

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
WRNI FOUNDATION  
RADIO STATION WRNI  
PROVIDENCE, RHODE ISLAND

July 11, 2001

1290 KHZ 10 KW U DA-2

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Technical Narrative

The technical exhibit of which this narrative is part has been prepared on behalf of WRNI Foundation, licensee of AM broadcast station WRNI at Providence, Rhode Island. WRNI is licensed for full time operation on 1290 kilohertz with daytime power of 5.0 kilowatts and nighttime power of 10 kilowatts, operating with the different directional antenna patterns during daytime and nighttime hours. By means of this present application, the licensee proposes to increase daytime power to 10 kilowatts with a different directional antenna pattern and maintain nighttime operation. The proposal is classified as a minor change according to 47 CFR 73.3571(a)(2). As a Class B station operating on one of the channels listed in 73.26(a), the proposal satisfies 47 CFR 73.21(a)(2) which permits operation with a nominal power of not less than 0.25 kilowatt nor more than 50 kilowatts at any time. The proposal is acceptable for filing under the criteria set forth in 47 CFR 73.37.

The proposed facility will not have a significant environmental impact as defined by 47 CFR 1.1307. The Federal Aviation Administration has not been notified of the proposal as new tower construction is not proposed.

#### Proposed Transmitter Location

The location of the proposed WRNI facility will not change. The same site will continue to be used for both daytime and nighttime operation.

#### Directional Antenna System

A total of three towers will be employed for the daytime directional antenna pattern. As indicated on Figure 1, all radiating elements are 57.9 meters (190 feet) in height and have an overall height of 59.4 meters (195 feet) above ground level. A summary of specifications for each of the directional antenna arrays is included herein as Figure 2.

The directional antenna patterns have been calculated in accordance with 47 CFR 73.150 assuming a one-ohm lumped loss resistance at the current loop of each tower in the array. The daytime standard radiation pattern is shown herein as Figure 3 and is tabulated in Figure 4.

#### Waiver of Section 73.24(g)

The provisions of 47 CFR 73.24(g) require that the population within the 1,000 mV/m contour not exceed 1 percent of the population within the 25 mV/m groundwave

contour. At the proposed location, during daytime hours, the proposed 1,000 mV/m contour encompasses 5,639 persons or 1.8 percent of the 314,841 persons in the 25 mV/m contour. A waiver of the rule is requested.

In numerous past requests for waiver, it has been noted that field strength of 1,000 mV/m does not cause a "blanketing" problem in vast majority of receivers. In fact, a field strength of 7,000 mV/m has been shown to be necessary to cause blanketing interference of any consequence. The population within the predicted daytime 7,000 mV/m contour is 232 persons, or 0.07 percent of the population within the 25 mV/m contour. Based on previous waiver requests, the blanketing interference potential for WRNI is minimal, and the applicant recognizes the responsibility to correct blanketing problems.

#### Daytime Coverage

The proposed WRNI daytime field strength contours are depicted on Figure 5 and the existing daytime field strength contours are shown on Figure 6. As indicated on Figure 5, the proposed daytime 5 mV/m contour will completely encompass the city limits of Providence. The Providence city limits depicted were obtained from a map contained in the TIGER 2000 U.S. census files.

#### Field Strength Measurements

In order to establish the actual ground conductivity in the area, field strength measurements were taken on a number of stations, including WRNI, WJDA, and

WCCC. Measurement data is contained in Figure 9 both in graphical and tabular form.

Field strength measurements were taken by Mr. Michael LeClair and Mr. Stephen J. Callahan. Recently calibrated field intensity meters were employed.

#### Daytime Allocation Study

A daytime allocation study was made utilizing FCC Figure M-3 as shown on Figure 7. Daytime field strength contours were calculated in accordance with 47 CFR 73.183. Measurement data from station license applications were applied where available. Figure 8 is a tabulation of the data employed in the calculation of daytime contours. Based on this analysis, the proposed WRNI facility will comply with all relevant allocation criteria.

#### Environmental Considerations

The proposed WRNI operation was evaluated in terms of both the electric and magnetic field components which will be present at the base of each tower. Using Figures 1 through 4 of Supplement A to OET Bulletin 65, the worst case interpolated distance at which the electric and magnetic fields would fall below ANSI guidelines is 3 meters. Accordingly, the areas surrounding the base of each tower will be appropriately restricted with a fence having a minimum radius of 3 meters (10 feet) unless data obtained after construction has been completed indicates otherwise. The fence will assure that persons on the property outside the fenced area will not be exposed to

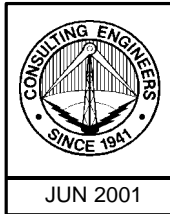
radiofrequency field levels in excess of those recommended by the ANSI. In addition, warning signs will be posted.

The proposed operation is categorically excluded from environmental processing, as it meets all the criteria for such an exclusion as specified in 47 CFR 1.1306. The proposal does not involve construction at a site location as specified under 47 CFR 1.1307(a)(1)-(7) and the human exposure to radiofrequency radiation is predicted to be within the standards specified in 47 CFR 1.1307(b).

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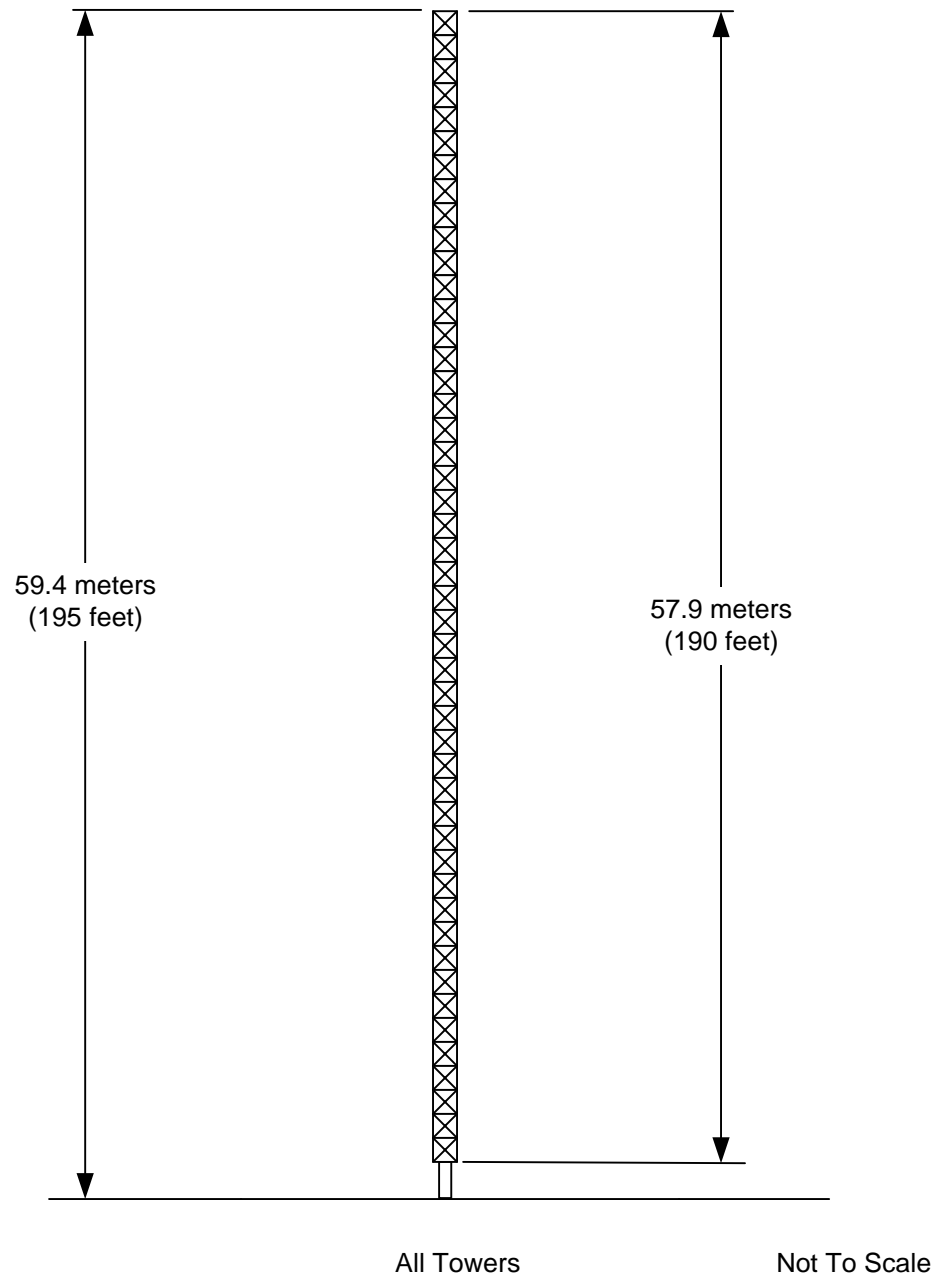
July 11, 2001



Site Coordinates(NAD 27)

41° 51' 21" N

71° 26' 41" W



## SKETCH OF ANTENNA ELEMENTS

RADIO STATION WRNI  
PROVIDENCE, RHODE ISLAND  
1290 KHZ 10 KW U DA-2

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Specification for Daytime  
Directional Antenna System

Frequency: 1290 kHz

Hours of Operation: Unlimited

Power: 10 kW

Number of Towers: 3

Type of Tower: Guyed, Uniform Cross-section,  
base-insulated

All Towers - height above  
base insulator 57.9 m (190 ft)

All Towers - overall height 59.4 m (195 ft)

Tower Arrangement:

Tower No.	Spacing (deg.)/(m)	Orientation (deg. True)
1(C)	10.0/6.5	210.0
2(S)	90.0/58.1	120.0
3(N)	90.0/58.1	300.0

Element Field Parameters:

Daytime:

Tower No.	Field Ratio	Phase (degrees)
1(C)	1.000	23.5
2(S)	0.489	-147.0
3(N)	1.024	+166.0

Ground System:

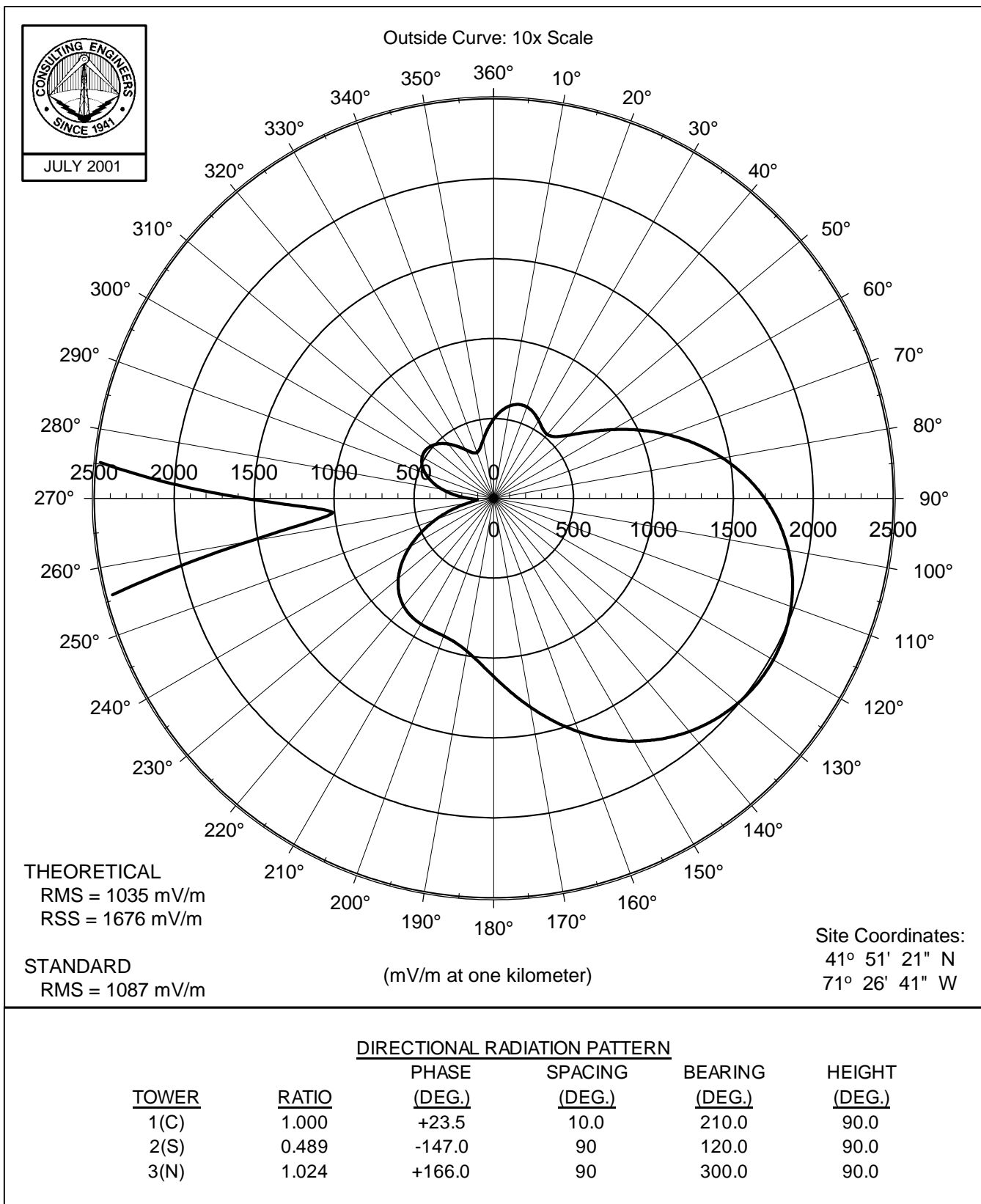
Installed about the base of each tower are 120 evenly spaced, buried copper wire radials (#10 AWG), extending 57.9 meters (190 ft) from all towers except where shortened and bonded to transverse copper strap between towers. In addition, copper strap runs from the transmitter and down the line of towers and is bonded to ground at the base of each tower.

Geographic Coordinates of  
Center of Antenna Array:

41° 51' 21" North Latitude

71° 26' 41" West Longitude

Figure 3



## PROPOSED DAYTIME HORIZONTAL PLANE STANDARD RADIATION PATTERN

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Figure 4

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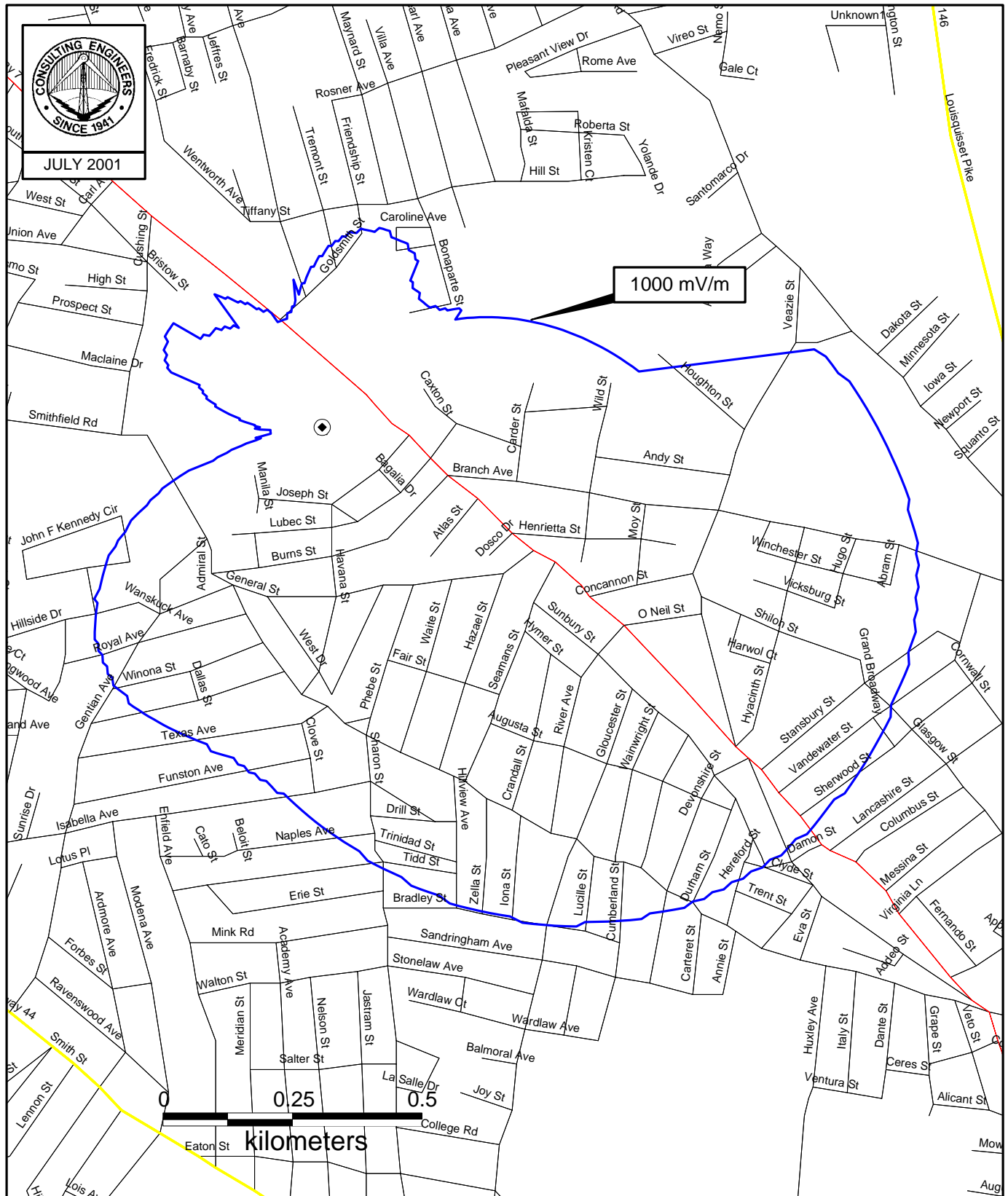
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DAYTIME RADIATION PATTERN  
(Radiation Values at One Kilometer)

<u>Tower Number</u>	<u>Field Ratio</u>	<u>Phase (deg.)</u>	<u>Spacing (deg.)</u>	<u>Bearing (deg.)</u>	<u>Height (deg.)</u>
1	1.000	+23.5	10.0	210.0	90.0
2	0.489	-147.0	90.0	120.0	90.0
3	1.024	+166.0	90.0	300.0	90.0

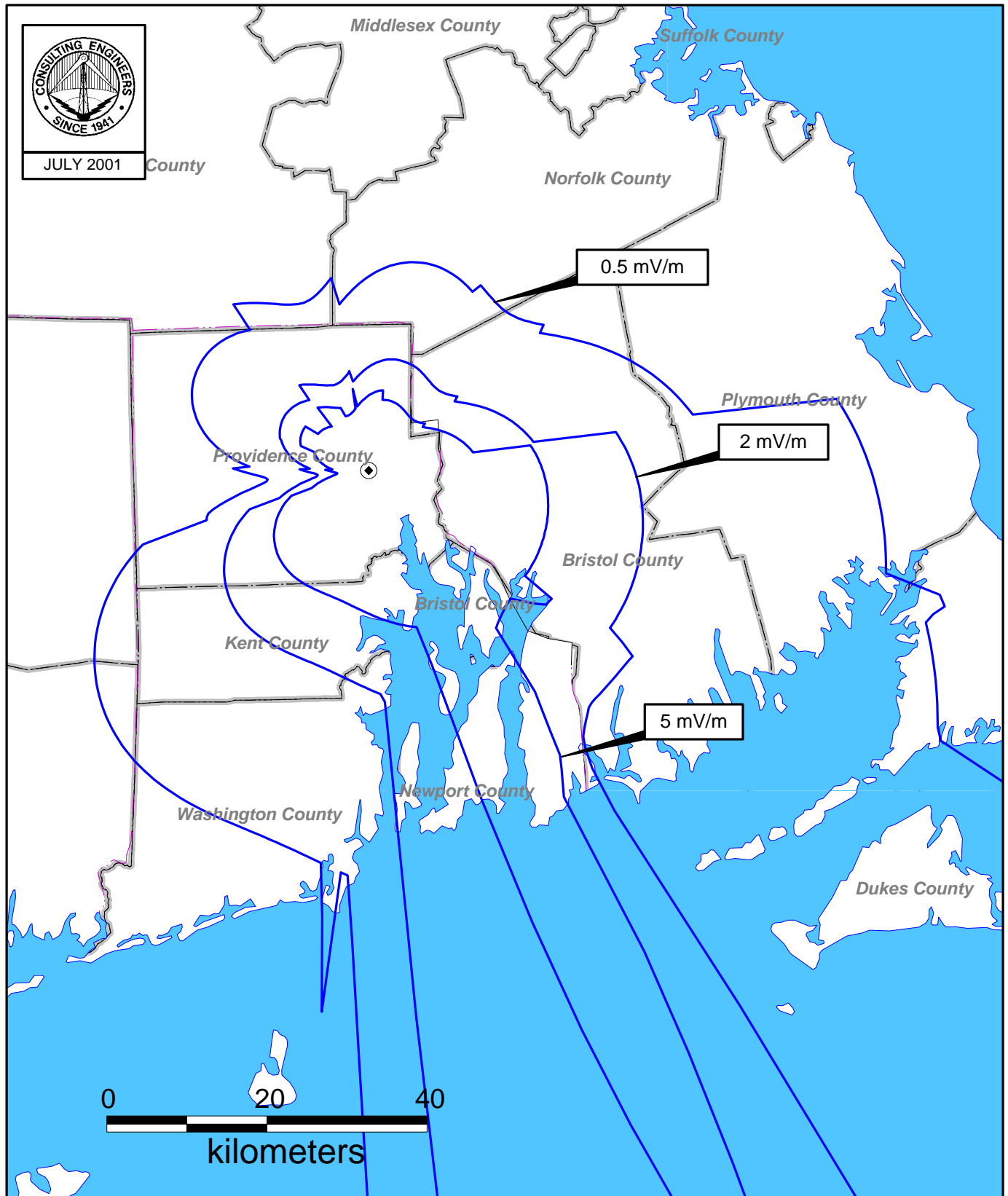
<u>Input Power (kW)</u>	<u>Loop Loss (ohms)</u>	<u>Theo. RMS (mV/m)</u>	<u>Theo. RSS (mV/m)</u>	<u>Q Factor (mV/m)</u>	<u>Standard RMS (mV/m)</u>
10	1.0	1035	1676	41.9	1087

<u>Azimuth (mV/m)</u>	<u>Field (mV/m)</u>	<u>Azimuth (mV/m)</u>	<u>Field (mV/m)</u>	<u>Azimuth (mV/m)</u>	<u>Field (mV/m)</u>	<u>Azimuth (mV/m)</u>	<u>Field (mV/m)</u>
0	496	90	1695	180	1114	270	155
5	549	95	1792	185	1030	275	244
10	588	100	1872	190	969	280	328
15	608	105	1935	195	932	285	400
20	609	110	1980	200	915	290	456
25	591	115	2008	205	911	295	496
30	562	120	2020	210	909	300	518
35	533	125	2015	215	901	305	522
40	521	130	1994	220	879	310	510
45	546	135	1957	225	839	315	483
50	615	140	1905	230	780	320	444
55	724	145	1837	235	702	325	397
60	859	150	1755	240	607	330	351
65	1009	155	1660	245	499	335	315
70	1162	160	1555	250	382	340	305
75	1312	165	1442	255	264	345	326
80	1453	170	1327	260	156	350	374
85	1582	175	1215	265	101	355	434



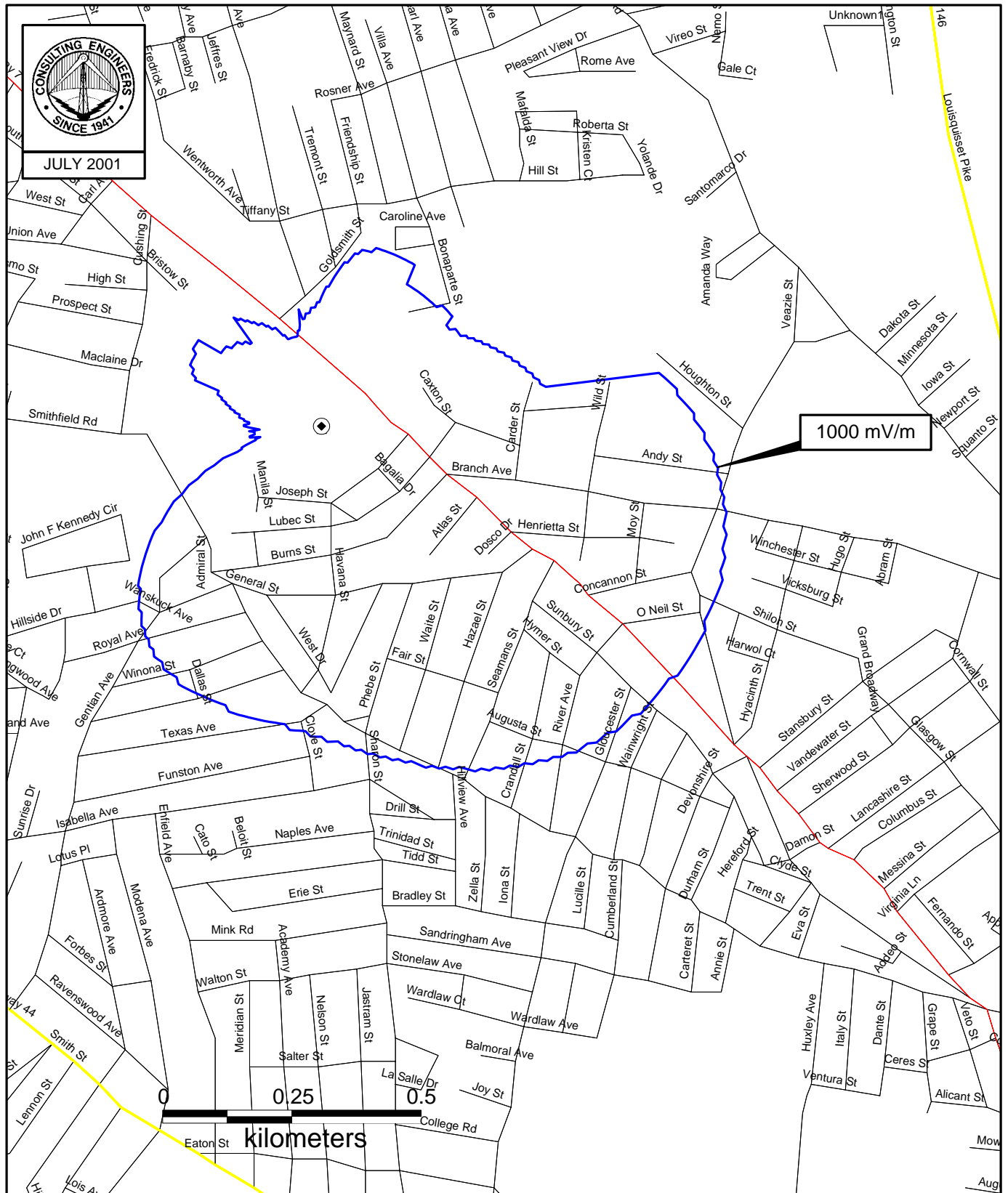
## PROPOSED DAYTIME FIELD STRENGTH CONTOURS

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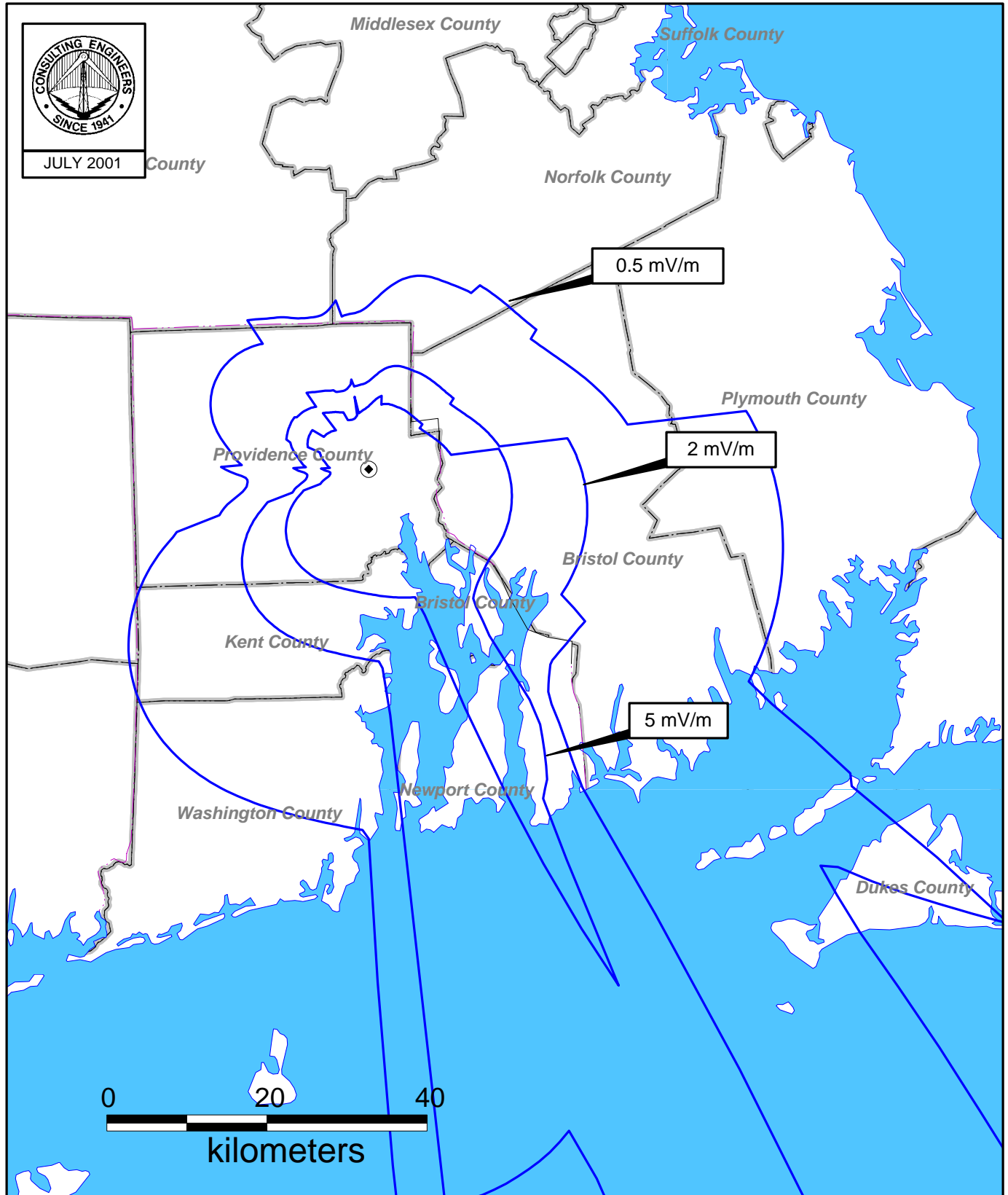
## PROPOSED DAYTIME FIELD STRENGTH CONTOURS

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## EXISTING DAYTIME FIELD STRENGTH CONTOURS

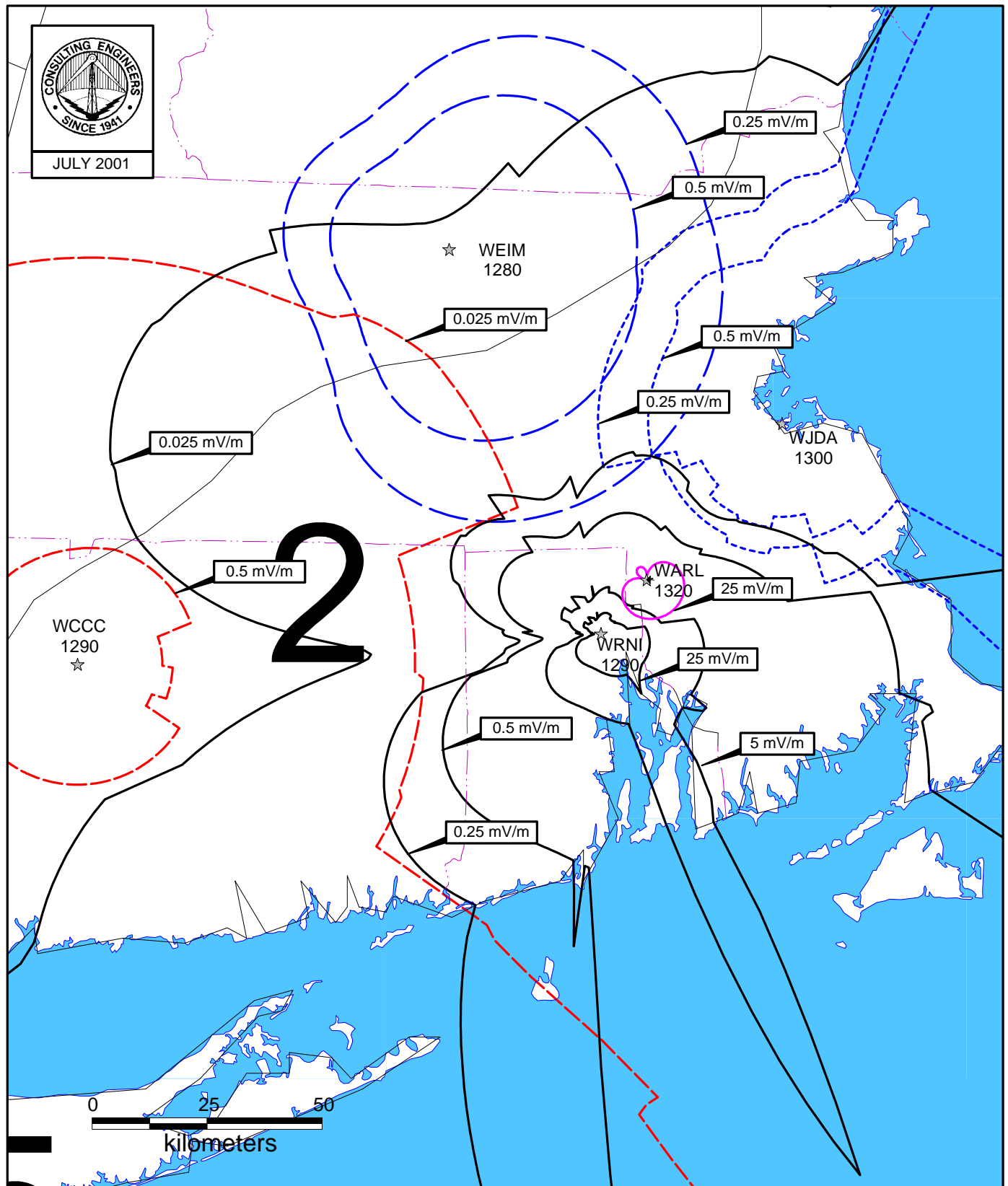
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## EXISTING DAYTIME FIELD STRENGTH CONTOURS

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## DAYTIME ALLOCATION STUDY

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Tabulation of Data Employed in  
Calculation of Groundwave Contours

Call: WRNI CP  
Providence, RI  
Coordinates: 41-51-21 North 71-26-41 West  
Frequency: 1290 kHz

Azimuth	Radiation (mV/m at one km)	Ground Conductivity Data: Region conductivity in mS/m followed by distance in km to the end of region. E - map data; M - measurement data.							
0.0	494.37	1.0M	10.0	0.5M	19.0	0.1M	29.0	2.0E	74.0
		1.0E	278.2	0.5E	364.1	4.0E	605.3	2.0E	710.4
		2.0E	1245.8						
5.0	547.92	1.0M	10.0	0.5M	19.0	0.1M	29.0	2.0E	78.5
		1.0E	193.8	2.0E	239.5	1.0E	315.6	0.5E	388.9
		4.0E	565.8	5000.0E	584.7	4.0E	661.8	2.0E	766.7
		2.0E	1245.8						
10.0	586.81	1.0M	10.0	0.5M	19.0	0.1M	29.0	2.0E	84.4
		1.0E	164.6	2.0E	282.2	1.0E	435.0	4.0E	638.9
		5000.0E	683.8	4.0E	715.8	2.0E	833.4	2.0E	1245.8
15.0	607.17	1.0M	5.0	0.5M	14.0	0.1M	31.4	2.0E	101.1
		1.0E	130.3	2.0E	315.2	1.0E	646.9	2.0E	752.1
		5000.0E	834.0	2.0E	905.9	2.0E	1245.8		
20.0	607.68	1.0M	5.0	0.5M	14.0	0.1M	31.4	2.0E	148.1
		5000.0E	150.9	2.0E	346.9	1.0E	648.3	2.0E	837.2
		5000.0E	1245.8						
25.0	590.20	1.0M	5.0	0.5M	14.0	0.1M	31.4	2.0E	115.5
		5000.0E	186.0	2.0E	228.1	5000.0E	231.7	2.0E	385.5
		1.0E	648.8	2.0E	919.7	5000.0E	1245.8		
30.0	560.85	1.0M	5.0	0.5M	14.0	0.1M	31.4	2.0E	87.3
		5000.0E	88.2	2.0E	106.5	5000.0E	252.9	2.0E	261.0
		5000.0E	267.0	2.0E	446.5	1.0E	563.3	2.0E	799.3
		5000.0E	827.4	2.0E	965.6	5000.0E	1245.8		
35.0	531.38	1.5M	12.0	0.5M	30.0	0.1M	36.2	2.0E	59.9
		5000.0E	86.2	2.0E	86.3	5000.0E	96.7	2.0E	107.6
		5000.0E	292.4	2.0E	342.7	5000.0E	357.9	2.0E	360.6
		5000.0E	369.5	2.0E	427.7	1.0E	518.3	2.0E	835.3
40.0	519.48	1.5M	12.0	0.5M	30.0	0.1M	36.2	2.0E	58.5
		5000.0E	353.2	2.0E	356.3	5000.0E	384.5	2.0E	387.6
		5000.0E	389.8	2.0E	393.9	5000.0E	395.0	2.0E	425.4
45.0	543.84	1.5M	12.0	0.5M	30.0	0.1M	36.2	2.0E	62.6
		5000.0E	431.9	2.0E	433.1	5000.0E	445.6	1.0E	452.8
		5000.0E	458.3	1.0E	485.1	5000.0E	517.9	2.0E	707.8
50.0	613.36	1.5M	12.0	0.5M	30.0	0.1M	36.2	2.0E	68.1
		5000.0E	1245.8						
55.0	722.44	1.5M	10.0	1.0M	20.0	0.1M	50.8	2.0E	69.7
		5000.0E	522.1	2.0E	1245.8				
60.0	858.19	1.5M	10.0	1.0M	20.0	0.1M	50.8	2.0E	69.3
		5000.0E	488.3	2.0E	1245.8				
65.0	1007.90	1.5M	10.0	1.0M	20.0	0.1M	50.8	2.0E	69.5
		5000.0E	505.5	2.0E	542.4	5000.0E	549.4	2.0E	1245.8
70.0	1161.56	1.5M	10.0	1.0M	20.0	0.1M	50.8	2.0E	70.1
		5000.0E	1245.8						
75.0	1311.72	0.1M	45.2	2.0E	65.5	5000.0E	1245.8		
80.0	1453.02	0.1M	45.2	2.0E	68.7	5000.0E	112.9	2.0E	115.5
		5000.0E	1245.8						
85.0	1581.73	2.0E	75.1	5000.0E	112.9	2.0E	120.5	5000.0E	1245.8
90.0	1695.40	2.0E	74.9	5000.0E	118.5	2.0E	123.3	5000.0E	1245.8
95.0	1792.55	2.0E	77.8	5000.0E	109.6	2.0E	122.5	5000.0E	1245.8
100.0	1872.49	2.0E	117.9	5000.0E	1245.8				
105.0	1935.03	2.0E	62.9	5000.0E	69.4	2.0E	91.2	5000.0E	1245.8
110.0	1980.28	2.0E	61.0	5000.0E	70.7	2.0E	86.7	5000.0E	1245.8
115.0	2008.55	2.0E	59.3	5000.0E	72.6	2.0E	79.2	5000.0E	1245.8
120.0	2020.15	2.0E	53.1	5000.0E	1245.8				
125.0	2015.38	2.0E	22.7	5000.0E	27.4	2.0E	52.0	5000.0E	1245.8
130.0	1994.45	2.0E	7.0	5000.0E	7.4	2.0E	23.3	5000.0E	27.7
		2.0E	54.9	5000.0E	1245.8				
135.0	1957.57	2.0E	7.7	5000.0E	8.8	2.0E	24.2	5000.0E	28.2
		2.0E	44.5	5000.0E	46.1	2.0E	52.8	5000.0E	1245.8
140.0	1905.00	2.0E	8.6	5000.0E	10.9	2.0E	25.3	5000.0E	30.5

Call: WRNI CP  
Providence, RI  
Coordinates: 41-51-21 North 71-26-41 West  
Frequency: 1290 kHz

Azimuth	Radiation (mV/m at one km)	Ground Conductivity Data:							
		Region conductivity in mS/m followed by distance in km to the end of region. E - map data; M - measurement data.							
145.0	1837.22	2.0E	9.7	5000.0E	14.5	2.0E	16.4	5000.0E	21.8
		2.0E	26.5	5000.0E	34.6	2.0E	47.8	5000.0E	1245.8
150.0	1755.09	2.0E	11.4	5000.0E	40.2	2.0E	46.9	5000.0E	1245.8
155.0	1660.06	2.0E	13.8	5000.0E	1245.8				
160.0	1554.47	2.0E	17.7	5000.0E	1245.8				
165.0	1441.73	2.0E	20.0	5000.0E	1245.8				
170.0	1326.51	2.0E	19.2	5000.0E	1245.8				
175.0	1214.80	2.0E	18.6	5000.0E	24.8	2.0E	29.7	5000.0E	38.9
		2.0E	40.1	5000.0E	1245.8				
180.0	1113.54	2.0E	29.6	5000.0E	30.6	2.0E	46.2	5000.0E	1245.8
185.0	1029.71	2.0E	46.8	5000.0E	1245.8				
190.0	968.54	2.0E	53.9	5000.0E	1245.8				
195.0	931.43	2.0E	56.3	5000.0E	1245.8				
200.0	914.64	2.0E	59.5	5000.0E	1245.8				
205.0	910.20	2.0E	64.1	5000.0E	95.1	0.5E	100.7	5000.0E	1245.8
210.0	908.36	2.0E	69.0	5000.0E	109.1	0.5E	115.0	5000.0E	772.4
		4.0E	794.4	5000.0E	1245.8				
215.0	900.00	2.0E	70.4	5000.0E	109.7	0.5E	130.0	5000.0E	706.8
		4.0E	710.2	5000.0E	717.0	4.0E	762.5	5000.0E	766.9
		4.0E	769.1	5000.0E	784.1	4.0E	850.5	5000.0E	856.3
		4.0E	891.5	5000.0E	892.3	4.0E	1245.8		
220.0	878.15	2.0E	76.8	5000.0E	139.4	0.5E	151.1	5000.0E	487.3
		2.0E	488.5	5000.0E	497.6	2.0E	589.5	5000.0E	589.6
		2.0E	595.6	5000.0E	596.4	2.0E	614.5	5000.0E	671.3
		4.0E	690.6	5000.0E	697.6	4.0E	736.9	2.0E	909.2
		4.0E	1245.8						
225.0	838.51	2.0E	76.1	5000.0E	77.3	2.0E	83.7	5000.0E	126.7
		0.5E	170.9	5000.0E	326.8	4.0E	355.8	5000.0E	357.0
		4.0E	389.5	5000.0E	390.9	4.0E	420.1	5000.0E	461.3
		4.0E	498.9	2.0E	551.4	5000.0E	600.8	4.0E	610.5
		5000.0E	611.5	4.0E	634.4	5000.0E	640.1	2.0E	664.0
		5000.0E	666.5	2.0E	922.9	4.0E	962.1	2.0E	1245.8
230.0	779.32	2.0E	83.4	5000.0E	84.0	2.0E	95.9	5000.0E	100.0
		2.0E	100.4	5000.0E	152.1	0.5E	195.7	5000.0E	284.9
		4.0E	431.7	5000.0E	444.4	4.0E	533.9	5000.0E	541.3
		4.0E	547.1	5000.0E	569.7	4.0E	576.8	5000.0E	581.0
		4.0E	601.7	5000.0E	615.2	4.0E	635.9	2.0E	859.3
		4.0E	1245.8						
235.0	701.01	2.0E	94.9	5000.0E	95.7	2.0E	113.9	5000.0E	169.8
		0.5E	173.8	5000.0E	183.8	0.5E	239.3	5000.0E	270.1
		4.0E	426.3	5000.0E	431.9	4.0E	507.2	5000.0E	526.4
		4.0E	528.6	5000.0E	528.9	4.0E	532.9	5000.0E	534.8
		4.0E	540.9	5000.0E	541.7	4.0E	598.7	5000.0E	602.7
		4.0E	613.3	5000.0E	619.3	4.0E	624.6	2.0E	1245.8
240.0	605.83	2.0E	132.6	5000.0E	207.3	4.0E	213.2	5000.0E	217.9
		4.0E	224.0	5000.0E	230.8	4.0E	233.8	5000.0E	234.9
		4.0E	244.7	5000.0E	256.3	4.0E	509.1	2.0E	1020.5
		4.0E	1046.6	2.0E	1245.8				
245.0	497.37	2.0E	143.1	1.0E	209.3	4.0E	271.1	2.0E	280.4
		4.0E	539.8	2.0E	1245.8				
250.0	380.32	2.0E	138.9	1.0E	206.4	4.0E	252.7	2.0E	306.1
		4.0E	489.0	2.0E	597.0	4.0E	807.9	2.0E	1245.8
255.0	260.77	1.0M	20.0	0.1M	33.3	2.0E	135.8	1.0E	201.6
		4.0E	242.8	2.0E	548.5	4.0E	763.1	2.0E	1245.8
260.0	149.70	1.0M	20.0	0.1M	33.3	2.0E	133.4	1.0E	186.6
		4.0E	253.6	2.0E	288.6	4.0E	409.6	2.0E	551.6
		4.0E	573.8	2.0E	666.1	4.0E	874.1	8.0E	1245.8

Call: WRNI CP  
Providence, RI  
Coordinates: 41-51-21 North 71-26-41 West  
Frequency: 1290 kHz

Azimuth	Radiation (mV/m at one km)	Ground Conductivity Data: Region conductivity in mS/m followed by distance in km to the end of region. E - map data; M - measurement data.							
265.0	91.24	1.0M	20.0	0.1M	33.3	2.0E	131.3	1.0E	170.9
		4.0E	484.1	2.0E	701.4	4.0E	737.9	8.0E	1245.8
270.0	148.91	1.0M	20.0	0.1M	33.3	2.0E	126.8	1.0E	161.1
		4.0E	604.2	2.0E	696.1	8.0E	1245.8		
275.0	239.54	0.1M	31.7	2.0E	118.4	1.0E	155.4	4.0E	724.1
		8.0E	829.3	10.0E	911.4	20.0E	1245.8		
280.0	324.96	0.1M	31.7	2.0E	105.9	1.0E	151.3	4.0E	616.2
		8.0E	663.3	10.0E	736.6	4.0E	786.3	20.0E	1245.8
285.0	397.49	0.1M	31.7	2.0E	96.7	1.0E	148.6	4.0E	518.2
		8.0E	639.1	20.0E	735.6	4.0E	783.5	6.0E	856.6
290.0	454.28	10.0E	894.9	8.0E	1245.8				
		1.0M	10.0	0.1M	29.1	2.0E	91.0	1.0E	149.1
295.0	493.96	4.0E	513.6	8.0E	625.5	15.0E	671.9	6.0E	708.9
		10.0E	721.3	4.0E	771.9	6.0E	872.7	10.0E	912.5
300.0	515.99	8.0E	1245.8						
		1.0M	10.0	0.1M	29.1	2.0E	87.5	1.0E	150.8
305.0	520.52	4.0E	453.0	8.0E	493.0	15.0E	602.1	6.0E	708.3
		4.0E	824.7	10.0E	827.2	4.0E	855.2	10.0E	944.0
310.0	508.36	8.0E	1245.8						
		1.0M	10.0	0.1M	29.1	2.0E	85.4	1.0E	153.7
315.0	481.19	4.0E	252.0	2.0E	286.2	4.0E	443.8	8.0E	475.6
		15.0E	509.1	4.0E	513.9	15.0E	517.7	10.0E	517.8
320.0	441.85	15.0E	521.7	4.0E	602.2	6.0E	692.5	1.0E	775.2
		10.0E	925.2	4.0E	1245.8				
325.0	394.95	1.0M	10.0	0.1M	29.1	2.0E	83.7	1.0E	158.0
		4.0E	228.7	2.0E	282.4	4.0E	471.4	15.0E	483.0
330.0	347.97	10.0E	511.8	4.0E	592.5	1.0E	784.1	2.0E	1245.8
		0.1M	31.4	2.0E	80.6	1.0E	163.7	4.0E	204.1
335.0	312.33	2.0E	282.2	4.0E	456.3	15.0E	493.2	4.0E	556.6
		1.0E	752.2	2.0E	1245.8				
340.0	301.68	0.1M	31.4	2.0E	77.2	1.0E	171.2	4.0E	172.7
		2.0E	287.4	4.0E	455.8	10.0E	494.7	4.0E	652.2
345.0	323.37	1.0E	721.3	2.0E	1245.8				
		0.1M	31.4	2.0E	74.3	1.0E	179.9	2.0E	296.0
350.0	371.40	4.0E	452.3	10.0E	519.2	4.0E	611.6	2.0E	1014.8
		6.0E	1245.8						
355.0	432.50	1.5M	10.0	1.0M	30.9	2.0E	71.0	1.0E	191.0
		2.0E	311.4	4.0E	432.7	10.0E	514.5	4.0E	542.3
360.0		2.0E	933.9	6.0E	1080.2	2.0E	1245.8		
		1.5M	10.0	1.0M	30.9	2.0E	68.3	1.0E	205.3
365.0		2.0E	330.5	4.0E	407.6	10.0E	487.5	4.0E	511.1
		2.0E	871.8	6.0E	957.8	2.0E	984.2	2.0E	1245.8
370.0		1.5M	10.0	1.0M	30.9	2.0E	66.2	1.0E	222.2
		2.0E	349.3	4.0E	388.1	10.0E	450.4	4.0E	480.4
375.0		2.0E	702.6	2.0E	1245.8				
		1.0M	32.0	2.0E	65.5	1.0E	245.9	0.5E	269.0
380.0		2.0E	373.4	4.0E	401.0	10.0E	461.5	4.0E	495.5
		2.0E	662.6	2.0E	1245.8				
385.0		1.0M	32.0	2.0E	66.5	1.0E	241.0	0.5E	311.2
		2.0E	363.3	4.0E	421.9	6.0E	438.9	10.0E	489.9
390.0		4.0E	519.5	2.0E	648.2	2.0E	1245.8		
		1.0M	10.0	0.5M	19.0	0.1M	29.0	2.0E	68.1
395.0		1.0E	249.4	0.5E	356.5	4.0E	431.0	6.0E	501.9
		4.0E	543.9	2.0E	650.0	2.0E	1245.8		
400.0		1.0M	10.0	0.5M	19.0	0.1M	29.0	2.0E	70.6
		1.0E	261.0	0.5E	352.8	4.0E	447.9	6.0E	529.2
405.0		4.0E	570.5	2.0E	672.5	2.0E	1245.8		

Call: WRNI LICENSE

Providence, RI

Coordinates: 41-51-21 North 71-26-41 West

Frequency: 1290 kHz

Azimuth	Radiation (mV/m at one km)	Ground Conductivity Data: Region conductivity in mS/m followed by distance in km to the end of region. E - map data; M - measurement data.							
0.0	350.14	1.0M	10.0	0.5M	19.0	0.1M	29.0	2.0E	74.0
		1.0E	278.2	0.5E	364.1	4.0E	605.3	2.0E	710.4
		2.0E	1169.1						
5.0	419.10	1.0M	10.0	0.5M	19.0	0.1M	29.0	2.0E	78.5
		1.0E	193.8	2.0E	239.5	1.0E	315.6	0.5E	388.9
		4.0E	565.8	5000.0E	584.7	4.0E	661.8	2.0E	766.7
		2.0E	1169.1						
10.0	487.23	1.0M	10.0	0.5M	19.0	0.1M	29.0	2.0E	84.4
		1.0E	164.6	2.0E	282.2	1.0E	435.0	4.0E	638.9
		5000.0E	683.8	4.0E	715.8	2.0E	833.4	2.0E	1169.1
15.0	526.59	1.0M	5.0	0.5M	14.0	0.1M	31.4	2.0E	101.1
		1.0E	130.3	2.0E	315.2	1.0E	646.9	2.0E	752.1
		5000.0E	834.0	2.0E	905.9	2.0E	1169.1		
20.0	536.69	1.0M	5.0	0.5M	14.0	0.1M	31.4	2.0E	148.1
		5000.0E	150.9	2.0E	346.9	1.0E	648.3	2.0E	837.2
		5000.0E	1169.1						
25.0	539.06	1.0M	5.0	0.5M	14.0	0.1M	31.4	2.0E	115.5
		5000.0E	186.0	2.0E	228.1	5000.0E	231.7	2.0E	385.5
		1.0E	648.8	2.0E	919.7	5000.0E	1169.1		
30.0	545.25	1.0M	5.0	0.5M	14.0	0.1M	31.4	2.0E	87.3
		5000.0E	88.2	2.0E	106.5	5000.0E	252.9	2.0E	261.0
		5000.0E	267.0	2.0E	446.5	1.0E	563.3	2.0E	799.3
		5000.0E	827.4	2.0E	965.6	5000.0E	1169.1		
		1.5M	12.0	0.5M	30.0	0.1M	36.2	2.0E	59.9
35.0	545.31	5000.0E	86.2	2.0E	86.3	5000.0E	96.7	2.0E	107.6
		5000.0E	292.4	2.0E	342.7	5000.0E	357.9	2.0E	360.6
		5000.0E	369.5	2.0E	427.7	1.0E	518.3	2.0E	835.3
		5000.0E	1169.1						
		1.5M	12.0	0.5M	30.0	0.1M	36.2	2.0E	58.5
40.0	543.92	5000.0E	353.2	2.0E	356.3	5000.0E	384.5	2.0E	387.6
		5000.0E	389.8	2.0E	393.9	5000.0E	395.0	2.0E	425.4
		1.0E	492.6	2.0E	1169.1				
		1.5M	12.0	0.5M	30.0	0.1M	36.2	2.0E	62.6
45.0	547.46	5000.0E	431.9	2.0E	433.1	5000.0E	445.6	1.0E	452.8
		5000.0E	458.3	1.0E	485.1	5000.0E	517.9	2.0E	707.8
		4.0E	1169.1						
		1.5M	12.0	0.5M	30.0	0.1M	36.2	2.0E	68.1
50.0	562.10	5000.0E	1169.1						
		1.5M	12.0	0.5M	30.0	0.1M	36.2	2.0E	68.1
55.0	591.97	1.5M	10.0	1.0M	20.0	0.1M	50.8	2.0E	69.7
		5000.0E	522.1	2.0E	1169.1				
60.0	637.80	1.5M	10.0	1.0M	20.0	0.1M	50.8	2.0E	69.3
		5000.0E	488.3	2.0E	1169.1				
65.0	697.08	1.5M	10.0	1.0M	20.0	0.1M	50.8	2.0E	69.5
		5000.0E	505.5	2.0E	542.4	5000.0E	549.4	2.0E	1169.1
70.0	765.48	1.5M	10.0	1.0M	20.0	0.1M	50.8	2.0E	70.1
		5000.0E	1169.1						
75.0	838.25	0.1M	45.2	2.0E	65.5	5000.0E	1169.1		
80.0	911.10	0.1M	45.2	2.0E	68.7	5000.0E	112.9	2.0E	115.5
		5000.0E	1169.1						
85.0	980.59	2.0E	75.1	5000.0E	112.9	2.0E	120.5	5000.0E	1169.1
90.0	1044.13	2.0E	74.9	5000.0E	118.5	2.0E	123.3	5000.0E	1169.1
95.0	1099.93	2.0E	77.8	5000.0E	109.6	2.0E	122.5	5000.0E	1169.1
100.0	1146.86	2.0E	117.9	5000.0E	1169.1				
105.0	1184.24	2.0E	62.9	5000.0E	69.4	2.0E	91.2	5000.0E	1169.1
110.0	1211.78	2.0E	61.0	5000.0E	70.7	2.0E	86.7	5000.0E	1169.1
115.0	1229.41	2.0E	59.3	5000.0E	72.6	2.0E	79.2	5000.0E	1169.1
120.0	1237.21	2.0E	53.1	5000.0E	1169.1				
125.0	1235.36	2.0E	22.7	5000.0E	27.4	2.0E	52.0	5000.0E	1169.1
130.0	1224.15	2.0E	7.0	5000.0E	7.4	2.0E	23.3	5000.0E	27.7
		2.0E	54.9	5000.0E	1169.1				

Call: WRNI LICENSE

Providence, RI

Coordinates: 41-51-21 North 71-26-41 West

Frequency: 1290 kHz

Azimuth	Radiation (mV/m at one km)	Ground Conductivity Data:							
		Region conductivity in mS/m followed by distance in km to the end of region. E - map data; M - measurement data.							
135.0	1203.94	2.0E	7.7	5000.0E	8.8	2.0E	24.2	5000.0E	28.2
		2.0E	44.5	5000.0E	46.1	2.0E	52.8	5000.0E	1169.1
140.0	1175.28	2.0E	8.6	5000.0E	10.9	2.0E	25.3	5000.0E	30.5
		2.0E	47.0	5000.0E	1169.1				
145.0	1138.96	2.0E	9.7	5000.0E	14.5	2.0E	16.4	5000.0E	21.8
		2.0E	26.5	5000.0E	34.6	2.0E	47.8	5000.0E	1169.1
150.0	1096.14	2.0E	11.4	5000.0E	40.2	2.0E	46.9	5000.0E	1169.1
155.0	1048.44	2.0E	13.8	5000.0E	1169.1				
160.0	998.00	2.0E	17.7	5000.0E	1169.1				
165.0	947.56	2.0E	20.0	5000.0E	1169.1				
170.0	900.20	2.0E	19.2	5000.0E	1169.1				
175.0	859.08	2.0E	18.6	5000.0E	24.8	2.0E	29.7	5000.0E	38.9
		2.0E	40.1	5000.0E	1169.1				
180.0	826.75	2.0E	29.6	5000.0E	30.6	2.0E	46.2	5000.0E	1169.1
185.0	804.42	2.0E	46.8	5000.0E	1169.1				
190.0	791.43	2.0E	53.9	5000.0E	1169.1				
195.0	785.14	2.0E	56.3	5000.0E	1169.1				
200.0	781.44	2.0E	59.5	5000.0E	1169.1				
205.0	775.66	2.0E	64.1	5000.0E	95.1	0.5E	100.7	5000.0E	1169.1
210.0	763.40	2.0E	69.0	5000.0E	109.1	0.5E	115.0	5000.0E	772.4
		4.0E	794.4	5000.0E	1169.1				
215.0	741.12	2.0E	70.4	5000.0E	109.7	0.5E	130.0	5000.0E	706.8
		4.0E	710.2	5000.0E	717.0	4.0E	762.5	5000.0E	766.9
		4.0E	769.1	5000.0E	784.1	4.0E	850.5	5000.0E	856.3
		4.0E	891.5	5000.0E	892.3	4.0E	1169.1		
220.0	706.51	2.0E	76.8	5000.0E	139.4	0.5E	151.1	5000.0E	487.3
		2.0E	488.5	5000.0E	497.6	2.0E	589.5	5000.0E	589.6
		2.0E	595.6	5000.0E	596.4	2.0E	614.5	5000.0E	671.3
		4.0E	690.6	5000.0E	697.6	4.0E	736.9	2.0E	909.2
		4.0E	1169.1						
225.0	658.56	2.0E	76.1	5000.0E	77.3	2.0E	83.7	5000.0E	126.7
		0.5E	170.9	5000.0E	326.8	4.0E	355.8	5000.0E	357.0
		4.0E	389.5	5000.0E	390.9	4.0E	420.1	5000.0E	461.3
		4.0E	498.9	2.0E	551.4	5000.0E	600.8	4.0E	610.5
		5000.0E	611.5	4.0E	634.4	5000.0E	640.1	2.0E	664.0
		5000.0E	666.5	2.0E	922.9	4.0E	962.1	2.0E	1169.1
230.0	597.54	2.0E	83.4	5000.0E	84.0	2.0E	95.9	5000.0E	100.0
		2.0E	100.4	5000.0E	152.1	0.5E	195.7	5000.0E	284.9
		4.0E	431.7	5000.0E	444.4	4.0E	533.9	5000.0E	541.3
		4.0E	547.1	5000.0E	569.7	4.0E	576.8	5000.0E	581.0
		4.0E	601.7	5000.0E	615.2	4.0E	635.9	2.0E	859.3
		4.0E	1169.1						
235.0	524.81	2.0E	94.9	5000.0E	95.7	2.0E	113.9	5000.0E	169.8
		0.5E	173.8	5000.0E	183.8	0.5E	239.3	5000.0E	270.1
		4.0E	426.3	5000.0E	431.9	4.0E	507.2	5000.0E	526.4
		4.0E	528.6	5000.0E	528.9	4.0E	532.9	5000.0E	534.8
		4.0E	540.9	5000.0E	541.7	4.0E	598.7	5000.0E	602.7
		4.0E	613.3	5000.0E	619.3	4.0E	624.6	2.0E	1169.1
240.0	442.68	2.0E	132.6	5000.0E	207.3	4.0E	213.2	5000.0E	217.9
		4.0E	224.0	5000.0E	230.8	4.0E	233.8	5000.0E	234.9
		4.0E	244.7	5000.0E	256.3	4.0E	509.1	2.0E	1020.5
		4.0E	1046.6	2.0E	1169.1				
245.0	354.24	2.0E	143.1	1.0E	209.3	4.0E	271.1	2.0E	280.4
		4.0E	539.8	2.0E	1169.1				
250.0	263.54	2.0E	138.9	1.0E	206.4	4.0E	252.7	2.0E	306.1
		4.0E	489.0	2.0E	597.0	4.0E	807.9	2.0E	1169.1
255.0	204.71	1.0M	20.0	0.1M	33.3	2.0E	135.8	1.0E	201.6
		4.0E	242.8	2.0E	548.5	4.0E	763.1	2.0E	1169.1
260.0	147.87	1.0M	20.0	0.1M	33.3	2.0E	133.4	1.0E	186.6
		4.0E	253.6	2.0E	288.6	4.0E	409.6	2.0E	551.6

Call: WRNI LICENSE

Providence, RI

Coordinates: 41-51-21 North 71-26-41 West

Frequency: 1290 kHz

Azimuth	Radiation (mV/m at one km)	Ground Conductivity Data:							
		Region conductivity in mS/m followed by distance in km to the end of region. E - map data; M - measurement data.							
265.0	133.15	1.0M	20.0	0.1M	33.3	2.0E	131.3	1.0E	170.9
		4.0E	484.1	2.0E	701.4	4.0E	737.9	8.0E	1169.1
270.0	186.74	1.0M	20.0	0.1M	33.3	2.0E	126.8	1.0E	161.1
		4.0E	604.2	2.0E	696.1	8.0E	1169.1		
275.0	235.22	0.1M	31.7	2.0E	118.4	1.0E	155.4	4.0E	724.1
		8.0E	829.3	10.0E	1169.1				
280.0	275.88	0.1M	31.7	2.0E	105.9	1.0E	151.3	4.0E	616.2
		8.0E	663.3	10.0E	736.6	4.0E	786.3	20.0E	1169.1
285.0	325.80	0.1M	31.7	2.0E	96.7	1.0E	148.6	4.0E	518.2
		8.0E	639.1	20.0E	735.6	4.0E	783.5	6.0E	856.6
290.0	365.30	10.0E	1169.1						
		1.0M	10.0	0.1M	29.1	2.0E	91.0	1.0E	149.1
295.0	392.81	4.0E	513.6	8.0E	625.5	15.0E	671.9	6.0E	708.9
		10.0E	721.3	4.0E	771.9	6.0E	872.7	10.0E	1169.1
300.0	407.94	1.0M	10.0	0.1M	29.1	2.0E	87.5	1.0E	150.8
		4.0E	453.0	8.0E	493.0	15.0E	602.1	6.0E	708.3
305.0	410.70	4.0E	824.7	10.0E	827.2	4.0E	855.2	10.0E	1169.1
		1.0M	10.0	0.1M	29.1	2.0E	85.4	1.0E	153.7
310.0	401.48	4.0E	252.0	2.0E	286.2	4.0E	443.8	8.0E	475.6
		15.0E	509.1	4.0E	513.9	15.0E	517.7	10.0E	517.8
315.0	381.10	15.0E	521.7	4.0E	602.2	6.0E	692.5	1.0E	1169.1
		1.0M	10.0	0.1M	29.1	2.0E	83.7	1.0E	158.0
320.0	351.01	4.0E	228.7	2.0E	282.4	4.0E	471.4	15.0E	483.0
		10.0E	511.8	4.0E	592.5	1.0E	784.1	2.0E	1169.1
325.0	314.14	0.1M	31.4	2.0E	80.6	1.0E	163.7	4.0E	204.1
		2.0E	282.2	4.0E	456.3	15.0E	493.2	4.0E	556.6
330.0	286.24	1.0E	752.2	2.0E	1169.1				
		0.1M	31.4	2.0E	77.2	1.0E	171.2	4.0E	172.7
335.0	256.18	2.0E	287.4	4.0E	455.8	10.0E	494.7	4.0E	652.2
		1.0E	721.3	2.0E	1169.1				
340.0	241.40	0.1M	31.4	2.0E	74.3	1.0E	179.9	2.0E	296.0
		4.0E	452.3	10.0E	519.2	4.0E	611.6	2.0E	1169.1
345.0	244.95	1.5M	10.0	1.0M	30.9	2.0E	71.0	1.0E	191.0
		2.0E	311.4	4.0E	432.7	10.0E	514.5	4.0E	542.3
350.0	281.64	2.0E	933.9	6.0E	1169.1				
		1.5M	10.0	1.0M	30.9	2.0E	68.3	1.0E	205.3
355.0	309.97	2.0E	330.5	4.0E	407.6	10.0E	487.5	4.0E	511.1
		2.0E	871.8	6.0E	957.8	2.0E	984.2	2.0E	1169.1
360.0	309.97	1.5M	10.0	1.0M	30.9	2.0E	66.2	1.0E	222.2
		2.0E	349.3	4.0E	388.1	10.0E	450.4	4.0E	480.4
365.0	309.97	2.0E	702.6	2.0E	1169.1				
		1.0M	32.0	2.0E	65.5	1.0E	245.9	0.5E	269.0
370.0	309.97	2.0E	373.4	4.0E	401.0	10.0E	461.5	4.0E	495.5
		2.0E	662.6	2.0E	1169.1				
375.0	309.97	1.0M	32.0	2.0E	66.5	1.0E	241.0	0.5E	311.2
		2.0E	363.3	4.0E	421.9	6.0E	438.9	10.0E	489.9
380.0	309.97	4.0E	519.5	2.0E	648.2	2.0E	1169.1		
		1.0M	10.0	0.5M	19.0	0.1M	29.0	2.0E	68.1
385.0	309.97	1.0E	249.4	0.5E	356.5	4.0E	431.0	6.0E	501.9
		4.0E	543.9	2.0E	650.0	2.0E	1169.1		
390.0	309.97	1.0M	10.0	0.5M	19.0	0.1M	29.0	2.0E	70.6
		1.0E	261.0	0.5E	352.8	4.0E	447.9	6.0E	529.2
395.0	309.97	4.0E	570.5	2.0E	672.5	2.0E	1169.1		



Call: WJDA LICENSE

Quincy, MA

Coordinates: 42-15-35 North 70-58-36 West

Frequency: 1300 kHz

Azimuth	Radiation (mV/m at one km)	Ground Conductivity Data: Region conductivity in mS/m followed by distance in km to the end of region. E - map data; M - measurement data.							
0.0	304.17	5000.0E	11.0	2.0E	12.4	5000.0E	18.3	2.0E	219.1
		1.0E	297.0	0.5E	341.5	4.0E	510.9	5000.0E	528.3
		4.0E	594.2	2.0E	693.0	2.0E	1155.6		
5.0	304.17	5000.0E	19.7	2.0E	89.9	5000.0E	97.5	2.0E	242.2
		1.0E	381.1	4.0E	546.0	5000.0E	583.4	4.0E	641.0
		2.0E	746.9	2.0E	1155.6				
10.0	304.17	5000.0E	21.3	2.0E	31.0	5000.0E	31.8	2.0E	60.7
		5000.0E	64.1	2.0E	93.5	5000.0E	96.1	2.0E	264.2
		1.0E	529.3	4.0E	646.3	5000.0E	686.0	2.0E	807.5
		2.0E	1155.6						
15.0	304.17	5000.0E	23.2	2.0E	29.6	5000.0E	32.8	2.0E	52.8
		5000.0E	94.6	2.0E	286.2	1.0E	574.3	2.0E	723.9
		5000.0E	794.8	2.0E	796.5	5000.0E	806.5	2.0E	867.5
		2.0E	1155.6						
20.0	304.17	5000.0E	25.7	2.0E	28.6	5000.0E	34.2	2.0E	48.0
		5000.0E	138.2	2.0E	143.7	5000.0E	153.2	2.0E	171.8
		5000.0E	174.5	2.0E	312.1	1.0E	607.0	2.0E	799.9
		5000.0E	1155.6						
25.0	304.17	5000.0E	36.9	2.0E	47.9	5000.0E	197.1	2.0E	207.3
		5000.0E	227.4	2.0E	352.6	1.0E	574.8	2.0E	871.0
		5000.0E	1155.6						
30.0	304.17	5000.0E	41.0	2.0E	46.9	5000.0E	209.4	2.0E	221.4
		5000.0E	228.0	2.0E	389.6	1.0E	492.1	2.0E	744.2
		5000.0E	770.4	2.0E	1155.6				
35.0	304.17	5000.0E	240.5	2.0E	265.0	5000.0E	302.6	2.0E	366.7
		1.0E	459.6	2.0E	777.2	5000.0E	1155.6		
40.0	304.17	5000.0E	293.7	2.0E	297.9	5000.0E	324.5	2.0E	329.4
		5000.0E	330.7	2.0E	334.9	5000.0E	335.7	2.0E	365.7
		1.0E	433.9	2.0E	720.8	5000.0E	1155.6		
45.0	304.17	5000.0E	363.6	2.0E	380.1	5000.0E	384.2	1.0E	422.1
		5000.0E	425.5	1.0E	427.8	5000.0E	431.0	1.0E	434.0
		5000.0E	458.3	2.0E	1155.6				
50.0	304.17	5000.0E	538.5	2.0E	588.8	4.0E	1155.6		
55.0	304.17	5000.0E	527.4	2.0E	1155.6				
60.0	304.17	5000.0E	439.6	2.0E	1155.6				
65.0	304.17	5000.0E	433.8	2.0E	1155.6				
70.0	304.17	5000.0E	454.5	2.0E	456.1	5000.0E	466.8	2.0E	480.6
		5000.0E	1155.6						
75.0	304.17	5000.0E	1155.6						
80.0	304.17	5000.0E	1155.6						
85.0	304.17	5000.0E	1155.6						
90.0	304.17	5000.0E	8.6	2.0E	8.9	5000.0E	1155.6		
95.0	304.17	5000.0E	6.6	2.0E	13.3	5000.0E	1155.6		
100.0	304.17	5000.0E	5.3	2.0E	17.8	5000.0E	1155.6		
105.0	304.17	5000.0E	4.5	2.0E	19.2	5000.0E	1155.6		
110.0	304.17	5000.0E	3.9	2.0E	21.0	5000.0E	65.1	2.0E	68.5
		5000.0E	77.2	2.0E	82.0	5000.0E	1155.6		
115.0	304.17	5000.0E	3.5	2.0E	23.4	5000.0E	81.2	2.0E	86.1
		5000.0E	86.5	2.0E	90.9	5000.0E	1155.6		
120.0	304.17	5000.0E	3.2	2.0E	26.6	5000.0E	92.2	2.0E	98.7
		5000.0E	1155.6						
125.0	304.17	5000.0E	2.9	2.0E	31.1	5000.0E	93.0	2.0E	100.9
		5000.0E	1155.6						
130.0	304.17	5000.0E	2.8	2.0E	35.7	5000.0E	87.1	2.0E	102.1
		5000.0E	1155.6						
135.0	304.17	5000.0E	2.6	2.0E	36.6	5000.0E	83.7	2.0E	96.4

Call: WJDA LICENSE

Quincy, MA

Coordinates: 42-15-35 North 70-58-36 West

Frequency: 1300 kHz

Azimuth	Radiation (mV/m at one km)	Ground Conductivity Data: Region conductivity in mS/m followed by distance in km to the end of region. E - map data; M - measurement data.							
140.0	304.17	5000.0E	2.5	2.0E	37.7	5000.0E	41.5	2.0E	56.2
		5000.0E	73.4	2.0E	90.7	5000.0E	1155.6		
145.0	304.17	1.5M	30.6	2.0E	84.0	5000.0E	1155.6		
150.0	304.17	1.5M	30.6	2.0E	85.9	5000.0E	1155.6		
155.0	304.17	1.5M	30.6	2.0E	63.7	5000.0E	67.3	2.0E	85.9
		5000.0E	1155.6						
160.0	304.17	1.5M	30.6	2.0E	61.5	5000.0E	79.1	2.0E	85.1
		5000.0E	1155.6						
165.0	304.17	1.5M	30.6	2.0E	69.1	5000.0E	1155.6		
170.0	304.17	1.0M	12.5	0.5M	22.0	0.1M	28.2	2.0E	71.7
		5000.0E	1155.6						
175.0	304.17	1.0M	12.5	0.5M	22.0	0.1M	28.2	2.0E	72.0
		5000.0E	1155.6						
180.0	304.17	1.0M	12.5	0.5M	22.0	0.1M	28.2	2.0E	81.9
		5000.0E	1155.6						
185.0	304.17	1.0M	12.5	0.5M	22.0	0.1M	28.2	2.0E	76.3
		5000.0E	1155.6						
190.0	304.17	1.0M	24.5	0.5M	29.0	2.0E	86.7	5000.0E	1155.6
195.0	304.17	1.0M	24.5	0.5M	29.0	2.0E	62.1	5000.0E	62.2
		2.0E	74.0	5000.0E	1155.6				
200.0	304.17	1.0M	24.5	0.5M	29.0	2.0E	70.7	5000.0E	1155.6
205.0	304.17	1.0M	24.5	0.5M	29.0	2.0E	65.8	5000.0E	87.9
		2.0E	101.2	5000.0E	1155.6				
210.0	304.17	1.0M	21.0	0.1M	32.8	2.0E	62.8	5000.0E	66.0
		2.0E	73.3	5000.0E	74.8	2.0E	115.7	5000.0E	151.0
		0.5E	152.8	5000.0E	1155.6				
215.0	304.17	1.0M	21.0	0.1M	32.8	2.0E	127.6	5000.0E	167.1
		0.5E	178.6	5000.0E	768.7	4.0E	770.4	5000.0E	781.0
		4.0E	799.8	5000.0E	804.4	4.0E	816.3	5000.0E	819.8
		4.0E	820.2	5000.0E	841.3	4.0E	892.2	5000.0E	895.0
		4.0E	908.0	5000.0E	913.8	4.0E	953.2	5000.0E	957.3
		4.0E	1155.6						
220.0	304.17	1.0M	21.0	0.1M	32.8	2.0E	135.3	5000.0E	180.2
		0.5E	182.5	5000.0E	194.6	0.5E	198.8	5000.0E	199.3
		0.5E	208.4	5000.0E	558.7	2.0E	568.7	5000.0E	590.4
		2.0E	677.1	5000.0E	730.8	4.0E	747.3	5000.0E	762.7
		4.0E	803.5	2.0E	967.6	4.0E	1155.6		
225.0	304.17	1.0M	21.0	0.1M	32.8	2.0E	142.4	5000.0E	145.1
		2.0E	150.3	5000.0E	199.6	0.5E	235.4	5000.0E	386.0
		4.0E	449.7	5000.0E	449.9	4.0E	476.5	5000.0E	520.2
		4.0E	559.5	2.0E	606.5	5000.0E	660.2	4.0E	669.8
		5000.0E	670.5	4.0E	693.2	5000.0E	699.0	2.0E	722.9
		5000.0E	725.4	2.0E	981.8	4.0E	1020.9	2.0E	1155.6
230.0	304.17	0.5M	18.0	0.1M	31.4	2.0E	152.8	5000.0E	153.5
		2.0E	170.8	5000.0E	221.4	0.5E	272.0	5000.0E	333.2
		4.0E	490.7	5000.0E	499.7	4.0E	588.5	5000.0E	627.2
		4.0E	638.3	5000.0E	641.8	4.0E	665.2	5000.0E	676.9
		4.0E	694.5	2.0E	916.5	4.0E	1155.6		
235.0	304.17	0.5M	18.0	0.1M	31.4	2.0E	194.0	5000.0E	249.0
		4.0E	249.4	5000.0E	254.3	4.0E	274.4	5000.0E	275.5
		4.0E	286.7	0.5E	312.4	5000.0E	337.7	4.0E	447.6
		5000.0E	457.3	4.0E	464.3	5000.0E	473.4	4.0E	521.9
		5000.0E	537.5	4.0E	543.2	5000.0E	579.1	4.0E	587.6
		5000.0E	587.8	4.0E	591.5	5000.0E	592.5	4.0E	638.0
		5000.0E	640.8	4.0E	666.8	2.0E	1155.6		
240.0	304.17	0.5M	18.0	0.1M	31.4	2.0E	195.4	1.0E	264.3
		4.0E	561.7	2.0E	1155.6				

Call: WJDA LICENSE

Quincy, MA

Coordinates: 42-15-35 North 70-58-36 West

Frequency: 1300 kHz

Azimuth	Radiation (mV/m at one km)	Ground Conductivity Data:							
		Region conductivity in mS/m followed by distance in km to the end of region. E - map data; M - measurement data.							
245.0	304.17	0.5M	18.0	0.1M	31.4	2.0E	187.7	1.0E	257.9
		4.0E	305.0	2.0E	356.5	4.0E	581.3	2.0E	1155.6
250.0	304.17	1.5M	22.0	0.1M	25.4	2.0E	181.3	1.0E	241.1
		4.0E	294.3	2.0E	617.9	4.0E	1155.6		
255.0	304.17	1.5M	22.0	0.1M	25.4	2.0E	171.7	1.0E	213.7
		4.0E	453.4	2.0E	588.8	4.0E	646.4	2.0E	700.6
		4.0E	1155.6						
260.0	304.17	5000.0E	1.0	2.0E	143.3	1.0E	198.4	4.0E	507.4
		2.0E	728.6	4.0E	1155.6				
265.0	304.17	5000.0E	1.0	2.0E	121.4	1.0E	187.7	4.0E	614.6
		2.0E	747.7	8.0E	1155.6				
270.0	304.17	5000.0E	1.1	2.0E	110.9	1.0E	180.5	4.0E	1155.6
275.0	304.17	5000.0E	1.2	2.0E	98.3	1.0E	176.9	4.0E	659.0
		8.0E	723.0	10.0E	1155.6				
280.0	304.17	5000.0E	1.3	2.0E	79.1	1.0E	174.8	4.0E	546.3
		8.0E	663.0	20.0E	1155.6				
285.0	304.17	5000.0E	1.4	2.0E	63.7	1.0E	174.0	4.0E	500.9
		8.0E	505.0	4.0E	516.5	8.0E	659.7	15.0E	708.9
		6.0E	723.2	10.0E	746.2	4.0E	1155.6		
290.0	304.17	5000.0E	1.6	2.0E	58.3	1.0E	174.5	4.0E	250.6
		2.0E	302.2	4.0E	453.2	8.0E	496.3	15.0E	621.7
		6.0E	723.0	4.0E	1155.6				
295.0	304.17	5000.0E	1.8	2.0E	54.2	1.0E	176.3	4.0E	200.8
		2.0E	292.5	4.0E	458.4	8.0E	487.8	15.0E	518.2
		4.0E	520.7	15.0E	523.6	10.0E	531.3	15.0E	531.8
		10.0E	534.6	15.0E	535.8	4.0E	616.8	6.0E	730.4
		4.0E	731.6	1.0E	765.1	10.0E	1155.6		
300.0	304.17	5000.0E	2.2	2.0E	51.2	1.0E	179.0	2.0E	288.4
		4.0E	475.9	15.0E	481.2	10.0E	514.8	4.0E	597.2
		1.0E	803.0	2.0E	1155.6				
305.0	304.17	5000.0E	2.7	2.0E	49.1	1.0E	183.0	2.0E	289.5
		4.0E	460.0	10.0E	492.8	4.0E	559.4	1.0E	760.4
		2.0E	1155.6						
310.0	304.17	5000.0E	3.7	2.0E	47.4	1.0E	188.6	2.0E	294.1
		4.0E	452.2	10.0E	497.7	4.0E	649.9	1.0E	734.9
		2.0E	1155.6						
315.0	304.17	5000.0E	5.8	2.0E	46.2	1.0E	196.2	2.0E	303.4
		4.0E	441.3	10.0E	517.0	4.0E	598.1	2.0E	1155.6
320.0	304.17	5000.0E	9.2	2.0E	45.4	1.0E	204.8	2.0E	315.4
		4.0E	404.8	10.0E	495.4	4.0E	526.3	2.0E	949.1
		6.0E	1155.6						
325.0	304.17	5000.0E	9.9	2.0E	44.9	1.0E	216.3	2.0E	326.8
		4.0E	376.5	10.0E	452.5	4.0E	483.9	2.0E	875.1
		6.0E	995.7	2.0E	1155.6				
330.0	304.17	5000.0E	10.8	2.0E	45.3	1.0E	215.0	0.5E	256.0
		2.0E	345.5	4.0E	366.2	10.0E	427.7	4.0E	458.9
		2.0E	691.2	2.0E	1034.4	2.0E	1155.6		
335.0	304.17	5000.0E	11.2	2.0E	46.5	1.0E	214.4	0.5E	280.1
		2.0E	338.5	4.0E	386.4	10.0E	441.0	4.0E	472.5
		2.0E	640.0	2.0E	1155.6				
340.0	304.17	5000.0E	11.0	2.0E	48.2	1.0E	218.4	0.5E	311.6
		2.0E	326.3	4.0E	392.5	6.0E	420.7	10.0E	459.4
		4.0E	489.9	2.0E	618.2	2.0E	1155.6		
345.0	304.17	5000.0E	10.9	2.0E	51.7	1.0E	224.4	0.5E	317.6
		4.0E	397.6	6.0E	467.4	4.0E	507.7	2.0E	613.5
		2.0E	1155.6						
350.0	304.17	5000.0E	10.8	2.0E	57.8	1.0E	233.6	0.5E	311.7
		4.0E	410.8	6.0E	488.5	4.0E	527.3	2.0E	625.5

Call: WCCC  
West Hartford, CT  
Coordinates: 41-47-48 North 72-47-50 West  
Frequency: 1290 kHz

Azimuth	Radiation (mV/m at one km)	Ground Conductivity Data: Region conductivity in mS/m followed by distance in km to the end of region. E - map data; M - measurement data.							
0.0	250.98	2.0E	20.0	1.0E	162.3	2.0E	356.7	4.0E	415.1
		6.0E	455.4	10.0E	489.3	4.0E	534.3	2.0E	651.0
		2.0E	1114.4						
5.0	250.98	2.0E	21.2	1.0E	219.6	2.0E	240.9	0.5E	309.0
		2.0E	358.6	4.0E	436.2	6.0E	528.4	4.0E	574.9
		2.0E	691.5	2.0E	1114.4				
10.0	250.98	2.0E	22.6	1.0E	241.7	0.5E	363.6	4.0E	477.7
		6.0E	555.3	4.0E	629.5	2.0E	754.7	2.0E	1114.4
15.0	250.98	2.0E	24.4	1.0E	264.0	0.5E	371.7	4.0E	592.8
		5000.0E	621.3	4.0E	712.1	2.0E	840.9	2.0E	1114.4
20.0	250.98	2.0E	26.7	1.0E	297.7	0.5E	419.5	4.0E	743.2
		5000.0E	836.5	2.0E	937.8	2.0E	1114.4		
25.0	250.98	2.0E	29.9	1.0E	674.9	2.0E	868.7	5000.0E	937.1
		2.0E	947.8	5000.0E	1114.4				
30.0	250.98	2.0E	35.3	1.0E	246.4	2.0E	350.5	1.0E	713.5
		2.0E	979.9	5000.0E	1114.4				
35.0	250.98	2.0E	45.7	1.0E	228.6	2.0E	419.5	1.0E	667.9
		2.0E	863.4	5000.0E	892.8	2.0E	1114.4		
40.0	250.98	2.0E	75.3	1.0E	216.6	2.0E	518.2	1.0E	603.4
		2.0E	912.5	5000.0E	1114.4				
45.0	250.98	2.0E	90.1	1.0E	203.0	2.0E	293.9	5000.0E	330.8
		2.0E	337.5	5000.0E	341.5	2.0E	354.6	5000.0E	356.7
		2.0E	445.0	5000.0E	447.4	2.0E	502.5	1.0E	588.5
		2.0E	1114.4						
50.0	250.98	2.0E	103.3	1.0E	183.2	2.0E	221.1	5000.0E	225.4
		2.0E	225.6	5000.0E	437.6	2.0E	439.8	5000.0E	481.0
		2.0E	518.2	1.0E	584.4	5000.0E	603.5	2.0E	782.5
		4.0E	1114.4						
55.0	250.98	2.0E	195.2	5000.0E	1114.4				
60.0	250.98	2.0E	193.8	5000.0E	608.9	2.0E	1114.4		
65.0	250.98	2.0E	163.2	5000.0E	589.6	2.0E	1114.4		
70.0	250.98	2.0E	157.6	5000.0E	1114.4				
75.0	250.98	1.0M	8.0	0.5M	23.0	0.1M	86.1	2.0E	176.1
		5000.0E	1114.4						
80.0	250.98	1.0M	8.0	0.5M	23.0	0.1M	86.1	2.0E	180.7
		5000.0E	1114.4						
85.0	250.98	1.0M	8.0	0.5M	23.0	0.1M	86.1	2.0E	187.2
		5000.0E	225.1	2.0E	232.6	5000.0E	1114.4		
90.0	250.98	1.0M	8.0	0.5M	23.0	0.1M	86.1	2.0E	117.7
		5000.0E	118.8	2.0E	192.0	5000.0E	222.6	2.0E	237.5
		5000.0E	1114.4						
95.0	250.98	1.0M	24.0	0.1M	66.0	2.0E	118.8	5000.0E	125.2
		2.0E	129.2	5000.0E	133.0	2.0E	168.8	5000.0E	179.5
		2.0E	197.3	5000.0E	1114.4				
100.0	250.98	1.0M	24.0	0.1M	66.0	2.0E	116.8	5000.0E	134.5
		2.0E	145.7	5000.0E	147.5	2.0E	157.0	5000.0E	1114.4
105.0	250.98	1.0M	24.0	0.1M	66.0	2.0E	120.0	5000.0E	1114.4
110.0	250.98	1.0M	24.0	0.1M	66.0	2.0E	115.4	5000.0E	116.0
		2.0E	118.8	5000.0E	1114.4				
115.0	250.98	0.1M	62.8	2.0E	110.5	5000.0E	1114.4		
120.0	250.98	0.1M	62.8	2.0E	100.7	5000.0E	1114.4		
125.0	250.98	2.0E	88.7	5000.0E	1114.4				
130.0	250.98	2.0E	76.0	5000.0E	78.8	2.0E	80.6	5000.0E	1114.4
135.0	250.98	2.0E	68.9	5000.0E	1114.4				
140.0	250.98	2.0E	72.1	5000.0E	106.6	0.5E	110.2	5000.0E	1114.4
145.0	250.98	2.0E	60.4	5000.0E	106.4	0.5E	109.7	5000.0E	1114.4

Call: WCCC  
West Hartford, CT  
Coordinates: 41-47-48 North 72-47-50 West  
Frequency: 1290 kHz

Azimuth	Radiation (mV/m at one km)	Ground Conductivity Data: Region conductivity in mS/m followed by distance in km to the end of region. E - map data; M - measurement data.							
150.0	250.98	2.0E	65.1	5000.0E	82.0	0.5E	85.8	5000.0E	96.0
		0.5E	108.3	5000.0E	1114.4				
155.0	250.98	2.0E	64.2	5000.0E	82.3	0.5E	86.1	5000.0E	96.4
		0.5E	107.6	5000.0E	1114.4				
160.0	250.98	2.0E	63.3	5000.0E	84.5	0.5E	89.6	5000.0E	98.0
		0.5E	107.6	5000.0E	1114.4				
165.0	250.98	2.0E	61.1	5000.0E	87.5	0.5E	93.4	5000.0E	102.9
		0.5E	105.8	5000.0E	1114.4				
170.0	250.98	2.0E	59.5	5000.0E	91.4	0.5E	96.9	5000.0E	100.1
		0.5E	111.1	5000.0E	1114.4				
175.0	250.98	2.0E	59.6	5000.0E	91.7	0.5E	111.5	5000.0E	1114.4
180.0	250.98	2.0E	60.3	5000.0E	91.9	0.5E	113.5	5000.0E	1114.4
185.0	250.98	2.0E	61.5	5000.0E	92.9	0.5E	116.5	5000.0E	1114.4
190.0	250.98	2.0E	57.8	5000.0E	94.3	0.5E	120.8	5000.0E	1114.4
195.0	250.98	2.0E	62.9	1.0E	65.6	5000.0E	95.4	0.5E	124.6
		5000.0E	1114.4						
200.0	250.98	2.0E	50.6	1.0E	71.2	5000.0E	107.0	0.5E	131.6
		5000.0E	1114.4						
205.0	250.98	2.0E	42.6	1.0E	76.9	5000.0E	106.1	4.0E	108.5
		0.5E	140.0	5000.0E	662.3	4.0E	671.1	5000.0E	672.5
		4.0E	683.3	5000.0E	707.1	4.0E	773.8	5000.0E	797.2
		4.0E	798.9	5000.0E	803.1	4.0E	803.6	5000.0E	1114.4
210.0	250.98	2.0E	37.1	1.0E	86.6	5000.0E	111.8	4.0E	117.2
		0.5E	153.8	5000.0E	206.7	4.0E	220.7	5000.0E	222.4
		4.0E	314.9	5000.0E	317.1	4.0E	365.0	5000.0E	393.8
		4.0E	399.0	2.0E	547.7	5000.0E	615.7	4.0E	621.0
		5000.0E	626.4	4.0E	704.4	5000.0E	715.8	4.0E	719.1
		2.0E	775.9	4.0E	1114.4				
215.0	250.98	2.0E	32.6	1.0E	100.0	5000.0E	122.4	4.0E	123.6
		5000.0E	129.0	4.0E	142.0	0.5E	154.5	5000.0E	159.8
		0.5E	163.2	5000.0E	184.8	4.0E	351.7	5000.0E	378.1
		4.0E	428.3	2.0E	473.6	5000.0E	530.3	4.0E	531.5
		5000.0E	536.9	4.0E	555.8	5000.0E	561.2	2.0E	592.3
		5000.0E	595.7	2.0E	613.0	5000.0E	617.8	2.0E	837.9
		4.0E	890.4	2.0E	1114.4				
220.0	250.98	2.0E	29.3	1.0E	116.0	4.0E	141.0	5000.0E	145.4
		4.0E	146.9	5000.0E	166.5	4.0E	183.0	5000.0E	191.0
		4.0E	347.2	5000.0E	354.4	4.0E	449.9	5000.0E	454.7
		4.0E	459.1	5000.0E	466.5	2.0E	470.3	5000.0E	472.0
		2.0E	477.3	5000.0E	486.7	4.0E	494.5	5000.0E	497.6
		4.0E	514.7	5000.0E	521.3	4.0E	549.8	5000.0E	553.0
		2.0E	843.4	4.0E	883.7	2.0E	1114.4		
225.0	250.98	2.0E	26.8	1.0E	110.6	4.0E	298.9	5000.0E	305.2
		4.0E	327.1	5000.0E	341.1	4.0E	411.8	5000.0E	414.4
		4.0E	419.5	5000.0E	454.5	4.0E	519.6	5000.0E	522.7
		4.0E	547.0	2.0E	768.3	4.0E	1114.4		
230.0	250.98	2.0E	24.9	1.0E	105.3	4.0E	171.3	2.0E	174.0
		4.0E	426.9	5000.0E	430.5	4.0E	464.8	2.0E	1114.4
235.0	250.98	2.0E	23.4	1.0E	100.2	4.0E	153.0	2.0E	193.9
		4.0E	410.1	2.0E	1114.4				
240.0	250.98	2.0E	22.2	1.0E	94.2	4.0E	139.7	2.0E	202.0
		4.0E	440.4	2.0E	1114.4				
245.0	250.98	2.0E	21.3	1.0E	83.4	4.0E	134.7	2.0E	210.9
		4.0E	242.7	2.0E	323.5	4.0E	373.8	2.0E	494.1
		4.0E	676.2	2.0E	1114.4				
250.0	250.98	2.0E	20.1	1.0E	74.1	4.0E	138.0	2.0E	444.5
		4.0E	675.3	2.0E	1114.4				

Call: WCCC  
West Hartford, CT  
Coordinates: 41-47-48 North 72-47-50 West  
Frequency: 1290 kHz

Azimuth	Radiation (mV/m at one km)	Ground Conductivity Data: Region conductivity in mS/m followed by distance in km to the end of region. E - map data; M - measurement data.							
255.0	250.98	2.0E	19.0	1.0E	65.5	4.0E	145.9	2.0E	171.2
		4.0E	292.7	2.0E	430.2	4.0E	486.4	2.0E	543.2
		4.0E	804.3	2.0E	1114.4				
260.0	250.98	2.0E	18.1	1.0E	59.0	4.0E	315.1	2.0E	565.8
		4.0E	709.6	8.0E	1114.4				
265.0	250.98	2.0E	17.5	1.0E	54.2	4.0E	399.6	2.0E	598.8
		4.0E	609.5	8.0E	1114.4				
270.0	250.98	2.0E	17.0	1.0E	51.2	4.0E	496.8	2.0E	582.9
		8.0E	1114.4						
275.0	250.98	2.0E	16.7	1.0E	49.5	4.0E	624.2	8.0E	726.7
		10.0E	1114.4						
280.0	250.98	2.0E	16.5	1.0E	48.3	4.0E	522.4	8.0E	580.0
		10.0E	718.4	20.0E	1114.4				
285.0	250.98	2.0E	16.2	1.0E	47.4	4.0E	420.1	8.0E	436.9
		4.0E	488.3	8.0E	518.7	10.0E	529.6	20.0E	534.6
		10.0E	538.6	20.0E	627.0	4.0E	693.9	6.0E	703.1
		20.0E	766.9	10.0E	793.7	8.0E	1114.4		
290.0	250.98	2.0E	15.8	1.0E	47.0	4.0E	414.3	8.0E	540.5
		15.0E	592.2	10.0E	613.3	4.0E	665.5	6.0E	760.7
		10.0E	798.7	8.0E	1114.4				
295.0	250.98	2.0E	15.5	1.0E	46.9	4.0E	413.8	8.0E	507.0
		15.0E	562.5	6.0E	609.4	4.0E	705.5	6.0E	764.0
		10.0E	827.7	8.0E	1114.4				
		2.0E	15.4	1.0E	47.1	4.0E	363.3	8.0E	419.1
300.0	250.98	15.0E	506.1	6.0E	616.9	4.0E	658.6	10.0E	746.4
		4.0E	751.9	10.0E	752.5	4.0E	756.8	10.0E	758.0
		4.0E	776.7	10.0E	778.2	4.0E	1114.4		
		2.0E	15.4	1.0E	47.8	4.0E	344.3	8.0E	384.6
305.0	250.98	15.0E	418.1	4.0E	499.6	6.0E	599.3	1.0E	1114.4
		2.0E	15.5	1.0E	48.8	4.0E	366.5	8.0E	387.6
310.0	250.98	15.0E	419.7	10.0E	433.8	4.0E	522.5	1.0E	697.4
		2.0E	1114.4						
315.0	250.98	2.0E	15.7	1.0E	50.2	4.0E	386.0	15.0E	398.8
		10.0E	425.7	4.0E	489.7	1.0E	675.9	2.0E	1114.4
320.0	250.98	2.0E	16.0	1.0E	52.2	4.0E	169.6	2.0E	204.0
		4.0E	380.4	15.0E	417.6	4.0E	485.0	1.0E	665.6
		2.0E	1114.4						
325.0	250.98	2.0E	16.5	1.0E	55.3	4.0E	162.0	2.0E	207.2
		4.0E	388.1	10.0E	426.2	4.0E	583.5	2.0E	1114.4
330.0	250.98	2.0E	16.6	1.0E	60.0	4.0E	156.4	2.0E	214.1
		4.0E	394.2	10.0E	457.7	4.0E	523.0	2.0E	882.3
		6.0E	1010.1	2.0E	1114.4				
335.0	250.98	2.0E	16.8	1.0E	66.2	4.0E	150.4	2.0E	226.4
		4.0E	395.3	10.0E	463.2	4.0E	492.3	2.0E	834.2
		6.0E	919.7	2.0E	933.8	2.0E	1114.4		
340.0	250.98	2.0E	17.1	1.0E	74.4	4.0E	144.9	2.0E	242.9
		4.0E	380.6	10.0E	455.5	4.0E	476.9	2.0E	702.7
		2.0E	1114.4						
345.0	250.98	2.0E	17.5	1.0E	85.7	4.0E	139.2	2.0E	270.5
		4.0E	369.7	10.0E	430.4	4.0E	453.9	2.0E	655.2
		2.0E	1114.4						
350.0	250.98	2.0E	18.1	1.0E	102.0	4.0E	134.0	2.0E	304.6
		4.0E	362.1	10.0E	423.8	4.0E	460.9	2.0E	634.9
		2.0E	1114.4						
355.0	250.98	2.0E	18.9	1.0E	126.7	4.0E	127.7	2.0E	347.7
		4.0E	380.1	10.0E	457.4	4.0E	496.8	2.0E	635.3
		2.0E	1114.4						

Call: WEIM  
Fitchburg, MA  
Coordinates: 42-35-40 North 71-50-12 West  
Frequency: 1280 kHz

FCC M3 conductivity employed along all azimuths

Call: WARL  
Attleboro, MA  
Coordinates: 41-57-33 North 71-19-37 West  
Frequency: 1320 kHz

FCC M3 conductivity employed along all azimuths

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
RADIO STATION WRNI  
PROVIDENCE, RHODE ISLAND

1290 KHZ    10 KW    U    DA-2

Field Strength Measurements



Radio Station: WRNI

0 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/19/01	
1	3.38	1802	32.0
2	4.18	1759	21.0
3	5.31	1755	10.1
4	6.76	1750	5.50
5	8.37	1745	5.20
6	8.85	1740	6.30
7	10.46	1732	2.80
8	11.75	1729	2.60
9	12.71	1724	1.60
10	13.68	1716	2.20
11	15.29	1706	1.40
12	17.54	1659	1.00
13	19.31	1654	0.710
14	20.60	1644	0.430
15	22.05	1639	0.540
16	23.17	1636	0.650
17	24.30	1623	0.360
18	25.75	1608	0.500
19	27.36	1600	0.560
20	28.97	1554	0.370

Radio Station: WRNI

20 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/19/01	
1	3.38	1257	31.0
2	4.51	1305	21.5
3	5.63	1314	9.40
4	6.76	1320	7.80
5	7.89	1329	5.60
6	9.98	1343	2.70
7	11.59	1351	2.70
8	13.20	1356	1.95
9	13.84	1403	1.75
10	14.97	1407	1.10
11	16.74	1413	1.05
12	18.83	1424	0.800
13	20.92	1431	0.510
14	22.53	1435	0.600
15	24.46	1441	0.500
16	25.91	1445	0.410
17	27.36	1450	0.230
18	28.49	1457	0.300
19	30.42	1508	0.260
20	31.38	1504	0.250

Radio Station: WRNI

40 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		7/5/01* 6/8/01	
1	3.54	1350*	28.0
2	4.99	1356*	27.0
3	6.44	1406*	10.0
4	8.05	1413*	9.90
5	9.33	1417*	5.30
6	11.43	1426*	2.10
7	12.55	1434*	3.10
8	14.32	1441*	2.50
9	16.25	1448*	1.10
10	17.70	1459*	0.890
11	19.31	1516*	0.950
12	21.40	918	0.760
13	22.21	930	0.530
14	22.69	937	0.500
15	23.66	947	0.620
16	24.30	956	0.520
17	25.59	1006	0.470
18	26.55	1013	0.490
19	27.36	1030	0.460
20	28.49	1039	0.400
21	29.93	1050	0.260
22	30.74	1145	0.320
23	31.87	1154	0.140
24	33.47	1201	0.230
25	34.28	1208	0.210
26	35.24	1215	0.320
27	36.21	1223	0.200

Radio Station: WRNI

60 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		7/5/01* 6/8/01	
1	3.70	1720*	39.0
2	5.31	1712*	16.0
3	6.60	1703*	10.5
4	8.21	1642*	6.90
5	10.62	1647*	3.70
6	13.04	1640*	2.20
7	14.97	1633*	1.10
8	18.51	1623*	0.320
9	20.92	1611*	0.390
10	22.53	1608*	0.800
11	24.14	1604*	0.560
12	24.46	1722	0.450
13	25.27	1711	0.500
14	26.72	1704	0.450
15	28.32	1656	0.360
16	29.13	1650	0.210
17	30.26	1642	0.280
18	31.70	1634	0.200
19	32.99	1626	0.160
20	34.60	1618	0.230
21	35.73	1612	0.180
22	37.66	1555	0.210
23	39.59	1546	0.150
24	40.23	1538	0.130
25	41.52	1523	0.120
26	42.81	1508	0.145
27	43.29	1504	0.135
28	44.74	1456	0.110
29	45.71	1450	0.110
30	46.99	1442	0.120
31	47.80	1431	0.100
32	48.76	1425	0.100
33	49.89	1416	0.090
34	50.86	1408	0.095

Radio Station: WRNI

70 Degree Stub Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/29/01	
1	32.67	1007	0.210
2	33.31	1016	0.240
3	34.92	1027	0.200
4	36.21	1037	0.250
5	37.66	1049	0.310
6	39.27	1055	0.130
7	40.88	1106	0.120
8	42.00	1114	0.070
9	43.13	1121	0.092
10	45.22	1202	0.065

Radio Station: WRNI

280 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/20/01	
1	3.22	1215	22.0
2	5.63	1222	6.90
3	7.24	1230	4.40
4	9.17	1254	5.20
5	11.10	1300	2.50
6	13.20	1307	1.00
7	15.29	1312	0.900
8	16.09	1315	0.880
9	16.74	1317	0.850
10	17.70	1321	0.790
11	18.51	1330	0.800
12	19.15	1336	0.700
13	19.79	1340	0.500
14	20.28	1343	0.400
15	21.57	1354	0.410
16	22.21	1357	0.480
17	25.27	1407	0.450
18	28.97	1422	0.120
19	31.38	1457	0.170
20	31.70	1459	0.200

Radio Station: WRNI

310.5 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/20/01	
1	3.22	1406	26.5
2	4.02	1409	20.5
3	5.31	1414	8.30
4	6.44	1418	2.90
5	8.05	1423	3.60
6	8.85	1427	2.30
7	9.66	1430	2.50
8	10.30	1433	2.40
9	11.10	1440	1.20
10	12.07	1449	1.00
11	13.20	1509	1.00
12	14.48	1506	0.58
13	15.29	1503	0.25
14	16.25	1501	0.40
15	20.60	1550	0.48
16	23.34	1614	0.45
17	25.75	1631	0.24
18	28.65	1640	0.25
19	29.61	1645	0.13
20	31.38	1650	0.13

**Radio Station: WJDA**

155 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/14/01	
1	1.61	1348	210
2	4.83	1332	29.0
3	9.50	1313	6.20
4	14.97	1257	1.50
5	17.86	1240	0.980
6	18.83	1236	0.980
7	19.63	1223	0.800
8	20.60	1154	0.720
9	21.40	1150	0.700
10	22.21	1136	0.440
11	23.01	1120	0.620
12	23.98	1114	0.620
13	24.94	1110	0.420
14	25.91	1103	0.500
15	26.55	1059	0.510
16	27.20	1055	0.420
17	28.16	1050	0.350
18	28.97	1047	0.320
19	29.93	1044	0.350
20	30.58	1040	0.330



Radio Station: WJDA

175 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/15/01 6/8/01*	
1	3.22	1350	36.0
2	4.35	1344	24.5
3	5.79	1337	10.5
4	9.01	1324	3.90
5	10.14	1319	2.80
6	11.59	1312	1.90
7	12.39	1310	1.10
8	12.87	1307	1.60
9	14.48	1255	1.00
10	15.29	1235	0.900
11	16.74	1206*	0.500
12	18.02	1159*	0.580
13	19.31	1102*	0.540
14	19.96	1055*	0.620
15	20.28	1049*	0.480
16	21.08	1043*	0.480
17	21.73	1039*	0.450
18	22.69	1036*	0.500
19	23.34	1032*	0.340
20	24.62	1026*	0.260
21	25.59	1021*	0.310
22	26.23	1019*	0.250
23	26.72	1014*	0.250
24	27.52	1011*	0.235
25	28.16	1007*	0.230

Radio Station: WJDA

195 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/15/01 6/8/01*	
1	3.54	1355	25.0
2	5.63	1412	11.0
3	6.44	1419	10.0
4	8.69	1421	5.10
5	10.30	1430	2.70
6	12.07	1441	1.70
7	13.04	1449	1.00
8	13.68	1459	1.00
9	14.48	1503	1.10
10	15.13	1506	1.00
11	16.25	1234*	0.590
12	17.06	1238*	0.900
13	18.02	1245*	1.00
14	18.67	1249*	0.990
15	19.47	1253*	0.980
16	20.76	1259*	0.650
17	21.89	1304*	0.850
18	23.17	1319*	0.880
19	23.50	1335*	0.520
20	23.82	1337*	0.480
21	24.62	1341*	0.440
22	25.59	1345*	0.360
23	27.04	1349*	0.260
24	28.49	1354*	0.320
25	28.65	1358*	0.310
26	28.97	1404*	0.310

Radio Station: WJDA

215 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/15/01 6/8/01*	
1	3.38	1637	39.0
2	4.02	1634	30.0
3	5.47	1627	11.0
4	6.44	1608	10.0
5	7.24	1601	6.90
6	8.85	1557	2.60
7	10.78	1546	2.40
8	13.04	1533	1.90
9	14.32	1527	1.50
10	15.45	1522	0.950
11	18.51	1556*	1.00
12	18.83	1553*	0.800
13	19.15	1541*	1.00
14	19.63	1545*	0.840
15	20.44	1536*	0.600
16	20.92	1533*	0.370
17	22.37	1528*	0.520
18	23.34	1521*	0.230
19	24.94	1515*	0.250
20	27.36	1459*	0.230
21	28.81	1453*	0.220
22	29.77	1449*	0.170
23	30.90	1445*	0.160
24	32.03	1441*	0.210
25	32.83	1438*	0.140

**Radio Station: WJDA**

235 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/14/01	
1	1.61	1435	80.0
2	4.83	1444	20.0
3	5.47	1451	18.0
4	6.28	1456	8.00
5	8.05	1504	3.30
6	9.33	1509	2.10
7	11.59	1517	1.30
8	12.55	1522	1.70
9	14.16	1539	1.30
10	16.09	1545	0.900
11	17.70	1604	0.640
12	18.67	1608	0.500
13	20.92	1613	0.600
14	22.53	1620	0.290
15	23.50	1634	0.350
16	25.91	1645	0.210
17	27.52	1652	0.100
18	28.97	1658	0.340
19	29.93	1702	0.160
20	31.38	1708	0.170

**Radio Station: WJDA**

245 Degree Stub Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/29/01	
1	19.15	1413	0.92
2	20.76	1400	0.92
3	22.69	1342	0.66
4	24.78	1348	0.35
5	25.43	1453	0.25

Radio Station: WCCC

81 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/22/01	
1	2.57	1527	15.0
2	3.86	1519	15.0
3	4.51	1514	10.0
4	5.79	1452	5.60
5	6.44	1446	5.10
6	7.56	1434	5.20
7	8.37	1425	2.30
8	9.33	1419	2.10
9	10.30	1409	1.40
10	10.94	1406	1.00
11	11.27	1359	1.45
12	11.59	1352	1.30
13	12.71	1347	2.30
14	14.81	1335	0.720
15	15.93	1325	0.760
16	23.34	1209	0.360
17	31.87	1151	0.130
18	37.34	1134	0.075
19	43.77	1119	0.048
20	50.21	1105	0.042
21	53.43	1055	0.026
22	59.87	1039	0.031
23	67.59	1017	0.026
24	74.19	956	0.022
25	82.08	934	0.016
26	86.10	925	0.010

**Radio Station: WCCC**

101 Degree Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/21/01	
1	1.61	1817	40.0
2	2.41	1829	12.0
3	3.22	1831	13.0
4	4.02	1834	13.0
5	4.99	1836	9.00
6	6.60	1840	6.00
7	8.05	1843	3.60
8	9.82	1850	2.40
9	12.87	1736	0.400
10	16.09	1731	0.840
11	17.70	1729	0.750
12	20.92	1724	0.700
13	22.53	1721	0.480
14	24.14	1716	0.380
15	37.01	1659	0.045
16	48.28	1641	0.050
17	53.11	1609	0.035
18	54.72	1556	0.040
19	61.48	1601	0.030
20	65.98	1622	0.024

Radio Station: WCCC

111 Degree Stub Radial - Day

Point Desig.	Distance (km)	Date & Time (local)	Field Strength (mV/m)
		6/22/01	
1	38.62	1517	0.052
2	48.28	1508	0.050
3	51.50	1411	0.060
4	56.33	1404	0.050
5	59.55	1422	0.040
6	62.76	1440	0.030



