

T Z SAWYER TECHNICAL CONSULTANTS

2130 HUTCHISON GROVE COURT, SUITE 100
FALLS CHURCH, VIRGINIA 22043
TELEPHONE (703) 848-2130 / (202) 642-2130

DIGITAL LPTV FACILITY
MODIFICATION OF CONSTRUCTION PERMIT
MINOR CHANGE APPLICATION
W31FE-LD
FCC FACILITY ID: 129370
SAVANNAH, GEORGIA

OCTOBER 2023

ENGINEERING NARRATIVE

Minor Change Application:

W31FE -LD seeks to modify its existing construction permit to specific a new transmitter site and antenna system parameters. The proposed antenna is a PSI PSILP12OI horizontally polarized directional UHF slot antenna system. A full-service filter mask is to be employed. The facility requested is not contingent upon a grant or channel move of any other known facility at the time of filing.

Maximum Effective Radiated Power (ERP) is 15-kilowatts, horizontal polarization only.

Modification Compliance:

Pursuant to 47 CFR §74.787(b) the instant application is considered a “minor” change because;

- There is no change in transmitting antenna location such that the protected service contour resulting from the change does not overlap some portion of the protected service contour of the authorized facility of the station license as illustrated in Figure 1, Present & Proposed Service Contours.
- There is no change in transmitting antenna location ***greater than 30 miles*** (48.27 km) from the reference coordinates of the existing station licensed antenna location, as noted below:

CALCULATED DISTANCE BETWEEN EXISTING LICENSE AND PROPOSED SITES

SITE	LAT (NAD83)	LON (NAD83)	(KM)	(MI)
CURRENT/EXISTING	32-04-07.0 N	081-21-23.0 W	13.51	8.39
PROPOSED MOD	31-57-03.4 N	081-19-10.1 W		

FCC Tower Registration - 1023937

FAA Notification Not Required.

The proposed antenna mounting structure is 93.8 meters in overall height above ground level (AGL). No change in the overall height of this structure will occur. This is an existing communication tower that does not require further FAA notification. The antenna is to be side-mounted on the supporting structure at the 85.0 meter AGL level.

Antenna Elevations:

The ground elevation at the site is 3.9 meters above mean sea level (AMSL). The center of radiation of the proposed antenna is 85.0 meters above ground level (AGL). The center of radiation is 88.9 meters above mean sea level (AMSL), as tabulated below:

ALL ELEVATIONS IN METERS

GROUND ELEVATION	3.9
SUPPORTING STRUCTURE OVERALL HEIGHT AGL	93.8
ANTENNA HEIGHT AGL	85.0
ANTENNA RCAMSL	88.9

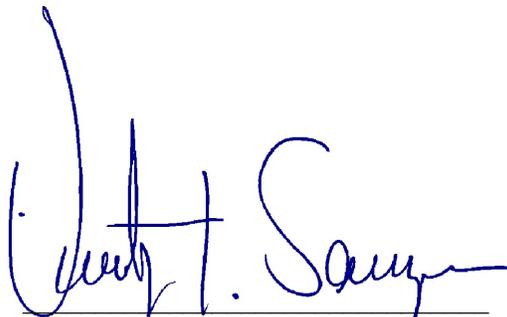
FCC TVStudy Results: 1.0 Terrain Profile Spacing Used

The results of a interference study of the proposal using the **FCC TVStudy program (Version 2.2.5)**, shows that no prohibitive interference will occur from the proposal. A copy of the summary report has been included in this application. The applicant accepts any incoming interference that is predicted to exist to the proposed facility by any authorized or pending, primary or secondary TV station at the time this application is submitted. **A cell size of 1.0 kilometer, with a 1.0 terrain profile spacing was used (the default settings).**

Environmental Evaluation Statement:

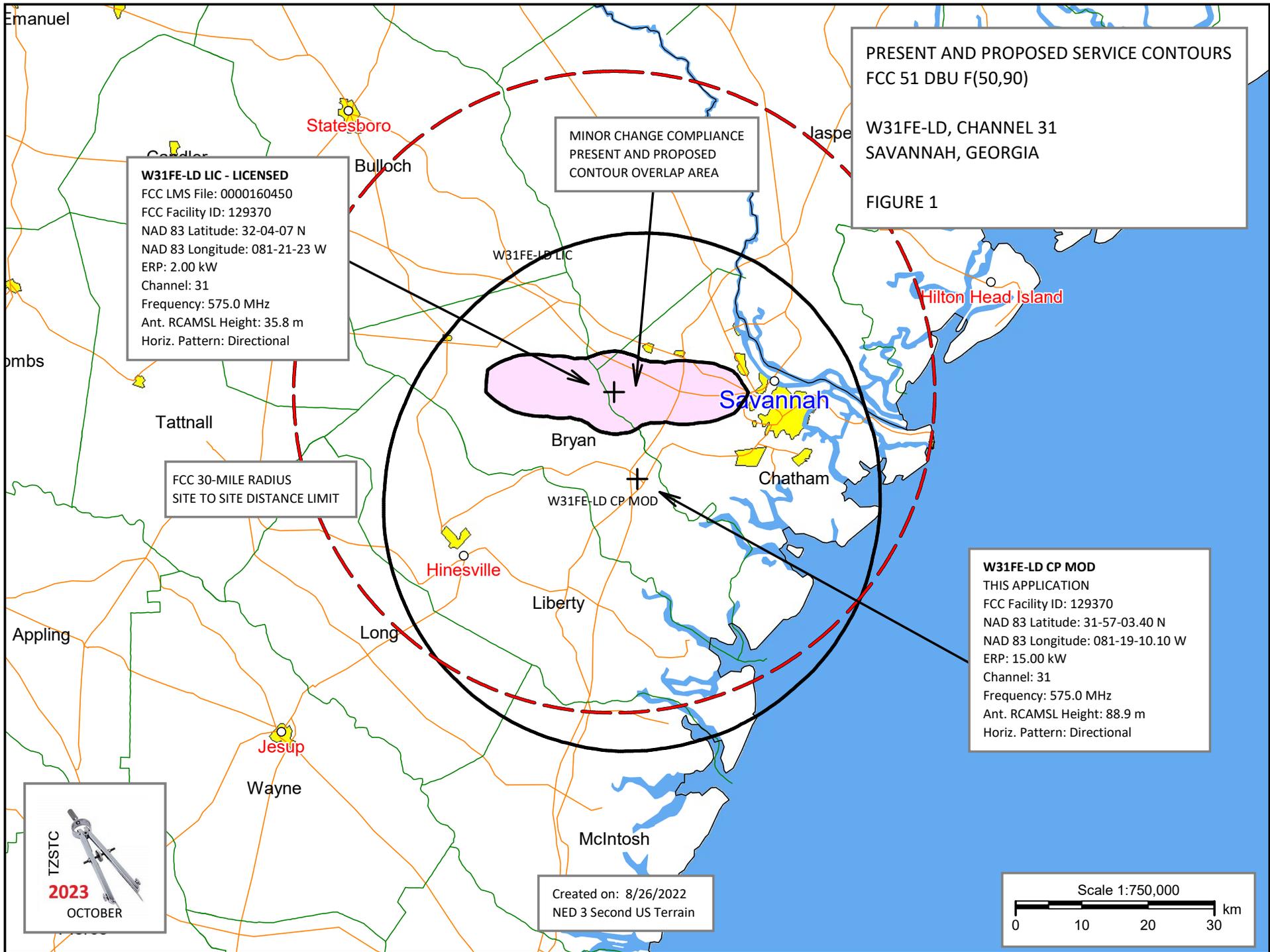
The environmental evaluation statement concerning this proposal has been included in this application and can be found as a separate file upload within the application. A grant of this proposal would NOT be an action which would have a significant environmental effect as demonstrated in the environmental evaluation statement.

October 4, 2023



Timothy Z. Sawyer, Consulting Engineer

T Z Sawyer Technical Consultants
2130 Hutchison Grove Court, Suite 100
Falls Church, VA 22043
Tel.: (703) 848-2130
e-mail: tzsawyer@tzsawyer.com



PRESENT AND PROPOSED SERVICE CONTOURS
 FCC 51 DBU F(50,90)
 W31FE-LD, CHANNEL 31
 SAVANNAH, GEORGIA
 FIGURE 1

W31FE-LD LIC - LICENSED
 FCC LMS File: 0000160450
 FCC Facility ID: 129370
 NAD 83 Latitude: 32-04-07 N
 NAD 83 Longitude: 081-21-23 W
 ERP: 2.00 kW
 Channel: 31
 Frequency: 575.0 MHz
 Ant. RCAMSL Height: 35.8 m
 Horiz. Pattern: Directional

MINOR CHANGE COMPLIANCE
 PRESENT AND PROPOSED
 CONTOUR OVERLAP AREA

FCC 30-MILE RADIUS
 SITE TO SITE DISTANCE LIMIT

W31FE-LD CP MOD
 THIS APPLICATION
 FCC Facility ID: 129370
 NAD 83 Latitude: 31-57-03.40 N
 NAD 83 Longitude: 081-19-10.10 W
 ERP: 15.00 kW
 Channel: 31
 Frequency: 575.0 MHz
 Ant. RCAMSL Height: 88.9 m
 Horiz. Pattern: Directional



Created on: 8/26/2022
 NED 3 Second US Terrain

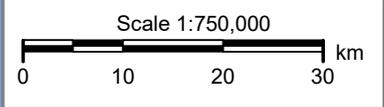


FIGURE 2 - PSI PSILP12OI Antenna Pattern
Pre-Rotation Antenna Pattern....

Azimuth (deg)	Relative Field
0.0	1.0
10.0	1.0
20.0	0.98
30.0	0.95
40.0	0.91
50.0	0.87
60.0	0.82
70.0	0.76
80.0	0.71
90.0	0.66
100.0	0.63
110.0	0.61
120.0	0.6
130.0	0.6
140.0	0.62
150.0	0.64
160.0	0.66
170.0	0.67
180.0	0.67
190.0	0.67
200.0	0.66
210.0	0.64
220.0	0.62
230.0	0.6
240.0	0.6
250.0	0.61
260.0	0.63
270.0	0.66
280.0	0.71
290.0	0.76
300.0	0.82
310.0	0.87
320.0	0.91
330.0	0.95
340.0	0.98
350.0	1.0

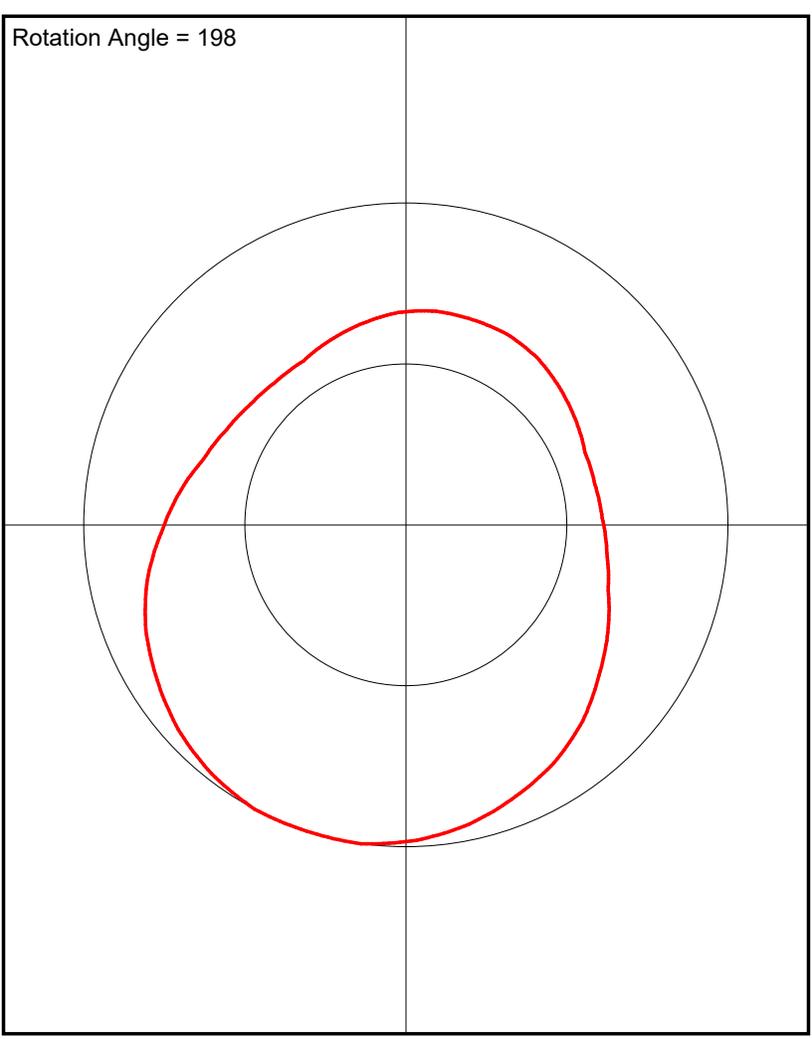


FIGURE 3 - FCC TVSTUDY SUMMARY REPORT

Proposal: W31FE-D D31 LD APP Savannah, GA
 File number: W31FE MOD CP
 Facility ID: 129370
 Station data: User record
 Record ID: 718
 Country: 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	W30EE-D	D30	LD	LIC	JACKSONVILLE, FL	BLANK0000090922	183.5 km
No	WAGT-CD	D30	DC	LIC	AUGUSTA, GA	BLANK0000063630	168.7
No	W30FA-D	D30	LD	LIC	HOMERVILLE, GA	BLANK0000220956	177.6
No	WMGT-TV	D30	DT	LIC	MACON, GA	BLANK0000075816	228.7
No	WLOW-LD	D30	LD	CP	Charleston, SC	BLANK0000157610	162.2
No	WLOW-LD	D30	LD	LIC	Charleston, SC	BLANK0000207324	162.2
No	WLOW-LD	D30	LD	LIC	Charleston, SC	BLANK0000118486	136.7
No	W30CV-D	D30	DC	LIC	HILTON HEAD ISLAND, SC	BLANK0000194091	53.5
No	WODH-LD	D31	LD	LIC	Jacksonville, FL	BLANK0000108060	187.6
No	WOGX	D31	DT	LIC	OCALA, FL	BLCDT20020730ABS	303.8
No	WTMO-CD	D31	DC	LIC	ORLANDO, FL	BLDTA20110815ACQ	372.0
No	WPCH-TV	D31	DT	LIC	ATLANTA, GA	BLANK0000152274	349.3
No	W31EU-D	D31	LD	LIC	COLUMBUS, GA	BLANK0000177389	372.2
No	WSWG	D31	DT	LIC	VALDOSTA, GA	BLANK0000063722	212.3
No	WMUB-LD	D31	LD	LIC	WARNER ROBINS, GA	BLANK0000135124	228.9
No	WGHP	D31	DT	LIC	HIGH POINT, NC	BLANK0000158670	450.4
No	WTWL-LD	D31	LD	LIC	WILMINGTON, NC	BLANK0000213612	401.1
Yes	W31FD-D	D31	LD	LIC	Bluffton-Hilton Head, SC	BLANK0000197981	74.0
No	WFDY-LD	D31	LD	LIC	MYRTLE BEACH, SC	BLANK0000163451	280.3
No	WJNI-LD	D31	LD	LIC	NORTH CHARLESTON, SC	BLDTL20100916ADG	157.6
No	W31DY-D	D31	LD	LIC	PICKENS, SC	BLANK0000119379	347.4
No	WKTC	D31	DT	LIC	SUMTER, SC	BLANK0000093003	246.2
No	W50CO	D32-	LD	CP	JACKSONVILLE, FL	BLANK0000149468	187.6
No	W32FK-D	D32	LD	APP	VALDOSTA, GA	BLANK0000202093	200.8
No	WJWJ-TV	D32	DT	LIC	BEAUFORT, SC	BLANK0000100564	103.6
No	WSCG-LD	N32+	TX	LIC	BEAUFORT, ETC., SC	BLTT19970401JB	74.1

No non-directional AM stations found within 0.8 km
 No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D31
 Mask: Full Service
 Latitude: 31 57 3.40 N (NAD83)
 Longitude: 81 19 10.10 W
 Height AMSL: 88.9 m
 HAAT: 0.0 m
 Peak ERP: 15.0 kW
 Antenna: PSI PSILP120I (ID 1009547) 198.0 deg
 Elev Patrn: Generic
 Elec Tilt: 0.75

50.4 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	6.57 kW	85.5 m	37.5 km
45.0	6.26	86.5	37.4
90.0	5.65	87.7	37.0
135.0	9.65	85.6	39.4
180.0	14.5	85.1	41.3
225.0	13.8	85.0	41.1
270.0	8.44	83.5	38.5
315.0	5.45	84.9	36.5

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 85 m

Distance to Canadian border: 1085.2 km
Distance to Mexican border: 1654.3 km

Conditions at FCC monitoring station: Powder Springs GA
Bearing: 304.7 degrees Distance: 382.1 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 299.7 degrees Distance: 2323.2 km

Study cell size: 1.00 km

Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%

Proposal causes 0.64% interference to BLANK0000197981 LIC scenario 1

---- Below is IX received by proposal W31FE MOD CP ----

Proposal receives 6.16% interference from scenario 1

No IX check failures found.

T Z SAWYER TECHNICAL CONSULTANTS

2130 HUTCHISON GROVE COURT, SUITE 100
FALLS CHURCH, VIRGINIA 22043
TELEPHONE (703) 848-2130 / (202) 642-2130

W31FE-LD
LPTV CHANNEL 31 OPERATION
FACILITY ID: 129370
SAVANNAH, GEORGIA
OCTOBER 2023

ENVIRONMENTAL EVALUATION STATEMENT

A grant of this proposal would NOT be an action which would have a significant environmental effect as demonstrated in this environmental evaluation statement. Any changes in equipment, or construction, if necessary will not trigger any event with regards to Section 106 of the National Historical Preservation Act (NHPA).

The proposal does not meet any of the criteria specified in Section 1.1307 of the FCC Rules. More specifically, the proposed facilities are not known to fall within any of the categories enumerated in Sections 1.1307(a)(1)-(7) and will not involve the use of high intensity white lights. Furthermore, operation of the proposed facility will not involve the exposure of workers or the general public to levels of radio frequency electromagnetic fields exceeding guidelines adopted by the Federal Communications Commission. (The current FCC guidelines are based upon criteria contained in the National Council of Radiation Protection and Measurements (NCRP) Report No.86 (1986) and ANSI/IEEE C95.1-1992.)

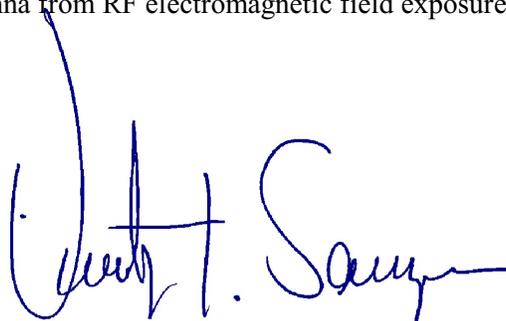
CALCULATED POWER DENSITY AT 2 METERS AGL (0.5 ANTENNA RELATIVE FIELD VALUE) ERP MAX (H ONLY)

CR AGL 85.0 M ERP MAX 15.0 KW	MPE ($\mu\text{W}/\text{CM}^2$)	CALCULATED VALUE ($\mu\text{W}/\text{CM}^2$)	% OF MPE	PASS/FAIL
CONTROLLED AREA	1916.7	18.18	0.95%	PASS
PUBLIC AREA	383.3		4.74%	PASS

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs are posted at the site. The applicant will coordinate exposure procedures with any co-located facilities and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines.

October 4, 2023

T Z Sawyer Technical Consultants
2130 Hutchison Grove Court, Suite 100
Falls Church, Virginia 22043
Telephone: (703) 848-2130
e Mail to: tzsawyer@tzsawyer.com



Timothy Z. Sawyer, Consulting Engineer