

TECHNICAL REPORT

K266CJ Modification - Everett, WA

Non-adjacent channel change from channel 266 (101.1 MHz) to Channel 245 (96.9 MHz)

This technical report is submitted in support of a minor modifications to K266CJ at Everett, WA, FCC Facility I.D. 156877. A non-adjacent move to channel 245D and modification of the directional antenna is requested, in accordance with CFR §74.1233(a)(1). The non-adjacent move is required due to displacement from the KWDB(FM) 266C3.CP at Coupeville, WA, FCC facility I.D. 762400 and the substantial interference caused to and received from that facility. The modified translator will continue to serve as a fill-in facility to rebroadcast KKXA(AM) 1520 kHz at Snohomish, WA (FCC Facility I.D. 160891). K266CJ is a 250 mile move translator and remains at 236.2 miles from its original site and is compliant with the 250 mile limitation.

Non-adjacent channel move per §74.1233(a)(1) analysis:

A non-adjacent channel change to 245D (96.9 MHz) is requested in accordance with CFR §74.1233(a)(1) as modified in *FCC 19-40, May 9, 2019*. In that Report and Order, the Commission explained that:

*6. For these reasons, we modify section 74.1233(a)(1) of the Commission's rules (Rules) to define an FM translator's change to any available same-band FM channel as a minor change, upon a showing of actual or **predicted interference** to or from any other broadcast station (emphasis added).*

Exhibits E-1 and E-2 show the prohibited overlap to the KWDB(FM) CP and the substantial interference received by K266CJ. The proposed channel 245D facility will eliminate the prohibited interference overlap to KDWB and reduce incoming interference

which will provide a much greater interference free population, including the entire community of Everett, WA (exhibit E-3). Therefore, a modification to channel 245D is requested in accordance with the modified rules. Interference calculations were performed using the V-Soft Probe 4 FM interference feature, 1 second (30 meter) FCC terrain and the FCC -20 dB co-channel U/D ratio.

Allocation Analysis:

An overlap study in exhibit E-3 shows the proposed facility complies with §74.1204 with the exception of second adjacent channel KJAQ(FM) 243C at Seattle, WA and KIRO-FM 247C at Tacoma, WA. Using the vertical elevation pattern of the PSI FML two bay, 0.625 wavelength spaced antenna (exhibit E-4), the +40 F(50-10) dBu contours within the protected contours (exhibits E-5 and E-6) will not reach any population, buildings or major roads (exhibit E-7). Therefore, a waiver of Section 74.1204 is requested in accordance with *Living Way Ministries, Inc.* (FCC 08-242).

The proposed K266CJ 245D 60 F(50-50) dBu contour overlaps the current facility and is within the primary KXXA(AM) 2.0 mV/m daytime contour (exhibit E-8).

Antenna System:

The K266CJ modification to 245D will be located on the existing 76.2 meter tower, ASR 1239952, at coordinates:

47 55 46.2N 122 14 56.5W NAD 83

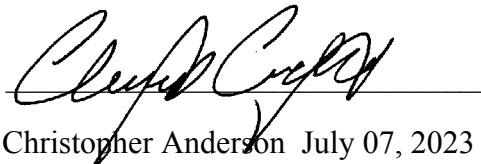
A PSI FML two bay, 0.625 wavelength spaced, directional antenna (exhibit E-9) will be mounted at a COR AGL of 57.0 meters, 209.4 meters AMSL, 15.9 meter HAAT (exhibit E-10) and operate at 0.250 kW ERP.

RF Exposure Calculation:

The RF contribution was calculated using FMModel (exhibit E-11). The RF is calculated to be $0.418 \mu\text{W}/\text{cm}^2$ at a distance of 125.5 meters from the base of the tower, which is below 5% of the $200 \mu\text{W}/\text{cm}^2$ maximum permissible for general population exposure, allowing exclusion from consideration.

Conclusion:

It is concluded that the K266CJ modification to 245D complies with all Commission rules and policies.

A handwritten signature in black ink, appearing to read "Christopher Anderson", is written over a horizontal line.

Christopher Anderson July 07, 2023
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E-1 K266CJ Lic. Overlap Study

REFERENCE 47 55 46.30 N. 122 14 56.50 W.		CH# 266D - 101.1 MHz, Pwr= 0.25 kW DA, HAAT= 147.3 M, COR= 209 M Average Protected F(50-50)= 15.72 km Standard Directional						DISPLAY DATES DATA 07-07-23 SEARCH 07-07-23		
CH CITY	CALL	TYPE STATE	ANT AZI <--	DI ST FILE #	LAT LNG	PWR(KW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
266C3 Coupeville	AL250767	ALO D WA	314.3 133.9	46.15 0000216443	48 13 06.00 122 41 43.00	25.000 100	113.7 118	33.3	-82.3*	-46.9*
266C3 Coupeville	KWDB	CP ZCN WA	331.6 151.4	45.91 0000210445	48 17 32.80 122 32 38.90	10.000 157	105.2 185	36.5	-76.1*	-49.5*(1)
266D Everett	K266CJ	LIC DCN WA	0.0 0.0	0.00 BMLFT20170313ABN	47 55 46.30 122 14 56.50	0.250	209	---Reference--- Caam Partnership, LLC.		
266C New Westminster	CFMI FM	LIC DHN BC	342.2 161.7	167.07	49 21 28.40 122 57 13.70	75.000 686	215.5 1034	107.6	-66.6*	7.4
266C New Westminster	R14375	VAC BC	341.6 161.0	166.17	49 20 41.40 122 58 26.70	100.000 600	212.9 905	97.0 From CDBS	-64.9*	6.5
264C Seattle	KKWF	ALO WA	193.8 13.7	33.88	47 38 00.40 122 21 24.50	100.000 600	13.0 640	89.5 Audacy License, LLC	12.7	-55.9*
266A Coupeville	AL11841	ALO WA	321.0 140.6	53.12	48 17 59.40 122 42 04.60	6.000 100	89.4 120	29.7	-54.7*	-35.9*
264C Seattle	KKWF	LIC DCN WA	156.6 336.8	51.55 BLH20081120AFT	47 30 13.40 121 58 33.40	68.000 707	13.5 940	94.8 Audacy License, LLC	26.2	-44.0*
268C0 Seattle	KPLZ-FM	ALO WA	166.2 346.3	44.02	47 32 41.40 122 06 33.40	100.000 450	12.4 580	85.6 Lotus Seattle Corp.	20.1	-41.9*
268C0 Seattle	KPLZ-FM	LIC CN WA	166.2 346.3	44.09 BLH20121220AAY	47 32 39.40 122 06 32.40	100.000 372	11.5 496	79.6 Lotus Seattle Corp.	21.0	-35.9*
266C2 Leavenworth	KOHO-FM	LIC NCN WA	105.0 286.3	134.96 BLH20010731ABM	47 36 06.40 120 30 36.30	0.950 623	123.5 1444	51.2 Icicle Broadcasting, Inc.	-6.6	27.5
266L1 Magnuson Park	KMGF-LP	LIC CN WA	187.7 7.7	30.42 BLL20170925ACX	47 39 30.30 122 18 13.40	0.046 44	86	23.5R Sand Point Arts And Cultur		
266AA River Jordan	AL08714	ALO BC	292.9 111.7	138.57	48 24 05.30 123 58 24.70	6.000 100	106.2 318	38.0	14.8	27.4
266A River Jordan	AL0857	VAC BC	292.9 111.7	138.57	48 24 05.32 123 58 24.74	6.000 100	106.2 318	38.0 From CDBS	14.8	27.4
266D Olympia	K266BM	APP DCN WA	212.5 31.8	125.57 0000115909	46 58 23.30 123 08 15.50	0.250 655	93.9 858	32.7 Northwest Rock N Roll Pres	21.8	61.1
266D Olympia	K266BM	CP DCN WA	212.5 31.8	125.57 BMPFT20190618ABI	46 58 23.30 123 08 15.50	0.250 655	93.9 858	32.7 Northwest Rock N Roll Pres	21.8	61.1
212C3 Seattle	KEXP-FM	LIC DCN WA	187.3 7.3	35.15 BMLED20071030ABD	47 36 57.40 122 18 32.50	4.700 211	44.9 247	12.6 Friends Of Kexp	11.5R	23.7M
266D Olympia	K266BM	CP DCN WA	212.5 31.8	125.57 BPFT20190618ABI	46 58 23.30 123 08 15.50	0.250 655	88.8 858	30.3 Northwest Rock N Roll Pres	27.0	61.1
266D Olympia	K266BM	LIC DCN WA	212.5 31.8	125.57 BLFT20190904ABL	46 58 23.30 123 08 15.50	0.250 655	88.4 858	29.9 Northwest Rock N Roll Pres	27.3	70.6
266D Auburn	NEW	APP DCN WA	180.0 0.0	69.36 BNPFT20180418ABI	47 18 20.40 122 14 57.40	0.150	31.4 80	9.5 Bustos Medi a Hol di ngs, LLC	27.9	42.8
267D Sequim	K267CT	LIC DCN WA	289.0 108.4	68.13 BLFT20181102AAX	48 07 33.30 123 07 01.60	0.250	6.8 85	4.8 Radi o Paci fi c, Inc.	45.0	38.2
267D Auburn	NEW	APP CN WA	176.4 356.4	70.08 BNPFT20180130ABM	47 18 01.40 122 11 26.40	0.250	10.1 85	7.1 Bustos Medi a Hol di ngs, LLC	49.4	52.4

Terrain database is FCC 30 meter, R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= West Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
"***"affixed to 'IN' or 'OUT' values = site inside restricted contour.
« = Station meets FCC minimum distance spacing for its class.
Reference station has protected zone issue: Canada

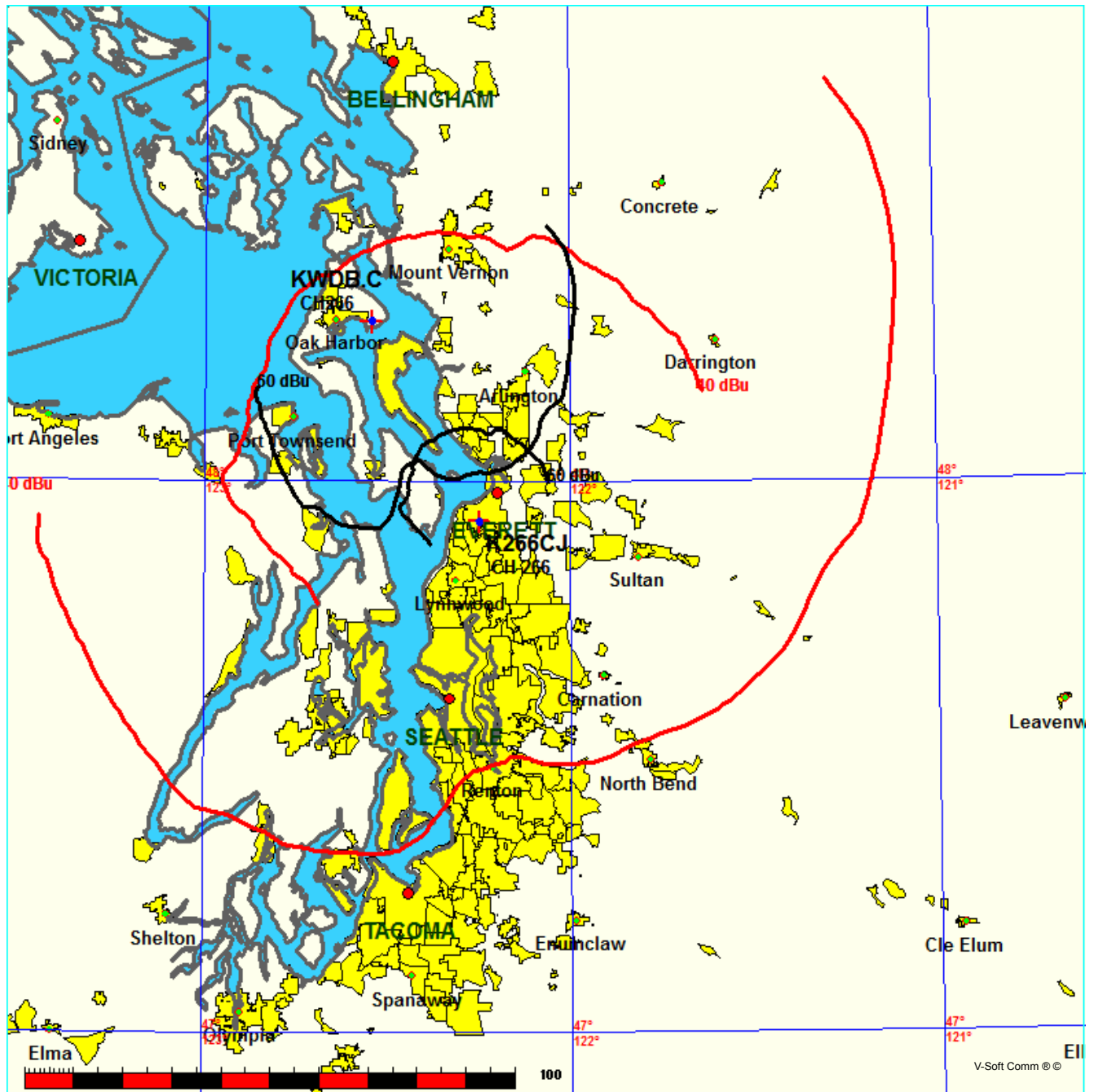
(1) The K266CJ licensed facility is displaced by the KWBD(FM) 266C3.CP facility at Everett, WA.

E-2 K266CJ Lic. KWDB(FM) 266C3.CP Interference Plot

FMCommander Single Allocation Study - 07-07-2023 - FCC 30 meter
K266CJ's Overlaps (In= -76.1 km, Out= -49.53 km)

K266CJ CH 266 D DA
Lat= 47 55 46.20, Lng= 122 14 56.50
0.25 kW 147.3 m HAAT, 209 m COR
Prot.= 60 dBu, Intef.= 40 dBu

KWDB-C CH 266 C3 73.215 Z 0000210445
Lat= 48 17 32.80, Lng= 122 32 38.90
10.0 kW 157 m HAAT, 185 m COR
Prot.= 60 dBu, Intef.= 40 dBu



E-3 K266CJ Mod. 245D Overlap Study

REFERENCE 47 55 46.20 N. 122 14 56.50 W.		CH# 245D - 96.9 MHz, Pwr= 0.25 kW DA, HAAT= 147.3 M, COR= 209 M Average Protected F(50-50)= 15.72 km Standard Directional								DISPLAY DATES DATA 07-07-23 SEARCH 07-07-23	
CH CITY	CALL	TYPE STATE	ANT AZI ---	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*	
245C Vancouver	CKKSFM	LIC DHN BC	342.2 161.7	167.08	49 21 28.40 122 57 13.70	72.000 686	214.4 1034	107.0	-65.6*	7.5	
243C Seattle	KJAQ	ALO ____ WA	166.3 346.4	44.10	47 32 38.40 122 06 36.40	100.000 600	14.1 730	93.0 Ihm Licenses, LLC	19.2	-49.5*	
247C Tacoma	KIRO-FM	ALO ____ WA	156.6 336.8	51.55	47 30 13.40 121 58 33.40	100.000 600	14.6 827	94.8 Bonneville International C	25.7	-44.0*	
243C Seattle	KJAQ	LIC NCN WA	156.0 336.2	51.67 0000123036	47 30 16.70 121 58 07.80	66.000 696	13.2 930	93.7 Ihm Licenses, LLC	26.9	-42.9*(1)	
247C Tacoma	KIRO-FM	LIC _CN WA	156.6 336.8	51.55 BMLH20161212ABJ	47 30 13.40 121 58 33.40	55.000 729	12.5 956	93.1 Bonneville International C	27.7	-42.3*(2)	
245C2 Mccl eary	KYYO	LIC NCN WA	217.3 36.6	117.42 BLH20100907ABL	47 05 08.30 123 11 21.50	11.000 321	132.9 490	55.9 Kgy, Inc.	-25.7*	28.7	
245L1 Seattle	KODX-LP	LIC _CN WA	188.4 8.4	30.65 0000177992	47 39 24.16 122 18 32.63	0.046 31	73	6.4 Earth On-The-Air I ndepende	0.5		
299C Seattle	KNDD	ALO ____ WA	166.2 346.3	44.26	47 32 34.40 122 06 29.40	100.000 600	44.9 731	12.6 Audacy Li cense, LLC	28.5R	15.8M	
299C Seattle	KNDD	LIC DCN WA	156.6 336.8	51.58 BLH20080807ABS	47 30 13.40 121 58 33.40	68.000 707	44.9 940	12.6 Audacy Li cense, LLC	28.5R	23.1M	
246A Metchosin/sooke	R29441	ADD ____ BC	298.6 117.7	111.65	48 24 08.33 123 34 24.68	6.000 100	59.4 230	38.0 From CDBS	34.4	36.5	
246AA Metchosin/sooke	R19047	RUL ____ BC	298.6 117.7	111.65	48 24 08.30 123 34 24.70	6.000 100	59.4 230	38.0 From CDBS	34.4	36.5	
245C2 Naches	AL1230	RSV-A ____ WA	145.7 326.6	177.88 RM10093	46 36 01.44 120 56 10.26	50.000 150	115.0 1200	26.5 From CDBS	48.3	98.9	

Terrain database is FCC 30 meter , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= West Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding.
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
"*"affixed to 'IN' or 'OUT' values = site inside restricted contour.
« = Station meets FCC minimum distance spacing for its class.
Reference station has protected zone issue: Canada

- (1) The +40 117.57 F(50-10) dBu contour within the KJAQ(FM) 243C second adjacent protected contour (exhibit E-5) lowest point = 18.97 meters (exhibit E-7).
- (2) The +40 117.32 F(50-10) dBu contour within the KIRO-FM 247C second adjacent protected contour (exhibit E-6) lowest point = 17.87 meters (exhibit E-7).

E-4 K266CJ Mod. 245D Antenna Vertical Elevation Pattern and Tabulation





Propagation Systems Inc.
Elevation Pattern Tabulation
Antenna: PSIFML-2 Special
Bay spacing: 5/8 wave

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.0	0.001	-60.000	-50.0	0.043	-27.325	-10.0	0.928	-0.649
-89.0	0.007	-43.722	-49.0	0.058	-24.659	-9.0	0.941	-0.525
-88.0	0.013	-37.600	-48.0	0.075	-22.534	-8.0	0.953	-0.414
-87.0	0.020	-34.045	-47.0	0.092	-20.741	-7.0	0.964	-0.316
-86.0	0.026	-31.630	-46.0	0.110	-19.196	-6.0	0.974	-0.232
-85.0	0.033	-29.742	-45.0	0.128	-17.833	-5.0	0.982	-0.162
-84.0	0.039	-28.226	-44.0	0.148	-16.602	-4.0	0.988	-0.103
-83.0	0.045	-26.965	-43.0	0.168	-15.492	-3.0	0.993	-0.058
-82.0	0.051	-25.916	-42.0	0.189	-14.474	-2.0	0.997	-0.026
-81.0	0.056	-25.003	-41.0	0.211	-13.531	-1.0	0.999	-0.007
-80.0	0.062	-24.220	-40.0	0.233	-12.657	0.0	1.000	0.000
-79.0	0.067	-23.542	-39.0	0.256	-11.843	1.0	0.999	-0.007
-78.0	0.071	-22.967	-38.0	0.279	-11.085	2.0	0.997	-0.026
-77.0	0.075	-22.464	-37.0	0.303	-10.366	3.0	0.993	-0.058
-76.0	0.079	-22.021	-36.0	0.328	-9.694	4.0	0.988	-0.103
-75.0	0.083	-21.663	-35.0	0.352	-9.059	5.0	0.982	-0.162
-74.0	0.086	-21.350	-34.0	0.378	-8.460	6.0	0.974	-0.232
-73.0	0.088	-21.092	-33.0	0.403	-7.890	7.0	0.964	-0.316
-72.0	0.090	-20.901	-32.0	0.429	-7.349	8.0	0.953	-0.414
-71.0	0.092	-20.770	-31.0	0.455	-6.840	9.0	0.941	-0.525
-70.0	0.092	-20.684	-30.0	0.481	-6.353	10.0	0.928	-0.649
-69.0	0.093	-20.656	-29.0	0.507	-5.893	11.0	0.913	-0.786
-68.0	0.092	-20.699	-28.0	0.534	-5.455	12.0	0.898	-0.937
-67.0	0.091	-20.785	-27.0	0.560	-5.039	13.0	0.881	-1.101
-66.0	0.090	-20.944	-26.0	0.586	-4.643	14.0	0.863	-1.281
-65.0	0.087	-21.182	-25.0	0.612	-4.268	15.0	0.844	-1.475
-64.0	0.084	-21.489	-24.0	0.637	-3.911	16.0	0.824	-1.682
-63.0	0.080	-21.889	-23.0	0.663	-3.573	17.0	0.803	-1.905
-62.0	0.076	-22.394	-22.0	0.687	-3.256	18.0	0.781	-2.143
-61.0	0.070	-23.042	-21.0	0.712	-2.953	19.0	0.759	-2.398
-60.0	0.064	-23.823	-20.0	0.736	-2.667	20.0	0.736	-2.667
-59.0	0.057	-24.818	-19.0	0.759	-2.398	21.0	0.712	-2.953
-58.0	0.050	-26.073	-18.0	0.781	-2.145	22.0	0.688	-3.254
-57.0	0.041	-27.731	-17.0	0.803	-1.905	23.0	0.663	-3.573
-56.0	0.032	-30.030	-16.0	0.824	-1.684	24.0	0.637	-3.911
-55.0	0.021	-33.468	-15.0	0.844	-1.475	25.0	0.612	-4.268
-54.0	0.010	-39.869	-14.0	0.863	-1.281	26.0	0.586	-4.641
-53.0	0.002	-54.807	-13.0	0.881	-1.103	27.0	0.560	-5.036
-52.0	0.015	-36.655	-12.0	0.898	-0.937	28.0	0.534	-5.453
-51.0	0.028	-30.954	-11.0	0.913	-0.786	29.0	0.507	-5.893
						30.0	0.481	-6.353

file: FML 2-bay elevation tabulation

revision: A

Date: 1/28/08

E-5 K266CJ Mod. 245D +40F(50-10) dBu Contour Tabulation Within KJAQ(FM) 243C

K266CJ Everett, WA, Showing Protection to KJAQ, Channel: 243

Geographic Coordinates: N. 47 55 46.20 W. 122 14 56.50

74.1204(d) Study - Using FCC 30 meter Terrain Database

Translator or LPFM Maximum Licensed ERP = 0.25 kW, Channel: 245

Translator or LPFM Antenna Height AG = 57 meters

K266CJ Antenna Model = PSI-2-5-8

Protected Station's Contour = 77.56534 dBu

Translator's or LPFM's full Interference contour 117.56534

Review Azimuth = 0 Degrees True

Horizontal Relative Field at Review Azimuth = 1.000

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

Distance between stations = 51.7 km

Protected Station= KJAQ, 66 kW, 930 M meters COR AMSL

Depression Angle From Degree(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)(1)
00.00	1.000	1.0	0.2500	146.7922	146.7922	057.000
01.00	0.999	1.0	0.2495	146.6454	146.6231	054.441
02.00	0.997	1.0	0.2485	146.3518	146.2627	051.892
03.00	0.993	1.0	0.2465	145.7647	145.5649	049.371
04.00	0.988	1.0	0.2440	145.0307	144.6774	046.883
05.00	0.982	1.0	0.2411	144.1499	143.6014	044.437
06.00	0.974	1.0	0.2372	142.9756	142.1924	042.055
07.00	0.964	1.0	0.2323	141.5077	140.4529	039.755
08.00	0.953	1.0	0.2271	139.8930	138.5315	037.531
09.00	0.941	1.0	0.2214	138.1315	136.4308	035.391
10.00	0.928	1.0	0.2153	136.2232	134.1536	033.345
11.00	0.913	1.0	0.2084	134.0213	131.5589	031.428
12.00	0.898	1.0	0.2016	131.8194	128.9388	029.593
13.00	0.881	1.0	0.1940	129.3239	126.0094	027.908
14.00	0.863	1.0	0.1862	126.6817	122.9187	026.353
15.00	0.844	1.0	0.1781	123.8926	119.6711	024.934
16.00	0.824	1.0	0.1697	120.9568	116.2711	023.660
17.00	0.803	1.0	0.1612	117.8741	112.7236	022.537
18.00	0.781	1.0	0.1525	114.6447	109.0336	021.573
19.00	0.759	1.0	0.1440	111.4153	105.3452	020.727
20.00	0.736	1.0	0.1354	108.0391	101.5235	020.048
21.00	0.712	1.0	0.1267	104.5161	097.5741	019.545
22.00	0.687	1.0	0.1180	100.8462	093.5030	019.222
23.00	0.663	1.0	0.1099	097.3232	089.5865	018.973
24.00	0.637	1.0	0.1014	093.5066	085.4226	018.967(1)
25.00	0.612	1.0	0.0936	089.8368	081.4198	019.033
26.00	0.586	1.0	0.0858	086.0202	077.3145	019.291
27.00	0.560	1.0	0.0784	082.2036	073.2440	019.680
28.00	0.534	1.0	0.0713	078.3870	069.2116	020.200
29.00	0.507	1.0	0.0643	074.4237	065.0924	020.919

Depression Angle From Degree(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)(1)
30.00	0.481	1.0	0.0578	070.6071	061.1475	021.696
31.00	0.455	1.0	0.0518	066.7905	057.2506	022.600
32.00	0.429	1.0	0.0460	062.9739	053.4049	023.629
33.00	0.403	1.0	0.0406	059.1573	049.6135	024.781
34.00	0.378	1.0	0.0357	055.4875	046.0012	025.972
35.00	0.352	1.0	0.0310	051.6709	042.3263	027.363
36.00	0.328	1.0	0.0269	048.1478	038.9524	028.699
37.00	0.303	1.0	0.0230	044.4780	035.5217	030.232
38.00	0.279	1.0	0.0195	040.9550	032.2730	031.786
39.00	0.256	1.0	0.0164	037.5788	029.2042	033.351
40.00	0.233	1.0	0.0136	034.2026	026.2007	035.015
41.00	0.211	1.0	0.0111	030.9732	023.3757	036.680
42.00	0.189	1.0	0.0089	027.7437	020.6176	038.436
43.00	0.168	1.0	0.0071	024.6611	018.0360	040.181
44.00	0.148	1.0	0.0055	021.7252	015.6278	041.908
45.00	0.128	1.0	0.0041	018.7894	013.2861	043.714
46.00	0.110	1.0	0.0030	016.1471	011.2167	045.385
47.00	0.092	1.0	0.0021	013.5049	009.2103	047.123
48.00	0.075	1.0	0.0014	011.0094	007.3667	048.818
49.00	0.058	1.0	0.0008	008.5139	005.5857	050.574
50.00	0.043	1.0	0.0005	006.3121	004.0573	052.165
51.00	0.028	1.0	0.0002	004.1102	002.5866	053.806
52.00	0.015	1.0	0.0001	002.2019	001.3556	055.265
53.00	0.002	1.0	0.0000	000.2936	000.1767	056.766
54.00	0.010	1.0	0.0000	001.4679	000.8628	055.812
55.00	0.021	1.0	0.0001	003.0826	001.7681	054.475
56.00	0.032	1.0	0.0003	004.6974	002.6267	053.106
57.00	0.041	1.0	0.0004	006.0185	003.2779	051.952
58.00	0.050	1.0	0.0006	007.3396	003.8894	050.776
59.00	0.057	1.0	0.0008	008.3672	004.3094	049.828
60.00	0.064	1.0	0.0010	009.3947	004.6974	048.864
61.00	0.069	1.0	0.0012	010.0699	004.8820	048.193
62.00	0.073	1.0	0.0013	010.7452	005.0446	047.513
63.00	0.078	1.0	0.0015	011.4204	005.1848	046.824
64.00	0.082	1.0	0.0017	012.0957	005.3024	046.128
65.00	0.087	1.0	0.0019	012.7709	005.3972	045.426
66.00	0.090	1.0	0.0020	013.2113	005.3735	044.931
67.00	0.091	1.0	0.0021	013.3581	005.2194	044.704
68.00	0.092	1.0	0.0021	013.5049	005.0590	044.478
69.00	0.093	1.0	0.0022	013.6517	004.8923	044.255
70.00	0.092	1.0	0.0021	013.5049	004.6189	044.310
71.00	0.092	1.0	0.0021	013.5049	004.3968	044.231
72.00	0.090	1.0	0.0020	013.2113	004.0825	044.435
73.00	0.088	1.0	0.0019	012.9177	003.7768	044.647
74.00	0.086	1.0	0.0018	012.6241	003.4797	044.865
75.00	0.083	1.0	0.0017	012.1838	003.1534	045.231
76.00	0.079	1.0	0.0016	011.5966	002.8055	045.748
77.00	0.075	1.0	0.0014	011.0094	002.4766	046.273

Depression Angle From Degree(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m) (1)
78.00	0.071	1.0	0.0013	010.4222	002.1669	046.806
79.00	0.067	1.0	0.0011	009.8351	001.8766	047.346
80.00	0.062	1.0	0.0010	009.1011	001.5804	048.037
81.00	0.056	1.0	0.0008	008.2204	001.2859	048.881
82.00	0.051	1.0	0.0007	007.4864	001.0419	049.586
83.00	0.045	1.0	0.0005	006.6056	000.8050	050.444
84.00	0.039	1.0	0.0004	005.7249	000.5984	051.306
85.00	0.033	1.0	0.0003	004.8441	000.4222	052.174
86.00	0.026	1.0	0.0002	003.8166	000.2662	053.193
87.00	0.020	1.0	0.0001	002.9358	000.1537	054.068
88.00	0.014	1.0	0.0000	001.9817	000.0692	055.020
89.00	0.007	1.0	0.0000	001.0275	000.0179	055.973
90.00	0.001	1.0	0.0000	000.1468	000.0000	056.853

(1) The +40 117.57 F(50-10) dBu contour lowest point = 18.97 meters above the site elevation, which will not reach any population, buildings or roads (exhibit E-7).

E-6 K266CJ Mod. 245D +40 F(50-10) dBu Contour Tabulation Within KIRO-FM 247C

K266CJ Everett, WA, Showing Protection to KIRO-FM, Channel: 247

Geographic Coordinates: N. 47 55 46.20 W. 122 14 56.50

74.1204(d) Study - Using FCC 30 meter Terrain Database

Translator or LPFM Maximum Licensed ERP = 0.25 kW, Channel: 245

Translator or LPFM Antenna Height AG = 57 meters

K266CJ Antenna Model = PSI-2-5-8

Protected Station's Contour = 77.31825 dBu

Translator's or LPFM's full Interference contour 117.31825

Review Azimuth = 0 Degrees True

Horizontal Relative Field at Review Azimuth = 1.000

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

Distance between stations = 51.6 km

Protected Station= KIRO-FM, 55 kW, 956 M meters COR AMSL

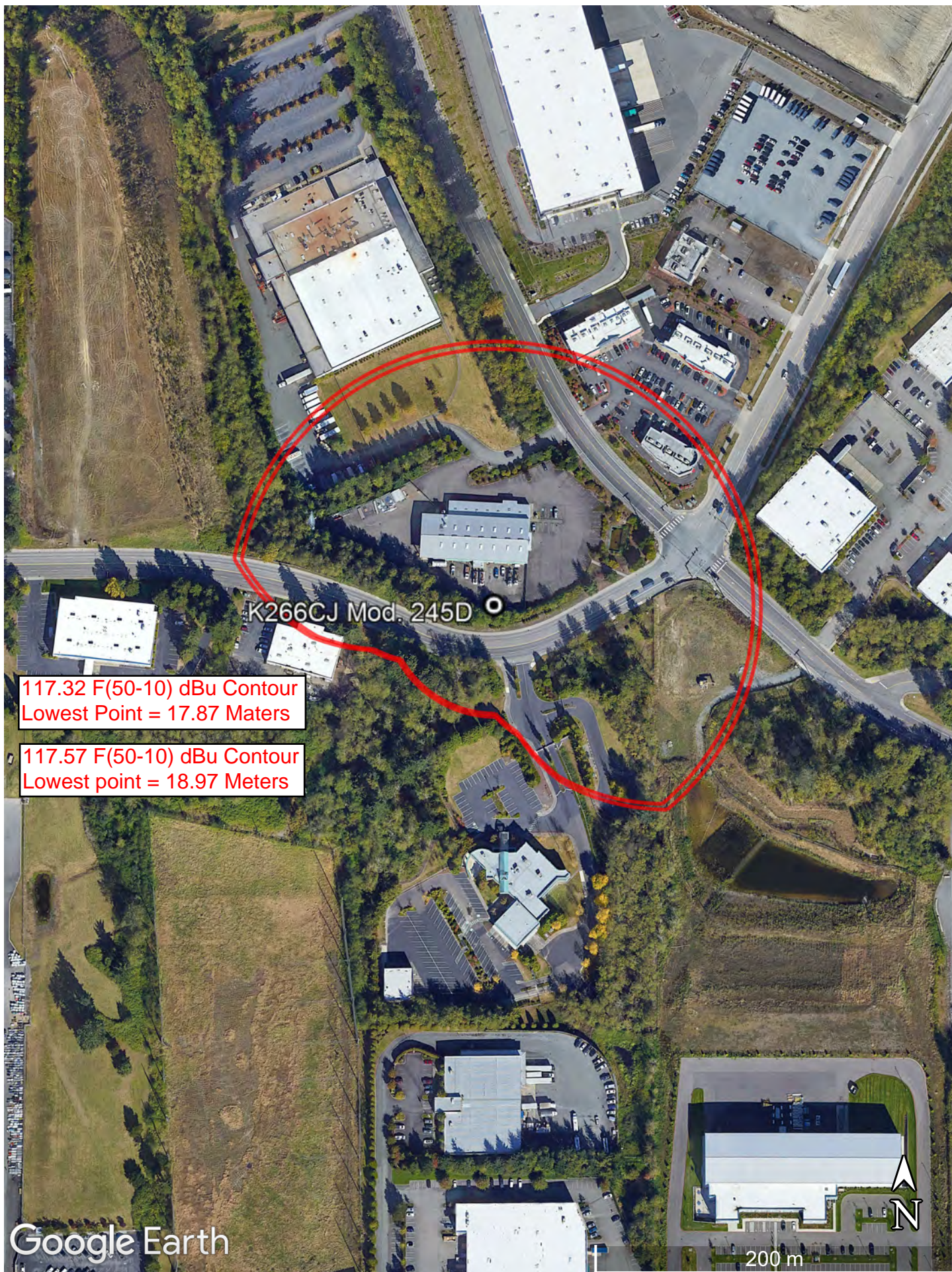
Depression Angle From Degree(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)(1)
00.00	1.000	1.0	0.2500	151.0280	151.0280	057.000
01.00	0.999	1.0	0.2495	150.8770	150.8540	054.367
02.00	0.997	1.0	0.2485	150.5749	150.4832	051.745
03.00	0.993	1.0	0.2465	149.9708	149.7653	049.151
04.00	0.988	1.0	0.2440	149.2157	148.8522	046.591
05.00	0.982	1.0	0.2411	148.3095	147.7451	044.074
06.00	0.974	1.0	0.2372	147.1013	146.2954	041.624
07.00	0.964	1.0	0.2323	145.5910	144.5058	039.257
08.00	0.953	1.0	0.2271	143.9297	142.5290	036.969
09.00	0.941	1.0	0.2214	142.1174	140.3677	034.768
10.00	0.928	1.0	0.2153	140.1540	138.0247	032.663
11.00	0.913	1.0	0.2084	137.8886	135.3552	030.690
12.00	0.898	1.0	0.2016	135.6232	132.6595	028.802
13.00	0.881	1.0	0.1940	133.0557	129.6455	027.069
14.00	0.863	1.0	0.1862	130.3372	126.4656	025.469
15.00	0.844	1.0	0.1781	127.4676	123.1243	024.009
16.00	0.824	1.0	0.1697	124.4471	119.6262	022.698
17.00	0.803	1.0	0.1612	121.2755	115.9763	021.542
18.00	0.781	1.0	0.1525	117.9529	112.1799	020.551
19.00	0.759	1.0	0.1440	114.6303	108.3850	019.680
20.00	0.736	1.0	0.1354	111.1566	104.4531	018.982
21.00	0.712	1.0	0.1267	107.5319	100.3897	018.464
22.00	0.687	1.0	0.1180	103.7562	096.2011	018.132
23.00	0.663	1.0	0.1099	100.1316	092.1716	017.875
24.00	0.637	1.0	0.1014	096.2048	087.8875	017.870(1)
25.00	0.612	1.0	0.0936	092.4291	083.7693	017.938
26.00	0.586	1.0	0.0858	088.5024	079.5454	018.203
27.00	0.560	1.0	0.0784	084.5757	075.3575	018.603
28.00	0.534	1.0	0.0713	080.6490	071.2088	019.138

Depression Angle From Degree(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)(1)
29.00	0.507	1.0	0.0643	076.5712	066.9707	019.878
30.00	0.481	1.0	0.0578	072.6445	062.9120	020.678
31.00	0.455	1.0	0.0518	068.7177	058.9026	021.608
32.00	0.429	1.0	0.0460	064.7910	054.9459	022.666
33.00	0.403	1.0	0.0406	060.8643	051.0451	023.851
34.00	0.378	1.0	0.0357	057.0886	047.3286	025.076
35.00	0.352	1.0	0.0310	053.1619	043.5476	026.508
36.00	0.328	1.0	0.0269	049.5372	040.0764	027.883
37.00	0.303	1.0	0.0230	045.7615	036.5467	029.460
38.00	0.279	1.0	0.0195	042.1368	033.2043	031.058
39.00	0.256	1.0	0.0164	038.6632	030.0469	032.668
40.00	0.233	1.0	0.0136	035.1895	026.9567	034.381
41.00	0.211	1.0	0.0111	031.8669	024.0503	036.093
42.00	0.189	1.0	0.0089	028.5443	021.2125	037.900
43.00	0.168	1.0	0.0071	025.3727	018.5564	039.696
44.00	0.148	1.0	0.0055	022.3521	016.0788	041.473
45.00	0.128	1.0	0.0041	019.3316	013.6695	043.331
46.00	0.110	1.0	0.0030	016.6131	011.5404	045.050
47.00	0.092	1.0	0.0021	013.8946	009.4761	046.838
48.00	0.075	1.0	0.0014	011.3271	007.5793	048.582
49.00	0.058	1.0	0.0008	008.7596	005.7468	050.389
50.00	0.043	1.0	0.0005	006.4942	004.1744	052.025
51.00	0.028	1.0	0.0002	004.2288	002.6613	053.714
52.00	0.015	1.0	0.0001	002.2654	001.3947	055.215
53.00	0.002	1.0	0.0000	000.3021	000.1818	056.759
54.00	0.010	1.0	0.0000	001.5103	000.8877	055.778
55.00	0.021	1.0	0.0001	003.1716	001.8191	054.402
56.00	0.032	1.0	0.0003	004.8329	002.7025	052.993
57.00	0.041	1.0	0.0004	006.1921	003.3725	051.807
58.00	0.050	1.0	0.0006	007.5514	004.0016	050.596
59.00	0.057	1.0	0.0008	008.6086	004.4338	049.621
60.00	0.064	1.0	0.0010	009.6658	004.8329	048.629
61.00	0.069	1.0	0.0012	010.3605	005.0229	047.938
62.00	0.073	1.0	0.0013	011.0553	005.1901	047.239
63.00	0.078	1.0	0.0015	011.7500	005.3344	046.531
64.00	0.082	1.0	0.0017	012.4447	005.4554	045.815
65.00	0.087	1.0	0.0019	013.1394	005.5530	045.092
66.00	0.090	1.0	0.0020	013.5925	005.5286	044.583
67.00	0.091	1.0	0.0021	013.7435	005.3700	044.349
68.00	0.092	1.0	0.0021	013.8946	005.2050	044.117
69.00	0.093	1.0	0.0022	014.0456	005.0335	043.887
70.00	0.092	1.0	0.0021	013.8946	004.7522	043.943
71.00	0.092	1.0	0.0021	013.8946	004.5236	043.862
72.00	0.090	1.0	0.0020	013.5925	004.2003	044.073
73.00	0.088	1.0	0.0019	013.2905	003.8858	044.290
74.00	0.086	1.0	0.0018	012.9884	003.5801	044.515
75.00	0.083	1.0	0.0017	012.5353	003.2444	044.892

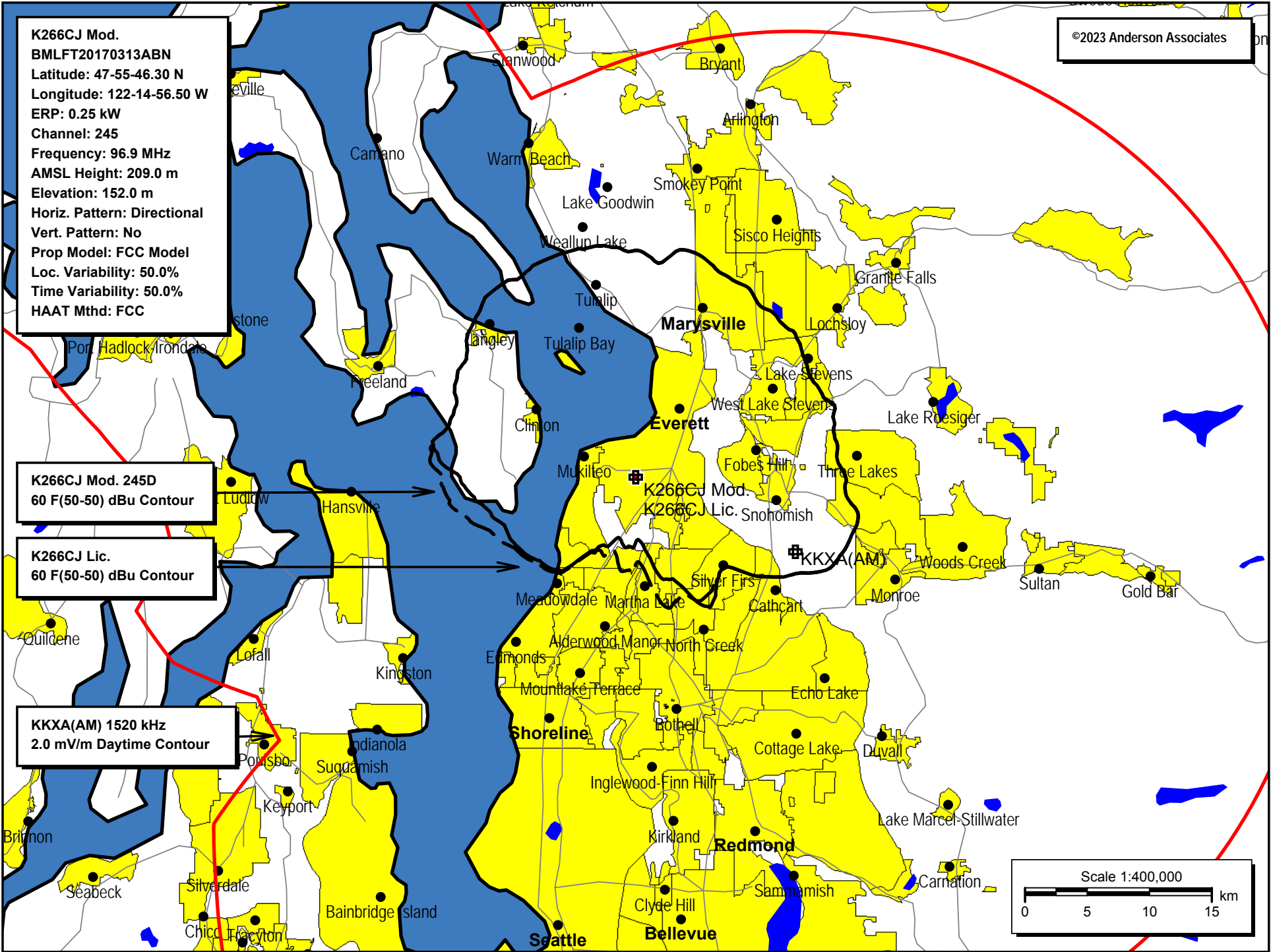
Depression Angle From Degree(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)(1)
76.00	0.079	1.0	0.0016	011.9312	002.8864	045.423
77.00	0.075	1.0	0.0014	011.3271	002.5480	045.963
78.00	0.071	1.0	0.0013	010.7230	002.2294	046.511
79.00	0.067	1.0	0.0011	010.1189	001.9308	047.067
80.00	0.062	1.0	0.0010	009.3637	001.6260	047.779
81.00	0.056	1.0	0.0008	008.4576	001.3231	048.647
82.00	0.051	1.0	0.0007	007.7024	001.0720	049.373
83.00	0.045	1.0	0.0005	006.7963	000.8283	050.254
84.00	0.039	1.0	0.0004	005.8901	000.6157	051.142
85.00	0.033	1.0	0.0003	004.9839	000.4344	052.035
86.00	0.026	1.0	0.0002	003.9267	000.2739	053.083
87.00	0.020	1.0	0.0001	003.0206	000.1581	053.984
88.00	0.014	1.0	0.0000	002.0389	000.0712	054.962
89.00	0.007	1.0	0.0000	001.0572	000.0185	055.943
90.00	0.001	1.0	0.0000	000.1510	000.0000	056.849

(1) The +40 117.32 F(50-10) dBu contour lowest point = 17.87 meters above the site elevation, which will not reach any population, buildings or roads (exhibit E-7).

E-7 K266CJ Mod. 245D +40F(50-10) dBu Contours Aerial Photo

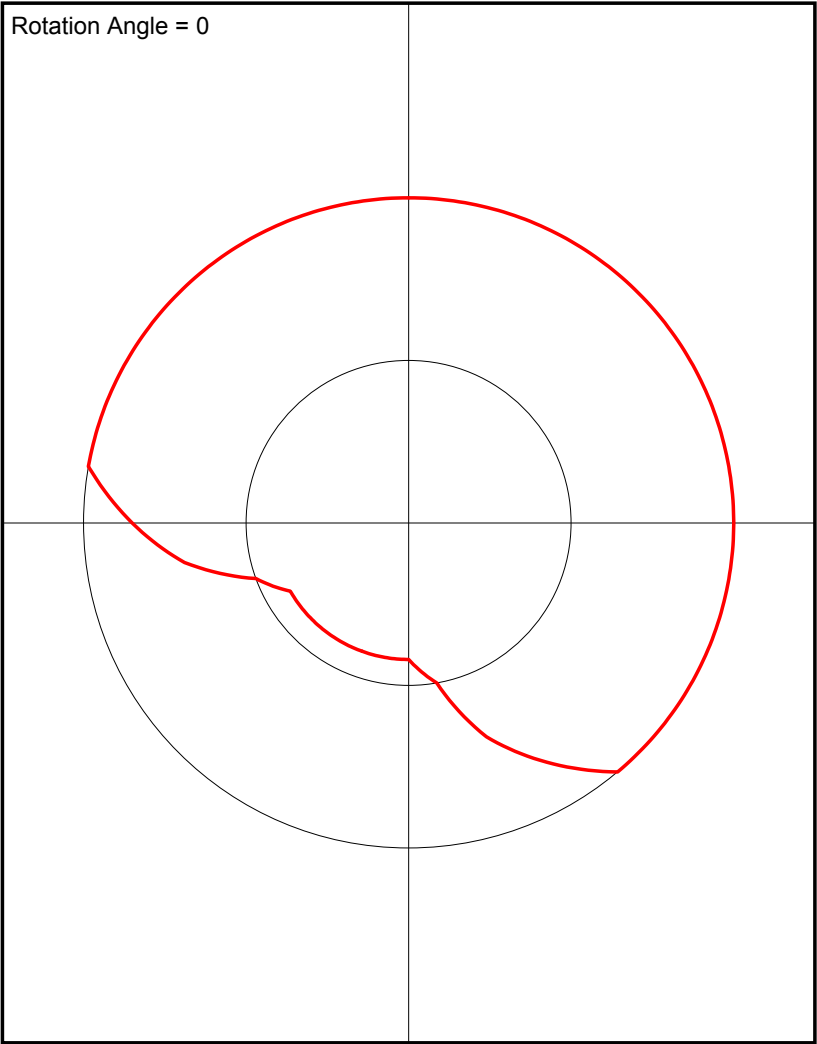


E-8 K266CJ Mod. 245D 60 F(50-50) dBu Contour Plot



E-9 K266CJ Mod. 245D Antenna Pattern

Azimuth (deg)	Relative Field
0.0	1.0
10.0	1.0
20.0	1.0
30.0	1.0
40.0	1.0
50.0	1.0
60.0	1.0
70.0	1.0
80.0	1.0
90.0	1.0
100.0	1.0
110.0	1.0
120.0	1.0
130.0	1.0
140.0	1.0
150.0	0.85
160.0	0.7
170.0	0.5
180.0	0.42
190.0	0.42
200.0	0.42
210.0	0.42
220.0	0.42
230.0	0.42
240.0	0.42
250.0	0.5
260.0	0.7
270.0	0.85
280.0	1.0
290.0	1.0
300.0	1.0
310.0	1.0
320.0	1.0
330.0	1.0
340.0	1.0
350.0	1.0



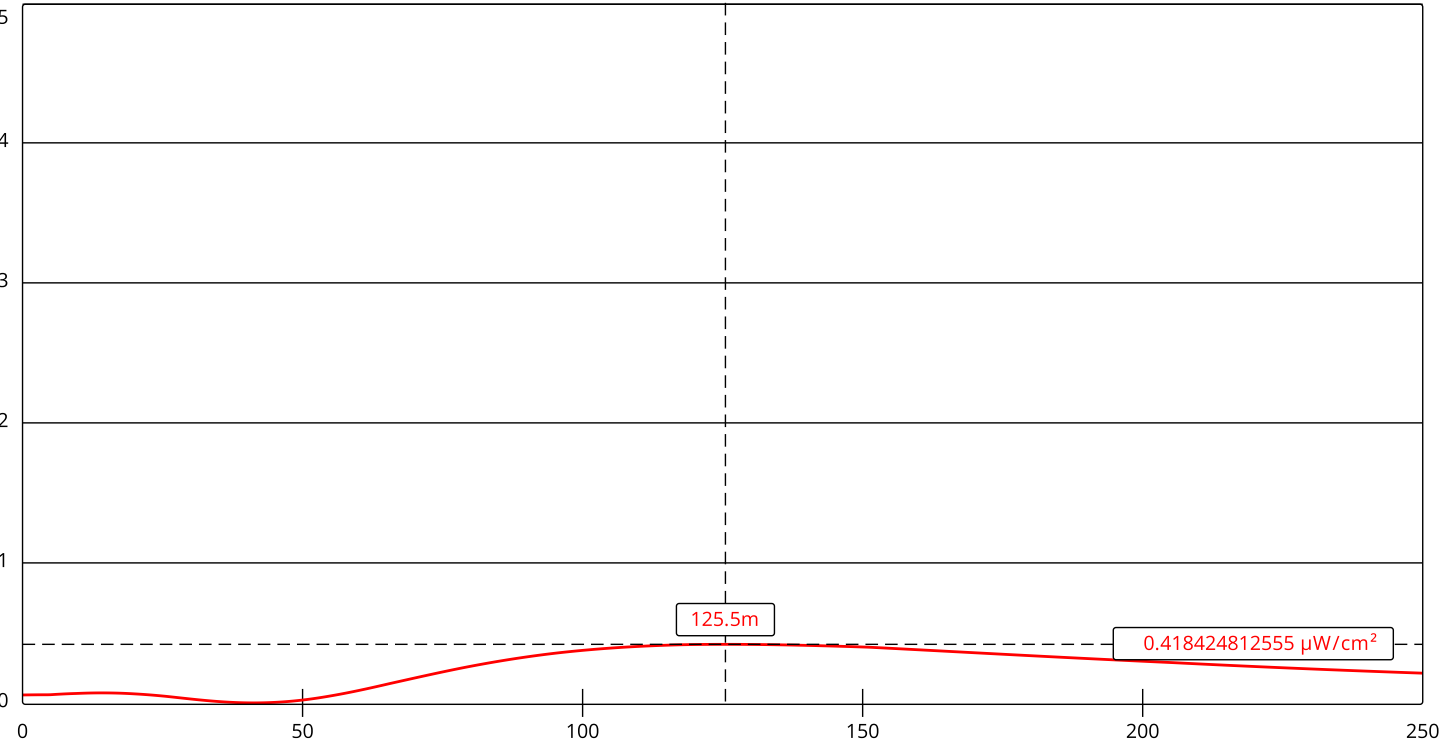
E-10 K266CJ Mod. 245D HAAT Calculation

N. Lat. = 475546.2 W. Lng. = 1221456.5
HAAT and Distance to Contour,
FCC, FM 2-10 Mi, 51 pts Method - FCC 30 Meter

Azi.	AV EL	HAAT	ERP kW	60-F(50-50)
000	16.0	193.0	0.2500	18.22
030	27.2	181.8	0.2500	17.71
060	54.9	154.1	0.2500	16.16
090	43.7	165.3	0.2500	16.85
120	67.8	141.2	0.2500	15.33
150	122.5	86.5	0.1806	11.11
180	139.3	69.7	0.0441	06.96
210	139.6	69.4	0.0441	06.94
240	31.5	177.5	0.0441	11.28
270	40.0	169.0	0.1806	15.59
300	49.0	160.0	0.2500	16.53
330	09.1	199.9	0.2500	18.53

Ave EI= 61.71 M HAAT= 147.29 M AMSL= 209.0

E-11 K266CJ Mod. 245D RF Calculation



Channel Selection	Channel 245 (96.9 MHz) ▾		
Antenna Type +	EPA Type 2: Opposed V Dipole ▾		
Height (m)	57	Distance (m)	250
ERP-H (W)	250	ERP-V (W)	250
Num of Elements	2	λ	0.625
Num of Points	500		

ASR Registration 1239952

Registration Detail

Reg Number	1239952	Status	Constructed
File Number	A0553614	Constructed	06/30/2007
EMI	No	Dismantled	
NEPA	No		

Antenna Structure

Structure Type TOWER - Free standing or Guyed Structure used for Commu

Location (in NAD83 Coordinates)

Lat/Long	47-55-46.2 N 122-14-56.5 W	Address	NW corner of Hardeson Rd. and 75th St. SW
City, State	Everett , WA		
Zip	98203	County	SNOHOMISH
Center of AM Array		Position of Tower in Array	

Heights (meters)

Elevation of Site Above Mean Sea Level	Overall Height Above Ground (AGL)
152.4	76.2
Overall Height Above Mean Sea Level	Overall Height Above Ground w/o Appurtenances
228.6	76.2

Painting and Lighting Specifications

FAA Chapters 3, 4, 5, 12

Paint and Light in Accordance with FAA Circular Number 70/7460-1K

FAA Notification

FAA Study	2002-ANM-2136-OE	FAA Issue Date	01/03/2003
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Owner & Contact Information

FRN	0009309667	Owner Entity Type
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Owner

JACOTOWER, INC.
Attention To: Ronald Jacobs
244 Heather Rd.
Everett , WA 98203

P: (425)776-8835
F:
E: ronj@berryneonsigns.com

Contact

Wills , Eric A
16689 SE 59th Street
Bellevue , WA 98006

P: (425)643-5000
F:
E: fcc@wacorp.net

Last Action Status

Status	Constructed	Received	07/06/2007
Purpose	Notification	Entered	07/09/2007
Mode	Mail In (Manual)		

Related Applications

07/06/2007	A0553614 - Notification (NT)
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E-13 K266CJ Mod. 245D Distance From Licensed Site

Distance between:

45 35 59.0 N Latitude, 118 36 16.0 W Longitude (Point 1)
As decimals: 45.5997222 Latitude, -118.6044444 Longitude

and

47 55 46.2 N Latitude, 122 14 56.5 W Longitude (Point 2)
As decimals: 47.9295000 Latitude, -122.2490278 Longitude

Distance = 380.173 km (236.229 miles)

via the method in the U.S./Canadian Agreement for FM broadcasting

Azimuth, Point 1 to Point 2: 314.34° True

Azimuth, Point 2 to Point 1: 131.68° True