

TECHNICAL EXHIBIT  
MINOR CHANGE APPLICATION  
RADIO STATION WKCH (FM)  
WHITEWATER, WISCONSIN

APRIL 4, 2003

CH 293A    6 KW (MAX-DA)    61 M

TECHNICAL EXHIBIT  
MINOR CHANGE APPLICATION  
RADIO STATION WKCH (FM)  
WHITEWATER, WISCONSIN  
CH 293A    6 KW (MAX-DA)    61 M

Table of Contents

	Technical Narrative
Figure 1	Transmitter Location
Figure 2	Antenna and Supporting Structure
Figure 3	Proposed Coverage Map
Figure 4	Allocation Study

TECHNICAL EXHIBIT  
MINOR CHANGE APPLICATION  
RADIO STATION WKCH(FM)  
WHITEWATER, WISCONSIN  
CH 293A 6 KW (MAX-DA) 61 M

Technical Narrative

The technical exhibit of which this narrative is part was prepared on behalf of a radio station WKCH(FM) assigned to Whitewater, Wisconsin. WKCH(FM) is presently licensed to operate on channel 293A (BLH-19971126KE) with a directional antenna maximum effective radiated power (ERP) of 6 kilowatts (kW) and an antenna height above average terrain (HAAT) of 61 meters.

This minor change application proposes only to correct the coordinates of the proposed transmitter site. No other changes to the licensed operation are hereby proposed.

The currently licensed antenna is mounted on one of the five towers used in the WFAW(AM) antenna array. However, the WKCH(FM) license references the center-of-array coordinates for WFAW(AM) instead of the coordinates for the actual tower on which the WKCH(FM) antenna is mounted. Therefore, a slight coordinate change is hereby proposed to correct this deficiency.

Operation on channel 293A will remain with the licensed directional antenna and ERP of 6 kilowatts with an antenna HAAT of 61 meters.

The proposal would not be subject to environmental processing in accordance with Section 1.1306.

#### Proposed Transmitter Location

The transmitting facility will be located on one of the towers comprising the WFAW(AM) antenna array. The tower location is uniquely described by the following geographic coordinates:

42° 54' 20" North Latitude  
88° 45' 05" West Longitude

The site is shown on the map contained in Figure 1. A sketch showing the antenna and supporting structure is shown in Figure 2.

As there is no physical change requested by this instant application, there is no new impact to the co-located WFAW(AM) antenna array. Hence, no special condition on the WKCH(FM) construction permit relating to any impact to WFAW(AM) is warranted.

#### Interference Concerns

The 115 dBu predicted "blanketing" contour of the proposed station would extend radially 1 kilometer from the

transmitting site. The applicant recognizes its responsibility to resolve complaints of interference, including blanketing and receiver-induced interference as required by Sections 73.315(b), 73.316(e) and 73.318.

#### FCC Predicted Coverage Contours

The predicted coverage contours for the proposed operation were calculated in accordance with the provisions of Section 73.313. Pursuant with current FCC practice, the distances to the contours were calculated without consideration given to terrain roughness correction factors.

The average terrain elevations were obtained from previous application for construction permit (BP-19961021ID). The terrain elevations were then used in combination with the effective radiated power for determining the distances to coverage contours.

Figure 3 is a map showing the predicted coverage contours. The FCC predicted 70 dBu contour completely encompasses all of the principal community of Whitewater (2000 U.S. Census).

#### Allocation Study

Channel 293A at the proposed site will satisfy the Commission's minimum separation distance requirements, specified in Section 73.207(b) of the Rules, to all assignments and allotments, except for (1) WWQM-FM, Channel

292A, Middleton, WI, (2) KCQQ(FM), Channel 293C1, Davenport, IA and (3) WZFS(FM), Channel 294B, Des Plaines, IL.

Continued Section 73.215 processing is requested towards the aforementioned stations. The proposed coordinate correction (which amounts to less than 400 feet) is not expected to impact the current allocation situation (see Sheet 2 of Figure 4). As noted on the interference map in Figure 4, there appears to be a small amount of existing contour overlap between WKCH(FM) and stations WWQM-FM and WZFS(FM). However, the proposed operation does not materially increase this existing contour overlap.

#### Radiofrequency Electromagnetic Field Exposure

The proposed facility was previously analyzed for RFR compliance in BP-19961021ID and determined to not exceed the maximum Commission guideline value in an uncontrolled environment. Specifically, the contribution from WFAW(AM) would not exceed 40% of the uncontrolled **or** controlled limit and the contribution for WKCH(FM) was stated to be 7.2% of the previous limit (in 1996, but now considered the controlled limit). However, when converted to the now uncontrolled limit, the 7.2% becomes 36% of the applicable standard. Therefore, it can be inferred that the proposed contribution from both WFAW(AM) and WKCH(FM) will not exceed 76% of the recommended limit for an uncontrolled environment.

When it becomes necessary for workers to ascend the tower, appropriate measures, such as reduction or shut

down of power if necessary, shall be taken to ensure that the human exposure to radiofrequency electromagnetic will not exceed the FCC guidelines.

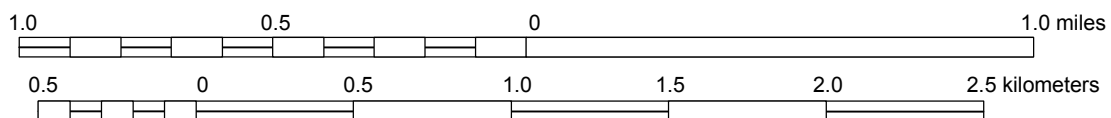
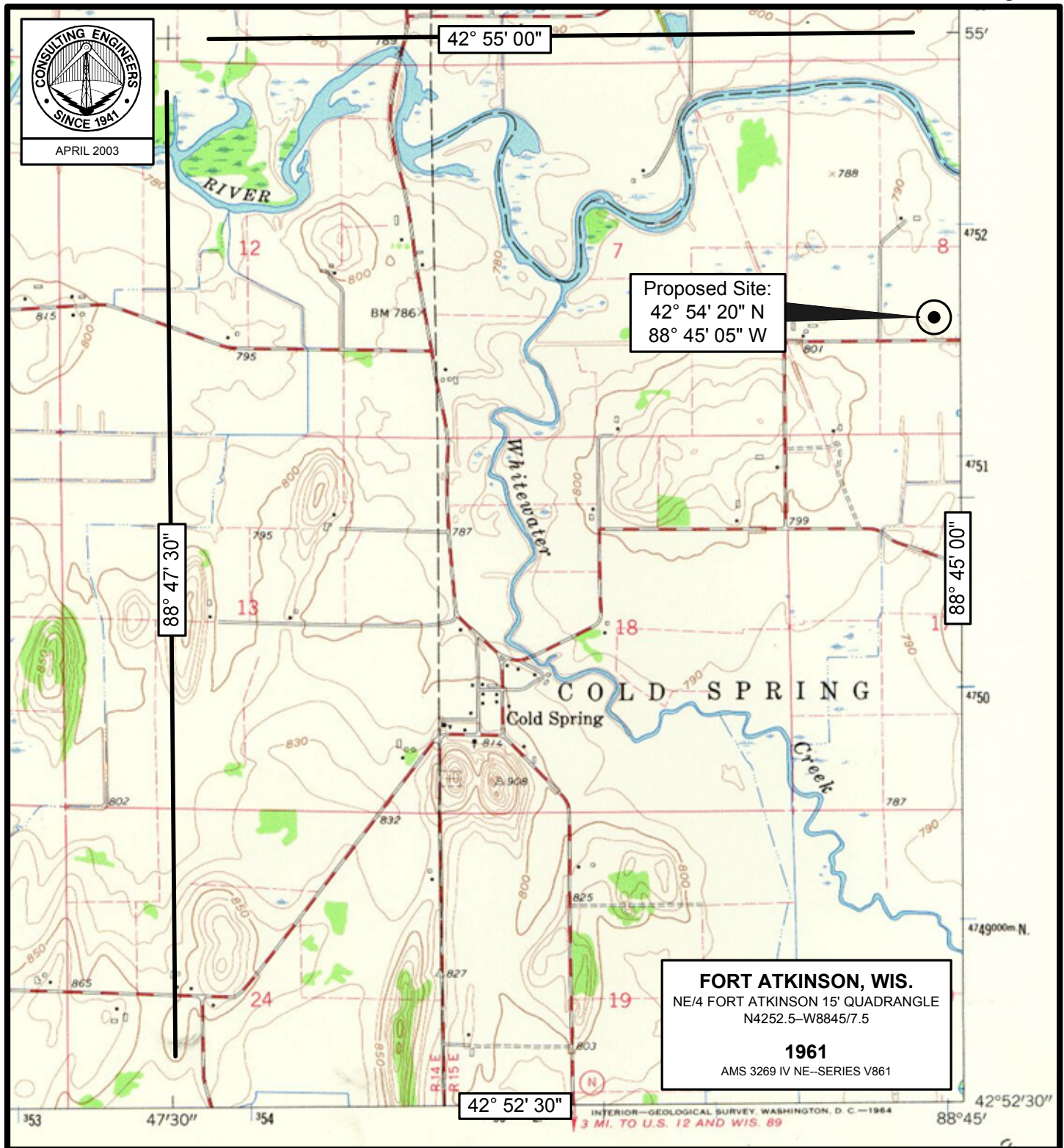


Jonathan N. Edwards

du Treil, Lundin & Rackley, Inc.  
201 Fletcher Avenue  
Sarasota, Florida 34237  
941.329.6000

April 4, 2003

Figure 1



## PROPOSED TRANSMITTER LOCATION

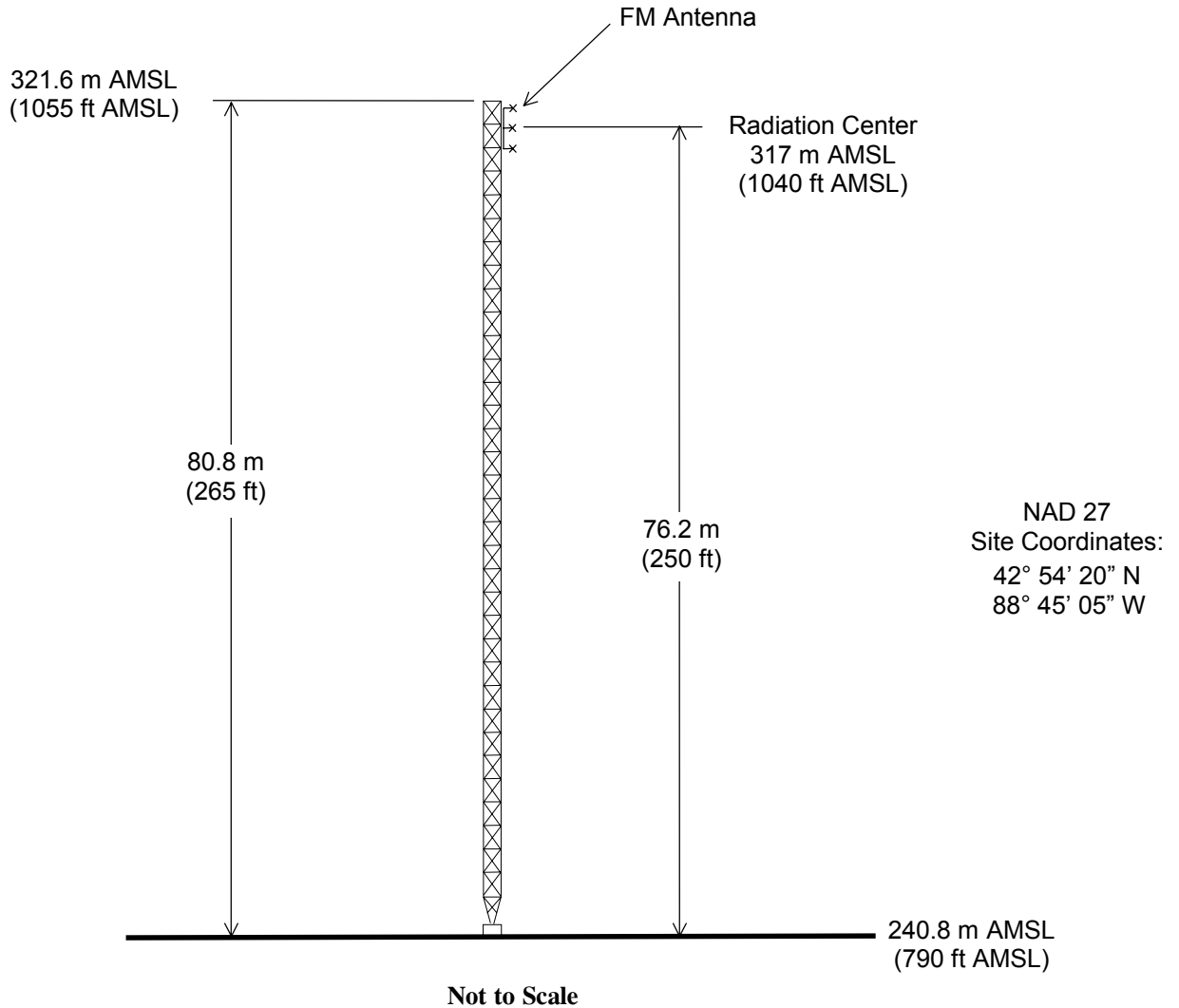
RADIO STATION WKCH(FM)  
WHITEWATER, WISCONSIN  
CH 293A 6 KW (MAX-DA) 61 M  
du Treil, Lundin & Rackley, Inc. Sarasota, Florida



Figure 2



Registration No. 1035465



## ANTENNA AND SUPPORTING STRUCTURE

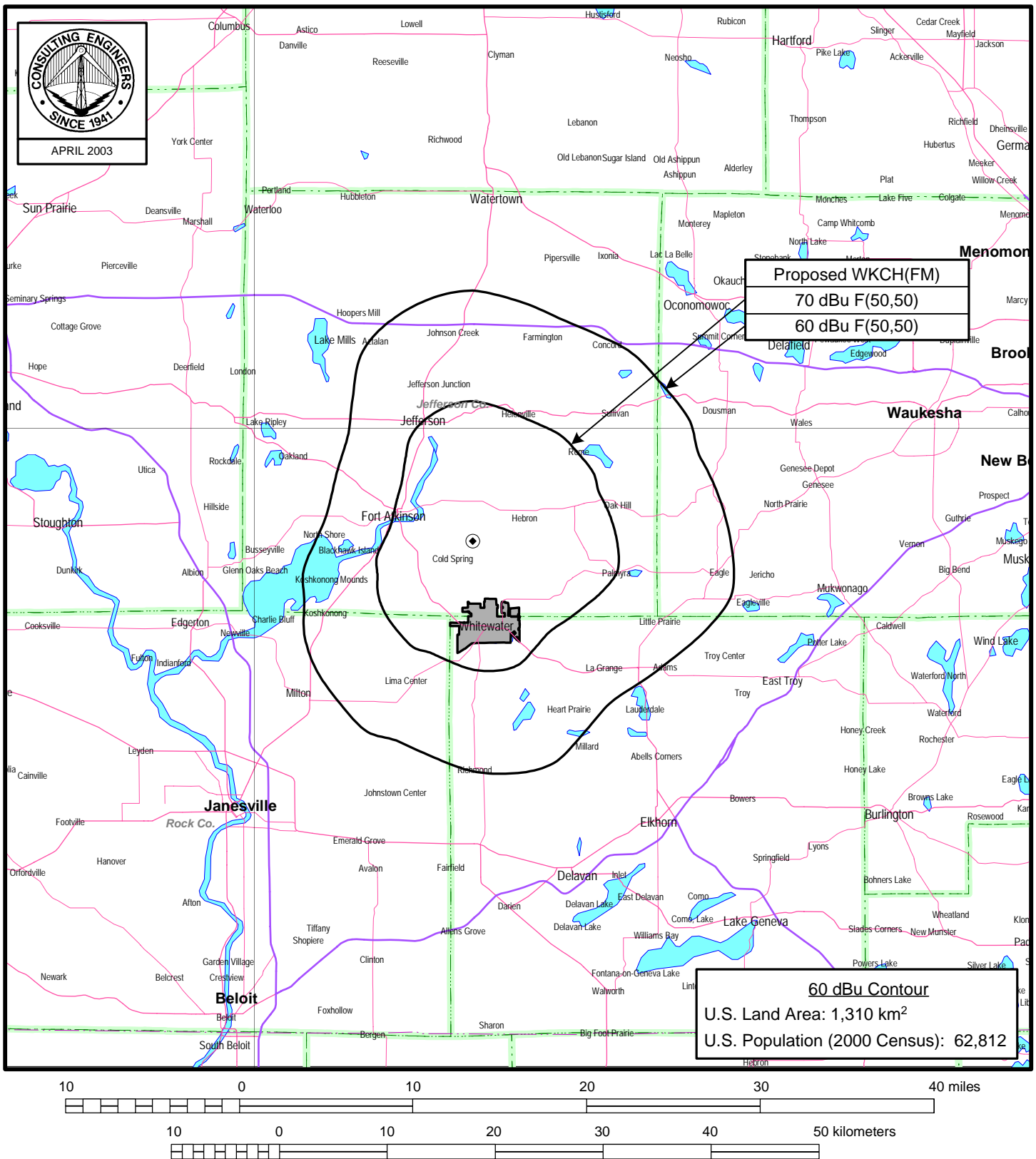
RADIO STATION WKCH(FM)

WHITEWATER, WISCONSIN

CH 293A    6 KW (MAX-DA)    61 M

du Treil, Lundin & Rackley, Inc.    Sarasota, Florida

**Figure 3**



## **PREDICTED F(50,50) COVERAGE CONTOURS**

**STATION WKCH(FM)**

**WHITEWATER, WISCONSIN**

**CH 293A 6 KW (MAX-DA) 61 M**

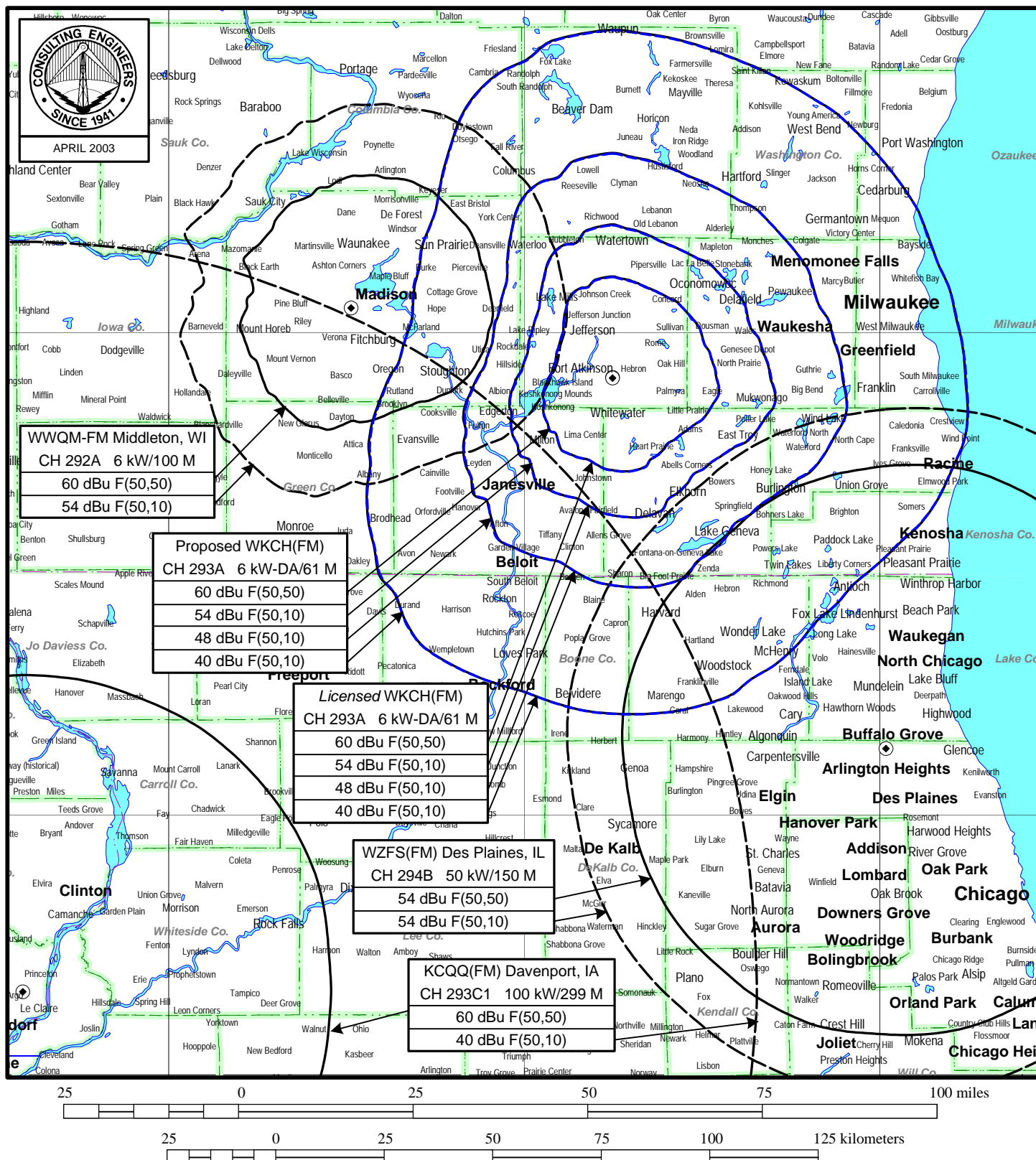
du Treil, Lundin & Rackley, Inc Sarasota, Florida

TECHNICAL EXHIBIT  
MINOR CHANGE APPLICATION  
RADIO STATION WKCH(FM)  
WHITEWATER, WISCONSIN  
CH 293A 6 KW (MAX-DA) 61 M

Channel 293A Allocation Study

42° 54' 20" North Latitude  
88° 45' 05" West Longitude

Call Id	City St	File Status Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	Req. min
WKPO 59612	EVANSVILLE WI	BLH LIC C 20000712AAF	290A 105.9	1.7 147	N	42-43-38 89-15-02	Y	244.2	45.38	31.0
WMIL-FM 63919	WAUKESHA WI	BLH LIC C 19940516KA	291B 106.1	13 297	N	43-05-15 87-54-13	N	73.4	72.03	69.0
WWQM-FM 19623	MIDDLETON WI	BMLH LIC C 19990105KA	292A 106.3	4.5 114	N	43-03-03 89-29-13	N	285.4	62.13	72.0
<i>Contour overlap provisions of Section 73.215 used. See Technical Narrative</i>										
WYCH 21202	GENOA IL	BLH LIC C 20021203ACD	292A 106.3	3.8 126	N	42-04-28 88-49-24	N	183.7	92.51	72.0
WKCH 59406	WHITEWATER WI	BLH LIC C 19971126KE	293A 106.5	6 61	Y 15088	42-54-24 88-45-06	Y	349.3	0.13	
<i>Applicant's existing facility</i>										
WHBZ 41614	SHEBOYGAN WI	F BLH LIC C 19970418KB	293A 106.5	6 73	N	43-43-16 87-44-03	Y	41.9	122.56	115.0
KCQQ 32987	DAVENPORT IA	BLH LIC C 19980413KD	293C1 106.5	100 273	N	41-37-58 90-24-38	N	224.5	196.79	200.0
<i>Contour overlap provisions of Section 73.215 used. See Technical Narrative</i>										
WLJY 24444	MARSHFIELD WI	BLH LIC C 19800212AD	293C1 106.5	100 244	N	44-38-39 89-51-12	N	335.8	212.57	200.0
971030 89056	MOUNT HOREB WI	BPH APP C 19971030ML	294A 106.7	2.6 150	N 29225	43-00-26 89-54-05	N	277.3	94.52	72.0
971030 89056	MOUNT HOREB WI	BPH CP C 19971030ML	294A 106.7	2.9 146	N	43-00-26 89-54-05	N	277.3	94.52	72.0
WZFS 25053	DES PLAINES IL	BLH LIC C 19990818KA	294B 106.7	50 129	N 29626	42-08-14 87-58-57	N	143.3	106.19	113.0
<i>Contour overlap provisions of Section 73.215 used. See Technical Narrative</i>										
WFMR 67484	BROOKFIELD WI	BLH LIC C 19950830KF	295A 106.9	6 100	N	43-09-00 88-07-25	Y	61.7	57.93	31.0



## SECTION 73.215 CONTOUR MAP

RADIO STATION WKCH(FM)

WHITWATER, WISCONSIN

CH 293A 6 KW (MAX-DA) 61 M

du Treil, Lundin & Rackley, Inc Sarasota, Florida