Appendix

Exhibit A: Excerpt of Indiana Statute, IC 8-21-10-3, Regulation of Tall Structures

IC 8-21-10-3

Sec. 3. (a) Unless a permit has been issued by the department, a person may not erect, alter, or add to the height of any structure which falls within any one (1) of the following categories:

(1) Any construction or alteration of more than two hundred (200) feet above ground level at its site.

(2) Any construction or alteration of greater height than an imaginary surface extending outward and upward at one (1) of the following slopes:

(A) One hundred (100) to one (1) for a horizontal distance of twenty thousand(20,000) feet from the nearest point of the nearest runway of any public-use airport with at least one (1) runway more than three thousand two hundred (3,200) feet in actual length, excluding heliports.

(B) Fifty (50) to one (1) for a horizontal distance of ten thousand (10,000) feet from the nearest point of the nearest runway of any public-use airport with its longest runway no more than three thousand two hundred (3,200) feet in actual length, excluding heliports.

(C) Twenty-five (25) to one (1) for a horizontal distance of five thousand (5,000) feet from the nearest point of the nearest landing and takeoff area of any public-use heliport.

(3) Any construction or alteration of traverse ways used, or to be used, for the passage of mobile objects if the standards set forth under subdivisions (1) and (2) would be exceeded, but only after the heights of these traverse ways are increased by:

(A) Seventeen (17) feet for an interstate highway where overcrossings are designed for a minimum of seventeen (17) feet vertical distance.

(B) Fifteen (15) feet for any other public roadway.

(C) Ten (10) feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road.

(D) Twenty-three (23) feet for a railroad.

(E) For a waterway or any other traversed way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it.

(b) Unless a permit has been issued by the department, a person may not erect a residential building or other building designed for noise sensitive uses within an area lying one thousand five hundred (1,500) feet on either side of the extended centerline of a runway for a distance of one (1) nautical mile from the boundaries of any public-use airport.

As added by P.L.117-1983, SEC.1.

Exhibit B: Excerpt of Federal Aviation Administration Circular AC 70/7460-1K

Chapter 2, Paragraph 20. STRUCTURES TO BE MARKED AND LIGHTED

"Any temporary or permanent structure, including all appurtenances, that exceeds an overall height of 200 feet (61m) above ground level (AGL) or exceeds any obstruction standard contained in 14 CFR part 77, should normally be marked and/or lighted."

Exhibit C: §97.15: Station antenna structures -- Federal Communications Commission Part 97, Amateur Radio Service, Regarding Permitted Antenna Heights

§97.15 Station antenna structures.

(a) Owners of certain antenna structures more than 60.96 meters (200 feet) above ground level at the site or located near or at a public use airport must notify the Federal Aviation Administration and register with the Commission as required by Part 17 of this chapter.

(b) Except as otherwise provided herein, a station antenna structure may be erected at heights and dimensions sufficient to accommodate amateur service communications. [State and local regulation of a station antenna structure must not preclude amateur service communications. Rather, it must reasonably accommodate such communications and must constitute the minimum practicable regulation to accomplish the state or local authority's legitimate purpose. See PRB-1, 101 FCC 2d 952 (1985) for details.]

Exhibit D, FCC Part 97.3(a)

§97.3 Definitions.

(a) The definitions of terms used in Part 97 are:

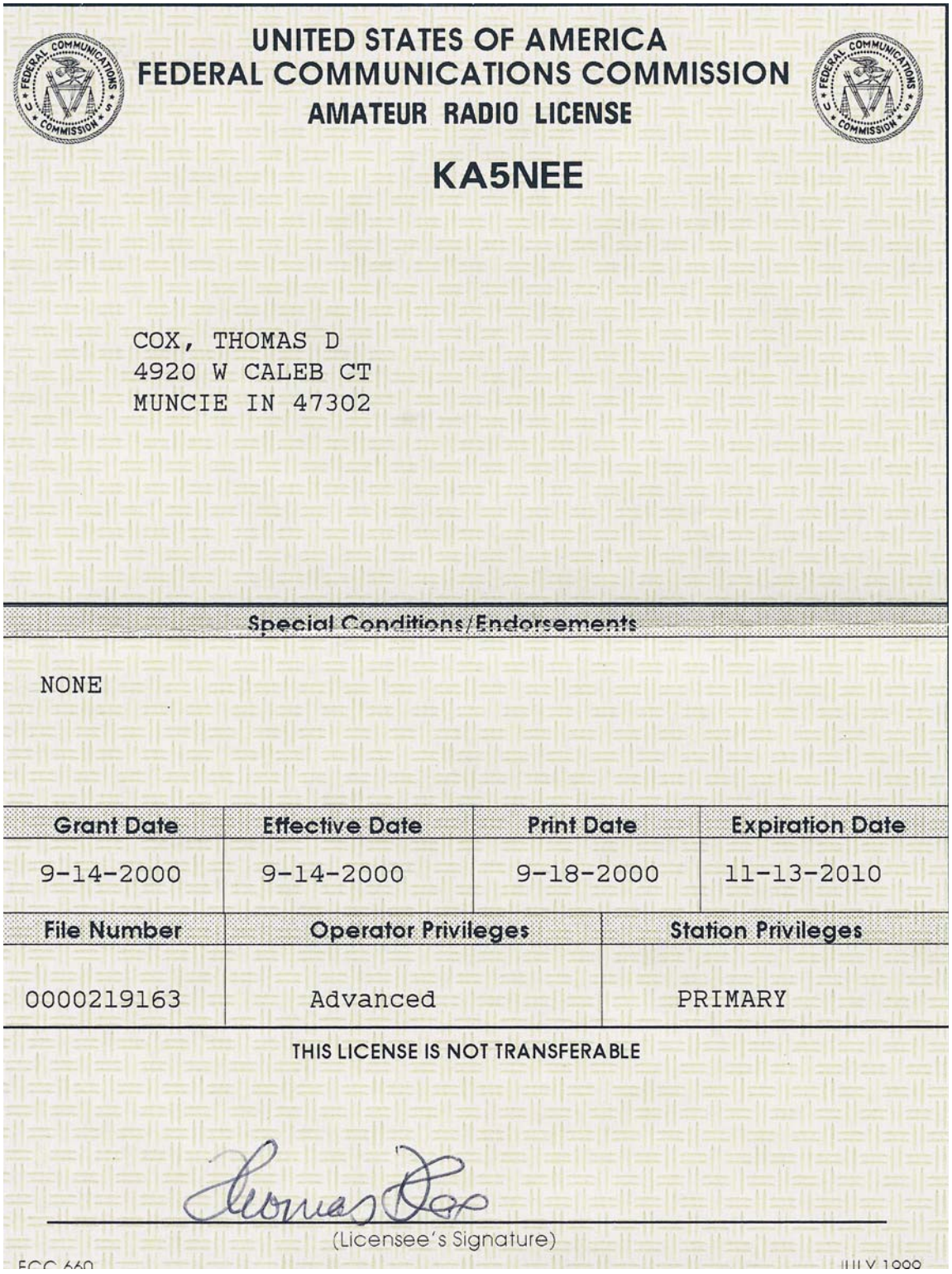
(1) Amateur operator. A person holding a written authorization to be the control operator of an amateur station.

(2) Amateur radio services. The amateur service, the amateur-satellite service and the radio amateur civil emergency service.

(3) Amateur-satellite service. A radiocommunication service using stations on Earth satellites for the same purpose as those of the amateur service.

(4) Amateur service. A radiocommunication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest.

Exhibit E: Applicant's Federal Communications Commission Amateur Radio License



UNITED STATES OF AMERICA
FEDERAL COMMUNICATIONS COMMISSION
AMATEUR RADIO LICENSE

KA5NEE

COX, THOMAS D
4920 W CALEB CT
MUNCIE IN 47302

Special Conditions/Endorsements

NONE

Grant Date	Effective Date	Print Date	Expiration Date
9-14-2000	9-14-2000	9-18-2000	11-13-2010

File Number	Operator Privileges	Station Privileges
0000219163	Advanced	PRIMARY

THIS LICENSE IS NOT TRANSFERABLE

Thomas Cox
(Licensee's Signature)

FCC 660 JULY 1999

Exhibit F: Public Law 103-408 -- Joint Resolution of Congress to Recognize the Achievements of Radio Amateurs as Public Policy

PUBLIC LAW 103-408—OCT. 22, 1994
Public Law 103-408
103d Congress
Joint Resolution

To recognize the achievements of radio amateurs, and to establish support for such amateurs as national policy.
Whereas Congress has expressed its determination in section 1 of the Communications Act of 1934 (47 U.S.C. 151) to promote safety of life and property through the use of radio communication;

Whereas Congress, in section 7 of the Communications Act of 1934 (47 U.S.C. 157), established a policy to encourage the provision of new technologies and services;

Whereas Congress, in section 3 of the Communications Act of 1934, defined radio stations to include amateur stations operated by persons interested in radio technique without pecuniary interest;

Whereas the Federal Communications Commission has created an effective regulatory framework through which the amateur radio service has been able to achieve the goals of the service;

Whereas these regulations, set forth in Part 97 of title 47 of the Code of Federal Regulations clarify and extend the purposes of the amateur radio service as a—

(1) voluntary noncommercial communication service, particularly with respect to providing emergency communications;
(2) contributing service to the advancement of the telecommunications infrastructure;
(3) service which encourages improvement of an individual's technical and operating skills;
(4) service providing a national reservoir of trained operators, technicians and electronics experts; and
(5) service enhancing international good will;

Whereas Congress finds that members of the amateur radio service community has provided invaluable emergency communications services following such disasters as Hurricanes Hugo, Andrew, and Iniki, the Mt. St. Helens Eruption, the Loma Prieta earthquake, tornadoes, floods, wild fires, and industrial accidents in great number and variety across the Nation; and

Whereas Congress finds that the amateur radio service has made a contribution to our Nation's communications by its crafting, in 1961, of the first Earth satellite licensed by the Federal Communications Commission, by its proof-of-concept for search rescue satellites, by its

continued exploration of the low Earth orbit in particular pointing the way to commercial use thereof in the 1990s, by its pioneering of communications using reflections from meteor trails, a technique now used for certain government and commercial communications, and by its leading role in development of low-cost, practical data transmission by radio which increasingly is being put to extensive use in, for instance, the land mobile service: Now, therefore, be it *Resolved by the Senate and House of Representatives of the United States of America in Congress assembled,*

SECTION 1. FINDINGS AND DECLARATIONS OF CONGRESS

Congress finds and declares that—

(1) radio amateurs are hereby commended for their contributions to technical progress in electronics, and for their emergency radio communications in times of disaster;

(2) the Federal Communications Commission is urged to continue and enhance the development of the amateur radio service as a public benefit by adopting rules and regulations which encourage the use of new technologies within the amateur radio service; and

(3) reasonable accommodation should be made for the effective operation of amateur radio from residences, private vehicles and public areas, and that regulation at all levels of government should facilitate and encourage amateur radio operation as a public benefit.

Approved October 22, 1994.

Exhibit G: Executive Summary of White Paper, "Antenna Height and Communications Effectiveness," Straw and Hall

Antenna Height and Communications Effectiveness

By R. Dean Straw, N6BV, and Gerald L. Hall, K1TD

Senior Assistant Technical Editor and Retired Associate Technical Editor

Executive Summary

Amateur radio operators, or "hams" as they are called, communicate with stations located all over the world. Some contacts may be local in nature, while others may be literally halfway around the world. Hams use a variety of internationally allocated frequencies to accomplish their communications.

Except for local contacts, which are primarily made on Very High and Ultra High Frequencies (VHF and UHF), communicating between any two points on the earth rely primarily on high-frequency (HF) signals propagating through the ionosphere. The earth's ionosphere acts much like a mirror at heights of about 150 miles. The vertical angle of radiation of a signal launched from an antenna is one of the key factors determining effective communication distances. The ability to communicate over long distances generally requires a low radiation angle, meaning that an antenna must be placed high above the ground in terms of the wavelength of the radio wave being transmitted.

A beam type of antenna at a height of 70 feet or more will provide greatly superior performance over the same antenna at 35 feet, all other factors being equal. A height of 120 feet or even higher will provide even more advantages for long-distance communications. To a distant receiving station, a transmitting antenna at 120 feet will provide the effect of approximately 8 to 10 times more transmitting power than the same antenna at 35 feet.

Depending on the level of noise and interference, this performance disparity is often enough to mean the difference between making distant radio contact with fairly reliable signals, and being unable to make distant contact at all. Radio Amateurs have a well-deserved reputation for providing vital communications in emergency situations, such as in the aftermath of a severe icestorm, a hurricane or an earthquake.

Short-range communications at VHF or UHF frequencies also require sufficient antenna heights above the local terrain to ensure that the antenna has a clear horizon. In terms of safety and aesthetic considerations, it might seem intuitively reasonable for a planning board to want to restrict antenna installations to low heights. However, such height restrictions often prove very counterproductive and frustrating to all parties involved. If an amateur is restricted to low antenna heights, say 35 feet, he will suffer from poor transmission of his own signals as well as poor reception of distant signals. In an attempt to compensate on the transmitting side (he can't do anything about the poor reception problem), he might boost his transmitted power, say from

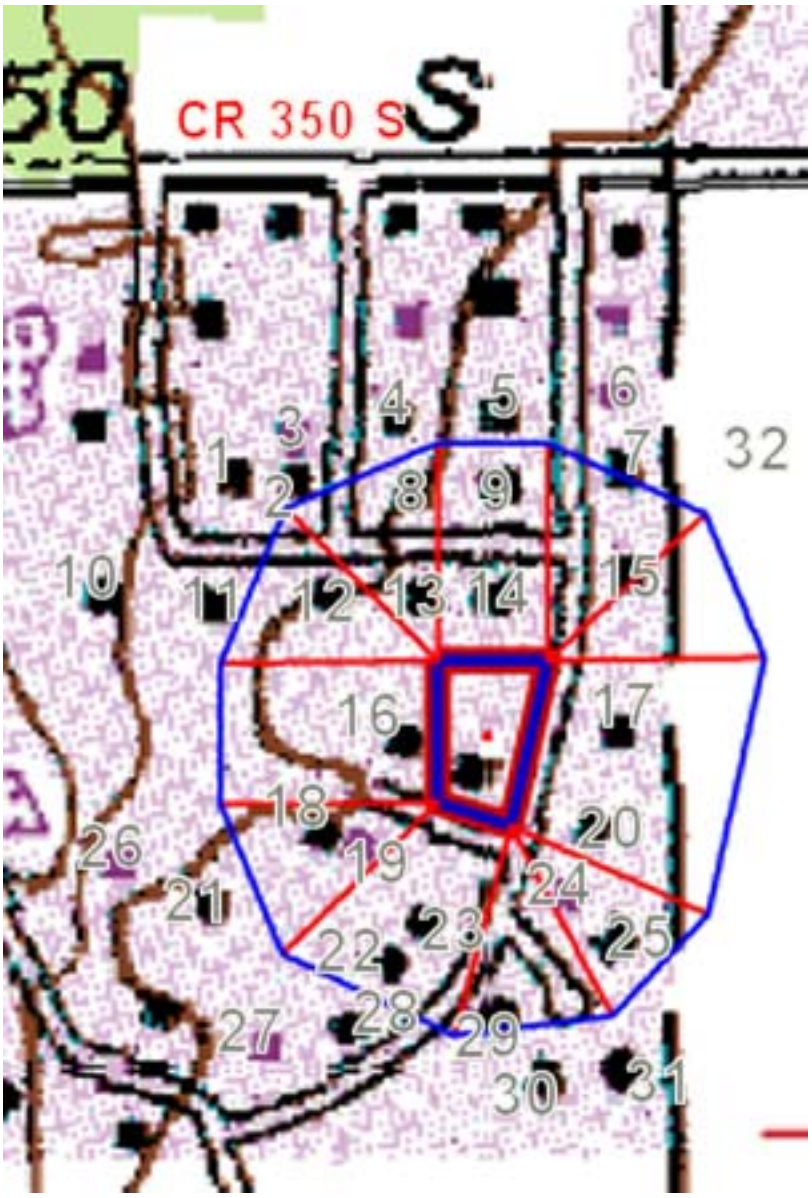
Exhibit G (Cont.): Executive Summary of White Paper, "Antenna Height and Communications Effectiveness," Straw and Hall

150 watts to 1,500 watts, the maximum legal limit. This ten-fold increase in power will very significantly increase the *potential* for interference to telephones, televisions, VCRs and audio equipment in his neighborhood.

Instead, if the antenna can be moved farther away from neighboring electronic devices— putting it higher, in other words—this will greatly reduce the likelihood of interference, which decreases at the inverse square of the distance. For example, doubling the distance reduces the potential for interference by 75%. As a further benefit, a large antenna doesn't look anywhere near as large at 120 feet as it does close-up at 35 feet.

As a not-so-inconsequential side benefit, moving an antenna higher will also greatly reduce the potential of exposure to electromagnetic fields for neighboring human and animals. Interference and RF exposure standards have been thoroughly covered in recently enacted Federal Regulations.

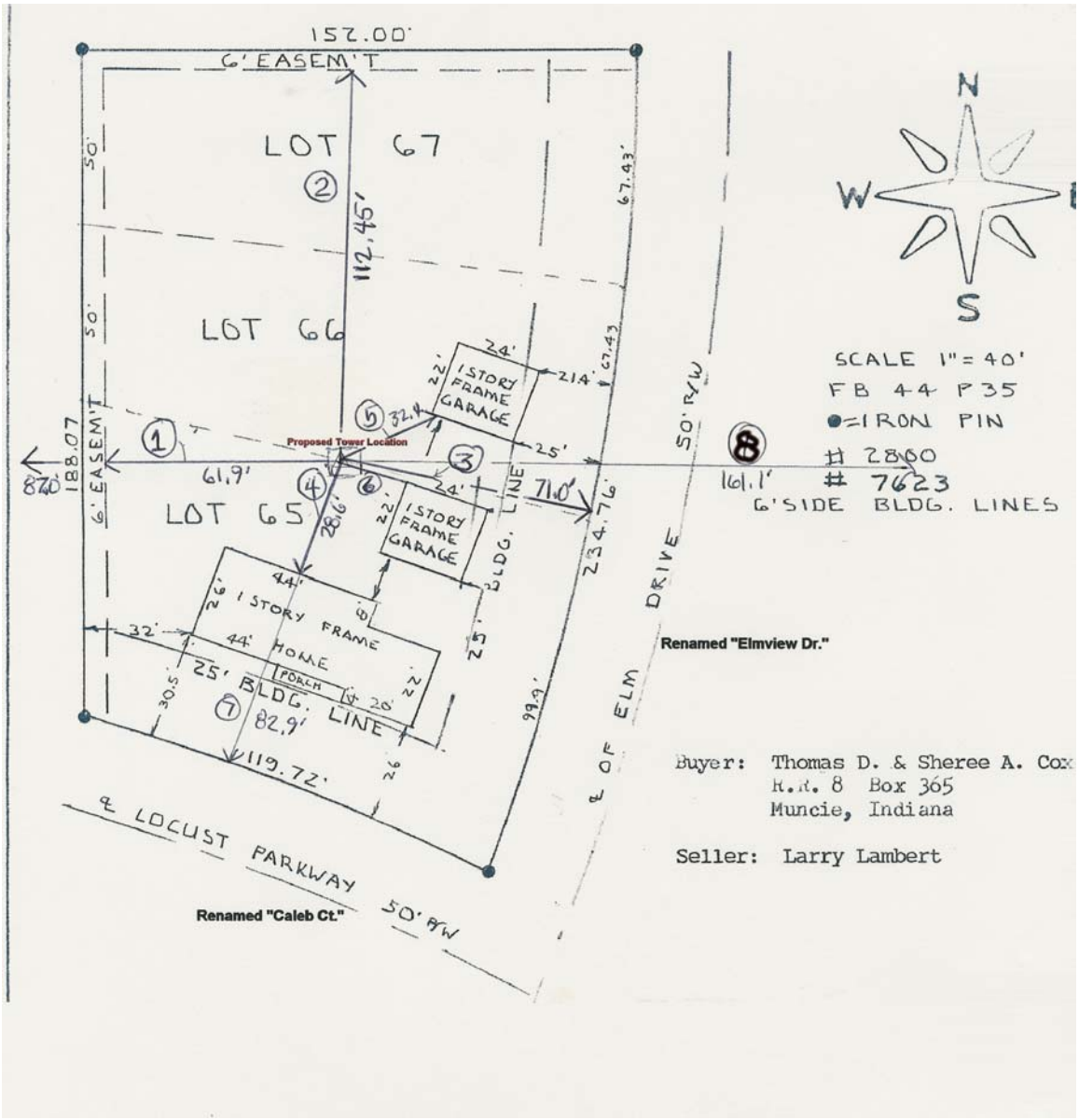
Exhibit H: Neighborhood Map with Proposed Tower Location; Shows 300 ft. Distance Surrounding Property Lines



1. Property outside affected area
2. Property outside affected area
3. Property outside affected area
4. SCHULTZ JANET S
5. Property outside affected area
6. DUKE STEVE A JR AND TRACY L
7. FOSTER CHARLES WILLIAM AND JUANITA
8. ICE MARY LOUISE
9. ROWLAND GEORGE A AND CAROL N
10. Property outside affected area
11. STEINHALL, BOBBIE L AND DEBRA J
12. CARTER PHILIP L AND LISA K
13. WOODIN ROBERT F AND STACEY R
14. WILLIAMS ROBERT D AND DANA D
15. STREIB MICHAEL D
16. HARPER DAVID L JR
17. KOOP CHARLES H & SHARON K REV TR &
18. OXLEY ORVILLE AND MARY WILLIAMS REX W AND CAROLYN S
19. FRASIER JAMES G AND JANE F
20. CLARY HOWARD M
21. WESTLAKE JOHN CLARK
22. TOMLISON GARY L AND TERESA D
23. KYTE CHARLES D
24. CLARK ROBERT E AND ELIZABETH J
25. Property outside affected area
26. Property outside affected area
27. TREGO EARL M REV TR
28. HUDSON JAY D AND PEGGY J
29. INGRAM LOYD C AND VERA M
30. STORY GLYSON WILBURN AND EVELYN M
31. NEAL JOHN
32. Not on map: BUNTIN WM DEAN AND NANCY E

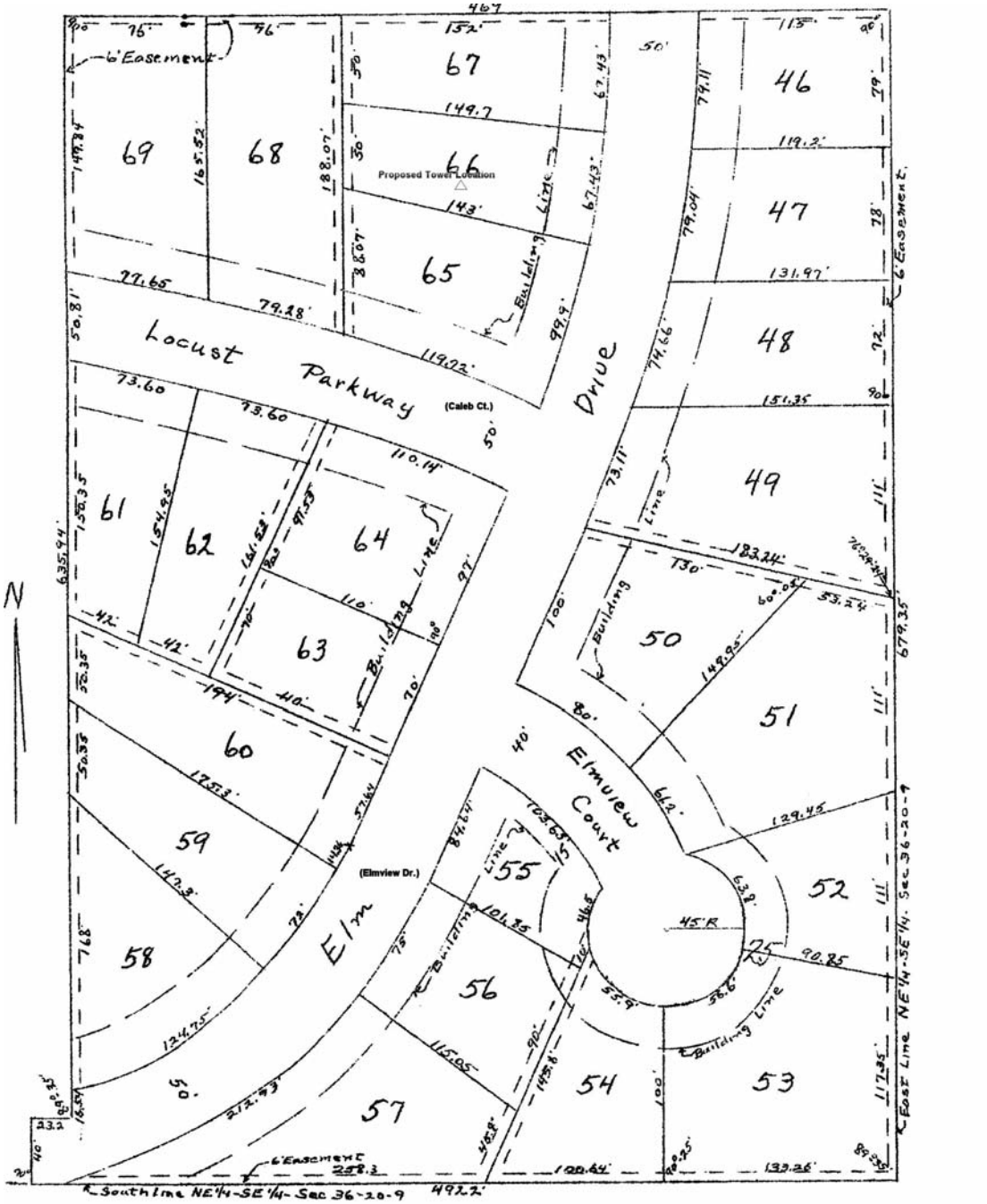
RED & BLUE BAND: Cox Property lines; **RED LINES**: 300 ft distances from property corners
BLUE LINES: connections between far ends of 300 ft. lines; **RED SPOT** near center of Cox property: proposed tower location

Exhibit I: Distances from Proposed Tower Location to Nearby Objects



1) To West Easement: 61. 9 ft.; To Harper residence on Lot 68: 87.0 ft.
2) To North Easement: 112.45 ft.
3) To East property line: 71.0 ft.
4) To Applicant's residence: 28.6 ft.
5) To older garage: 32.4 ft.
6) To newer garage: 20.9 ft.
7) To south property line: 82.9 ft.
8) To Koop residence on Lot 47: 161.1 ft.

Exhibit J: Plat Map, SOUTH Section



Plat Map from Abstract of Title for Applicant's Property (Lots 65, 66 & 67) – SOUTH section. Approximate proposed tower location marked with triangle in Lot 66.

Exhibit K: Plat Map, NORTH Section

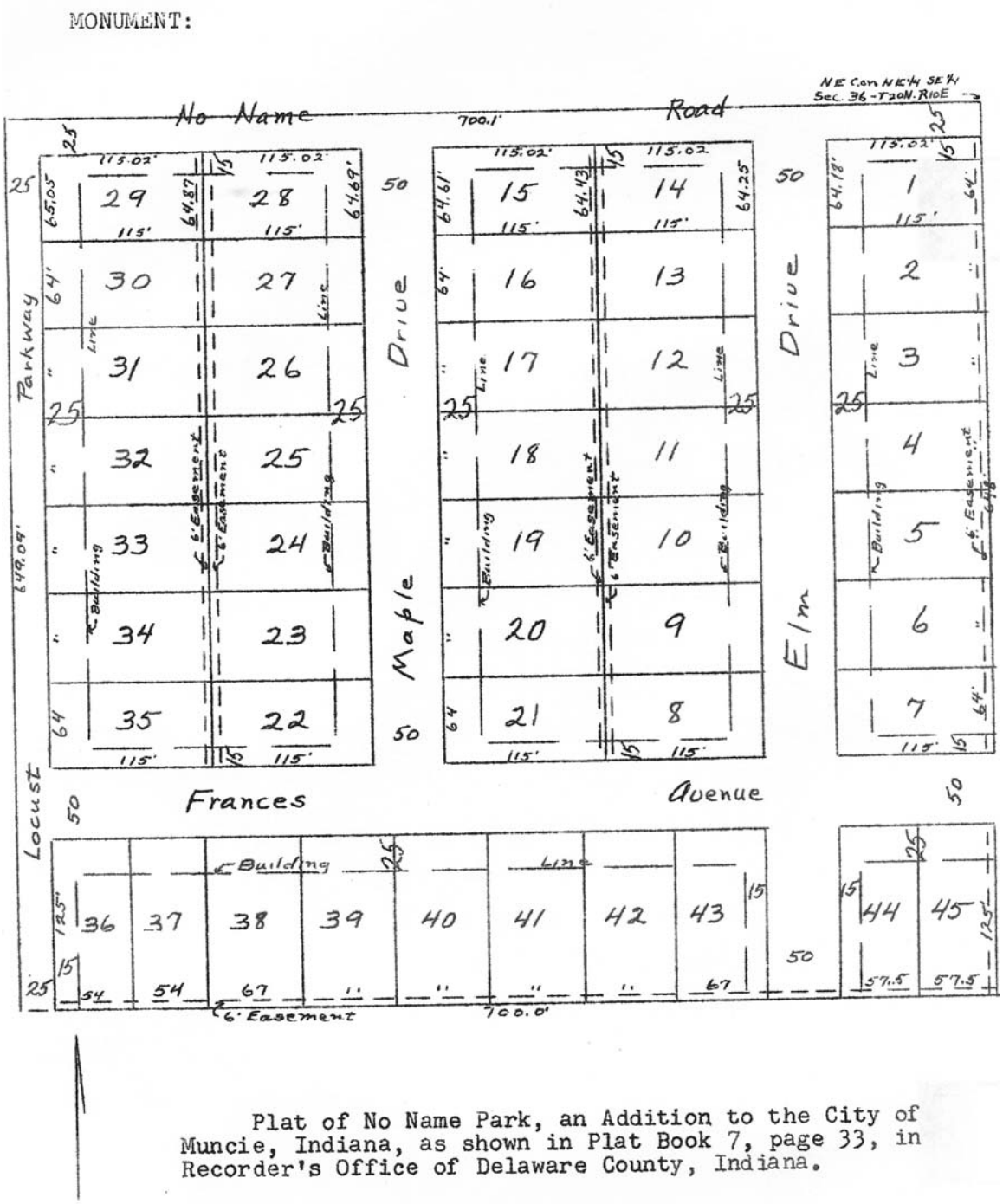


Exhibit L: Warranty Deed Copy for Applicant's Property

Warranty Deed

THIS INDENTURE WITNESSETH, *That* Larry D. Lambert

of Delaware ***County, in the State of*** Indiana **Convey and Warrant**
to

Sheree A. Cox and Thomas D. Cox, husband and wife

of Delaware ***County, in the State of*** Indiana ***, for and in consideration of the sum of***

One Dollar ($1.00) and other valuable considerations

the receipt whereof is hereby acknowledged, the following described **Real Estate** ***in*** Delaware ***County, in the State of Indiana, to-wit:***

Lots 65, 66 and 67 in No Name Park Extension, an Addition to the City of Muncie, as recorded in Plat Book 8, page 2, Records of Delaware County, Indiana.
Subject to the real estate taxes for the fall of 1990 due and payable in the Fall of 1991 and subsequent taxes which the grantee herein assumes and agrees to pay thereafter.

Unit Tax No. 18-159 18-1631

Sidwell #10-36-431-013
#10-36-431-012
#10-36-431-011

Mail Taxes To: R.R. 8, Box 365, Muncie, Indiana 47302.

In Witness Whereof, **The said** Larry D. Lambert

ha hereunto set hand and seal , this day of 19

Exhibit L (Cont.): Warranty Deed Copy for Applicant's Property

the receipt whereof is hereby acknowledged, the following described **Real Estate** *in* Delaware ***County,*** *in the State of Indiana, to-wit:*

Lots 65, 66 and 67 in No Name Park Extension, an Addition to the City of Muncie, as recorded in Plat Book 8, page 2, Records of Delaware County, Indiana.
Subject to the real estate taxes for the fall of 1990 due and payable in the Fall of 1991 and subsequent taxes which the grantee herein assumes and agrees to pay thereafter.

Unit Tax No. 18-159 18-1631

Sidwell #10-36-431-013
#10-36-431-012
#10-36-431-011

Mail Taxes To: R.R. 8, Box 365, Muncie, Indiana 47302.

In Witness Whereof, **The said** Larry D. Lambert

ha hereunto set hand and seal , this day of 19

_____ (Seal) _____ (Seal)
Larry D. Lambert
_____ (Seal) _____ (Seal)

_____ _____ (Seal) _____ (Seal)

STATE OF INDIANA, DELAWARE **COUNTY, ss:**

Before me, the undersigned, a Notary Public in and for said County, this day of 19 , came

Larry D. Lambert

, and acknowledged the execution of the foregoing instrument.

Witness my hand and official seal.

My Commission expires..... **.....Notary Public**

This instrument prepared by: David Guy Williams
Attorney at Law

Resident of.....County

Exhibit M: Covenants and Restrictions for Applicant's Property

(Page 1 of 3)

Plat Book 8, Page 2

No Name Park Extension, an
Addition to the City of Muncie, .
Indiana

The undersigned hereby certifies that the annexed Plat is a true and correct plat of No Name Park Extension, an Addition to the City of Muncie) Indiana, and correctly represents the amount, location and dimensions of the Real Estate contained in said Addition and the lots therein designated. The Real Estate included in said Addition is described as follows:

A part of the northeast quarter of the southeast quarter, Section 36, Township/19, north, Range 9 east, more particularly described as follows, towit: Beginning at the southeast corner of the northeast quarter of the southeast quarter Section 36, Township 19 north, Range 9 east) running thence West on the south line of the said northeast quarter of the southeast quarter four hundred ninety two and two tenths (492.2) feet; thence north and at right angles to the last described line forty (40) feet: thence east parallel with the said south line of the said north-east quarter southeast quarter twenty three and two tenths (23.2) feet; thence north parallel with the east line of the said north-east quarter of the southeast quarter six hundred thirty-five and ninety four hundredths (635.94) feet to the south line of No Name Park, an Addition to the City of Muncie, Indiana, as said Addition is laid out and platted and shown in Plat Book 7, Page 33 of the Record of plats of Delaware County, Indiana; thence east on the said south line 0£ No Name Park four hundred sixty-nine {469) feet to the east line of the said northeast quarter of the said southeast quarter; thence south on the said east line of the said northeast quarter of the southeast quarter six hundred seventy nine and thirty-five hundredths (679.35)feet to the point of beginning, estimated to contain 7.135 acres, more or less.

The lot dimensions and numbers are indicated on the Plat.

The Streets are hereby dedicated to Public Use.

RESTRICTIONS

1. LAND USE AND BUILDING TYPE. No lot shall be used except for residential purposes. No building shall be erected, altered, placed, or permitted to remain on any lot other than one detached single family dwelling not to exceed one and one-half stories in height and a private garage for not more than two cars.
2. DWELLING COST, QUALITY AND SIZE. No dwelling shall be permitted on any lot at a cost less than $5000.00. Based upon cost levels

Exhibit M: Covenants and Restrictions from Abstract of Title for Applicant's Property (Page 2 of 3)

prevailing on the date these covenants are recorded. It being the intention and purpose of this covenant to assure that all dwel1ings

shall be of a quality of workmanship and materials substantially the same or better than that which can be produced on the date these covenants are recorded at the minimum cost stated herein for the minimum permitted dwelling size. The ground floor area of the main structure. Exclusive of one story open porches and garages, shall be not less than eight hundred sixty-four (864) square feet.

3. BUILDING LOCATION. No building or structure shall be erected or located on any lot or part thereof so as to extend closer to the streets shown on the plat than the building line across such lot or part thereof indicated by a dashed line on said plat, or nearer to the

(100) Continued

side property line than six (6) feet, except where one person owns more than one lot, in which case the tract owned may be considered as one lot for the purposes of these restrictions. For the purpose of these restrictions eaves, steps and open porches shall not be considered us a part of the dwelling, provided, however, that this shall not be construed to permit any portion of the building to encroach upon another lot.

4. EASEMENTS. Easements for installment and maintenance of public utilities and drainage facilities are reserved in such location as shown on the Plat.

5. NUISANCES. No noxious or offensive activity shall be carried on upon any lot nor shall anything be done thereon which is or may become an annoyance or nuisance to the neighborhood; nor shall intoxicating liquors be manufactured or offered for sale on said lots or parts thereof.

6. SIGNS. No billboard, outdoor advertising) display or other advertising devices of any kind shall be erected or used on any lot or part thereof.

7. TEMPORARY STRUCTURES. No structure of a temporary character, trailer; basement, tent, shack) garage, barn or other outbuilding shall be used on any lot at any time as a residence either temporarily or permanently.

8. MOVABLE STRUCTURES. No structure, dwelling, garage or accessory building shall be moved upon any lot for permanent use. All buildings must be new.

9. FENCES. No fence shall be erected on any lot nearer lot line or nearer to the side street line than the minimum building set back line as shown on the recorded Plat.

10. WATER SUPPLY. No individual water supply system shall be permitted on any lot unless such system is located, constructed and equipped in accordance with the standards and requirements issued by the Indiana State Board of Health. Approval of such system shall be obtained from the health authority having jurisdiction.

11. SEWAGE DISPOSAL. No individual sewage disposal system shall be permitted on any lot unless such system is located, constructed and equipped in accordance with the standards and requirements issued by the Indiana State Board of Health) approval of such system shall

Exhibit M: Covenants and Restrictions from Abstract of Title for Applicant's Property (Page 3 of 3)

be obtained from the health authority having jurisdiction.
12. LIVESTOCK AND POULTRY. No livestock or poultry of any kind shall be raised, bred or kept on any lot except that dogs, cats or other household pets may be kept provided they are not kept, bred or maintained for any commercial purpose.
13. TERM. These covenants are to run with the land and shall be binding-on all parties and all persons claiming under them for a period of twenty-five (25) years from the date these covenants are recorded. After which time said covenants shall be automatically extended for successive periods of ten (10) years unless an instrument signed by a majority of the then owners of the lots has been recorded, agreeing to change said covenants in whole or in part.
14 ENFORCEMENT. Enforcement shall be by proceeding at law or in equity against any person or persons violating or attempting to violate any of the restrictions herein, either to resist violation or recover damages.

Exhibit N: ARRL/CEMA Pamphlet: "What to Do if You Have and Electronic Interference Problem

What To Do If You Have An Electronic Interference Problem

This is a self-help guide for the consumer published jointly by the American Radio Relay League (ARRL), an organization representing Amateur Radio operators, and the Consumer Electronics Manufacturers Association (CEMA).

Introduction

As our lives become filled with more technology, the likelihood of unwanted electronic interference increases. Every lamp dimmer, hair dryer, garage-door opener, radio transmitter, microprocessor-controlled appliance or remote-controlled new technical "toy" contributes to the electrical noise around us. Many of these devices also "listen" to that growing noise and may react unpredictably to their electronic neighbors.

Interference: What Is It?

Complex electronic circuitry is found in many devices used in the home. This creates a vast interference potential that didn't exist in earlier, simpler decades. Your own consumer electronics equipment can be a source of interference, or can be susceptible to interference from a nearby noise source. Interference can also result from the operation of nearby amateur, citizens band, police, broadcast or television transmitters.

The term "interference" should be defined without emotion. To some people, it implies action and intent. The statement, "You are interfering with my television" sounds like an outright accusation. It is better to define interference as any unwanted interaction between electronic systems -period! No fault. No blame. It's just a condition.

Personalities

You can't overestimate the importance of personal diplomacy when you're trying to solve a problem that involves two or more people! The way you react and behave when you first discuss the problem with other individuals, such as a neighbor, utility or cable company, or manufacturer, can set the tone for everything that follows. Everyone who is involved in an interference problem should remember that the best solutions are built on cooperation and trust. This is a view shared by electronic equipment manufacturers, the Federal Communications Commission (FCC) and the American Radio Relay League (ARRL).

Responsibilities

No amount of wishful thinking (or demands for the "other guy" to solve the problem) will result in a cure for interference. Each individual has a unique perspective on the situation --and a different degree of understanding of the technical and personal issues involved. On the other hand, each person may have certain responsibilities toward the other and should be

prepared to address those responsibilities fairly.

Any individual who operates a radio transmitter, either commercial or private, is responsible for the proper operation of the radio station. All radio transmitters or sources are regulated by the FCC. The station should be properly designed and installed. It should have a good ground and use a low-pass filter, if needed. If consumer electronics equipment at the station is not suffering the effects of interference, you can be almost certain that the problem does not involve the radio station or its operation. However, if the interference is caused by a problem at the station, the operator must eliminate the problem there.

Manufacturers of consumer electronics equipment are competing in a difficult marketplace. To stay competitive, most of them place a high priority on service and customer satisfaction. For example, many manufacturers have service information that can be sent to a qualified service dealer. Most manufacturers are willing to assist you in resolving interference problems that involve their products. Over recent years, manufacturers have built up a good track record designing equipment that functions well in most electrically noisy environments.

The FCC will do what it can to help consumers and radio operators resolve their interference problems. They expect everyone involved to cooperate fully. Experience has taught them that solutions imposed from the outside are not usually the best solutions to local problems. Instead, they provide regulatory supervision of radio operators and manufacturers. To help consumers, basic information concerning interference solutions is now available on the Internet through the FCC Compliance and Information Bureau Home Page. This basic information includes the CIB Interference Handbook and the CIB Telephone Interference Bulletin. The CIB Interference Handbook includes a list of equipment manufacturers who provide specific assistance with interference problems. The list also is available through the Commission's Fax on Demand at (202) 418-2830. Callers should request document number 6904.

Finally, the consumer has responsibilities, too. You must cooperate with the manufacturer, the radio operator, and, if necessary, the FCC as they try to determine the cause of the problem. They need your help to find a solution.

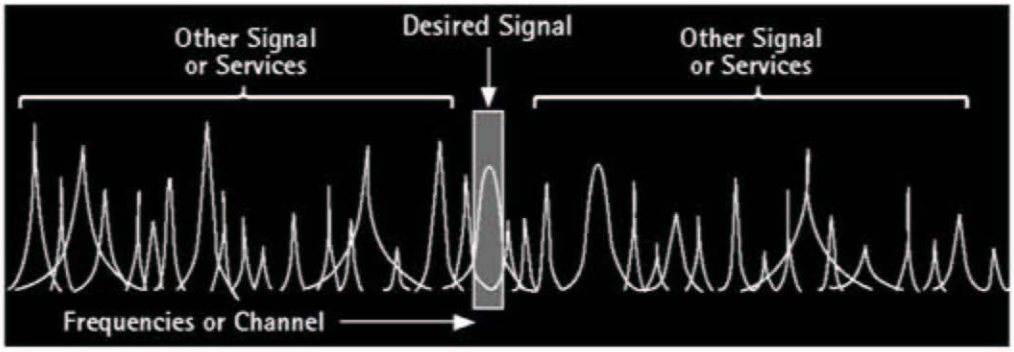
What Causes Interference?

Interference occurs when undesired radio signals or electromagnetic "noise" sources are picked up by consumer electronics products -most often telephones, audio equipment, VCRs or TVs. It usually results in noise, unwanted voices or distorted TV pictures. In most cases, the source is nearby.

There are three common types of interference:

(1.) Noise: Interference can be caused by an electromagnetic noise source. Defective neon signs, bug zappers, thermostats, electrical appliances, switches or computer systems are just a few of the possible sources of this type of interference. Both you and your neighbors may be

suffering from its effects. In some cases, the noise may be the result of a dangerous arc in electrical wiring or equipment and may provide warning of an unsafe condition that should be immediately located and corrected.



(2.) Overload: Even if a nearby radio signal is being transmitted on its assigned frequency, if it is strong your equipment may be unable to reject it. Your telephone, radio, stereo or TV should be able to separate the desired signal or sound from a large number of radio signals and electrical noises. This is shown in Figure 1. Consumer electronics equipment manufacturers have worked in cooperation with government regulators to set and meet voluntary standards of interference immunity. Modern equipment usually includes enough filtering and shielding to ensure proper performance under average conditions. Older equipment may not meet these standards, however, and even modern equipment can be affected if the interfering signal is particularly strong. In these cases, your equipment is working as designed, but it may need some additional filtering or shielding to function properly.

(3.) Spurious emissions: A nearby radio transmitter could be inadvertently transmitting weak signals on a frequency not assigned to that transmitter. These signals are called "spurious emissions." FCC regulations concerning spurious emissions are very clear. If interference is caused by spurious emissions, the operator of the transmitter must take whatever steps are necessary to reduce the spurious emissions as required by FCC regulations. Fortunately, modern transmitting equipment is manufactured to meet stringent regulations, and many radio operators are examined and licensed by the government. These federally licensed operators often have the technical skill to resolve interference problems that originate from their radio stations.

With all of these possibilities, it is difficult to guess which type of problem is causing your interference. Usually, only a technical investigation can pinpoint the cause and suggest a solution. This is where a spirit of cooperation and trust will pay off! If you believe your equipment is picking up signals from a nearby radio transmitter, the operator may be able to help you both find a solution to a mutual problem.

How to Find Help

Most consumers do not have the technical knowledge to resolve an interference problem. Even so, it's a comfort to know that help is available. Gather information about interference. The FCC and ARRL have self-help information packages or books. If the problem involves an electrical-power, telephone or cable-television system, contact the appropriate utility company. They usually have trained personnel who can help you and your neighbor pinpoint the cause of the problem.

Most consumer electronics manufacturers are willing to help you. Your owner's manual, or a label on your equipment, may give you information about interference immunity or tell you who to call about interference problems. If not, the Consumer Electronics Manufacturers Association will be able to give you the address of your equipment manufacturer's general customer service personnel. The manufacturers know their equipment better than anyone else and will usually be able to help you.

Operators of licensed amateur or commercial transmitters usually have some technical ability. These operators are the nearest source of help. Remember, the station operator may also be a neighbor! Use a polite approach to ensure that the relationship stays "neighborly." Licensed Amateur Radio operators have access to volunteers (Technical Coordinators and local interference committees) who are skilled at finding solutions for most interference problems.

Testing One, Two, Three . . .

If you think a neighbor's radio transmitter might be involved, you and your neighbor should arrange a test. It's important to determine whether the interference is (or is not) present when the radio station is "on the air." Your neighbor may want to ask another operator friend to participate in the test at your home. By the same token, you may want to invite a friend to attend the test at the radio operator's station. Having impartial witnesses will make you and your neighbor more comfortable with the outcome -whatever it may be. Be sure to choose your witness carefully. Select someone who is diplomatic and tactful.

The tests must be thorough. The transmitter operator must try all normally used frequencies, antenna directions and power levels. All results must be carefully written down. More than one set of tests may be needed. Once you and your neighbor have determined which frequencies and power levels cause the problem, you'll be one step closer to finding a solution.

Try the Easy Things First

Sometimes, the easiest solutions are the best. Many cases of interference can be resolved without the need for technical investigations or knowledge. As first steps, you might check your wiring for damage, for open outer wire shields, or for loose terminal connections. Try removing any added devices, such as video games, or even relocating the equipment or re-orienting the device's antenna and power cord.

If you suspect that the problem is caused by electrical noise, check for overloaded circuits, frayed wires, loose sockets, etc. These types of problems should be fixed no matter what! Have your electrician shut off one breaker at a time, noting if this has any effect on the interference. If so, determine which devices are connected to that particular line, then remove the suspect devices one at a time. When the interference goes away, you've found the "culprit." Your electric utility company service department will offer assistance if the interference is coming from defective equipment on the power lines or distribution equipment.

Interference filters for your consumer electronics equipment can be purchased locally or by mail order. These filters usually eliminate unwanted interference if they are used properly on the equipment that is in need of additional filtering.

According to the FCC's Interference Handbook, telephones and other audio devices that pick up radio signals are improperly acting as radio receivers. The interference can usually be cured, but the necessary filtering must be applied to the affected device.

Several companies sell modular telephone interference filters that are very effective. Your telephone company service department also may be able to help.

A high-pass filter may reduce interference to an antenna-connected television or VCR. A common-mode filter should be tried first on TVs or VCRs connected to a cable system. An AC-line interference filter may help with electrical or radio interference. These items can be purchased locally or by mail order.

Some interference cures must be applied to the internal circuitry of the affected equipment. This should always be done by authorized service personnel.

The ARRL has an information package called "RFI Tips". They also sell a book, Radio Frequency Interference - How to Find It and Fix It, that provides additional guidance and technical information. Although it was written for Amateur Radio operators, the book may be helpful to you, too. Contact ARRL for information about their products and membership services.

Self-Help Cures

In some cases, when all else fails, you may need to resolve the problem yourself, or with the help of your electronic service person. It's impossible to use the remaining space to outline all of the possible cures for interference problems (the subject is quite complex). However, a few simple cures using commonly available parts can eliminate most problems. The self-help packages supplied by the ARRL and the FCC explain these cures in more detail.

Interference Can Be Cured!

Remember, most cases of interference can be cured! It takes cooperation between the consumer, the manufacturer and the radio operator. With a little bit of work, you and your neighbor can both enjoy your favorite activities in peace.

For More Information...

The ARRL and the FCC have self-help packages available to help you resolve interference problems.

American Radio Relay League, Inc.
RFI Desk
225 Main Street
Newington, CT 06111
tel (860) 594-0214
Internet Web Site: http://www.arrl.org
E-mail: rfi@arrl.org

Federal Communications Commission
Compliance & Information Bureau
1919 M Street, N.W.
Washington DC 20554
tel (202) 418-0200
Internet Web Site: http://www.fcc.gov

Consumer Electronics Manufacturers Association
2500 Wilson Boulevard
Arlington, VA 22201-3834
tel (703) 907-7600
Internet Web Site: http://www.cemacity.org

For copies of U.S. Government publications, contact:

U.S. Government Printing Office
North Capitol & H Streets, N.W.
Washington, DC 20401
tel (202) 512-1800
Internet Web Site: http://www.access.gpo.gov

Sources of interference filter products:

High-pass filters:

Industrial Communication Engineers
RadioShack catalog #15-579, 15-577 (FM Trap)
TCE Labs

Common-mode filters:

Industrial Communication Engineers
TCE Labs

Telephone-interference filters:

Industrial Communication Engineers
K-Com
RadioShack 43-150
TCE Labs

Contact:

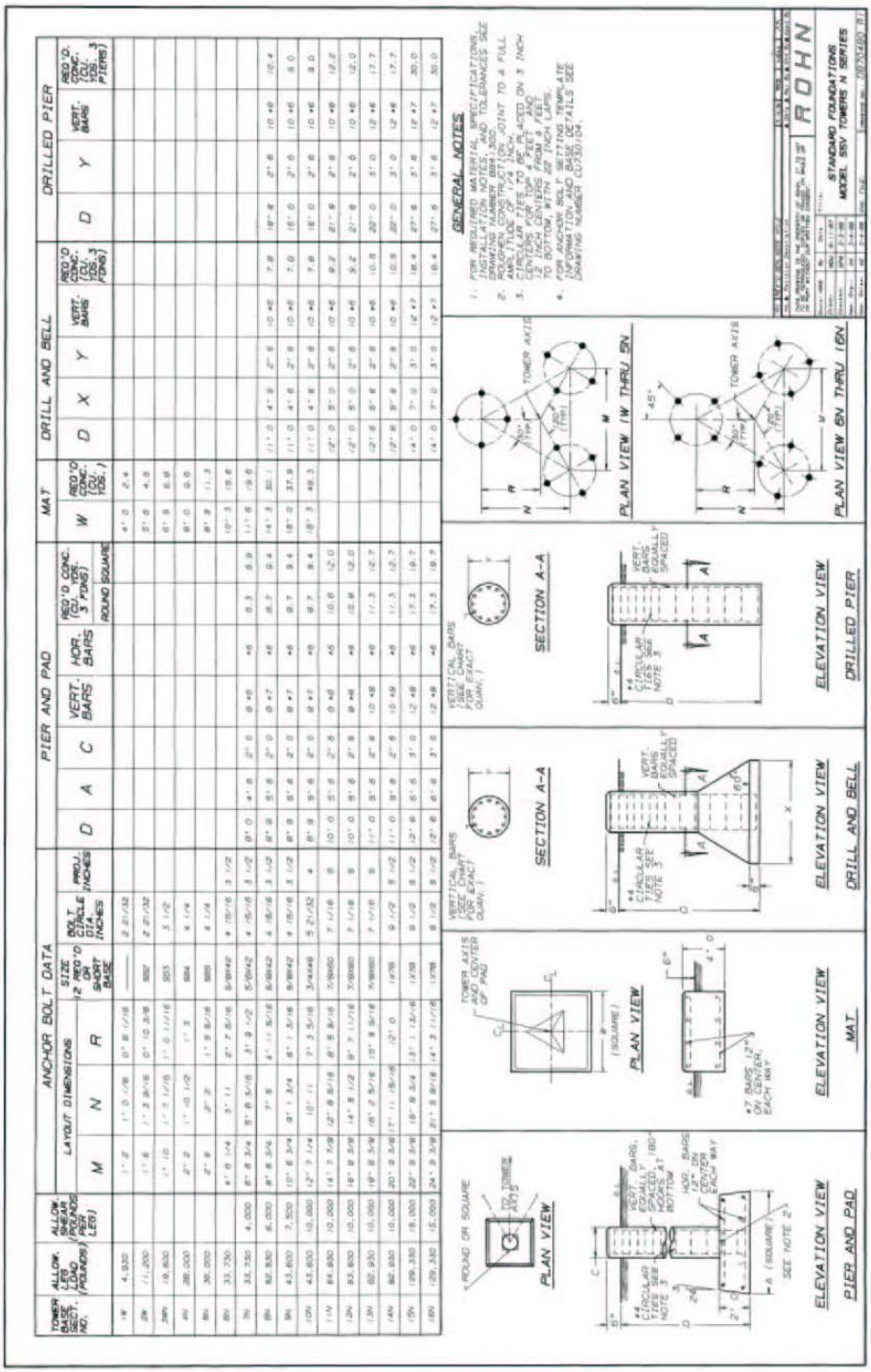
Industrial Communication
Engineers
P.O. Box 18495
Indianapolis, IN 46218-0495
tel (800) 423-2666

K-Com
P.O. Box 83
Randolph, OH 44265
tel (216) 325-2110

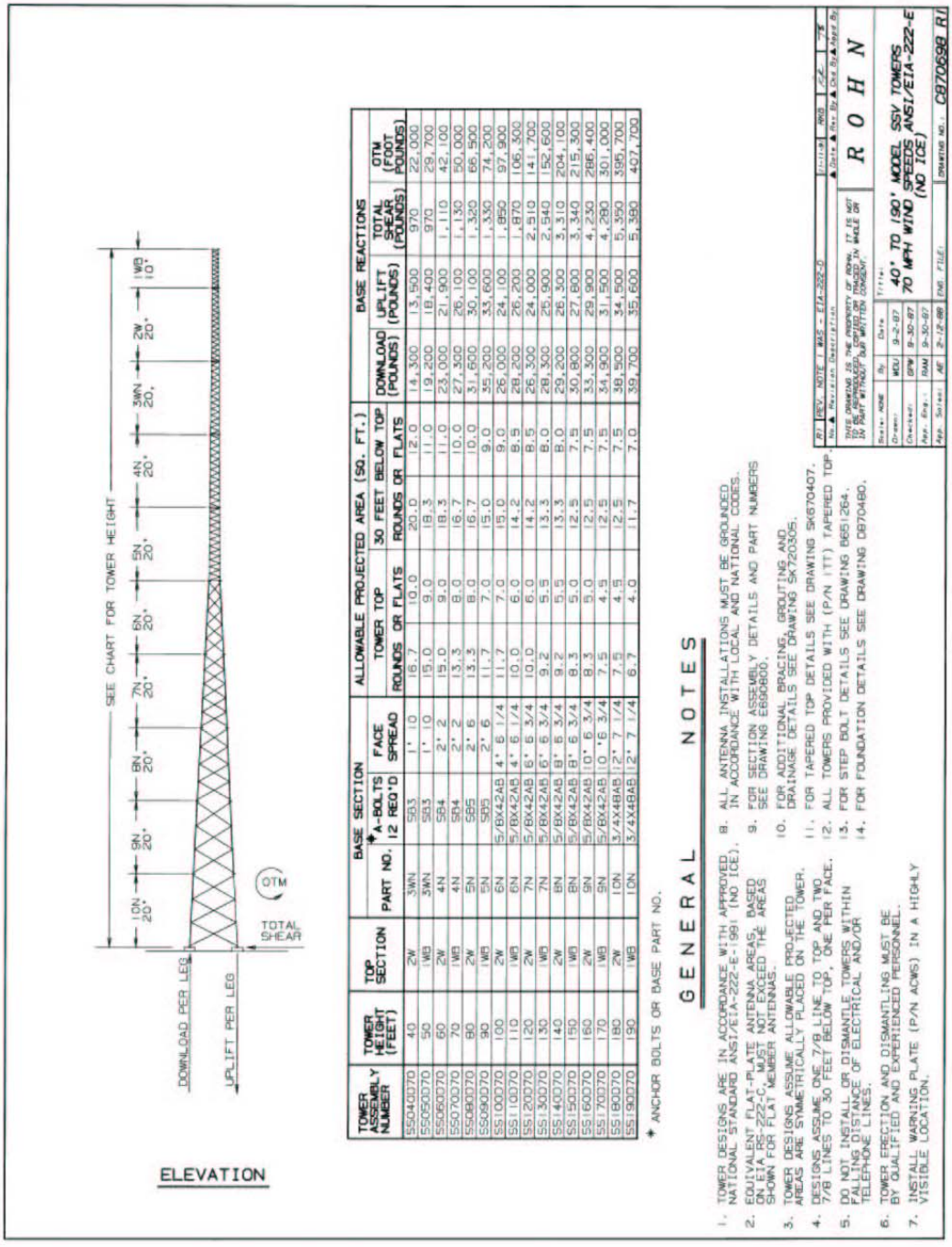
TCE Labs
2365 Waterfront Park Drive
Canyon Lake, TX 78133
tel (210) 899-4575

Exhibit O: Rohn Corporation Engineering Drawings for the SSV Series Towers and Foundations

Foundation Drawings



Assembly (begins with base Section 7N; ends with 2W top section



TOWER ASSEMBLY NUMBER	TOWER HEIGHT (FEET)	TOP SECTION	BASE SECTION PART NO.	BASE SECTION ✦A-BOLTS 12 REQ'D	BASE SECTION FACE SPREAD	ALLOWABLE PROJECTED AREA (SQ. FT.) TOWER TOP ROUNDS OR FLATS	ALLOWABLE PROJECTED AREA (SQ. FT.) 30 FEET BELOW TOP ROUNDS OR FLATS	BASE REACTIONS DOWNLOAD (POUNDS)	BASE REACTIONS UPLIFT (POUNDS)	BASE REACTIONS TOTAL SHEAR (POUNDS)	OTM (FOOT POUNDS)
55040070	40	2W	3MN	5/8	1' 10	16.7	20.0	14,300	13,900	970	22,000
55050070	50	1WB	3MN	5/8	1' 10	15.0	18.3	19,200	18,400	970	29,700
55060070	60	2W	4N	5/8	2' 2	15.0	18.3	23,000	21,900	1,110	42,100
55070070	70	1WB	4N	5/8	2' 2	13.3	16.7	27,300	26,100	1,130	50,000
55080070	80	2W	5N	5/8	2' 6	13.3	16.7	31,600	30,100	1,320	66,900
55090070	90	1WB	5N	5/8	2' 6	11.7	15.0	35,200	33,600	1,330	74,200
55100070	100	2W	6N	5/8X42AB	4' 6 1/4	11.7	15.0	26,000	24,100	1,850	97,900
55110070	110	1WB	6N	5/8X42AB	4' 6 1/4	10.0	14.2	28,200	26,200	1,870	106,300
55120070	120	2W	7N	5/8X42AB	6' 6 3/4	10.0	14.2	26,300	24,000	2,910	141,700
55130070	130	1WB	7N	5/8X42AB	6' 6 3/4	9.2	13.3	28,300	25,900	2,940	152,600
55140070	140	2W	8N	5/8X42AB	8' 6 3/4	9.2	13.3	29,200	26,300	3,310	204,100
55150070	150	1WB	8N	5/8X42AB	8' 6 3/4	8.3	12.5	30,800	27,800	3,340	215,300
55160070	160	2W	9N	5/8X42AB	10' 6 3/4	8.3	12.5	33,300	29,900	4,230	286,400
55170070	170	1WB	9N	5/8X42AB	10' 6 3/4	7.5	12.5	34,900	31,500	4,280	301,000
55180070	180	2W	10N	3/4X48AB	12' 7 1/4	7.5	12.5	38,500	34,500	5,350	395,700
55190070	190	1WB	10N	3/4X48AB	12' 7 1/4	6.7	11.7	39,700	35,600	5,380	407,700

✦ ANCHOR BOLTS OR BASE PART NO.

GENERAL NOTES

1. TOWER DESIGNS ARE IN ACCORDANCE WITH APPROVED NATIONAL STANDARD ANSI/EIA-222-E-1991 (NO ICE), EQUIVALENT FLAT-PLATE ANTENNA AREAS, BASED ON EIA RS-222-C, MUST NOT EXCEED THE AREAS SHOWN FOR FLAT MEMBER ANTENNAS.
3. TOWER DESIGNS ASSUME ALLOWABLE PROJECTED AREAS ARE SYMMETRICALLY PLACED ON THE TOWER.
4. DESIGNS ASSUME ONE 7/8 LINE TO TOP AND TWO 7/8 LINES TO 30 FEET BELOW TOP, ONE PER FACE.
5. DO NOT INSTALL OR DISMANTLE TOWERS WITHIN FALLING DISTANCE OF ELECTRICAL AND/OR TELEPHONE LINES.
6. TOWER ERECTION AND DISMANTLING MUST BE BY QUALIFIED AND EXPERIENCED PERSONNEL.
7. INSTALL WARNING PLATE (P/N ACWS) IN A HIGHLY VISIBLE LOCATION.
8. ALL ANTENNA INSTALLATIONS MUST BE GROUNDED IN ACCORDANCE WITH LOCAL AND NATIONAL CODES.
9. FOR SECTION ASSEMBLY DETAILS AND PART NUMBERS SEE DRAWING E680660.
10. FOR ADDITIONAL BRACING, GROUTING AND DRAINAGE DETAILS SEE DRAWING SK720305.
11. FOR TAPERED TOP DETAILS SEE DRAWING SK670407.
12. ALL TOWERS PROVIDED WITH (P/N 1TT) TAPERED TOP.
13. FOR STEP BOLT DETAILS SEE DRAWING 661264.
14. FOR FOUNDATION DETAILS SEE DRAWING D670480.

R1 | REV. NOTE 1 WAS - EIA-222-D | JJ-15-98 | MKB | CJC | 7/8

THIS DRAWING IS THE PROPERTY OF ROHN, IT IS NOT TO BE LOANED, COPIED OR REPRODUCED IN WHOLE OR IN PART WITHOUT THE CONSENT OF ROHN.

Drawn: MKB 9-2-97
Checked: GFW 9-30-97
Mgr. Eng.: RAM 9-30-97
Mgr. Sales: MF 9-12-97

R O H N

40' TO 190' MODEL SSV TOWERS
70 MPH WIND SPEEDS ANSI/EIA-222-E (NO ICE)

DWG. FILE: DRAWING NO.: C870698 R1

Exhibit P (Cont.): Excerpts of Pettit-Haller-MacNamara Letters on Preemption of RFI by the FCC

Excerpts of Letters to individuals in response to RFI issues from the FCC's General Counsel

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554
FEB 14 1990

In reply to:

Christopher D. Imlay, Esquire
American Radio Relay League, Inc.
Office of Legal Counsel
1920 N. Street, N.W.
Suite 150
Washington, D.C. 20036

Re: Ordinance Regulating Radio Frequency Interference.
Pierre, South Dakota

Dear Mr. Imlay:

This is in response to you letter of January 16, 1990, concerning an ordinance enacted in Pierre, South Dakota, empowering the City Inspector to investigate and prohibit emissions by radios and other electronic devices which cause or create interference to television or radio reception. You state that the City Inspector has enforced this ordinance against an amateur radio operator licensed by the Commission, and you seek an opinion concerning the validity of the ordinance.

Congress has preempted any concurrent state or local regulation of radio interference pursuant to the provisions of the Communications Act. See 47 U.S.C. § 302(a). Section 302(a)(1) of the Act provides that the "Commission may, consistent with the public interest, convenience, and necessity, make reasonable regulations (1) governing the interference potential of devices which in their operation are capable of emitting radio frequency energy by radiation, conduction, or other means in sufficient degree to cause harmful interference to radio communications…"

47 U.S.C. § 302(a)(1). The legislative history of Section 302 (a) provides explicitly that the Commission has exclusive authority to regulate frequency interference (RFI). In its Conference Report No. 97-765, Congress declared:

> The Conference Substitute is further intended to clarify the reservation of exclusive jurisdiction to the Federal Communications Commission over matters involving RFI. Such matters shall not be regulated by local or state law, nor shall radio transmitting be subject to local or state regulation as part of any effort to resolve an RFI complaint.

H.R. Report No. 765, 57th Cong., 2d Sess. 33 (1982), reprinted at 1982 U.S. Code Cong. & Ad News 2277. State laws that require amateurs to cease operations or incur penalties as a consequence of radio interference thus have been entirely preempted by Congress.

Of course, any member of the public may seek the Commission's assistance in resolving interference problems. The Commission's Field Operations Bureau (FOB) frequently investigate radio interference complaints and has prepared the enclosed pamphlets describing the various remedies available to address radio interference matters. Members of the public in Pierre experiencing interference may also wish to contact Dennis P. Carlton, Engineer – in- Charge of FOB's Denver Office at (303) 236-8026. I trust the foregoing in responsive to you inquiry.

Sincerely yours,
Robert L. Pettit
General Counsel
cc: City Inspector, Pierre, South Dakota

Exhibit P: Excerpts of Pettit-Haller-MacNamara Letters on Preemption of RFI by the FCC

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554
25 OCT 1994

IN REPLY REFER TO:
7240-F/1700C1

Board of Zoning Appeals
Town of Hempstead
1 Washington Street
Hempstead, New York 11550-4923

Dear Board Members:

[…]

Local governments must reasonably accommodate amateur operations in zoning decisions. See PRB-1, 101 FCC 2d 952 (1985) and Section 97.15(e) of the Commission's Rules, 47 C.F.R. § 97.15(e). Section 97.15(e) provides that an amateur station antenna structure may be erected at heights and dimensions sufficient to accommodate amateur service communications. Local authorities may adopt regulations pertaining to placement, screening, or height of antennas, if such regulations are based on health, safety, or aesthetic considerations and reasonably accommodate amateur communications.

They may not, however, base their regulation on amateur service antenna structures on the causation of interference to home electronic equipment— an area regulated exclusively by the Commission.

The Commission's jurisdiction over interference matters is set forth in Section 302(a) of the Communications Act of 1934, as amended, 47 U.S.C. §302(a). It is clear from the report of the Joint Committee of Conference, H.R. Report No. 765 97th Cong., 2nd Sess., that the congress intended that the Commission have exclusive jurisdiction over interference to home electronic equipment.

I would also like to point out that there is no reasonable connection between requiring Mr. Nadel to reduce the height of his antenna and reducing the amount of interference to his neighbor's home electronic equipment. On the contrary, antenna height is inversely related to the strength, in horizontal plane, of the radio signal that serves as a catalyst for interference in susceptible home electronic equipment. It is a matter of technical fact that the higher an amateur antenna, the less likely it is that radio frequency interference will appear in home electronic equipment.

I hope the information in this letter is helpful.

Sincerely,
Ralph A. Haller
Chief, Private Radio Bureau

Exhibit P: Excerpts of Pettit-Haller-MacNamara Letters on Preemption of RFI by the FCC

FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D.C. 20554

27 NOV 1991

In Reply Refer To:
7230-C
Mr. Arthur R. Still
6840 Camino de Fray Marcos
Tucson, Arizona 85718

Dear Mr. Still:

[…]

Section 302(a)(2) of the Communications Act of 1934, as amended, 47 U.S.C. 302(a)(2), authorizes the Commission to regulate home electronic equipment and systems by establishing minimum performance standards for such equipment to reduce their susceptibility to interference from radio frequency energy.

[…]

The Report also indicates the Commission, in exercising this authority, is expected to balance the cost of improving the performance of a devise against the overall public benefit to be gained. See H. Rep. No. 756, 97th Congress, 2d Session (1982), at 32-33. Because most users of home electronic equipment do not receive such interference, we do not wish to impose the additional costs associated with reduced susceptibility on all users of the equipment, including millions of users who would not benefit. Likewise, it is not reasonable to place the burden for resolving all interference problems on amateur service licensees. Congress recognized the electronic equipment manufacturers also have a responsibility to design properly their equipment to prevent interference. We believe that the Commission's Rules properly reflect Congressional desires.

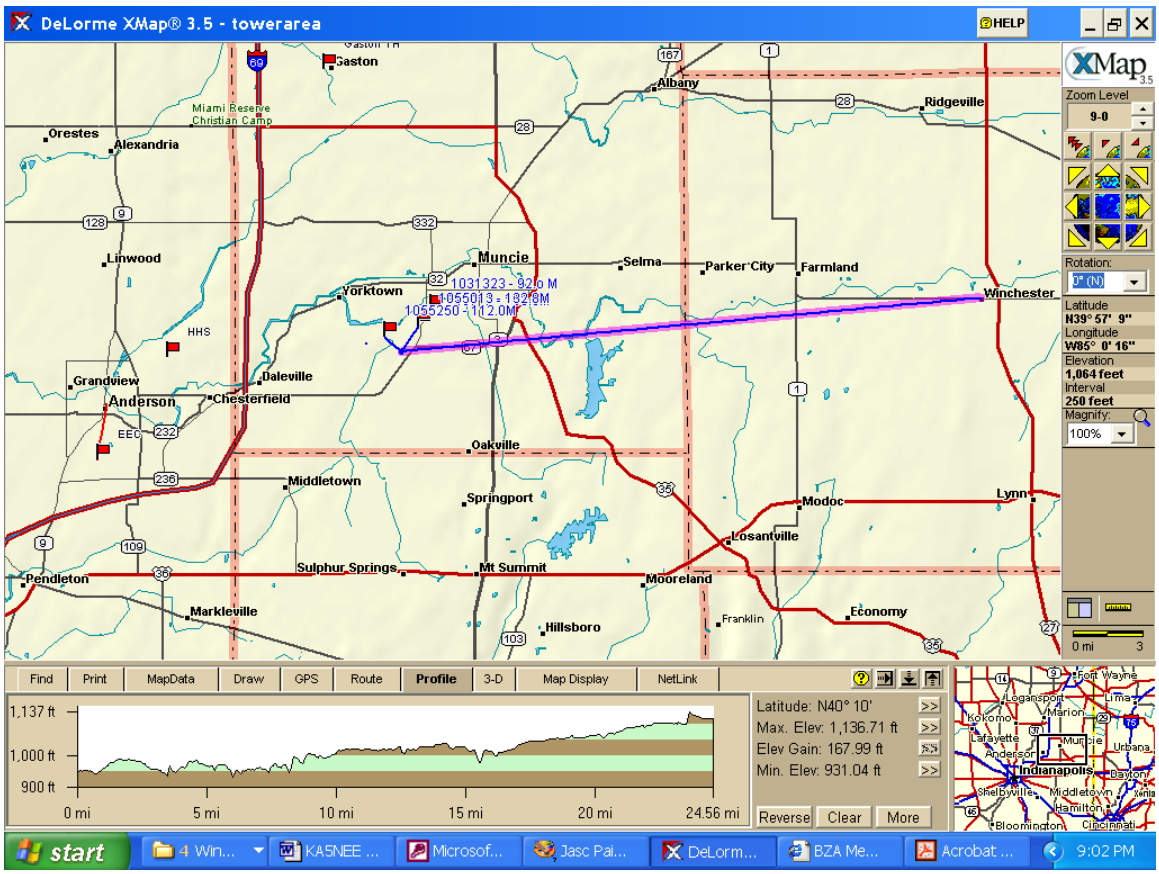
The issue of interference to home electronic equipment is being addressed by industry. A committee has been formed under the auspices of the American National Standards Institute to develop voluntary standards to reduce the susceptibility of this equipment to interference. The Commission's longstanding policy, as well as that of the Federal Government in general, is to rely of private industry voluntary standards whenever possible. At our encouragement, the Electronics Industries Association (EIA) developed, in 1984 and 1987, two susceptibility standards for television receivers. These standards were developed using American National Standards Institute procedures. Recent figures provided by the EIA indicate that virtually all new color televisions and VCRs voluntarily comply with these standards. Additionally, the number of complaints we receive about interference to home electronic equipment has dropped significantly since 1982.

[…]

Pursuant to Section 1.401(e) of the Commission's Rules, 47 C.F.R. § 1.401(e),IT IS ORDERED that your request for rule making IS DENIED.

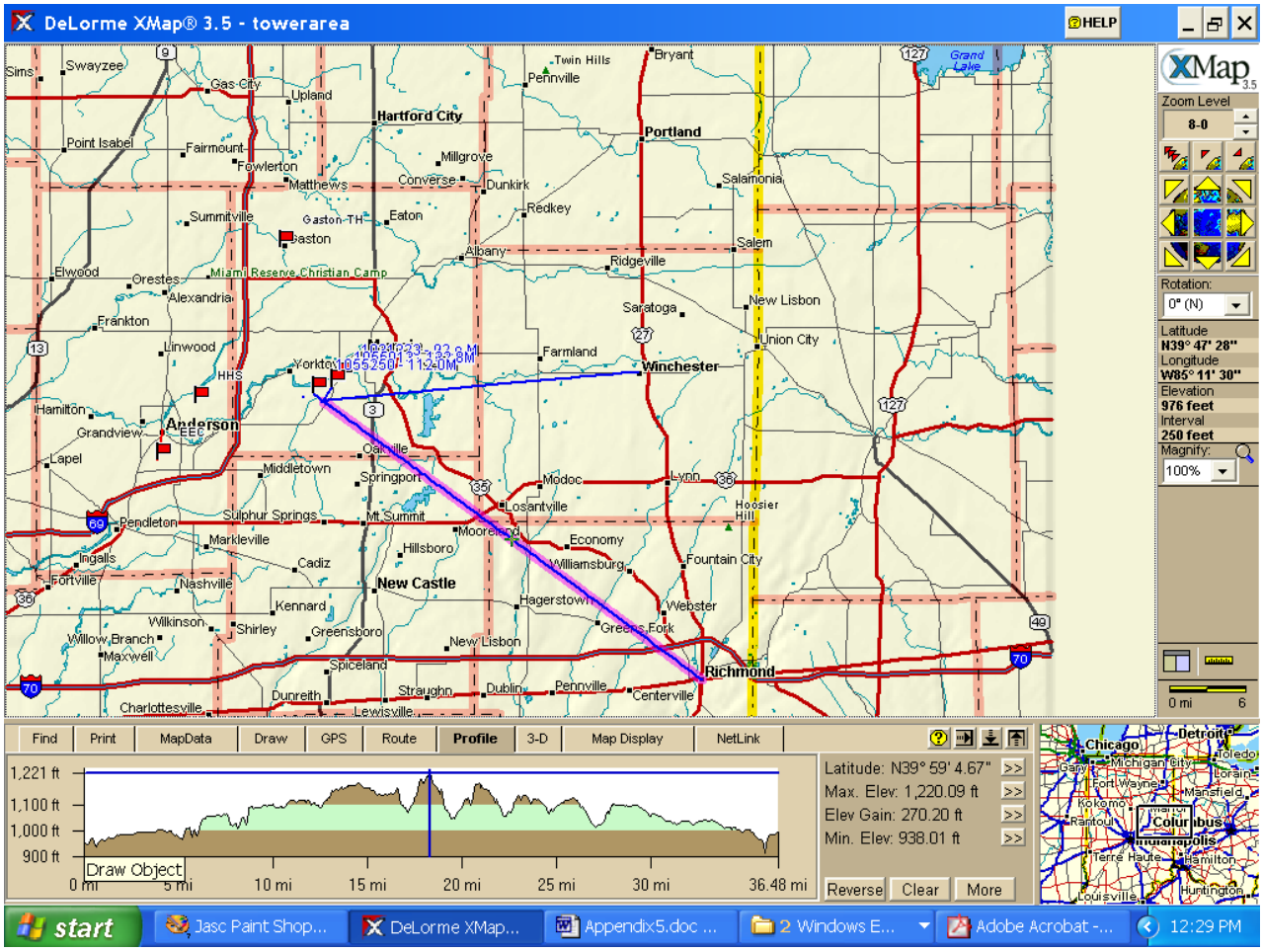
Sincerely,
Robert H. McNamara
Chief, Special Services Division
cc: Joe Michaels

Exhibit Q: Site Profile for 4920 W. Caleb Ct. to Winchester, IN



Screen print from DeLorme Xmap 3.5, of the path from the Applicant's home to Winchester, Indiana. The long, rectangular graph at the bottom of this image is a representation of the cross-section of the surface of the earth over the highlighted path on the map (the applicant's home is at the left end of the graph, and Winchester is on the right.) The "Elev. Gain" figure of 167.99 feet at lower right is the net increase in elevation over the path. This elevation change does not take into account the additional height change resulting from the curvature of the earth over this path.

Exhibit Q (Cont.): Site Profile for 4920 W. Caleb Ct. to Richmond, IN



Screen print from DeLorme Xmap 3.5, of the path from the Applicant's home to Richmond, Indiana. The long, rectangular graph at the bottom of this image is a representation of the cross-section of the surface of the earth over the highlighted path on the map (the applicant's home is at the left end of the graph, and Richmond is on the right.) The "Elev. Gain" figure of 270.20 feet at lower right is the difference between the elevation at Applicant's property and the highest point on the path, which occurs in the Northwest corner of Wayne County. This figure does not take into account the additional height change resulting from the curvature of the earth over this path, which is significant at a distance of 36.48 miles.

Exhibit R: Letters of Support -- Neighbors

Charles H. Koop
Sharon K. Koop
5900 S. Elmview Dr.
Muncie, IN 47302

September 10, 2002

Delaware-Muncie Metropolitan Plan Commission
Board of Zoning Appeals
100 W. Main, Room 206
Muncie, IN 47305

Ladies and Gentlemen:

We live just across Elmview Drive from Tom and Sherry Cox, who are at 4920 West Caleb Court. Tom has explained his antenna project to me, and has satisfactorily answered all of my questions about it.

We have no reservations about supporting Tom's application for a variance to build this antenna support system on his property.

Sincerely,

Charles H. Koop

Exhibit R (Cont.): Letters of Support -- Neighbors

Rex W. Williams
Carolyn S. Williams
4925 W. Caleb Ct.
Muncie, IN 47302

September 10, 2002

Delaware-Muncie Metropolitan Plan Commission
Board of Zoning Appeals
100 W. Main, Room 206
Muncie, IN 47305

Ladies and Gentlemen:

We live just across Caleb Court from Tom and Sherry Cox, who are at 4920 West Caleb Court. Tom has explained his antenna project to me, and has satisfactorily answered all of my questions about it.

We have no reservations about supporting Tom's application for a variance to build this antenna support system on his property.

Sincerely,

Rex Williams

Exhibit R (Cont.): Letters of Support -- Neighbors

Robert D. Williams
Dana D. Williams
4921 W. Frances.
Muncie, IN 47302

September 10, 2002

Delaware-Muncie Metropolitan Plan Commission
Board of Zoning Appeals
100 W. Main, Room 206
Muncie, IN 47305

Ladies and Gentlemen:

We live just across Elmview Drive from Tom and Sherry Cox, who are at 4920 West Caleb Court. Tom has explained his antenna project to me, and has satisfactorily answered all of my questions about it.

We have no reservations about supporting Tom's application for a variance to build this antenna support system on his property.

Sincerely,

Robert Williams

Robert D. Williams

Exhibit S: Visual Screening Photos and Graphic

Figure 1: Northeast Corner View – 50 ft. Tree

Figure 2: Northwest Corner View – 55 ft. Tree

Figure 2:Southwest Corner View - 55-ft. Tree

Figure 3: Northwest Corner View 50 ft & 30-ft trees

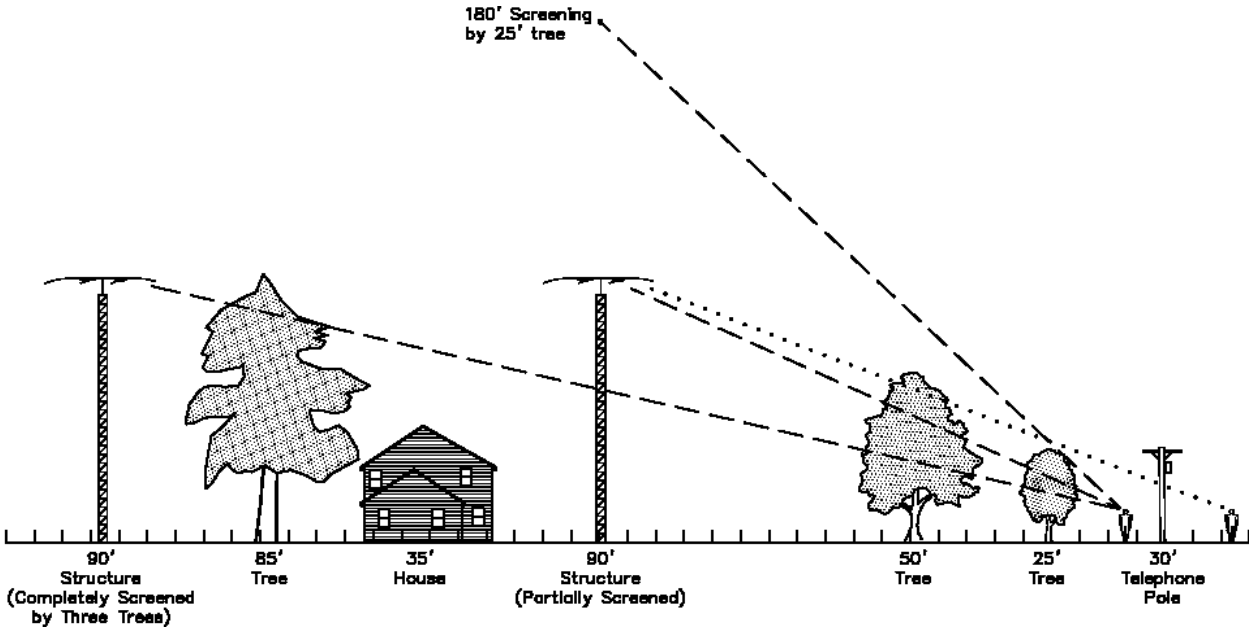


Figure 4: Screening Effect of Trees on Objects Beyond Them