

# **ENGINEERING EXHIBIT**

## **Long-Form Application for FM Translator Construction Permit**

prepared for

**Delta Media Corporation**  
New (FX) Lafayette, LA  
Facility ID 201208  
Ch. 258 99.5 MHz 0.25 kW

*Delta Media Corporation* (“Delta”) is an Auction 99 winning bidder for a new FM translator to operate on Channel 258 (99.5 MHz), Facility ID 201208, Lafayette LA (“tech box” application BNPFT-20170727AED). The proposed translator is associated with *Delta*’s station KSLO(AM) (1230 kHz, Fac ID 35607, Opelousas LA). Pursuant to the FCC’s Public Notice<sup>1</sup> of May 25, 2018, *Delta* is herein filing its “long-form” application on Form 349. *Delta* herein seeks authorization to construct the translator facility utilizing the same technical parameters as the short form “tech box” proposal.

The proposed translator facility will employ a new antenna system to be side-mounted on an existing tower which corresponds to FCC Antenna Structure Registration number 1251823. No change to the overall structure height will result.

The 60 dB $\mu$  (1 mV/m) contour of the proposed translator is encompassed by the greater of the KSLO daytime 2 mV/m contour and a 25 mile radius from KSLO’s transmitter site, as depicted in Figure 1 and the detail map of Figure 2. The proposed translator’s 60 dB $\mu$  contour distances are determined using 30 meter terrain data as provided by the FCC’s Office of Engineering and Technology. As a fill-in translator, the proposed 0.25 kW ERP complies with §74.1235(a).

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<sup>1</sup>*Auction of Cross-Service FM Translator Construction Permits Closes; Winning Bidders Announced for Auction 99, DA 18-541, May 25, 2018.*

Table 1 supplies a summary of the proposal's compliance with the interference protection requirements of §74.1204(a) and (g). Compliance with §74.1204(a) regarding two nearby facilities that are co-channel to the proposed facility is also demonstrated in Figure 3 (KNGT(FM) Ch. 258C0 Lake Charles LA and New-FX APP Ch. 258 Baton Rouge LA). The proposed facility complies with the prohibited contour overlap requirements of §74.1204(a) regarding all FM full power, low power, and translator stations except two full power stations, KXKC(FM) (Ch. 256C0, New Iberia LA, BLH-19971112KH) and KTDY(FM) (Ch. 260C, Lafayette LA, BLH-19980323KF). The proposal complies with §74.1204(d) with respect to KXKC and KTDY.

As described in FCC 02-244<sup>2</sup> the “ratio” undesired-to-desired signal method of interference determination may be used by an FM translator applicant to demonstrate compliance with §74.1204(d). KXKC and KTDY are on second adjacent channels and are both located 23.7 km from the proposed translator site. The signal levels from KXKC and KTDY at the proposed translator site are identical, at 85 dBμ based on standard FCC F(50,50) propagation curves. The corresponding undesired interfering signal level is 125 dBμ. Calculated signal levels of 125 dBμ or more (the “125 dBμ contour”) do not reach any potentially populated location.

The maximum distance to the proposed translator 125 dBμ interfering signal at elevations horizontal to the antenna is 0.062 km (62 meters), based on free-space computation. Since the proposed antenna's height is 144 meters above ground level, the interfering signal will not reach ground level or any populated areas. An aerial view of the proposed translator site and vicinity is provided in Figure 4. The surrounding terrain is flat and there are no nearby tall buildings. Thus the proposal complies with §74.1204(d) with respect to KXKC and KTDY.

The nearest FCC monitoring station is 661 km distant at Kingsville, TX. This exceeds by a great margin the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The site is not located within the areas requiring coordination with “quiet” zones specified in §73.1030(a) and (b). No authorized AM stations are

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<sup>2</sup>*Living Way Ministries, Inc.* Memorandum Opinion and Order, Released September 9, 2002, FCC 02-244, 17 FCC Rcd 17054-60.

located within 3 km of the proposed site. The site is beyond the border areas regarding international coordination.

### **Human Exposure to Radiofrequency Electromagnetic Field (Environmental)**

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the FCC's OET Bulletin Number 65. Based on OET-65 equation (10), and assuming the worst-case of 100 percent relative field at downward elevations, the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is  $0.8 \mu\text{W}/\text{cm}^2$ , which is 0.4 percent of the general population/uncontrolled maximum permitted exposure limit. This is well below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent. When the antenna's elevation pattern is considered, the calculated RF exposure level will be even lower.

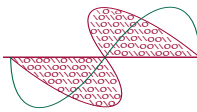
The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power 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. This exhibit is limited to the evaluation of exposure to RF electromagnetic field.

List of Attachments

|          |   |
|----------|---|
| Figure 1 | §74.1201(g) Fill-In Compliance  |
| Figure 2 | §74.1201(g) Fill-In Compliance – Detail View                          |
| Figure 3 | §74.1204 Compliance   |
| Figure 4 | Interference Protection to KXKC(FM) and KTDY(FM) - Aerial View        |
| Table 1  | Channel Allocation Summary  |
| Form 349 | Saved Version of Engineering Sections from FCC Form at Time of Upload |

**Chesapeake RF Consultants, LLC**

|                       |                    |              |
|-----------------------|--------------------|--------------|
| Joseph M. Davis, P.E. | June 7, 2018       |              |
| 207 Old Dominion Road | Yorktown, VA 23692 | 703-650-9600 |

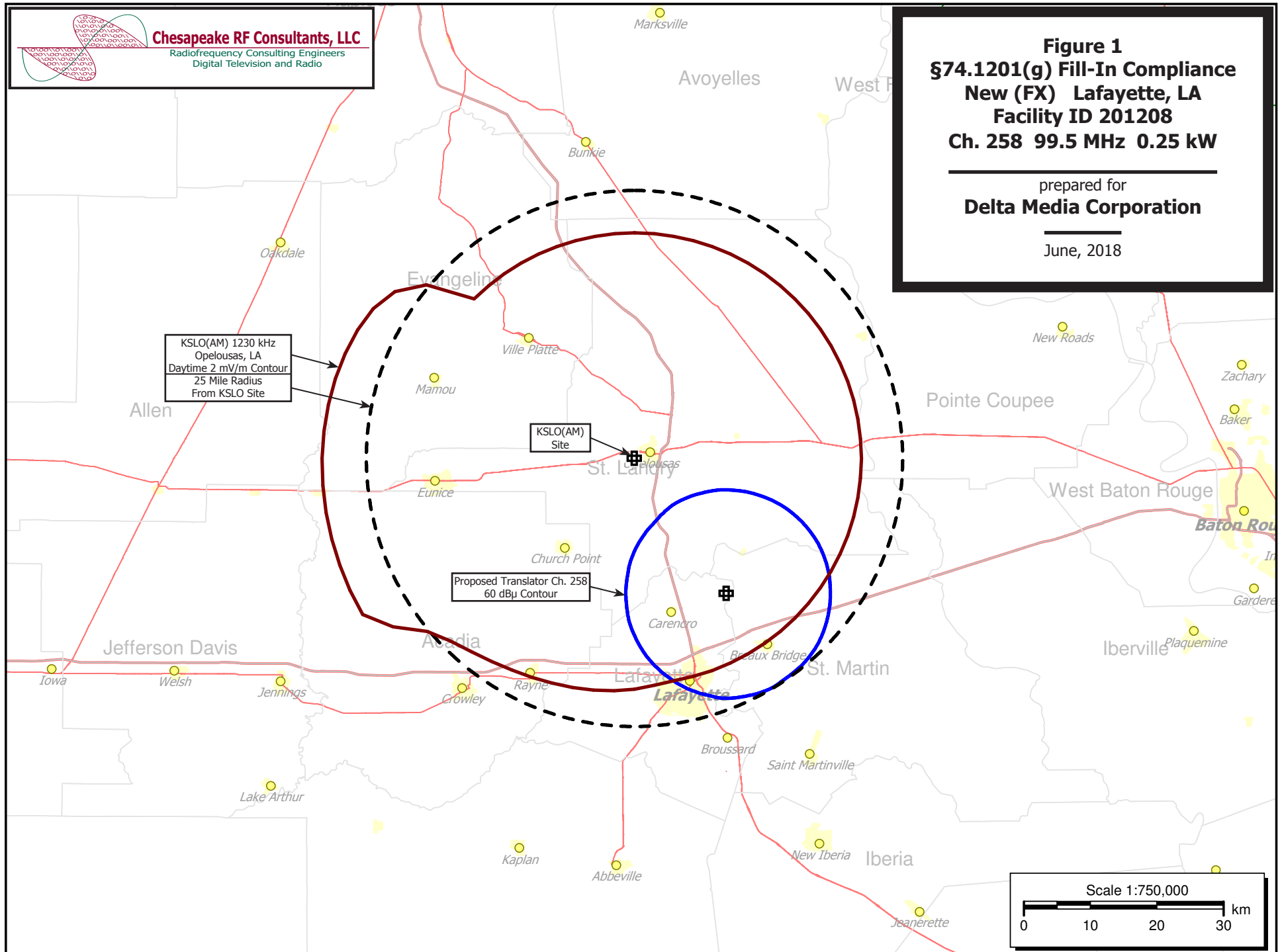


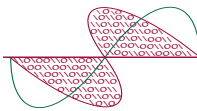
**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

**Figure 1**  
**\$74.1201(g) Fill-In Compliance**  
**New (FX) Lafayette, LA**  
**Facility ID 201208**  
**Ch. 258 99.5 MHz 0.25 kW**

prepared for  
**Delta Media Corporation**

June, 2018



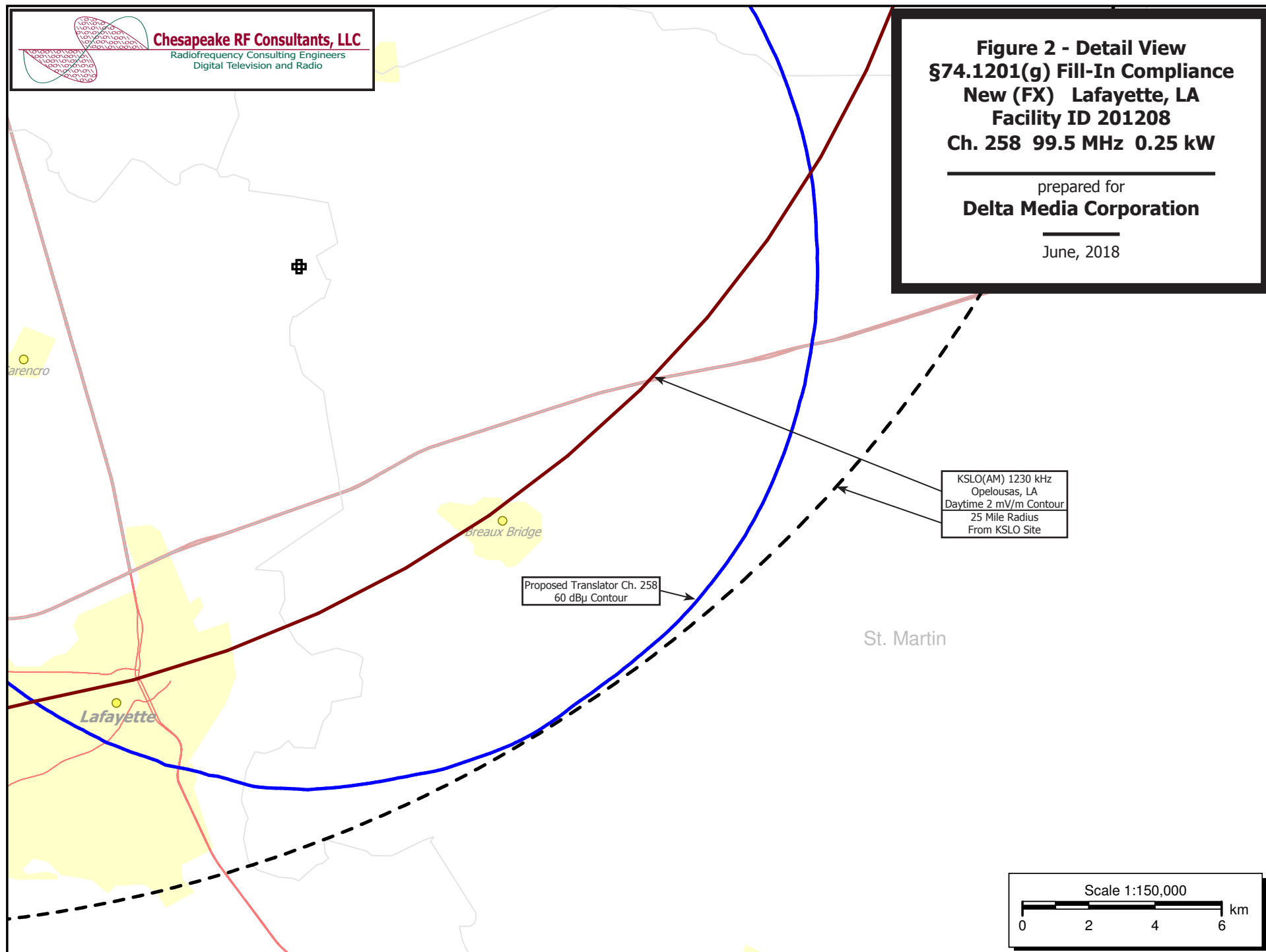


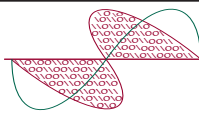
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**Figure 2 - Detail View**  
**\$74.1201(g) Fill-In Compliance**  
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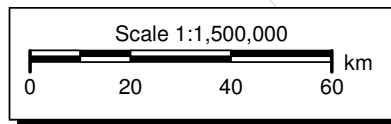
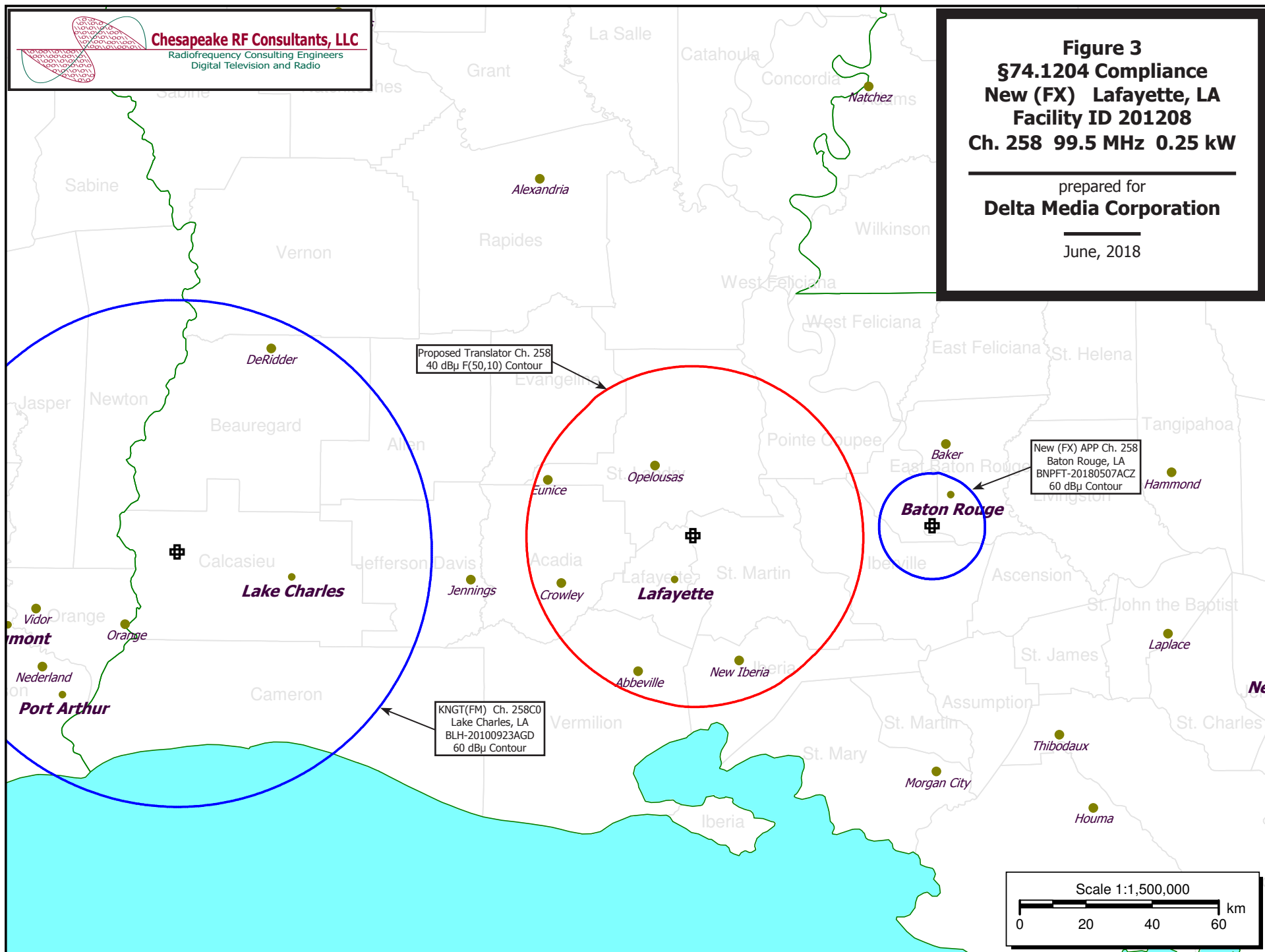


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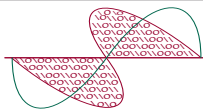
**Figure 3**  
**§74.1204 Compliance**  
**New (FX) Lafayette, LA**  
**Facility ID 201208**  
**Ch. 258 99.5 MHz 0.25 kW**

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**Figure 4**  
**Interference Protection to**  
**KXKC(FM) and KTDY(FM)**  
**Aerial View**  
**New (FX) Lafayette, LA**  
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June, 2018

Interfering contour: 125 dBμ (free space)  
Maximum Distance: 0.062 km

Site

© 2018 Google

Google Earth

372 m

Tour Guide



1998

Imagery Date: 2/8/2017 30°20'32.17" N 91°58'07.15" W elev 0 m eye alt 1.61 km



Table 1

# Channel Allocation Summary Delta Media Corporation New (FX) Lafayette, LA



| Delta Media Corporation |         |  |     |       |                  |            |         |         |                            |                 |         |
|-------------------------|---------|--|-----|-------|------------------|------------|---------|---------|----------------------------|-----------------|---------|
| REFERENCE               |         | CH# 258D - 99.5 MHz, Pwr= 0.25 kw, HAAT= 0.0 M, COR= 151 M |     |       |                  |            |         |         |                            | DISPLAY DATES   |         |
| 30 20 32.0 N.           |         | Average Protected F(50-50)= 7.1 km                         |     |       |                  |            |         |         |                            | DATA 06-07-18   |         |
| 91 57 46.0 W.           |         | Omni-directional   |     |       |                  |            |         |         |                            | SEARCH 06-07-18 |         |
| CH                      | CALL    | TYPE   | ANT | AZI.  | DIST             | LAT.       | Pwr(kw) | INT(km) | PRO(km)                    | *IN*            | *OUT*   |
| CITY                    |         | STATE  |     | <--   | FILE #           | LNG.       | HAAT(M) | COR(M)  | LICENSEE                   | (Overlap in km) |         |
| 256C0                   | KXKC    | LIC  | CN  | 131.2 | 23.71            | 30 12 06.0 | 100.000 | 10.1    | 72.4                       | -2.0*<          | -49.8*< |
| New Iberia              |         |  | LA  | 311.3 | BLH19971112KH    | 91 46 37.0 | 300     | 306     | Radio License Holding Cbc, |                 |         |
| 260C                    | KTDY    | LIC  | CN  | 131.2 | 23.71            | 30 12 06.0 | 100.000 | 10.1    | 72.4                       | -2.0*<          | -49.8*< |
| Lafayette               |         |  | LA  | 311.3 | BLH19980323KF    | 91 46 37.0 | 300     | 306     | Townsquare Media Of Lafaye |                 |         |
| 258C0                   | KNGT    | LIC  | NCX | 268.3 | 154.97           | 30 17 26.0 | 100.000 | 178.9   | 76.6                       | -39.0*<         | 28.2    |
| Lake Charles            |         |  | LA  | 87.5  | BLH20100923AGD   | 93 34 35.0 | 357     | 363     | Townsquare Media Lake Char |                 |         |
| 258D                    | 1777251 | APP  | C   | 87.7  | 71.97            | 30 21 58.0 | 0.140   | 52.0    | 16.1                       | 4.3             | 4.7     |
| Baton Rouge             |         |  | LA  | 268.1 | BNPFT20180130AFW | 91 12 47.0 |         | 207     | Radio License Holding Cbc, |                 |         |
| 258D                    | 1784385 | APP  | C   | 87.7  | 71.97            | 30 21 58.0 | 0.140   | 52.0    | 16.1                       | 4.3             | 4.7     |
| Baton Rouge             |         |  | LA  | 268.1 | BNPFT20180507ACZ | 91 12 47.0 |         | 207     | Radio License Holding Cbc, |                 |         |
| 258C0                   | WRNO-FM | LIC  | CX  | 101.2 | 197.33           | 29 58 57.0 | 100.000 | 172.6   | 72.8                       | 9.0             | 73.1    |
| New Orleans             |         |  | LA  | 282.2 | BMLH20090406AGA  | 89 57 09.0 | 306     | 306     | Clear Chan. B/casting Lice |                 |         |
| 204C0                   | KRVS    | LIC  | DEX | 266.9 | 39.88            | 30 19 20.0 | 100.000 | 0.0     | 0.0                        | 24.5R           | 15.4M   |
| Lafayette               |         |  | LA  | 86.7  | BLED20040105AAF  | 92 22 40.0 | 379     | 388     | The University Of Louisian |                 |         |

Terrain database is USGS 03 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= West Zone, Co to 3rd adjacent.  
 All separation margins (if shown) include rounding. Call signs with exclamation marks need not be protected.  
 Ant column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
 Incoming contour overlap is ignored.  
 "\*"affixed to 'IN' or 'OUT' values = site inside restricted contour.  
 < = Contour Overlap

**SECTION III - PREPARER'S CERTIFICATION**

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

|  |  |                     |
|--|--|---------------------|
| Name<br>JOSEPH M. DAVIS, P.E.  | Relationship to Applicant (e.g., Consulting Engineer)<br>CONSULTING ENGINEER |                     |
| Signature  | Date<br>06/07/2018   |                     |
| Mailing Address<br>CHESAPEAKE RF CONSULTANTS, LLC<br>207 OLD DOMINION ROAD |  |                     |
| City<br>YORKTOWN   | State or Country (if foreign address)<br>VA                                  | Zip Code<br>23692 - |
| Telephone Number (include area code)<br>7036509600                         | E-Mail Address (if available)<br>JOSEPH.DAVIS@RF-CONSULTANTS.COM             |                     |

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

|   |       |         |           |         |       |           |       |         |       |                             |       |
|---|-------|---------|-----------|---------|-------|-----------|-------|---------|-------|-----------------------------|-------|
| <b>Section III-A - Engineering</b>  |       |         |           |         |       |           |       |         |       |                             |       |
| <b>TECHNICAL SPECIFICATIONS</b>   |       |         |           |         |       |           |       |         |       |                             |       |
| Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.   |       |         |           |         |       |           |       |         |       |                             |       |
| <b>TECH BOX</b>   |       |         |           |         |       |           |       |         |       |                             |       |
| 1. Channel: 258   |       |         |           |         |       |           |       |         |       |                             |       |
| 2. Primary Station:   |       |         |           |         |       |           |       |         |       |                             |       |
| Facility ID Number  |       |         | Call Sign |         |       | City      |       |         | State |                             |       |
| 35607   |       |         | KSLO      |         |       | OPELOUSAS |       |         | LA    |                             |       |
| 3. Delivery Method (Select One):<br><input type="radio"/> Off-air <input checked="" type="radio"/> Microwave <input type="radio"/> Satellite <input type="radio"/> Via <input type="radio"/> Other  |       |         |           |         |       |           |       |         |       |                             |       |
| 4. Antenna Location Coordinates: (NAD 27)   |       |         |           |         |       |           |       |         |       |                             |       |
| Latitude:   |       |         |           |         |       |           |       |         |       |                             |       |
| Degrees 30 Minutes 20 Seconds 32 <input checked="" type="radio"/> North <input type="radio"/> South   |       |         |           |         |       |           |       |         |       |                             |       |
| Longitude:  |       |         |           |         |       |           |       |         |       |                             |       |
| Degrees 91 Minutes 57 Seconds 46 <input checked="" type="radio"/> West <input type="radio"/> East   |       |         |           |         |       |           |       |         |       |                             |       |
| 5. Antenna Structure Registration Number: 1251823<br><input type="checkbox"/> Not Applicable <input type="checkbox"/> Notification filed with FAA   |       |         |           |         |       |           |       |         |       |                             |       |
| 6. Antenna Location Site Elevation Above Mean Sea Level:  |       |         |           |         |       |           |       |         |       | 7 meters                    |       |
| 7. Overall Tower Height Above Ground Level:   |       |         |           |         |       |           |       |         |       | 313 meters                  |       |
| 8. Height of Radiation Center Above Ground Level:   |       |         |           |         |       |           |       |         |       | 144 meters(H) 144 meters(V) |       |
| 9. Effective Radiated Power:  |       |         |           |         |       |           |       |         |       | 0.25 kW(H) 0.25 kW(V)       |       |
| 10. Transmitting Antenna:   |       |         |           |         |       |           |       |         |       |                             |       |
| Before selecting Directional "Off-the-Shelf", refer to "Search for Antenna Information" under <a href="http://licensing.fcc.gov/prod/cdbforms/pubacc/prod/cdb_pa.htm">CDBS Public Access</a> (http://licensing.fcc.gov/prod/cdbforms/pubacc/prod/cdb_pa.htm). Make sure that the Standard Pattern is marked Yes and that the relative field values shown match your values. Enter the Manufacturer (Make) and Model exactly as displayed in the Antenna Search. |       |         |           |         |       |           |       |         |       |                             |       |
| <input checked="" type="radio"/> Nondirectional <input type="radio"/> Directional Off-the Shelf <input type="radio"/> Directional composite   |       |         |           |         |       |           |       |         |       |                             |       |
| Manufacturer BEX Model TFC2K 2 BAY  |       |         |           |         |       |           |       |         |       |                             |       |
| Rotation:degrees <input type="checkbox"/> No Rotation   |       |         |           |         |       |           |       |         |       |                             |       |
| Degrees   | Value | Degrees | Value     | Degrees | Value | Degrees   | Value | Degrees | Value | Degrees                     | Value |
| 0   |       | 10      |           | 20      |       | 30        |       | 40      |       | 50                          |       |
| 60  |       | 70      |           | 80      |       | 90        |       | 100     |       | 110                         |       |
| 120   |       | 130     |           | 140     |       | 150       |       | 160     |       | 170                         |       |
| 180   |       | 190     |           | 200     |       | 210       |       | 220     |       | 230                         |       |

|                     |  |     |  |     |  |     |  |     |  |     |  |
|---------------------|--|-----|--|-----|--|-----|--|-----|--|-----|--|
| 240                 |  | 250 |  | 260 |  | 270 |  | 280 |  | 290 |  |
| 300                 |  | 310 |  | 320 |  | 330 |  | 340 |  | 350 |  |
| Additional Azimuths |  |     |  |     |  |     |  |     |  |     |  |

[Relative Field Polar Plot](#)

|     |   |   |
|-----|---|---|
| 11. | <p><b>For FM Boosters and Fill-in translators only.</b></p> <p>a. <b>FM Fill-in translators.</b> Applicant certifies that the FM translator's (a) 1mV/m coverage contour does not extend beyond the protected contour of the commercial FM primary station to be rebroadcast, or (b) entire 1mV/m coverage contour is contained within the greater of either: (i) the 2 mV/m daytime contour of the commercial AM primary station to be rebroadcast, or (ii) a 25-mile radius centered at the commercial AM primary station's transmitter site.</p> <p>b. <b>FM Boosters.</b> Applicant certifies that the FM Booster station's service contour is entirely within the primary station's protected coverage contour.</p>  | <p><input checked="" type="radio"/> Yes <input type="radio"/> No<br/><input type="radio"/> N/A</p> <p>See Explanation in [Exhibit 10]</p> <p><input type="radio"/> Yes <input type="radio"/> No<br/><input checked="" type="radio"/> N/A</p> <p>See Explanation in [Exhibit 11]</p> |
| 12. | <p><b>Interference.</b> The proposed facility complies with all of the following applicable rule sections. Check all that apply:</p> <p><b>Overlap Requirements.</b><br/><input checked="" type="checkbox"/> a) 47 C.F.R. Section 74.1204<br/><b>Exhibit Required.</b></p> <p><b>Television Channel 6 Protection.</b><br/><input type="checkbox"/> b) 47 C.F.R. Section 74.1205 with respect to station(s)<br/><b>Exhibit Required.</b></p>   | <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 12]</p> <p>[Exhibit 13]</p> <p>[Exhibit 14]</p>   |
| 13. | <p><b>Unattended operation.</b> Applicant certifies that unattended operation is not proposed, or if this application proposes unattended operation, the applicant certifies that it will comply with the requirements of 47 C.F.R. Section 74.1234.</p>  | <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 15]</p>   |
| 14. | <p><b>Multiple Translators.</b> Applicant certifies that it does not have any interest in an application or an authorization for an FM translator station that serves substantially the same area and rebroadcasts the same signal as the proposed FM translator station.</p>   | <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 16]</p>   |
| 15. | <p><b>Environmental Protection Act.</b> Applicant certifies that the proposed facility is excluded from environmental processing under 47. C.F.R. Section 1.1306 (i.e., the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the RF worksheets in Appendix A, an <b>Exhibit is required.</b></p> <p>By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.</p> | <p><input checked="" type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 17]</p>   |