

January 12, 2007

EXPRESS MAIL

Ruth Kloecker
Michigan Electric Transmission/ITC
39500 Orchard Hill Place, Suite 200
Novi, MI 48375

SUBJECT: Alma-Summerton Future Double Circuit Structures & New Double Dead End Structure
Reference No: Chippewa Township/Isabella County/Lott

On May 5, 2006 Consumers Energy sent a Compatible Use Notification letter to METC, LLC to state its intent to add a new 46 kV circuit to existing future double circuit structures #191 through #218 of the Summerton-Alma 138kV line (#6AF). This Notification was subsequently reviewed and approved by METC on June 6, 2006.

Since that time this project has progressed and the scope has been modified to account for the final line route that was developed. These modifications have resulted in a reduction in the number of METC-owned structures that are affected by this project. We now intend to add a circuit only to structures #211 through #217. In addition, due to the point at which this new circuit will separate from the Summerton-Alma structures, a new structure is necessary between structures #211 and #210. Please see the attached materials for more details regarding the METC-related portion of this project.

Included with this letter are additional documents with details of the proposed construction, the proposed pole top design drawing, the record wire arrangement drawing, a construction list sheet for each structure affected, and a sketch showing the METC-related portion of this project.

Please review these materials and determine if any additional information is needed in order for you to proceed with the scheduling and design of this project. We would like to have METC's design for the double dead end structure no later than February 21, 2007 in order to maintain our schedule. Also, we would like to have the new structure constructed and ready for the new 46 kV circuit to be attached no later than June 1, 2007. Please let us know when this project has been scheduled and when the engineering and construction stages of this project are scheduled to be completed.

Also, it would be prudent if we enabled our respective design engineers to communicate during this project in order to efficiently work together and ensure compatibility of designs. To this end, the Consumers Energy design engineer has provided his contact information in the attached materials. We would appreciate a mutual exchange of this same information for the appropriate personnel at METC.

Thank you for your responsiveness in handling this expedited project.

Sincerely,



K.C. Lott
Consumers Energy
1945 West Parnall Road
Jackson, MI 49201-8643

Cc:	*GABultsma, Grand Rapids 203	*BDBugbee, P12-1017A
	*BGott, PE-A402	*RGCottrell, P24-332B
	*RACollins, Grand Rapids 201-C	*JRanderson, P11-510A
	*KARudolph, P24-414B	*MAMarr, EP7-428
	*Sharon Nye, ITC	*Thomas Vitez, ITC
	*Phil Mann, NSI	*Barbara Mention, ITC

* Letter and map attachment only



Date: February 10, 2007

To: Fernando Guevara/Barbara Mention
Real Estate and Rights of Way
ITC

From: David Doubly
Engineering
ITC

Subject: **MIS071093/CU-240**
Alma-Summerton Deadend Structure and 46kv Attachment to Poles 211 to 217
Chippewa and Isabella Twp, Lott County

ITC concurs with CE right to install 46kv on Poles 211 to 217 of the Alma-Summerton 138kv line and the need for a structure capable of supporting a 90 degree pull off. The following concerns must be address:

1. The work on poles 211 and 217 plus the deadend pole must be done by ITC. CE will pay for this work through a CIAC (contribution in aid of construction) payment plan as approved in METCO/CE agreements.
2. Poles 212 through 217 must be replaced. They do not meet NESC Class B construction requirements, which ITC specifies for its structures, when used with the 3 additional 336kcmil conductors per CE's request. They violate the heavy loaded condition by approximately 25 %.

Approved

by: David Doubly
David Doubly
Engineer



NSI Consulting and
Development, Inc.

26657
Woodward Avenue
Suite 100

Huntington Woods,
Michigan 48070

Telephone (248) 399-0700
Facsimile (248) 399-6085
E-Mail: Info@NSI-Consulting.com

February 25, 2007

Mr. K. C Lott
Consumers Energy
1945 West Parnall Road
Jackson, MI 49201-8643

RE: Alma-Summerton Future Double Circuit Structures & New Double Dead End
Structure

Reference No: Chippewa Township/Isabella County/Lott

Dear Mr. Lott

Please reference your letter of January 12, 2007. I have been advised by Michigan Electric Transmission Company, LLC ("METC") that METC has some issues with the proposed Alma-Summerton future double circuit structures & new double dead end. ITC concurs with CE right to install a 46kV on Poles 211 to 217 of the Alma-Summerton 138kV line and the need for a structure capable of supporting a 90 degree pull off. The following concerns must be address:

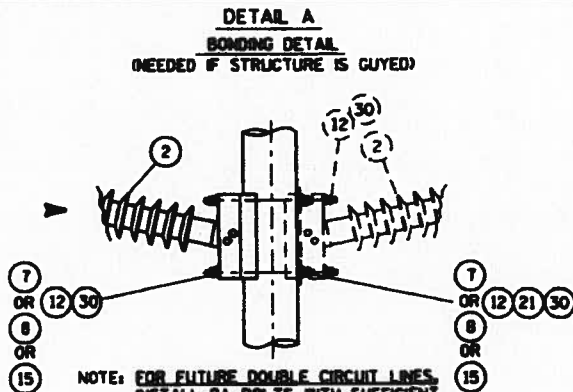
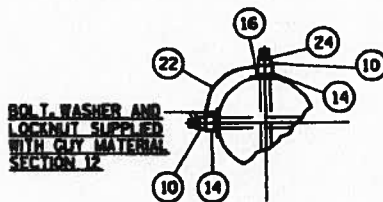
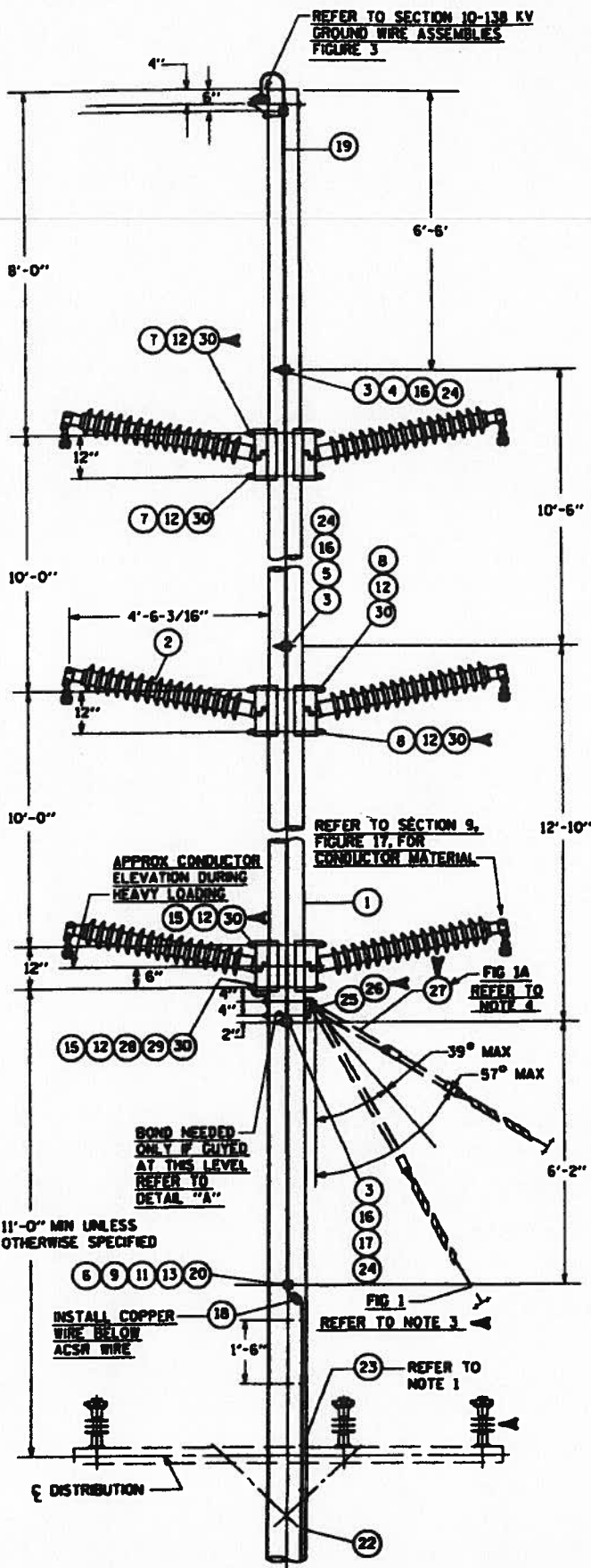
1. The work on poles 211 and 217 plus the deadened pole must be done by ITC. CE will pay for this work through a CIAC (contribution in aid of construction) payment plan as approved by METC/CE agreements.
2. Poles 212 through 217 must be replaced. They do not meet NESC Class B construction requirements, which ITC specifies for its structures, when used with the 3 additional 336kcmil conductors per CE's request. They violate the heavy loaded condition by approximately 25%.

Therefore, pursuant to Subsection 6.1(iii)(z) of the Amended and Restated Easement Agreement, the proposed Alma-Summerton future double circuit structures & new double dead end cannot be approved as proposed. ITC is willing to work with you and hopefully a satisfactory resolution can be found for both parties. Should you have any question or concerns, please do not hesitate to contact me.

Sincerely,

Fernando Guevara
Real Estate Executive
NSI Consulting and Development, Inc.

c: David Doubly, ITC
Barbara Mention, ITC
Philip Mann, NSI C&D



DEPTH OF SETTING			
POLE LENGTH	DEPTH	POLE LENGTH	DEPTH
50'	7.0'	50'	11.0'
55'	7.5'	55'	11.5'
60'	8.0'	60'	12.0'
65'	8.5'	65'	12.5'
70'	9.0'	70'	13.0'
75'	9.5'	75'	13.5'
80'	10.0'	80'	14.0'
85'	10.5'	85'	14.5'
90'	11.0'	90'	15.0'
95'	11.5'	95'	15.5'
100'	12.0'	100'	16.0'

MATERIAL SHOWN FOR DOUBLE CIRCUIT LINES - WHERE ONLY ONE CIRCUIT IS INSTALLED OMIT THREE CONDUCTOR ASSEMBLIES, REFER TO WIRE ARRANGEMENT FOR CONDUCTOR POSITIONS AND CONSTRUCTION LIST FOR GUYING

ITEM No.	QTY REQ'D	DESCRIPTION	STOCK No.
1	1	POLE-ANSI CS-1 - REFER TO CONSTR LIST FOR CLASS	06-07-89355
2	6	138 KV POLY LINE POST INSULATOR, LSK MOC	07-07861
3	3	FIBERGLASS DOWN LEAD BRACKET, (PG 14-52)	
4	1	3/4" X 14" OR 16" GALV MACH BOLT	05-27424
5	1	3/4" X 18" OR 18" GALV MACH BOLT	05-27440
6	1	3/8" X 18" OR 20" GALV MACH BOLT	05-26982
7	2	1/8" X 24" OR 28" GALV DA BOLT	05-07459
8	2	1/8" X 28" OR 28" GALV DA BOLT	05-07467
9	1	SQUARE NUT FOR 5/8" BOLT	05-42274
10	2	SQUARE NUT FOR 3/4" BOLT	05-42282
11	1	5/8" SQUARE CONCAVE - MF GALV LOCKNUT	05-42357
12	12	7/8" SQUARE CONCAVE - MF GALV LOCKNUT	05-42373
13	2	3" SQ GALV WASHER - 15/16" DIA HOLE	05-16439
14	2	GALV BONDING CLIP FOR 3/4" BOLT	05-17617
15	2	7/8" X 28" OR 30" GALV DA BOLT	05-07475
16	6	2 1/4" SQ GALV WASHER - 13/16" DIA HOLE	05-16452
17	1	3/4" X 18" OR 20" GALV MACH BOLT	05-27468
18	1	PG CLAMP - #4 ACSN TO #6 COPPER	10-20314
19	1	#4 ACSN WIRE (DOWN LEAD)	05-30539
20	1	GALV BONDING CLIP FOR 5/8" BOLT	05-17809
21	6	4" SQ GALV CURVED STUBBING WASHER 15/16" DIA HOLE	05-16169
22	-	#6 BARE SOLID COPPER WIRE (DOWN LEAD AND/OR BONDING)	05-31048
23	32	GALV STAPLES (1-1/2")	07-88521
24	4	3/4" SQUARE CONCAVE - MF GALV LOCKNUT	05-42365
25	1	3/4" X 2" GALV MACH BOLT WITH HEX NUT	05-22292
26	1	3/4" GALV LOCK PALMUT	05-41385
27	2	GALV EXTENSION STRAP PER ITEM 3 - L = 2'-0", (PG 12-6U)	07-89282
28	1	GALV BONDING CLIP FOR 7/8" BOLT	05-17825
29	1	SQUARE NUT FOR 1/8" BOLT	05-42290
30	12	ELEC MATERIAL TYPE #9 OIL COIL SPRING LOCKWASHER - 15/16" DIA HOLE	05-21636

- NOTES
- INSTALL ADDITIONAL STAPLES AS REQUIRED TO MAKE GROUNDING WIRE CONFORM TO IRREGULAR SURFACES OF POLE.
 - ANY ITEM ASSEMBLED WITH A COTTER KEY IS TO BE INSTALLED SO THE COTTER KEY CAN BE INSPECTED FROM THE STRUCTURE.
 - FIG. 1 - NO STRAPS ARE NEEDED ON GUYS UP TO 39°. THE CONSTRUCTION LIST WILL SPECIFY FIG. 1A WHEN THIS TYPE OF GUY IS REQUIRED.
 - FIG. 1A - INSTALL (2) 2'-0" EXTENSION STRAPS (ITEM 27) BETWEEN FIBERGLASS GUY INSULATOR AND PLATE IF GUY IS FROM 39° TO 57°. THE CONSTRUCTION LIST WILL SPECIFY FIG. 1A WHEN THIS TYPE OF GUY IS REQUIRED.

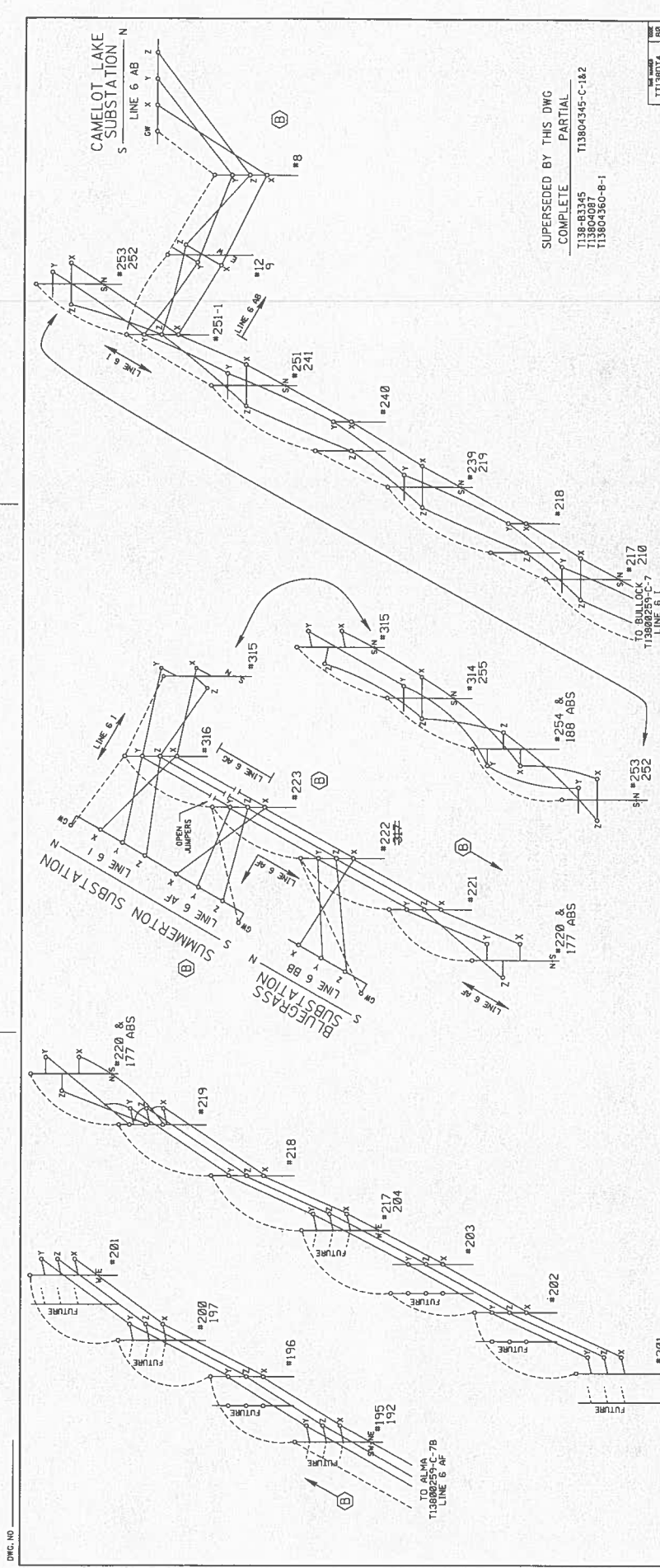
REFERENCES
 GROUNDING INSTRUCTIONS - SECTION 7
 GUY AND ANCHOR INSTALLATION - SECTION 12

REVISIONS
 T TLOOAGX 78



138 KV HORIZONTAL POST TANGENT STRUCTURE
 PRESENT SINGLE CIRCUIT - FUTURE DOUBLE CIRCUIT OR DOUBLE CIRCUIT - 300' RULING SPAN DESIGN

APPROVED RG COTTRELL DATE 6-11-04 Dwg No. TLOO19251-E Rev H Sh 1



DWG. NO.

CAMELOT LAKE
SUBSTATION
S LINE 6 AB N

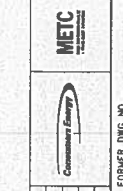
SUMMERTON SUBSTATION
S LINE 6 AF N
S LINE 6 BB N

BLUEGRASS
SUBSTATION
S LINE 6 RI N
S LINE 6 R N

TO ALMA
T13800255-C-7B
LINE 6 AF

SUPERSEDED BY THIS DWG
COMPLETE PARTIAL
T138-83345 T13804345-C-182
T13804087 T13804360-B-1

RECORD LINE ARRANGEMENT
BULLOCK-CAMELOT
SUMMERTON-BLUEGRASS-ALMA
48KV
NO. T13800255-C rev B sheet 7A
6, 1, AB, AF, AC, BB



NO.	DATE	BY	APP.	REV.	DATE	DESCRIPTION
1	1-10-00	B				REVISIONS FOR PROTECTIVE RELAY SETTING AND CONN.
2	1-10-00	B				TO SUMMERTON SUBSTATION DISCRESSION

NO.	DATE	BY	APP.	REV.	DATE	DESCRIPTION
1	1-10-00	B				REVISIONS FOR PROTECTIVE RELAY SETTING AND CONN.
2	1-10-00	B				TO SUMMERTON SUBSTATION DISCRESSION

NO.	DATE	BY	APP.	REV.	DATE	DESCRIPTION
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2	1-10-00	B				TO SUMMERTON SUBSTATION DISCRESSION

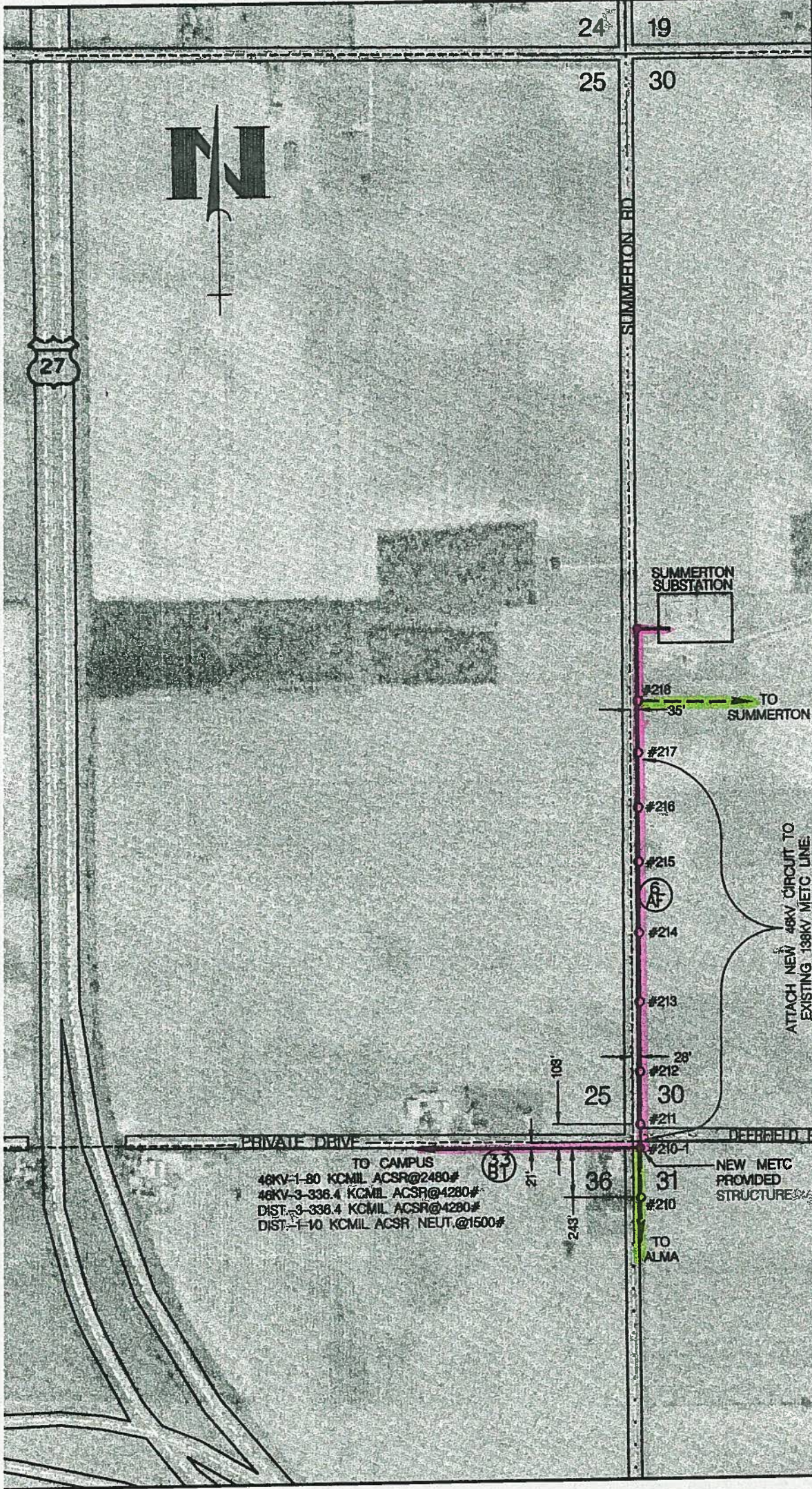
NO.	DATE	BY	APP.	REV.	DATE	DESCRIPTION
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NO.	DATE	BY	APP.	REV.	DATE	DESCRIPTION
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NO.	DATE	BY	APP.	REV.	DATE	DESCRIPTION
1	1-10-00	B				REVISIONS FOR PROTECTIVE RELAY SETTING AND CONN.
2	1-10-00	B				TO SUMMERTON SUBSTATION DISCRESSION

FORMER DWG NO.
FORM SCALE 1:1
PLOTING SCALE = 0.08333



TO CAMPUS
 46KV-1-80 KCMIL ACSR@2480#
 46KV-3-336.4 KCMIL ACSR@4280#
 DIST-3-336.4 KCMIL ACSR@4280#
 DIST-1-10 KCMIL ACSR NEUT.@1500#

NEW METC
 PROVIDED
 STRUCTURE

ATTACH NEW 48KV CIRCUIT TO
 EXISTING 138KV METC LINE.

SUMMERTON
 SUBSTATION

TO
 SUMMERTON

TO
 ALMA

REV	DATE	DESCRIPTION	BY	APP	DATE	REV	DATE	DESCRIPTION	BY	APP	DATE

CK.	MIN	1-09-07	DR.	CDG	1-09-07
DSMR.	JA	NEWSOME			DATE 1-09-07
APP.	JA	LANCASTER			DATE 1-09-07
APP.					DATE -- --
APP.					DATE -- --

SCALE	1" = 500'	DATE	1-09-07	REV

ATTACHMENT OF SECOND CIRCUIT
 TO 6AF AND REQUIRED DDE
 SKETCH
 46 KV LINE

Consumers Energy

RS No.

**CONSUMERS ENERGY
NOTIFICATION OF PROPOSED LINE CONSTRUCTION
REQUIRING COORDINATION WITH METC TRANSMISSION LINES**

Proposed C.E. Construction

- Attach a new 46kV line (#33BT) to the existing Alma-Summerton 138kV line (#6AF). Proposed line route adds a second circuit to the future double circuit horizontal post line between structures #217 and #211. Heading in a southerly direction from Summerton Substation until just south of Deerfield Road at a point between pole #211 and #210 the line leaves METC Line (#6AF) and heads off in a westerly direction, utilizing a self supporting double dead end structure provided by METC. Double Dead-End structure shall also have provisions for distribution as follows: 3-336.4 kcmil ACSR at 4280# maximum tension and 1-1/0 kcmil ACSR neutral wire at 1500# maximum tension, with clearance for a road crossing.

Ground Wire: 80 kcmil ACSR

Conductor: 336.4 kcmil ACSR

- Existing Ground Wire maximum tension from structure #217 to 211 is 2480#.
- Existing Conductor maximum tension from structure #217 to 211 is 4280#.
- Proposed Ground Wire maximum tension for structure #210-1 is 2480#.
- Proposed Conductor maximum tension for structure #210-1 is 4280#.

Location

County: Isabella

Township: Chippewa

Section: 30

Town/Range: T14N, R03W

Attached drawings for proposed line configurations:

- TL0019251 Sh.1 (85' DC HP)
- T13800259 Sh.7A (Record Wire Arrangement)
- Construction List (Pole #218 thru #209)
- Sketch (shows dimensions of existing and proposed lines)

Design Contact

Justin Lancaster

General Engineer

Transmission Lines Design and Standards

Tel: (517) 788-1572

Email: JALancaster@cmsenergy.com

LINE NAME: 6AF -- #851 TO #223 (ALMA-SUMMERTON)
STRUCTURE #: 209 ORDER: 231

LINE NO/LTR:	6AF
STRUCT #:	209
OP VOLTAGE:	138
STN/EQ:	663.30
BACK SPAN:	343.00
DEFLECTION:	
TYPE:	WOOD POLE
POLE HT:	85
POLE CLASS:	1
CONST TYPE:	HP

STRUCTURE

DWG SHT LTR FIG REV COMMENTS
TL0019251

REMARKS: EXCEPT INSTALL INSULATORS ON EAST SIDE OF POLES 204-217
USE CRUSHED ROCK BACKFILL.

GUYING:

CONDUCTORS

LINE 6AF

TYPE: 336.4 KCMIL ACSR

DES VOLTAGE: 138

DRAWINGS:	NUM	SHT	LTR	FIG	REV
ASSY:	TL0019035	3		17	
SAG:	T13804372				

SPACER RMKS:

REMARKS

6AF: SAG CHART 336.4 KCMIL ACSR PER T13804372, 324'RS, 4280#MT

ELEVATIONS

GROUNDLINE:
SETTING:
CENTERLINE:

CWA

DWG	SHT	LTR	FIG	RE
T13804345				

GROUND WIRE

LINE 6AF

TYPE: 80 KCMIL ACSR

DRAWINGS:	NUM	SHT	LTR	FIG	REV
ASSY:	TL0019081	1		3	
SAG:	T13804371				

REMARKS

6AF: SAG CHART 80 KCMIL ACSR PER T13804371, 324'RS, 2050#MT.

GENERAL REMARKS

LOCATION

PROP OWNER:
PARCEL NO:
REMARKS:

RIGHT-OF-WAY:
COUNTY: ISABELLA
TOWNSHIP: CHIPPEWA
TOWN/RANGE: T14N,R03W
SECTION: 31

REVISION

LETTER:
GWO: 1242
RS NO: 45116
NOTES: NEW CONSTR LIST LINE 6AF - ADDED POLES FOR LINE

REV DESIGNER:
REV ENGINEER:
REVISION DATE: 6/9/2000
DESIGNER: KDKING
ENGINEER: CRCOLEMAN
ENGINEER DATE: 6/9/2000

DIVISION HEAD: PAMULHEARN
DEPT HEAD: BDBUGBEE

LINE NO/LTR:	6AF
STR ORDER:	231
STRUCT #:	209

LINE NAME: 6AF -- #851 TO #223 (ALMA-SUMMERTON)
STRUCTURE #: 210 ORDER: 232

LINE NO/LTR:	6AF
STRUCT #:	210
OP VOLTAGE:	138
STN/EQ:	666.71
BACK SPAN:	341.00
DEFLECTION:	
TYPE:	WOOD POLE
POLE HT:	85
POLE CLASS:	1
CONST TYPE:	HP

STRUCTURE

DWG SHT LTR FIG REV COMMENTS
TL0019251

REMARKS: EXCEPT INSTALL INSULATORS ON EAST SIDE OF POLES 204-217
USE CRUSHED ROCK BACKFILL.

GUYING:

CONDUCTORS

LINE 6AF

TYPE: 336.4 KCMIL ACSR
DES VOLTAGE: 138
DRAWINGS: NUM SHT LTR FIG REV
ASSY: TL0019035 3 17
SAG: T13804372

SPACER RMKS:

REMARKS

6AF: SAG CHART 336.4 KCMIL ACSR PER T13804372, 324'RS, 4280#MT

ELEVATIONS

GROUNDLINE:
SETTING:
CENTERLINE:

CWA

DWG SHT LTR FIG RE
T13804345

GROUND WIRE

LINE 6AF

TYPE: 80 KCMIL ACSR
DRAWINGS: NUM SHT LTR FIG REV
ASSY: TL0019081 1 3
SAG: T13804371

REMARKS

6AF: SAG CHART 80 KCMIL ACSR PER T13804371, 324'RS, 2050#MT.

GENERAL REMARKS

LOCATION

PROP OWNER:
PARCEL NO:
REMARKS:

RIGHT-OF-WAY:
COUNTY: ISABELLA
TOWNSHIP: CHIPPEWA
TOWN/RANGE: T14N,R03W
SECTION: 31

REVISION

LETTER:
GWO: 1242
RS NO: 45116
NOTES: NEW CONSTR LIST LINE 6AF - ADDED POLES FOR LINE

REV DESIGNER:
REV ENGINEER:
REVISION DATE: 6/9/2000
DESIGNER: KDKING
ENGINEER: CRCOLEMAN
ENGINEER DATE: 6/9/2000

DIVISION HEAD: PAMULHEARN
DEPT HEAD: BDBUGBEE

LINE NO/LTR:	6AF
STR ORDER:	232
STRUCT #:	210

LINE NAME: 6AF -- #851 TO #223 (ALMA-SUMMERTON)
STRUCTURE #: 211 ORDER: 233

LINE NO/LTR:	6AF
STRUCT #:	211
OP VOLTAGE:	138
STN/EQ:	670.17
BACK SPAN:	346.00
DEFLECTION:	0° 21' 0" RT
TYPE:	WOOD POLE
POLE HT:	85
POLE CLASS:	1
CONST TYPE:	HP

STRUCTURE

DWG SHT LTR FIG REV COMMENTS
TL0019251

REMARKS: EXCEPT INSTALL INSULATORS ON EAST SIDE OF POLES 204-217
USE CRUSHED ROCK BACKFILL. NO RAKE, BUTT ON CL.

GUYING:

CONDUCTORS

LINE 6AF

TYPE: 336.4 KCMIL ACSR

DES VOLTAGE: 138

DRAWINGS:	NUM	SHT	LTR	FIG	REV
ASSY:	TL0019035	3		17	
SAG:	T13804372				

SPACER RMKS:

REMARKS

6AF: SAG CHART 336.4 KCMIL ACSR PER T13804372, 324'RS, 4280#MT

ELEVATIONS

GROUNDLINE:
SETTING:
CENTERLINE:

CWA

DWG	SHT	LTR	FIG	RE
T13804345				

GROUND WIRE

LINE 6AF

TYPE: 80 KCMIL ACSR

DRAWINGS:	NUM	SHT	LTR	FIG	REV
ASSY:	TL0019081	1		3	
SAG:	T13804371				

REMARKS

6AF: SAG CHART 80 KCMIL ACSR PER T13804371, 324'RS, 2050#MT.

GENERAL REMARKS

669.58 - DEERFIELD RD

LOCATION

PROP OWNER:
PARCEL NO:
REMARKS:

RIGHT-OF-WAY:
COUNTY: ISABELLA
TOWNSHIP: CHIPPEWA
TOWN/RANGE: T14N,R03W
SECTION: 30

REVISION

LETTER:
GWO: 1242
RS NO: 45116
NOTES: NEW CONSTR LIST LINE 6AF - ADDED POLES FOR LINE

REV DESIGNER:
REV ENGINEER:
REVISION DATE: 6/9/2000
DESIGNER: KDKING
ENGINEER: CRCOLEMAN
ENGINEER DATE: 6/9/2000

DIVISION HEAD: PAMULHEARN
DEPT HEAD: BDBUGBEE

LINE NO/LTR:	6AF
STR ORDER:	233
STRUCT #:	211

LINE NAME: 6AF -- #851 TO #223 (ALMA-SUMMERTON)
STRUCTURE #: 212 ORDER: 234

LINE NO/LTR:	6AF
STRUCT #:	212
OP VOLTAGE:	138
STNEQ:	673.33
BACK SPAN:	316.00
DEFLECTION:	
TYPE:	WOOD POLE
POLE HT:	85
POLE CLASS:	2
CONST TYPE:	HP

STRUCTURE

DWG SHT LTR FIG REV COMMENTS
TL0019251

REMARKS: EXCEPT INSTALL INSULATORS ON EAST SIDE OF POLES 204-217
USE CRUSHED ROCK BACKFILL.

GUYING:

CONDUCTORS

LINE 6AF

TYPE: 336.4 KCMIL ACSR
DES VOLTAGE: 138
DRAWINGS: NUM SHT LTR FIG REV
ASSY: TL0019035 3 17
SAG: T13804372

SPACER RMKS:

REMARKS

6AF: SAG CHART 336.4 KCMIL ACSR PER T13804372, 324'RS, 4280#MT

ELEVATIONS

GROUNDLINE:
SETTING:
CENTERLINE:

CWA

DWG SHT LTR FIG RE
T13804345

GROUND WIRE

LINE 6AF

TYPE: 80 KCMIL ACSR
DRAWINGS: NUM SHT LTR FIG REV
ASSY: TL0019081 1 3
SAG: T13804371

REMARKS

6AF: SAG CHART 80 KCMIL ACSR PER T13804371, 324'RS, 2050#MT.

GENERAL REMARKS

LOCATION

PROP OWNER:
PARCEL NO:
REMARKS:

RIGHT-OF-WAY:
COUNTY: ISABELLA
TOWNSHIP: CHIPPEWA
TOWN/RANGE: T14N,R03W
SECTION: 30

REVISION

LETTER:
GWO: 1242
RS NO: 45116
NOTES: NEW CONSTR LIST LINE 6AF - ADDED POLES FOR LINE

REV DESIGNER:
REV ENGINEER:
REVISION DATE: 6/9/2000
DESIGNER: KDKING
ENGINEER: CRCOLEMAN
ENGINEER DATE: 6/9/2000

DIVISION HEAD: PAMULHEARN
DEPT HEAD: BDBUGBEE

LINE NO/LTR:	6AF
STR ORDER:	234
STRUCT #:	212

LINE NAME: 6AF -- #851 TO #223 (ALMA-SUMMERTON)
STRUCTURE #: 213 ORDER: 235

LINE NO/LTR:	6AF
STRUCT #:	213
OP VOLTAGE:	138
STN/EQ:	676.50
BACK SPAN:	317.00
DEFLECTION:	
TYPE:	WOOD POLE
POLE HT:	85
POLE CLASS:	2
CONST TYPE:	HP

STRUCTURE

DWG SHT LTR FIG REV COMMENTS
TL0019251

REMARKS: EXCEPT INSTALL INSULATORS ON EAST SIDE OF POLES 204-217
USE CRUSHED ROCK BACKFILL.

GUYING:

CONDUCTORS

LINE 6AF

TYPE: 336.4 KCMIL ACSR

DES VOLTAGE: 138

DRAWINGS:	NUM	SHT	LTR	FIG	REV
ASSY:	TL0019035	3		17	
SAG:	T13804372				

SPACER RMKS:

REMARKS

6AF: SAG CHART 336.4 KCMIL ACSR PER T13804372, 324'RS, 4280#MT

ELEVATIONS

GROUNDLINE:
SETTING:
CENTERLINE:

CWA

DWG	SHT	LTR	FIG	RE
T13804345				

GROUND WIRE

LINE 6AF

TYPE: 80 KCMIL ACSR

DRAWINGS:	NUM	SHT	LTR	FIG	REV
ASSY:	TL0019081	1		3	
SAG:	T13804371				

REMARKS

6AF: SAG CHART 80 KCMIL ACSR PER T13804371, 324'RS, 2050#MT.

GENERAL REMARKS

LOCATION

PROP OWNER:
PARCEL NO:
REMARKS:

RIGHT-OF-WAY:
COUNTY: ISABELLA
TOWNSHIP: CHIPPEWA
TOWN/RANGE: T14N,R03W
SECTION: 30

REVISION

LETTER:
GWO: 1242
RS NO: 45116
NOTES: NEW CONSTR LIST LINE 6AF - ADDED POLES FOR LINE

REV DESIGNER:
REV ENGINEER:
REVISION DATE: 6/9/2000
DESIGNER: KDKING
ENGINEER: CRCOLEMAN
ENGINEER DATE: 6/9/2000

DIVISION HEAD: PAMULHEARN
DEPT HEAD: BDBUGBEE

LINE NO/LTR:	6AF
STR ORDER:	235
STRUCT #:	213

LINE NAME: 6AF -- #851 TO #223 (ALMA-SUMMERTON)
STRUCTURE #: 214 ORDER: 236

LINE NO/LTR:	6AF
STRUCT #:	214
OP VOLTAGE:	138
STN/EQ:	679.67
BACK SPAN:	317.00
DEFLECTION:	
TYPE:	WOOD POLE
POLE HT:	85
POLE CLASS:	2
CONST TYPE:	HP

STRUCTURE

DWG SHT LTR FIG REV COMMENTS
TL0019251

REMARKS: EXCEPT INSTALL INSULATORS ON EAST SIDE OF POLES 204-217
USE CRUSHED ROCK BACKFILL.

GUYING:

CONDUCTORS

LINE 6AF

TYPE: 336.4 KCMIL ACSR
DES VOLTAGE: 138
DRAWINGS: NUM SHT LTR FIG REV
ASSY: TL0019035 3 17
SAG: T13804372

SPACER RMKS:

REMARKS

6AF: SAG CHART 336.4 KCMIL ACSR PER T13804372, 324'RS, 4280#MT

ELEVATIONS

GROUNDLINE:
SETTING:
CENTERLINE:

CWA

DWG SHT LTR FIG RE
T13804345

GROUND WIRE

LINE 6AF

TYPE: 80 KCMIL ACSR
DRAWINGS: NUM SHT LTR FIG REV
ASSY: TL0019081 1 3
SAG: T13804371

REMARKS

6AF: SAG CHART 80 KCMIL ACSR PER T13804371, 324'RS, 2050#MT.

GENERAL REMARKS

LOCATION

PROP OWNER:
PARCEL NO:
REMARKS:

RIGHT-OF-WAY:
COUNTY: ISABELLA
TOWNSHIP: CHIPPEWA
TOWN/RANGE: T14N,R03W
SECTION: 30

REVISION

LETTER:
GWO: 1242
RS NO: 45116
NOTES: NEW CONSTR LIST LINE 6AF - ADDED POLES FOR LINE

REV DESIGNER:
REV ENGINEER:
REVISION DATE: 6/9/2000
DESIGNER: KDKING
ENGINEER: CRCOLEMAN
ENGINEER DATE: 6/9/2000

DIVISION HEAD: PAMULHEARN
DEPT HEAD: BDBUGBEE

LINE NO/LTR:	6AF
STR ORDER:	236
STRUCT #:	214

LINE NAME: 6AF -- #851 TO #223 (ALMA-SUMMERTON)
STRUCTURE #: 215 ORDER: 237

LINE NO/LTR:	6AF
STRUCT #:	215
OP VOLTAGE:	138
STNEQ:	682.84
BACK SPAN:	317.00
DEFLECTION:	
TYPE:	WOOD POLE
POLE HT:	85
POLE CLASS:	2
CONST TYPE:	HP

STRUCTURE

DWG SHT LTR FIG REV COMMENTS
TL0019251

REMARKS: EXCEPT INSTALL INSULATORS ON EAST SIDE OF POLES 204-217
USE CRUSHED ROCK BACKFILL.

GUYING:

CONDUCTORS

LINE 6AF

TYPE: 336.4 KCMIL ACSR

DES VOLTAGE: 138

DRAWINGS:	NUM	SHT	LTR	FIG	REV
ASSY:	TL0019035	3		17	
SAG:	T13804372				

SPACER RMKS:

REMARKS

6AF: SAG CHART 336.4 KCMIL ACSR PER T13804372, 324'RS, 4280#MT

ELEVATIONS

GROUNDLINE:
SETTING:
CENTERLINE:

CWA

DWG	SHT	LTR	FIG	RE
T13804345				

GROUND WIRE

LINE 6AF

TYPE: 80 KCMIL ACSR

DRAWINGS:	NUM	SHT	LTR	FIG	REV
ASSY:	TL0019081	1		3	
SAG:	T13804371				

REMARKS

6AF: SAG CHART 80 KCMIL ACSR PER T13804371, 324'RS, 2050#MT.

GENERAL REMARKS

LOCATION

PROP OWNER:
PARCEL NO:
REMARKS:

RIGHT-OF-WAY:
COUNTY: ISABELLA
TOWNSHIP: CHIPPEWA
TOWN/RANGE: T14N,R03W
SECTION: 30

REVISION

LETTER:
GWO: 1242
RS NO: 45116
NOTES: NEW CONSTR LIST LINE 6AF - ADDED POLES FOR LINE

REV DESIGNER:
REV ENGINEER:
REVISION DATE: 6/9/2000
DESIGNER: KDKING
ENGINEER: CRCOLEMAN
ENGINEER DATE: 6/9/2000

DIVISION HEAD: PAMULHEARN
DEPT HEAD: BDBUGBEE

LINE NO/LTR:	6AF
STR ORDER:	237
STRUCT #:	215

LINE NAME: 6AF - #851 TO #223 (ALMA-SUMMERTON)
STRUCTURE #: 216 ORDER: 238

LINE NO/LTR:	6AF
STRUCT #:	216
OP VOLTAGE:	138
STN/EQ:	686.00
BACK SPAN:	316.00
DEFLECTION:	
TYPE:	WOOD POLE
POLE HT:	85
POLE CLASS:	2
CONST TYPE:	HP

STRUCTURE

DWG SHT LTR FIG REV COMMENTS
TL0019251

REMARKS: EXCEPT INSTALL INSULATORS ON EAST SIDE OF POLES 204-217
USE CRUSHED ROCK BACKFILL.

GUYING:

CONDUCTORS

LINE 6AF

TYPE: 336.4 KCMIL ACSR

DES VOLTAGE: 138

DRAWINGS: NUM SHT LTR FIG REV

ASSY: TL0019035 3 17

SAG: T13804372

SPACER RMKS:

REMARKS

6AF: SAG CHART 336.4 KCMIL ACSR PER T13804372, 324'RS, 4280#MT

ELEVATIONS

GROUNDLINE:

SETTING:

CENTERLINE:

CWA

DWG SHT LTR FIG RE

T13804345

GROUND WIRE

LINE 6AF

TYPE: 80 KCMIL ACSR

DRAWINGS: NUM SHT LTR FIG REV

ASSY: TL0019081 1 3

SAG: T13804371

REMARKS

6AF: SAG CHART 80 KCMIL ACSR PER T13804371, 324'RS, 2050#MT.

GENERAL REMARKS

LOCATION

PROP OWNER:

PARCEL NO:

REMARKS:

RIGHT-OF-WAY:

COUNTY: ISABELLA

TOWNSHIP: CHIPPEWA

TOWN/RANGE: T14N,R03W

SECTION: 30

REVISION

LETTER:

GWO: 1242

RS NO: 45116

NOTES: NEW CONSTR LIST LINE 6AF - ADDED POLES FOR LINE

REV DESIGNER:

REV ENGINEER:

REVISION DATE: 6/9/2000

DESIGNER: KDKING

ENGINEER: CRCOLEMAN

ENGINEER DATE: 6/9/2000

DIVISION HEAD: PAMULHEARN

DEPT HEAD: BDBUGBEE

LINE NO/LTR:	6AF
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STR ORDER:	238
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STRUCT #:	216
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LINE NAME: 6AF -- #851 TO #223 (ALMA-SUMMERTON)
STRUCTURE #: 217 ORDER: 239

LINE NO/LTR:	6AF
STRUCT #:	217
OP VOLTAGE:	138
STN/EQ:	689.20
BACK SPAN:	320.00
DEFLECTION:	
TYPE:	WOOD POLE
POLE HT:	85
POLE CLASS:	2
CONST TYPE:	HP

STRUCTURE

DWG SHT LTR FIG REV COMMENTS
TL0019251

REMARKS: EXCEPT INSTALL INSULATORS ON EAST SIDE OF POLES 204-217
USE CRUSHED ROCK BACKFILL.

GUYING:

CONDUCTORS

LINE 6AF

TYPE: 336.4 KCMIL ACSR

DES VOLTAGE: 138

DRAWINGS:	NUM	SHT	LTR	FIG	REV
ASSY:	TL0019035	3		17	
SAG:	T13804372				

SPACER RMKS:

REMARKS

6AF: SAG CHART 336.4 KCMIL ACSR PER T13804372, 324'RS, 4280#MT

ELEVATIONS

GROUNDLINE:
SETTING:
CENTERLINE:

CWA

DWG	SHT	LTR	FIG	RE
T13804345				

GROUND WIRE

LINE 6AF

TYPE: 80 KCMIL ACSR

DRAWINGS:	NUM	SHT	LTR	FIG	REV
ASSY:	TL0019081	1		3	
SAG:	T13804371				

REMARKS

6AF: SAG CHART 80 KCMIL ACSR PER T13804371, 324'RS, 2050#MT.

GENERAL REMARKS

LOCATION

PROP OWNER:
PARCEL NO:
REMARKS:

RIGHT-OF-WAY:
COUNTY: ISABELLA
TOWNSHIP: CHIPPEWA
TOWN/RANGE: T14N,R03W
SECTION: 30

REVISION

LETTER:
GWO: 1242
RS NO: 45116
NOTES: NEW CONSTR LIST LINE 6AF - ADDED POLES FOR LINE

REV DESIGNER:
REV ENGINEER:
REVISION DATE: 6/9/2000
DESIGNER: KDKING
ENGINEER: CRCOLEMAN
ENGINEER DATE: 6/9/2000

DIVISION HEAD: PAMULHEARN
DEPT HEAD: BDBUGBEE

LINE NO/LTR:	6AF
STR ORDER:	239
STRUCT #:	217

LINE NAME: 6AF -- #851 TO #223 (ALMA-SUMMERTON)
STRUCTURE #: 218 ORDER: 240

LINE NO/LTR:	6AF
STRUCT #:	218
OP VOLTAGE:	138
STN/EQ:	692.38
BACK SPAN:	318.00
DEFLECTION:	90° 0' 0" RT
TYPE:	WOOD POLE
POLE HT:	90
POLE CLASS:	H1
CONST TYPE:	DE

STRUCTURE

DWG SHT LTR FIG REV COMMENTS
TL0019202

REMARKS: USE CRUSHED ROCK BACKFILL. NO RAKE, BUTT 5' EAST OF CL. SEE DWG T13804379 FOR CONDUCTOR PLAN.

GUYING: 2-7/16" EHS DOWN 50' & 45' N TO SS-PISA, 8 SP & 2 GUY GUARDS PER ANC.

CONDUCTORS

LINE 6AF

TYPE: 336.4 KCMIL ACSR

DES VOLTAGE: 138

DRAWINGS:	NUM	SHT	LTR	FIG	REV
ASSY:	TL0019035	2		10	
SAG:	T13804372				

SPACER RMKS:

REMARKS

6AF: SAG CHART 336.4 KCMIL ACSR PER T13804372, 324'RS, 4280#MT
SEE DWG T13804379 FOR CONDUCTOR PLAN. CHANGE TENSION : SLACK SPAN POLE 218 - 219.

ELEVATIONS

GROUNDLINE:
SETTING:
CENTERLINE:

CWA

DWG	SHT	LTR	FIG	RE
T13804345				

GROUND WIRE

LINE 6AF

TYPE: 80 KCMIL ACSR

DRAWINGS:	NUM	SHT	LTR	FIG	REV
ASSY:	TL0019081	1		6	
SAG:	T13804371				

REMARKS

6AF: SAG CHART 80 KCMIL ACSR PER T13804371, 324'RS, 2050#MT.
CHANGE TENSION : SLACK SPAN POLE 218 - 219.

GENERAL REMARKS

LOCATION

PROP OWNER:
PARCEL NO:
REMARKS:

RIGHT-OF-WAY:
COUNTY: ISABELLA
TOWNSHIP: CHIPPEWA
TOWN/RANGE: T14N,R03W
SECTION: 30

REVISION

LETTER:
GWO: 1242
RS NO: 45116
NOTES: NEW CONSTR LIST LINE 6AF - ADDED POLES FOR LINE

REV DESIGNER:
REV ENGINEER:
REVISION DATE: 6/9/2000
DESIGNER: KDKING
ENGINEER: CRCOLEMAN
ENGINEER DATE: 6/9/2000

DIVISION HEAD: PAMULHEARN
DEPT HEAD: BDBUGBEE

LINE NO/LTR:	6AF
STR ORDER:	240
STRUCT #:	218