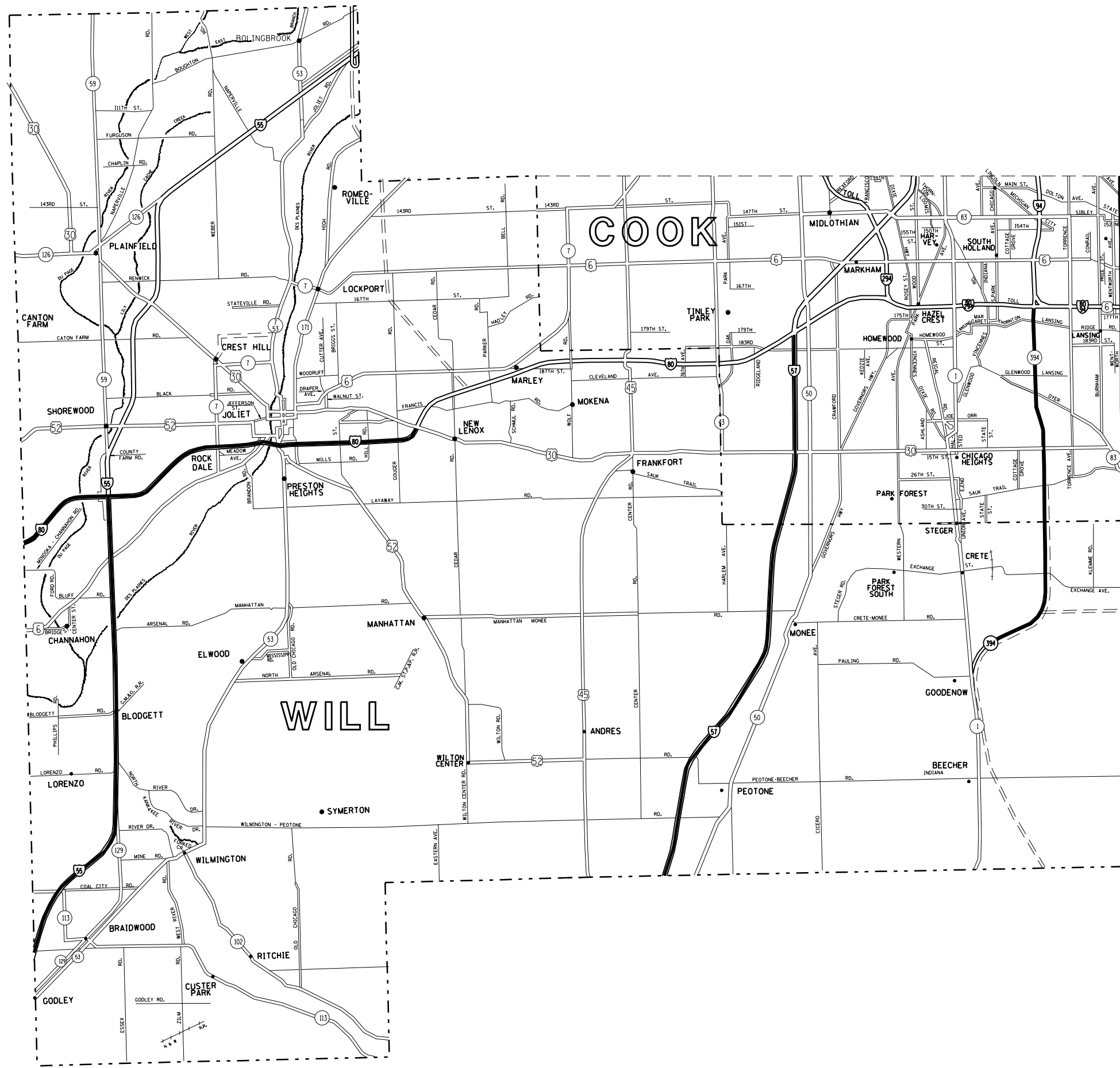




**LEGEND**

- STATE HIGHWAYS & EXPRESSWAYS WITH EXISTING HIGH TENSION BARRIERS.
- STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION. (EXCEPT TOLLWAYS)
- FUTURE HIGHWAYS
- VARIOUS AGENCIES HIGHWAYS

FILE NAME =	USER NAME = PerkinsJu	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CABLE BARRIER REPAIR AT VARIOUS EXPRESSWAY MEDIANS COOK COUNTY (CENTRAL) LOCATION MAP</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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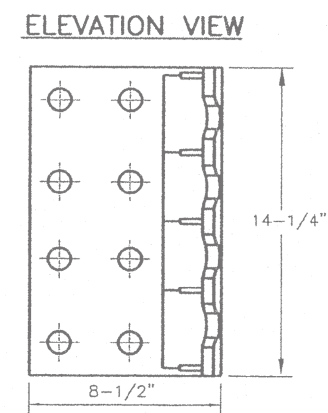
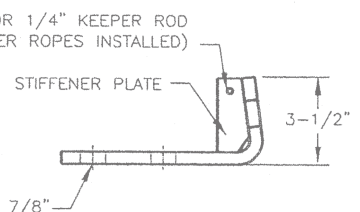
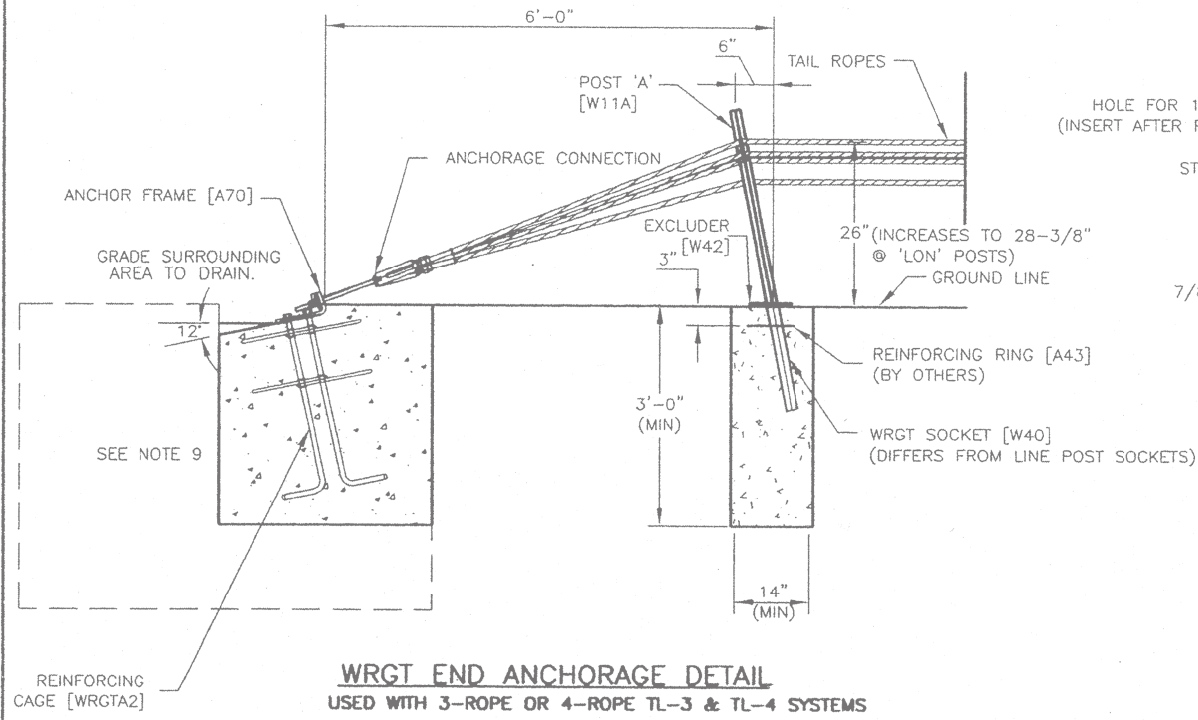
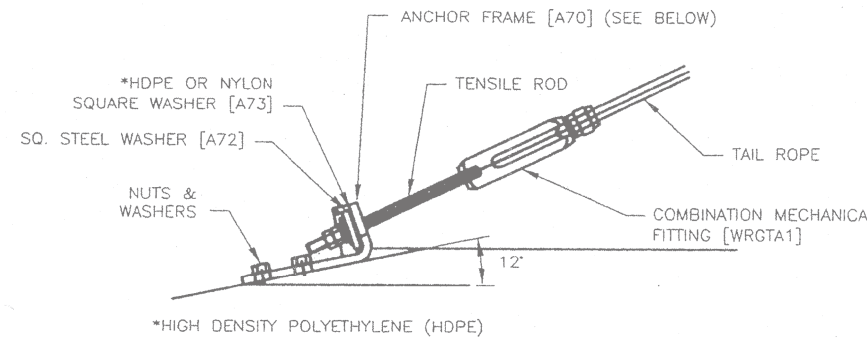
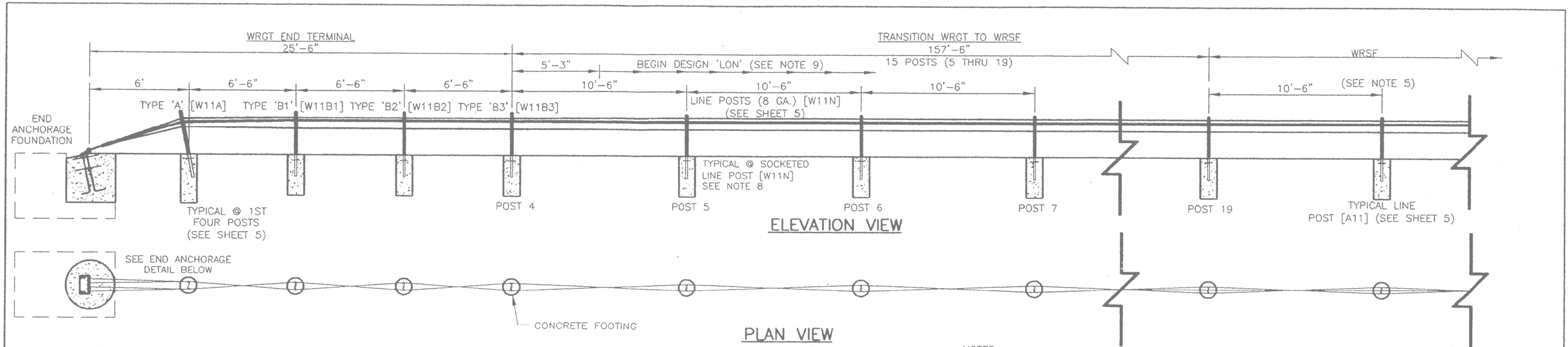


**LEGEND**

- STATE HIGHWAYS & EXPRESSWAYS WITH EXISTING HIGH TENSION BARRIERS.
- STATE HIGHWAYS & EXPRESSWAYS WITHIN STATE JURISDICTION. (EXCEPT TOLLWAYS)
- FUTURE HIGHWAYS
- VARIOUS AGENCIES HIGHWAYS

FILE NAME =	USER NAME = PerkinsJu	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>CABLE BARRIER REPAIR AT VARIOUS EXPRESSWAY MEDIANS WILL &amp; COOK (SOUTH) COUNTIES LOCATION MAP</b>	F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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PLOT DATE = 8/24/2012		CHECKED -	REVISED -			<b>CONTRACT NO. 60T78</b>					
		DATE -	REVISED -			SCALE: SHEET NO. 7 OF 7 SHEETS		STA. TO STA.		FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT	

**FOR INFORMATION ONLY**



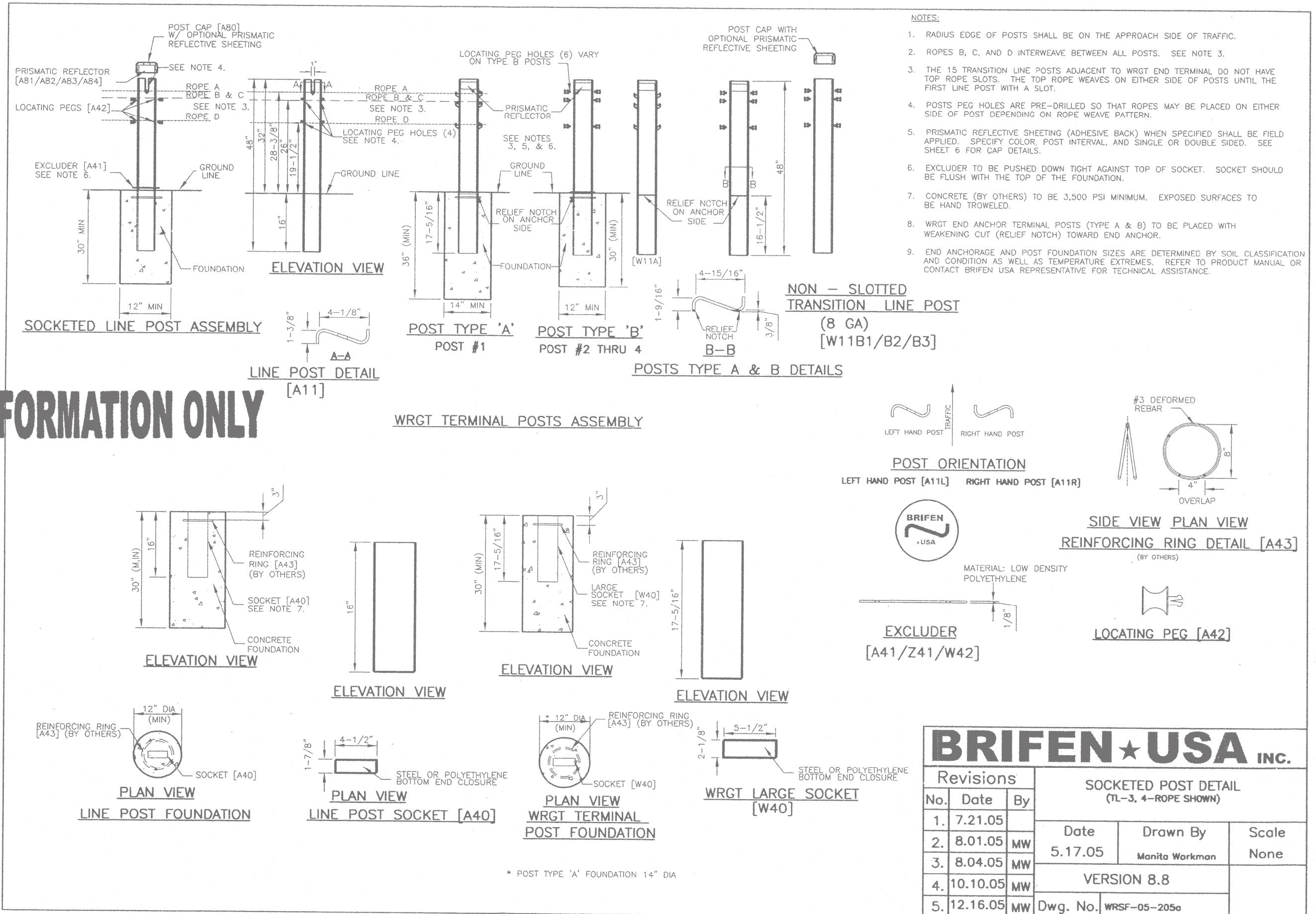
**NOTES:**

- BRIFEN DRAWINGS, SPECIFICATIONS & PRODUCT MANUAL SHOULD BE REVIEWED PRIOR TO STARTING AN INSTALLATION. FOR ASSISTANCE OR ADDITIONAL INFORMATION CALL 1-866-427-4336 TOLL FREE.
- WIRE ROPE SAFETY FENCE (WRSF) IS RECOMMENDED FOR INSTALLATIONS ON SLOPES OF 6:1 OR FLATTER. THE AREA SHOULD BE RELATIVELY SMOOTH, WITHOUT EDGE DROP-OFFS, ABRUPT SLOPE CHANGES, HOLES, DEBRIS, ETC. THAT COULD PREVENT A VEHICLE FROM IMPACTING THE WRSF WITH ALL WHEELS ON THE GROUND AND SUSPENSION NORMAL. SOME FILLING AND/OR GRADING AND COMPACTION MAY BE NECESSARY. THE ROPES MUST BE PLACED AT DESIGN HEIGHT ABOVE GROUND LINE. TOLERANCE IS ± 1".
- WRSF MAY BE INSTALLED ON EITHER SIDE OF THE ROADWAY. THE RADIUS EDGE OF POSTS SHALL BE ON THE APPROACH SIDE OF TRAFFIC. WEAKENING CUT (RELIEF NOTCH) AT GROUND LINE ON POST A & B TO BE PLACED TOWARD THE END ANCHOR. ALSO SEE SHEET 5.
- ALL POSTS ARE SET IN SOCKETS UNLESS OTHERWISE SPECIFIED. ALL CONCRETE (BY OTHERS) TO BE 3500 PSI MINIMUM. EXPOSED SURFACES TO BE HAND TROWELED.
- LINE POST SPACING AT 10'-6" SHOWN; MAY BE DECREASED IF NECESSARY. ADEQUATE CLEARANCE TO RIGID OBSTACLES SUCH AS BRIDGE PIERS, SIGN SUPPORTS, POWER POLES, TREES, ETC. IS CRITICAL. SEE PRODUCT MANUAL OR CONTACT MANUFACTURER.
- WRGT END TERMINAL IS NCHRP 350 APPROVED AND MAY BE LOCATED WITHIN THE HORIZONTAL CLEAR ZONE. END TERMINAL FLARE RATE MAY NOT EXCEED 25:1; 50:1 OR LESS IS PREFERRED. USED FOR BOTH TL-3 & TL-4 SYSTEMS. NO MAXIMUM LIMIT TO LENGTH BETWEEN END TERMINALS.
- WRGT END TERMINAL IS SUPPLIED AS A PACKAGE UNLESS SPECIFIED OTHERWISE. INCLUDES ANCHOR FRAME, REINFORCING CAGE, CONNECTION HARDWARE, COMBINATION MECHANICAL FITTING, POSTS TYPE A AND B, WRGT SOCKETS, PEGS, EXCLUDERS AND TAIL ROPES.
- THE 15 TRANSITION LINE POSTS ADJACENT TO WRGT END TERMINAL DO NOT HAVE TOP ROPE SLOT. ALL THE ROPES WEAVE ON EITHER SIDE OF THE POSTS UNTIL THE FIRST LINE POST WITH A SLOT (POST 20). SEE SHEET 5.
- END ANCHORAGE AND POST FOUNDATION SIZES ARE DETERMINED BY SOIL CLASSIFICATION AND CONDITION AS WELL AS TEMPERATURE EXTREMES. REFER TO PRODUCT MANUAL OR CONTACT BRIFEN USA REPRESENTATIVE FOR TECHNICAL ASSISTANCE.

**BRIFEN★USA INC.**

Revisions			GENERAL LAYOUT		
No.	Date	By	USING WRGT END TERMINAL (NCHRP-350) AND TRANSITION		
1.	7.21.05	MW	Date	Drawn By	Scale
2.	8.01.05	MW	5.17.05	Manita Workman	None
3.	8.04.05	MW	VERSION 8.8		
4.	10.10.05	MW			
5.	12.16.05	MW	Dwg. No.	WRSF-05-201a	

# FOR INFORMATION ONLY



- NOTES:**
- RADIUS EDGE OF POSTS SHALL BE ON THE APPROACH SIDE OF TRAFFIC.
  - ROPES B, C, AND D INTERWEAVE BETWEEN ALL POSTS. SEE NOTE 3.
  - THE 15 TRANSITION LINE POSTS ADJACENT TO WRGT END TERMINAL DO NOT HAVE TOP ROPE SLOTS. THE TOP ROPE WEAVES ON EITHER SIDE OF POSTS UNTIL THE FIRST LINE POST WITH A SLOT.
  - POSTS PEG HOLES ARE PRE-DRILLED SO THAT ROPES MAY BE PLACED ON EITHER SIDE OF POST DEPENDING ON ROPE WEAVE PATTERN.
  - PRISMATIC REFLECTIVE SHEETING (ADHESIVE BACK) WHEN SPECIFIED SHALL BE FIELD APPLIED. SPECIFY COLOR, POST INTERVAL, AND SINGLE OR DOUBLE SIDED. SEE SHEET 6 FOR CAP DETAILS.
  - EXCLUDER TO BE PUSHED DOWN TIGHT AGAINST TOP OF SOCKET. SOCKET SHOULD BE FLUSH WITH THE TOP OF THE FOUNDATION.
  - CONCRETE (BY OTHERS) TO BE 3,500 PSI MINIMUM. EXPOSED SURFACES TO BE HAND TROWELED.
  - WRGT END ANCHOR TERMINAL POSTS (TYPE A & B) TO BE PLACED WITH WEAKENING CUT (RELIEF NOTCH) TOWARD END ANCHOR.
  - END ANCHORAGE AND POST FOUNDATION SIZES ARE DETERMINED BY SOIL CLASSIFICATION AND CONDITION AS WELL AS TEMPERATURE EXTREMES. REFER TO PRODUCT MANUAL OR CONTACT BRIFEN USA REPRESENTATIVE FOR TECHNICAL ASSISTANCE.



## BRIFEN★USA INC.

Revisions			SOCKETED POST DETAIL (TL-3, 4-ROPE SHOWN)		
No.	Date	By	Date	Drawn By	Scale
1.	7.21.05		5.17.05	Manita Workman	None
2.	8.01.05	MW			
3.	8.04.05	MW			
4.	10.10.05	MW	VERSION 8.8		
5.	12.16.05	MW	Dwg. No. WRSF-05-205a		

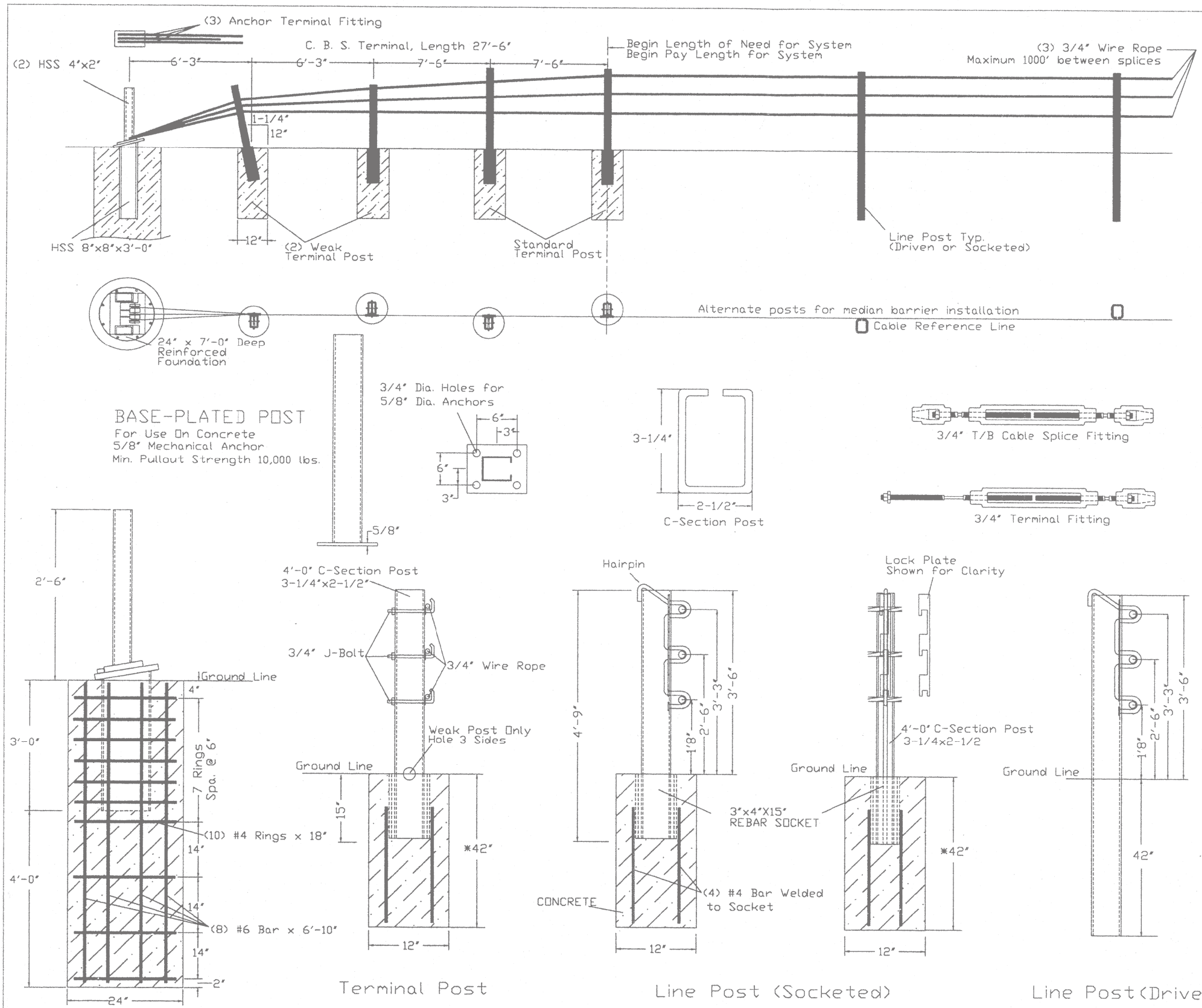
**GENERAL NOTES**

- For additional information contact Gibraltar, Inc. at 1-800-495-8957 or see the manufacture's product manual.
- All concrete shall be minimum 2500 PSI.
- Alternate Post for bi-directional traffic flow. If installed for traffic in one direction install cables on traffic side of posts.
- The Cable Barrier System shall be installed on shoulders or on medians with slopes of 6:1 or flatter. If installed on slopes steeper than 6:1 up to 4:1 the TL-4 system performs as a TL-3 and Gibraltar must be contacted for various guidelines related to placement.
- The Cable Barrier System is accepted by the FHWA Test Level - 4
- See the MUTCD for proper "Barrier" delineation
- Rock Clause: Where solid rock is encountered:
  - For socketed post, continue digging 12" diameter, 15" deep into rock or the required plan depth, whichever comes first.
  - For driven post, core drill a 4" diameter hole 18" deep into rock or the required plan depth, whichever comes first.
  - For Anchor post, continue digging 24" diameter, 30" deep into rock or the required plan depth, whichever comes first.
- The Gibraltar cable barrier system shall be installed in NCHRP Report 350 standard compacted soil. Soil must be well drained.
- Every component to be galvanized.

-10F	8000
0	7600
10	7200
20	6800
30	6400
40	6000
50	5600
60	5200
70	4800
80	4400
90	4000
100	3600
110	3200

Allowable Deviation from Chart +/- 10%

Deflection	Post Spacing
9'3"	30.FT
9'	28.FT
8'	20.FT
7'	12.FT
6'8"	10.FT

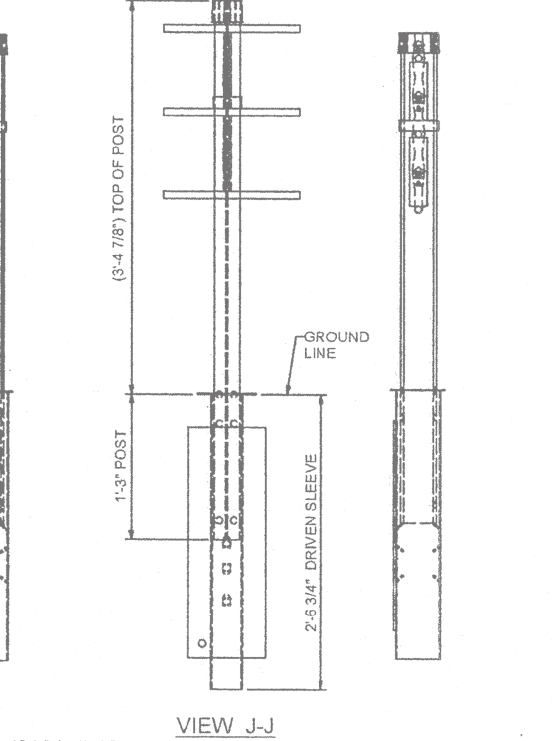
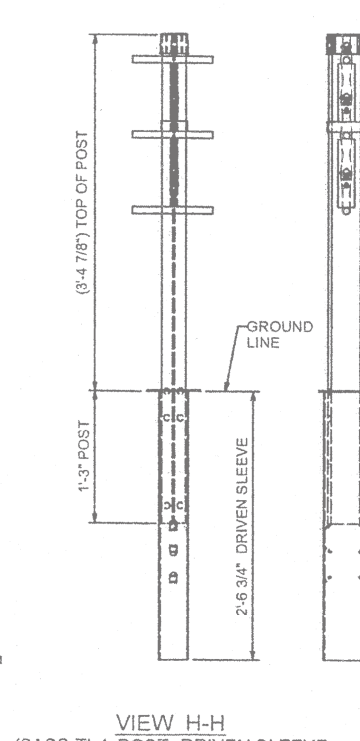
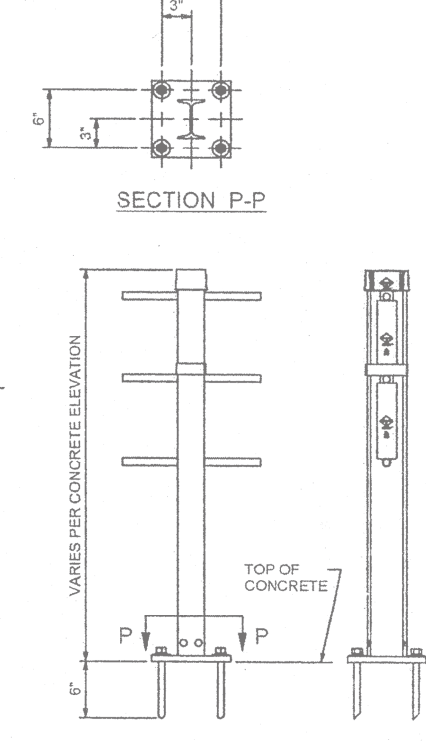
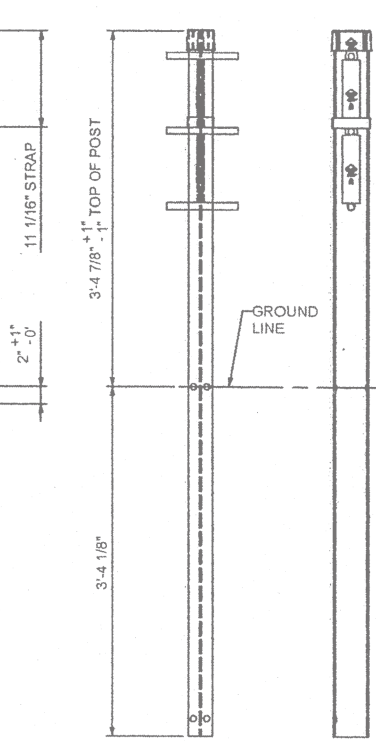
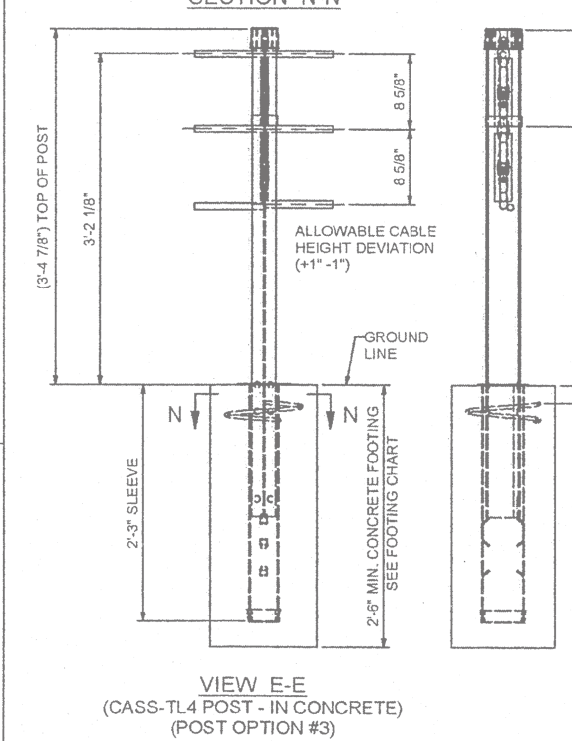
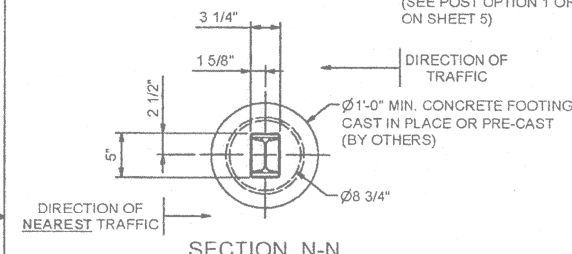
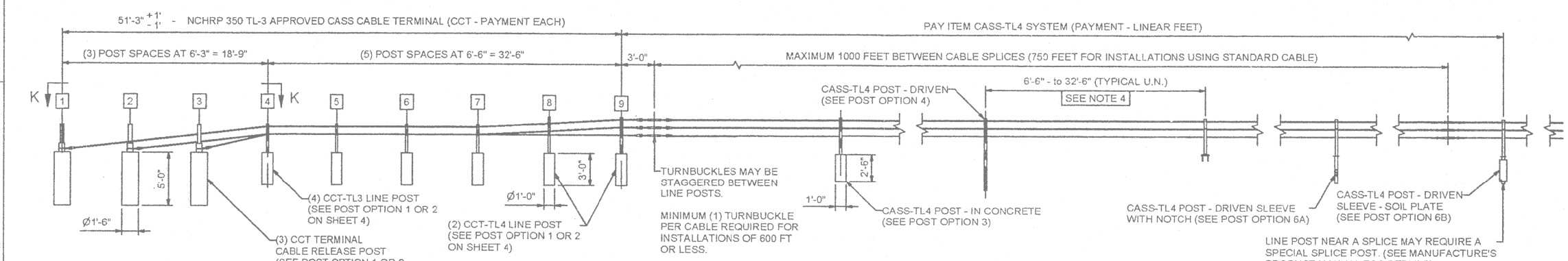
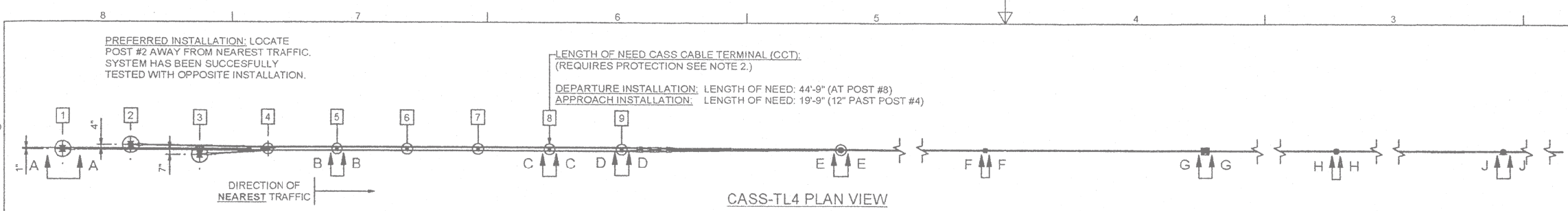


**FOR INFORMATION ONLY**

**GIBALTAR**  
 320 Southland Road  
 Burnet, Texas 78611  
 1-800-495-8957

**Cable Barrier System**  
 Patent Pending

SYSTEM: TL-4      SCALE: NTS      DRAFTERS: EJ&TJ      DATE: 09/13/07



**FOR INFORMATION ONLY**

- NOTES:**
- CASS-TL4 HAS BEEN SUCCESSFULLY TESTED TO NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM REPORT 350 TEST LEVEL 4 (NCHRP 350 TL4) AND ACCEPTED BY FHWA FOR VARIOUS POST SPACINGS. CASS CABLE TERMINAL (CCT) HAS BEEN SUCCESSFULLY TESTED AND APPROVED TO NCHRP TL3.
  - AN NCHRP 350 TL3 APPROVED TERMINAL (CCT) OR CASS-TL4 TRANSITION (VARIOUS) SHALL BE USED ON APPROACH AND DEPARTURE TERMINATIONS WHEN CASS-TL4 IS INSTALLED ON THE NATIONAL HIGHWAY SYSTEM (NHS). IF THE TERMINATION POINT IS LOCATED OUTSIDE THE CLEAR ZONE AND/OR PROTECTED BY OTHER MEANS (CRASHWORTHY BARRIER, TERMINALS, ETC.), A NON-NCHRP 350 TL3 ANCHOR (CCA) MAY BE USED ON APPROACH AND DEPARTURE TERMINATIONS.
  - CASS-TL4 SHALL BE INSTALLED ON SHOULDERS OR MEDIANS WITH SLOPES OF 6:1 OR FLATTER WITHOUT OBSTRUCTIONS, DEPRESSIONS, ETC. THAT MAY SIGNIFICANTLY AFFECT THE STABILITY OF AN ERRANT VEHICLE. GRADING OF SITE AND/OR APPROPRIATE FILL MATERIALS MAY BE REQUIRED. THE DESIGNER/INSTALLER SHALL "FLATTEN" OR "ROUND" VARIOUS TOPOGRAPHICAL INCONSISTENCIES THAT COULD INTERFERE WITH THE ABILITY OF THE INSTALLER TO CONSISTENTLY MAINTAIN THE DESIGN HEIGHT (IN RELATION TO THE TERRAIN) OF THE CABLES. PLEASE CONSULT THE CASS MANUAL(S) FOR INSTALLATIONS IN "DITCH SECTIONS".
  - CASS-TL4 POST SPACING MAY BE MODIFIED TO AVOID OBSTACLES THAT CONFLICT WITH THE INSTALLATION OF CASS-TL4 LINE POSTS. NO POST SPACE CAN EXCEED THE MAXIMUM POST SPACE LIMIT OF 32'-6", OR MAXIMUM POST SPACING ALLOWED BY PROJECT ENGINEER - WHICHEVER IS LESS. REDUCING OR INCREASING POST SPACING AFFECTS DEFLECTION. CASS-TL4 MAY BE LATERALLY TRANSFERRED AT A RATE NOT TO EXCEED 30:1.
  - POST FOUNDATIONS MAY BE DRILLED THROUGH EXISTING PAVEMENT. TRINITY MAY ALLOW THE USE OF ALTERNATE LINE POST FOOTINGS IF SYSTEM IS INSTALLED WITH AN ACCEPTABLE MOWSTRIP APPLICATION - PLEASE CONTACT TRINITY.
  - FOR AESTHETIC PURPOSES TRINITY RECOMMENDS ALL SLEEVES, DRIVEN POSTS, AND LOWER CABLE RELEASE POSTS TO BE INSTALLED REASONABLY PLUMB (APPROXIMATELY 1/8" PER FOOT).
  - ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 P.S.I. PRIOR TO TENSIONING THE SYSTEM. TRINITY RECOMMENDS THE CONCRETE TO BE VIBRATED IN ACCORDANCE WITH THE LATEST APPLICABLE AGENCY SPECIFICATION.
  - CASS-TL4 SHALL BE INSTALLED IN WELL-DRAINED, COMPACTED, NCHRP REPORT 350 STANDARD SOILS. IF SOIL DOESN'T MEET THIS CLASSIFICATION, IF SOLID ROCK/CONCRETE IS ENCOUNTERED BELOW GRADE OR IF SOIL IS SUSCEPTIBLE TO SEVERE FREEZE/THAW CYCLES, PLEASE CONTACT TRINITY ABOUT ALTERNATE FOOTING DESIGN(S). TRINITY SUGGESTS THE USE OF "MOW STRIPS" FOR EROSION PREVENTION AND EASE OF MAINTENANCE / INSTALLATION.
  - PLEASE SEE SPECIFYING AGENCY (OR MUTCD) FOR PROPER "BARRIER" DELINEATION.
  - PLEASE CONTACT TRINITY OR CONSULT THE DESIGN, INSTALLATION, OR REPAIR MANUAL(S) FOR ADDITIONAL INFORMATION.

**TRINITY HIGHWAY PRODUCTS, LLC.** EMAIL: 2525 STEMMONS FREEWAY PRODUCT.INFO@TRIN.NET DALLAS, TX 75207 PHONE: (800) 644-7976

MOW STRIP DETAIL*		CONCRETE FOOTING CHART			
MOW STRIP	DEPTH	WIDTH	FOOTING	TUBE SLEEVE	REBAR RING
NONE			30" MIN	27" MIN.	YES
HMA	6" MIN.	3" MIN.	27" MIN	15" MIN.	NO
HMA	8" MIN.	3" MIN.	24" MIN	15" MIN.	NO
RC	3" MIN.	3" MIN.	24" MIN	15" MIN.	NO

CHART DOES NOT APPLY TO TERMINAL POSTS 1 THRU 9  
 \* MOW STRIP OR PAVEMENT  
 HMA = HOT MIX ASPHALT (NOT RECYCLED ASPHALT PAVEMENT)  
 RC = REINFORCED CONCRETE (3,000 P.S.I. MINIMUM)

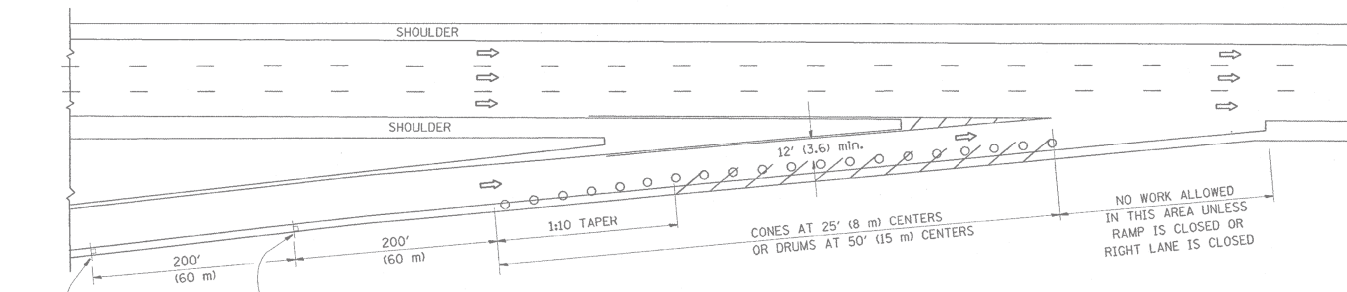
No.	CASS-TL4 POST OPTIONS
1	CCT - TERMINAL POST 1 - 9 - IN CONCRETE
2	CCT - TERMINAL POST 1 - 9 - WITH SOIL PLATE
3	CASS-TL4 POST - IN CONCRETE
4	CASS-TL4 POST - DRIVEN
5	CASS-TL4 POST - BASE-PLATED
6	CASS-TL4 POST - IN DRIVEN SLEEVE
	6A - DRIVEN SLEEVE - WITH NOTCH
	6B - DRIVEN SLEEVE - WITH SOIL PLATE

**CASS-TL4**  
**3-CABLE GUARDRAIL**  
**SAFETY SYSTEM**

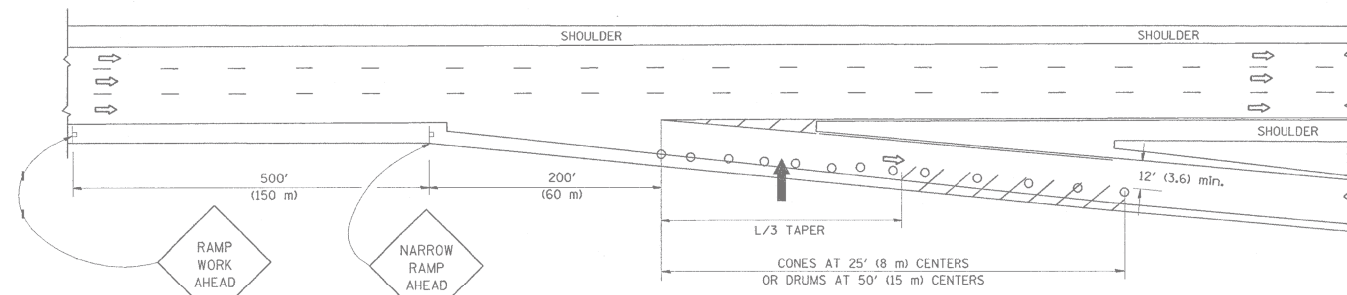
TRINITY HIGHWAY PRODUCTS, LLC

GALV SPEC:  
 SHIPPING WT:  
 DRW: E.A.S. 4/11/2008  
 CHK: G.N. 4/11/2008  
 SHT: 1 OF 5 SIZE: D  
 DWG NO: SS-740 REV 3

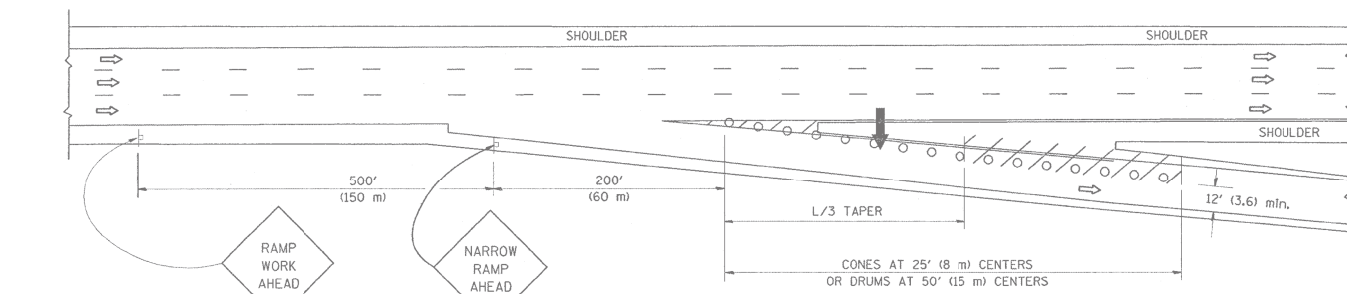
PARTIAL RAMP CLOSURE DETAILS



TYPICAL ENTRANCE RAMP



TYPICAL EXIT RAMP



TYPICAL EXIT RAMP

SYMBOLS

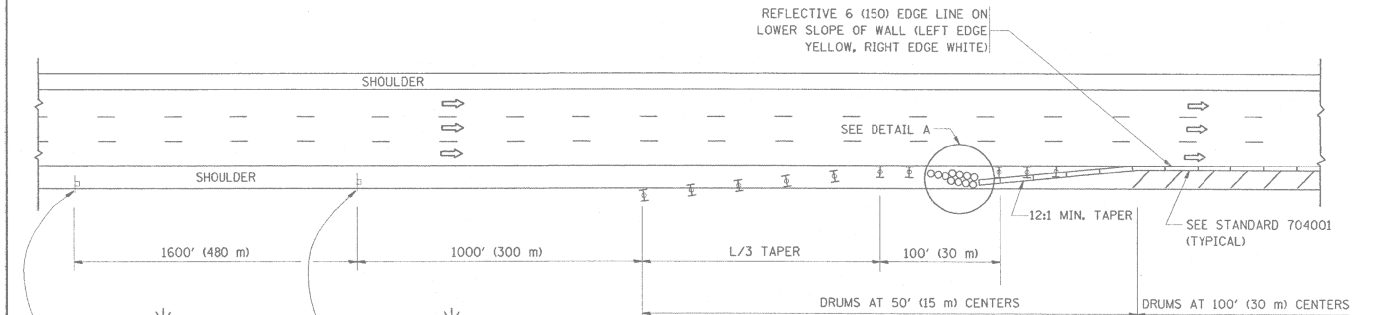
- ARROWBOARD
- WORK AREA
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- FLAGGER WITH CONTROL SIGN
- TYPE II BARRICADE, DRUM OR VERTICAL BARRICADE WITH STEADY BURN MONO-DIRECTIONAL LIGHT
- CONE, DRUM OR BARRICADE

GENERAL NOTES

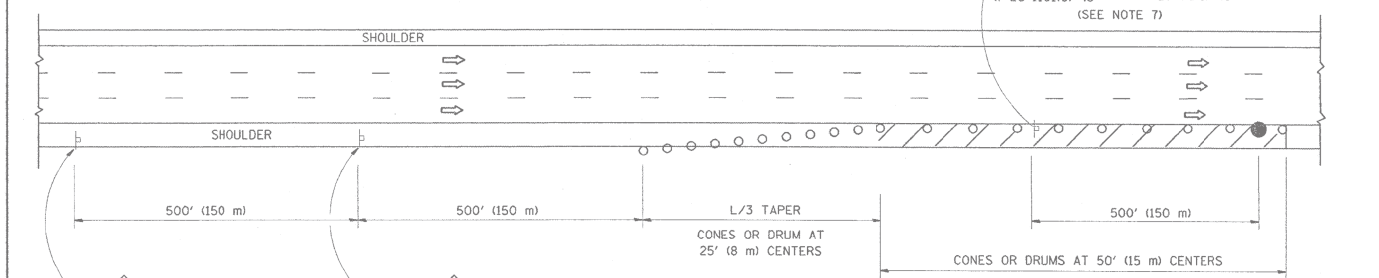
1. THE "L" DISTANCE EQUALS:
 

SPEED LIMIT	FORMULAS
45 mph (80 km/h)	METRIC ENGLISH
OR GREATER:	$L=0.65(W/S)$ $L=(W/S)$
W = WIDTH OF OFFSET IN FEET (METERS)	
S = NORMAL POSTED SPEED MPH (KM/H)	
2. PLASTIC DRUMS WITH HIGH PERFORMANCE REFLECTIVE SHEETING AND STEADY BURNING LIGHTS ARE REQUIRED FOR ALL NIGHTTIME CLOSURES.
3. ALL SIGNS SHALL BE POST MOUNTED IF THE CLOSURE TIME EXCEEDS FOUR DAYS.
4. FLASHING LIGHTS SHALL BE USED DURING THE HOURS OF DARKNESS AND SHALL BE INSTALLED ABOVE THE FIRST TWO SETS OF SIGNS.

SHOULDER CLOSURE DETAILS



PERMANENT SHOULDER CLOSURE



DAYTIME SHOULDER CLOSURE

THIS DETAIL IS USED WHERE:  
 1. VEHICLES, EQUIPMENT, WORKERS OR THEIR ACTIVITIES ENCRUSH IN AN AREA CLOSER THAN 15' (4.5 m) TO THE EDGE OF PAVEMENT FOR A PERIOD IN EXCESS OF 15 MINUTES.

ARRAY DESIGN PER MANUFACTURER TO BE NCHRP 350 COMPLIANT FOR POSTED SPEED.

DETAIL "A"  
 IMPACT ATTENUATOR, TEMPORARY  
 (SEE NOTE 5)

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS) UNLESS OTHERWISE SHOWN.

FILE NAME =	USER NAME = PerkinsJu	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>TRAFFIC CONTROL DETAILS FOR FREEWAY SHOULDER CLOSURES AND PARTIAL RAMP CLOSURES</b>				F.A. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
		DRAWN -	REVISED -			SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	VAR.	2012-0271	VARIOUS	15	15
		CHECKED -	REVISED -								TC-17				CONTRACT NO. 60T78
		DATE -	REVISED -								FED. ROAD DIST. NO. 1 ILLINOIS FED. AID PROJECT				