ASR Registration Search

Registration 1028013

Map Registration

Exhibit 13.1 - Copy of Existing Antenna Structure Registration

Registration Detail

Reg Number	1028013	Status	Constructed
File Number	A0033239	Constructed	05/21/1997
FAA Study	94-ANE-061-OE	EMI	No
FAA Issue Date	03/21/1994	NEPA	No

Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Communications Purposes

Location (in NAD83 Coordinates)

Lat/Long	42-21-49.0 N 072-25-22.0 W	SUMMIT OF MOUNT LINCOLN
City, State	PELHAM , MA	

Center of AM Array

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
377.3	106.4
Overall Height Above Mean Sea Level	**Overall Height Above Ground w/o Appurtenances**
483.7	105.5

Painting and Lighting Specifications

FAA Chapters 3, 4, 5, 13
Paint and Light in Accordance with FAA Circular Number 70/7460-1H

Owner & Contact Information

FRN

Licensee ID

Owner

UNIVERSITY OF MASSACHUSETTS DBA = WFCR
Attention To: MARTIN MILLER
HAMPSHIRE HOUSE
AMHERST , MA 01003-3630

P: (413)545-0100
E:

Contact

P:
E:

Last Action Status

Status	Constructed	Received	08/20/1997
Purpose	New	Entered	08/20/1997
Mode	Interactive		

Related Applications

08/20/1997 A0033239 - New (NE)

Comments

Comments

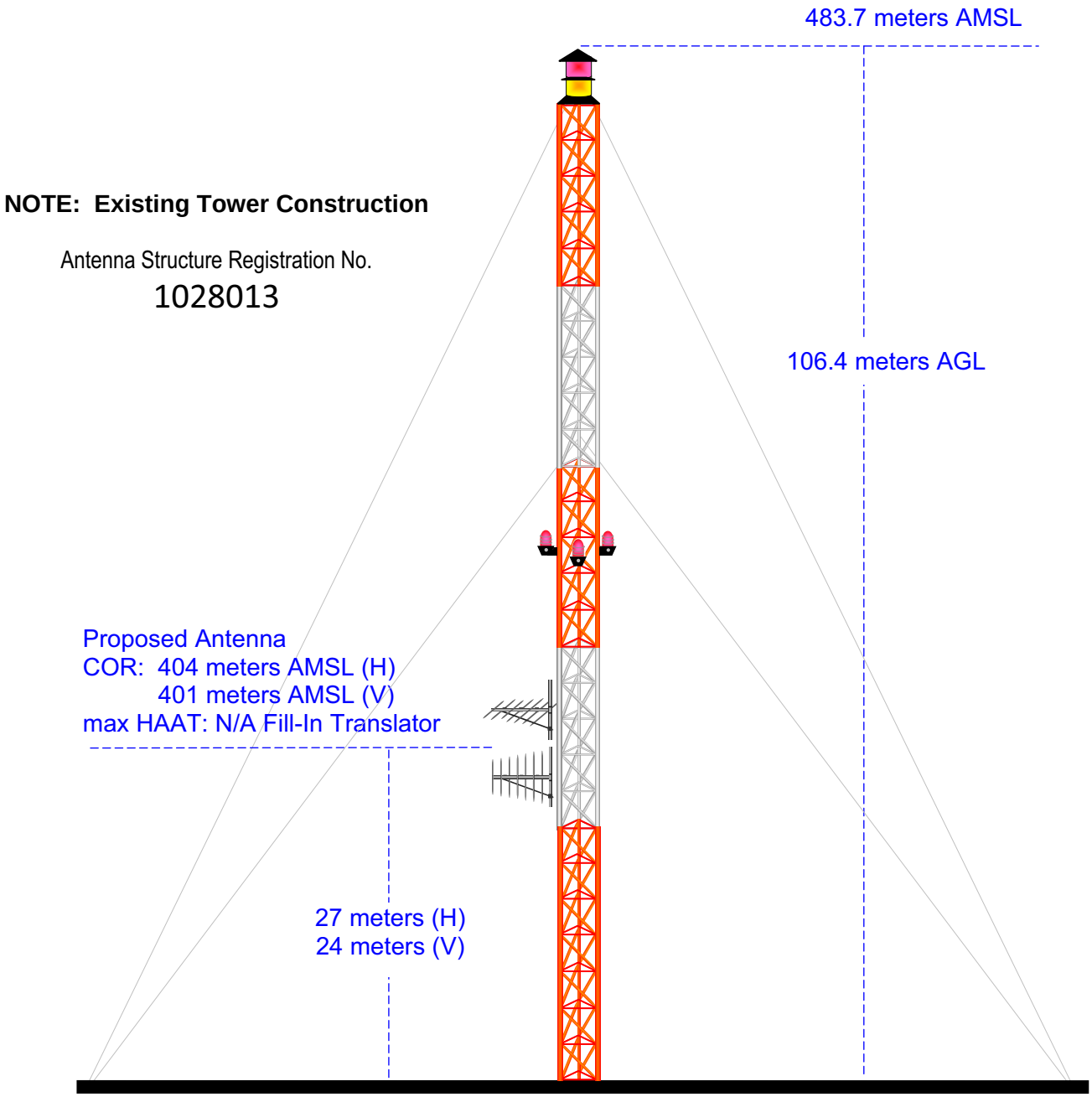
None

Automated Letters

None

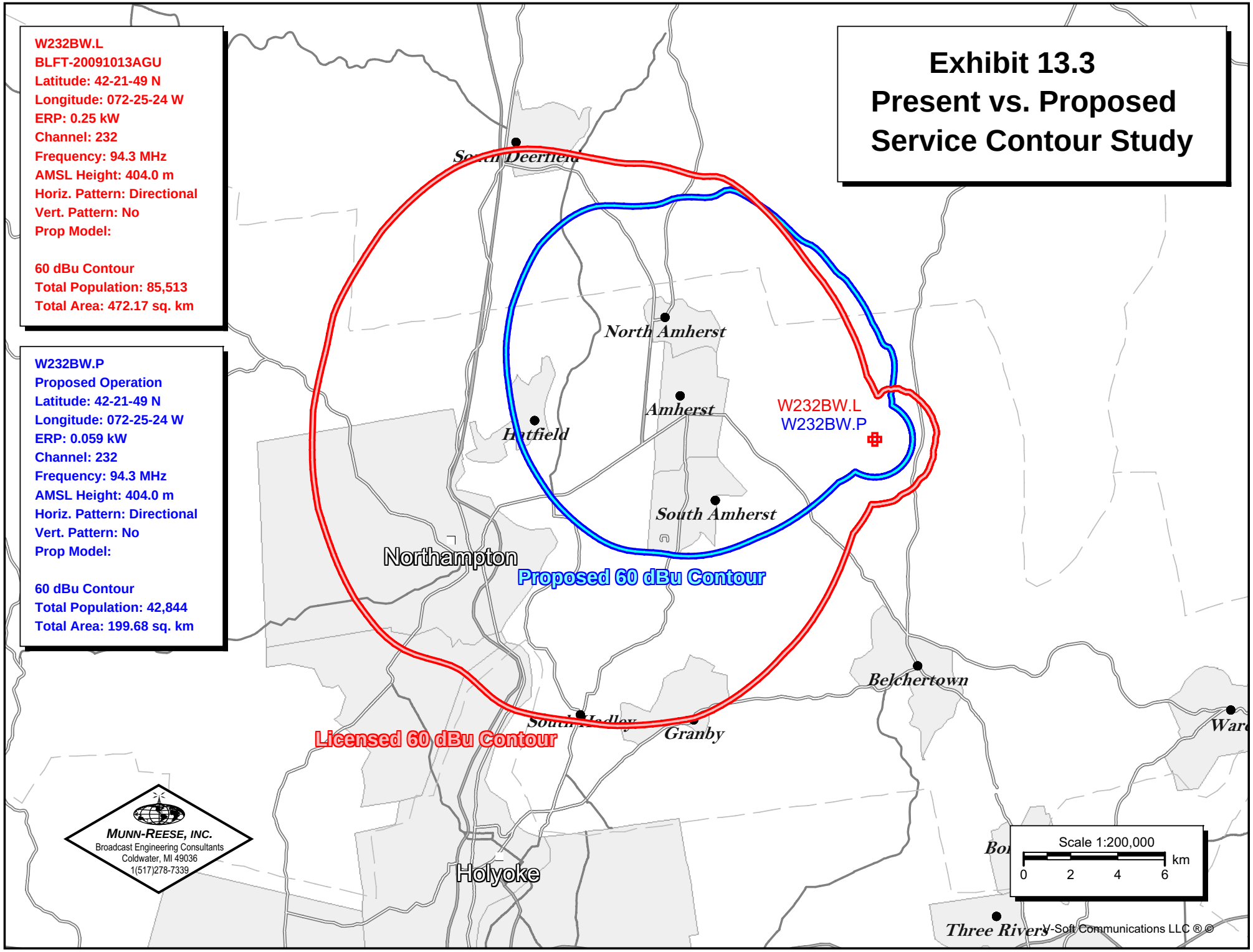
Exhibit 13.2
Vertical Plan of Antenna System

The site is located at the summit of Mount Lincoln, the city of Pelham, Hampshire County, Massachusetts.	Site Location (NAD 27) NL: 42° 21' 49" WL: 72° 25' 24"



Ground Elevation = 377.3 m AMSL
Drawing is not to Scale

MUNN–REESE, INC.
Broadcast Engineering Consultants
Coldwater, MI 49036


W232BW.L
BLFT-20091013AGU
Latitude: 42-21-49 N
Longitude: 072-25-24 W
ERP: 0.25 kW
Channel: 232
Frequency: 94.3 MHz
AMSL Height: 404.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model:
60 dBu Contour
Total Population: 85,513
Total Area: 472.17 sq. km
W232BW.P
Proposed Operation
Latitude: 42-21-49 N
Longitude: 072-25-24 W
ERP: 0.059 kW
Channel: 232
Frequency: 94.3 MHz
AMSL Height: 404.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model:
60 dBu Contour
Total Population: 42,844
Total Area: 199.68 sq. km
Exhibit 13.3
Present vs. Proposed
Service Contour Study
North Amherst
Amherst
Hatfield
South Amherst
W232BW.L
W232BW.P
Northampton
Proposed 60 dBu Contour
Licensed 60 dBu Contour
Belchertown
Granby
Holyoke
Three Rivers
MUNN-REESE, INC.
Broadcast Engineering Consultants
Coldwater, MI 49036
1(517)278-7339
Scale 1:200,000
km
0
2
4
6
V-Soft Communications LLC ® ©

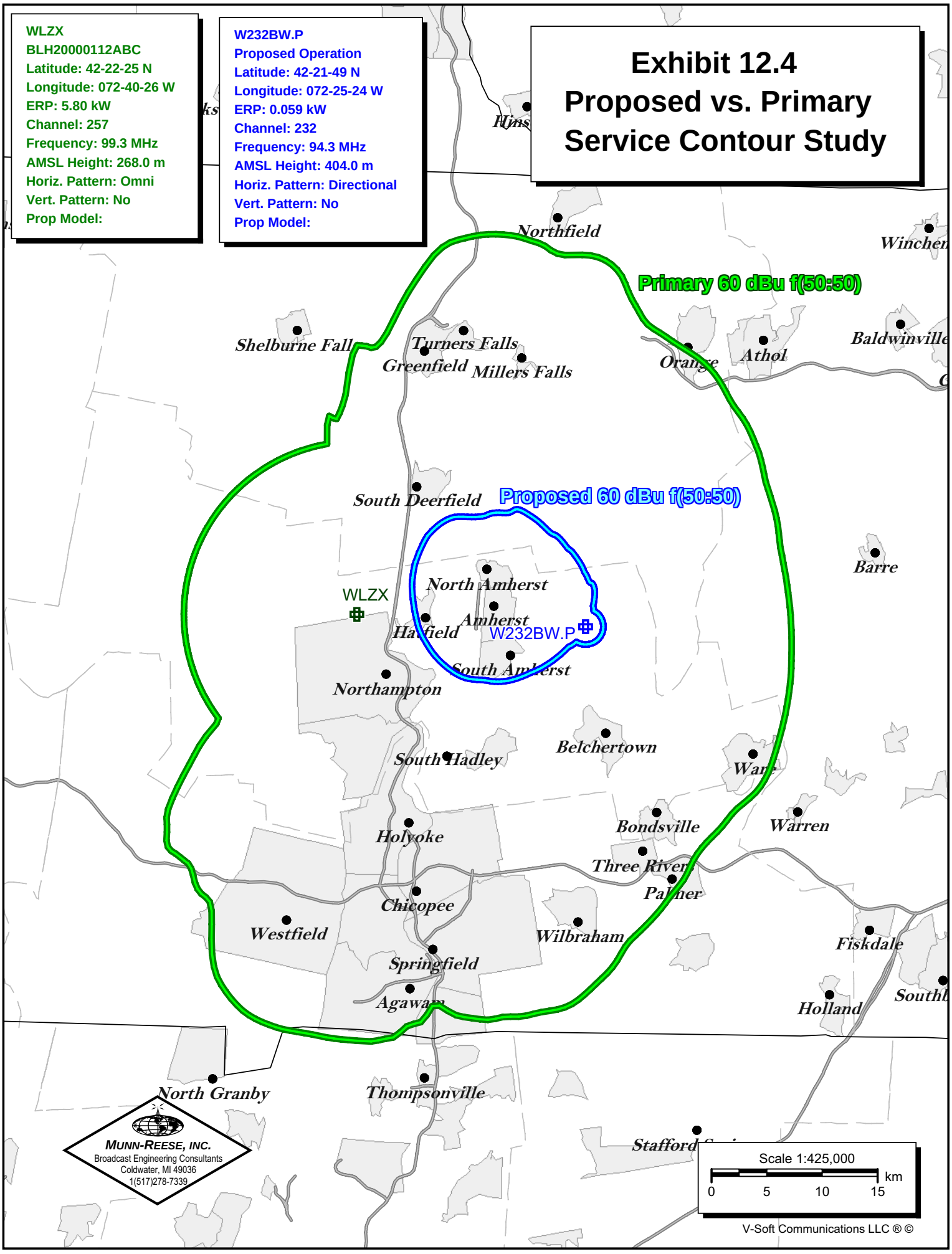

WLZX
BLH20000112ABC
Latitude: 42-22-25 N
Longitude: 072-40-26 W
ERP: 5.80 kW
Channel: 257
Frequency: 99.3 MHz
AMSL Height: 268.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model:
W232BW.P
Proposed Operation
Latitude: 42-21-49 N
Longitude: 072-25-24 W
ERP: 0.059 kW
Channel: 232
Frequency: 94.3 MHz
AMSL Height: 404.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model:
Exhibit 12.4
Proposed vs. Primary
Service Contour Study
Primary 60 dBu f(50:50)
Proposed 60 dBu f(50:50)
WLZX
W232BW.P
Northfield
Shelburne Fall
Turners Falls
Greenfield
Millers Falls
Orange
Athol
Baldwinville
South Deerfield
North Amherst
Amherst
Hatfield
South Amherst
Northampton
Barre
Belchertown
South Hadley
Ware
Holyoke
Bondsville
Warren
Three Rivers
Palmer
Chicopee
Westfield
Wilbraham
Fiskdale
Springfield
Agawam
Holland
North Granby
Thompsonville
Stafford
MUNN-REESE, INC.
Broadcast Engineering Consultants
Coldwater, MI 49036
1(517)278-7339
Scale 1:425,000
km
0
5
10
15
V-Soft Communications LLC ® ©

Exhibit 13.5
Tabulation of Proposed Allocation

Saga Communications Of New England, Llc

REFERENCE CH# 232D - 94.3 MHz, Pwr= 0.059 kW, HAAT= 0.0 M, COR= 404 M DISPLAY DATES
42 21 49.0 N. Average Protected F(50-50)= 4.92 km DATA 11-10-09
72 25 24.0 W. Standard Directional SEARCH 11-13-09

CH CALL / CITY	TYPE ANT / STATE	AZI <--	DIST / FILE #	LAT / LNG	PWR(kW) / HAAT(M)	INT(km) / COR(M)	PRO(km) / LICENSEE	*IN* (Overlap in km)	*OUT*
232D W232BW Amherst	LIC DC_ MA	0.0 0.0	0.0 BLFT20091013AGU	42 21 49.0 72 25 24.0	0.250	6.5 404	2.1 Saga Communications Of Ne	-11.3*	-17.2*
234B WMAS-FM Springfield	LIC _CN MA	208.8 28.7	32.3 BLH19801010AD	42 06 32.0 72 36 44.0	50.000 59	3.7 121	46.9 Citadel Broadcasting Compa	27.0	-14.6*<
230A WRSI Turners Falls	LIC _CN MA	323.7 143.6	23.5 BLH19951018KB	42 32 01.0 72 35 34.0	2.500 109	2.4 284	27.0 Saga Communications Of Ne	8.3	-4.0*<
233B WJMN Boston	LIC _CX MA	93.2 274.0	99.0 BLH20031201AWA	42 18 27.0 71 13 27.0	9.200 353	77.1 394	65.6 Amfm Radio Licenses, L.l.c	20.3	29.5
232A WBTN-FM Bennington	CP NCX VT	316.8 136.3	89.6 BPED20081118AGS	42 56 52.9 73 10 33.9	3.000 34	53.3 474	13.2 Vermont Public Radio	22.6	30.8
232A WBTN-FM Bennington	LIC _CX VT	316.8 136.3	89.6 BMLED20070221ADA	42 56 53.0 73 10 35.0	3.000 34	53.3 475	13.2 Vermont Public Radio	22.7	30.8
229B WZMX Hartford	LIC _CX CT	201.5 21.2	95.6 BMLH20080306AAR	41 33 44.0 72 50 42.0	17.000 259	5.7 359	66.2 Cbs Radio Stations Inc.	88.3	29.4
231B WHJY Providence	LIC _C_ RI	124.1 304.8	105.6 BLH20000915ALB	41 49 40.0 71 22 09.0	50.000 139	71.7 170	59.0 Capstar Tx Limited Partner	32.3	42.5
235D W235AV Tatnuck	LIC DC_ MA	97.9 278.2	43.3 BLFT20070725AAR	42 18 34.0 71 54 13.0	0.230	0.2 474	6.7 Amfm Radio Licenses, L.l.c	41.5	36.5
233D W233AR Brattleboro	LIC _C_ VT	344.6 164.5	53.6 BLFT20041215ABH	42 49 44.0 72 35 52.0	0.010	7.3 307	5.2 Vermont Public Radio	38.3	37.1
232D W232AJ Greenville, Etc. TRANSLATOR FOR WBFL, BELLOWS FALLS, VT.	LIC DCN NH	38.7 219.1	70.6 BLFT19881108TI	42 51 28.0 71 52 53.0	0.005 416	31.0 713	9.1 Harvest Broadcasting Assn.	38.0	55.0
232A WYBC-FM New Haven	LIC DE_ CT	202.2 21.8	121.5 BLH20010918AAT	41 20 59.0 72 58 23.0	3.000 144	79.8 215	26.5 Yale Broadcasting Company,	40.1	86.4
231D 637124 Keene	APP _C_ NH	7.1 187.1	61.8 BNPFT20030317BLE	42 54 57.0 72 19 48.0	0.010	12.3 437	8.7 Educational Media Foundati	45.6	47.4
232A WKXP Kingston	LIC _CX NY	248.6 67.6	139.8 BLH20040120ADV	41 53 44.0 73 59 32.0	2.250 166	81.5 260	28.0 Cumulus Licensing Llc	46.1	70.9
231D 630982 Brattleboro	APP _C_ VT	347.8 167.7	69.4 BNPFT20030317HKS	42 58 28.0 72 36 12.0	0.010	15.2 514	10.8 Vermont Public Radio	47.0	48.5
234D W234AL North Adams	LIC _C_ MA	303.8 123.3	68.4 BLFT20061025ABP	42 42 10.0 73 07 04.0	0.050	0.5 224	4.7 Northeast Gospel Broadcast	51.7	63.1
229B WMKK Lawrence	CP _CX MA	80.5 261.5	119.7 BPH20090626AAK	42 31 53.0 70 59 12.0	34.000 178	5.8 202	64.0 Entercom Boston License, L	112.3	55.7

Terrain database is NGDC 30 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
Contour distances are on direct line to and from reference station. Reference zone = 1, Co to 3rd adjacent.
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.

Blue highlighted text denotes a §74.1204(d) Second Adjacent Channel Given Interference Waiver Request toward WMAS-FM, Springfield, MA and WRSI(FM) as included in ***Exhibit 13.6***. Full protection will be afforded both facilities as the proposed interference area is void of population, housing or major roads as noted in the attached exhibit.

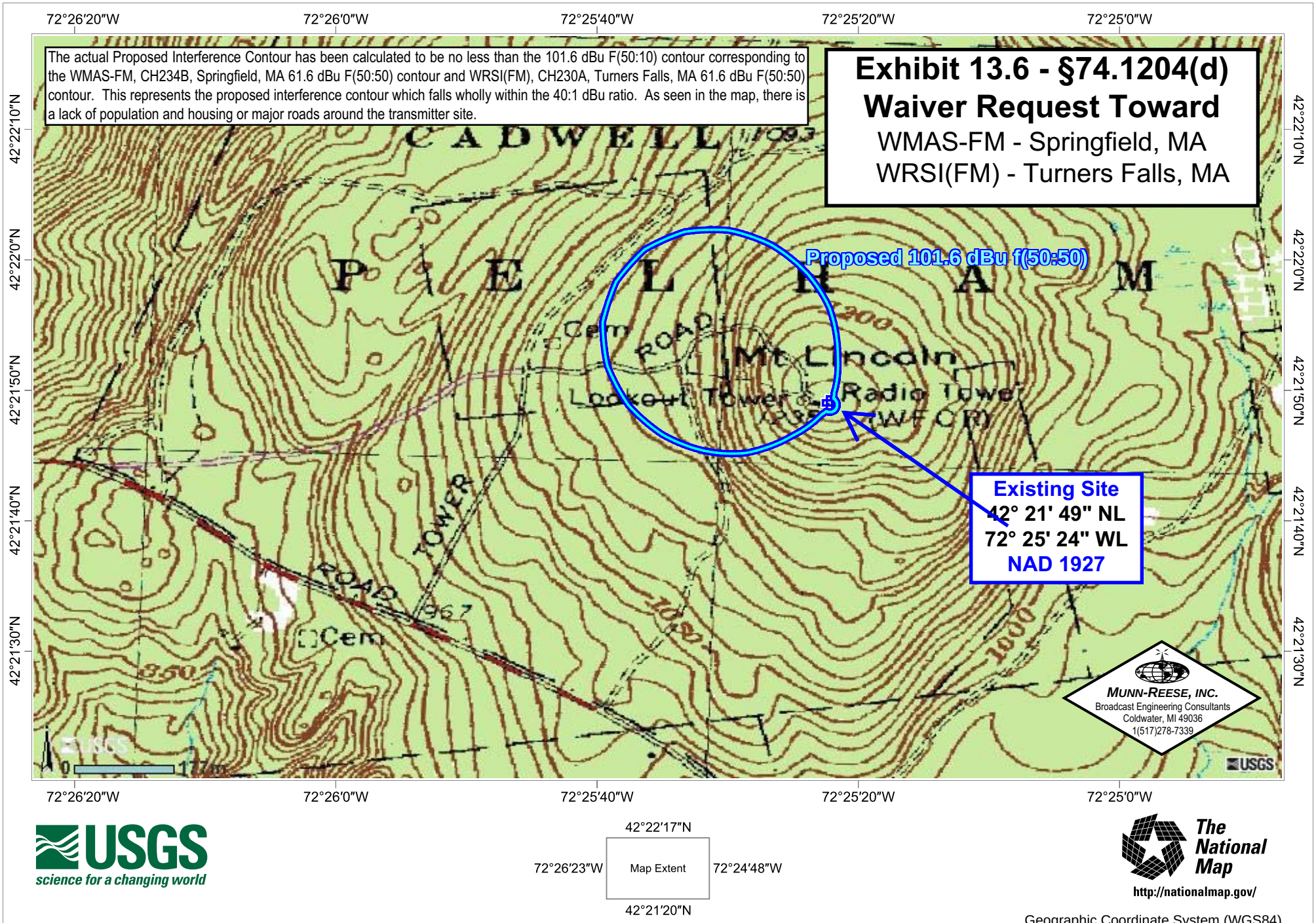
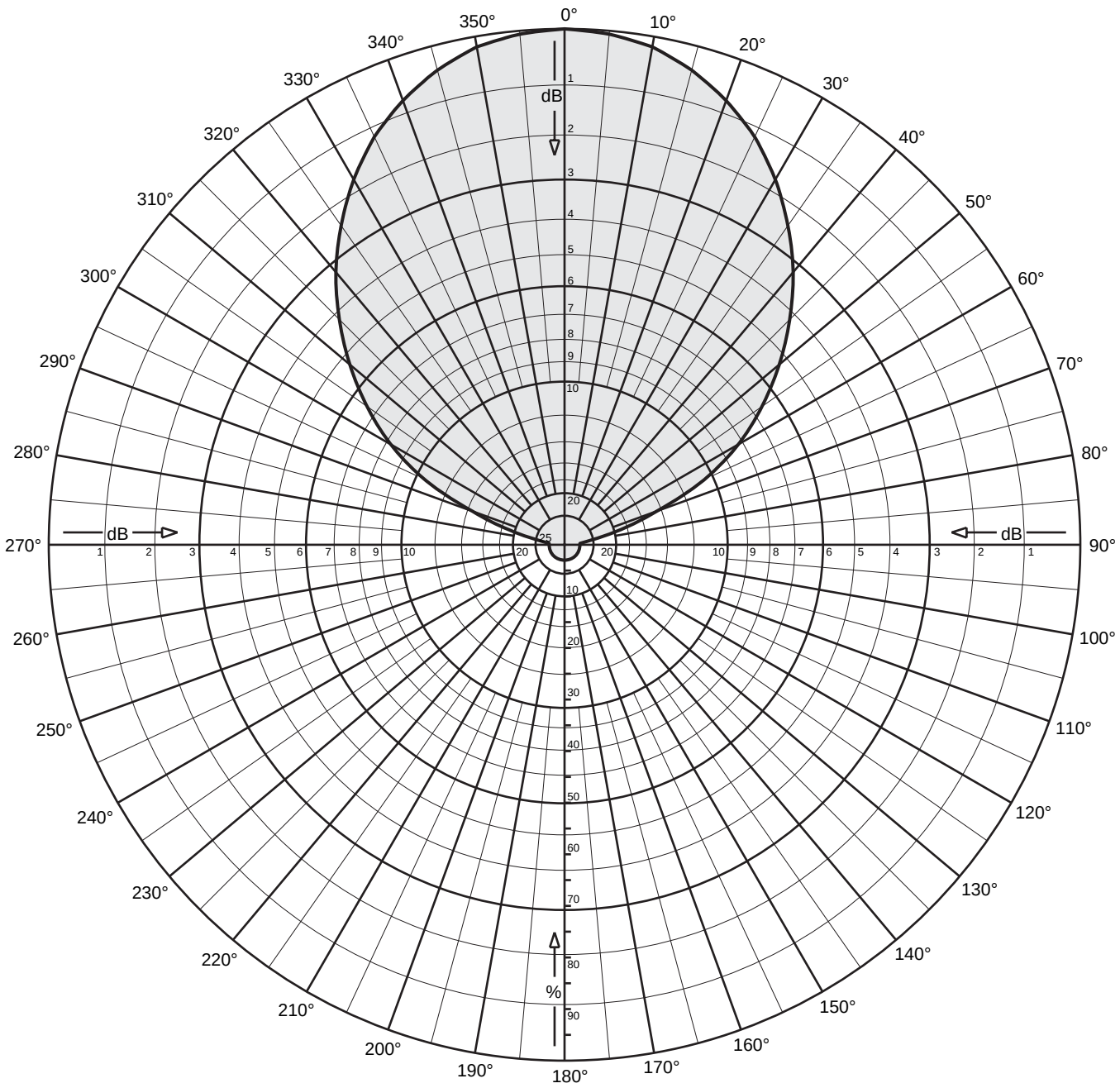

72°26′20″W
72°26′0″W
72°25′40″W
72°25′20″W
72°25′0″W
42°22′10″N
42°22′0″N
42°21′50″N
42°21′40″N
42°21′30″N
The actual Proposed Interference Contour has been calculated to be no less than the 101.6 dBu F(50:10) contour corresponding to the WMAS-FM, CH234B, Springfield, MA 61.6 dBu F(50:50) contour and WRSI(FM), CH230A, Turners Falls, MA 61.6 dBu F(50:50) contour. This represents the proposed interference contour which falls wholly within the 40:1 dBu ratio. As seen in the map, there is a lack of population and housing or major roads around the transmitter site.
Exhibit 13.6 - §74.1204(d)
Waiver Request Toward
WMAS-FM - Springfield, MA
WRSI(FM) - Turners Falls, MA
Proposed 101.6 dBu f(50:50)
CADWELL
PELHAM
Cem
ROAD
Mt Lincoln
Lookout Tower
Radio Tower
WFCR
TOWER
ROAD
Cem
1000
Existing Site
42° 21' 49" NL
72° 25' 24" WL
NAD 1927
MUNN-REESE, INC.
Broadcast Engineering Consultants
Coldwater, MI 49036
1(517)278-7339
USGS
42°22′17″N
72°26′23″W
Map Extent
72°24′48″W
42°21′20″N
USGS
science for a changing world
The National Map
http://nationalmap.gov/
Geographic Coordinate System (WGS84)

Exhibit 13.7 Tabulation of Proposed Directional Antenna (Antenna Rotation: 300.0°T)



CL-FM Log-periodic
FM
Maximum gain: 7.0 dBd
Vertical polarization
Horizontal radiation pattern
0 degree electrical downtilt

KATHREIN
SCALA DIVISION
Post Office Box 4580
Medford, OR 97501 (USA)
Phone:(541)779-6500
Fax:(541)779-3991
http://www.kathrein-scala.com

18-Sep-2008

Exhibit 13.7 Tabulation of Proposed Directional Antenna (Antenna Rotation: 300.0°T)

KATHREIN
SCALA DIVISION

CL-FM Log-periodic
FM
Maximum gain: 7.0 dBd
Vertical polarization

Horizontal radiation pattern
0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	1.000	0.00	7.00	5.01	45	0.618	-4.19	2.81	1.91
1	0.998	-0.01	6.99	5.00	46	0.602	-4.40	2.60	1.82
2	0.997	-0.02	6.98	4.99	47	0.588	-4.61	2.39	1.73
3	0.996	-0.03	6.97	4.97	48	0.573	-4.84	2.16	1.65
4	0.995	-0.04	6.96	4.96	49	0.558	-5.06	1.94	1.56
5	0.993	-0.06	6.94	4.95	50	0.544	-5.30	1.70	1.48
6	0.991	-0.08	6.92	4.92	51	0.528	-5.54	1.46	1.40
7	0.988	-0.10	6.90	4.89	52	0.513	-5.80	1.20	1.32
8	0.985	-0.13	6.87	4.87	53	0.498	-6.06	0.94	1.24
9	0.982	-0.15	6.85	4.84	54	0.483	-6.33	0.67	1.17
10	0.980	-0.18	6.82	4.81	55	0.467	-6.60	0.40	1.10
11	0.975	-0.22	6.78	4.76	56	0.452	-6.90	0.10	1.02
12	0.969	-0.27	6.73	4.71	57	0.436	-7.20	-0.20	0.95
13	0.964	-0.32	6.68	4.65	58	0.421	-7.51	-0.51	0.89
14	0.958	-0.37	6.63	4.60	59	0.405	-7.84	-0.84	0.82
15	0.952	-0.42	6.58	4.55	60	0.390	-8.18	-1.18	0.76
16	0.946	-0.49	6.51	4.48	61	0.372	-8.59	-1.59	0.69
17	0.938	-0.56	6.44	4.41	62	0.354	-9.02	-2.02	0.63
18	0.931	-0.62	6.38	4.34	63	0.336	-9.47	-2.47	0.57
19	0.923	-0.69	6.31	4.27	64	0.318	-9.95	-2.95	0.51
20	0.916	-0.76	6.24	4.21	65	0.300	-10.46	-3.46	0.45
21	0.908	-0.84	6.16	4.13	66	0.278	-11.12	-4.12	0.39
22	0.899	-0.92	6.08	4.05	67	0.256	-11.84	-4.84	0.33
23	0.890	-1.01	5.99	3.97	68	0.234	-12.62	-5.62	0.27
24	0.882	-1.10	5.90	3.89	69	0.212	-13.47	-6.47	0.23
25	0.873	-1.18	5.82	3.82	70	0.190	-14.42	-7.42	0.18
26	0.862	-1.29	5.71	3.72	71	0.174	-15.19	-8.19	0.15
27	0.851	-1.41	5.59	3.63	72	0.158	-16.03	-9.03	0.13
28	0.840	-1.52	5.48	3.53	73	0.142	-16.95	-9.95	0.10
29	0.829	-1.63	5.37	3.44	74	0.126	-17.99	-10.99	0.08
30	0.817	-1.75	5.25	3.35	75	0.110	-19.17	-12.17	0.06
31	0.806	-1.88	5.12	3.25	76	0.098	-20.18	-13.18	0.05
32	0.793	-2.02	4.98	3.15	77	0.086	-21.31	-14.31	0.04
33	0.781	-2.15	4.85	3.05	78	0.074	-22.62	-15.62	0.03
34	0.767	-2.30	4.70	2.95	79	0.062	-24.15	-17.15	0.02
35	0.756	-2.44	4.56	2.86	80	0.050	-26.02	-19.02	0.01
36	0.742	-2.59	4.41	2.76	81	0.046	-26.74	-19.74	0.01
37	0.729	-2.74	4.26	2.67	82	0.042	-27.54	-20.54	0.01
38	0.716	-2.90	4.10	2.57	83	0.038	-28.40	-21.40	0.01
39	0.704	-3.05	3.95	2.48	84	0.034	-29.37	-22.37	0.01
40	0.690	-3.22	3.78	2.39	85	0.030	-30.46	-23.46	0.00
41	0.675	-3.41	3.59	2.29	86	0.030	-30.46	-23.46	0.00
42	0.661	-3.60	3.40	2.19	87	0.030	-30.46	-23.46	0.00
43	0.646	-3.79	3.21	2.09	88	0.030	-30.46	-23.46	0.00
44	0.632	-3.99	3.01	2.00	89	0.030	-30.46	-23.46	0.00

Exhibit 13.7 Tabulation of Proposed Directional Antenna (Antenna Rotation: 300.0°T)

KATHREIN SCALA DIVISION

CL-FM Log-periodic
FM
Maximum gain: 7.0 dBd
Vertical polarization

Horizontal radiation pattern
0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
90	0.030	-30.46	-23.46	0.00	135	0.030	-30.46	-23.46	0.00
91	0.030	-30.46	-23.46	0.00	136	0.030	-30.46	-23.46	0.00
92	0.030	-30.46	-23.46	0.00	137	0.030	-30.46	-23.46	0.00
93	0.030	-30.46	-23.46	0.00	138	0.030	-30.46	-23.46	0.00
94	0.030	-30.46	-23.46	0.00	139	0.030	-30.46	-23.46	0.00
95	0.030	-30.46	-23.46	0.00	140	0.030	-30.46	-23.46	0.00
96	0.030	-30.46	-23.46	0.00	141	0.030	-30.46	-23.46	0.00
97	0.030	-30.46	-23.46	0.00	142	0.030	-30.46	-23.46	0.00
98	0.030	-30.46	-23.46	0.00	143	0.030	-30.46	-23.46	0.00
99	0.030	-30.46	-23.46	0.00	144	0.030	-30.46	-23.46	0.00
100	0.030	-30.46	-23.46	0.00	145	0.030	-30.46	-23.46	0.00
101	0.030	-30.46	-23.46	0.00	146	0.030	-30.46	-23.46	0.00
102	0.030	-30.46	-23.46	0.00	147	0.030	-30.46	-23.46	0.00
103	0.030	-30.46	-23.46	0.00	148	0.030	-30.46	-23.46	0.00
104	0.030	-30.46	-23.46	0.00	149	0.030	-30.46	-23.46	0.00
105	0.030	-30.46	-23.46	0.00	150	0.030	-30.46	-23.46	0.00
106	0.030	-30.46	-23.46	0.00	151	0.030	-30.46	-23.46	0.00
107	0.030	-30.46	-23.46	0.00	152	0.030	-30.46	-23.46	0.00
108	0.030	-30.46	-23.46	0.00	153	0.030	-30.46	-23.46	0.00
109	0.030	-30.46	-23.46	0.00	154	0.030	-30.46	-23.46	0.00
110	0.030	-30.46	-23.46	0.00	155	0.030	-30.46	-23.46	0.00
111	0.030	-30.46	-23.46	0.00	156	0.030	-30.46	-23.46	0.00
112	0.030	-30.46	-23.46	0.00	157	0.030	-30.46	-23.46	0.00
113	0.030	-30.46	-23.46	0.00	158	0.030	-30.46	-23.46	0.00
114	0.030	-30.46	-23.46	0.00	159	0.030	-30.46	-23.46	0.00
115	0.030	-30.46	-23.46	0.00	160	0.030	-30.46	-23.46	0.00
116	0.030	-30.46	-23.46	0.00	161	0.030	-30.46	-23.46	0.00
117	0.030	-30.46	-23.46	0.00	162	0.030	-30.46	-23.46	0.00
118	0.030	-30.46	-23.46	0.00	163	0.030	-30.46	-23.46	0.00
119	0.030	-30.46	-23.46	0.00	164	0.030	-30.46	-23.46	0.00
120	0.030	-30.46	-23.46	0.00	165	0.030	-30.46	-23.46	0.00
121	0.030	-30.46	-23.46	0.00	166	0.030	-30.46	-23.46	0.00
122	0.030	-30.46	-23.46	0.00	167	0.030	-30.46	-23.46	0.00
123	0.030	-30.46	-23.46	0.00	168	0.030	-30.46	-23.46	0.00
124	0.030	-30.46	-23.46	0.00	169	0.030	-30.46	-23.46	0.00
125	0.030	-30.46	-23.46	0.00	170	0.030	-30.46	-23.46	0.00
126	0.030	-30.46	-23.46	0.00	171	0.030	-30.46	-23.46	0.00
127	0.030	-30.46	-23.46	0.00	172	0.030	-30.46	-23.46	0.00
128	0.030	-30.46	-23.46	0.00	173	0.030	-30.46	-23.46	0.00
129	0.030	-30.46	-23.46	0.00	174	0.030	-30.46	-23.46	0.00
130	0.030	-30.46	-23.46	0.00	175	0.030	-30.46	-23.46	0.00
131	0.030	-30.46	-23.46	0.00	176	0.030	-30.46	-23.46	0.00
132	0.030	-30.46	-23.46	0.00	177	0.030	-30.46	-23.46	0.00
133	0.030	-30.46	-23.46	0.00	178	0.030	-30.46	-23.46	0.00
134	0.030	-30.46	-23.46	0.00	179	0.030	-30.46	-23.46	0.00

Exhibit 13.7 Tabulation of Proposed Directional Antenna (Antenna Rotation: 300.0°T)

KATHREIN
SCALA DIVISION

CL-FM Log-periodic
FM
Maximum gain: 7.0 dBd
Vertical polarization

Horizontal radiation pattern
0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
180	0.030	-30.46	-23.46	0.00	225	0.030	-30.46	-23.46	0.00
181	0.030	-30.46	-23.46	0.00	226	0.030	-30.46	-23.46	0.00
182	0.030	-30.46	-23.46	0.00	227	0.030	-30.46	-23.46	0.00
183	0.030	-30.46	-23.46	0.00	228	0.030	-30.46	-23.46	0.00
184	0.030	-30.46	-23.46	0.00	229	0.030	-30.46	-23.46	0.00
185	0.030	-30.46	-23.46	0.00	230	0.030	-30.46	-23.46	0.00
186	0.030	-30.46	-23.46	0.00	231	0.030	-30.46	-23.46	0.00
187	0.030	-30.46	-23.46	0.00	232	0.030	-30.46	-23.46	0.00
188	0.030	-30.46	-23.46	0.00	233	0.030	-30.46	-23.46	0.00
189	0.030	-30.46	-23.46	0.00	234	0.030	-30.46	-23.46	0.00
190	0.030	-30.46	-23.46	0.00	235	0.030	-30.46	-23.46	0.00
191	0.030	-30.46	-23.46	0.00	236	0.030	-30.46	-23.46	0.00
192	0.030	-30.46	-23.46	0.00	237	0.030	-30.46	-23.46	0.00
193	0.030	-30.46	-23.46	0.00	238	0.030	-30.46	-23.46	0.00
194	0.030	-30.46	-23.46	0.00	239	0.030	-30.46	-23.46	0.00
195	0.030	-30.46	-23.46	0.00	240	0.030	-30.46	-23.46	0.00
196	0.030	-30.46	-23.46	0.00	241	0.030	-30.46	-23.46	0.00
197	0.030	-30.46	-23.46	0.00	242	0.030	-30.46	-23.46	0.00
198	0.030	-30.46	-23.46	0.00	243	0.030	-30.46	-23.46	0.00
199	0.030	-30.46	-23.46	0.00	244	0.030	-30.46	-23.46	0.00
200	0.030	-30.46	-23.46	0.00	245	0.030	-30.46	-23.46	0.00
201	0.030	-30.46	-23.46	0.00	246	0.030	-30.46	-23.46	0.00
202	0.030	-30.46	-23.46	0.00	247	0.030	-30.46	-23.46	0.00
203	0.030	-30.46	-23.46	0.00	248	0.030	-30.46	-23.46	0.00
204	0.030	-30.46	-23.46	0.00	249	0.030	-30.46	-23.46	0.00
205	0.030	-30.46	-23.46	0.00	250	0.030	-30.46	-23.46	0.00
206	0.030	-30.46	-23.46	0.00	251	0.030	-30.46	-23.46	0.00
207	0.030	-30.46	-23.46	0.00	252	0.030	-30.46	-23.46	0.00
208	0.030	-30.46	-23.46	0.00	253	0.030	-30.46	-23.46	0.00
209	0.030	-30.46	-23.46	0.00	254	0.030	-30.46	-23.46	0.00
210	0.030	-30.46	-23.46	0.00	255	0.030	-30.46	-23.46	0.00
211	0.030	-30.46	-23.46	0.00	256	0.030	-30.46	-23.46	0.00
212	0.030	-30.46	-23.46	0.00	257	0.030	-30.46	-23.46	0.00
213	0.030	-30.46	-23.46	0.00	258	0.030	-30.46	-23.46	0.00
214	0.030	-30.46	-23.46	0.00	259	0.030	-30.46	-23.46	0.00
215	0.030	-30.46	-23.46	0.00	260	0.030	-30.46	-23.46	0.00
216	0.030	-30.46	-23.46	0.00	261	0.030	-30.46	-23.46	0.00
217	0.030	-30.46	-23.46	0.00	262	0.030	-30.46	-23.46	0.00
218	0.030	-30.46	-23.46	0.00	263	0.030	-30.46	-23.46	0.00
219	0.030	-30.46	-23.46	0.00	264	0.030	-30.46	-23.46	0.00
220	0.030	-30.46	-23.46	0.00	265	0.030	-30.46	-23.46	0.00
221	0.030	-30.46	-23.46	0.00	266	0.030	-30.46	-23.46	0.00
222	0.030	-30.46	-23.46	0.00	267	0.030	-30.46	-23.46	0.00
223	0.030	-30.46	-23.46	0.00	268	0.030	-30.46	-23.46	0.00
224	0.030	-30.46	-23.46	0.00	269	0.030	-30.46	-23.46	0.00

Exhibit 13.7 Tabulation of Proposed Directional Antenna (Antenna Rotation: 300.0°T)

KATHREIN
SCALA DIVISION

CL-FM Log-periodic
FM
Maximum gain: 7.0 dBd
Vertical polarization

Horizontal radiation pattern
0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
270	0.030	-30.46	-23.46	0.00	315	0.618	-4.19	2.81	1.91
271	0.030	-30.46	-23.46	0.00	316	0.632	-3.99	3.01	2.00
272	0.030	-30.46	-23.46	0.00	317	0.646	-3.79	3.21	2.09
273	0.030	-30.46	-23.46	0.00	318	0.661	-3.60	3.40	2.19
274	0.030	-30.46	-23.46	0.00	319	0.675	-3.41	3.59	2.29
275	0.030	-30.46	-23.46	0.00	320	0.690	-3.22	3.78	2.39
276	0.034	-29.37	-22.37	0.01	321	0.704	-3.05	3.95	2.48
277	0.038	-28.40	-21.40	0.01	322	0.716	-2.90	4.10	2.57
278	0.042	-27.54	-20.54	0.01	323	0.729	-2.74	4.26	2.67
279	0.046	-26.74	-19.74	0.01	324	0.742	-2.59	4.41	2.76
280	0.050	-26.02	-19.02	0.01	325	0.756	-2.44	4.56	2.86
281	0.062	-24.15	-17.15	0.02	326	0.767	-2.30	4.70	2.95
282	0.074	-22.62	-15.62	0.03	327	0.781	-2.15	4.85	3.05
283	0.086	-21.31	-14.31	0.04	328	0.793	-2.02	4.98	3.15
284	0.098	-20.18	-13.18	0.05	329	0.806	-1.88	5.12	3.25
285	0.110	-19.17	-12.17	0.06	330	0.817	-1.75	5.25	3.35
286	0.126	-17.99	-10.99	0.08	331	0.829	-1.63	5.37	3.44
287	0.142	-16.95	-9.95	0.10	332	0.840	-1.52	5.48	3.53
288	0.158	-16.03	-9.03	0.13	333	0.851	-1.41	5.59	3.63
289	0.174	-15.19	-8.19	0.15	334	0.862	-1.29	5.71	3.72
290	0.190	-14.42	-7.42	0.18	335	0.873	-1.18	5.82	3.82
291	0.212	-13.47	-6.47	0.23	336	0.882	-1.10	5.90	3.89
292	0.234	-12.62	-5.62	0.27	337	0.890	-1.01	5.99	3.97
293	0.256	-11.84	-4.84	0.33	338	0.899	-0.92	6.08	4.05
294	0.278	-11.12	-4.12	0.39	339	0.908	-0.84	6.16	4.13
295	0.300	-10.46	-3.46	0.45	340	0.916	-0.76	6.24	4.21
296	0.318	-9.95	-2.95	0.51	341	0.923	-0.69	6.31	4.27
297	0.336	-9.47	-2.47	0.57	342	0.931	-0.62	6.38	4.34
298	0.354	-9.02	-2.02	0.63	343	0.938	-0.56	6.44	4.41
299	0.372	-8.59	-1.59	0.69	344	0.946	-0.49	6.51	4.48
300	0.390	-8.18	-1.18	0.76	345	0.952	-0.42	6.58	4.55
301	0.405	-7.84	-0.84	0.82	346	0.958	-0.37	6.63	4.60
302	0.421	-7.51	-0.51	0.89	347	0.964	-0.32	6.68	4.65
303	0.436	-7.20	-0.20	0.95	348	0.969	-0.27	6.73	4.71
304	0.452	-6.90	0.10	1.02	349	0.975	-0.22	6.78	4.76
305	0.467	-6.60	0.40	1.10	350	0.980	-0.18	6.82	4.81
306	0.483	-6.33	0.67	1.17	351	0.982	-0.15	6.85	4.84
307	0.498	-6.06	0.94	1.24	352	0.985	-0.13	6.87	4.87
308	0.513	-5.80	1.20	1.32	353	0.988	-0.10	6.90	4.89
309	0.528	-5.54	1.46	1.40	354	0.991	-0.08	6.92	4.92
310	0.544	-5.30	1.70	1.48	355	0.993	-0.06	6.94	4.95
311	0.558	-5.06	1.94	1.56	356	0.995	-0.04	6.96	4.96
312	0.573	-4.84	2.16	1.65	357	0.996	-0.03	6.97	4.97
313	0.588	-4.61	2.39	1.73	358	0.997	-0.02	6.98	4.99
314	0.602	-4.40	2.60	1.82	359	0.998	-0.01	6.99	5.00