

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of MAJOR MARKET BROADCASTING OF NEW YORK INC., licensee of digital Low Power Television Station W41DO-D, Channel 41 in New York, New York, and permittee of W33ET-D, a displacement authorization on Channel 33, in support of its application for modification of the W33ET-D Construction Permit LMS-0000048498, to specify a new transmitter site.

It is proposed to mount a Scala/Kathrein (2)2x1-UTVC-01-RR-TD elliptically-polarized panel antenna system at the 298-meter level of the existing 443-meter Empire State Building, located at 350 Fifth Avenue in Manhattan, New York. The proposed site is located only 1.2 kilometers southeast of the originally authorized W33ET-D site. The proposed effective radiated power will be 15.0 kW in the horizontal plane. Exhibit B is a map upon which the predicted 51 dBu service contour of the proposed facility is plotted. In Exhibit C, we have plotted this contour in relation to that of the W33ET-D displacement facility, as originally authorized in LMS-0000048498. As shown, the proposed service contour and that originally authorized to W33ET-D have significant overlap.

Azimuth pattern data for the proposed Scala directional antenna are included in Exhibit D. Exhibit E contains the summary results from a TVStudy interference study, which was conducted using a cell size of 0.5 kilometer and an increment spacing of 0.1 kilometer. It concludes that the proposed WXNY-LD facility meets the Commission's de minimis interference criteria to all co-channel and adjacent-channel post-repack full-power and Class A and LPTV/translator facilities, except to a Channel 33 displacement application (LMS-0000179104)

EXHIBIT A

for W32EI-D in Port Jervis, New York. Since that station is owned by the instant applicant, interference between LMS-0000179104 and the facility proposed herein can be ignored.

A detailed power density calculation is provided in Exhibit F.

Since no change in the overall height or location of the Empire State Building is proposed herein, the Federal Aviation Administration has not been notified of this application. In addition, the Federal Communications Commission issued Antenna Structure Registration Number 1007048 to this structure.

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

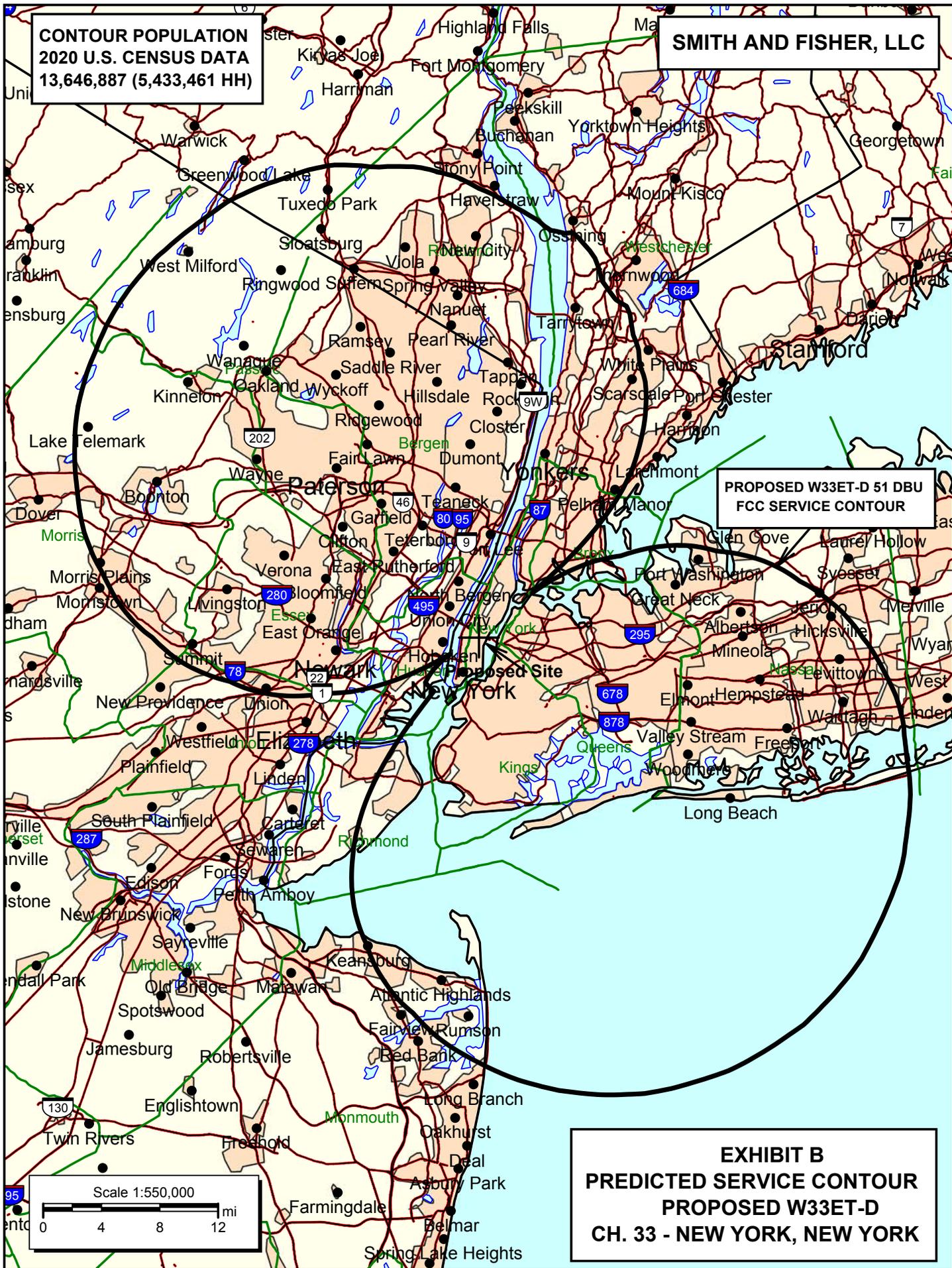
A handwritten signature in blue ink, appearing to read "K. T. Fisher". The signature is stylized with a large initial "K" and a long horizontal stroke at the end.

KEVIN T. FISHER

August 2, 2022

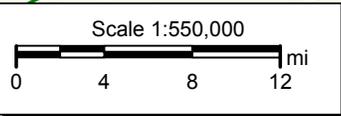
**CONTOUR POPULATION
2020 U.S. CENSUS DATA
13,646,887 (5,433,461 HH)**

SMITH AND FISHER, LLC



**PROPOSED W33ET-D 51 DBU
FCC SERVICE CONTOUR**

**EXHIBIT B
PREDICTED SERVICE CONTOUR
PROPOSED W33ET-D
CH. 33 - NEW YORK, NEW YORK**



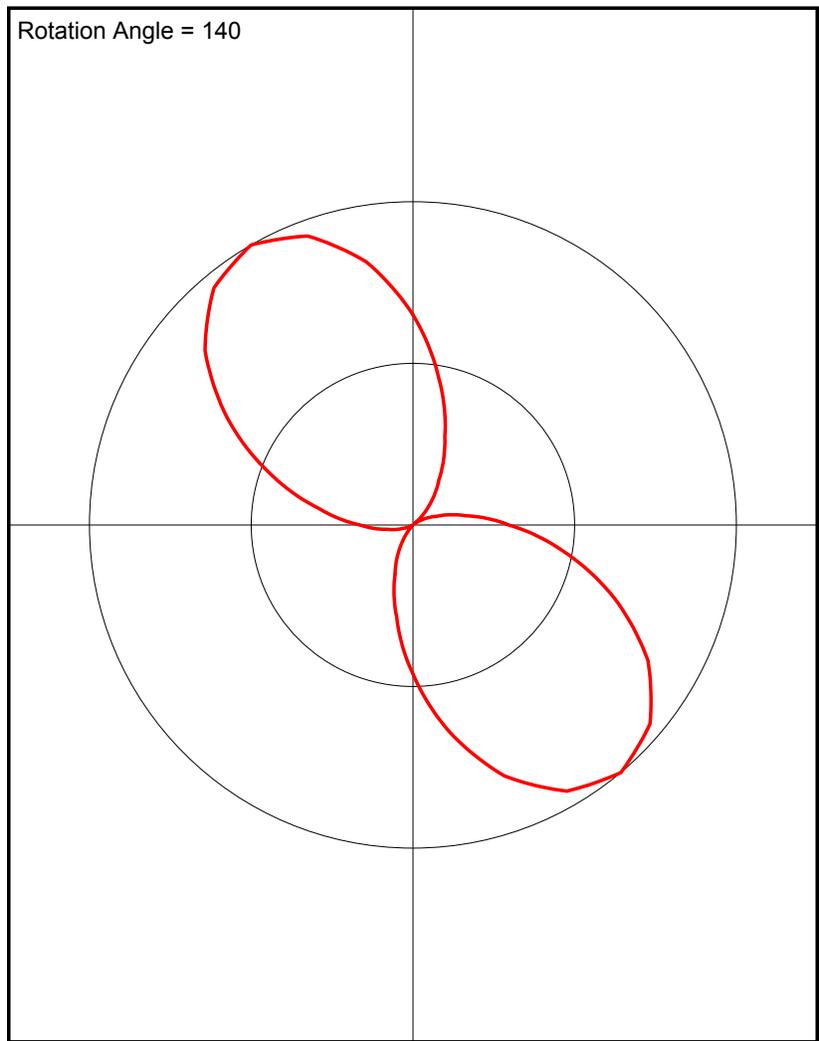


Antenna Pattern

Post-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	0.65
10.0	0.461
20.0	0.289
30.0	0.161
40.0	0.077
50.0	0.006
60.0	0.029
70.0	0.079
80.0	0.164
90.0	0.296
100.0	0.473
110.0	0.663
120.0	0.839
130.0	0.957
140.0	1.0
150.0	0.951
160.0	0.826
170.0	0.65
180.0	0.461
190.0	0.289
200.0	0.161
210.0	0.077
220.0	0.006
230.0	0.006
240.0	0.002
250.0	0.029
260.0	0.079
270.0	0.164
280.0	0.296
290.0	0.473
300.0	0.663
310.0	0.839
320.0	0.957
330.0	1.0
340.0	0.951
350.0	0.826

Rotation Angle = 140



TVSTUDY INTERFERENCE ANALYSIS RESULTS
 PROPOSED W33ET-D
 CHANNEL 33 – NEW YORK, NEW YORK
 [MODIFICATION OF LMS-0000048498]

Study created: 2022.07.28 16:54:00

Study build station data: LMS TV 2022-07-26

Proposal: W41DO-D D33 LD CP NEW YORK, NY

File number: BLANK0000048498

Facility ID: 60554

Station data: User record

Record ID: 141Country: U.S.

Build options:

Protect pre-transition records not on baseline channel

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WNYJ-LD	N26-	TX	LIC	New York, NY	BLTTL20070223AHI	89.7 km
No	DW26CE	N26-	TX	APP	NEW YORK, NY	BLTTL20080306ABU	103.1
No	WRNT-LD	D32	LD	LIC	HARTFORD, CT	BLANK0000194535	153.1
Yes	WLIW	D32	DT	LIC	GARDEN CITY, NY	BLANK0000086492	4.6
No	W32EI-D	D32-	LD	LIC	PORT JERVIS, NY	BLANK0000015198	58.8
No	W32EI-D	N32-	TX	LIC	PORT JERVIS, NY	BLTTL20121024AAB	89.7
No	WHP-TV	D32	DT	LIC	HARRISBURG, PA	BLANK0000080028	247.6
No	WZPA-LD	D32	LD	LIC	PHILADELPHIA, PA	BLANK0000121505	134.0
Yes	WCCT-TV	D33	DT	LIC	WATERBURY, CT	BLANK0000159940	143.5
No	WHUT-TV	D33	DT	LIC	WASHINGTON, DC	BLANK0000178029	331.1
No	WCVB-TV	D33	DT	LIC	BOSTON, MA	BLANK0000117945	287.1
No	WCVB-TV	D33	DT	CP	BOSTON, MA	BLANK0000127502	287.1
No	WMPX-LD	N33z	TX	LIC	DENNIS, MA	BLTTL20041202ACZ	321.7
No	WOWZ-LD	D33	LD	LIC	SALISBURY, MD	BLANK0000184175	291.2
No	WSKG-TV	D33	LD	CP	BINGHAMTON, NY	BLANK0000054938	280.1
No	WGRZ	D33	DT	CP	BUFFALO, NY	BLANK0000035664	438.2
No	WGRZ	D33	DT	LIC	BUFFALO, NY	BLANK0000137137	438.2
Yes	W32EI-D	D33	LD	APP	PORT JERVIS, NY	BLANK0000179104	2.1

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No	WNGX-LD	D33	LD LIC	SCHENECTADY, NY	BLANK0000082224	255.4
No	WVVC-LD	D33	LD LIC	UTICA, NY	BLDTL20110829AAZ	273.4
No	WJAC-TV	D33	LD LIC	JOHNSTOWN, PA	BLANK0000150586	376.1
Yes	WPSG	D33	DT LIC	PHILADELPHIA, PA	BLANK0000129342	132.2
Yes	WQPX-TV	D33	DT LIC	SCRANTON, PA	BLANK0000080158	164.5
No	WTIC-TV	D34	DT LIC	HARTFORD, CT	BLANK0000159941	143.5
No	WPPX-TV	D34	DT LIC	WILMINGTON, DE	BLANK0000181597	131.9
Yes	WPXN-TV	D34	DT LIC	NEW YORK, NY	BLANK0000086780	4.6
No	WHTV-LD	N34+	TX LIC	New York, NY	BLTTL20070223AHK	89.7
No	WSWB	D34	DT LIC	SCRANTON, PA	BLANK0000079375	164.8
No	W23EX-D	N36z	TX LIC	SUSSEX, NJ	BLTT19970806JC	63.9

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D33

Mask: Full Service

Latitude: 40 44 54.00 N (NAD83)

Longitude: 73 59 9.00 W

Height AMSL: 313.5 m

HAAT: 0.0 m

Peak ERP: 15.0 kW

Antenna: Scala 0.0 deg

Elev Pattn: Generic

50.6 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	6.34 kW	277.9 m	50.1 km
45.0	0.026	303.6	22.0
90.0	1.31	301.5	42.8
135.0	14.4	303.6	55.9
180.0	3.19	297.2	47.4
225.0	0.000	312.9	7.9
270.0	0.403	304.1	36.4
315.0	12.1	302.7	54.9

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m Computed HAAT: 300 m

Distance to Canadian border: 395.2 km

Distance to Mexican border: 2674.8 km

Conditions at FCC monitoring station: Laurel MD

Bearing: 234.8 degrees Distance: 298.8 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 278.9 degrees Distance: 2629.1 km

Study cell size: 0.50 km

Profile point spacing: 0.10 km

Maximum new IX to full-service and Class A: 0.50%

Maximum new IX to LPTV: 2.00%

**MX with BLANK0000179104 APP scenario 1, 84.07% interference caused

POWER DENSITY CALCULATION

PROPOSED W33ET-D
CHANNEL 33 – NEW YORK, NEW YORK
[MODIFICATION OF LMS-0000048498]

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this New York City facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 15.0 KW (H,V), an antenna radiation center 298 meters above ground, and assuming a maximum vertical relative field value of 0.2 at the steeper elevation angles for the proposed Scala-Kathrein (2)2x1-UTVC-01-RR-TD antenna, maximum power density two meters above ground of 0.00046 mW/cm^2 is calculated to occur near the base of the building. Since this is only 0.1 percent of the 0.39 mW/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 33 (584-590 MHz), a grant of this proposal may be considered a minor environmental action with respect to public exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.