

APPENDIX TO ENGINEERING REPORT COVERING  
REQUEST FOR CONSTRUCTION PERMIT  
TECHNICAL NARRATIVE IN SUPPORT OF CITY OF LICENSE CHANGE  
ON BEHALF OF MARSHFIELD BROADCASTING CO., INC.  
FOR WMEX 1510 KILOHERTZ  
QUINCY, MASSACHUSETTS

JUNE 2018

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STATEMENT

This technical narrative and accompanying engineering exhibits have been prepared on behalf of Marshfield Broadcasting Co., Inc., hereinafter referred to as “Marshfield”, licensee of station WMEX Boston, Massachusetts, in support of an application for construction permit. The minor modification application includes a request to change city of license from Boston, Massachusetts to Quincy, Massachusetts. This proposal is classified an intra-urban move as defined in *Rural Radio*<sup>1</sup>, since Quincy<sup>2</sup> and Boston<sup>3</sup> are located in the Boston Urbanized Area.

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<sup>1</sup> See *Policies to Promote Rural Radio Service and to Streamline Allotment and Assignment Procedures*, Second Report and Order, First Order on Reconsideration, and Second Further Notice of Proposed Rulemaking, 26 FCC Rcd 2556 (2011) (“*Rural Radio*”) and Second Order on Reconsideration, adopted October 11, 2012 (“*Second Order on Recon*”).

<sup>2</sup> Population 93,688, source 2016 US Census estimate

<sup>3</sup> Population 685,064, source 2017 US Census estimate

Due to the short distance between the licensed and proposed transmitter sites, it can be safely concluded the facilities specified in the instant modification are mutually exclusive with the WLLH licensed facilities<sup>4</sup>. Therefore, this application qualifies for a city of license change and the modification is appropriately requested as a minor modification application. See 47 C.F.R. Section 73.3571(j).

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<sup>4</sup> The distance between transmitter sites is 18.0 kilometers.

**TABLE OF EXHIBITS ACCOMPANYING THIS NARRATIVE**

FIGURE 1A	WMEX 2 mV/m Service Comparison Map
FIGURE 2A	Map of Protected AM Service to Existing Community of License
FIGURE 3A	Map of Protected FM Service to Existing Community of License
FIGURE 4A	Map of City Grade Service to Proposed Community of License
TABLE 1A	Table of AM Stations Providing Service to Existing Community of License
TABLE 2A	Table of FM Stations Providing Service to Existing Community of License

### AREA AND POPULATION DATA

The 2 mV/m contour population associated with this proposal provides service to 2,380,613 persons within a land area of 1664.3 square kilometers, while the licensed 2 mV/m contour provides service to 3,452,539 persons within a land area of 3901.3 square kilometers. Figure 1A provides a mapping of the 2 mV/m contours.

The proposed population gain is 49,475 persons and the proposed land area gain is 86.0 square kilometers. The proposed population loss is 1,121,542 persons and the proposed land area loss is 2313.4 square kilometers. Overall, there is a net population loss of 1,072,067 persons and net area loss of 2274.4 square kilometers within the proposed 2 mV/m contour. All population counts and area computations are within the Boston Urbanized Area.

### EXISTING SERVICE

There are 47 stations, 20 AM and 27 FM, excluding WMEX, that provide service to Boston<sup>5</sup>. It is obvious by looking at Figures 2A and 3A that the 2 mV/m contour loss area will continue to be well served by numerous other aural services. The proposal to relocate to Quincy will provide Quincy with its second local service and not result in the creation of any “white” or “grey” service area. (The service count is based on stations which provide service to at least 80 percent of the area of Quincy. As per FCC rules,

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<sup>5</sup> See Figures 2A and 3A, Tables 1A and 2A.

service for AM facilities is the daytime 2 mv/m contour, and for FM facilities, the 60 dbu contour except for Class B and B1 facilities, which are respectively the 54 and 57 dbu contours.)

### COMPLIANCE WITH FCC RULES

Operation from the proposed transmitter site must provide the requisite daytime city grade 5 mV/m service to 100% of Quincy as per Section 73.24(i) of the rules. Figure 4A is a map of the city grade service area. The proposed operation would provide 5 mV/m service to 100% of Quincy.

### METHODOLOGY

The AM predicted coverage contours were calculated in accordance with the provisions of 47 C.F.R. Section 73.182. The FM predicted coverage contours were calculated in accordance with the provisions of 47 C.F.R. Section 73.313.

The population within the service contours was calculated using a computer program that utilizes the 2010 U.S. Census database of "population centroids." The program adds the populations of those U.S. Census designated areas whose centroid lies within each service area. Land areas were calculated using a root mean square algorithm.

## CONCLUSION

Granting the request to reassign WMEX to the community of Quincy would provide an overall preferential arrangement of allotments that would serve the public interest. Quincy will receive its second local service<sup>6</sup> and the city of Boston will continue to have 19 local services<sup>7</sup> in addition to copious service from the 47 stations that provide protected service to Boston<sup>8</sup>. All of the loss areas would continue to be well served by five or more aural reception services<sup>9</sup>. Therefore, Marshfield requests a construction permit for WMEX to specify Quincy, Massachusetts as the community of license, in lieu of Boston, Massachusetts and to authorize the other technical changes requested in this application.

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<sup>6</sup> Station WJDA(AM) is licensed to Quincy.

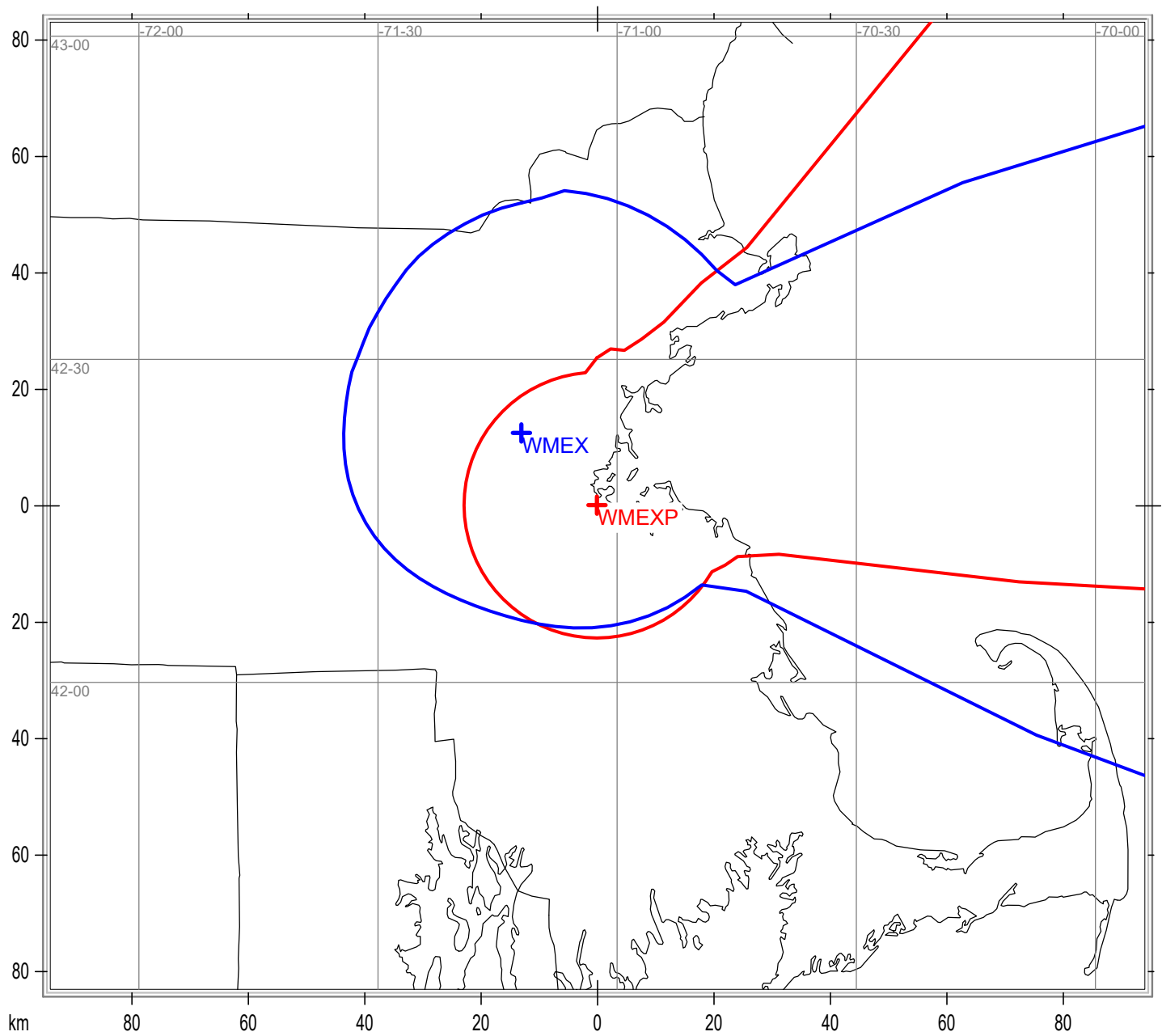
<sup>7</sup> See Tables 1A and 2A.

<sup>8</sup> See Figures 2A and 3A, Tables 1A and 2A.

<sup>9</sup> Based on Figures 2A and 3A, it can be safely concluded that in excess of ten stations provide service to the loss areas.

# FIGURE 1A - DAY 2 MV/M COVERAGE COMPARISON MAP

SHOWING 50 KW LICENSED AND 10 KW PROPOSED CONTOURS

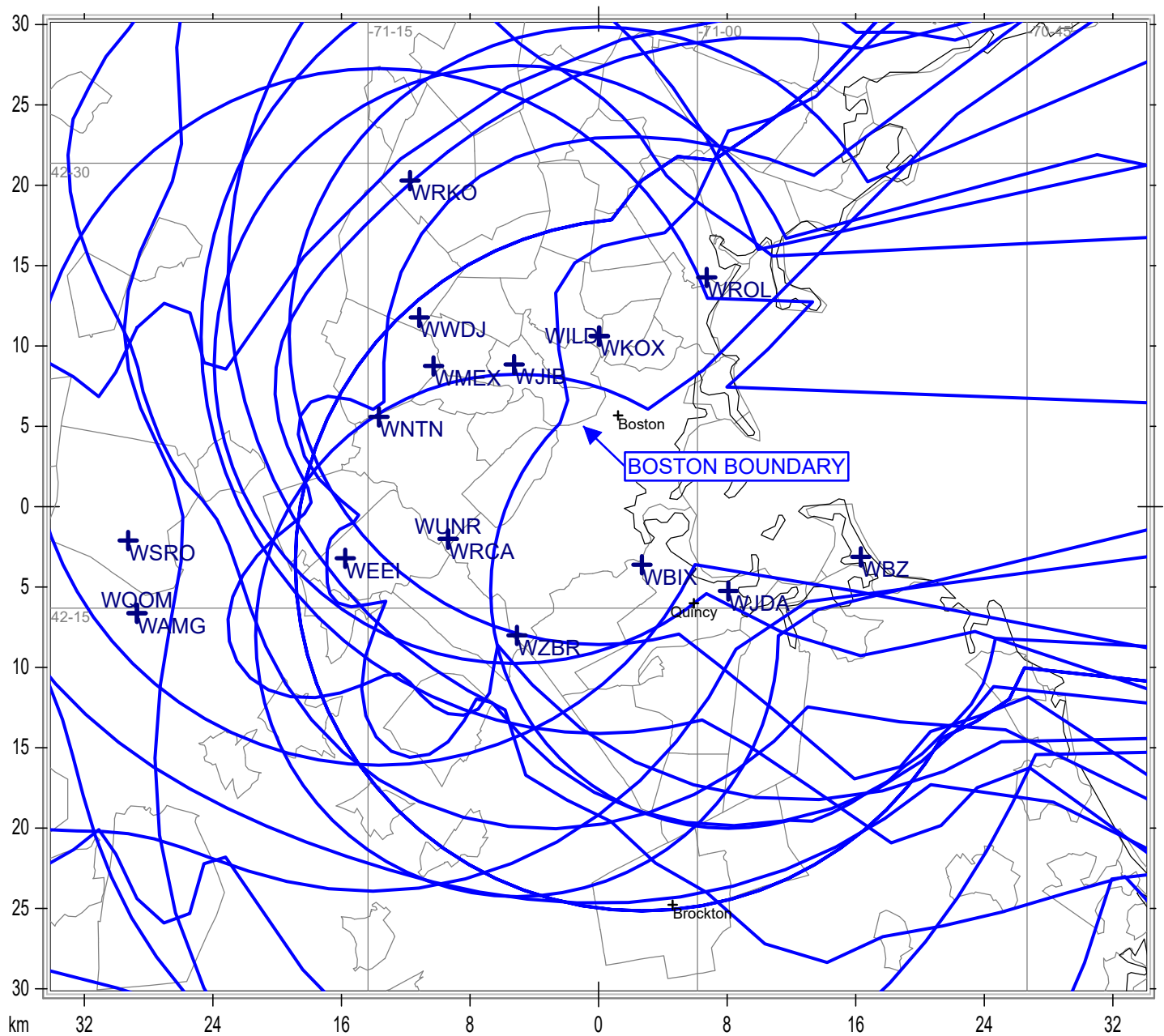


WMEX 1510 KILOHERTZ QUINCY, MASSACHUSETTS

State Borders Lat/Lon Grid

# FIGURE 2A - PROTECTED AM SERVICE TO BOSTON, MA

SUBMITTED IN SUPPORT OF APPLICATION TO RELOCATE TO QUINCY, MASSACHUSETTS

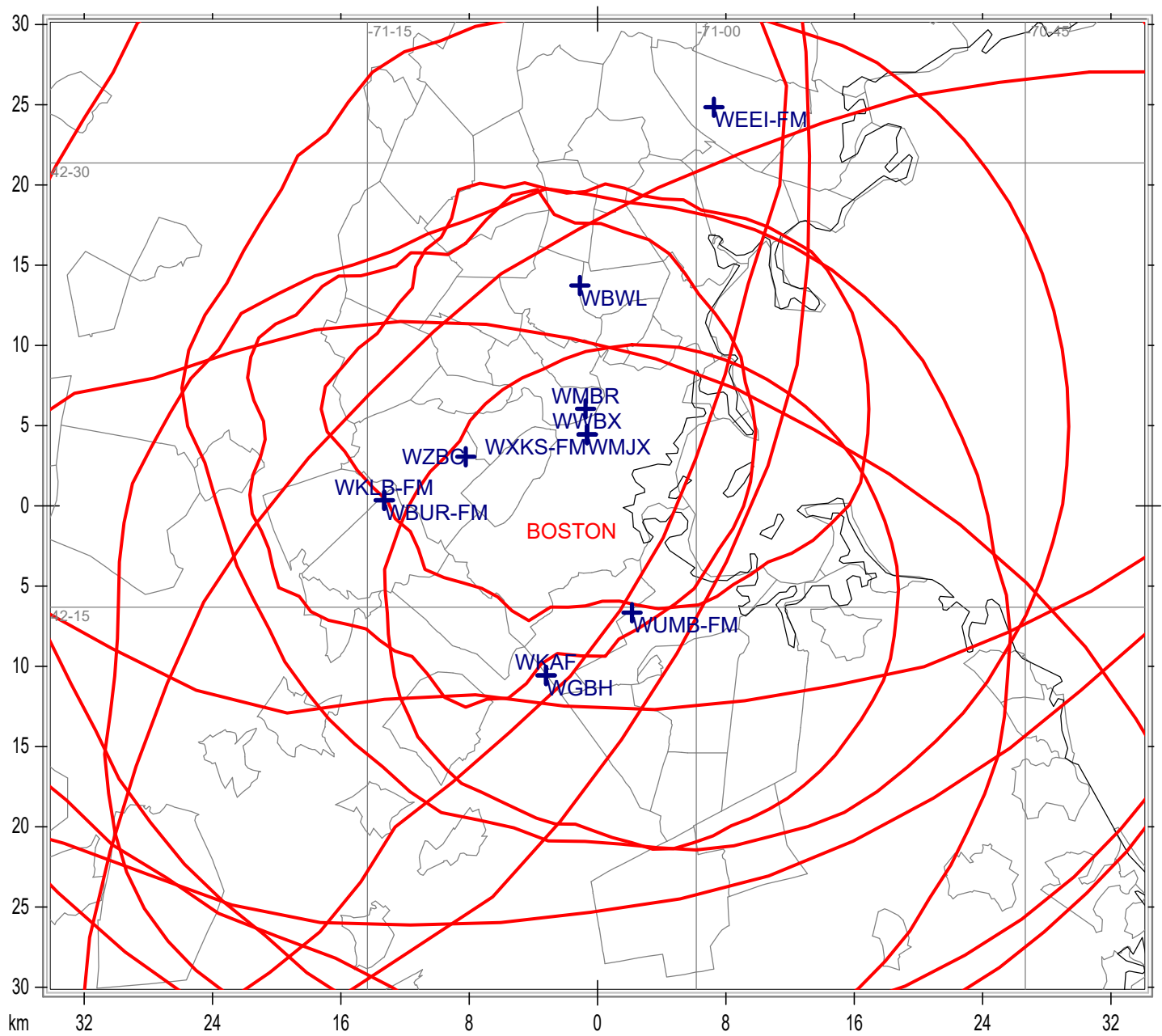


WMEX 1510 KILOHERTZ QUINCY, MASSACHUSETTS

State Borders City Borders Lat/Lon Grid

# FIGURE 3A - PROTECTED FM SERVICE TO BOSTON, MA

SUBMITTED IN SUPPORT OF APPLICATION TO RELOCATE TO QUINCY, MASSACHUSETTS



WMEX 1510 KILOHERTZ QUINCY, MASSACHUSETTS

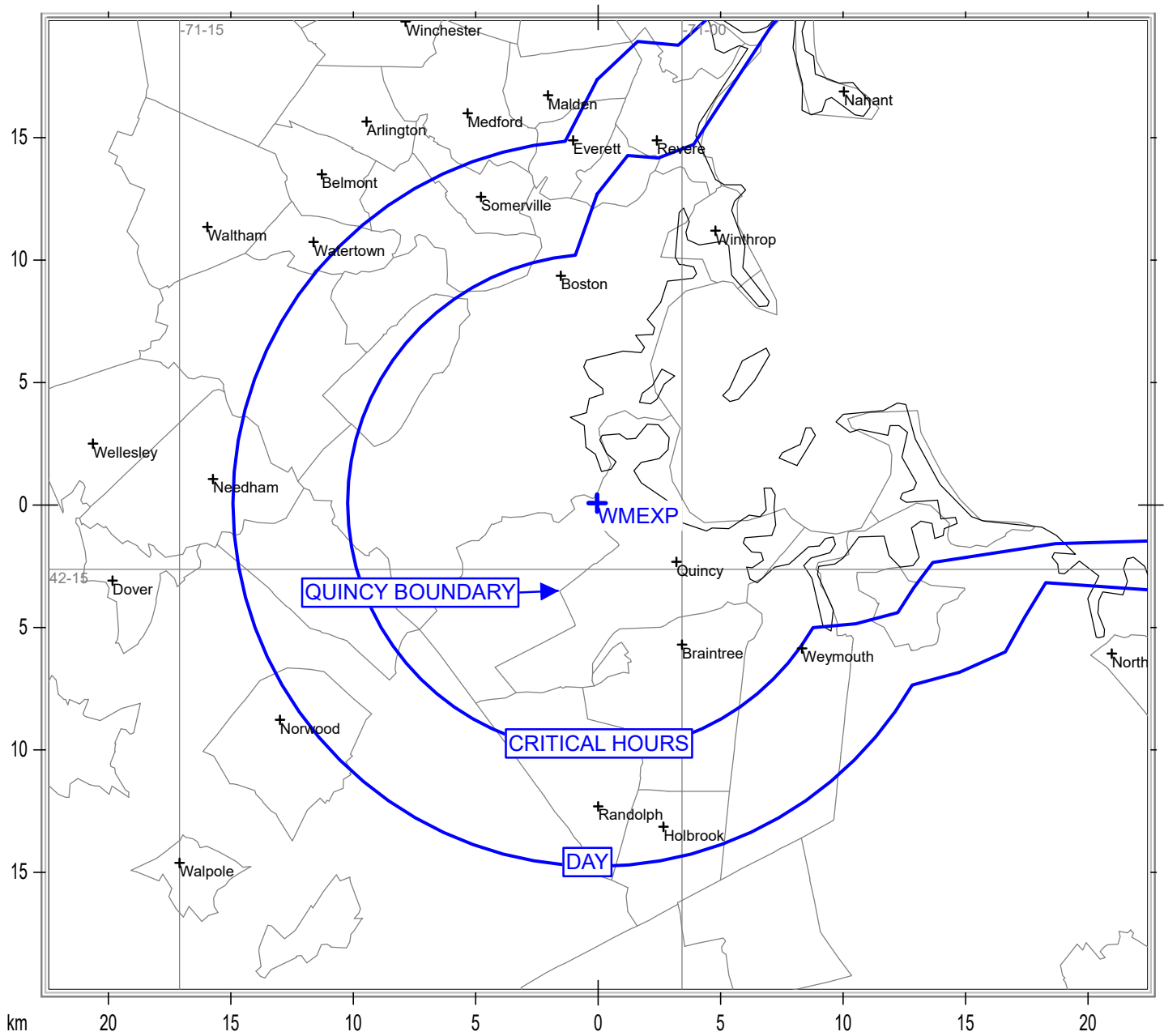
State Borders City Borders Lat/Lon Grid

Map Scale: 1:381000 1 cm = 3.81 km V/H Size: 60.27 x 68.22 km

CHARLES A. HECHT & ASSOCIATES, INC. - JUNE 2018

# FIGURE 4A - CITY OF LICENSE SERVICE MAP

SHOWING 5 MV/M CONTOURS



WMEX 1510 KHz 10 KW D 2 KW CH ND QUINCY, MASSACHUSETTS

State Borders City Borders Lat/Lon Grid

Map Scale: 1:250000 1 cm = 2.50 km V/H Size: 39.55 x 44.86 km

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TABLE 1A

## AM STATIONS PROVIDING PROTECTED SERVICE TO BOSTON, MASSACHUSETTS

CALL	ST	CITY ARN	FREQ	PAT	PWR	DESC
LATITUDE		LONGITUDE	OWNER			
WBIX	MA	BOSTON	1260.00000 LD		5.000	DAN
42-16-28.0 N		71-02-32.0 W	SALEM COMMUNICATIONS HOLDING CORPORATION			
WRCA	MA	WATERTOWN	1330.00000 LD		25.000	DA2
42-17-20.0 N		71-11-21.0 W	BEASLEY MEDIA GROUP LICENSES, LLC			
WSRO	MA	ASHLAND	650.00000 LD		1.500	DA2
42-17-17.0 N		71-25-55.0 W	LANGER BROADCASTING GROUP, LLC			
WJIB	MA	CAMBRIDGE	740.00000 LD		0.250	ND1
42-23-13.0 N		71-08-21.0 W	BOB BITTNER BROADCASTING, INC.			
WKOX	MA	EVERETT	1430.00000 LD		5.000	DAN
42-24-11.0 N		71-04-29.0 W	OCEAN STATION TRUST LLC			
WNTN	MA	NEWTON	1550.00000 LD		10.000	ND2
42-21-27.0 N		71-14-30.0 W	DELTA COMMUNICATIONS, LLC			
WUNR	MA	BROOKLINE	1600.00000 LD		20.000	DA1
42-17-20.0 N		71-11-21.0 W	CHAMPION BROADCASTING SYSTEMS, INC.			
WRKO	MA	BOSTON	680.00000 LD	AG	50.000	DA2
42-29-25.0 N		71-13-05.0 W	CC LICENSES, LLC			
WMEX	MA	BOSTON	1510.00000 LD		50.000	DA3
42-23-10.0 N		71-12-01.0 W	MARSHFIELD BROADCASTING CO., INC.			
WAMG	MA	DEDHAM	890.00000 LD		25.000	DA2
42-14-50.0 N		71-25-31.0 W	GOIS BROADCASTING BOSTON LLC			
WEEI	MA	BOSTON	850.00000 LD		50.000	DA2
42-16-41.0 N		71-16-02.0 W	ENTERCOM LICENSE, LLC			
WILD	MA	BOSTON	1090.00000 LD		4.800	NDD
42-24-10.0 N		71-04-28.0 W	RADIO BOSTON BROADCASTING, INC.			
WQOM	MA	NATICK	1060.00000 LD		50.000	DA2
42-14-50.0 N		71-25-31.0 W	HOLY FAMILY COMMUNICATIONS			

TABLE 1A

WXKS	MA	NEWTON	1200.00000 LD	50.000	DA2
		BMML20110217ADC	CAPSTAR TX, LLC		
42-17-20.0	N	71-11-21.0 W			
WZBR	MA	DEDHAM	1410.00000 LD	2.300	ND2
		BL20150319ABK	LANGER BROADCASTING GROUP, LLC		
42-14-05.0	N	71-08-13.0 W			
WEZE	MA	BOSTON	590.00000 LU AG	5.000	DA1
		BL	SALEM COMMUNICATIONS HOLDING CORPORATION		
42-24-24.0	N	71-05-14.0 W			
WWDJ	MA	BOSTON	1150.00000 LD AG	5.000	DA2
		BML20030319AFJ	SALEM COMMUNICATIONS HOLDING CORPORATION		
42-24-48.0	N	71-12-40.0 W			
WROL	MA	BOSTON	950.00000 LD	5.000	ND2
		BL20130418ACS	SALEM MEDIA OF MASSACHUSETTS, LLC		
42-26-09.0	N	70-59-35.0 W			
WJDA	MA	QUINCY	1300.00000 LD	1.000	ND1
		BL	UNIVERSAL STATIONS LLC		
42-15-35.0	N	70-58-36.0 W			
WBZ	MA	BOSTON	1030.00000 LU AG	50.000	DA1
		BL19790525AI	CC LICENSES, LLC		
42-16-44.0	N	70-52-34.0 W			

TABLE 2A

## FM STATIONS PROVIDING PROTECTED SERVICE TO BOSTON, MASSACHUSETTS

CALL	ST	CITY	FREQ	CL	ERP	STAT
LATITUDE		LONGITUDE	HAAT:m AMSL:m			
WSNE-FM	MA	TAUNTON	93.30000	B	31000.00	LIC
41-51-56.0 N		71-17-22.0 W	175.088 209.000			
			BLH-20081125AJP			CAPSTAR TX, LLC
WUMB-FM	MA	BOSTON	91.90000	A	160.00	LIC
42-14-49.0 N		71-02-56.0 W	175.219 210.000			
			BLH-20130916ACM			UNIVERSITY OF MASSACHUSETTS
WODS	MA	BOSTON	103.30000	B	8700.00	LIC
42-18-27.4 N		71-13-26.7 W	344.444 391.600			
			BLH-20101105AAI			CBS RADIO EAST, LLC
WXLO	MA	FITCHBURG	104.50000	B	37000.00	LIC
42-30-27.0 N		71-49-37.0 W	173.435 404.000			
			BMLH-19910920KB			RADIO LICENSE HOLDING CBC, LLC
WMJX	MA	BOSTON	106.70000	B	21500.00	LIC
42-20-50.0 N		71-04-59.0 W	231.129 258.000			
			BLH-19911018KC			CBS RADIO STATIONS INC.
WWBX	MA	BOSTON	104.10000	B	21000.00	LIC
42-20-50.0 N		71-04-59.0 W	231.927 258.000			
			BLH-19911018KD			ENTERCOM MASSACHUSETTS, LLC
WXKS-FM	MA	MEDFORD	107.90000	B	20500.00	LIC
42-20-50.0 N		71-04-59.0 W	232.002 258.000			
			BLH-19911018KE			AMFM RADIO LICENSES, L.L.C.
WZLX	MA	BOSTON	100.70000	B	21500.00	LIC
42-20-50.0 N		71-04-59.0 W	231.916 258.000			
			BLH-19911018KF			CC LICENSES, LLC
WKLK-FM	MA	WALTHAM	102.50000	B	14000.00	LIC
42-18-37.0 N		71-14-14.0 W	269.232 320.000			
			BLH-20090515ABT			BEASLEY MEDIA GROUP LICENSES, LLC
WJMN	MA	BOSTON	94.50000	B	9200.00	LIC
42-18-27.0 N		71-13-27.0 W	342.331 394.000			
			BLH-20031201AWA			AMFM RADIO LICENSES, L.L.C.
WKAF	MA	BROCKTON	97.70000	A	2050.00	LIC
42-12-42.0 N		71-06-51.0 W	172.141 217.600			
			BLH-20090901AHF			CC LICENSES, LLC
WAAF	MA	WESTBOROUGH	107.30000	B	9600.00	LIC
42-20-09.0 N		71-42-57.0 W	324.243 480.000			
			BLH-20051019ABP			ENTERCOM LICENSE, LLC
WBUR-FM	MA	BOSTON	90.90000	B	8600.00	LIC
42-18-36.6 N		71-14-13.8 W	353.117 400.600			
			BLH-20170802AEJ			THE TRUSTEES OF BOSTON UNIVERSITY

TABLE 2A

WBQT	MA	BOSTON	96.90000	B	22500.00 LIC
42-20-50.0	N	71-04-59.0 W	193.053 247.000		BLH-19960903KE BEASLEY MEDIA GROUP LICENSES, LLC
WCRB	MA	LOWELL	99.50000	B	27000.00 LIC
42-39-14.0	N	71-13-02.0 W	196.401 238.000		BLH-19990310KE WGBH EDUCATIONAL FOUNDATION
WROR-FM	MA	FRAMINGHAM	105.70000	B	23000.00 LIC
42-20-50.0	N	71-04-59.0 W	214.695 247.000		BLH-20000223AAP BEASLEY MEDIA GROUP LICENSES, LLC
WBZ-FM	MA	BOSTON	98.50000	B	9000.00 LIC
42-18-27.0	N	71-13-27.0 W	348.228 393.000		BLH-19900131KB BEASLEY MEDIA GROUP LICENSES, LLC
WERS	MA	BOSTON	88.90000	B1	4000.00 LIC
42-21-08.0	N	71-03-25.0 W	180.717 203.000		BLH-19900706KB EMERSON COLLEGE
WMBR	MA	CAMBRIDGE	88.10000	A	720.00 LIC
42-21-42.0	N	71-05-03.0 W	83.070 108.000		BLH-19950727KD TECHNOLOGY BROADCASTING CORPORATION
WXRV	MA	ANDOVER	92.50000	B	25000.00 LIC
42-46-23.0	N	71-06-01.0 W	216.776 262.000		BLH-20061121ACI BEANPOT LICENSE CORP.
WHRB	MA	CAMBRIDGE	95.30000	A	1450.00 LIC
42-21-08.0	N	71-03-25.0 W	181.595 201.000		BLH-20111115ABD HARVARD RADIO BROADCASTING CO., INC.
WGBH	MA	BOSTON	89.70000	B	98000.00 LIC
42-12-42.0	N	71-06-51.0 W	200.574 242.000		BLH-19800609AH WGBH EDUCATIONAL FOUNDATION
WZBC	MA	NEWTON	90.30000	A	1000.00 LIC
42-20-05.0	N	71-10-31.0 W	60.101 102.000		BLH-20021216AAB TRUSTEES OF BOSTON COLLEGE
WBOS	MA	BROOKLINE	92.90000	B	13000.00 LIC
42-18-12.0	N	71-13-08.0 W	283.320 334.000		BLH-19940401KZ BEASLEY MEDIA GROUP LICENSES, LLC
WBWL	MA	LYNN	101.70000	B1	13500.00 LIC
42-25-51.7	N	71-05-18.8 W	132.671 164.000		BLH-20150803ABJ AMFM RADIO LICENSES, LLC
WPLM-FM	MA	PLYMOUTH	99.10000	B	50000.00 LIC
41-58-02.0	N	70-42-04.0 W	116.063 159.000		BLH-7410 PLYMOUTH ROCK BROADCASTING CO., INC.
WEEI-FM	MA	LAWRENCE	93.70000	B	34000.00 LIC
42-31-53.0	N	70-59-12.0 W	175.853 202.000		BLH-20090904ACK ENTERCOM LICENSE, LLC