

**AUCTION 83 LONG FORM  
FACILITY ID #148033  
BNPFT-20030314BJL**

This long form application requests a change in ERP, radiation center AMSL and primary station for the original short form application. All qualify as minor changes. The proposed site is not within 39 km of any Appendix A market or located in any of the top 50 markets. Therefore, no LPFM preclusion study is required. The translator will serve as a fill in for station WZAM(AM) (facility ID#64504).

**Allocation discussion:**

All exhibits were developed utilizing the FCC 30 second terrain database.

Allocation exhibits are provided as follows:

- E1 Channel study
- E1A Interference plot to WIMK
- E1B 34 dBu (50:10) contour plot
- E2 60 dBu contour and WZAM 2 mV/m contour plots
- E3 ASR

A channel study is included as E1 and an interference plot as E1A demonstrating compliance with §74.1204. Exhibit E1B shows that the proposed 34 dBu (50:10) contour does not penetrate the Canadian border in accordance with Commission policy. A plot of the proposed and short form 60 dBu contours is provided as E2 showing that they overlap and that the proposed 60 dBu is entirely contained within the WZAM 2 mV/m contour and 40 km circle.

**RF Exposure Calculation:**

The RF contribution of the proposed translator mounted at 120 meters AGL on ASR#1000740 was calculated using a worst case F factor of 1.0 for the Shively 6812B-2-HW half-wave spaced two bay antenna and the formula provided below to be 1.2  $\mu\text{Watts}/\text{cm}^2$  or 0.6% of the maximum permissible 200  $\mu\text{Watts}/\text{cm}^2$  exposure for general population/uncontrolled exposure. This is well below the 5% threshold requiring consideration.

$$S \text{ (RF in } \mu\text{Watts}/\text{cm}^2) = \frac{33.4 (F^2 - \text{Vert Factor}) \times (H \text{ ERP} + V \text{ ERP in Watts})}{R^2 \text{ (distance to radiation center in meters} - 2 \text{ m)}}$$

## Anderson Associates

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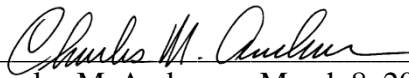
It is concluded that the proposed facility complies with Commission RF radiation limits.

### 60 dBu contour and HAAT:

N. Latitude = 46-30-52    W. Longitude = 87-28-40  
HAAT and Distance to Contour,  
FCC, FM 2-10 Mile, 51 points Method - FCC 30 SEC terrain

Azi.	AV EL	HAAT	dBk	60-F5
000	247.9	255.1	-6.02	20.87
030	210.0	293.0	-6.02	22.30
060	207.5	295.5	-6.02	22.39
090	211.9	291.1	-6.02	22.23
120	250.4	252.6	-6.02	20.78
150	354.6	148.4	-6.02	15.79
180	377.7	125.3	-6.02	14.37
210	399.8	103.2	-6.02	13.06
240	436.7	66.3	-6.02	10.63
270	419.4	83.6	-6.02	11.81
300	428.1	74.9	-6.02	11.23
330	358.7	144.3	-6.02	15.53

Ave El= 325.22 M    HAAT= 177.78 M    AMSL= 503

  
Charles M. Anderson, March 8, 2013

# E1 CHANNEL STUDY

REFERENCE  
46 30 52.0 N.  
87 28 40.0 W.

CH# 227D - 93.3 MHz, Pwr= 0.25 kw, HAAT= 177.0 M, COR= 503 M  
Average Protected F(50-50)= 17.48 km  
Omni-directional

DISPLAY DATES  
DATA 03-08-13  
SEARCH 03-08-13

CH CITY	CALL	TYPE ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
227D Marquette	640807	APP _C_ MI	90.0 270.0	0.06 BNPFT20030314BJL	46 30 52.0 87 28 37.0	0.010 175	17.0 500	5.3 David M. Stout	-39.1*	-72.2*
226C1 Iron Mountain	WIMK	LIC _CN MI	209.6 29.2	88.49 BLH19820111AE	45 49 16.0 88 02 28.0	100.000 180	92.1 526	62.1 Sovereign Communications,	-17.1*	6.3
228C3 Hancock	WKMJ-FM	LIC _CN MI	308.6 127.8	105.86 BLH19950327KD	47 06 06.0 88 34 11.0	13.500 139	67.3 400	45.8 J & Broadcasting, Inc.	23.7	43.8
224C1 Manistique	WPIQ	RSV-A _ MI	118.4 299.2	99.79	46 05 00.0 86 20 30.0	100.000 299	9.9 506	71.1 Todd Stuart Noordyk	69.0	27.4
224C1 Manistique	WPIQ	APP NCX MI	128.3 309.0	97.64 BPH20121115AAA	45 58 00.0 86 29 17.0	51.000 243	7.3 451	59.9 Todd Stuart Noordyk	69.9	36.4
224C2 Manistique	WPIQ	LIC _CX MI	128.3 309.0	97.64 BLH20100504AKS	45 58 00.0 86 29 17.0	24.500 217	5.6 425	51.1 Todd Stuart Noordyk	71.6	45.3
224D Covington	W224AV	LIC _CN MI	271.9 91.1	81.81 BLFT19990608UE	46 32 02.0 88 32 37.0	0.010 113	0.2 567	4.8 Gospel Opportunities, Inc.	69.7	75.9
280D Gladstone	636304«	APP _C_ MI	155.6 335.9	82.70 BNPFT20030312BEF	45 50 11.0 87 02 12.0	0.250 6	0.0 209	0.0 Escanaba License Corp.	10.0R	73.2M
280D Gladstone	636898«	APP _C_ WI	155.6 335.9	82.70 BNPFT20030313AHR	45 50 11.0 87 02 12.0	0.250 6	0.0 209	0.0 Sister Grace, Inc.	10.0R	73.2M
224D Houghton	W224AO	LIC ?HN MI	311.1 130.4	106.88 BLFT19900329TF	47 08 27.0 88 32 26.0	0.020 143	0.3 397	9.6 Minnesota Public Radio	91.3	96.2

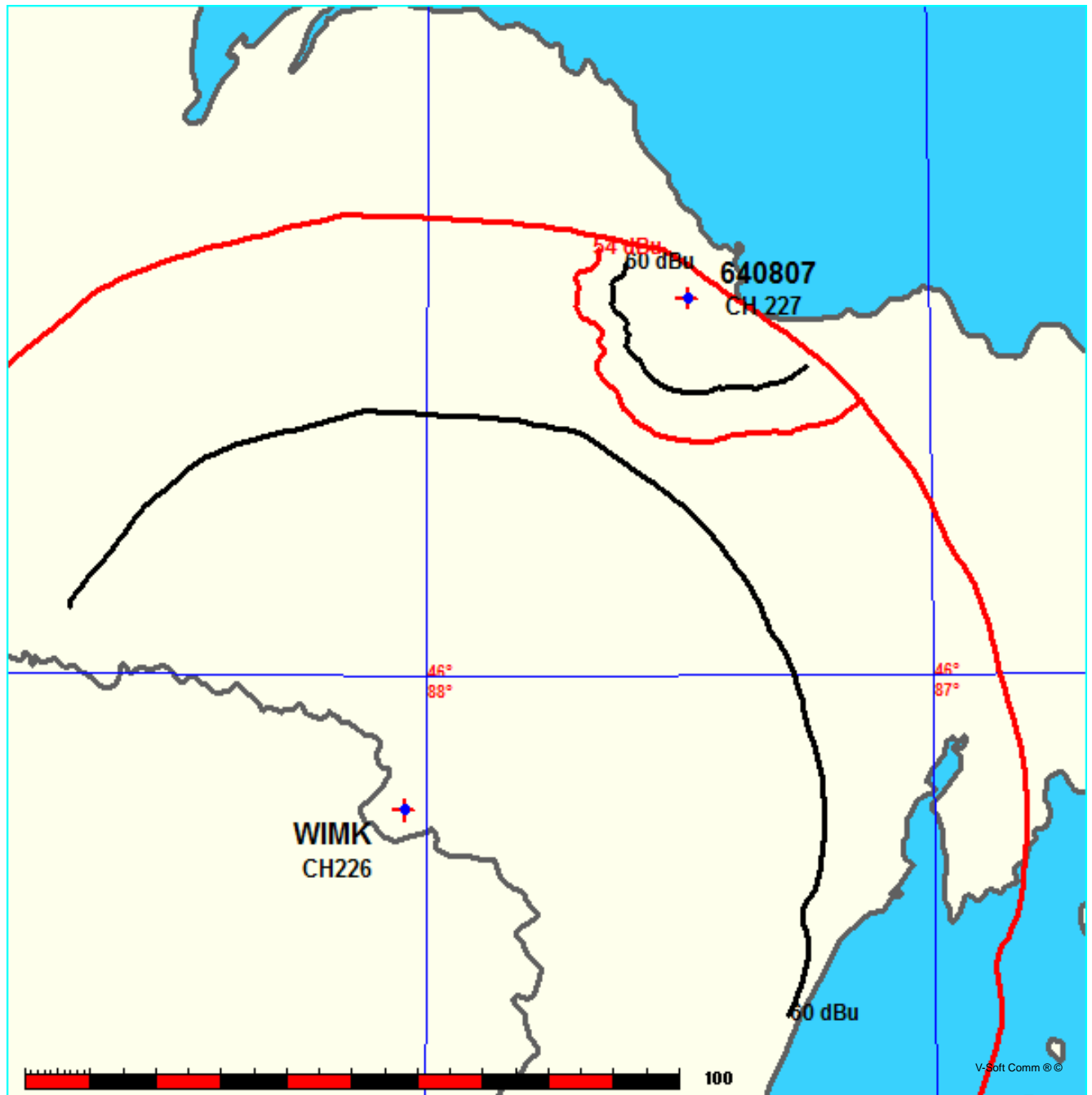
Terrain database is FCC NGDC 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.  
All separation margins (if shown) include rounding  
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
"\*"affixed to 'IN' or 'OUT' values = site inside protected contour.  
« = Station meets FCC minimum distance spacing for its class.

## E1A NEW - WIMK INTERFERENCE PLOT

FMCommander Single Allocation Study - 03-08-2013 - FCC NGDC 30 Sec  
640807's Overlaps (In= -17.09 km, Out= 6.34 km)

640807 CH 227 D  
Lat= 46 30 52.0, Lng= 87 28 40.0  
0.25 kW 177 M HAAT, 503 M COR  
Prot.= 60 dBu, Intef.= 54 dBu

WIMK CH 226 C1 BLH19820111AE  
Lat= 45 49 16.0, Lng= 88 02 28.0  
100.0 kW 180 M HAAT, 526 M COR  
Prot.= 60 dBu, Intef.= 54 dBu



**640807.A**

BNPFT20030314BJL

Latitude: 46-30-52 N

Longitude: 087-28-40 W

ERP: 0.25 kW

Channel: 227

Frequency: 93.3 MHz

AMSL Height: 503.1 m

Elevation: 383.1 m

Horiz. Pattern: Omni

**EXHIBIT E1B**

CANADIAN BORDER

PROPOSED 34 DBU (50:10)  
DOES NOT CROSS THE CANADIAN  
BORDER.

640807.A

WZAM 40 KM CIRCLE

ANDERSON ASSOCIATES

Scale 1:2,000,000

0 20 40 60 km

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**640807.A**

BNPFT20030314BJL

Latitude: 46-30-52 N

Longitude: 087-28-40 W

ERP: 0.25 kW

Channel: 227

Frequency: 93.3 MHz

AMSL Height: 503.1 m

Elevation: 383.1 m

Horiz. Pattern: Omni

**EXHIBIT E2**

PROPOSED 60 DBU  
CONTAINS SHORT FORM 60 DBU

WZAM 2 MV/M

Marquette

640807.A

WZAM

Harvey

Ishpeming

SHORT FORM 60 DBU

Gwinn

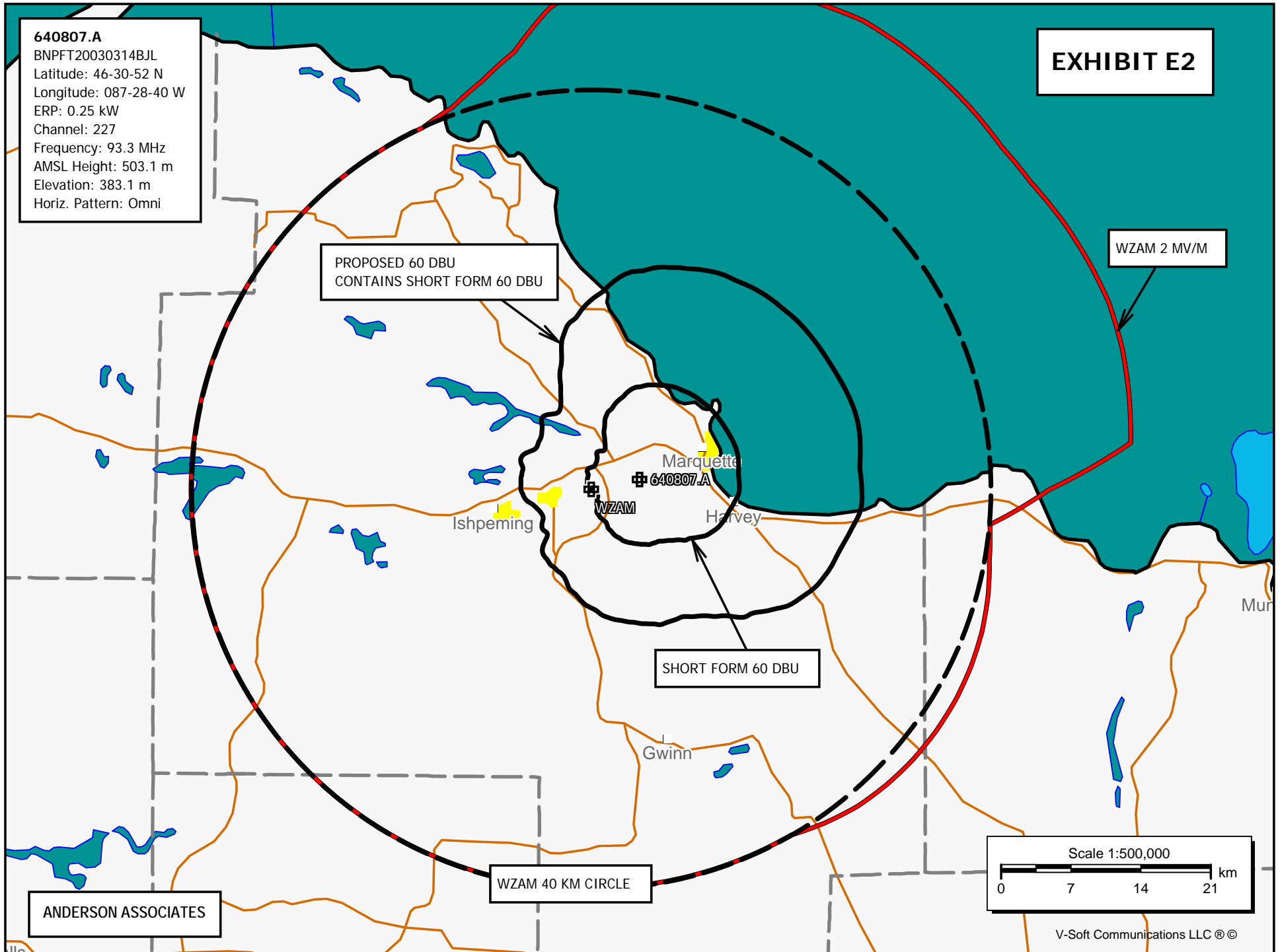
WZAM 40 KM CIRCLE

ANDERSON ASSOCIATES

Scale 1:500,000

0 7 14 21 km

V-Soft Communications LLC ©



## E3 Registration 1000740

 [Map Registration](#)

### Registration Detail

Reg Number	1000740	Status	Constructed
File Number	A0656857	Constructed	08/07/2009
EMI	No	Dismantled	
NEPA	No		

### Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Commu

#### Location (in NAD83 Coordinates)

Lat/Long	46-30-51.5 N 087-28-40.7 W	Address	MORGAN 4 MI SE
City, State	MARQUETTE , MI		
Zip	49855	County	MARQUETTE
Center of AM Array		Position of Tower in Array	

### Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
383.1	128.0
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
511.1	121.9

### Painting and Lightings Specifications

FAA Chapters 4, 8, 12

Paint and Light in Accordance with FAA Circular Number 70/7460-1K

### FAA Notification

FAA Study	2009-AGL-2819-OE	FAA Issue Date	08/05/2009
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### Owner & Contact Information

FRN	0002763399	Owner Entity Type
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#### Owner

RANGE CORPORATION DBA = RANGE TELECOMMUNICATIONS Attention To: DAVID J SAVOLAINEN, SR 2342 US 41 W MARQUETTE , MI 49855	P: (906)228-7000 F: E:
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#### Contact

P:  
F:  
E:

### Last Action Status

Status	Constructed	Received	11/12/2009
Purpose	Notification	Entered	11/12/2009
Mode	Interactive		

### Related Applications

11/12/2009      A0656857 - Notification (NT)  
09/08/2009      A0649998 - Modification (MD)  
10/06/2004      A0399173 - Admin Update (AU)

Related applications (4)

### Comments

#### Comments

09/08/2009      ADDED FAA CLEARANCE DATA AND CLEARED STRUCTURE BASED ON OLD TOWER FILE  
RECORD 113554, FAA STUDY 88-AGL-1413-OE.

### History

#### Date

#### Event

11/12/2009      Construction Notification Received  
09/09/2009      Registration Printed  
09/08/2009      ASR Application receipt email sent: CORES email

All History (8)

### Automated Letters

09/09/2009      Authorization, Reference  
10/07/2004      Authorization, Reference 363159  
09/30/2004      FRN Association, Reference 361959

CLOSE WINDOW

# Output from NADCON for station

North American Datum Conversion

NAD 83 to NAD 27

NADCON Program Version 2.11

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Transformation #: 1                      Region: Conus

	Latitude	Longitude
NAD 27 datum values:	46 30 51.73595	87 28 40.20487
NAD 83 datum values:	46 30 51.50000	87 28 40.70000
NAD 27 - NAD 83 shift values:	0.23595	-0.49513(secs.)
	7.286	-10.555 (meters)
Magnitude of total shift:		12.825(meters)



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