

**MINOR MODIFICATION TO
W248CU (BMPFT-20160729ABH)
FOR KTIS(AM) (#49770)
250 MILE WAIVER FILED PURSUANT TO DA-1491**

The modified W248CU translator application will rebroadcast KTIS(AM). The proposed facility is located 176.8 miles from the original construction permit and remains compliant with the 250 mile rule.

Allocation discussion:

A modification to a new site, ERP, HAAT and antenna pattern are proposed. A channel study is included as E1 demonstrating compliance with §74.1204 with the exception of 2nd adjacent channel station KTCZ-FM. A plot of the proposed 60 dBu contour is provided as E2 showing that it is entirely contained within primary station KTIS(AM)'s 2 mV/m and 40 km radius. It also overlaps the application's 60 dBu.

All exhibits utilize the USGS 3 second terrain database.

- E1 Channel study
- E1A KTCZ-FM including aerial photograph
- E1B DA
- E2 60 dBu and 2 mV/m contours
- E3 ASR

KTCZ-FM places a 96.7 dBu (50:50) contour at the site and the 136.7 dBu (50:10) contour clears the roof line of the building (see aerial view included herein) by at least 13.2 meters as demonstrated in E1A.

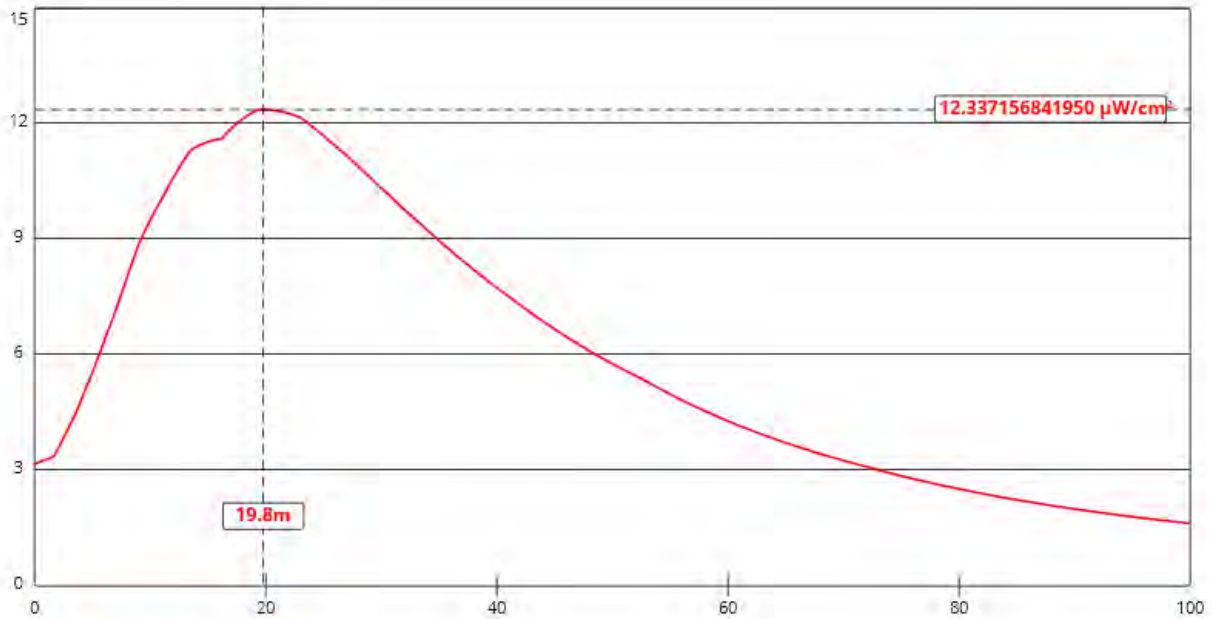
It is clear from exhibits E1A that the interference contour will not reach any populated area or major highways. Based on this showing, a waiver of Section 74.1204 is requested in accordance with *Living Way Ministries, Inc.* (FCC 08-242).

Aerial view of proposed site:



RF analysis:

The proposed facility will utilize a one bay PSI FML series circularly polarized antenna with a center of radiation at 21.3 meters above the National Bank building roofline (ASR#1218256). The RF level was evaluated using FMMODEL (details included above) to be $12.34 \mu\text{Watts/cm}^2$ or 1% of the maximum permissible 1,000 microwatts/cm² exposure for an occupational/controlled access exposure. There are no other know broadcast facilities operating at this site.



[View Tabular Results +](#)

Channel Selection	Channel 248 (97.5 MHz) ▼		
Antenna Type +	EPA Type 2: Opposed V Dipole ▼		
Height (m)	<input type="text" value="21.3"/>	Distance (m)	<input type="text" value="100"/>
ERP-H (W)	<input type="text" value="250"/>	ERP-V (W)	<input type="text" value="250"/>
Num of Elements	<input type="text" value="1"/>	Element Spacing (λ)	<input type="text" value="1"/>
Num of Points	<input type="text" value="500"/>	<input type="button" value="Apply"/>	

E1 CHANNEL STUDY

REFERENCE
44 56 45.0 N.
93 05 31.0 W.

CH# 248D - 97.5 MHz, Pwr= 0.25 kW DA, HAAT= 100.9 M, COR= 375 M
Average Protected F(50-50)= 12.92 km
Standard Directional

DISPLAY DATES
DATA 03-20-17
SEARCH 03-20-17

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
248C Rochester	KNXR	LIC_C_	MN	149.1 329.6	116.92 BLH19990505KB	44 02 28.0 92 20 25.0	100.000 317	173.8 671	73.6 Blooming Prairie Farm Radi	-66.7*	10.3
246C Minneapolis	KTCZ-FM	LIC_CN	MN	348.6 168.5	12.76 BLH19910814KC	45 03 30.0 93 07 27.0	100.000 315	10.6 593	74.5 Amfm Broadcasting Licenses	-10.2	-62.8* (1)
248D Minneapolis	W248CU	CP_DC_	MN	314.3 134.3	0.39 BMPFT20160729ABH	44 56 54.0 93 05 44.0	0.250	36.0 387	10.7 University Of Northwestern	-47.5*	-51.2*
248L1 St. Louis Park	KPPS-LP	LIC_	MN	269.3 89.0	22.84 BLL20161118AAB	44 56 34.0 93 22 56.0	0.050 13	290	Park Public Radio, Inc.	-0.3	0.9
249D Albertville	K249ED	LIC_C_	MN	331.7 151.5	49.40 BLFT20160205AEW	45 20 12.0 93 23 30.0	0.250 303	34.2 582	22.9 Educational Media Foundati	2.5	7.6
249D Hastings	W249DK	LIC_C_	MN	138.0 318.2	31.14 BLFT20160616AAG	44 44 14.0 92 49 42.0	0.250	12.0 275	7.1 K & M Broadcasting, Inc.	9.8	8.4
251C0 St. Cloud	WWJO	LIC_CY	MN	323.2 142.6	121.07 BLH19890117KF	45 48 52.0 94 01 38.0	100.000 305	10.1 669	72.3 Townsquare Media Licensee	98.4	47.7

Terrain database is USGS 03 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= West 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 restricted contour.

(1) See E1A for disproof of interference per Living Way.

E1A KTCZ-FM ANALYSIS

W248CU MINNEAPOLIS, MN

74.1204(d) Showing

Translator or LPFM Maximum Licensed ERP = 0.25

Translator or LPFM Antenna Height AG = 21.3 Meters

NEW! Antenna Model = PSI FML-1 BAY

Protected Station's Contour = 96.71633 dBu

Translator's or LPFM's full Interference contour 136.71633

Review Azimuth = 0 Degrees True

Relative Field on the horizon at Review Azimuth = 1.000

Translator/LPFM ERP on the horizon at Review Azimuth = 0.25 kW

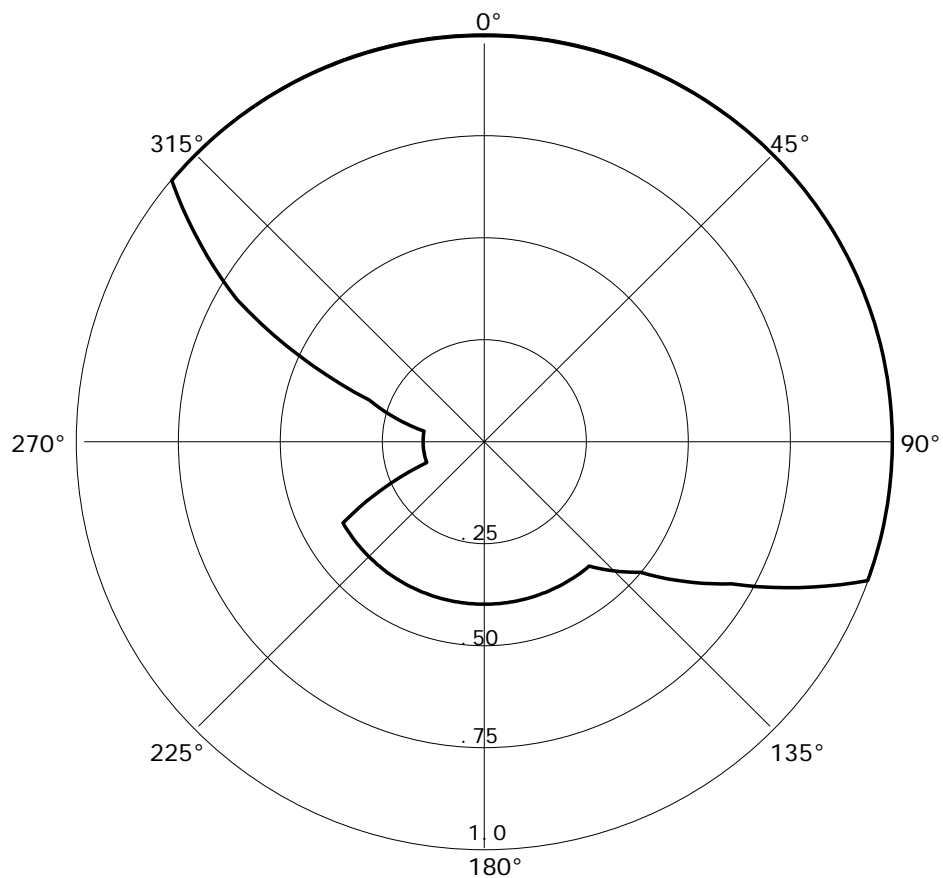
Distance between stations = 12.8 km

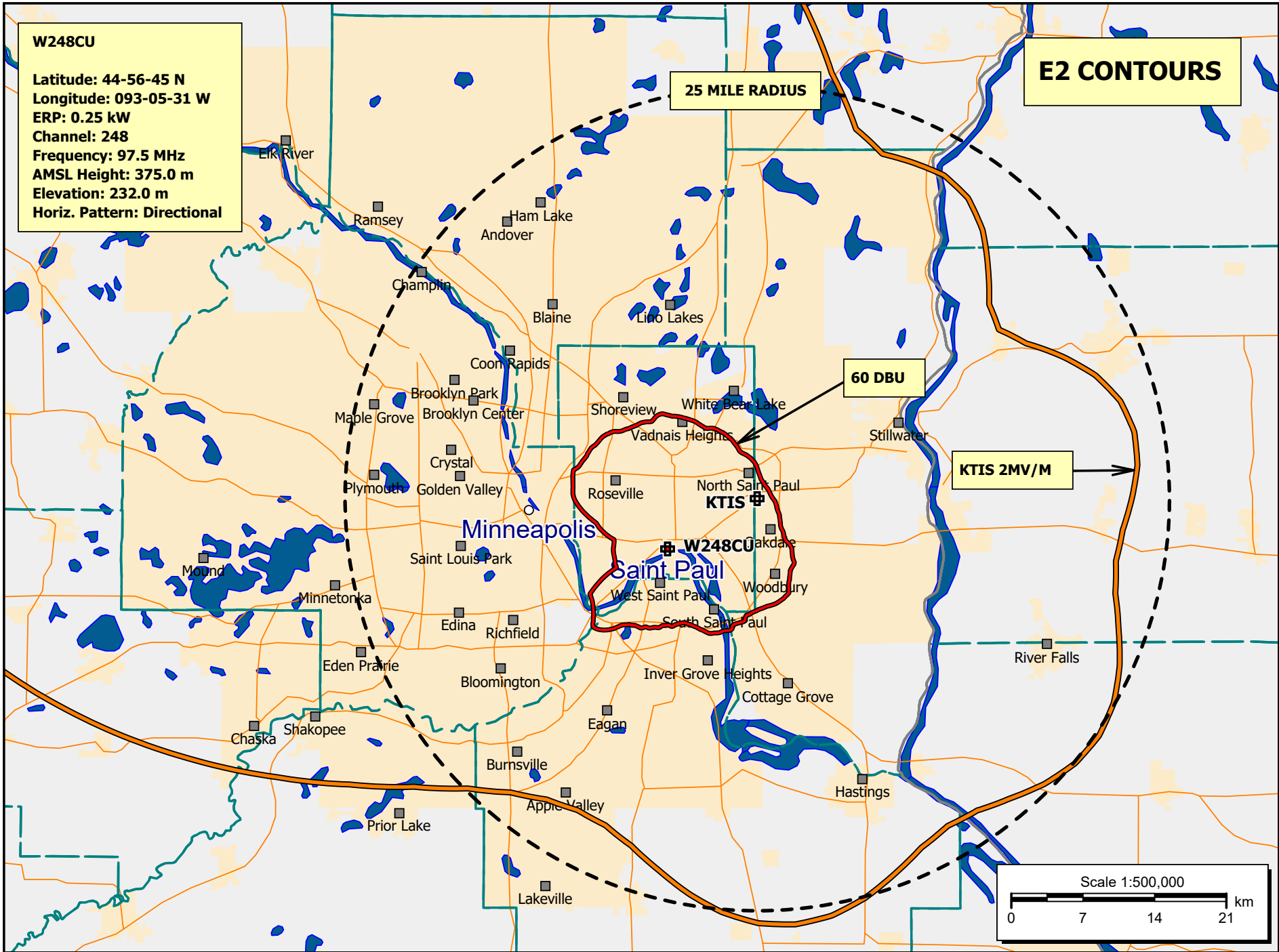
Protected Station= KTCZ-F, 100 kW, 593 M Meters COR AMSL

Depression Angle From Horizon(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.00	1.0	0.2500	016.1865	016.1865	021.300
05.00	0.996	1.0	0.2480	016.1218	016.0604	019.895
10.00	0.985	1.0	0.2426	015.9437	015.7015	018.531
15.00	0.966	1.0	0.2333	015.6362	015.1034	017.253
20.00	0.94	1.0	0.2209	015.2153	014.2977	016.096
25.00	0.906	1.0	0.2052	014.6650	013.2910	015.102
30.00	0.866	1.0	0.1875	014.0175	012.1395	014.291
35.00	0.819	1.0	0.1677	013.2568	010.8593	013.696
40.00	0.766	1.0	0.1467	012.3989	009.4981	013.330
45.00	0.707	1.0	0.1250	011.4439	008.0920	013.208
50.00	0.643	1.0	0.1034	010.4079	006.6901	013.327
55.00	0.573	1.0	0.0821	009.2749	005.3199	013.702
60.00	0.5	1.0	0.0625	008.0933	004.0466	014.291
65.00	0.423	1.0	0.0447	006.8469	002.8936	015.095
70.00	0.342	1.0	0.0292	005.5358	001.8934	016.098
75.00	0.259	1.0	0.0168	004.1923	001.0850	017.251
80.00	0.174	1.0	0.0076	002.8165	000.4891	018.526
85.00	0.087	1.0	0.0019	001.4082	000.1227	019.897
90.00	0.001	1.0	0.0000	000.0162	000.0000	021.284

Graph is Relative Field

Azi	Field	dBk	kW
000	1.000	-06.021	0.250
010	1.000	-06.021	0.250
020	1.000	-06.021	0.250
030	1.000	-06.021	0.250
040	1.000	-06.021	0.250
050	1.000	-06.021	0.250
060	1.000	-06.021	0.250
070	1.000	-06.021	0.250
080	1.000	-06.021	0.250
090	1.000	-06.021	0.250
100	1.000	-06.021	0.250
110	1.000	-06.021	0.250
120	0.700	-09.119	0.122
130	0.500	-12.041	0.063
140	0.400	-13.979	0.040
150	0.400	-13.979	0.040
160	0.400	-13.979	0.040
170	0.400	-13.979	0.040
180	0.400	-13.979	0.040
190	0.400	-13.979	0.040
200	0.400	-13.979	0.040
210	0.400	-13.979	0.040
220	0.400	-13.979	0.040
230	0.400	-13.979	0.040
240	0.400	-13.979	0.040
250	0.150	-22.499	0.006
260	0.150	-22.499	0.006
270	0.150	-22.499	0.006
280	0.150	-22.499	0.006
290	0.300	-16.478	0.023
300	0.700	-09.119	0.122
310	1.000	-06.021	0.250
320	1.000	-06.021	0.250
330	1.000	-06.021	0.250
340	1.000	-06.021	0.250
350	1.000	-06.021	0.250





E3

ASR Registration Search

Registration 1218256

 [Map Registration](#)

Registration Detail

Reg Number	1218256	Status	Constructed
File Number	A0143967	Constructed	12/21/1931
EMI	No	Dismantled	
NEPA	No		

Antenna Structure

Structure Type BTWR - Building with Tower

Location (in NAD83 Coordinates)

Lat/Long	44-56-44.8 N 093-05-31.7 W	Address	332 Minnesota Street
City, State	St. Paul , MN		
Zip	55101	County	RAMSEY
Center of AM Array		Position of Tower in Array	

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
231.7	147.8
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
379.5	122.5

Painting and Lighting Specifications

None

FAA Notification

FAA Study	99-AGL-5129-OE	FAA Issue Date	11/29/1999
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Owner & Contact Information

FRN	0006162937	Owner Entity Type
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Owner

Minnesota Street Associates, Inc. 332 Minnesota Street, Ste. W120 St. Paul , MN 55101	P: (651)225-3664 F: E:
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Contact

Rossi , Richard F 332 Minnesota St., Ste. W120 St. Paul , MN 55101	P: (651)225-3664 F: E:
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Last Action Status

Status	Constructed	Received	10/11/2000
Purpose	Notification	Entered	10/11/2000
Mode	Interactive		

Output from NADCON for station W248CU

North American Datum Conversion

NAD 83 to NAD 27

NADCON Program Version 2.11

Transformation #: 1 Region: Conus

Latitude

Longitude

NAD 27 datum values:

44 56 44.92348

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93 05 30.91297
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NAD 83 datum values:

44 56 44.80000

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93 05 31.70000
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NAD 27 - NAD 83 shift values:

0.12348

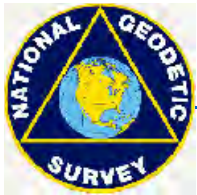
-0.78703 (secs.)

3.812

-17.254 (meters)

Magnitude of total shift:

17.670 (meters)



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