

[Exhibit 12]

Non-Interference Compliance

Regarding FCC File Number: BNPFT-20030317FQM

Channel: 273

Description of Exhibit 12 Contents

This exhibit demonstrates that the proposed facility complies with contour overlap and interference protection provisions in all the applicable rule sections and that this application for a construction permit is in full compliance with 47 CFR 74.1204.

Page 2 of this exhibit is an explanation of the tabulated data, which is included as evidence on page 5 of this exhibit.

Pages 3 and 4 of this exhibit contain an explanation of the method used to demonstrate compliance with contour overlap and interference protection provisions based on 47 CFR 74.1204(d), which states:

"an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable."

In addition, page 4 includes a tabulation of the second and third adjacent stations which this application is required to protect and the field strengths of those stations in the vicinity of the proposed translator. The field strengths given were based on contours predicted using FCC contour algorithms and 3 arc second terrain data.

Let it be noted that should any actual real world interference occur, the applicant certifies that it will promptly suspend operation of this translator in accordance with 47 CFR 74.1203.

Page 5 of this exhibit is the tabulated data from the interference analysis, which shows all stations that this application had to consider for contour protection. These tabulated values were generated using high resolution 3 arc second terrain data for the best possible accuracy.

Page 6 of this exhibit is a portion of a USGS 1:24,000 scale 7.5 min quadrangle at full scale with the calculated area of interference overlaid. The sheet includes the quadrangle name and measurement scale at the bottom-left corner (note: "Mt" refers to meters). The area of interference was calculated using a free-space calculation (see FCC 98-117, Appendix A, pg. 41 for reference to the equation used).

Since the proposed translator is 259 km from the Canadian border, 47 CFR 74.1235(d) has been taken into account and this applicant certifies that in no direction does the 34 dBu F(50,10) extend beyond 60 km, and this application is therefore in full compliance with 47 CFR 74.1235(d)(3), which states that "the distance to the 34 dBu interfering contour may not exceed 60 km in any direction," and hence in compliance with 47 CFR 74.1204(h).

Explanation of Frequency Finder Results

The interference analysis for this application was performed using the "Frequency Finder" module in RadioSoft's Comstudy, version 2.2.

Frequency Finder analyzes data taken directly from the FCC's FM database and looks for prohibited overlap with contours of adjacent stations and prohibited proximity to stations 53 or 54 channels from the proposed station (IF) using 3 arc second terrain data and the FCC's contour algorithms. The results tabulated are the stations returned from that analysis. (Note: Because Comstudy was looking at the FCC's FM database, it took into account the proposed translator when doing the analysis and returned it in the tabulated results. For the sake of simplicity, that record has been deleted from all tabulated results.)

The first several columns of the table are self-explanatory. They give various data on the stations in question. The column labeled "Clr" gives the proposed translator's "clearance" with respect to the tabulated station, either in dB or km. The values listed with no units are given in km and are for stations located on an IF to the proposed site's channel.

A negative value in the "Clr" column does NOT necessarily represent prohibited contour overlap, as explained below.

A negative value listed in the "Clr" column would indicate either overlap of interference and protected contours or prohibited proximity to an IF station except in the following situations:

-Since the proposed station's Effective Radiated Power (ERP) is 2 watts, a negative value in km (no units listed in the table) does not represent a violation of the CFR, according to 47 CFR 1204(g), which states that "FM translator stations and booster stations operating with less than 100 watts ERP will be treated as class D stations and will not be subject to intermediate frequency separation requirements."

- A second or third adjacent LP100 station cannot represent a violation of the CFR, as 47 CFR 74.1204(a)(4) requires protection of only co-channel and first adjacent LP100 stations.

- 47 CFR 74.1204(a) requires only the protection of "AUTHORIZED commercial or noncommercial educational FM broadcast stations, FM translators, ..." Any entry with a status listed as "RSV," "USE" or "APP" does not represent an authorized station and therefore is not protected under 47 CFR 74.1204. The one exception is the case of LP100 applications. The note to 47 CFR 74.1204(a)(4) states that "LPFM applications and permits that have not yet been licensed must be considered as operating with the maximum permitted facilities." Therefore, any first adjacent or co-channel LP100 station, no matter the status, is protected.

-Entries highlighted in red are those stations where there is overlap of predicted contours and lack of population has been demonstrated within the area of interference.

Compliance with 47 CFR 74.1204(d)

The proposed translator's Maximum Effective Radiated Power (ERP) is 0.002kW at 45 meters above ground level. According to 47 CFR, 74.1204(a), the desired to undesired ratio between 2nd/3rd adjacent stations is 40dB, making the proposed translator's interfering contour 97.4dBu F(50,10). (See the next page for more discussion on the determination of the signal strength of the proposed translator's area of interference.)

Using a free-space calculation (equation referenced in FCC 98-117, Appendix A, pg. 41), the proposed translator's F(50,10) interference contour was calculated and the maximum horizontal plane was plotted on the pertinent portion of a USGS quadrangle (page 6 of this exhibit). However, the field strength of the proposed translator's antenna varies with angle of depression from horizontal. The antenna relative fields are tabulated below at 5 degree increments, starting at 5 degrees below horizontal. Antenna relative field strength data was provided and certified by the manufacturer of the proposed antenna. Using a free space calculation that neglects any loss due to reflection (equation referenced in FCC 98-117, Appendix A, pg. 41), the vertical ground clearance of the proposed application's F(50,10) interference contour at each angle has been tabulated. As shown below, the area of interference clears the ground by 9.5 meters at the lowest point. The applicant has taken into account USGS quadrangles and relevant aerial photography in stating that no structures, except possibly tower support structures, puncture the proposed area of interference. Hence, in accordance with 47 CFR 74.1204(d) and the clarification provided by the FCC in the decision Re: Living Way Ministries (FCC 02-244), there is a lack of population within the proposed area of interference and therefore this application is in full compliance with 47 CFR 74.1204.

Antenna Manufacturer:	SCA	Maximum ERP:	2 watts
Antenna Model Number:	2CA5-FM/CP/RM-0.5	CORAGL:	45 m
Antenna Rotation:	0	F(50,10) Contour:	97.4 dBu

Depression Angle (from COR)	Antenna Relative Field	ERP (watts)	Distance to F(50,10) Interfering Contour from Antenna (m)	Horizontal Distance of F(50,10) Interfering Contour from Tower (m)	Vert. Clearance of F(50,10) Interfering Contour above TGL (m)
5	0.973	1.89	130.2	129.7	33.7
10	0.917	1.68	122.7	120.8	23.7
15	0.84	1.41	112.4	108.6	15.9
20	0.744	1.11	99.6	93.6	10.9
25	0.627	0.79	83.9	76.0	9.5
30	0.508	0.52	68.0	58.9	11.0
35	0.39	0.30	52.2	42.8	15.1
40	0.281	0.16	37.6	28.8	20.8
45	0.188	0.07	25.2	17.8	27.2
50	0.118	0.03	15.8	10.1	32.9
55	0.069	0.01	9.2	5.3	37.4
60	0.04	0.00	5.4	2.7	40.4
65	0.021	0.00	2.8	1.2	42.5
70	0.013	0.00	1.7	0.6	43.4
75	0.01	0.00	1.3	0.3	43.7
80	0.01	0.00	1.3	0.2	43.7
85	0.01	0.00	1.3	0.1	43.7
90	0.01	0.00	1.3	0.0	43.7

Minimum F(50,10) Clearance above TGL **9.5 m**

The F(50,50) signal strength of all relevant second and third adjacent stations have been examined, and are tabulated below. Column three shows the station's signal level at the proposed translator's tower site, and column four gives the minimum value within the entire proposed translator's standard F(50,10) contour (100 dBu for most classes, 94 dBu for class B's, 97 dBu for class B1's). For signal levels too great to determine, 999 was entered. The minimum F(50,50) contour within the proposed translator's standard F(50,10) contour was used to calculate the proposed translator's interference contour, thereby assuring a minimum undesired-to-desired ratio of 40dB for all relevant adjacent stations, as required in 47 CFR, 74.1204(a).

FCC File Number	Call Sign	F(50,50) Contour at Tower	Min. F(50,50) Contour
BLH5990	WMUK	57.55dBu	57.4dBu
Minimum F(50,50) Protected Contour of Adjacent Station Within Proposed Translator's standard F(50,10) Contour:			57.4dBu

Callsign	State	City	Channel	ERP_w	Licensee	ARN	Class	Status	Distance_km	Clr	Facility_id
WMUK	MI	KALAMAZOO	271	50000	WESTERN MICHIGAN UNIVERSITY	BLH5990	B	LIC	60.42	-3.55 dB	71874
WFUR-FM	MI	GRAND RAPIDS	275	50000	FURNITURE CITY BROADCASTING CORP.	BLH19890911KD	B	LIC	79.29	5.18 dB	22918
NEW	MI	PAW PAW	273	19	EDGEWATER BROADCASTING INC.	BNPFT20030317FPE	D	APP	36.56	6.72 dB	148903
NEW	MI	ALLEGAN	273	10	EDGEWATER BROADCASTING INC.	BNPFT20030317FJC	D	APP	36.43	6.83 dB	148889
NEW	MI	BENTON HARBOR	273	55	FRIENDS OF CHRISTIAN RADIO, INC.	BNPFT20030314AME	D	APP	31.36	8.65 dB	145269
NEW	MI	HOLLAND	273	38	EDGEWATER BROADCASTING INC.	BNPFT20030317FND	D	APP	47.69	14.68 dB	148897
NEW	MI	VICKSBURG	273	38	EDGEWATER BROADCASTING INC.	BNPFT20030317FSW	D	APP	67.41	18.75 dB	148908
NEW	MI	GRAND RAPIDS	273	80	EDGEWATER BROADCASTING INC.	BNPFT20030317FMM	D	APP	73.86	19.06 dB	148895
NEW	MI	HOLLAND	273	10	CALVARY CHAPEL OF TWIN FALLS, INC.	BNPFT20030310BBR	D	APP	55.12	19.78 dB	138660
NEW	MI	KALAMAZOO	273	13	EDGEWATER BROADCASTING INC.	BNPFT20030317FNW	D	APP	61.09	19.67 dB	148901
NEW	MI	GRAND HAVEN	273	27	EDGEWATER BROADCASTING INC.	BNPFT20030317FMJ	D	APP	75.82	20.61 dB	148894
WVAZ	IL	OAK PARK	274	4000	AMFM RADIO LICENSES, L.L.C.	BXPH20010427AAE	B	CP	124.19	23.40 dB	6588
WTMX	IL	SKOKIE	270	4200	BONNEVILLE HOLDING COMPANY	BLH20020722ABF	B	LIC	126.1	23.07 dB	6377
NEW	MI	CASCADE TOWNSH-	273	10	MICHIGAN COMMUNITY RADIO	BNPFT20030317MVV	D	APP	85.96	23.04 dB	158602
WVAZ	IL	OAK PARK	274	6000	AMFM RADIO LICENSES, L.L.C.	BLH5595	B	LIC	124.19	23.62 dB	6588
WWLV	IN	NEW CARLISLE	272	2000	ARTISTIC MEDIA PARTNERS, INC.	BLH19890810KB	A	LIC	72.85	24.38 dB	63772
WVAZ	IL	OAK PARK	274	35000	AMFM RADIO LICENSES, L.L.C.	BXLH20001113AAF	B	LIC	130.79	26.15 dB	6588
WVAZ	IL	OAK PARK	274	35000	AMFM RADIO LICENSES, L.L.C.	BXPH20030605AEB	B	APP	130.79	26.15 dB	6588
WLZR	WI	MILWAUKEE	275	50000	LAKEFRONT COMMUNICATIONS, INC	BLH19890921KA	B	LIC	159.34	27.99 dB	36372
WLZR	WI	MILWAUKEE	275	50000	LAKEFRONT COMMUNICATIONS, INC	BPH19990624IC	B	CP	159.34	28.06 dB	36372
WHME	IN	SOUTH BEND	276	3000	LESEA BROADCASTING CORPORATION	BLH19831005AD	A	LIC	85.74	29.35 dB	37149
WMUK	MI	KALAMAZOO	271	0	WESTERN MICHIGAN UNIVERSITY		B	USE	60.42	32.29 dB	71874
WIOG	MI	BAY CITY	273	86000	CITADEL BROADCASTING COMPANY	BLH19850207KK	B	LIC	232.19	34.35 dB	22675
WLUM-FM	WI	MILWAUKEE	271	20000	MILWAUKEE RADIO ALLIANCE, LLC	BLH19900523KA	B	LIC	156.59	35.09 dB	63595
NEW	MI	BATTLE CREEK	274	38	CSN INTERNATIONAL	BNPFT20030317KIR	D	APP	83.2	36.37 dB	157034
WWWV	MI	ANN ARBOR	275	49000	CAPSTAR TX LIMITED PARTNERSHIP	BLH19871110KA	B	LIC	202.91	36.66 dB	41080
WIOG	MI	BAY CITY	273	34000	CITADEL BROADCASTING COMPANY	BLH19941104KC	B	LIC	232.19	38.83 dB	22675
WLEG	IN	LIGONIER	274	2000	PATHFINDER COMMUNICATIONS CORPORATION	BLH20011129ABR	A	LIC	109.83	38.06 dB	63773
WVIV-FM	IL	HIGHLAND PARK	276	3400	BIG CITY RADIO-CHI, L.L.C.	BPH20030204ABU	A	APP	125.34	39.87 dB	74177

COVERT QUADRANGLE
MICHIGAN-VAN BUREN CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

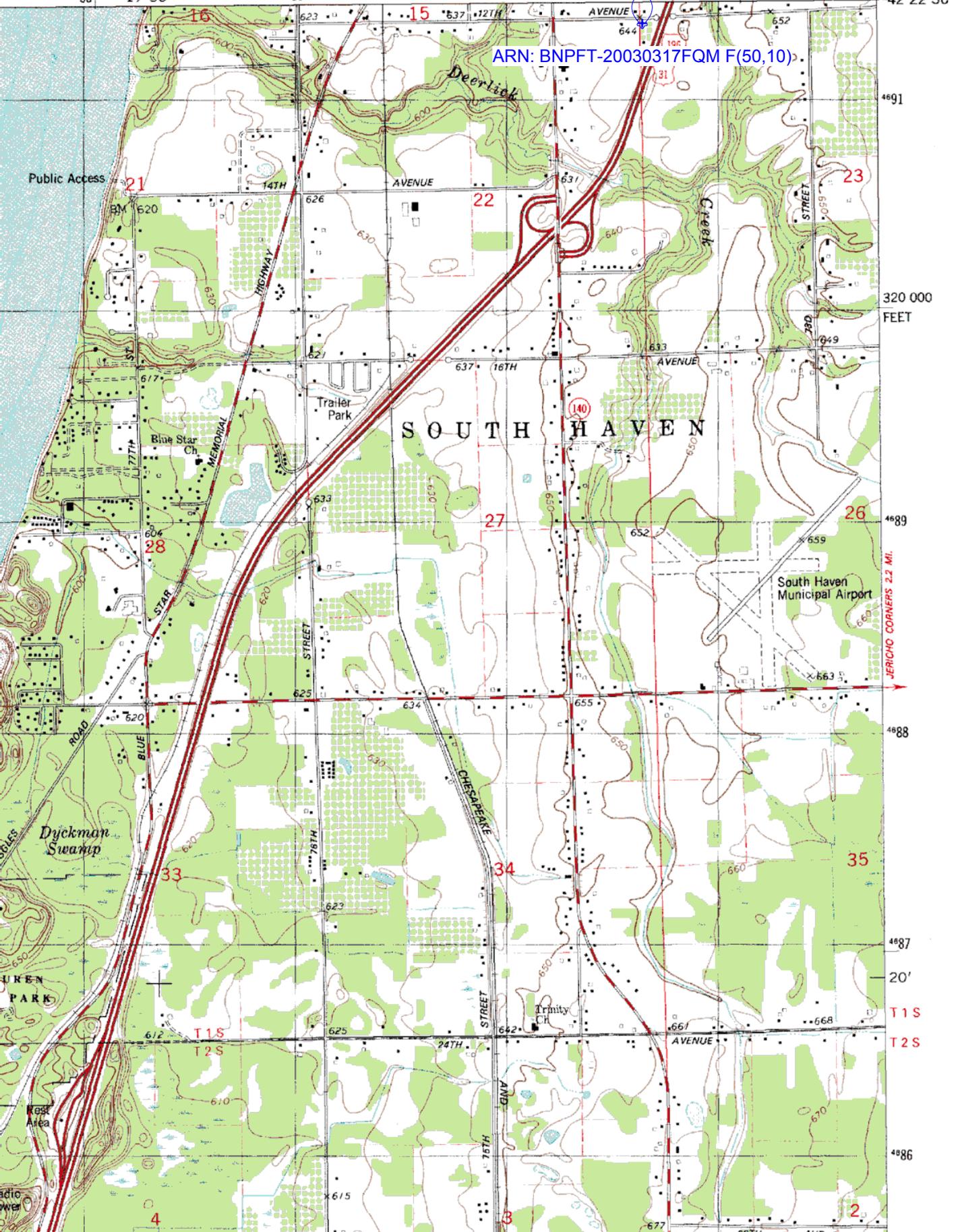
3788 1 NW
(LACOTA)

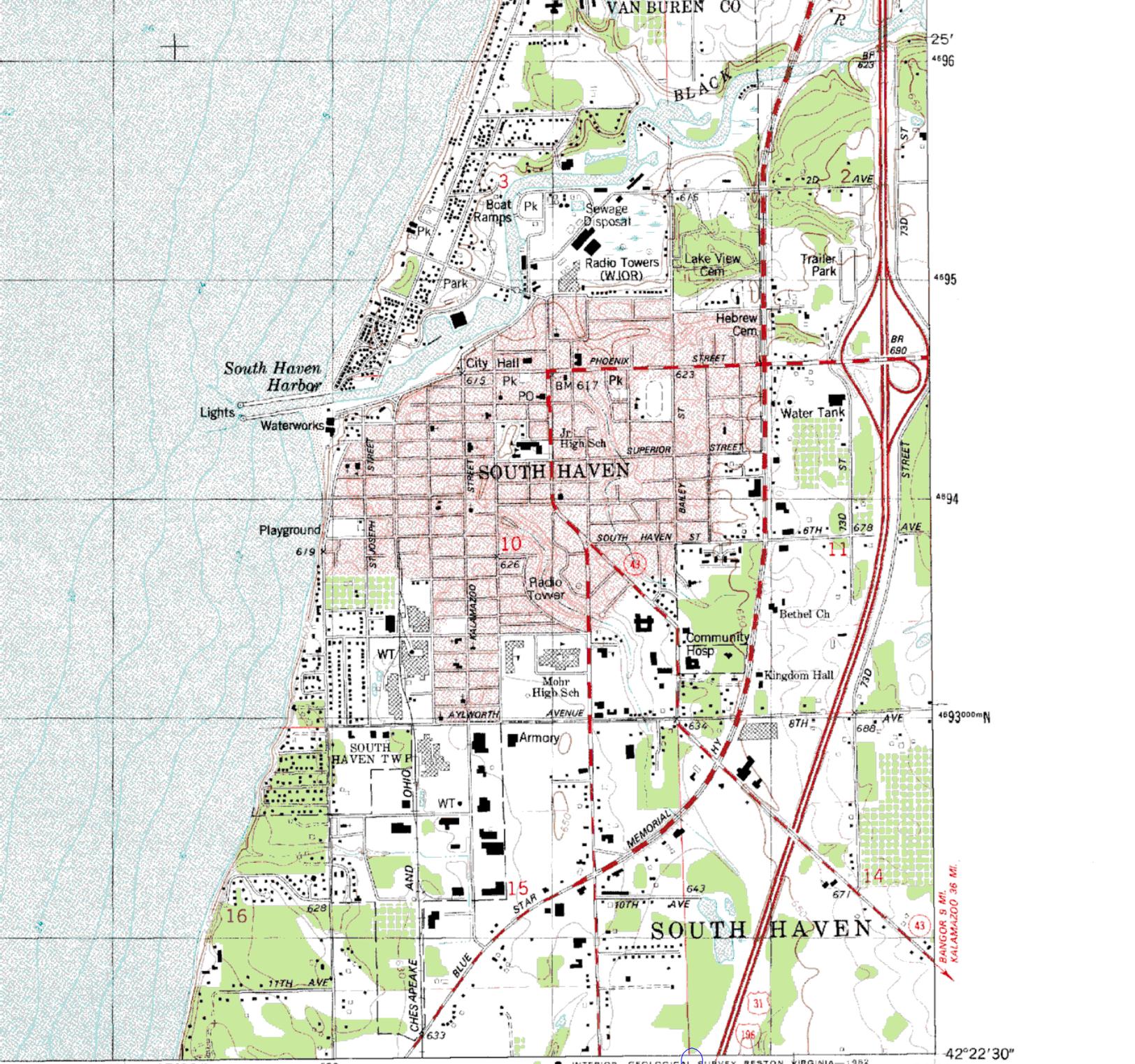
SE/4 SOUTH HAVEN 15' QUADRANGLE

58 | 17'30" | 59 | R 17 W | 60 | HOLLAND 29 MI. | 61 | 1 480 000 FEET | 86°15' | 42°22'30"

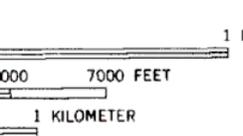
SOUTH HAVEN 2.1 MI.

ARN: BNPFT-20030317FQM F(50,10)





58 17'30" 59 560000mE R 17 W 0.8 MI. TO MICH. 140 19 MI. TO INTERSTATE 94 42°22'30" 86°15'



ARN: BNPFT-20030317FQM F(50,10);

- ROAD CLASSIFICATION
- Primary highway, hard surface ————
 - Secondary highway, hard surface ————
 - Light-duty road, hard or improved surface ————
 - Unimproved road ————
 - Interstate Route (red circle with number)
 - U. S. Route (red square with number)
 - State Route (red circle with number)

SOUTH HAVEN, MICH.
NE/4 SOUTH HAVEN 15' QUADRANGLE
N4222.5-W8615/7.5

1981

DMA 3768 IV NE-SERIES V882

