WAPA
RADIO

2018 JUN 19 PM 1:14

Extensión San Agustín, Calle 3 #1210, Río Piedras PR 00926-1837 • Tel. (787) 763-1066 • Fax (787) 763-4195 • **E-mail: wapa680@gmail.com**

June 10, 2018

Mrs. Marlene H. Dortch, Secretary
FEDERAL COMMUNICATIONS COMMISSION
MEDIA BUREAU
445 12th St. SW
Washington, D. C. 20554

re: APPLICATION FOR LICENSE FORM 302-AM
WMIA-AM ARECIBO PUERTO RICO FAC. ID.: 254
BP-20170428AAB

Dear Mrs. Dortch:

Enclosed please find original and two copies of application for license form 302-AM to cover the construction permit BP-20170428AAB for WMIA-AM. The application processing fees were paid electronically using a VISA Card. Agency tracking ID: PGC3106906. Electronic proof of payment is attached.

Please send back to me copy of the first page marked as "RETURN COPY" stamped as received by your office. I am including a pre-postaged enveloped for this purpose.

Thanks,

Wifredo G. Blanco Pi

ENG. WIFREDO G. BLANCO-PI
licensee WMIA-AM

attachments: electronic proof of payment, electronic 159, 302AM

Federal Communications Commission

Online Payment

Step 3: Confirm Payment 1 | 2 | 3

Thank you.
Your transaction has been successfully completed.

Pay.gov Tracking Information

Application Name: Remittance Advice
Pay.gov Tracking ID: 26A9Q0T8
Agency Tracking ID: PGC3106906
Transaction Date and Time: 06/13/2018 13:02 EDT

Payment Summary

Address Information

Account Holder Name: JORGE G BLANCO WAPA RADIO
Billing Address: EXT SAN AGUSTIN, 1210 3RD STREET
Billing Address 2:
City: SAN JUAN
State/Province: PR
ZIP/Postal Code: 00926-1837
Country: USA

Account Information

Credit Card Type: Visa
Credit Card Number: **********3459

Payment Information

Payment Amount: $700.00
Transaction Date and Time: 06/13/2018 13:02 EDT

Agency Tracking ID:PGC3106906 Authorization Number:023773

Successful Authorization -- Date Paid: 6/13/18

FILE COPY ONLY!!

READ INSTRUCTIONS CAREFULLY BEFORE PROCEEDING (1) LOCKBOX #**979089**	FEDERAL COMMUNICATIONS COMMISSION **REMITTANCE ADVICE** **FORM 159** PAGE NO 1 OF 1	APPROVED BY OMB 3060-059 SPECIAL USE FCC USE ONLY

SECTION A - Payer Information

(2) PAYER NAME (if paying by credit card, enter name exactly as it appears on your card)	(3) TOTAL AMOUNT PAID (dollars and cents)
WIFREDO G BLANCO-PI	**$700.00**

(4) STREET ADDRESS LINE NO. 1
EXT SAN AGUSTIN, 1210 3RD STREET
(5) STREET ADDRESS LINE NO. 2
1210 3RD STREET

(6) CITY	(7) STATE	(8) ZIP CODE
SAN JUAN	**PR**	**00926-0092**

(9) DAYTIME TELEPHONE NUMBER (INCLUDING AREA CODE)	(10) COUNTRY CODE (IF NOT IN U.S.A.)
787-3132153 x787	**US**

FCC REGISTRATION NUMBER (FRN) AND TAX IDENTIFICATION NUMBER (TIN) REQUIRED

(11) PAYER (FRN)	(12) FCC USE ONLY
0007902158	

IF PAYER NAME AND THE APPLICANT NAME ARE DIFFERENT, COMPLETE SECTION B
IF MORE THAN ONE APPLICANT, USE CONTINUATION SHEETS (FORM 159-C)

(13) APPLICANT NAME
WIFREDO BLANCO-PI
(14) STREET ADDRESS LINE NO. 1
EXT SAN AGUSTIN, 1210 3RD STREET
(15) STREET ADDRESS LINE NO. 2
1210 3RD STREET

(16) CITY	(17) STATE	(18) ZIP CODE
SAN JUAN	**PR**	**00926-0092**

(19) DAYTIME TELEPHONE NUMBER (INCLUDING AREA CODE)	(20) COUNTRY CODE (IF NOT IN U.S.A.)
787-3132153 x787	**US**

FCC REGISTRATION NUMBER (FRN) AND TAX IDENTIFICATION NUMBER (TIN) REQUIRED

(21) APPLICANT (FRN)	(22) FCC USE ONLY
0007902158	

COMPLETE SECTION C FOR EACH SERVICE, IF MORE BOXES ARE NEEDED, USE CONTINUATION SHEET

(23A) FCC Call Sign/Other ID	(24A) Payment Type Code(PTC)	(25A) Quantity
WMIA-AM	**MMR**	**1**
(26A) Fee Due for (PTC)	(27A) Total Fee	FCC Use Only
$700.00	**$700.00**	

(28A) FCC CODE 1	(29A) FCC CODE 2
254	**BP-20170428AAB**

(23B) FCC Call Sign/Other ID	(24B) Payment Type Code(PTC)	(25B) Quantity
(26B) Fee Due for (PTC)	(27B) Total Fee	FCC Use Only

ORIGINAL

Federal Communications Commission
Washington, D. C. 20554

Approved by OMB
3060-0627
Expires 01/31/98

FOR FCC USE ONLY

FCC 302-AM
APPLICATION FOR AM BROADCAST STATION LICENSE

(Please read instructions before filling out form.

FOR COMMISSION USE ONLY
FILE NO. BL-20180619ABJ

SECTION I - APPLICANT FEE INFORMATION

1. PAYOR NAME (Last, First, Middle Initial)
WIFREDO G. BLANCO-PI

MAILING ADDRESS (Line 1) (Maximum 35 characters)
EXT. SAN AGUSTIN

MAILING ADDRESS (Line 2) (Maximum 35 characters)
1210 3RD ST.

CITY	STATE OR COUNTRY (if foreign address)	ZIP CODE
SAN JUAN	P.R.	00926-1837

TELEPHONE NUMBER (include area code)	CALL LETTERS	OTHER FCC IDENTIFIER (If applicable)
787-313-2153	WMIA-AM	254

2. A. Is a fee submitted with this application? [✓] Yes [ ] No

B. If No, indicate reason for fee exemption (see 47 C.F.R. Section

[ ] Governmental Entity [ ] Noncommercial educational licensee [ ] Other (Please explain):

C. If Yes, provide the following information:

Enter in Column (A) the correct Fee Type Code for the service you are applying for. Fee Type Codes may be found in the "Mass Media Services Fee Filing Guide." Column (B) lists the Fee Multiple applicable for this application. Enter fee amount due in Column (C).

(A) FEE TYPE CODE	(B) FEE MULTIPLE	(C) FEE DUE FOR FEE TYPE CODE IN COLUMN (A)	FOR FCC USE ONLY
M M R	0 0 0 1	$ 700.00	

To be used only when you are requesting concurrent actions which result in a requirement to list more than one Fee Type Code.

(A)	(B)	(C)	FOR FCC USE ONLY
	0 0 0 1	$	

	TOTAL AMOUNT REMITTED WITH THIS APPLICATION	FOR FCC USE ONLY
ADD ALL AMOUNTS SHOWN IN COLUMN C, AND ENTER THE TOTAL HERE. THIS AMOUNT SHOULD EQUAL YOUR ENCLOSED REMITTANCE.	$ 700.00	

SECTION II - APPLICANT INFORMATION		
1. NAME OF APPLICANT WIFREDO G. BLANCO-PI		
MAILING ADDRESS EXT SAN AGUSTIN 1210 3RD STREET		
CITY SAN JUAN	STATE PR	ZIP CODE 00926-1837

2. This application is for:

☐ Commercial ☐ Noncommercial

☐ AM Directional ☑ AM Non-Directional

Call letters	Community of License	Construction Permit File No.	Modification of Construction Permit File No(s).	Expiration Date of Last Construction Permit
WMIA-AM	ARECIBO , P. R.	BP-20170428AAB		09/20/2020

3. Is the station now operating pursuant to automatic program test authority in accordance with 47 C.F.R. Section 73.1620?

☑ Yes ☐ No

If No, explain in an Exhibit.

Exhibit No.

4. Have all the terms, conditions, and obligations set forth in the above described construction permit been fully met?

☑ Yes ☐ No

If No, state exceptions in an Exhibit.

Exhibit No.

5. Apart from the changes already reported, has any cause or circumstance arisen since the grant of the underlying construction permit which would result in any statement or representation contained in the construction permit application to be now incorrect?

☐ Yes ☑ No

If Yes, explain in an Exhibit.

Exhibit No.

6. Has the permittee filed its Ownership Report (FCC Form 323) or ownership certification in accordance with 47 C.F.R. Section 73.3615(b)?

☑ Yes ☐ No

☐ Does not apply

If No, explain in an Exhibit.

Exhibit No.

7. Has an adverse finding been made or an adverse final action been taken by any court or administrative body with respect to the applicant or parties to the application in a civil or criminal proceeding, brought under the provisions of any law relating to the following: any felony; mass media related antitrust or unfair competition; fraudulent statements to another governmental unit; or discrimination?

☐ Yes ☑ No

If the answer is Yes, attach as an Exhibit a full disclosure of the persons and matters involved, including an identification of the court or administrative body and the proceeding (by dates and file numbers), and the disposition of the litigation. Where the requisite information has been earlier disclosed in connection with another application or as required by 47 U.S.C. Section 1.65(c), the applicant need only provide: (i) an identification of that previous submission by reference to the file number in the case of an application, the call letters of the station regarding which the application or Section 1.65 information was filed, and the date of filing; and (ii) the disposition of the previously reported matter.

Exhibit No.

8. Does the applicant, or any party to the application, have a petition on file to migrate to the expanded band (1605-1705 kHz) or a permit or license either in the existing band or expanded band that is held in combination (pursuant to the 5 year holding period allowed) with the AM facility proposed to be modified herein?

☐ Yes ☑ No

If Yes, provide particulars as an Exhibit.

Exhibit No.

The APPLICANT hereby waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because use of the same, whether by license or otherwise, and requests and authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended).

The APPLICANT acknowledges that all the statements made in this application and attached exhibits are considered material representations and that all the exhibits are a material part hereof and are incorporated herein as set out in full in

CERTIFICATION

1. By checking Yes, the applicant certifies, that, in the case of an individual applicant, he or she is not subject to a denial of federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862, or, in the case of a non-individual applicant (e.g., corporation, partnership or other unincorporated association), no party to the application is subject to a denial of federal benefits that includes FCC benefits pursuant to that section. For the definition of a "party" for these purposes, see 47 C.F.R. Section 1.2002(b).

☐ Yes ☐ No

2. I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith.

Name	Signature	
WIFREDO G. BLANCO-PI	Wifredo G. Blanco Pi	
Title	Date	Telephone Number
LICENSEE WMIA-AM	06/12/2018	787 313 2153

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

FCC NOTICE TO INDIVIDUALS REQUIRED BY THE PRIVACY ACT AND THE PAPERWORK REDUCTION ACT

The solicitation of personal information requested in this application is authorized by the Communications Act of 1934, as amended. The Commission will use the information provided in this form to determine whether grant of the application is in the public interest. In reaching that determination, or for law enforcement purposes, it may become necessary to refer personal information contained in this form to another government agency. In addition, all information provided in this form will be available for public inspection. If information requested on the form is not provided, the application may be returned without action having been taken upon it or its processing may be delayed while a request is made to provide the missing information. Your response is required to obtain the requested authorization.

Public reporting burden for this collection of information is estimated to average 639 hours and 53 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, can be sent to the Federal Communications Commission, Records Management Branch, Paperwork Reduction Project (3060-0627), Washington, D. C. 20554. Do NOT send completed forms to this address.

THE FOREGOING NOTICE IS REQUIRED BY THE PRIVACY ACT OF 1974, P.L. 93-579, DECEMBER 31, 1974, 5 U.S.C. 552a(e)(3), AND THE PAPERWORK REDUCTION ACT OF 1980, P.L. 96-511, DECEMBER 11, 1980, 44 U.S.C. 3507.

SECTION III - LICENSE APPLICATION ENGINEERING DATA

Name of Applicant
WIFREDO G. BLANCO-PI

PURPOSE OF AUTHORIZATION APPLIED FOR: (check one)

☑ Station License ☐ Direct Measurement of Power

1. Facilities authorized in construction permit

Call Sign	File No. of Construction Permit (if applicable)	Frequency (kHz)	Hours of Operation	Power in kilowatts	
				Night	Day
WMIA	BP-20170428AAB	1070	16	2.5	0.61

2. Station location

State	City or Town
PUERTO RICO	ARECIBO

3. Transmitter location

State	County	City or Town	Street address (or other identification)
PR	ARECIBO	ARECIBO	CAMINO LOS MORA

4. Main studio location

State	County	City or Town	Street address (or other identification)
PR	SAN JUAN	SAN JUAN	EXT SAN AGUSTIN, R.P.

5. Remote control point location (specify only if authorized directional antenna)

State	County	City or Town	Street address (or other identification)
PR	SAN JUAN	SAN JUAN	EXT SAN AGUSTIN, R.P.

6. Has type-approved stereo generating equipment been installed? ☐ Yes ☐ No

7. Does the sampling system meet the requirements of 47 C.F.R. Section 73.68? ☐ Yes ☐ No ☐ Not Applicable

Attach as an Exhibit a detailed description of the sampling system as installed. Exhibit No.

8. Operating constants:

RF common point or antenna current (in amperes) without modulation for night system	RF common point or antenna current (in amperes) without modulation for day system
11.04	5.45

Measured antenna or common point resistance (in ohms) at operating frequency		Measured antenna or common point reactance (in ohms) at operating frequency	
Night	Day	Night	Day
20.5	20.5	-19.2	-19.2

Antenna indications for directional operation

Towers	Antenna monitor Phase reading(s) in degrees		Antenna monitor sample current ratio(s)		Antenna base currents	
	Night	Day	Night	Day	Night	Day

Manufacturer and type of antenna monitor:

SECTION III - Page 2

9. Description of antenna system ((f directional antenna is used, the information requested below should be given for each element of the array. Use separate sheets if necessary.)

Type Radiator	Overall height in meters of radiator above base insulator, or above base, if grounded.	Overall height in meters above ground (without obstruction lighting)	Overall height in meters above ground (include obstruction lighting)	If antenna is either top loaded or sectionalized, describe fully in an Exhibit.
GUY. TW	59.7	60.97	60.97	Exhibit No. EE

Excitation ☑ Series ☐ Shunt

Geographic coordinates to nearest second. For directional antenna give coordinates of center of array. For single vertical radiator give tower location.

North Latitude	West Longitude
18 ° 27 ' 32 "	66 ° 45 ' 20 "

If not fully described above, attach as an Exhibit further details and dimensions including any other antenna mounted on tower and associated isolation circuits. Exhibit No. N/A

Also, if necessary for a complete description, attach as an Exhibit a sketch of the details and dimensions of ground system. Exhibit No. EE

10. In what respect, if any, does the apparatus constructed differ from that described in the application for construction permit or in the permit?

NONE.

11. Give reasons for the change in antenna or common point resistance.

Antenna system is less efficient than expected. Explained in EE. It is requested 0.61kw instead of 0.51 kw daytime to compensate.

I certify that I represent the applicant in the capacity indicated below and that I have examined the foregoing statement of technical information and that it is true to the best of my knowledge and belief.

Name (Please Print or Type)	Signature (check appropriate box below)
WIFREDO G. BLANCO-PI	Wifredo G. Blanco Pi
Address (include ZIP Code) EXT SAN AGUSTIN	Date 06/12/2018
	Telephone No. (Include Area Code) 787 313 2153

☐ Technical Director

☑ Registered Professional Engineer

☐ Chief Operator

☐ Technical Consultant

☐ Other (specify)

ENGINEERING EXHIBIT
APPLICATION FOR LICENSE

CONSTRUCTION PERMIT: BP-20170428AAB
WMIA-AM ARECIBO, P.R.
1070 KHZ., 0.51KW-D, 2.5 KW-N ND

POWER REQUESTED DUE TO INEFFICIENT ANTENNA SYSTEM:
0.61 KW-D, 2.5 KW-N ND

prepared by: WIFREDO G. BLANCO-PI, P.E.
MAY/2018

FIGURE 1:

TABLE OF CONTENTS

FIGURE 2

CERTIFICATION OF ENGINEER AND ENGINEER STATEMENT

EXPERIENCE AND EDUCATION OF THE ENGINEER PREPARING THIS REPORT

WIFREDO G. BLANCO-PI, P.E.
PROFESSIONAL ELECTRICAL ENGINEER
Puerto Rico License: 5130

URB. Floral Park
155 San Antonio St.
San Juan, P. R. 00917

Telephone: 787-612-1178
787-763-1066
Fax: 787-763-4195

CERTIFICATION

I hereby certify that the subscriber, Wifredo G. Blanco-Pi, made the field intensity measurements, made the field adjustments and prepared this report. That my qualifications as engineer are a matter of record within the Federal Communications Commission.

To the best of my knowledge, the data presented is true and accurate.

Wifredo G. Blanco Pi

WIFREDO G. BLANCO-PI

WMIA-AM ARECIBO, PUERTO RICO **FIGURE 2 (SHEET 3 OF 6)**
1070 Khz., 0.51 kw-D, 2.5 kw-N
FACILITY ID: 254
BP-20170428AAB GRANTED 9/20/2017

ENGINEER STATEMENT PREPARED BY WIFREDO G. BLANCO-PI, P.E.

The engineering exhibit of which this statement is part was prepared on behalf of Wifredo G. Blanco-Pi, licensee of WMIA-AM to whom the construction permit BP-20170428AAB was granted.

This CP authorizes to reduce tower height and efficiency, increase daytime power due to lower efficient tower, and add top loading. A new tower was constructed at the site since WMIA's tower collapsed back in 2016. The tower constructed no longer requires obstruction lighting nor painting according to the FAA determination. WMIA-AM tower is close to the seashore and the salty winds from the Atlantic Ocean made it corrode. Examining the 250 ft. tower that was demolished at WA2XPA-AM (an experimental synchronous booster station Blanco Pi was licensed at Arecibo) it appears that hand painting the tower promotes corroding since the salt from the sea winds easily stick to the tower painting, specially at uniformities and/or painting cracks over the years. We theorize that leaving it unpainted, just hot dipped galvanized as it comes from the manufacturer, would permit the tower to clean itself each time heavy rain falls in the area. So, salty deposits from the sea winds are minimized and the tower should extend its lifetime.

The new ROHN 55g tower, unpainted, was erected up to 196 ft (59.7m) and the top loading installed, as the CP specifies. Four equally spaced elevated counterpoise radials, 4.6 meters above ground, about the base of the tower, with an average length of 70 meters due to truncation at the corners of the rectangular property boundary were installed as specified in the CP. A complete non-directional proof of performance has been made to establish the efficiency of the antenna system instructed by the CP.

LICENSED EFFICIENCY (using the 250 ft licensed tower & buried radials) = 305.30 mv/m/kw/km

CP THEORETICAL EFFICIENCY (using the 196ft tower + T.L. & elevated radials) = 301.8 mv/m/kwkm

MEASURED EFF. from the PROOF (196 ft. tower + T. L. & elevated radials) = 277.26 mv/m/km/kw

---

CALCULATION: *Using 0.51 kw to make the Proof the efficiency was found to be: 198mv/m @ 1km. The efficiency then per kw would be* $198 \times \sqrt{(1.0/0.51)} = 277.26$ *mv/m/kw @ 1km.*

277.26/305.30 = 90.81 % efficient when compared to the licensed efficiency.

Thus, the ***actual efficiency*** of the new (196 ft.) tower is 90.81 % percent of the ***licensed efficiency***.

Accordingly, and following the guidelines of the FCC Public Notice: The application process and the use of non-discrete power levels for AM stations dated Oct. 11, 1985 and the AM Revitalization NPRM for lower efficiency AM antennas the power input to the antenna is redefined as follows:

$$\text{MEASURED EFFICIENCY} \times \sqrt{Pr/Pp} = \text{LICENSED EFFICIENCY}$$

(where Pr = power requested to reach licensed efficiency and Pp = power used to make the partial proof = 0.51kw)

then, FOR DAYTIME: 277.26 X $\sqrt{(Pr/0.51)}$ = 305.3
Prd = 0.618 kw (to reach licensed efficiency daytime instead of 0.51 kw)

for NIGHTIME: 277.26 X $\sqrt{(Pr/2.5)}$ = 305.3
Prn = 3.03 (to reach licensed efficiency at night instead of 2.5kw).

It is respectfully requested that WMIA be licensed 0.61 KW-D, 2.5KW-N, ND to compensate for the antenna inefficiency (Due to transmitter output power limitations a 2.5 kw nightime is requested).

A non-directional partial proof of performance is included as exhibit to the filing of FCC form 302 (application for license).

The tower input impedance series fed was found to be: 20.5 - j 19.2

The antenna input current DAYTIME would be: 5.45 amps (for an antenna input power of 0.61 kw)

The antenna input current NIGHTIME would be: 11.04 amps (for an antenna input power of 2.5 kw)

ANTENNA MONITORING SYSTEM:

The antenna is monitored using a Potomac Instruments Ammeter TCA-20 EXR S/N 11315 (0-20 amps with toroidal transformer TCT-1 s/n: 11315.

WMIA-AM ARECIBO, PUERTO RICO
1070 Khz., 0.51 kw-D, 2.5 kw-N
FACILITY ID: 254
BP-20170428AAB GRANTED 9/20/2017

FIGURE 2 (SHEET 5 OF 6)
(engineer statement, cont'd)

GROUND SYSTEM:

Ground system consists of four equally spaced elevated counterpoise radials, 4.6 meters above ground, about the base of the tower, with an average length of 70 meters due to truncation at the corners of the rectangular property boundary.

FIELD STRENGTH MEASUREMENTS:

Field strength measurements were analyzed in accordance to the best fit method outlined in Section 73.186 of the FCC rules. Graph 16, formerly contained in CFR 73.184 was used to determine the unattenuated field and conductivity values.

Figure 5 is a Polar Plot of the measured non-directional horizontal plane radiation pattern. No more since they are inaccessible.

DIRECT MEASUREMENT OF POWER:

For the purpose of determining the non-directional power, the impedance of the tower was measured at the output of the antenna tuning unit.

RADIO FREQUENCY RADIATION CONSIDERATION:

The proposed operation of WMIA (daytime and nightime) will not result in the exposure of workers or the general public to levels of radio frequency radiation in excess of the limits apecified in 47 CFR 1.1310. A fence is installed around the tower at a distance not less than 15 feet from the tower to prevent electric and magnetic field exposure above FCC specified levels. If it becomes necessary for worker to enter the fenced areas near the tower base for extended period of time WMIA will reduce its power to an appropriate level or temporarily terminate operation to assure human safety.

Wifredo G. Blanco Pi

WIFREDO G. BLANCO-PI, P.E.
(P.E. PUERTO RICO LICENSE 5130)
General Radio Telephone License PG-22-611

WMIA-AM ARECIBO, PUERTO RICO
1070 Khz., 0.51 kw-D, 2.5 kw-N
FACILITY ID: 254
BP-20170428AAB GRANTED 9/20/2017

EXPERIENCE AND EDUCATION OF THE ENGINEER PREPARING THIS REPORT

My experience in radio engineering matters consists of approximately fifty-eight years as a radio engineer for several broadcast stations in Cuba, Republic of Panama and the Commonwealth of Puerto Rico.

During this time, I have installed, adjusted and maintained multiple two and three tower directional antenna systems, used an RF bridge for measuring the tower and common point impedances and performed field strength measurements.

My formal education consists of five years at the University of Havana, Cuba where I was graduated in 1956 as an Electrical Engineer. Since January 1967 I became a registered professional engineer at the Commonwealth of Puerto Rico (PE license 5130). I also hold a General Radio Telephone Operator License (PG-22-611) valid for LIFETIME.

Wifredo G. Blanco Pi

ENG. WIFREDO G. BLANCO-PI, P.E.

WMIA-AM ARECIBO, PUERTO RICO
1070 Khz., 0.51 kw-D, 2.5 kw-N
FACILITY ID: 254
BP-20170428AAB GRANTED 9/20/2017

FIGURE 3

SUMMARY OF MEASURED FIELD STRENGTH DATA

WMIA-AM ARECIBO, PUERTO RICO
1070 KHZ, 0.51 KW-D, 2.5 KW-N
FACILITY ID: 254
BP-20170428AAB

FIGURE 3
(SHEET 2 OF 2)
MAY, 2018

SUMMARY OF MEASURED FIELD STRENGTH DATA
(unattenuated field strength at one km.)

RADIAL (DEGREES)	MEASURED NON-DA 0.51 kw	2.5 kw	CP THEOR. EFF. mv/m/kw/km	LIC. EFFICIENCY mv/m/kw/km
0	198	438.4	301.8	305.3
45	198	438.4	301.8	305.3
90	198	438.4	301.8	305.3
135	198	438.4	301.8	305.3
180	198	438.4	301.8	305.3
225	198	438.4	301.8	305.3
315	198	438.4	301.8	305.3

THEORETICAL EFFICIENCY: 301.8 mv/m/kw/km using CP 196 ft. tower + TL + elevated radi
LICENSED EFFICIENCY: 305.3 mv/m/kw/km using licensed 250 ft tower + buried radial

Constructed facilities: 196 ft AGL + 18 ft. Top Loading
GROUND SYSTEM: Four elevated radials: 1/0 AWG AL, 232 ft. long
RADIATOR HEIGHT: 76.7 electrical degrees tower & + 7 electrical degrees top loading

FIGURE 4

TABULATION OF MEASURED FIELD STRENGTH DATA

WMIA-AM ARECIBO, PUERTO RICO
1070 KHZ., 0.51 KW-D, 2.5 KW-N, ND
BP-20170428AAB
FACILITY ID: 254

FIGURE 4
SHEET 2 OF 9
MAY, 2018

RADIAL MEASURED: 0 DEGREES-ND
POINTS MEASURED AT CP DAYTIME POWER: 0.51 KW, ND

POINT	DISTANCE (km)	NON-DA (mv/m)
1	0.4	459
2	0.7	269
3	0.8	212
4	1.1	163
5	1.4	127
6	1.8	100
7	2	85
8	2.2	72
9	2.4	64

WMIA-AM ARECIBO, PUERTO RICO
1070 KHZ., 0.51 KW-D, 2.5 KW-N, ND
BP-20170428AAB
FACILITY ID: 254

FIGURE 4
SHEET 3 OF 9
MAY, 2018

RADIAL MEASURED: 45 DEGREES-ND
POINTS MEASURED AT CP DAYTIME POWER: 0.51 KW, ND

POINT	DISTANCE (km)	NON-DA (mv/m)
1	0.65	310
2	0.8	226
3	1	198
4	1.3	155
5	1.55	135
6	1.85	113
7	2	105
8	2.4	85

WMIA-AM ARECIBO, PUERTO RICO
1070 KHZ., 0.51 KW-D, 2.5 KW-N, ND
BP-20170428AAB
FACILITY ID: 254

FIGURE 4
SHEET 4 OF 9
MAY, 2018

RADIAL MEASURED: 90 DEGREES-ND
POINTS MEASURED AT CP DAYTIME POWER: 0.51 KW, ND

POINT	DISTANCE (km)	NON-DA (mv/m)
1	1.2	155
2	1.35	145
3	1.95	92
4	3	65
5	3.75	46
6	6.2	30
7	10	15
8	11.8	13
9	15.2	8.5
10	19.7	3.1
11	22.6	2.4
12	26.2	1.3
13	27.5	1.2
14	30.6	1.7
15	33.2	1.64
16	35.6	1.5
17	37	1.35
18	40.3	1.1

WMIA-AM ARECIBO, PUERTO RICO
1070 KHZ., 0.51 KW-D, 2.5 KW-N, ND
BP-20170428AAB
FACILITY ID: 254

FIGURE 4
SHEET 5 OF 9
MAY, 2018

RADIAL MEASURED: 135 DEGREES-ND
POINTS MEASURED AT CP DAYTIME POWER: 0.51 KW, ND

POINT	DISTANCE (km)	NON-DA (mv/m)
1	0.2	778
2	0.5	354
3	1	166
4	1.4	106
5	2.3	64
6	2.6	53
7	3.7	35
8	4.5	20
9	5.4	12
10	6.6	3.5
11	9	2.1
12	9.7	1.4

WMIA-AM ARECIBO, PUERTO RICO
1070 KHZ., 0.51 KW-D, 2.5 KW-N, ND
BP-20170428AAB
FACILITY ID: 254

FIGURE 4
SHEET 6 0F 9
MAY, 2018

RADIAL MEASURED: (180 DEGREES-ND
POINTS MEASURED AT CP DAYTIME POWER: 0.51 KW, ND

POINT	DISTANCE (km)	NON-DA (mv/m)
1	0.7	205
2	1	184
3	1.3	127
4	1.5	116
5	1.9	90
6	2.35	75
7	2.7	50
8	3.8	21
9	4.2	14
10	5.45	7
11	8.8	6.4

WMIA-AM ARECIBO, PUERTO RICO
1070 KHZ., 0.51 KW-D, 2.5 KW-N, ND
BP-20170428AAB
FACILITY ID: 254

FIGURE 4
SHEET 7 OF 9
MAY, 2018

RADIAL MEASURED: 225 DEGREES-ND
POINTS MEASURED AT CP DAYTIME POWER: 0.51 KW, ND

POINT	DISTANCE (km)	NON-DA (mv/m)
1	0.2	720
2	0.6	300
3	0.9	220
4	1.6	122
5	2.85	62
6	4.55	40
7	5.55	34
8	7.4	6.4
9	9.1	3.9

WMIA-AM ARECIBO, PUERTO RICO
1070 KHZ., 0.51 KW-D, 2.5 KW-N, ND
BP-20170428AAB
FACILITY ID: 254

FIGURE 4
SHEET 8 OF 9
MAY, 2018

RADIAL MEASURED: 270 DEGREES-ND
POINTS MEASURED AT CP DAYTIME POWER: 0.51 KW, ND

POINT	DISTANCE (km)	NON-DA (mv/m)
1	0.2	672
2	2.1	74
3	2.8	50
4	4	35
5	5.5	29
6	5.9	22
7	6.8	24.7
8	9.2	8.8
9	10.4	7.1
10	12.8	7.8
11	14.6	7.1
12	15.3	2.9
13	17.9	3.3
14	19.2	3.3
15	24	0.99
16	25.6	0.85

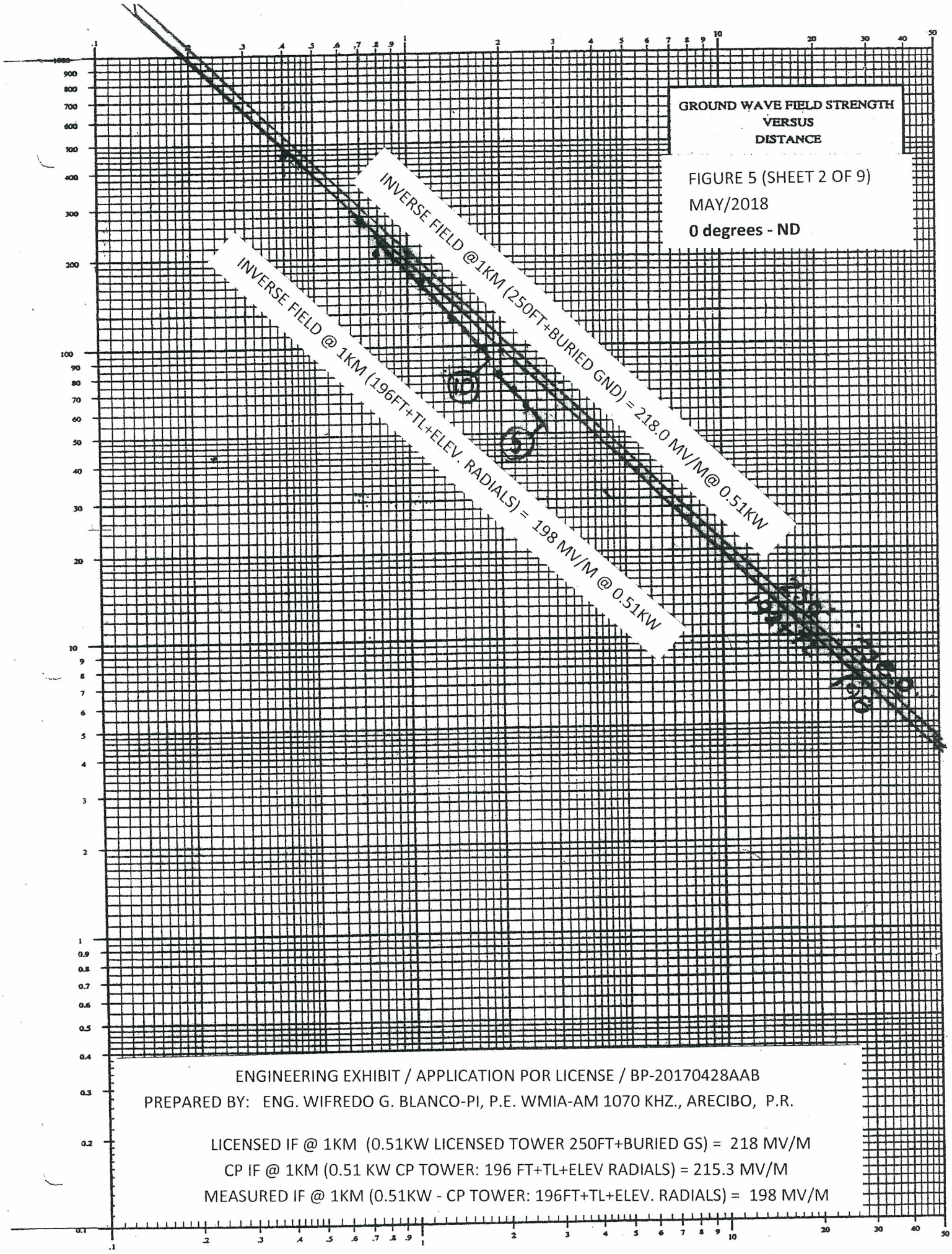
WMIA-AM ARECIBO, PUERTO RICO
1070 KHZ., 0.51 KW-D, 2.5 KW-N, ND
BP-20170428AAB
FACILITY ID: 254

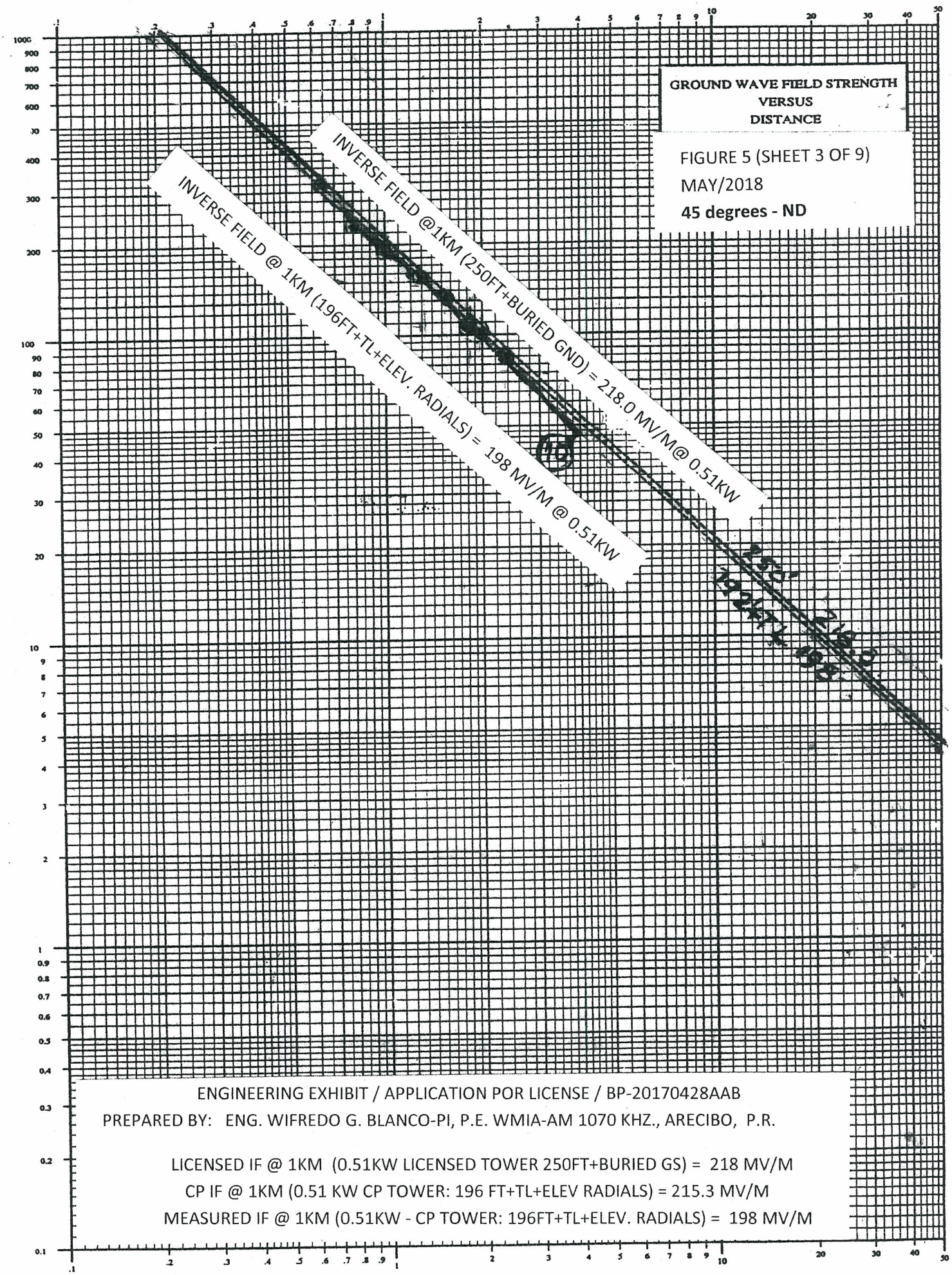
FIGURE 4
SHEET 9 OF 9

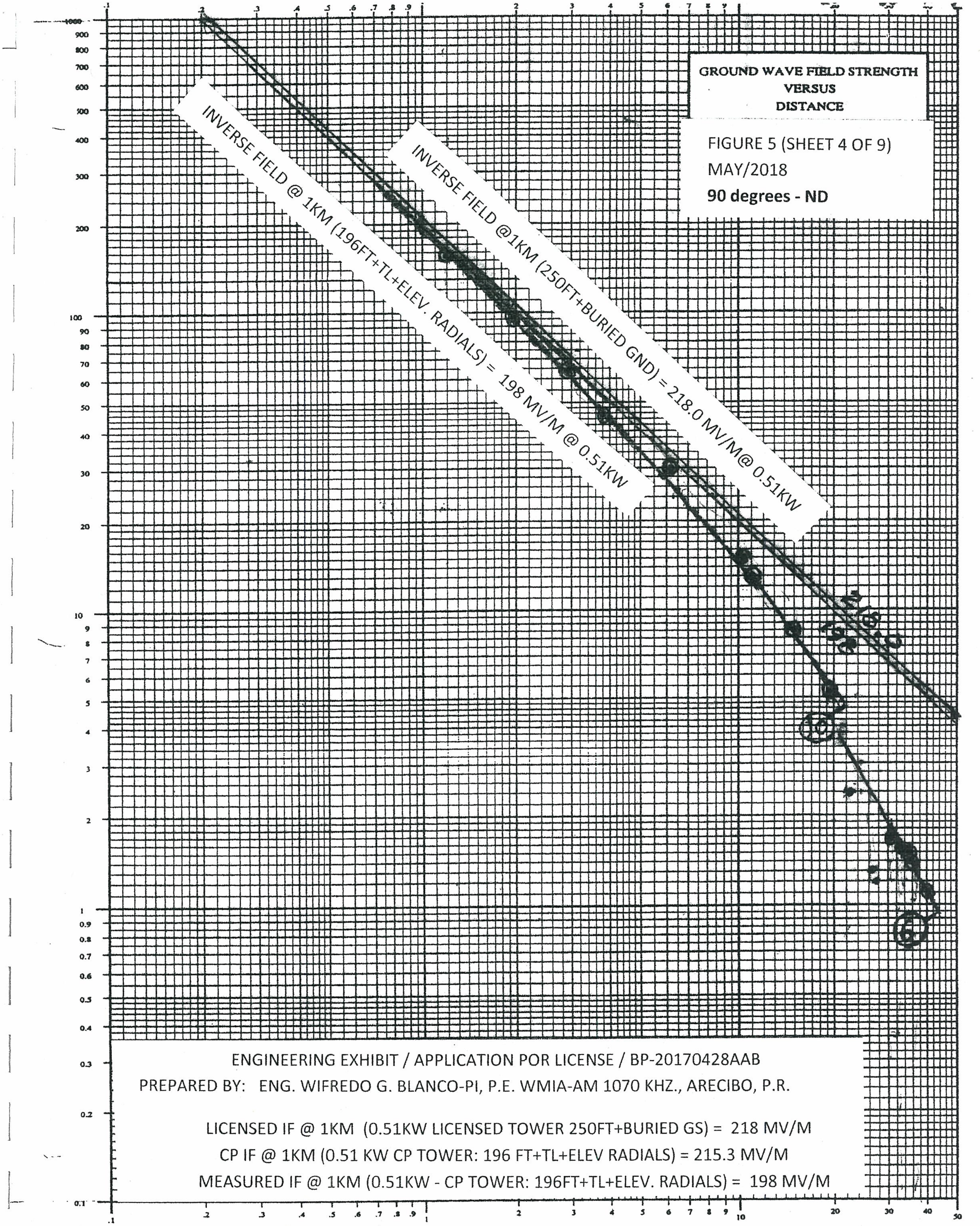
RADIAL MEASURED: 315 DEGREES-ND
POINTS MEASURED AT CP DAYTIME POWER: 0.51 KW, ND

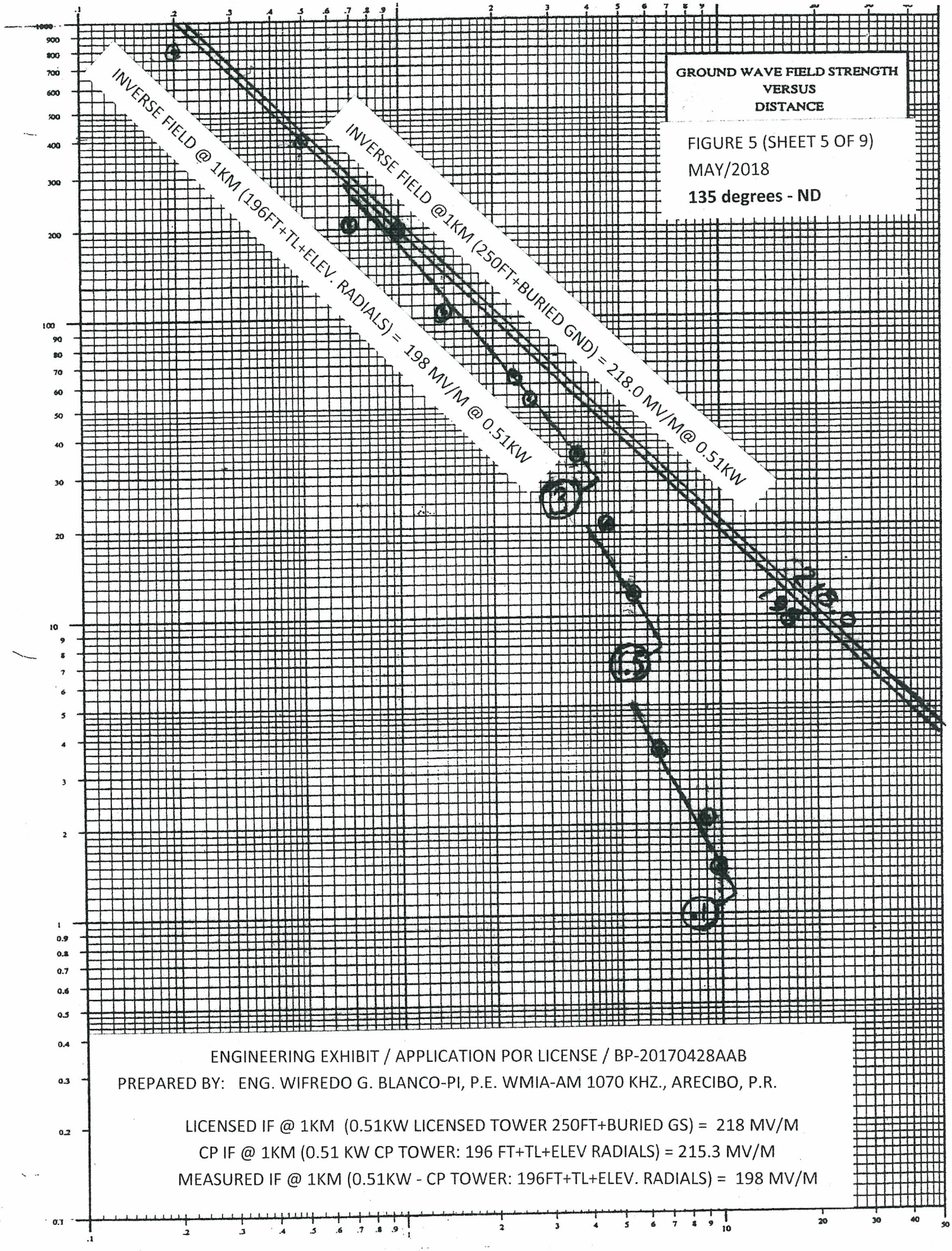
POINT	DISTANCE (km)	NON-DA (mv/m)
1	0.35	636
2	0.85	219
3	1.6	113
4	2	92
5	2.4	69
6	2.7	54
7	3	42.4
8	4.1	35
9	4.5	34
10	4.9	33

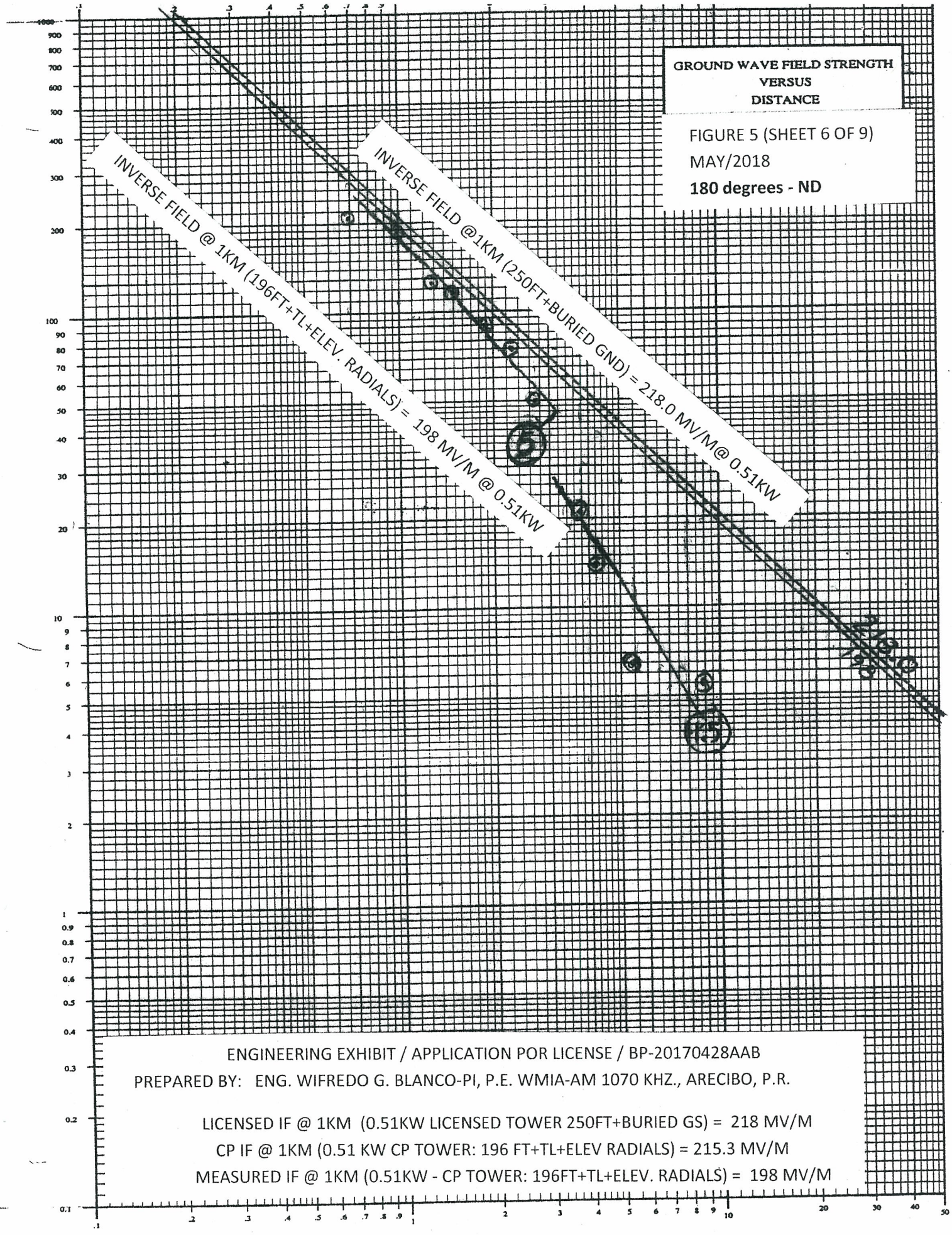
FIGURE 5
GRAPH OF MEASURED FIELD STRENGTH DATA

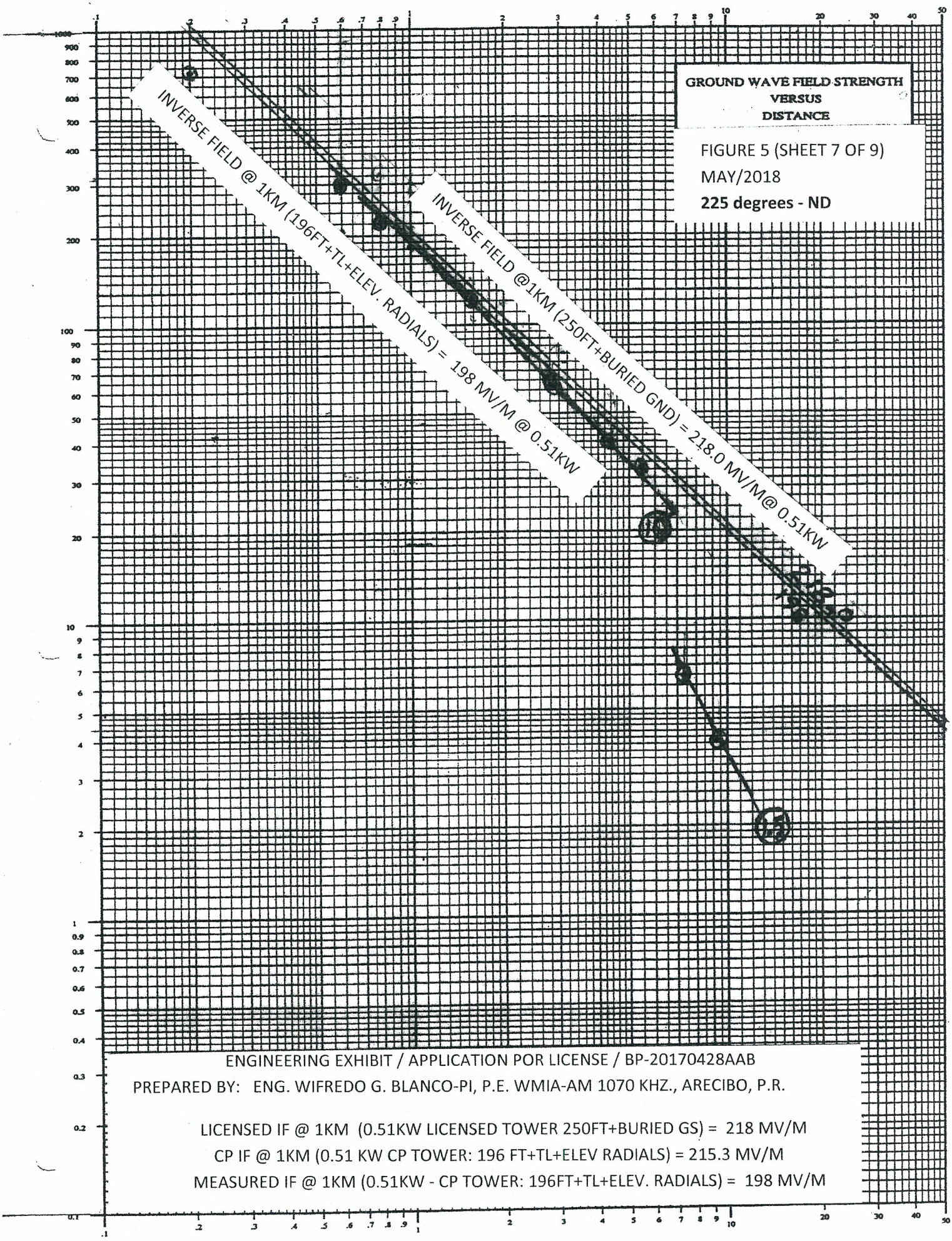

GROUND WAVE FIELD STRENGTH
VERSUS
DISTANCE
FIGURE 5 (SHEET 2 OF 9)
MAY/2018
0 degrees - ND
INVERSE FIELD @1KM (250FT+BURIED GND) = 218.0 MV/M@ 0.51KW
INVERSE FIELD @ 1KM (196FT+TL+ELEV. RADIALS) = 198 MV/M @ 0.51KW
ENGINEERING EXHIBIT / APPLICATION POR LICENSE / BP-20170428AAB
PREPARED BY: ENG. WIFREDO G. BLANCO-PI, P.E. WMIA-AM 1070 KHZ., ARECIBO, P.R.
LICENSED IF @ 1KM (0.51KW LICENSED TOWER 250FT+BURIED GS) = 218 MV/M
CP IF @ 1KM (0.51 KW CP TOWER: 196 FT+TL+ELEV RADIALS) = 215.3 MV/M
MEASURED IF @ 1KM (0.51KW - CP TOWER: 196FT+TL+ELEV. RADIALS) = 198 MV/M

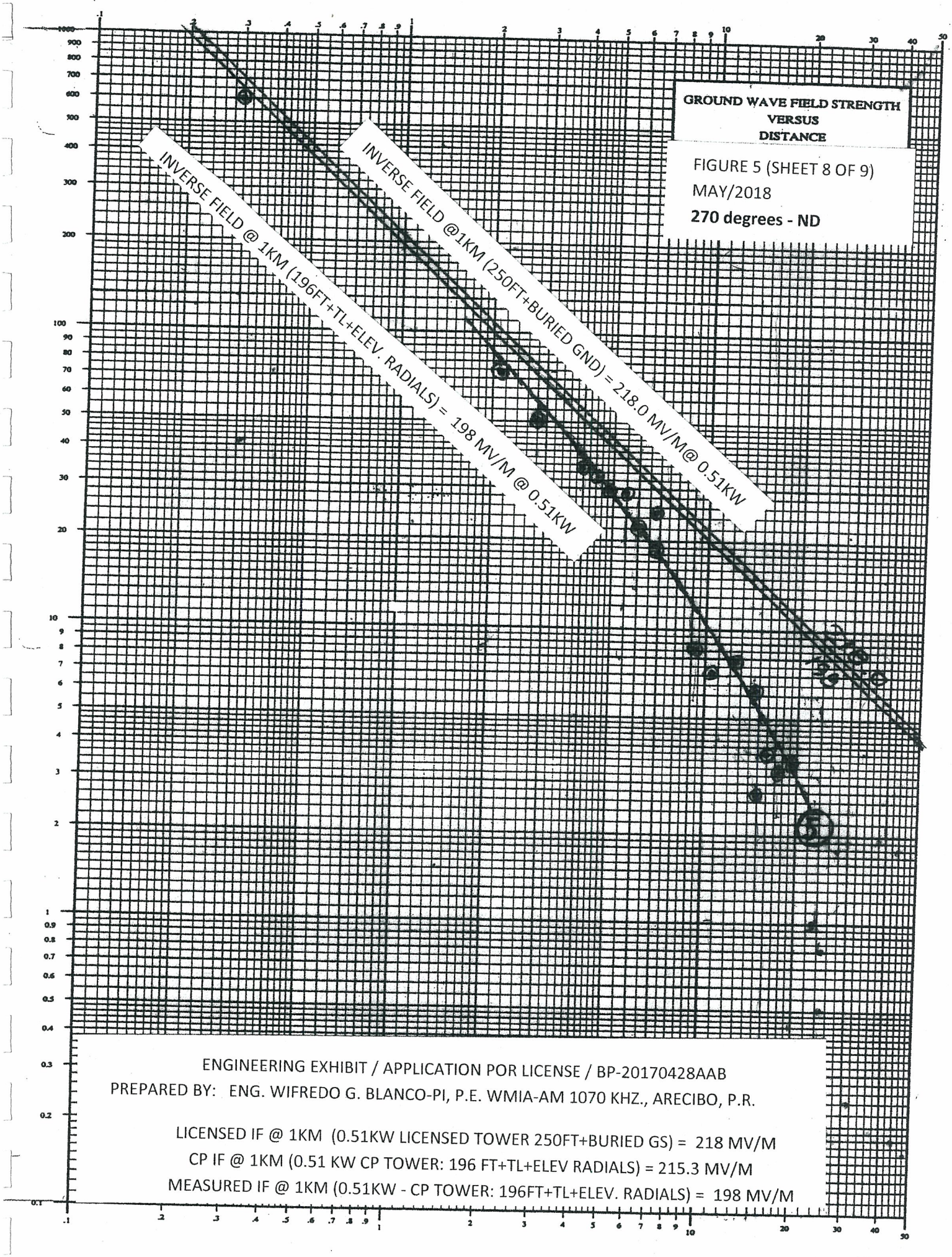

GROUND WAVE FIELD STRENGTH
VERSUS
DISTANCE
FIGURE 5 (SHEET 3 OF 9)
MAY/2018
45 degrees - ND
INVERSE FIELD @1KM (250FT+BURIED GND) = 218.0 MV/M@ 0.51KW
INVERSE FIELD @ 1KM (196FT+TL+ELEV. RADIALS) = 198 MV/M @ 0.51KW
ENGINEERING EXHIBIT / APPLICATION POR LICENSE / BP-20170428AAB
PREPARED BY: ENG. WIFREDO G. BLANCO-PI, P.E. WMIA-AM 1070 KHZ., ARECIBO, P.R.
LICENSED IF @ 1KM (0.51KW LICENSED TOWER 250FT+BURIED GS) = 218 MV/M
CP IF @ 1KM (0.51 KW CP TOWER: 196 FT+TL+ELEV RADIALS) = 215.3 MV/M
MEASURED IF @ 1KM (0.51KW - CP TOWER: 196FT+TL+ELEV. RADIALS) = 198 MV/M


GROUND WAVE FIELD STRENGTH
VERSUS
DISTANCE
FIGURE 5 (SHEET 4 OF 9)
MAY/2018
90 degrees - ND
INVERSE FIELD @ 1KM (196FT+TL+ELEV. RADIALS) = 198 MV/M @ 0.51KW
INVERSE FIELD @1KM (250FT+BURIED GND) = 218.0 MV/M@ 0.51KW
ENGINEERING EXHIBIT / APPLICATION POR LICENSE / BP-20170428AAB
PREPARED BY: ENG. WIFREDO G. BLANCO-PI, P.E. WMIA-AM 1070 KHZ., ARECIBO, P.R.
LICENSED IF @ 1KM (0.51KW LICENSED TOWER 250FT+BURIED GS) = 218 MV/M
CP IF @ 1KM (0.51 KW CP TOWER: 196 FT+TL+ELEV RADIALS) = 215.3 MV/M
MEASURED IF @ 1KM (0.51KW - CP TOWER: 196FT+TL+ELEV. RADIALS) = 198 MV/M


GROUND WAVE FIELD STRENGTH
VERSUS
DISTANCE
FIGURE 5 (SHEET 5 OF 9)
MAY/2018
135 degrees - ND
INVERSE FIELD @1KM (250FT+BURIED GND) = 218.0 MV/M@ 0.51KW
INVERSE FIELD @ 1KM (196FT+TL+ELEV. RADIALS) = 198 MV/M @ 0.51KW
ENGINEERING EXHIBIT / APPLICATION POR LICENSE / BP-20170428AAB
PREPARED BY: ENG. WIFREDO G. BLANCO-PI, P.E. WMIA-AM 1070 KHZ., ARECIBO, P.R.
LICENSED IF @ 1KM (0.51KW LICENSED TOWER 250FT+BURIED GS) = 218 MV/M
CP IF @ 1KM (0.51 KW CP TOWER: 196 FT+TL+ELEV RADIALS) = 215.3 MV/M
MEASURED IF @ 1KM (0.51KW - CP TOWER: 196FT+TL+ELEV. RADIALS) = 198 MV/M


GROUND WAVE FIELD STRENGTH
VERSUS
DISTANCE
FIGURE 5 (SHEET 6 OF 9)
MAY/2018
180 degrees - ND
INVERSE FIELD @1KM (250FT+BURIED GND) = 218.0 MV/M@ 0.51KW
INVERSE FIELD @ 1KM (196FT+TL+ELEV. RADIALS) = 198 MV/M @ 0.51KW
ENGINEERING EXHIBIT / APPLICATION POR LICENSE / BP-20170428AAB
PREPARED BY: ENG. WIFREDO G. BLANCO-PI, P.E. WMIA-AM 1070 KHZ., ARECIBO, P.R.
LICENSED IF @ 1KM (0.51KW LICENSED TOWER 250FT+BURIED GS) = 218 MV/M
CP IF @ 1KM (0.51 KW CP TOWER: 196 FT+TL+ELEV RADIALS) = 215.3 MV/M
MEASURED IF @ 1KM (0.51KW - CP TOWER: 196FT+TL+ELEV. RADIALS) = 198 MV/M


GROUND WAVE FIELD STRENGTH
VERSUS
DISTANCE
FIGURE 5 (SHEET 7 OF 9)
MAY/2018
225 degrees - ND
INVERSE FIELD @ 1KM (196FT+TL+ELEV. RADIALS) = 198 MV/M @ 0.51KW
INVERSE FIELD @1KM (250FT+BURIED GND) = 218.0 MV/M@ 0.51KW
ENGINEERING EXHIBIT / APPLICATION POR LICENSE / BP-20170428AAB
PREPARED BY: ENG. WIFREDO G. BLANCO-PI, P.E. WMIA-AM 1070 KHZ., ARECIBO, P.R.
LICENSED IF @ 1KM (0.51KW LICENSED TOWER 250FT+BURIED GS) = 218 MV/M
CP IF @ 1KM (0.51 KW CP TOWER: 196 FT+TL+ELEV RADIALS) = 215.3 MV/M
MEASURED IF @ 1KM (0.51KW - CP TOWER: 196FT+TL+ELEV. RADIALS) = 198 MV/M


GROUND WAVE FIELD STRENGTH
VERSUS
DISTANCE
FIGURE 5 (SHEET 8 OF 9)
MAY/2018
270 degrees - ND
INVERSE FIELD @1KM (250FT+BURIED GND) = 218.0 MV/M@ 0.51KW
INVERSE FIELD @ 1KM (196FT+TL+ELEV. RADIALS) = 198 MV/M @ 0.51KW
ENGINEERING EXHIBIT / APPLICATION POR LICENSE / BP-20170428AAB
PREPARED BY: ENG. WIFREDO G. BLANCO-PI, P.E. WMIA-AM 1070 KHZ., ARECIBO, P.R.
LICENSED IF @ 1KM (0.51KW LICENSED TOWER 250FT+BURIED GS) = 218 MV/M
CP IF @ 1KM (0.51 KW CP TOWER: 196 FT+TL+ELEV RADIALS) = 215.3 MV/M
MEASURED IF @ 1KM (0.51KW - CP TOWER: 196FT+TL+ELEV. RADIALS) = 198 MV/M

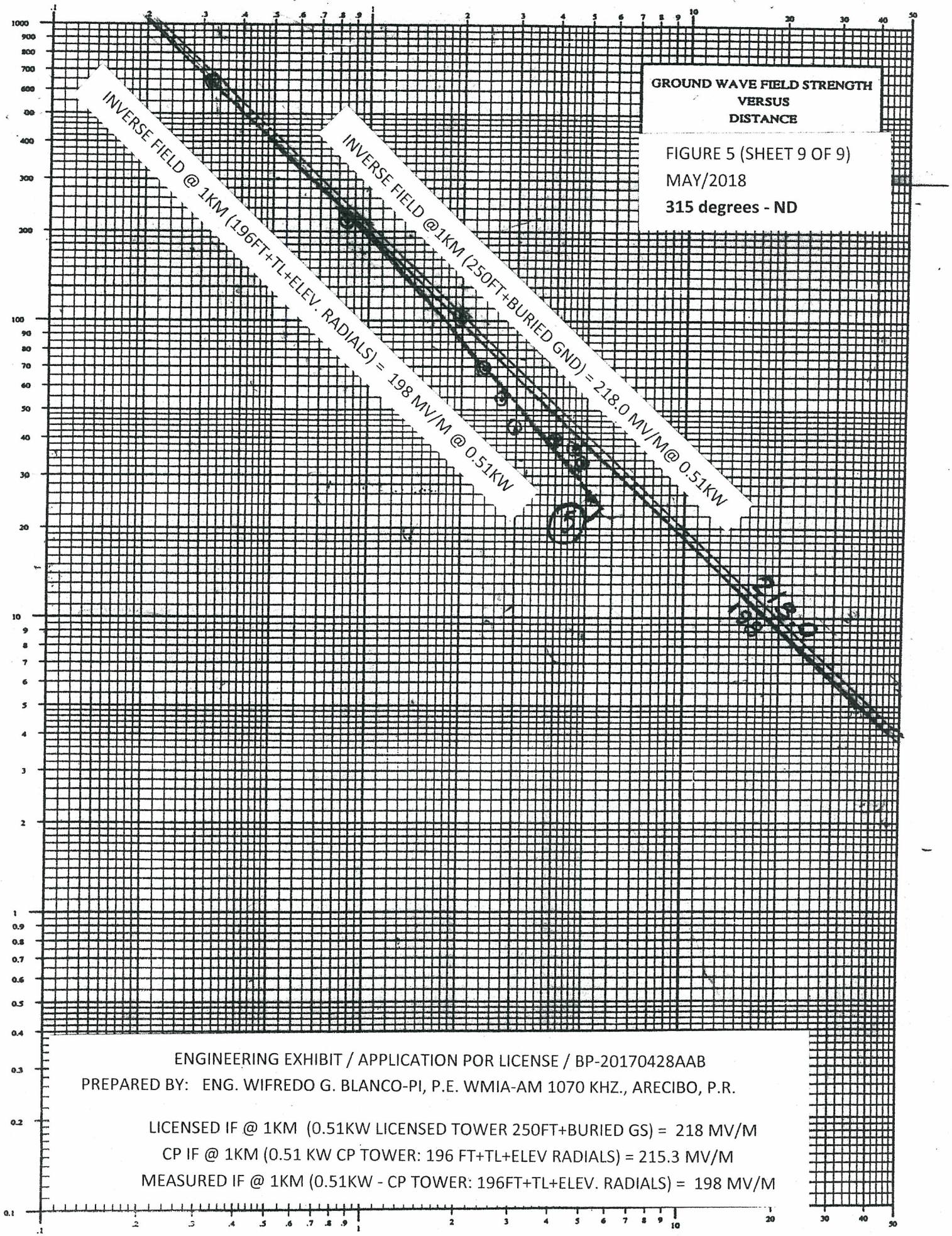

GROUND WAVE FIELD STRENGTH
VERSUS
DISTANCE
FIGURE 5 (SHEET 9 OF 9)
MAY/2018
315 degrees - ND
INVERSE FIELD @1KM (250FT+BURIED GND) = 218.0 MV/M@ 0.51KW
INVERSE FIELD @ 1KM (196FT+TL+ELEV. RADIALS) = 198 MV/M @ 0.51KW
ENGINEERING EXHIBIT / APPLICATION POR LICENSE / BP-20170428AAB
PREPARED BY: ENG. WIFREDO G. BLANCO-PI, P.E. WMIA-AM 1070 KHZ., ARECIBO, P.R.
LICENSED IF @ 1KM (0.51KW LICENSED TOWER 250FT+BURIED GS) = 218 MV/M
CP IF @ 1KM (0.51 KW CP TOWER: 196 FT+TL+ELEV RADIALS) = 215.3 MV/M
MEASURED IF @ 1KM (0.51KW - CP TOWER: 196FT+TL+ELEV. RADIALS) = 198 MV/M

FIGURE 6

NON-DIRECTIONAL MEASURED ANTENNA PATTERN DAY AND NIGHT

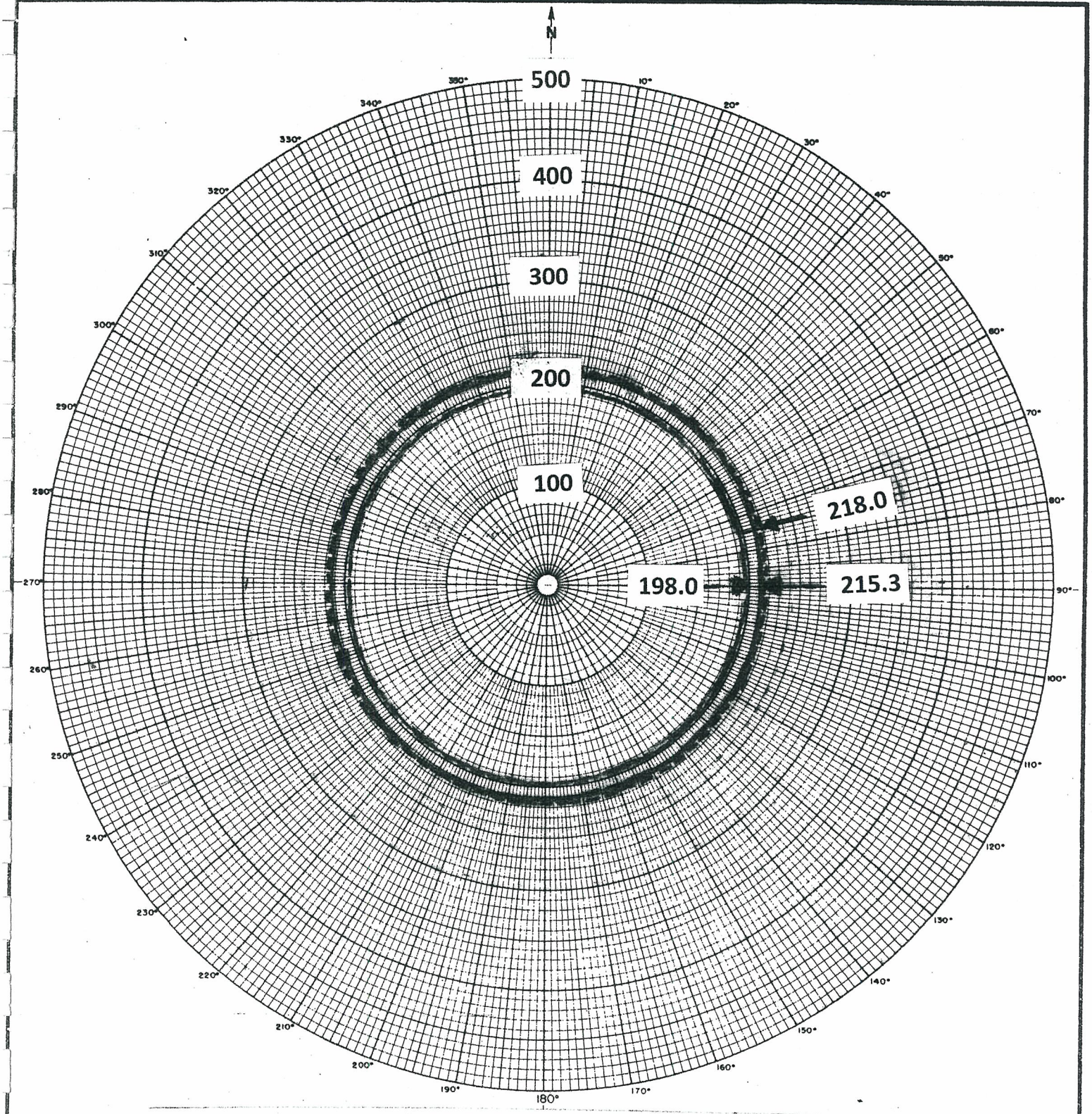


FIGURE 6 (2 OF 4) NON DIRECTIONAL ANTENNA PATTERN / DAYTIME 0.51 kW (CP)

ENGINEERING EXHIBIT / APPLICATION POR LICENSE / BP-20170428AAB

PREPARED BY: ENG. WIFREDO G. BLANCO-PI, P.E. WMIA-AM 1070 KHZ., ARECIBO, P.R.

LICENSED IF @ 1KM (0.51KW LICENSED TOWER 250FT+BURIED GS) = 218 MV/M

CP IF @ 1KM (0.51 KW CP TOWER: 196 FT+TL+ELEV RADIALS) = 215.3 MV/M

MEASURED IF @ 1KM (0.51KW - CP TOWER: 196FT+TL+ELEV. RADIALS) = 198 MV/M

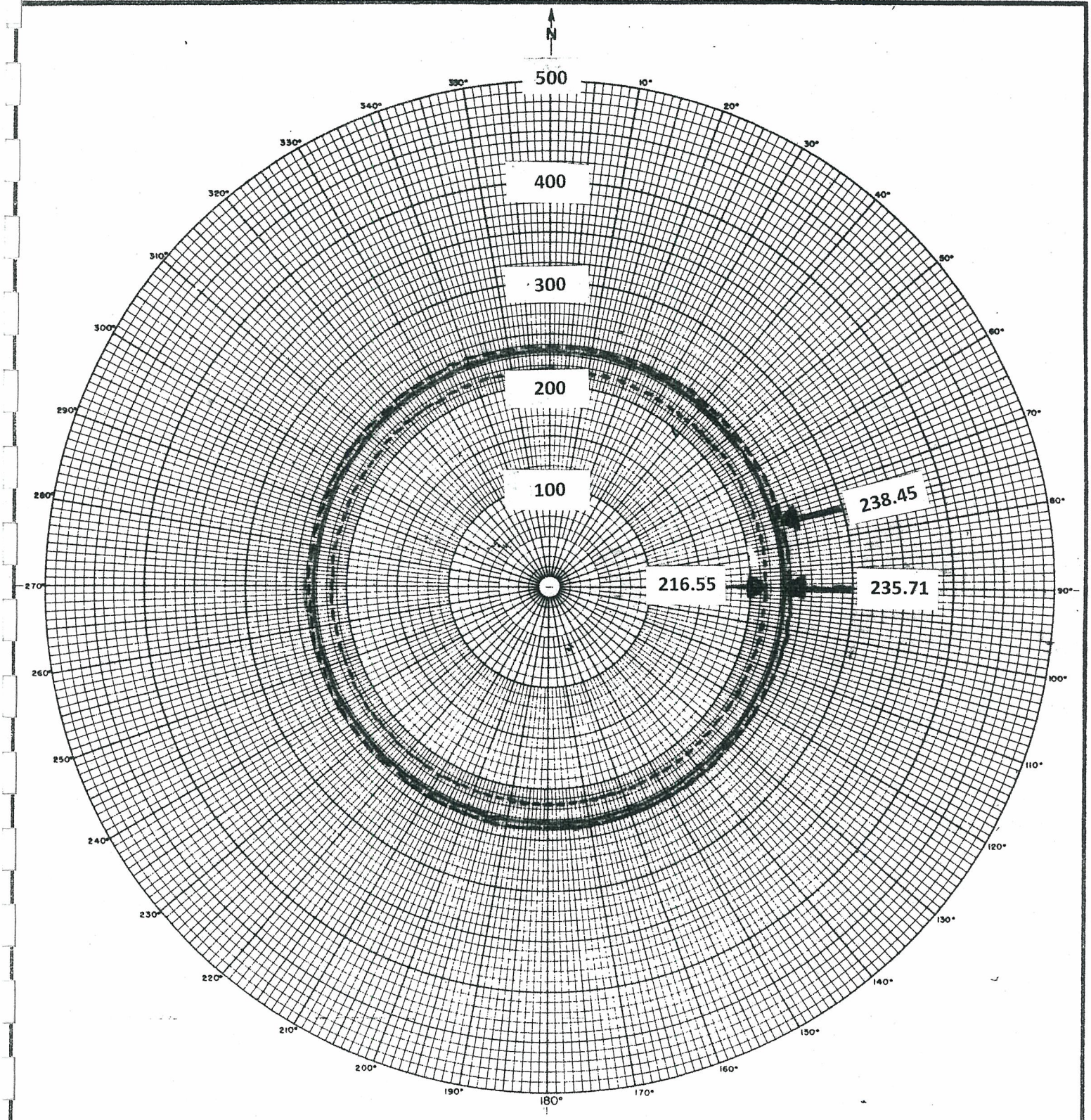


FIGURE 6 (3 OF 4) NON DIRECTIONAL ANTENNA PATTERN / DAYTIME 0.61 KW (REQUESTED)

ENGINEERING EXHIBIT / APPLICATION FOR LICENSE / BP-20170428AAB

PREPARED BY: ENG. WIFREDO G. BLANCO-PI, P.E. WMIA-AM 1070 KHZ., ARECIBO, P.R.

LICENSED IF @ 1KM (**0.61 KW** LICENSED TOWER 250FT+BURIED GS) = 238.45MV/M

CP IF @ 1KM (**0.61 KW** CP TOWER: 196 FT+TL+ELEV RADIALS) = 235.71MV/M

MEASURED IF @ 1KM (**0.61 KW** - CP TOWER: 196FT+TL+ELEV. RADIALS) = 216.55 MV/M

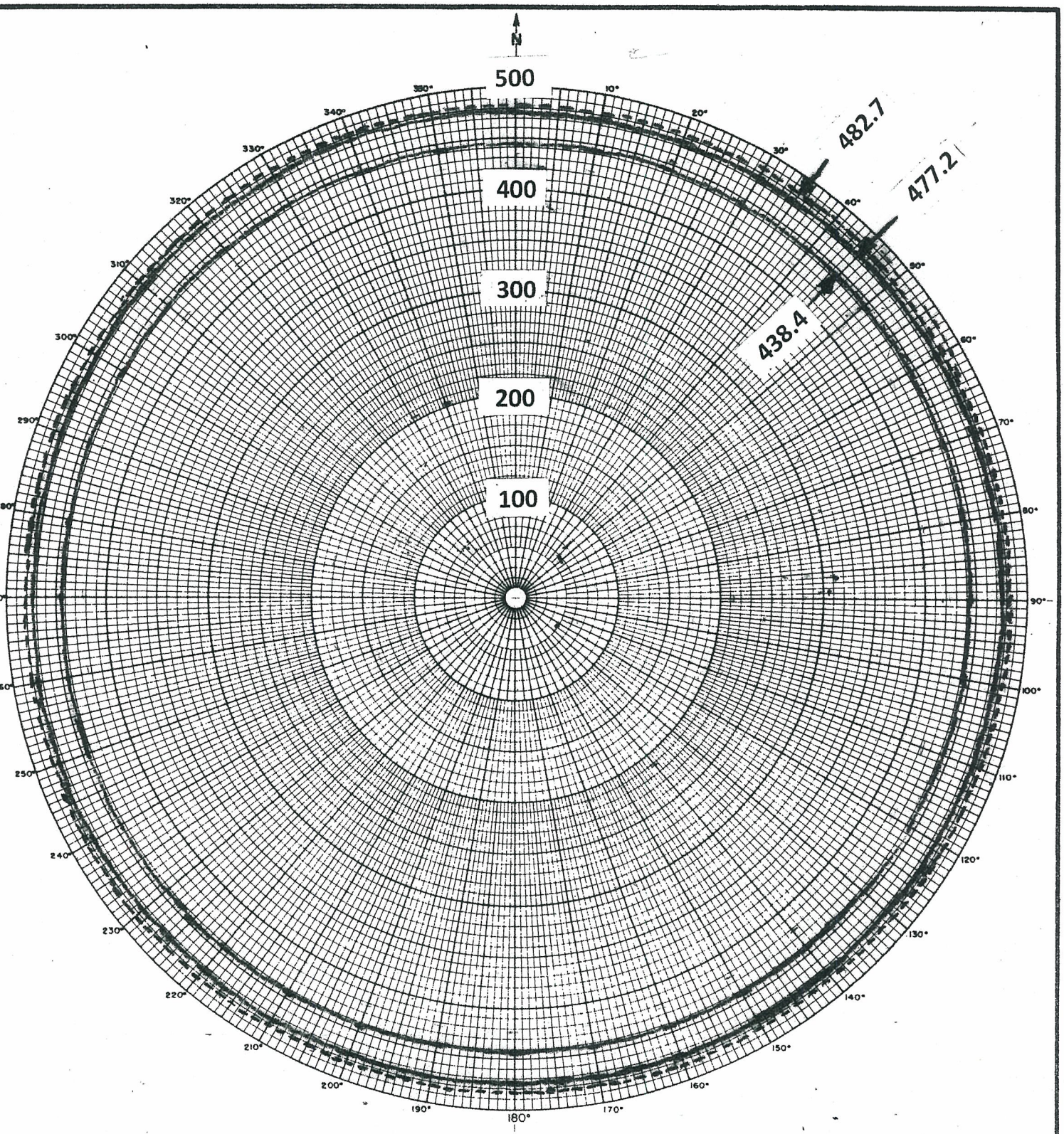


FIGURE 6 (4 OF 4) NON DIRECTIONAL ANTENNA PATERN / NIGHTIME 2.5 KW
(CP&REQUESTED)

ENGINEERING EXHIBIT / APPLICATION POR LICENSE / BP-20170428AAB

PREPARED BY: ENG. WIFREDO G. BLANCO-PI, P.E. WMIA-AM 1070 KHZ., ARECIBO, P.R.

LICENSED IF @ 1KM (2.5 KW LICENSED TOWER 250FT+BURIED GS) = 482.7 MV/M

CP IF @ 1KM (2.5 KW CP TOWER: 196 FT+TL+ELEV RADIALS) = 477.2 MV/M

MEASURED IF @ 1KM (2.5 KW - CP TOWER: 196FT+TL+ELEV. RADIALS) = 438.4 MV/M

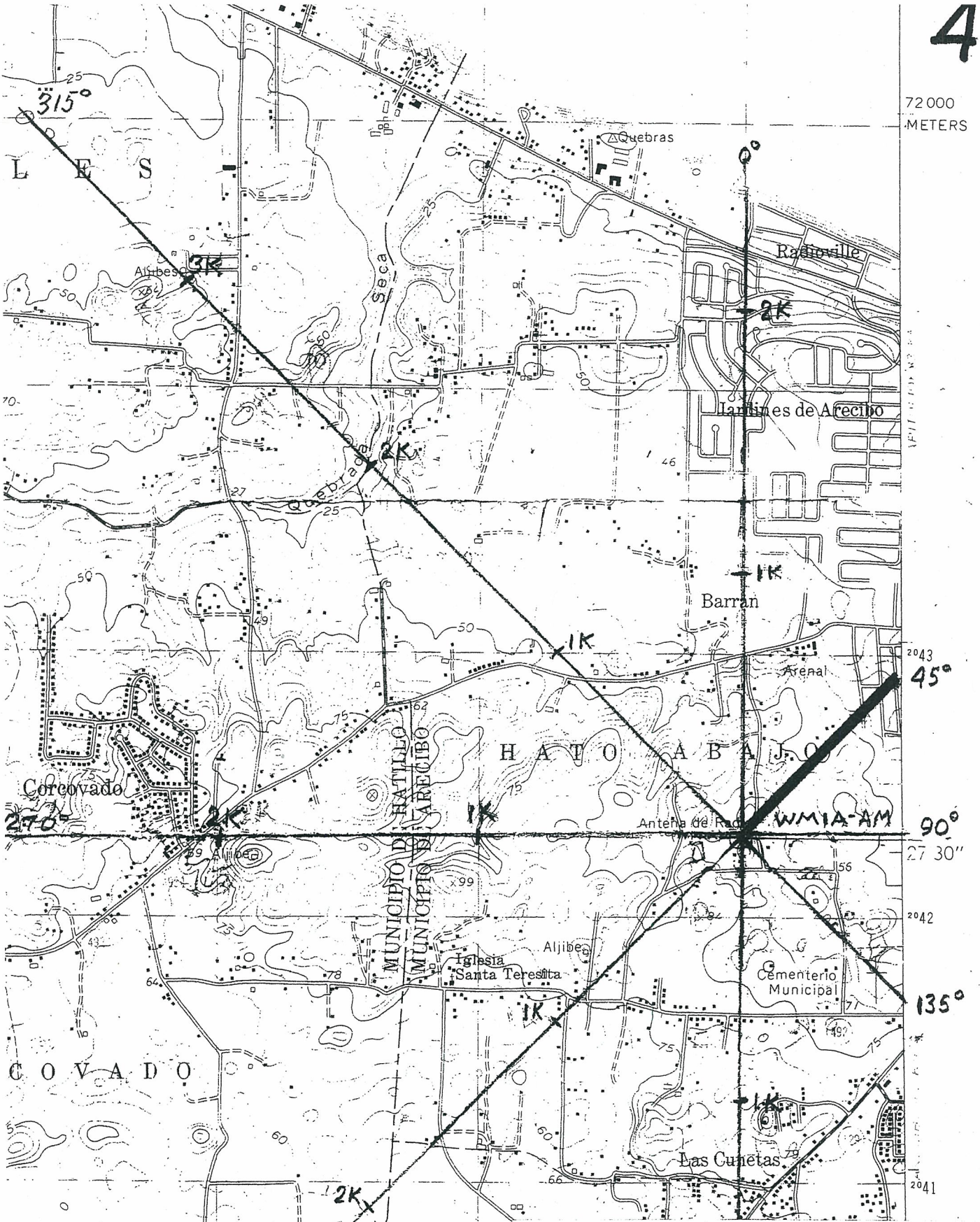


FIGURE 12 (SHEET 4 OF 46) 45 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

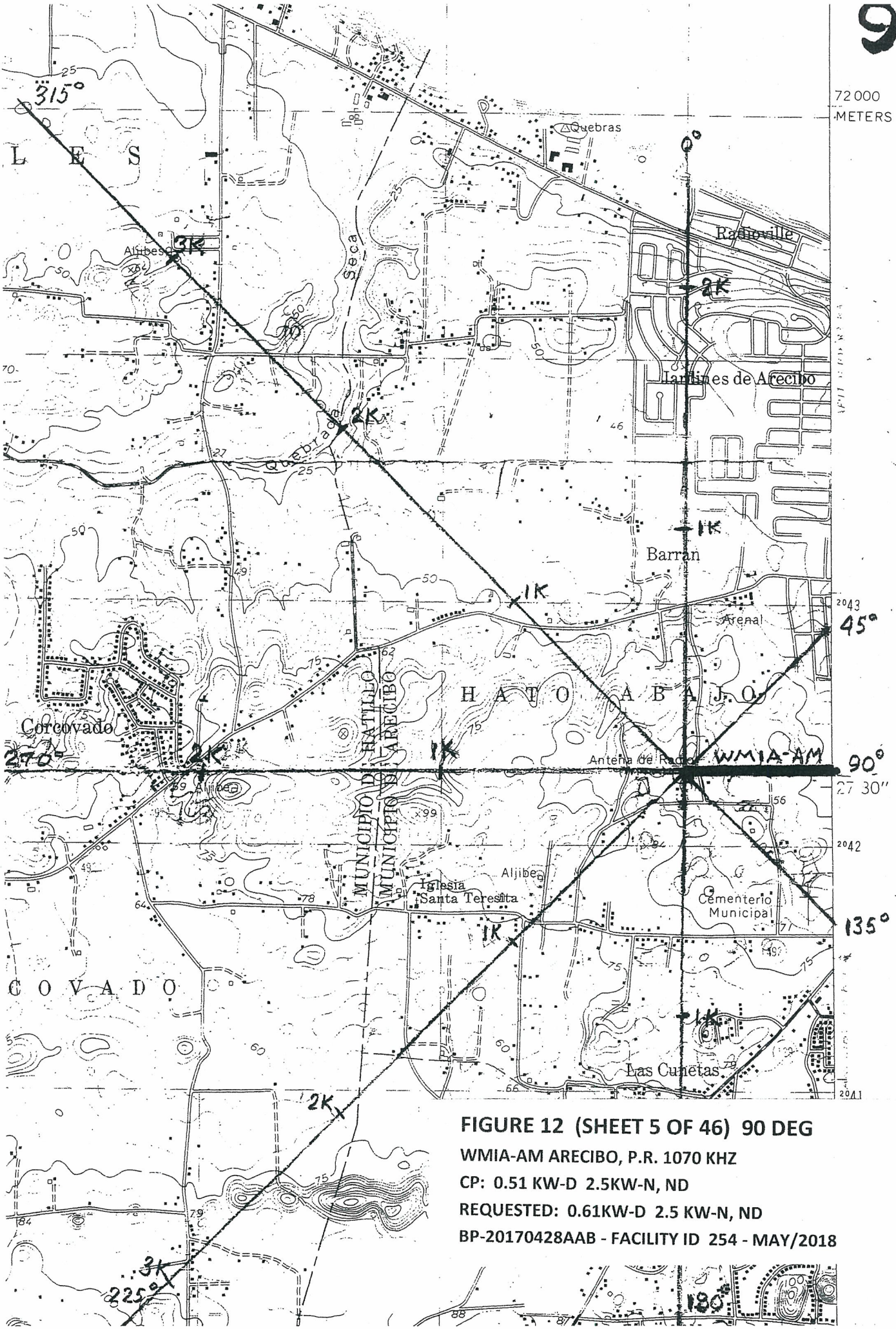


FIGURE 12 (SHEET 5 OF 46) 90 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

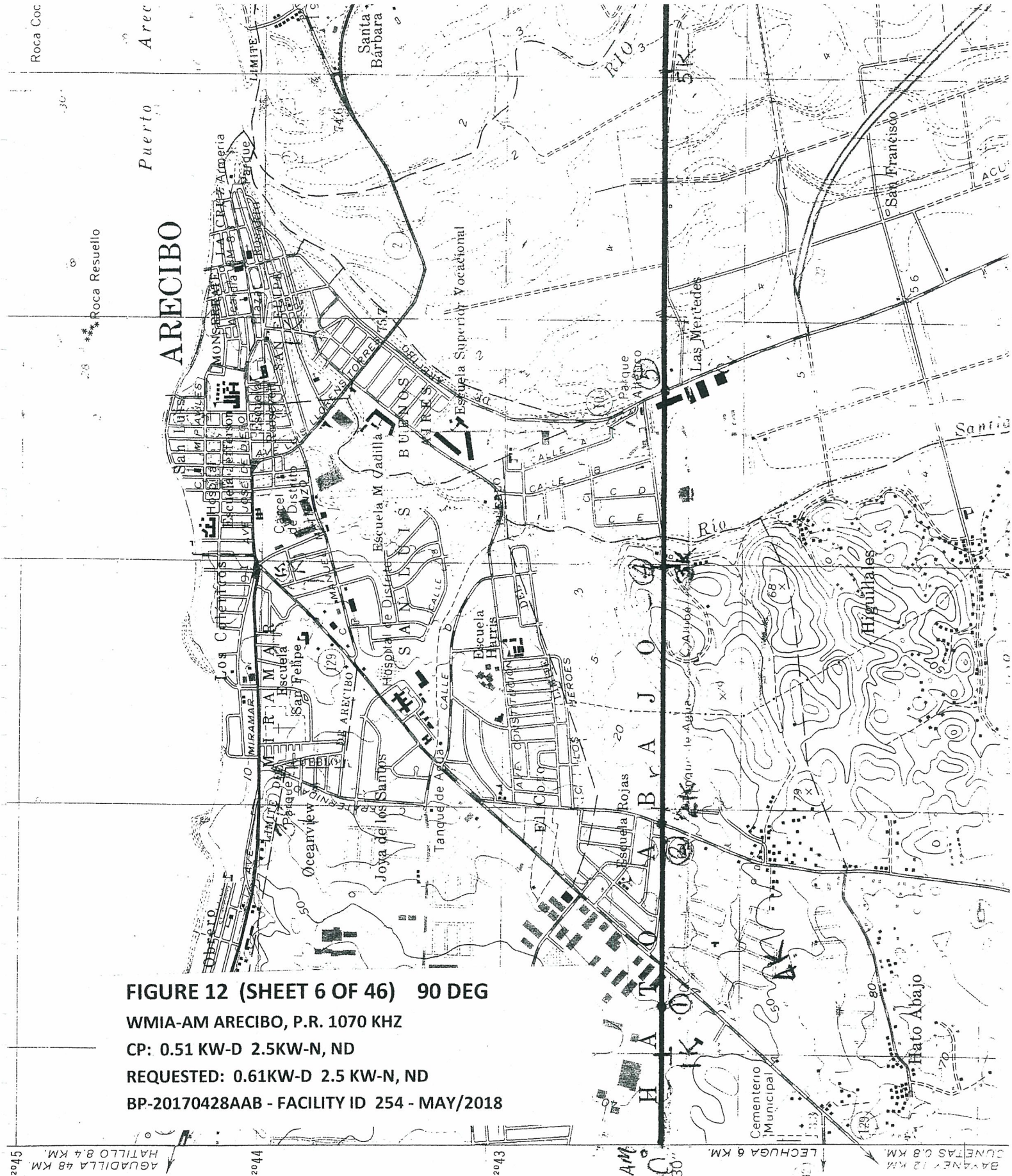


FIGURE 12 (SHEET 6 OF 46) 90 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

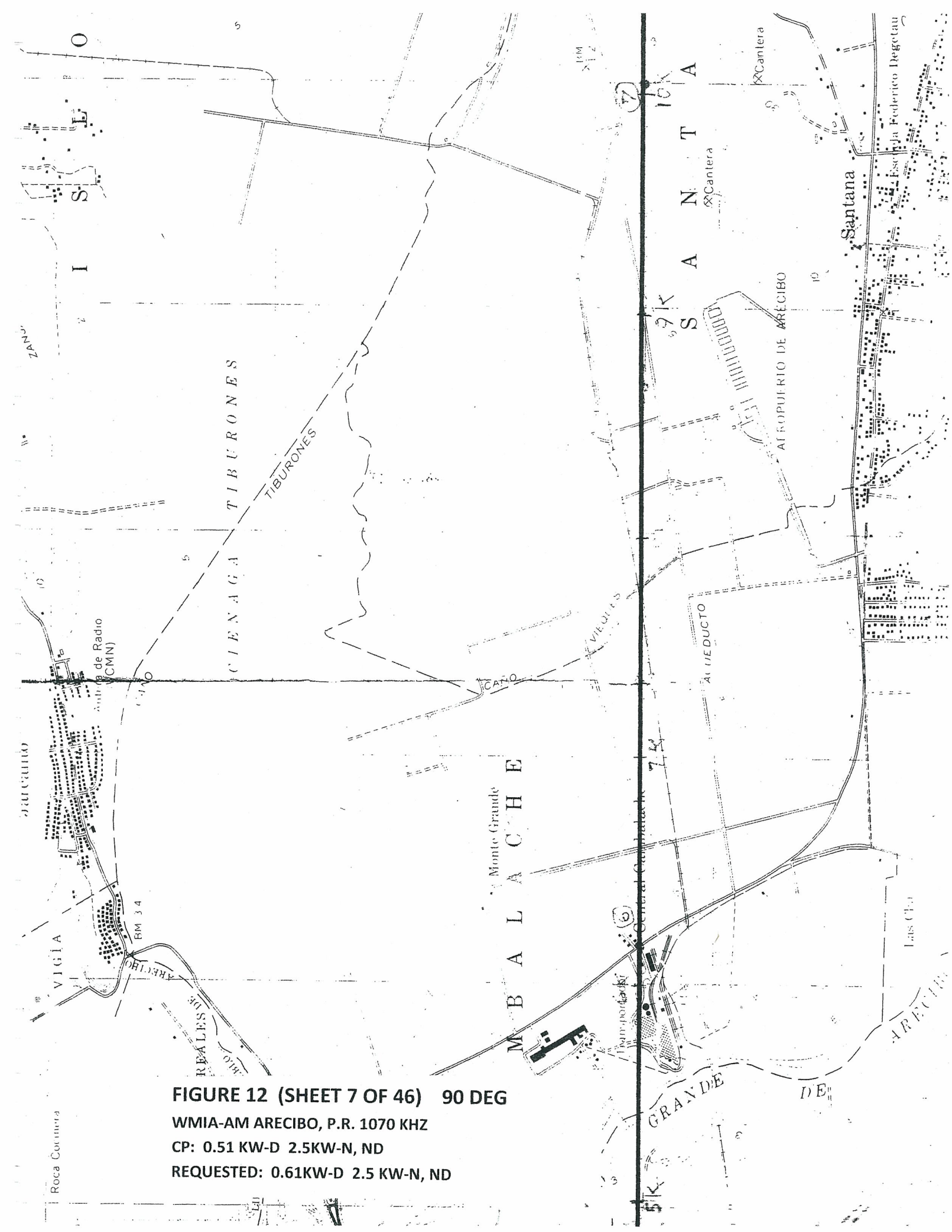


FIGURE 12 (SHEET 7 OF 46) 90 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

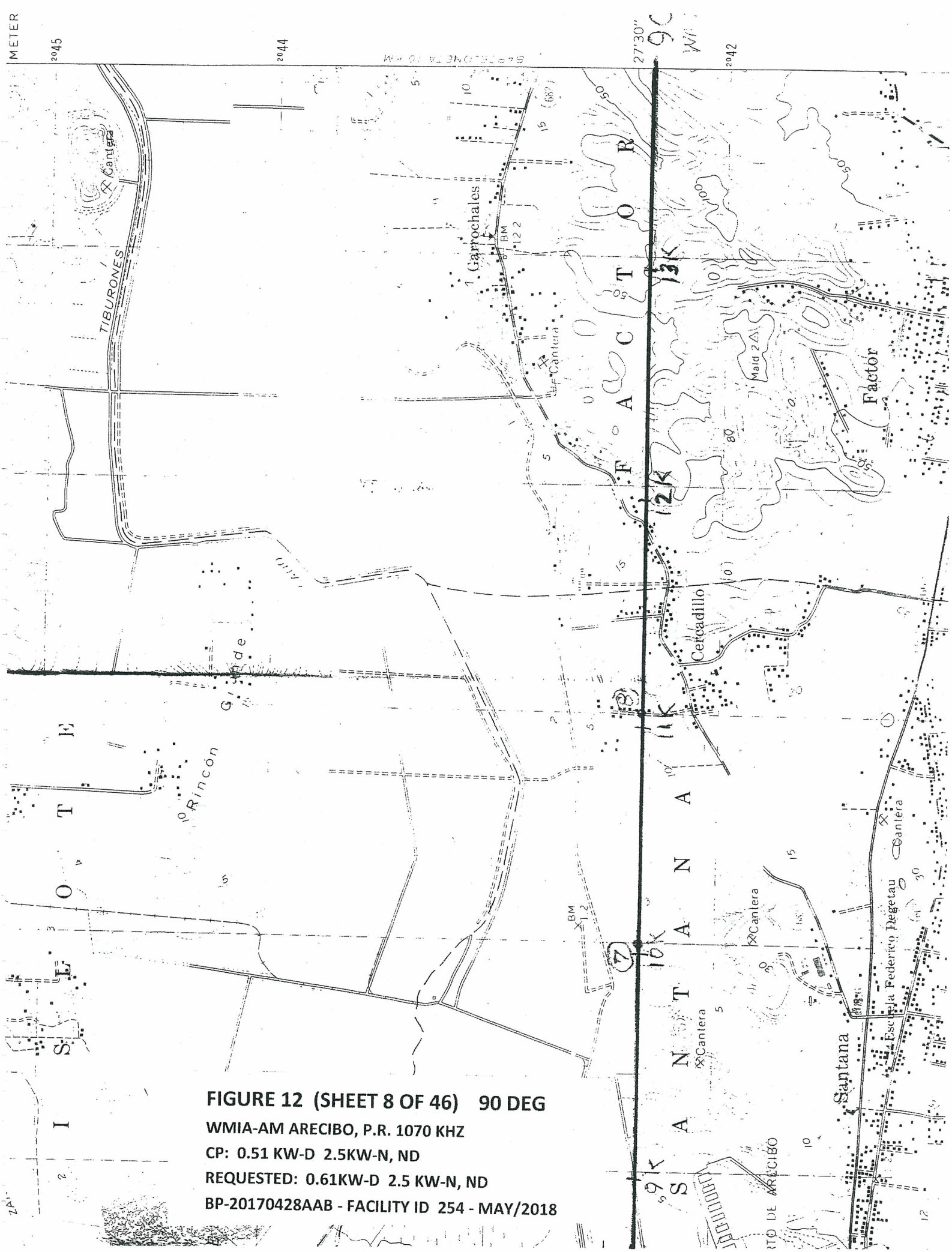


FIGURE 12 (SHEET 8 OF 46) 90 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

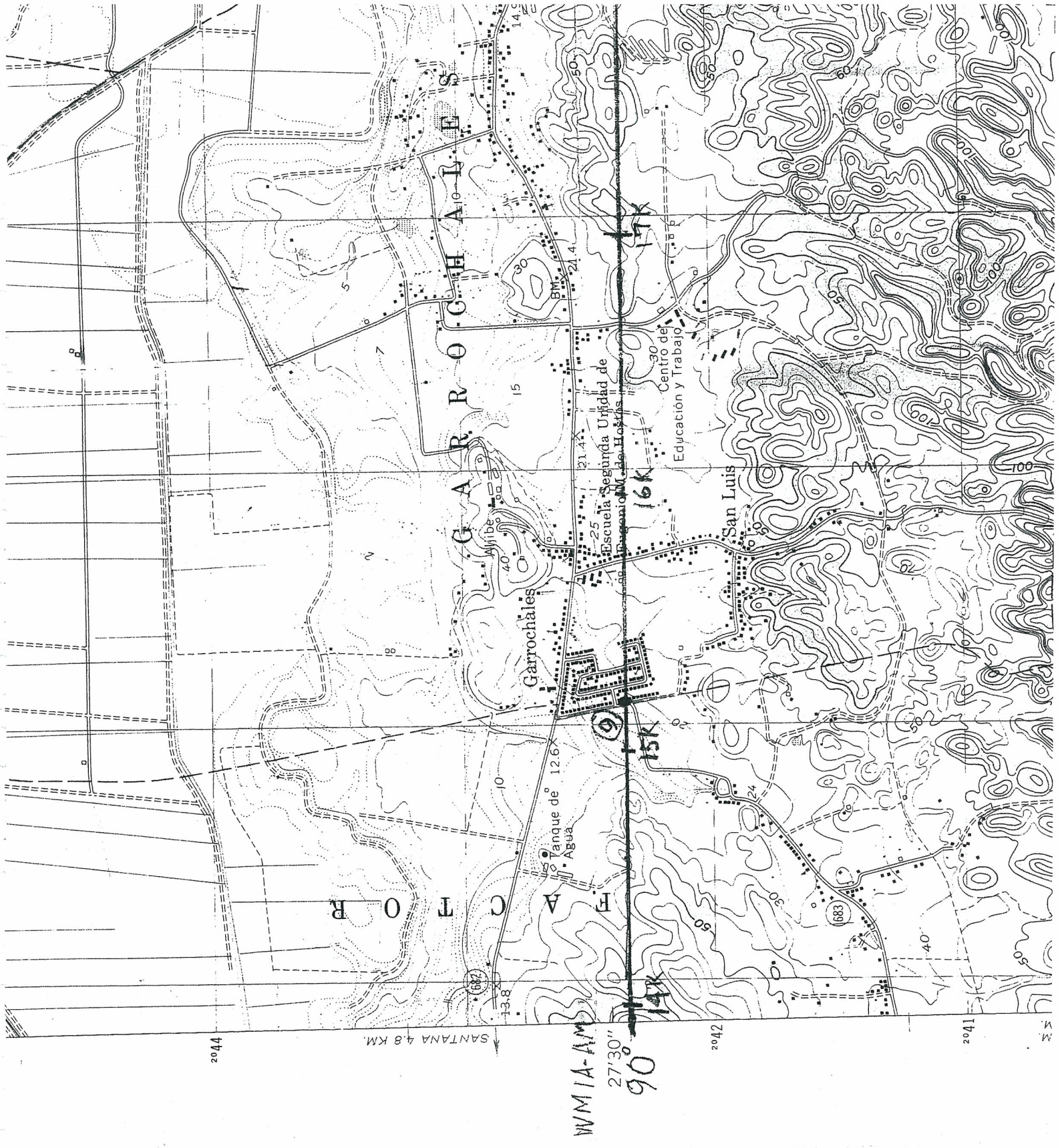


FIGURE 12 (SHEET 9 OF 46) 90DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

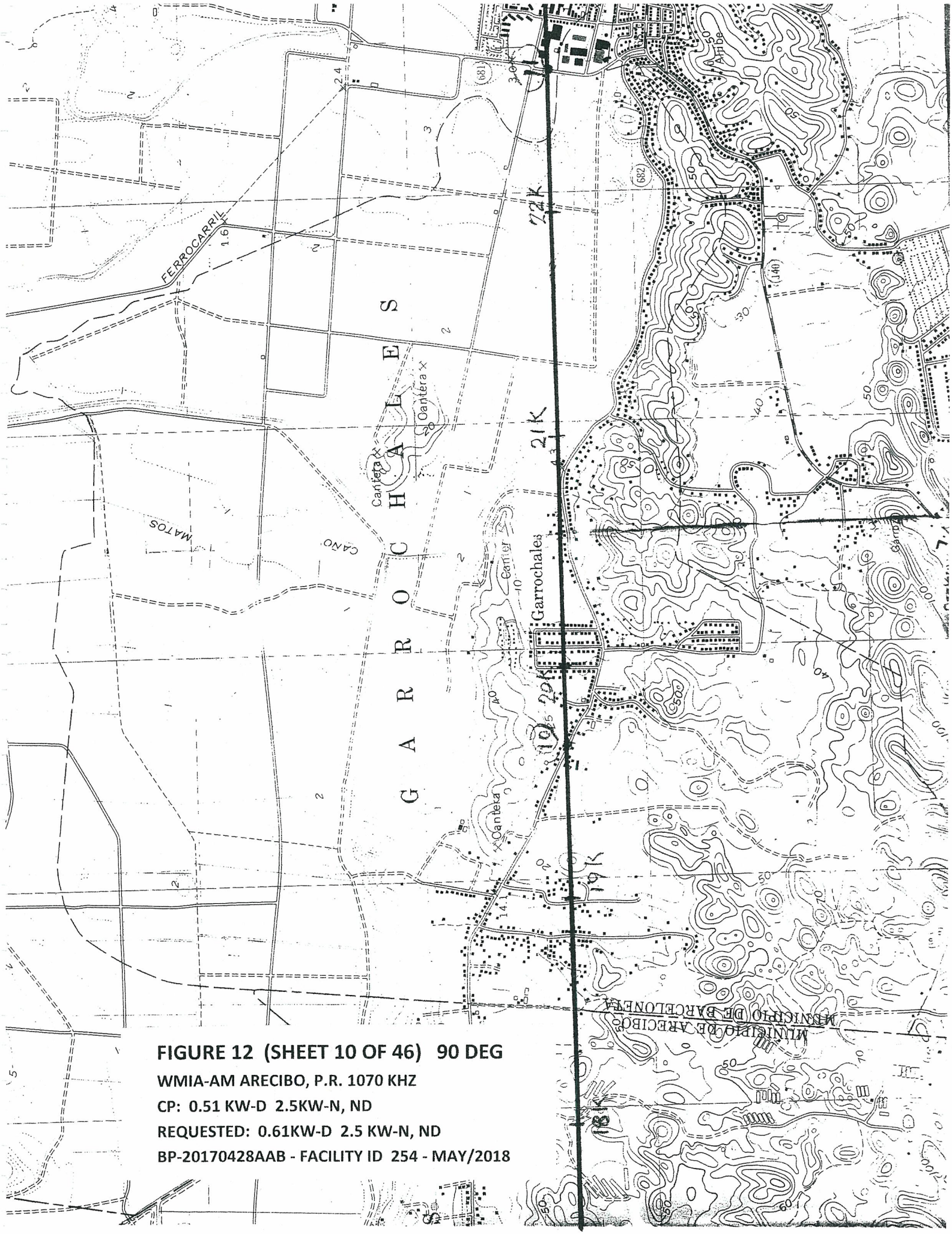


FIGURE 12 (SHEET 10 OF 46) 90 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

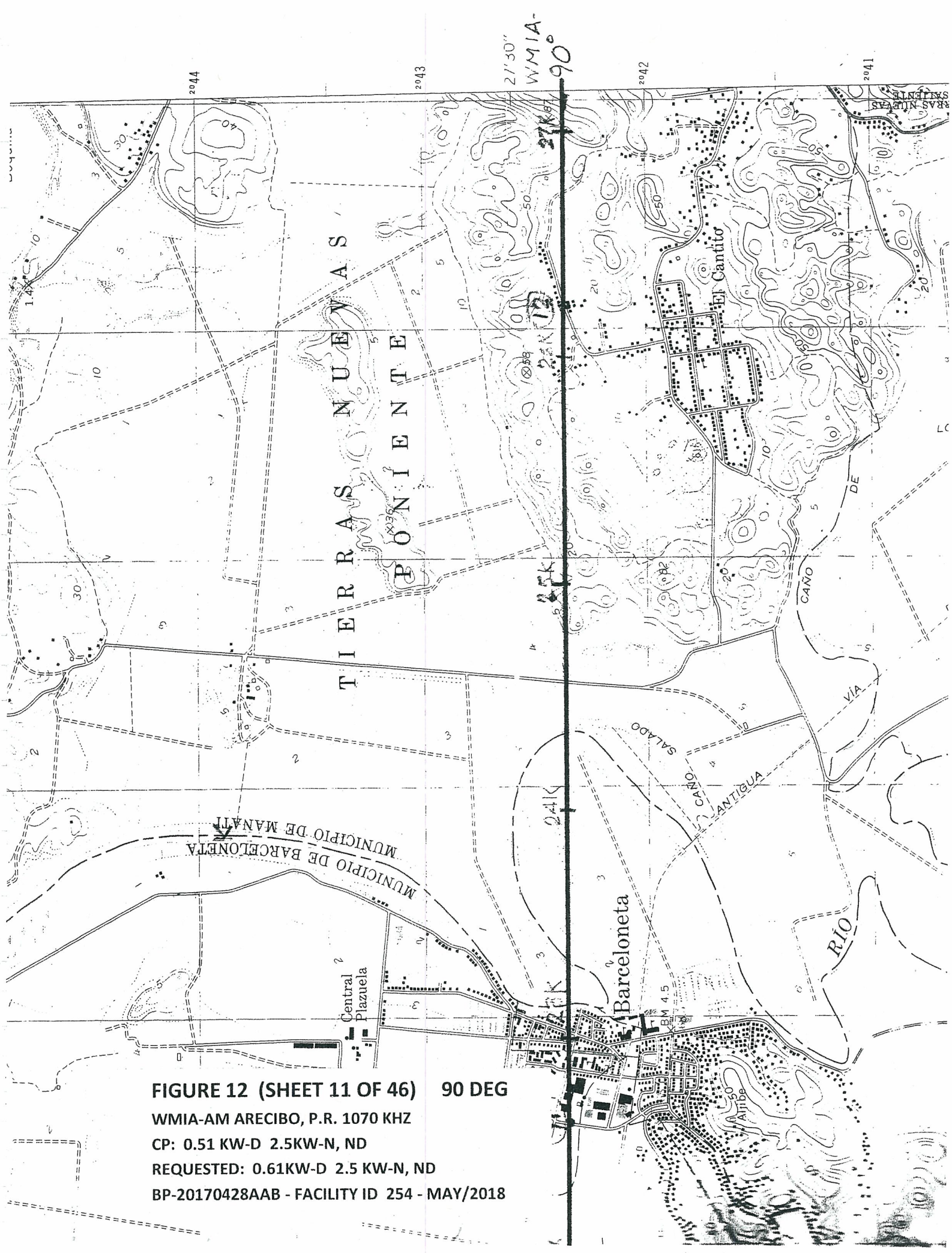


FIGURE 12 (SHEET 11 OF 46) 90 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

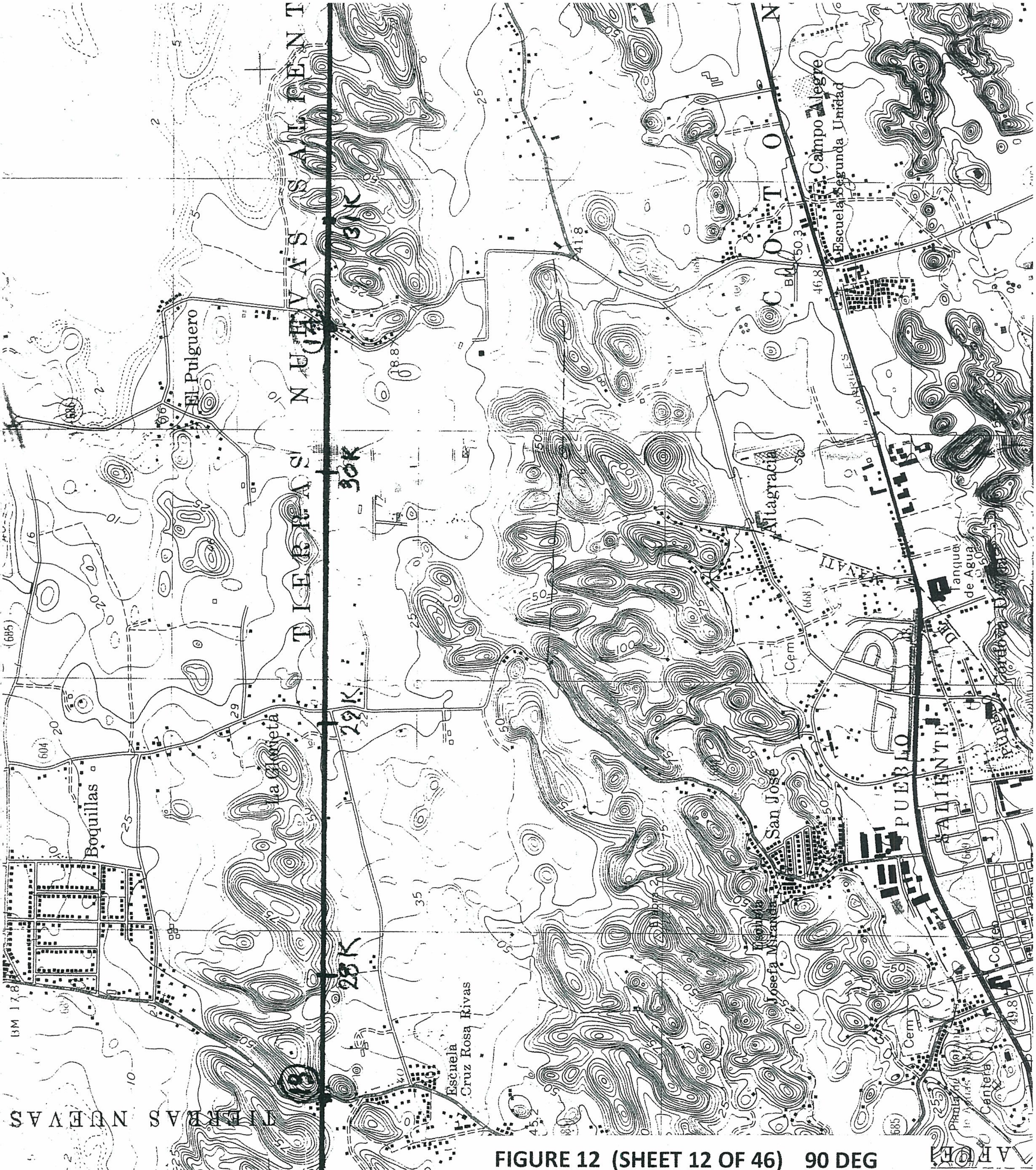


FIGURE 12 (SHEET 12 OF 46) 90 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

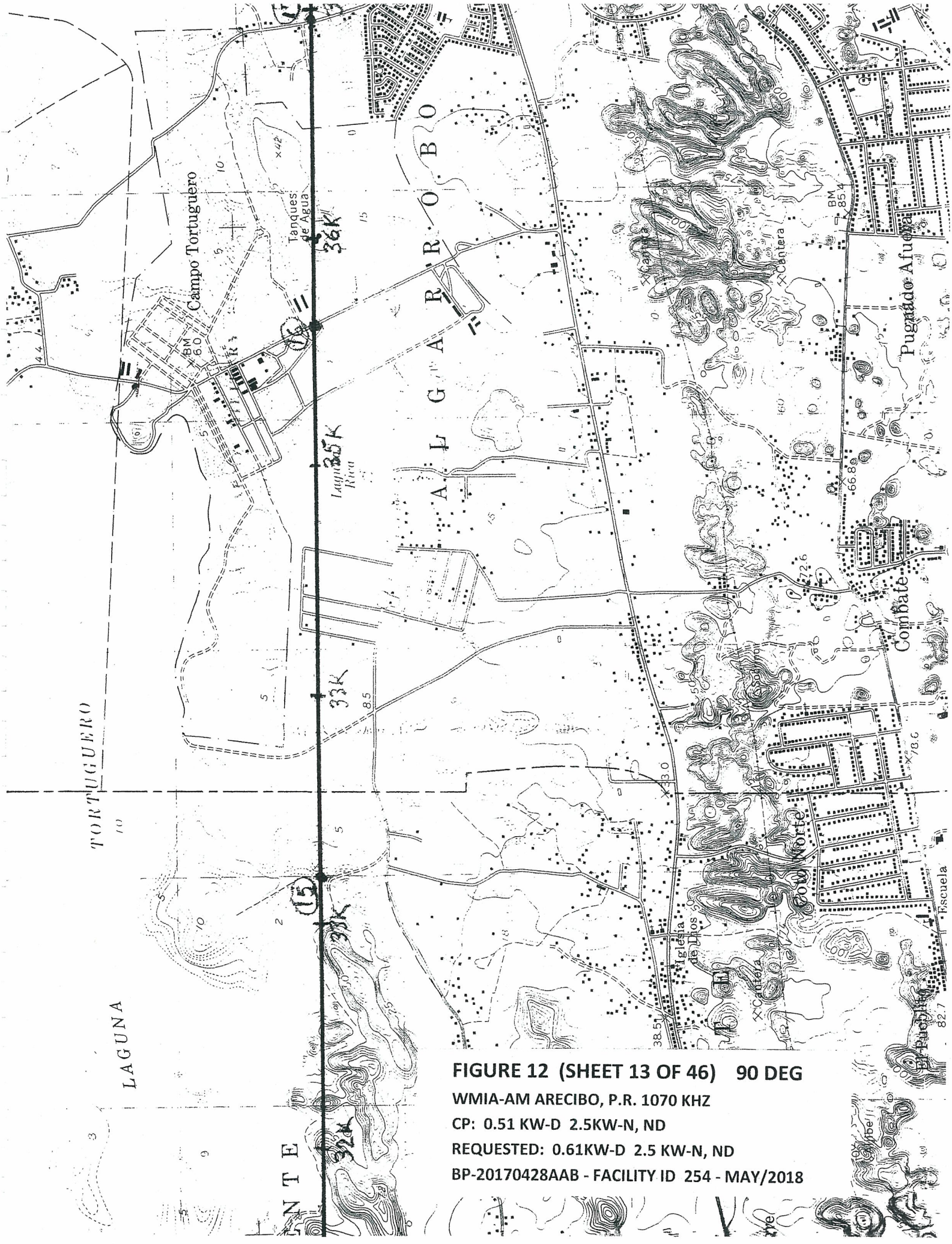


FIGURE 12 (SHEET 13 OF 46) 90 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

FIGURE 12 (SHEET 14 OF 46) 90 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

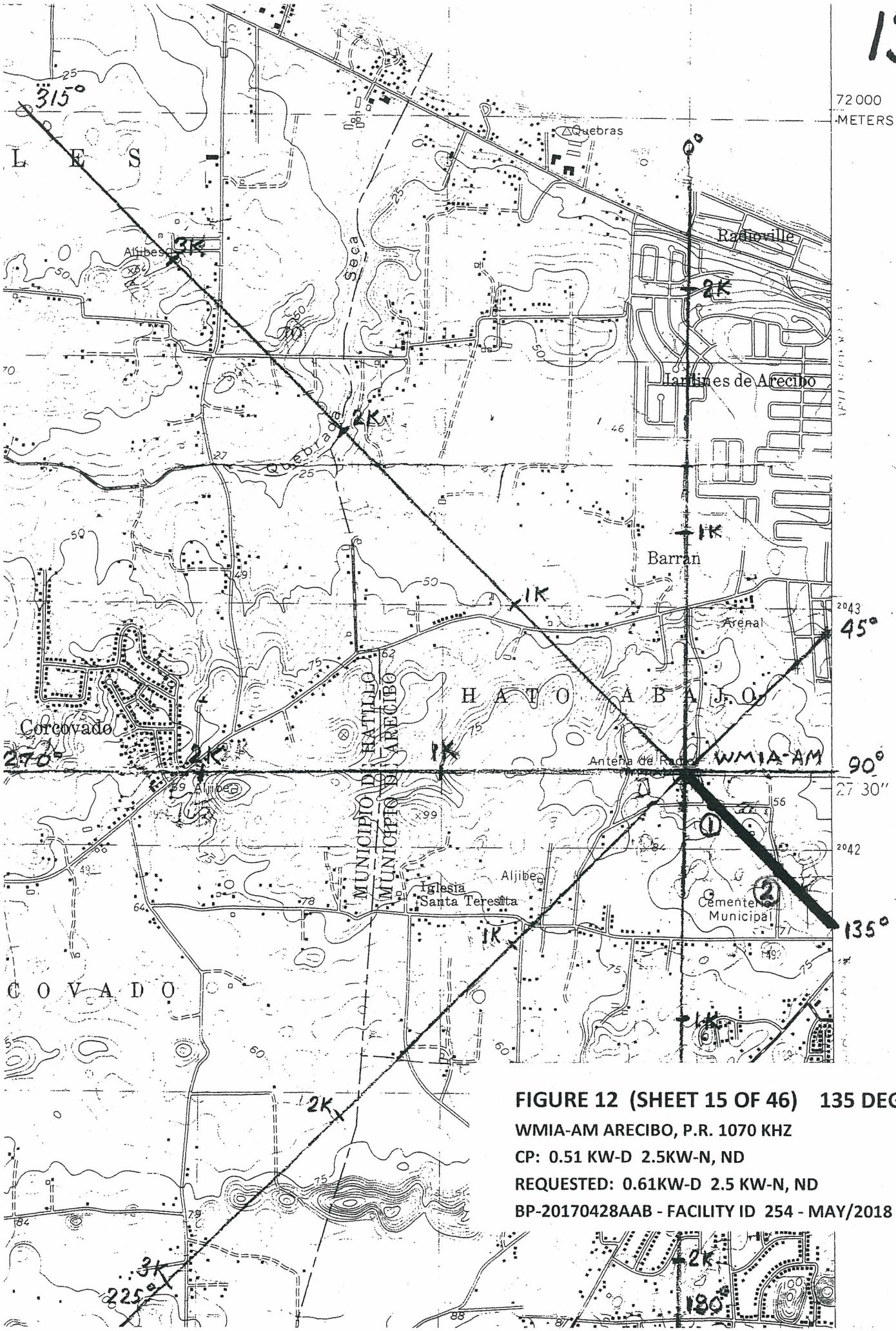


FIGURE 12 (SHEET 15 OF 46) 135 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

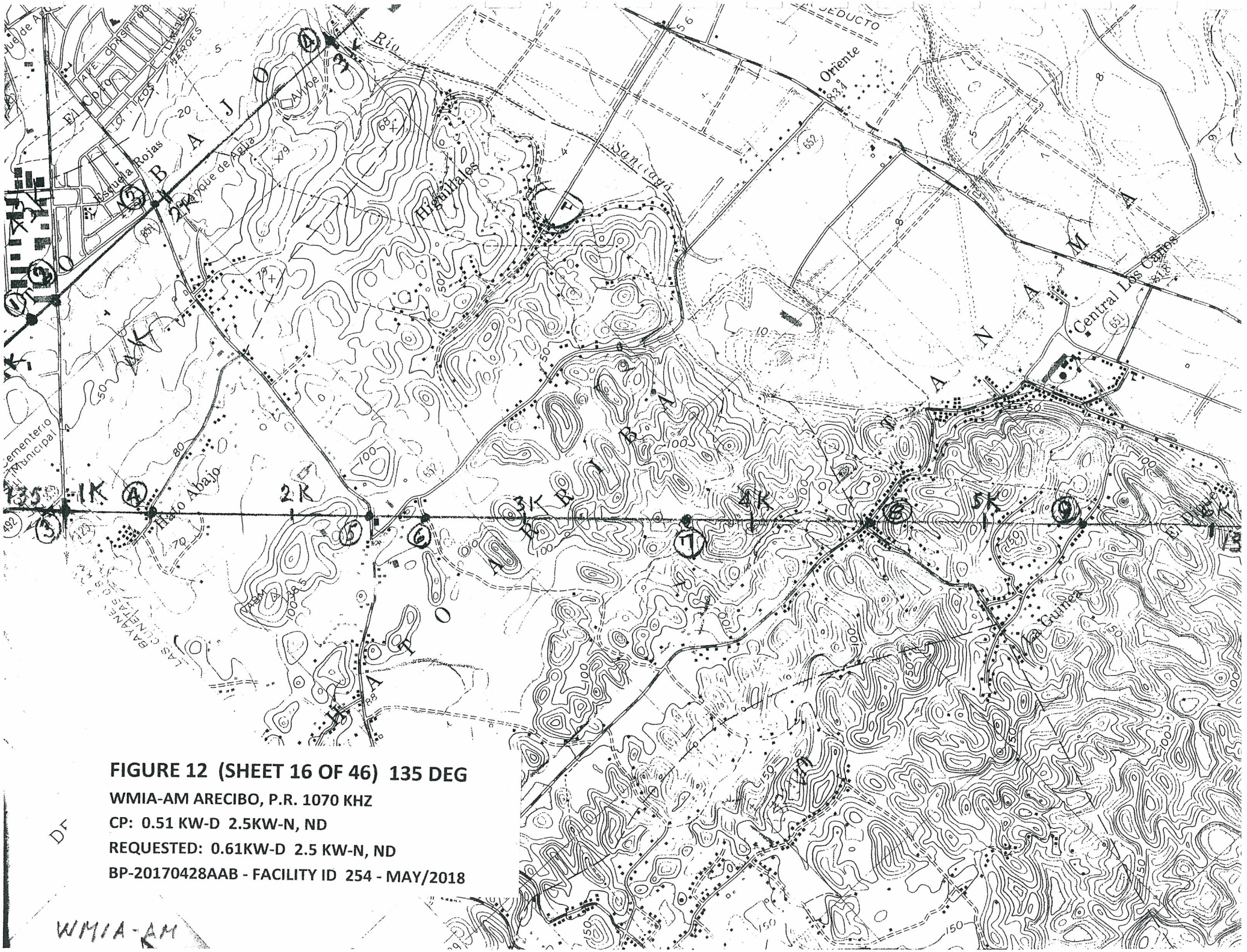


FIGURE 12 (SHEET 16 OF 46) 135 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

WMIA-AM

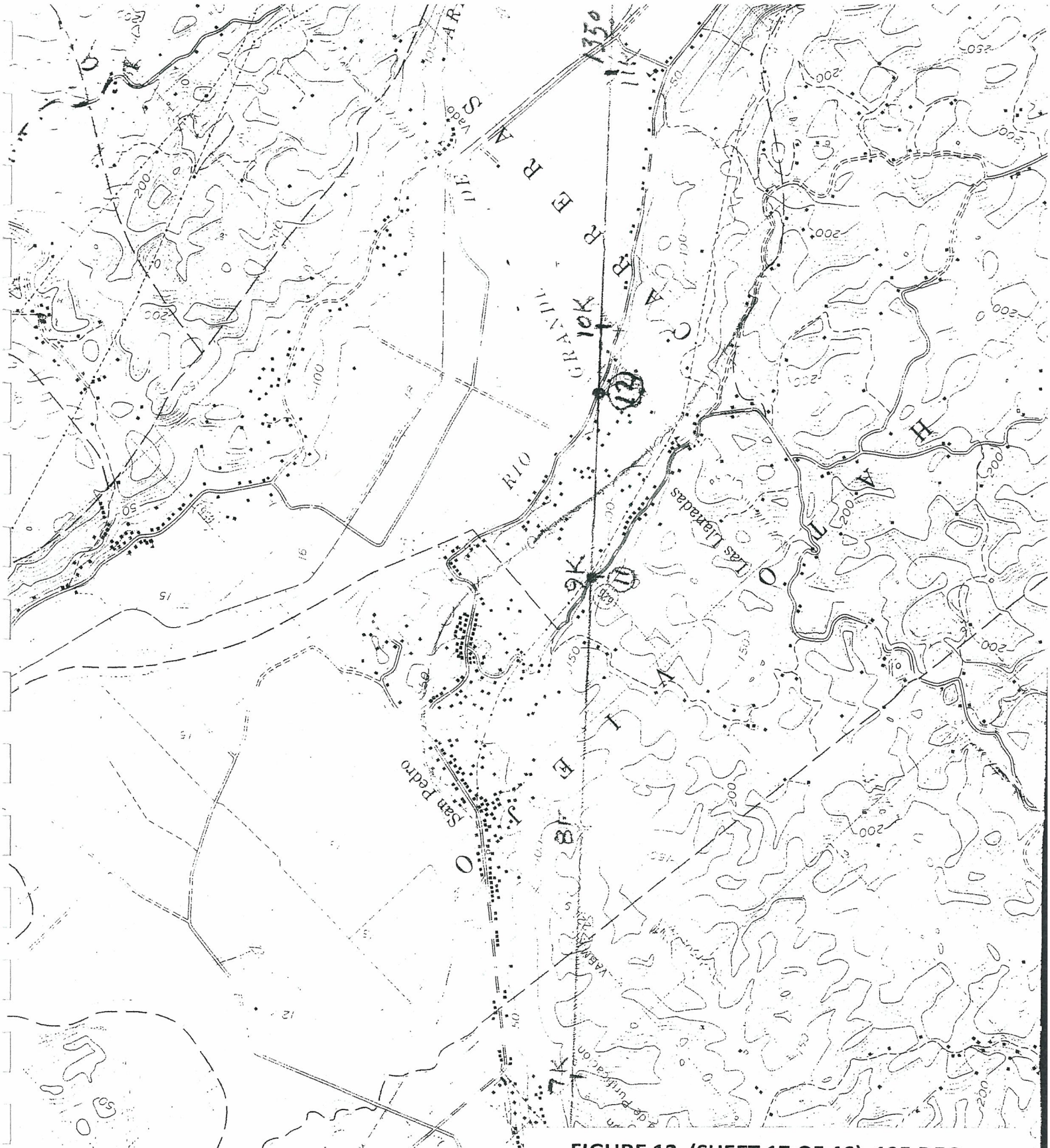


FIGURE 12 (SHEET 17 OF 46) 135 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

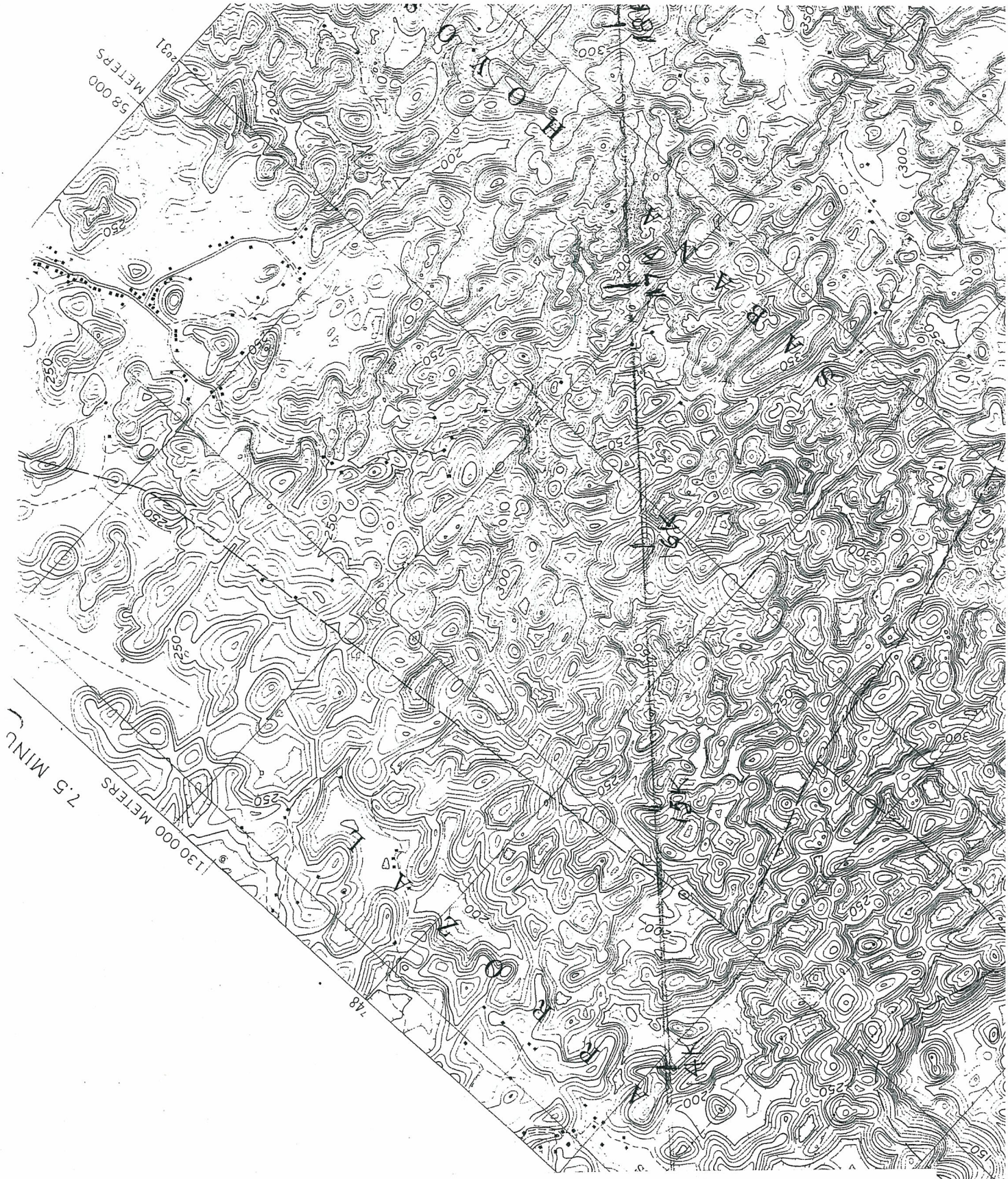


FIGURE 12 (SHEET 18 OF 46) 135 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

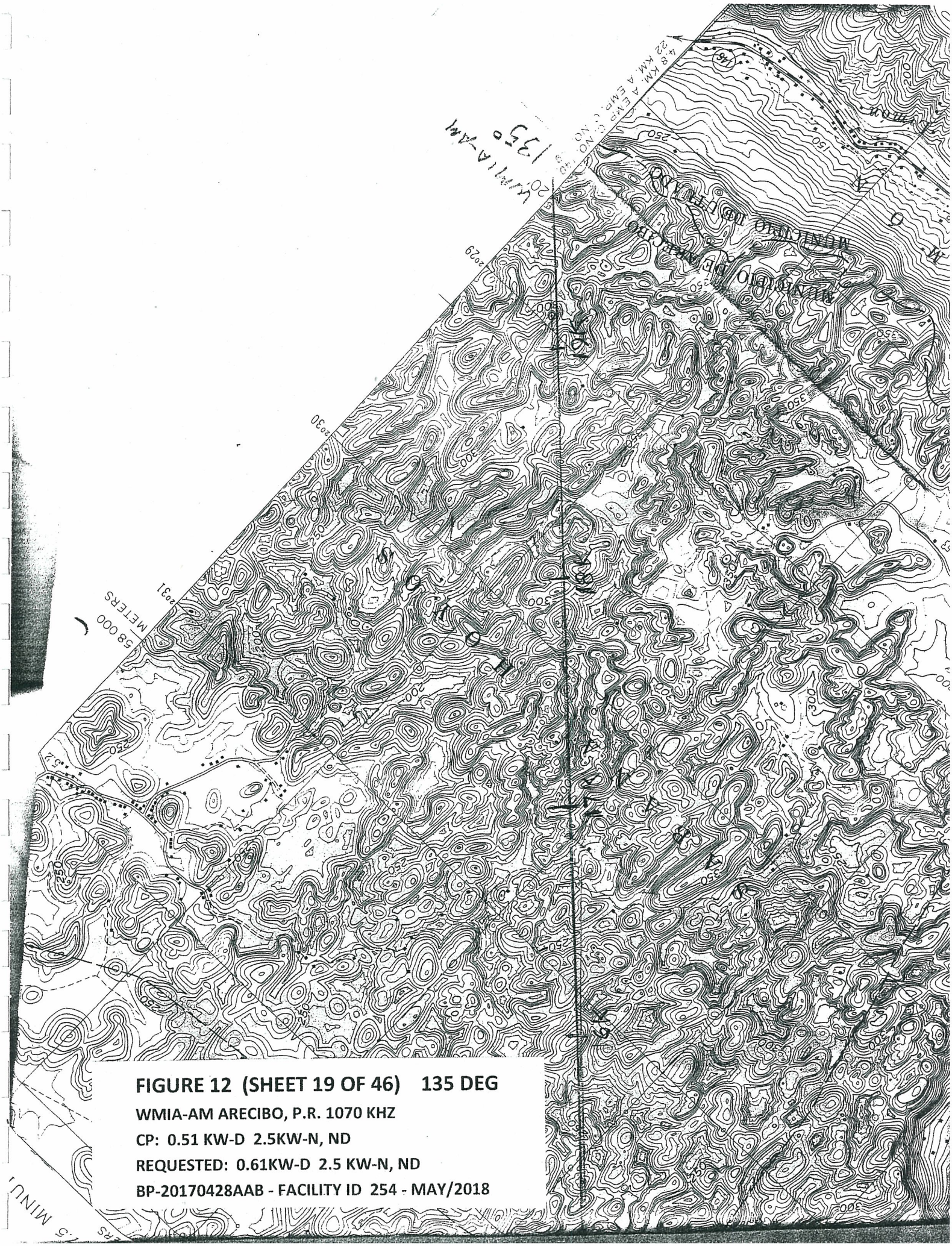


FIGURE 12 (SHEET 19 OF 46) 135 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

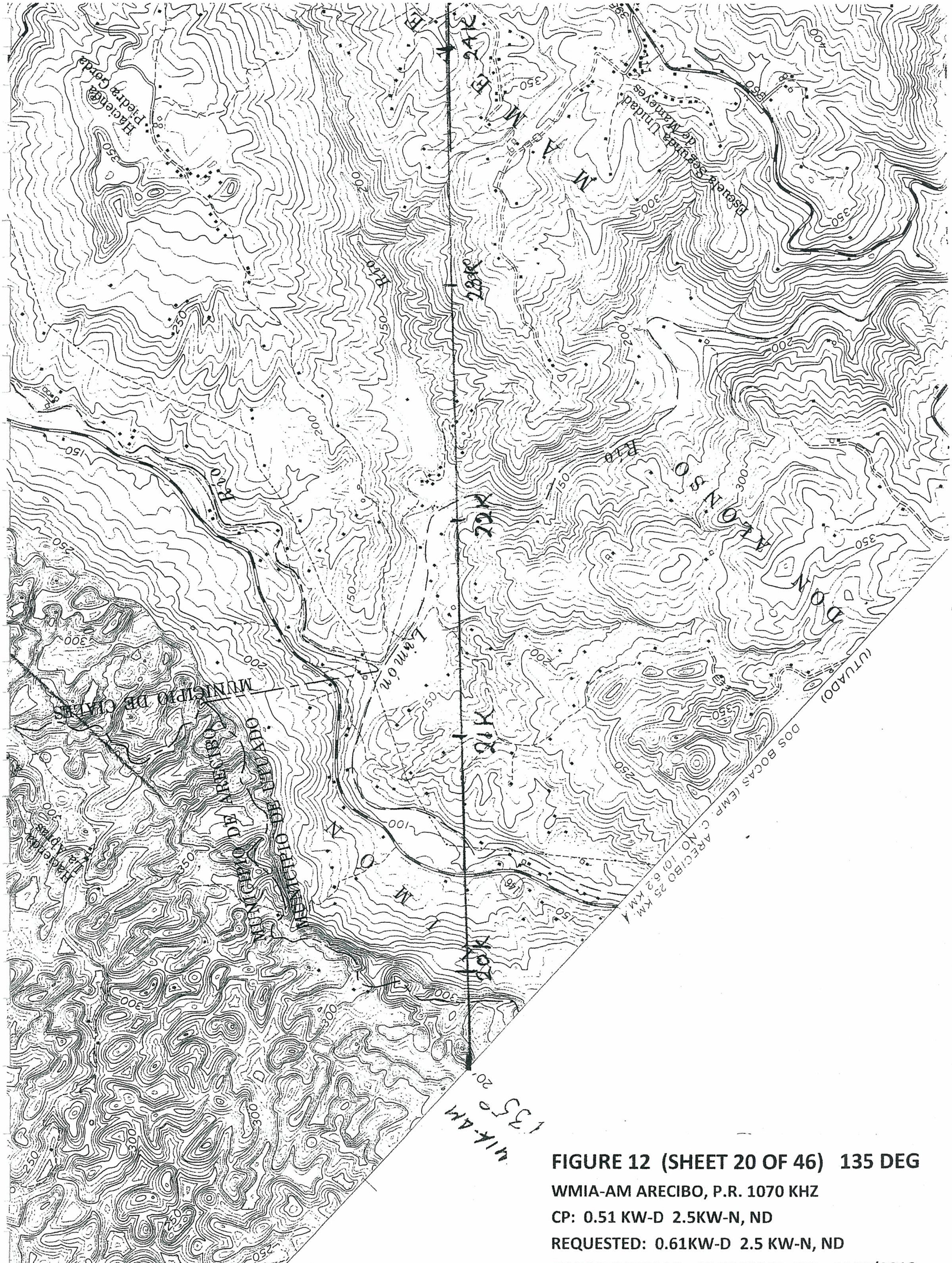


FIGURE 12 (SHEET 20 OF 46) 135 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

FIGURE 12 (SHEET 21 OF 46) 135 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

FIGURE 12 (SHEET 22 OF 46) 135 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

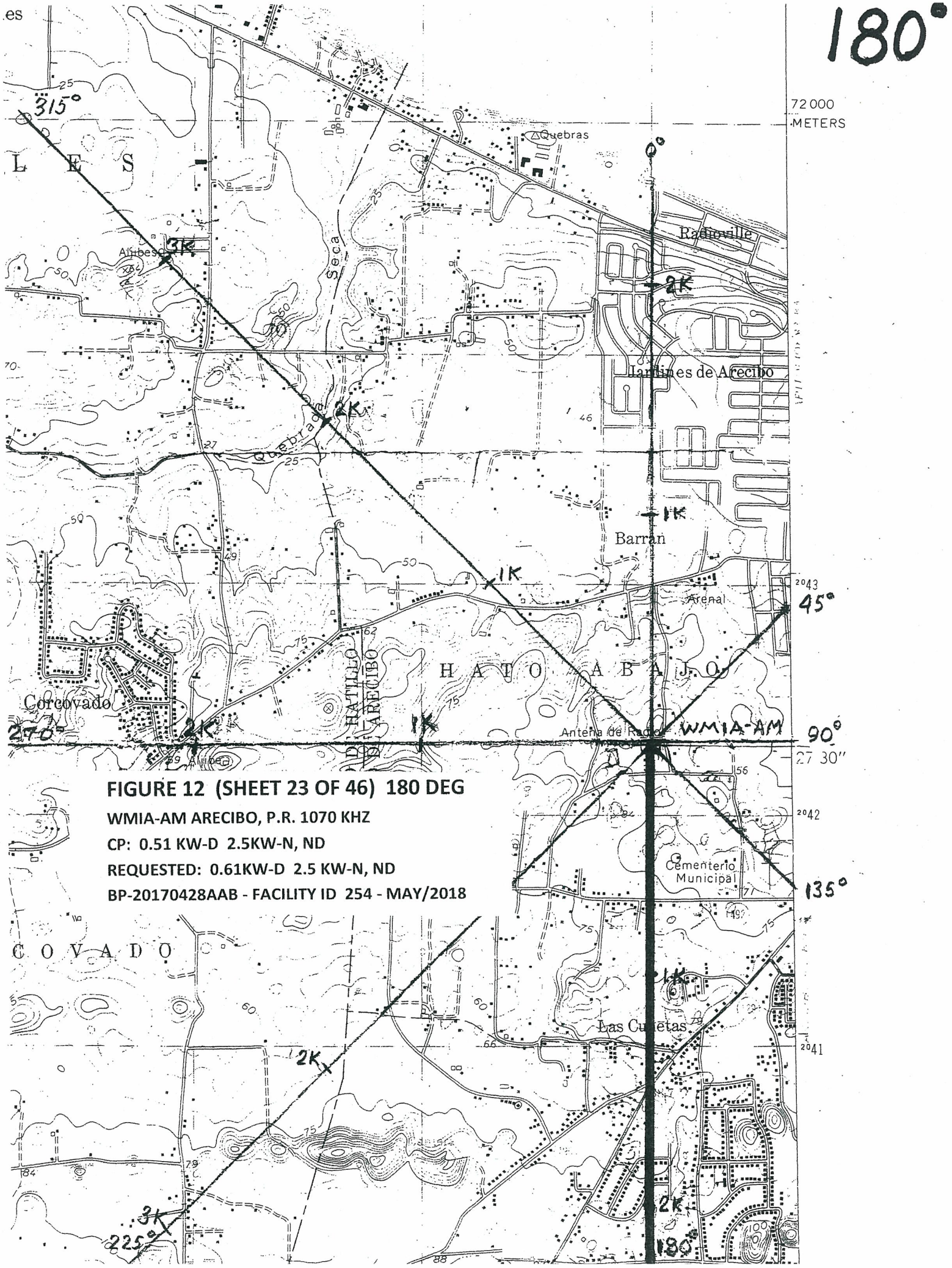


FIGURE 12 (SHEET 23 OF 46) 180 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

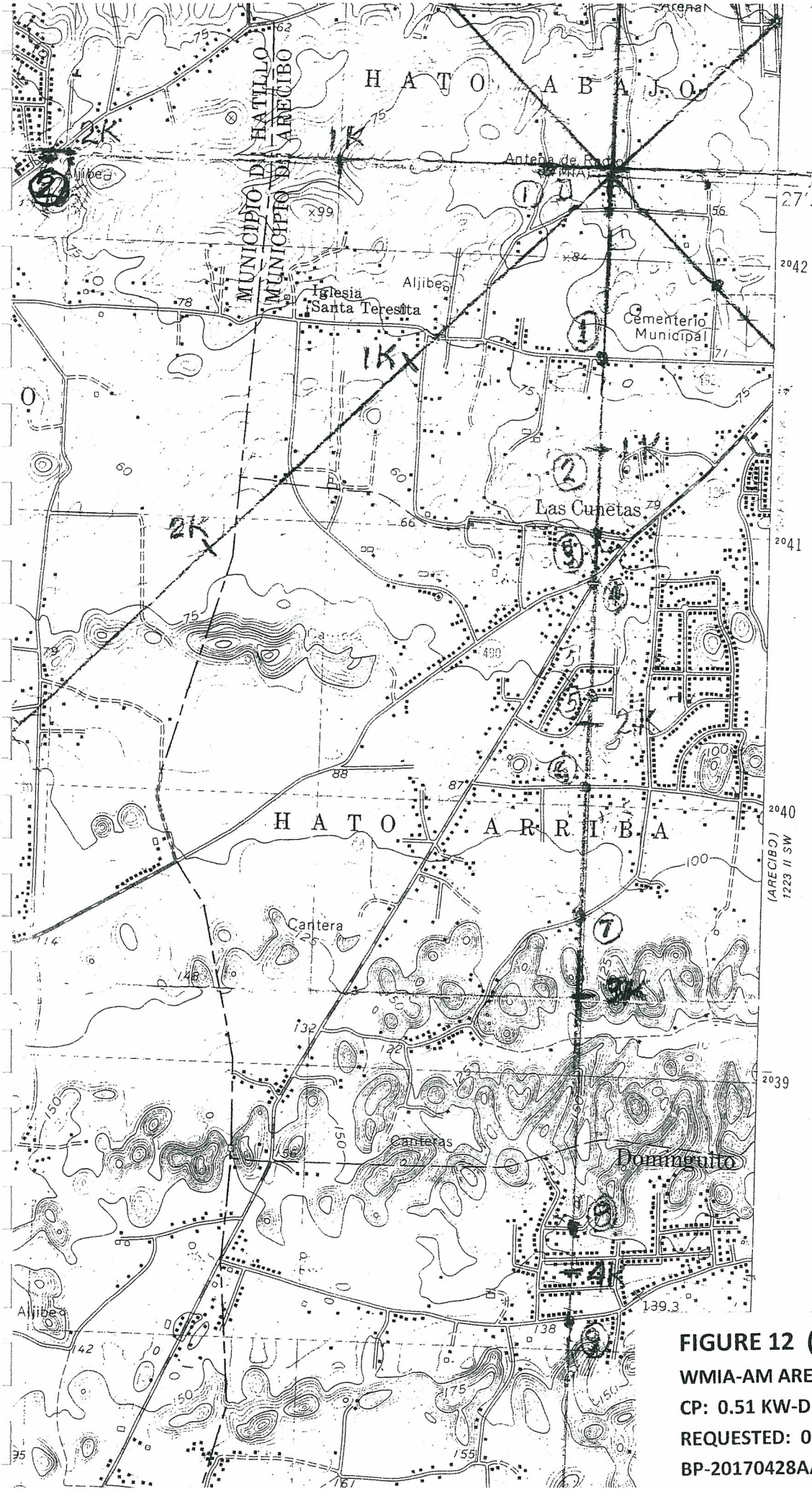


FIGURE 12 (SHEET 24 OF 46) 180 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

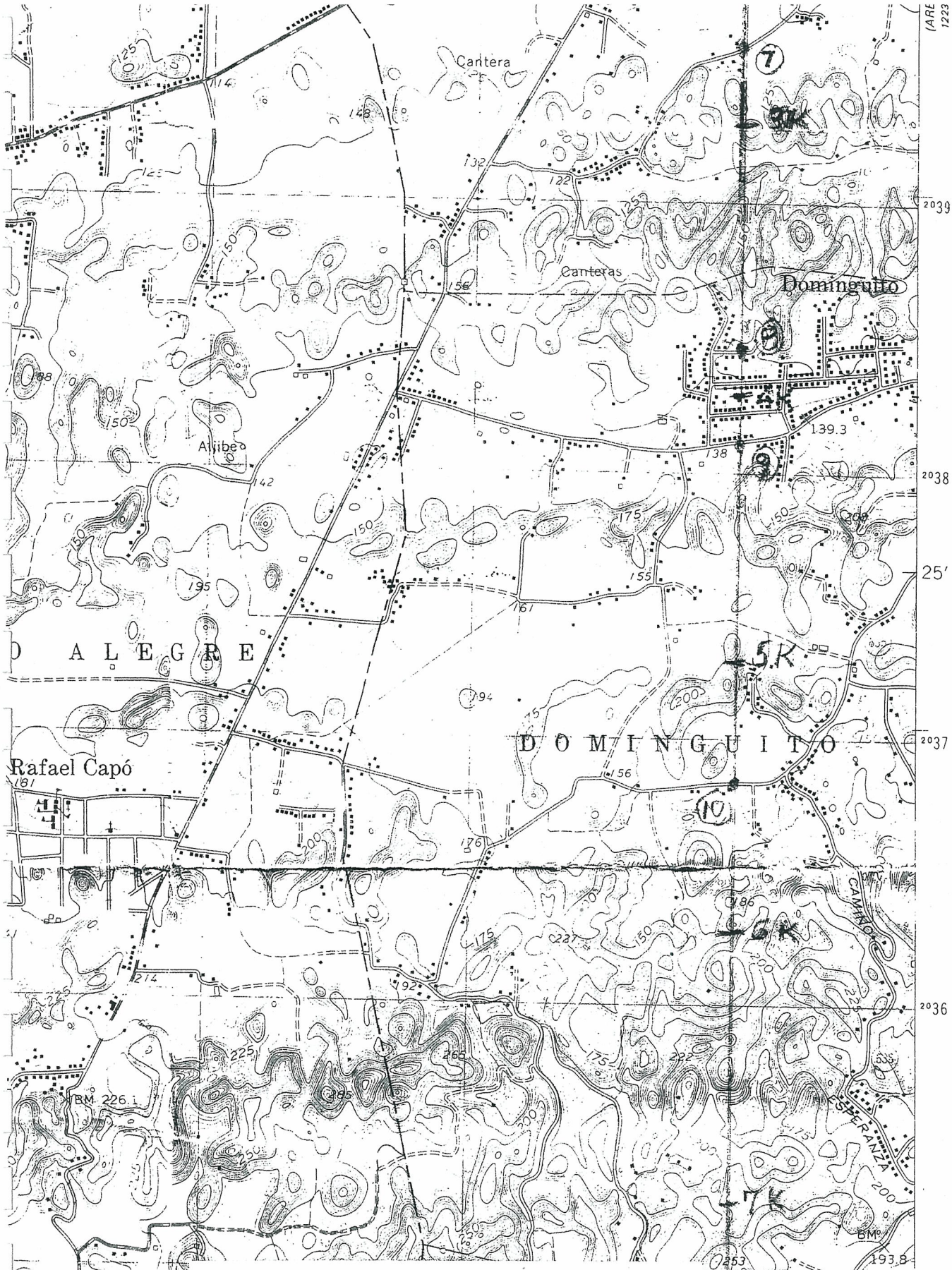


FIGURE 12 (SHEET 25 OF 46) 180 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

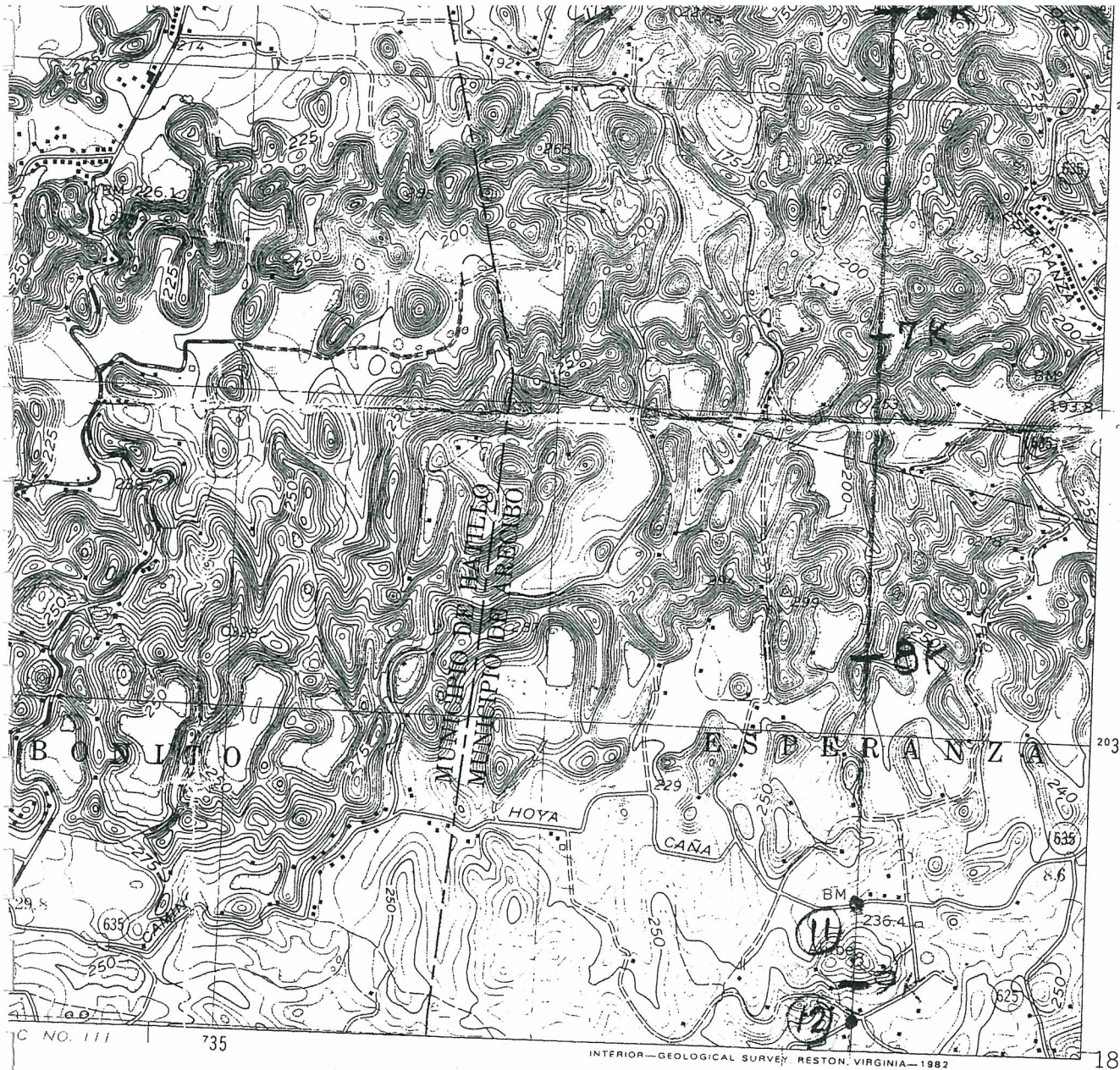


FIGURE 12 (SHEET 26 OF 46) 180 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

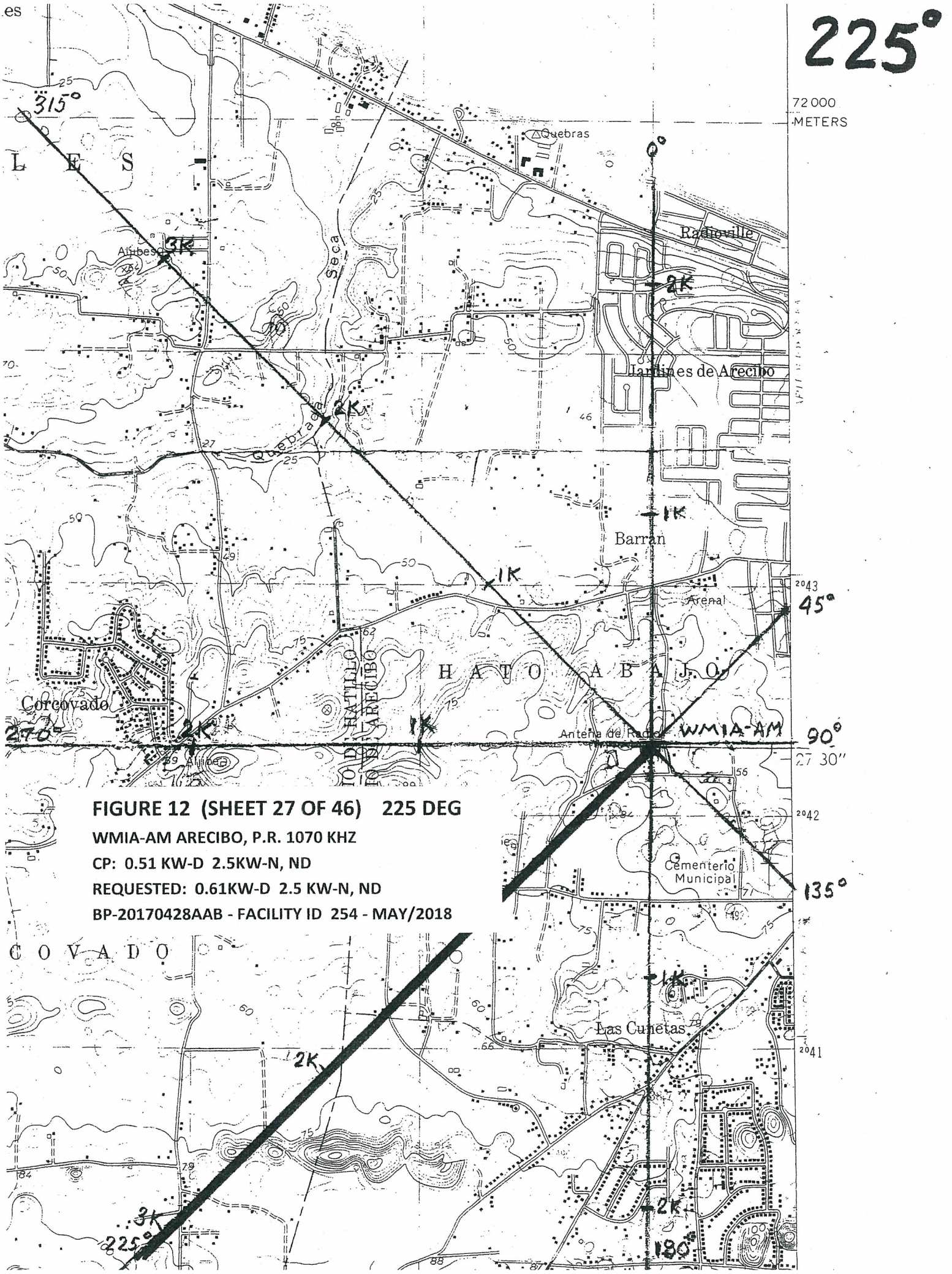


FIGURE 12 (SHEET 27 OF 46) 225 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

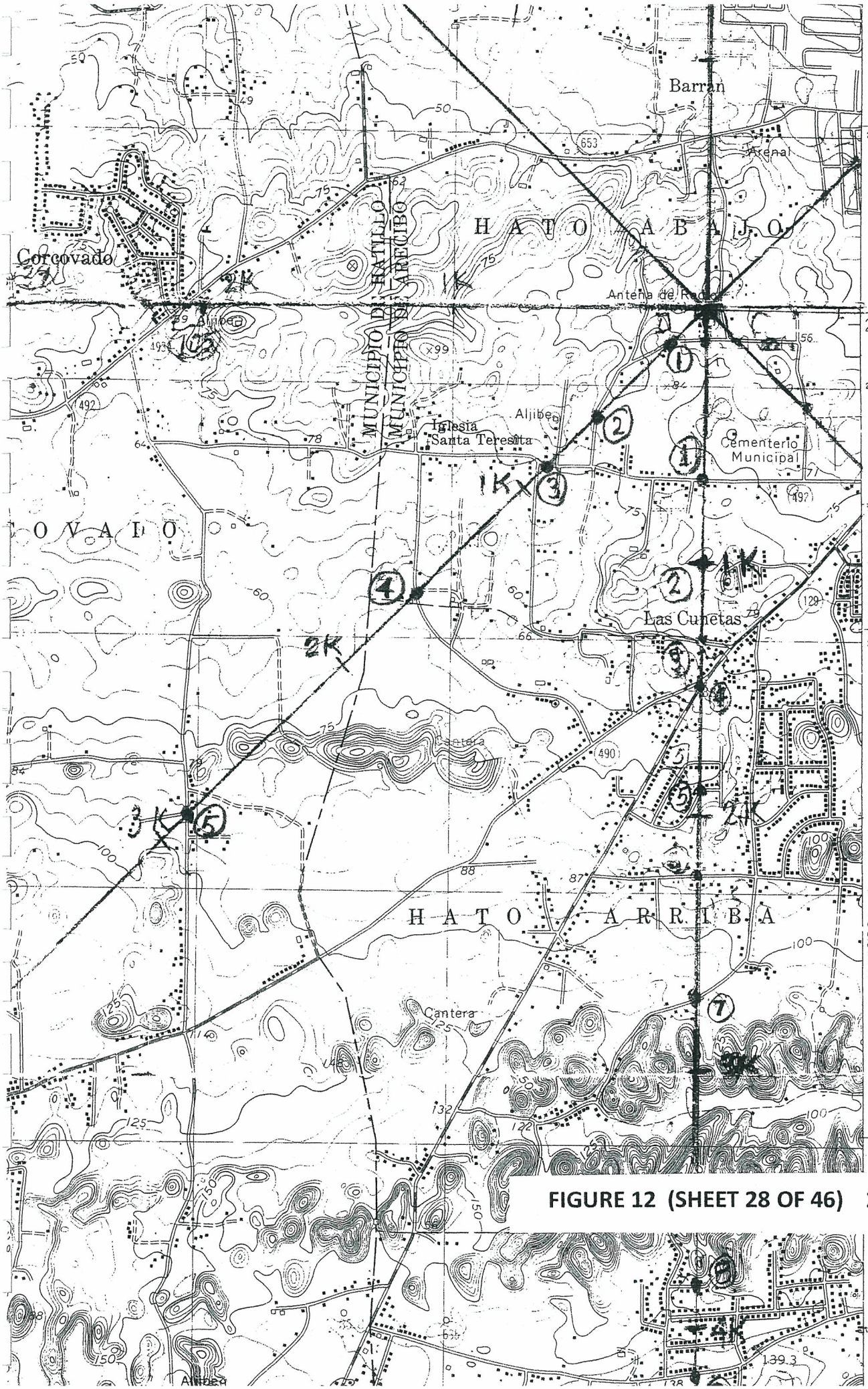
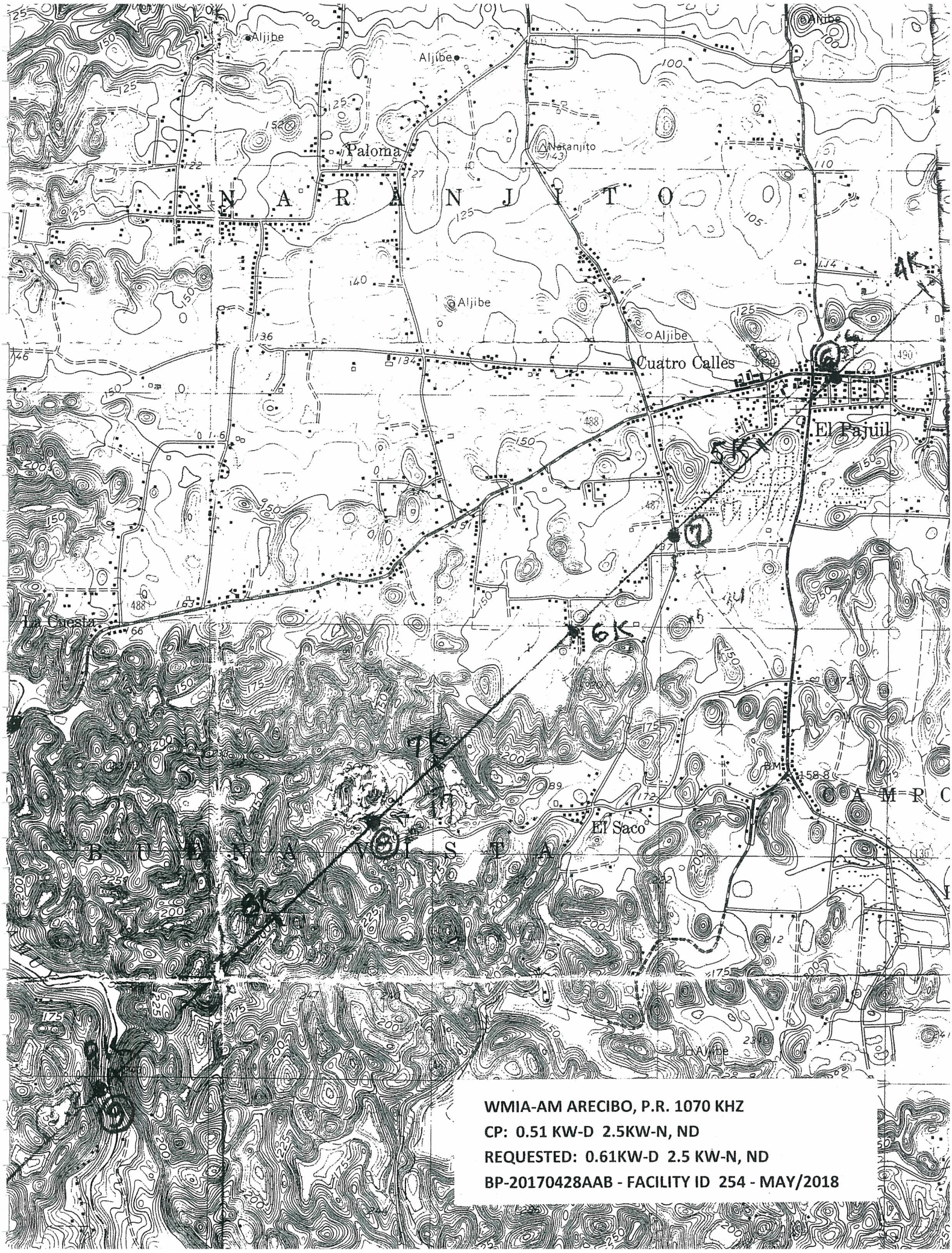


FIGURE 12 (SHEET 28 OF 46) 225 DEG



WMIA-AM ARECIBO, P.R. 1070 KHZ
CP: 0.51 KW-D 2.5KW-N, ND
REQUESTED: 0.61KW-D 2.5 KW-N, ND
BP-20170428AAB - FACILITY ID 254 - MAY/2018

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FIGURE 12 (SHEET 29 OF 46) 225 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

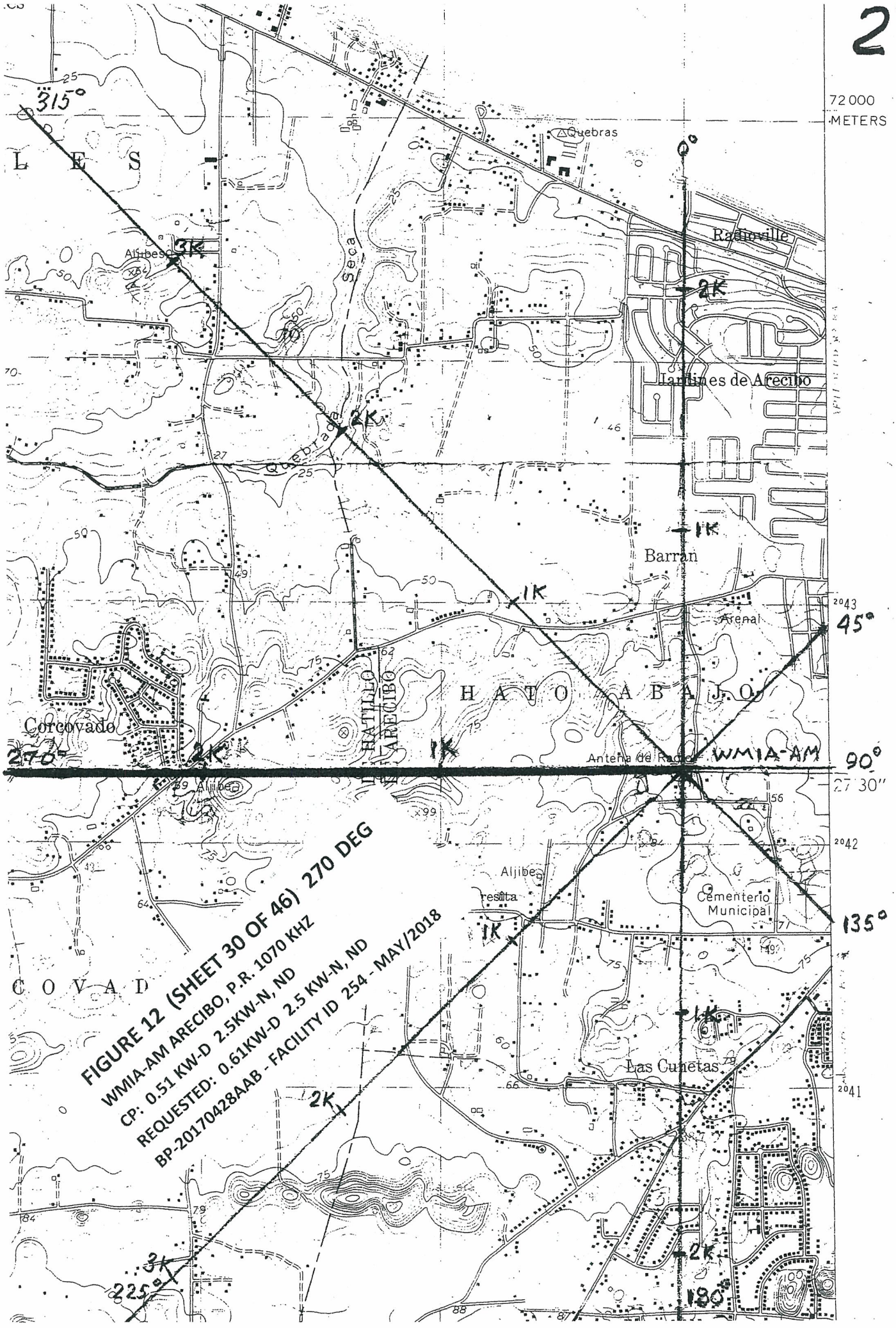
CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

DEPTH

SHORE


270°
315°
72 000
METERS
Quebras
Radioville
Aljibes
3K
2K
Seca
Jardines de Arecibo
Quebrada
1K
Barran
Arenal
2043
45°
HATILLO
ARECIBO
H A T O A B A J O
Corcovado
270°
Antena de Radio
WMIA-AM
90°
27 30"
Aljibes
2042
Cementerio
Municipal
135°
C O V A D
Las Cuetas
2041
180°
225°
FIGURE 12 (SHEET 30 OF 46) 270 DEG
WMIA-AM ARECIBO, P.R. 1070 KHZ
CP: 0.51 KW-D 2.5KW-N, ND
REQUESTED: 0.61KW-D 2.5 KW-N, ND
BP-20170428AAB - FACILITY ID 254 - MAY/2018

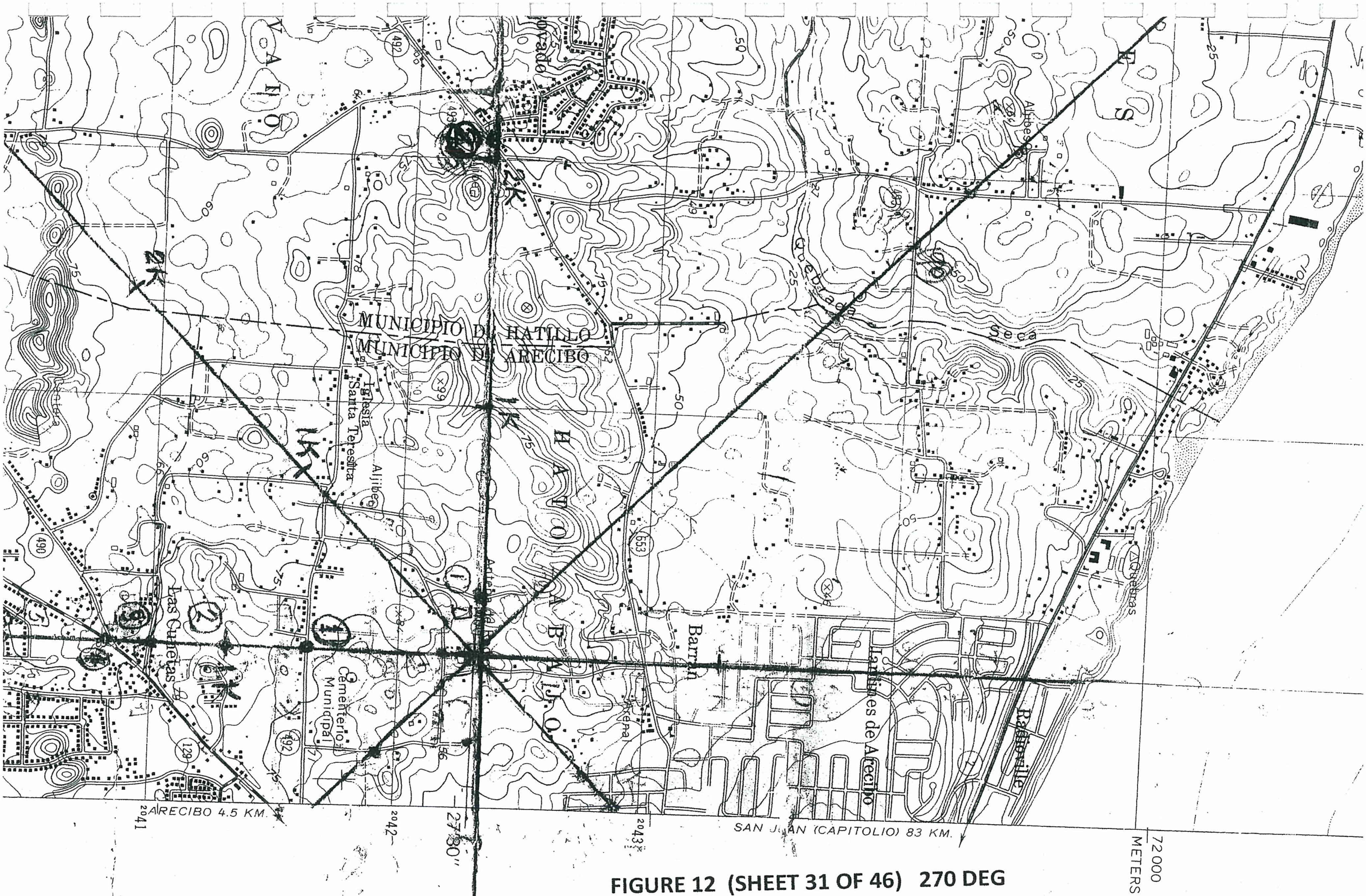


FIGURE 12 (SHEET 31 OF 46) 270 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

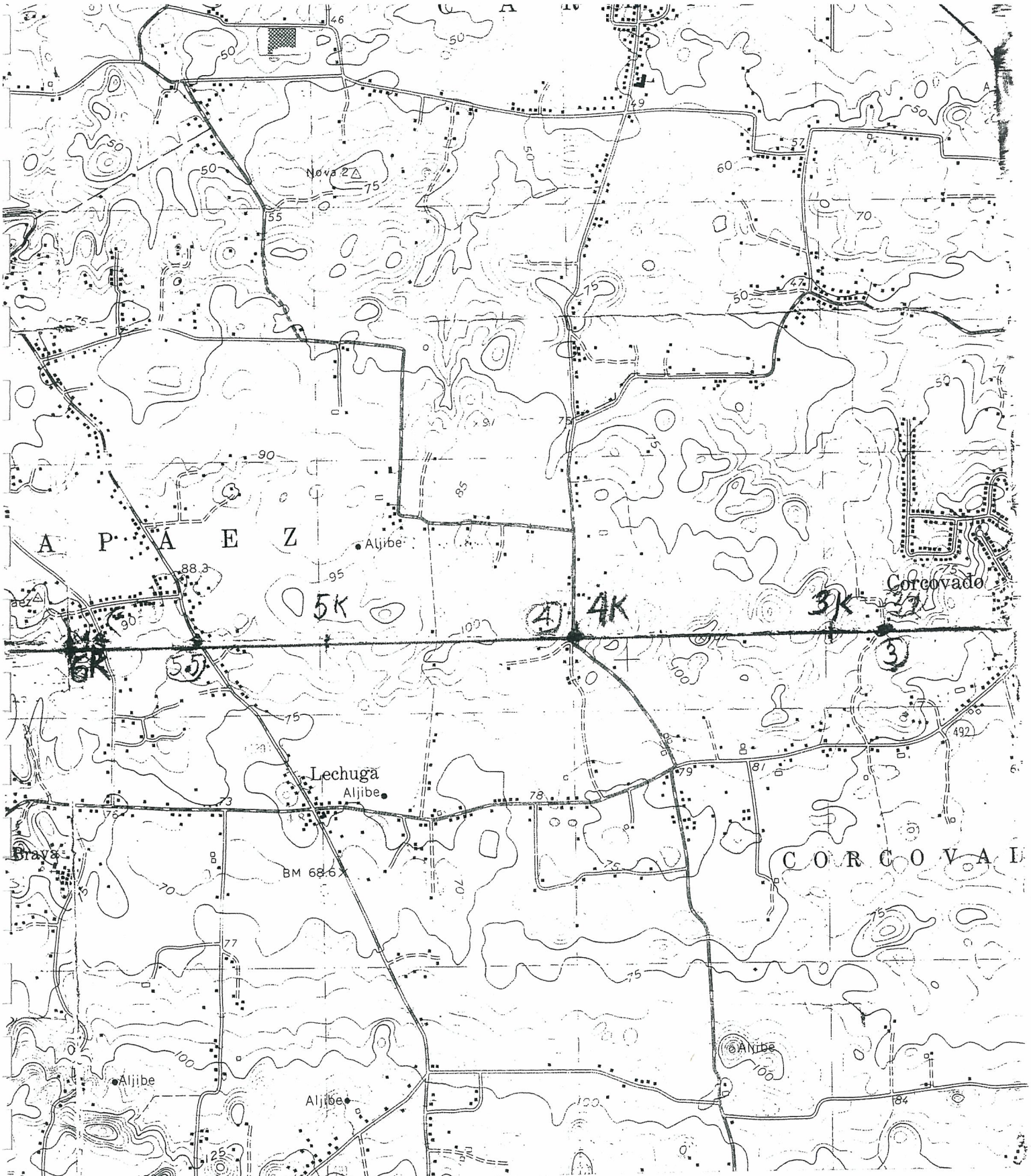


FIGURE 12 (SHEET 32 OF 46) 270 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

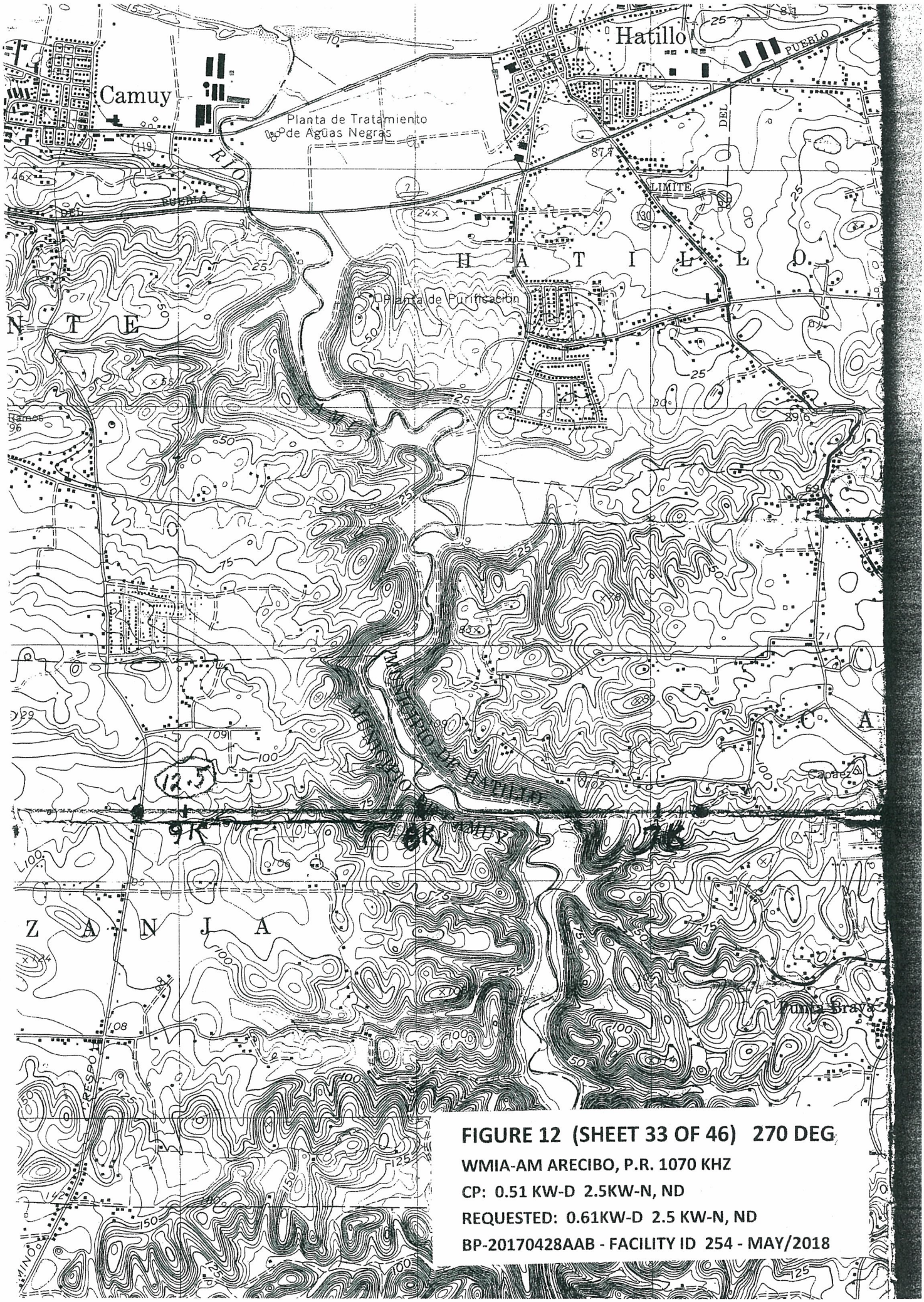


FIGURE 12 (SHEET 33 OF 46) 270 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

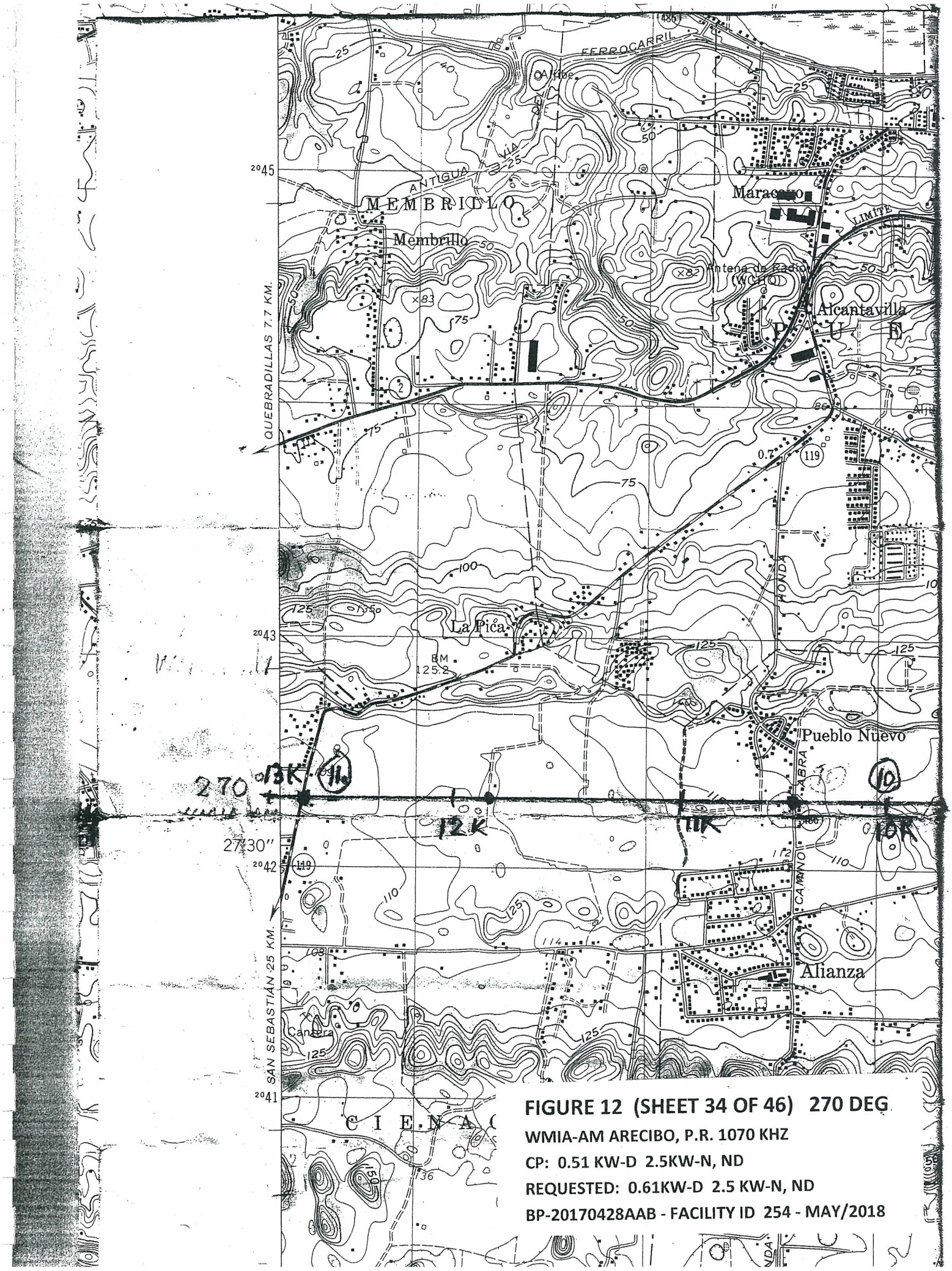


FIGURE 12 (SHEET 34 OF 46) 270 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

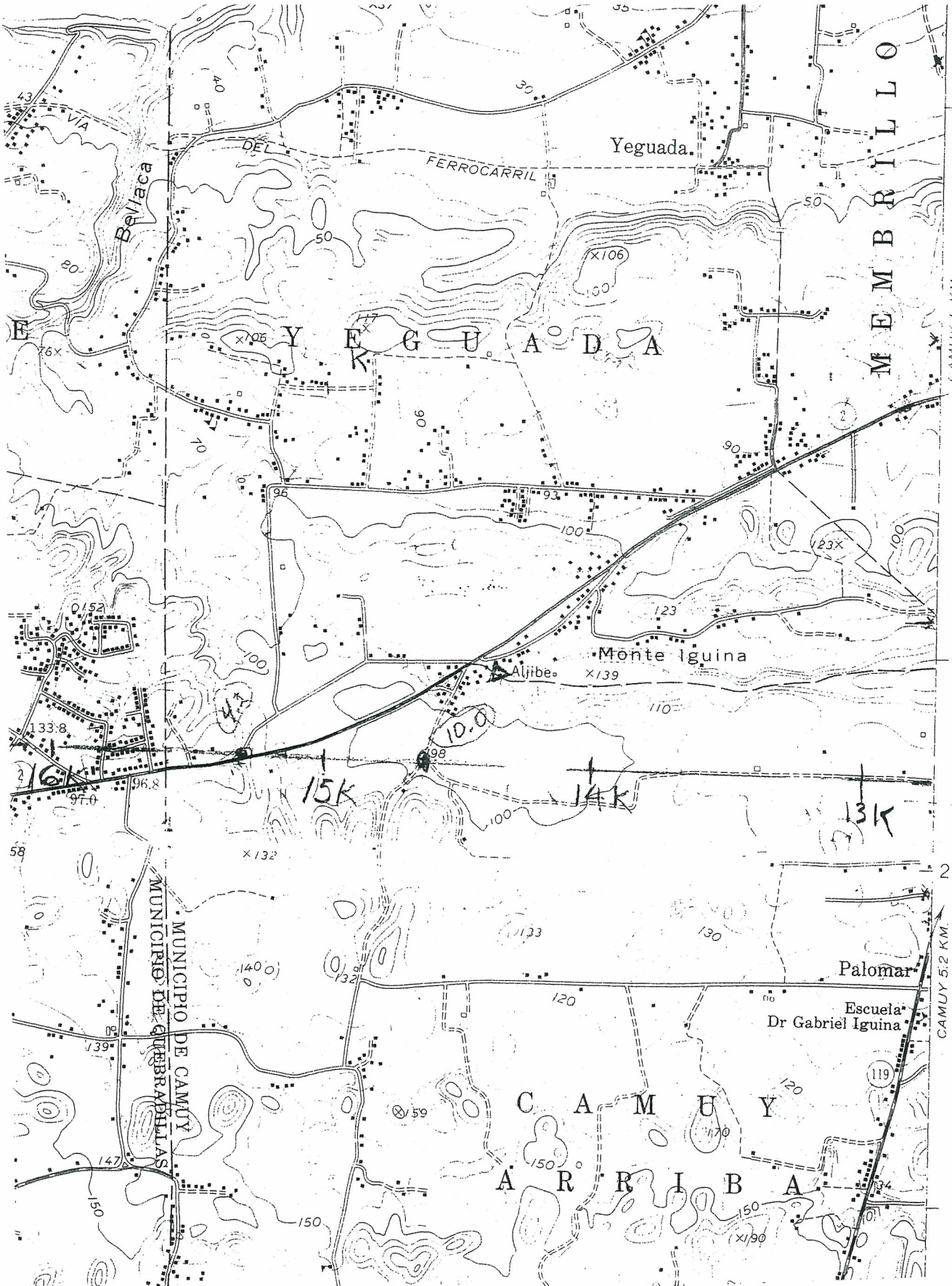


FIGURE 12 (SHEET 35 OF 46) 270 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

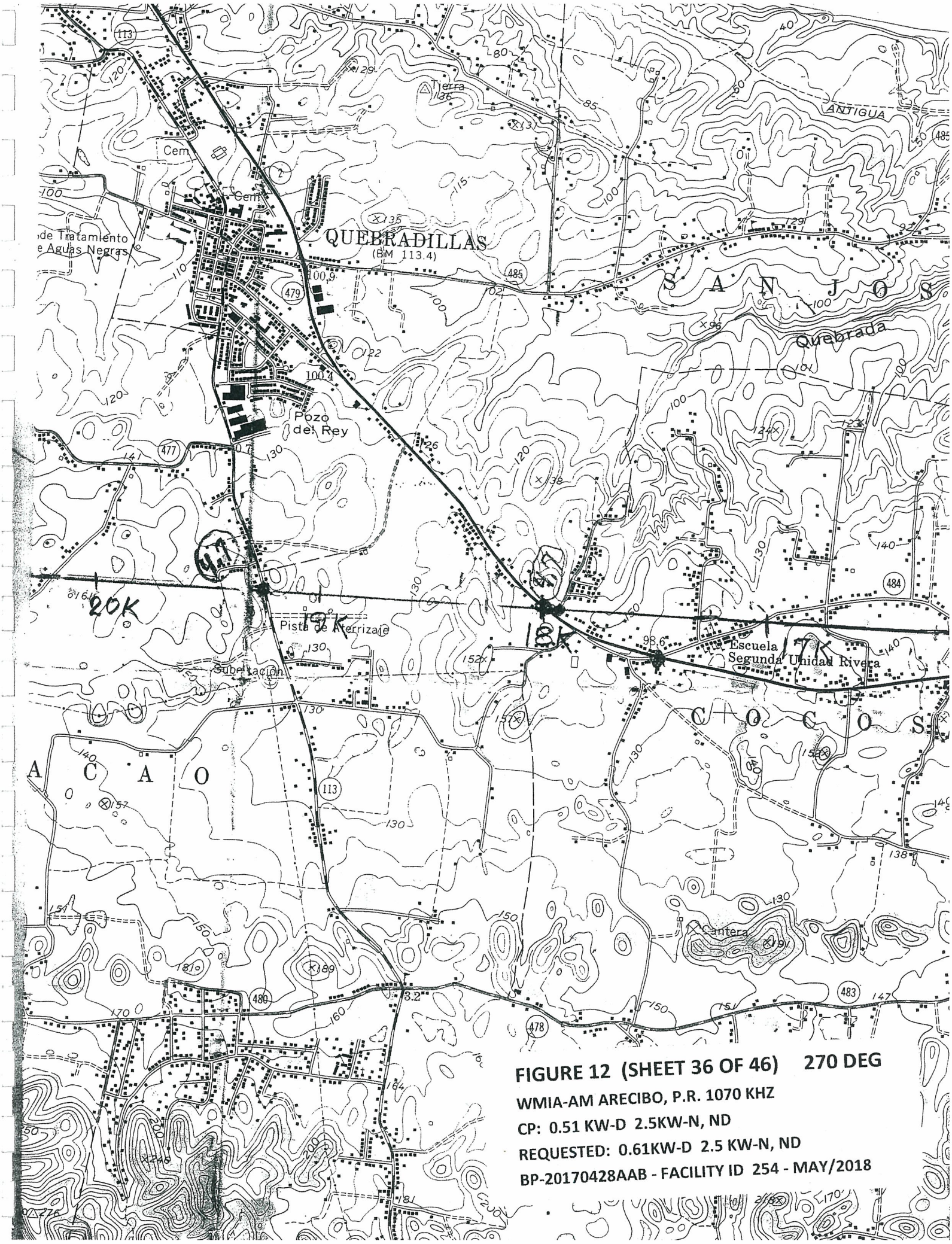


FIGURE 12 (SHEET 36 OF 46) 270 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

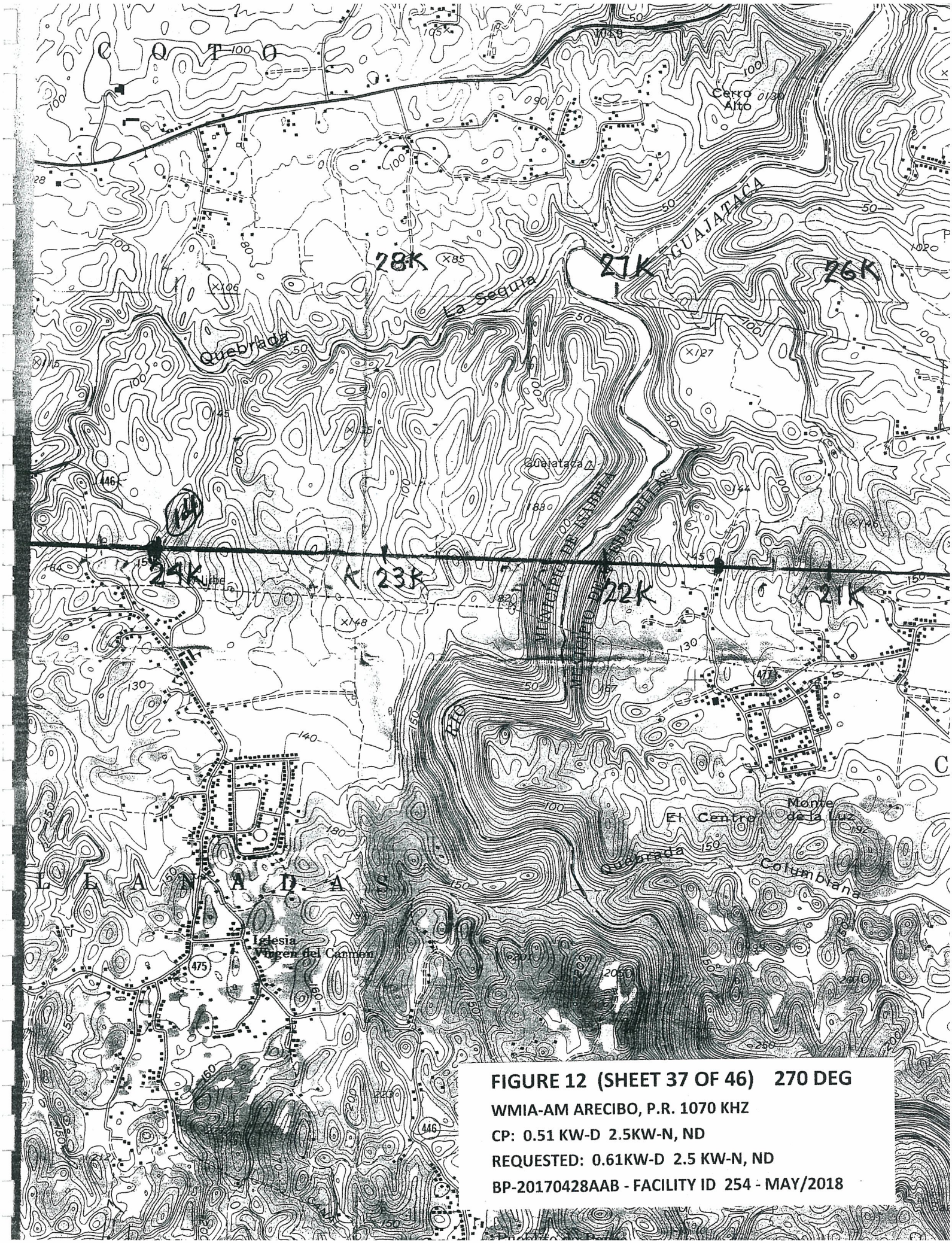


FIGURE 12 (SHEET 37 OF 46) 270 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

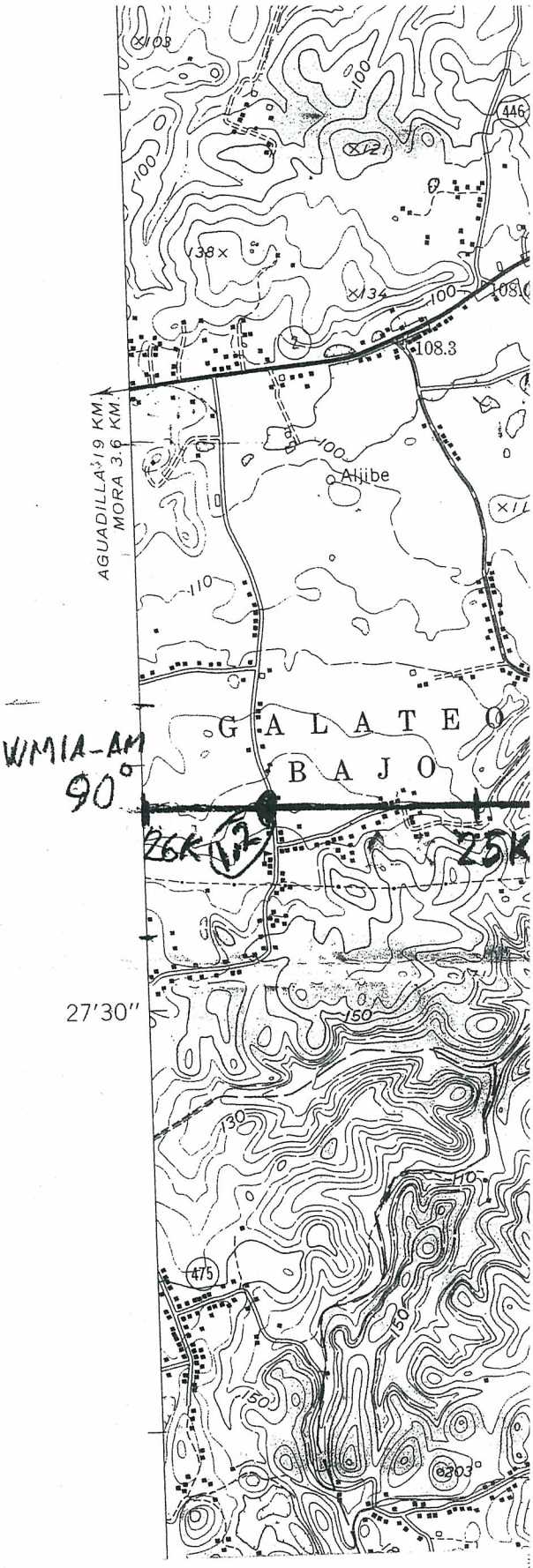


FIGURE 12 (SHEET 38 OF 46) 270 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

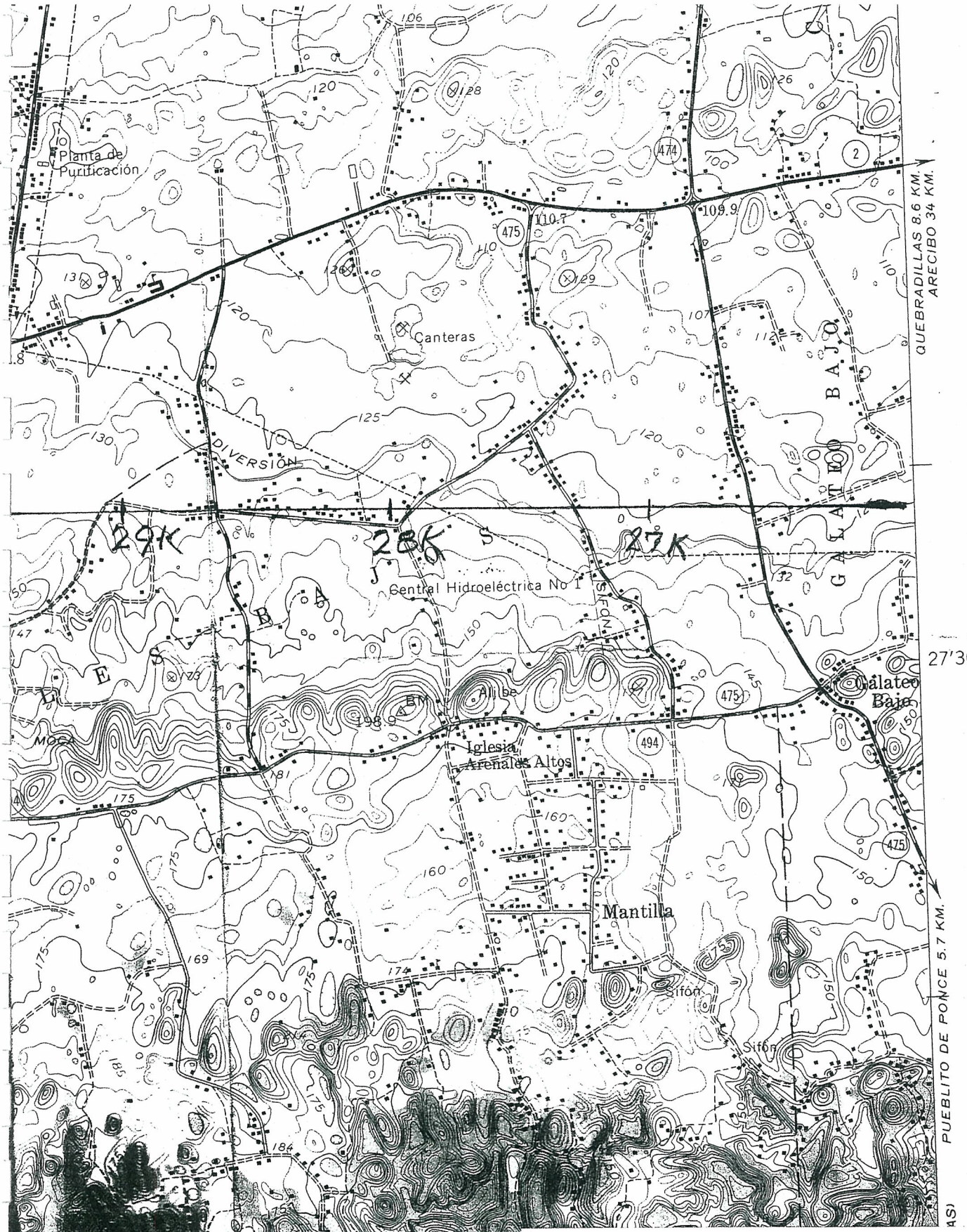


FIGURE 12 (SHEET 39 OF 46) 270 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

FIGURE 12 (SHEET 40 OF 46) 270 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

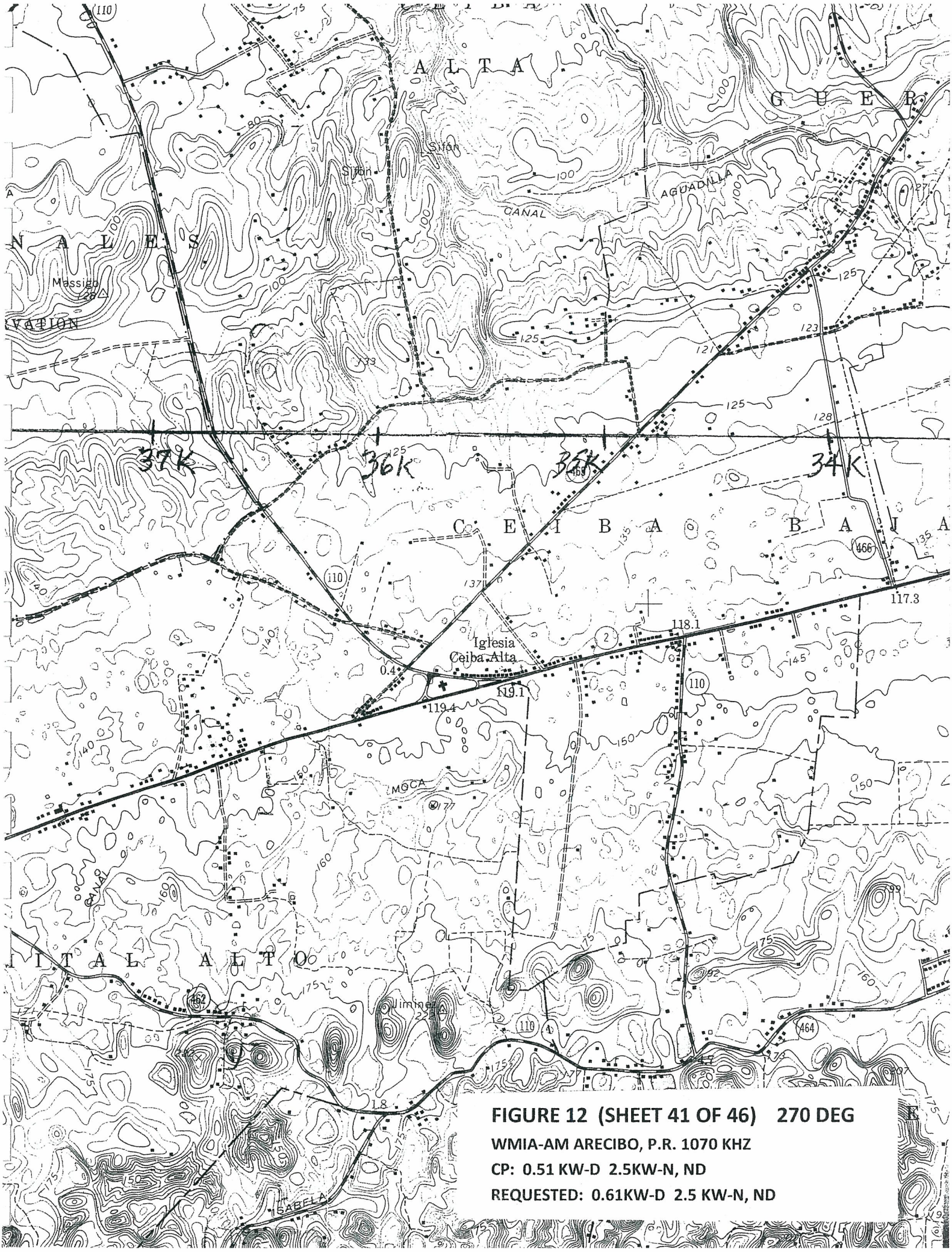


FIGURE 12 (SHEET 41 OF 46) 270 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

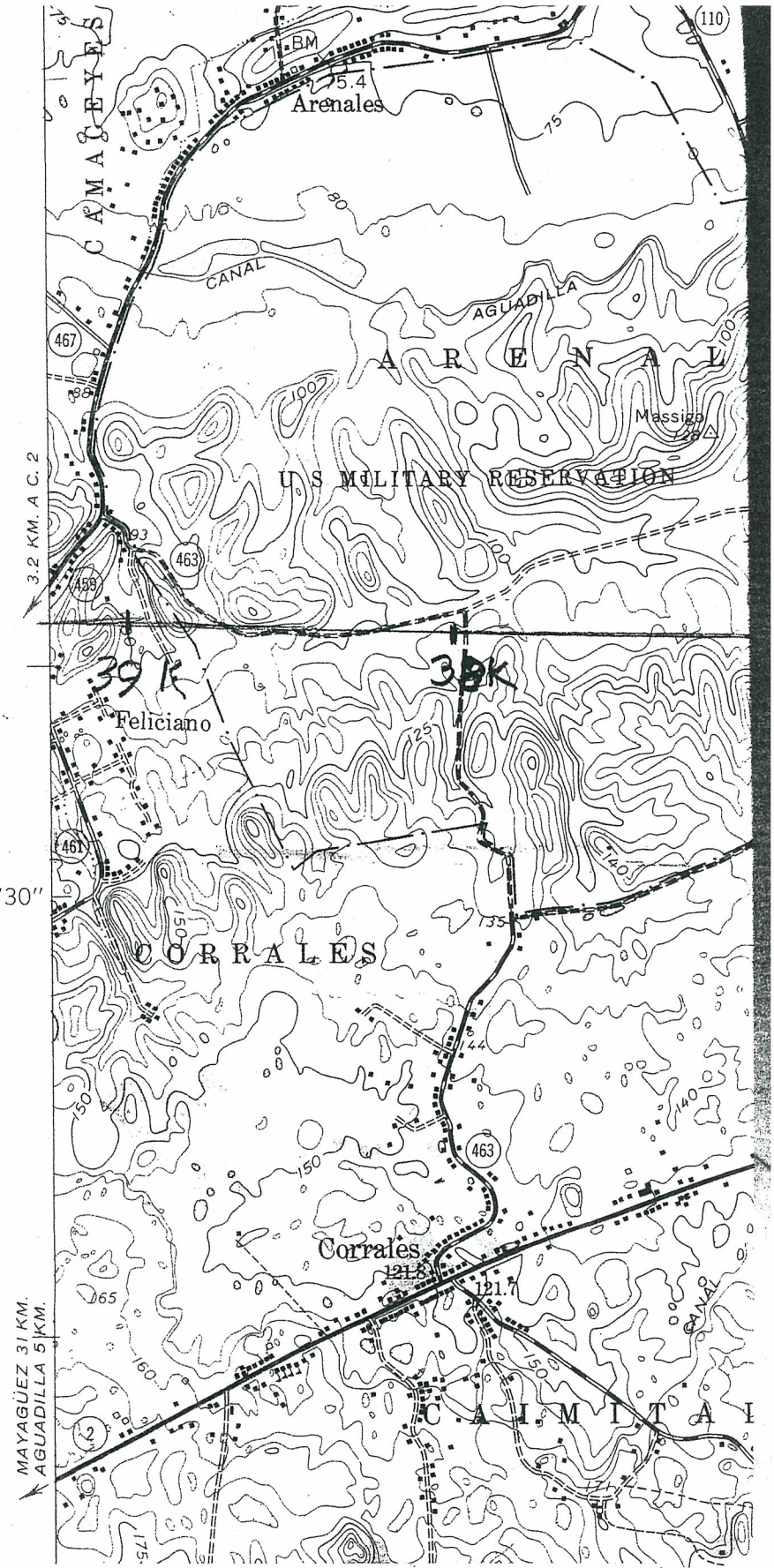


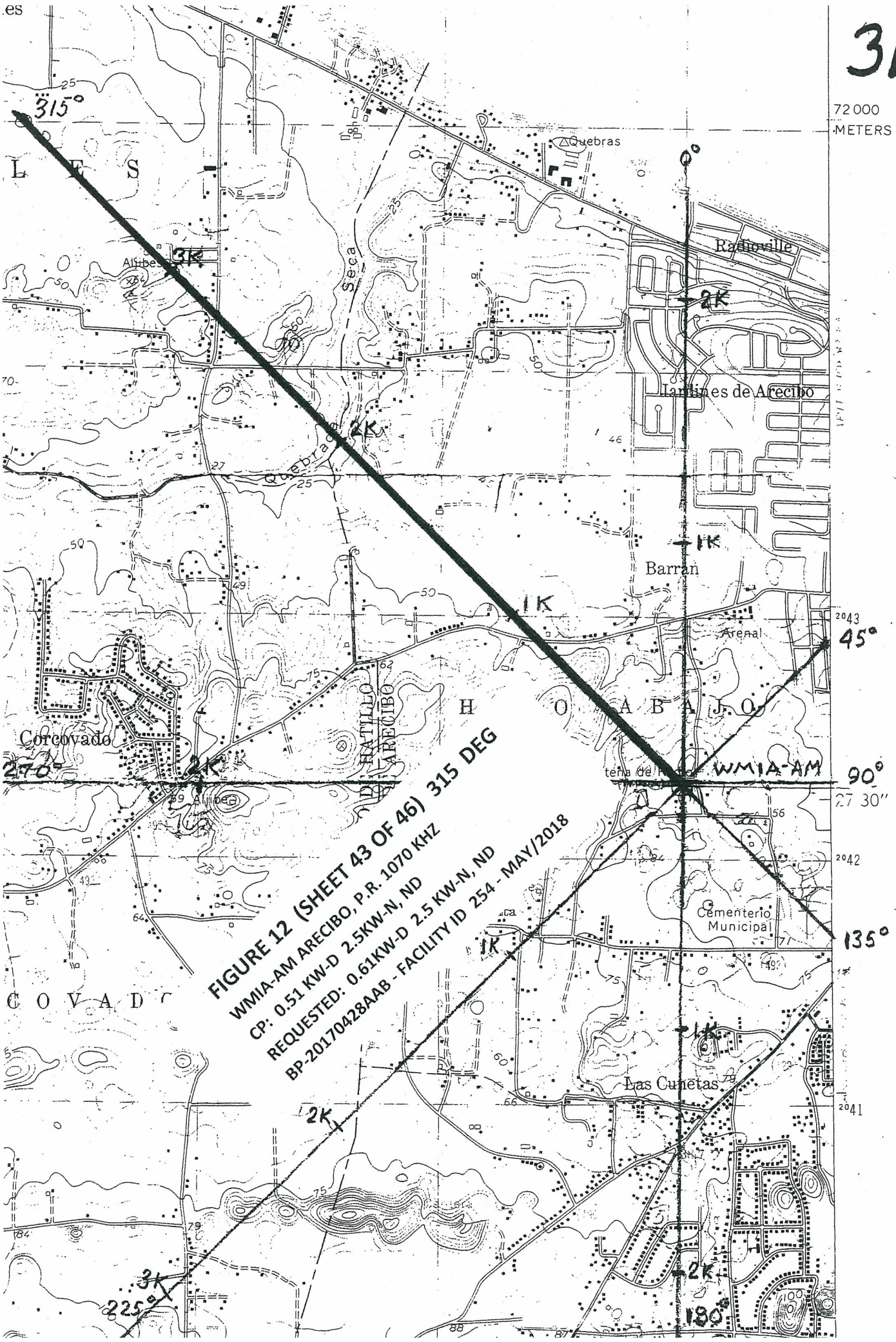
FIGURE 12 (SHEET 42 OF 46) 270 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018


315°
72 000
METERS
Quebras
Seca
Radioville
Jardines de Arecibo
Barran
Arenal
Corcovado
HATILLO
ARECIBO
H O A B A J O
C O V A D O
Cementerio
Municipal
Las Cuetas
WMIA-AM
0°
45°
90°
135°
180°
225°
270°
315°
1K
2K
3K
27 30"
2043
2042
2041
FIGURE 12 (SHEET 43 OF 46) 315 DEG
WMIA-AM ARECIBO, P.R. 1070 KHZ
CP: 0.51 KW-D 2.5KW-N, ND
REQUESTED: 0.61KW-D 2.5 KW-N, ND
BP-20170428AAB - FACILITY ID 254 - MAY/2018

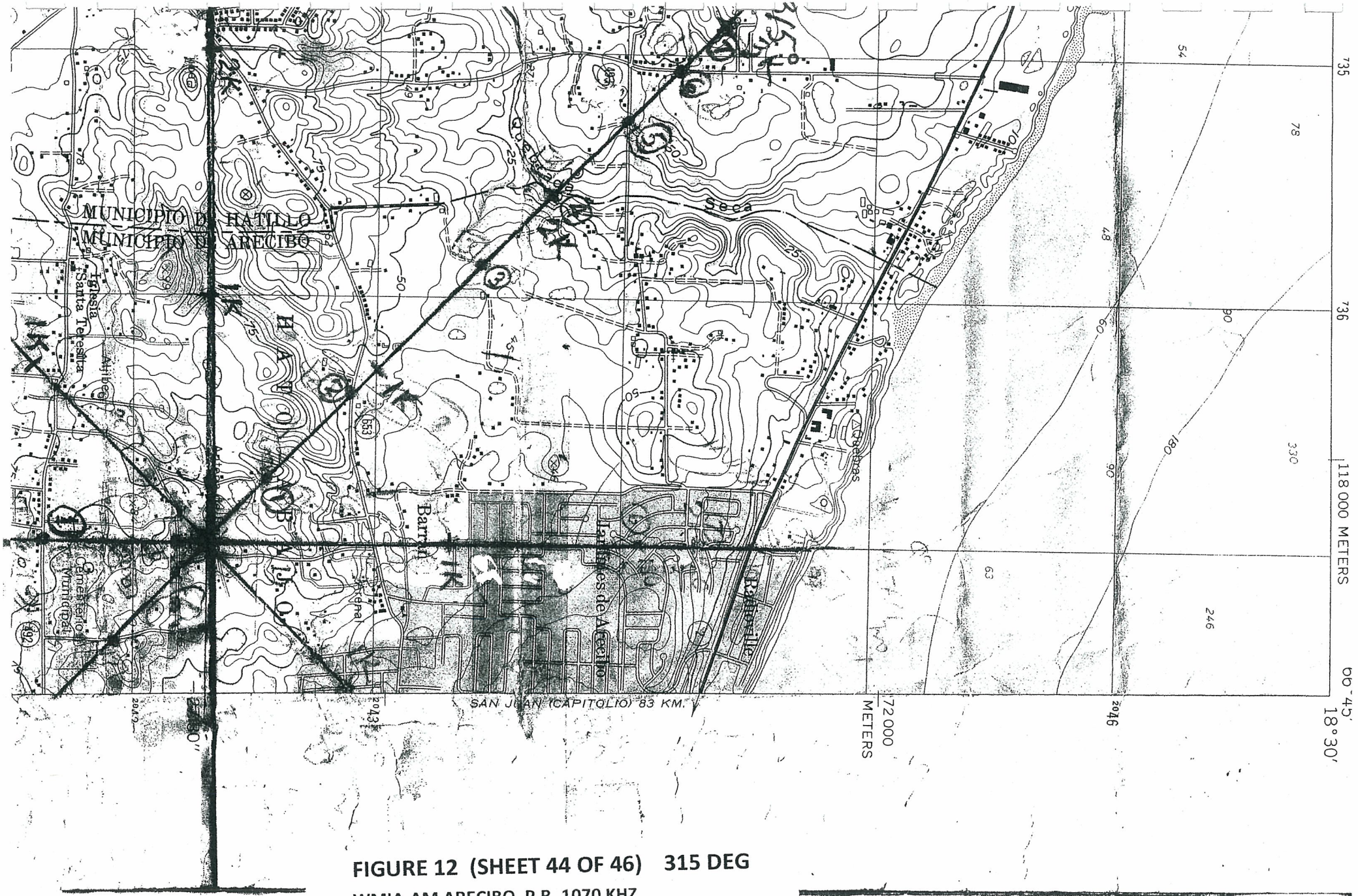


FIGURE 12 (SHEET 44 OF 46) 315 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018

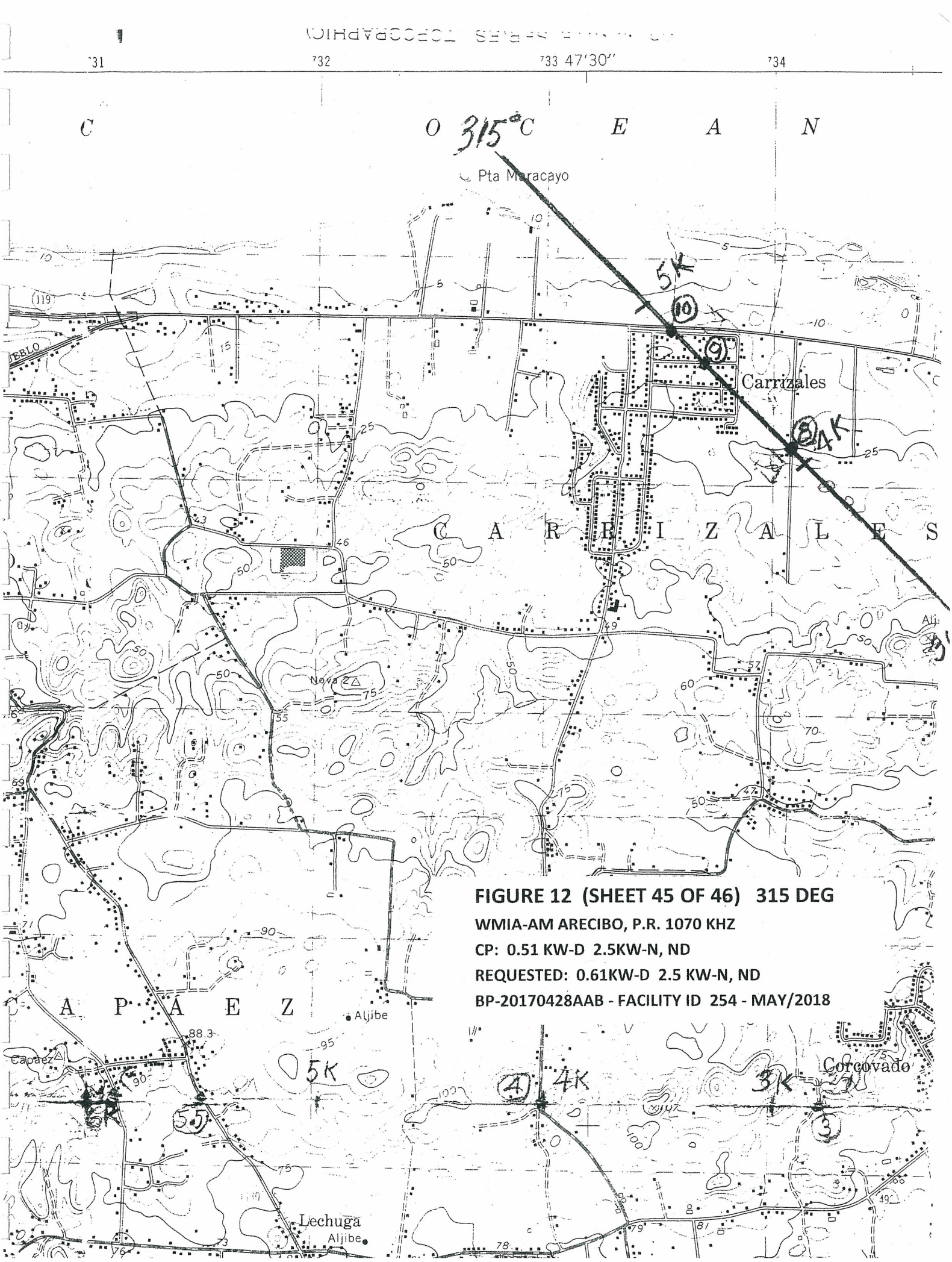


FIGURE 12 (SHEET 45 OF 46) 315 DEG

WMIA-AM ARECIBO, P.R. 1070 KHZ

CP: 0.51 KW-D 2.5KW-N, ND

REQUESTED: 0.61KW-D 2.5 KW-N, ND

BP-20170428AAB - FACILITY ID 254 - MAY/2018