



COUNTY OF LAKE
Community Development Department
PLANNING DIVISION
Courthouse - 255 N. Forbes Street
Lakeport, California 95453
Phone (707) 263-2221 FAX (707) 263-2225

RECEIVED

JAN 31 2019

COUNTY OF LAKE
BOARD OF SUPERVISORS

Planning Division Application

(Please type or print)

Project name: Horizon cell Tower project
Assessors Parcel #: 009 - 004 - 21 CA4043

INITIALS:

AB 19-01

\$1,065.00

Sub Total:

\$1,065.00

Technology recovery 2% Cost

\$21.30

General Plan Maintenance
Fee

\$50.00

Total:

\$1,136.30

Zoning: RR

General Plan: _____

Receipt # 48416

Initial: S.H

APPLICANT:

NAME: Clear Lake Riv. residents
MAILING ADDRESS: 9375 Yaguma Dr.
CITY: Kelseyville
STATE: Ca. **ZIP:** 95451
PRIMARY PHONE: 707 327-8376
SECONDARY PHONE: () _____
EMAIL: aurerlj2@yahoo.com

PROPERTY OWNER (IF NOT APPLICANT):

NAME: Richard E. Sherry Gubera
MAILING ADDRESS: _____
CITY: _____
STATE: _____ **ZIP:** _____
PRIMARY PHONE: () _____
SECONDARY PHONE: () _____
EMAIL: _____

PROJECT LOCATION

ADDRESS: 9475 Mojave trail, Kelseyville

PRESENT USE OF LAND: _____

DESCRIPTION OF PROJECT: UP18-01

Major use permit 18-016
cell project CA4043
85 foot mono tree with
possible extension to 125 feet.

SURROUNDING LAND USES:

North: _____
South: _____
East: _____
West: _____

PARCEL SIZE(S):

Existing: _____
Proposed: _____

RECEIVED

JAN 31 2019

Existing/Proposed Water Supply: _____
Existing/Proposed Sewage Disposal: _____
Fire Protection District: _____
School District: _____

LAKE COUNTY COMMUNITY
DEVELOPMENT DEPT.
Exhibit B

At-Cost Project Reimbursement

I, Aurelia Johnson, the undersigned, hereby authorize the County of Lake to process the above referenced permit request in accordance with the County of Lake Code. I am paying an initial fee of \$ 1,136.30 as an estimated cost for County staff review, coordination and processing costs related to my permit (Resolution No. 2017-19, February 7, 2017). **In making this initial fee, I acknowledge and understand that the initial fee may only cover a portion of the total processing costs. Actual costs for staff time are based on hourly rates adopted by the Board of Supervisors in the most current County fee schedule. I also understand and agree that I am responsible for paying these costs even if the application is withdrawn or not approved.**

I understand and agree to the following terms and conditions of this Reimbursement Agreement:

1. Time spent by County of Lake staff in processing my application and any direct costs will be billed against the available initial fee. **"Staff time" includes, but is not limited to, time spent reviewing application materials, site visits, responding by phone or correspondence to inquiries from the applicant, the applicant's representatives, neighbors and/or interested parties, attendance and participation at meetings and public hearings, preparation of staff reports and other correspondence, processing of any appeals, responding to public records act requests or responding to any legal challenges related to the application. "Staff" includes any employee of the Community Development Department.**
2. If processing costs exceed the available initial fee, I will receive invoices payable within 30 days of billing.
3. As the owner of the project location, I have the authority to authorize and I hereby do authorize the County of Lake or authorized representative(s) to make inspections at any reasonable time as deemed necessary for the purpose of review and processing this application.
4. If I fail to pay any invoices within 30 days, the County will stop processing my permit application. All invoices must be paid in full prior to issuance of the applied for permit.
5. If the County determines that any study submitted by the applicant requires a County-contracted consultant peer review, I will pay the actual cost of the consultant review. This cost may vary depending on the complexity of the analysis. Selection of any consultant for a peer review shall be at the sole discretion of the Community Development Director or his designee.

13. I hereby agree that any drainage studies and/or drainage models that are provided to the County as part of the technical studies for this entitlement process will be provided with a license or other satisfactory release allowing the County to duplicate, distribute, and/or publish the studies and models to the general public without restriction. I understand that failure to provide such license or release to the satisfaction of the County may result in comment that the study and or model is inadequate to support the entitlement request.

The signature(s) below signifies legal authority and consent to file an application in accordance with the information above. The signature also signifies that the submitted information and accompanying documents are true and accurate, and that the items initialed above have been read and agreed to.

Note: This agreement does not include other agency review fees or the County Clerk Environmental Document filing fees.

**APPLICATIONS WILL NOT BE ACCEPTED WITHOUT SIGNATURE(S) OF LEGAL PROPERTY OWNERSHIP
OR OFFICIAL AGENT/AUTHORITY TO FILE (circle one)**

Ownership

Contract to Purchase*

Letter of Authorization*

Power of Attorney*

**Must Attach Evidence*

Name of Property Owner or Corporate Principal Responsible or Appointed Designee for Payment of all At-Cost Project Reimbursement Fees:

Aurelia Johnson
(Please Print)

Name of Company or Corporation (if applicable):

Clear Lake Riviera residents opposed to cell
(Please Print) Tower project CA4043

Mailing Address of the Property Owner or Corporation/Company responsible for paying processing fees:

(If a Corporation, please attach a list of the names and titles of Corporate officers authorized to act on behalf of the Corporation)

Name: Aurelia Johnson

Date: 1-31-19

Email address: aurelijd@yahoo.com Phone Number: 707-327-8376

Aurelia Johnson
Signature of Owners/Agent* Name

1-31-19
Date

Aurelia Johnson
Signature of Applicant

1-31-19
Date

6. I agree to pay the actual cost of any public notices for the project as required by State Law and the Lake County Zoning Ordinance.
7. I may, in writing, request a further breakdown or itemization of invoices, but such a request does not alter my obligation to pay any invoices in accordance with the terms of this agreement.
8. I agree to pay all costs related to permit condition compliance as specified in any conditions of approval for my permit/entitlement including compliance monitoring.
9. I agree not to alter the physical condition of the property during the processing of this application by removing trees, demolishing structures, altering streams, and/or grading or filling. I understand that such alteration of the property may result in the imposition of criminal, civil or administrative fines or penalties, or delay or denial of the project.
10. Applicant shall defend, indemnify and hold harmless the County and its agents, including consultants, officers and employees from any claim, action or proceeding against the County or its agents, including consultants, officers or employees to attack, set aside, void, or annul the approval of this application or adoption of the environmental document which accompanies it. This indemnification obligation shall include, but not be limited to, damages, costs, expenses, attorney's fees, or expert witness costs that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of this application, including any claim for private attorney general fees claimed by or awarded to any party against the County, and shall also include the County's costs incurred in preparing the administrative record which are not paid by the petitioner. The County shall promptly notify the applicant of any claim, action or proceeding. Notwithstanding the foregoing, the County shall control the defense of any such claim, action or proceeding unless the settlement is approved by the applicant and that the applicant may act in its own stead as the real party in interest in any such claim, action or proceeding.
11. I have checked the current Hazardous Waste and Substances Sites List pursuant to Government Code Section 65962.5(f). www.envirostor.dtsc.ca.gov/public/ The proposed project site **is** ☐ or **is not** ☐ included on the most recent list.
12. I understand that pursuant to State Fish and Games Code Section 711.4, a filing fee is required for all projects processed with a Negative Declaration or Environmental Impact Report unless it has been determined by the California Department of Fish (CDFW) that the project will have no effect on fish and wildlife. The fees are collected by the County Community Development Department, Planning and Environmental review Division (PER) for payment to the State. I understand that I will be notified of the fee amount upon release of the environmental document for the project.



COUNTY OF LAKE
COMMUNITY DEVELOPMENT DEPARTMENT
Planning Division
Courthouse - 255 N. Forbes Street
Lakeport, California 95453
Telephone 707/263-2221 FAX 707/263-2225

APPEAL TO BOARD OF SUPERVISORS

Date: 1-31-19

Project Name (if applicable): Project CA4043
Appellant's Name: Clear Lake Riviera residents cell tower ^{opposed to}
CA4043
Appellant's Mailing Address: 9375 Yaguima Dr.
Kelseyville, Ca. 95451 Phone #: 707-327-8376
Appellant's Representative Aurelia Johnson

Phone #: Same

Location of Project: 9475 Mojave trail
Kelseyville, Ca. 95451

Assessor's Parcel Number: 009-004-21

Previous Action Taken: Public Hearing, group members
submitted documents Date: 1-24-19 ^{spoke}

Reason for Appeal: (Attach extra sheets if necessary)

See attached

Aurelia Johnson
Signature of Appellant/s

FOR OFFICE USE ONLY

Appeal Number: _____

Related File#: _____

Fee: _____

Receipt #: _____

Date Received: _____

Received By: _____

***Clear Lake Riviera Residents opposed to
cell tower project CA4043
Location: 9475 Mojave, Kelseyville, Ca. 95451***

January 31, 2019

Reason for appeal:

- 1.) Prejudicial placement during public hearing for project, January 24, 2019.
 - a. County employees and Horizon/ cell industry representative were seated at actual tables with use of projector and were directly in front of the Supervisors.
 - b. The appellants' were required to sit in the general audience seating. Citation California Law and civil procedure code Section: 1094.5 and possibly 1094.6.
- 2.) Concern with cultural resource preservation
 - a. Lack of survey information in initial study I8-06
 - b. Only information found with regards to cultural resources is attached letter from Youcha DeHe Wintun Nation out of Cache Creek, dated August 27, 2018 which declines any comment on the project. Pomo Indians are the aboriginal inhabitation in our territory. The letter as an exhibit is not a valid citation.
- 3.) Lack of consideration to wildlife in the area
 - a. See report from Eklipse project, World Wide Web conference January 22-25, 2018. A report was given to planning commission at public hearing, on January 24th from Aurelia Johnson.
 - b. A letter from The Department of the Interior from February 7, 2014. Criticizes the FCC's radiation safety guidelines stating, "The electromagnetic radiation standards used by the FCC which continue to be based on thermal heating, a criterion now nearly 30 years out of date and inapplicable today".
- 4.) Concern over 2 earthquake fault lines running through proposed project. Will discuss at BOS.

5.) Concern of decrease in R/E values.

- a. With a drop in real estate values, expected to affect many or all homes in our neighborhood, homeowners could decide to proceed with lawsuits based on the theory of legal, "taking". See also attached letter from Lake County Association of Realtors, dated December 7, 2018.

6.) Cell tower location

- a. When cell tower representative was asked, 'Why did you pick this particular site for the tower?' The representative didn't answer the question as presented.
- b. See attached letter from Frank Howard stating that the owner actually approached the company himself.

7.) The planning commission states that cell tower will not be visually obtrusive.

- a. Cell tower will be 85' high obstructing lake views from Chippewa and mountain views from Tenino.
- b. There are not any trees this high in our area.

8.) We were not given proper time to discuss issues.

- a. We were timed 3 minutes each time we spoke, leaving us to stand in line over and over again. This can cause loss of information due to speakers being interrupted. .
- b. We are requesting a minimum of 5 hours for our representatives to discuss the issues for this appeal and call witnesses.
- c. Would like to depose Cell tower representatives and their witnesses.

Lake County Association of REALTORS®

On Magnificent Clear Lake

SINCE 1947



December 7, 2018

County of Lake
Lake County Board of Supervisors
255 N. Forbes
Lakeport, CA 95453

Re: Impact of Communication Towers and Equipment on Nearby Properties

Dear Supervisors,

Over the last few years a number of proposals have been brought forward by telecommunications companies to locate cell towers within Lake County. Two recent proposals, one for 9475 Mojave Trail in Kelseyville and one for 55 & 75 Worley Drive in Lakeport, are being placed in or adjoining to residential neighborhoods. Although the locations are not zoned Residential, they are clearly in areas with housing in the immediate area.

The Lake County Association of Realtors® (the Association) has reviewed a number of studies that indicate the value of properties decline when located near the towers and equipment. One of the studies was a survey conducted by the National Institute for Science, Law and Public Policy. The survey conducted with 1,000 respondents yielded the following:

- 94% said a nearby cell tower or group of antennas would negatively impact interest in a property or the price they would be willing to pay for it.
- 94% said a cell tower or group of antennas on top of, or attached to, an apartment building would negatively impact interest in the apartment building or the price they would be willing to pay for it.
- 95% said they would opt to buy or rent a property that had zero antennas on the building over a comparable property that had several antennas on the building.
- 79% said under no circumstances would they ever purchase or rent a property within a few blocks of a cell tower or antennas.
- 88% said that under no circumstances would they ever purchase or rent a property with a cell tower or group of antennas on top of, or attached to, the apartment building.
- 89% said they were generally concerned about the increasing number of cell towers and antennas in their residential neighborhood.

Although this survey did not attempt to measure declines in property values, simple economics of supply and demand indicate that the values will decrease. When there are fewer interested buyers in a property, the value will decrease.

Appraisal companies have also weighed in on the matter. In a 2017 report the Burgoyne Appraisal Company stated:

- *As a general matter, assuming two generally comparable areas, aesthetics will have the most significant impact on property values. If, for example, I assume two houses of equal age, size and condition in the same residential area, the relative value of one home will be most affected by the aesthetics in the immediate vicinity of that home.*
- *As a general matter, visible utility structures do adversely affect property values. This is reflected in the fact that, as a general matter property values are higher in areas where there are no aboveground utility facilities (other than lighting) than in areas where utilities are aboveground.*
- *The impact will generally be related to the size of the facility, the characteristics of the facility, its location (including proximity), and visibility. That is to say, I would expect a tower or other structure that is larger than existing structures to have a greater impact on property values than a structure that is similarly sized and in keeping with other structures. I would expect that installation of equipment that is widely visible to have a more significant impact than equipment that is widely visible to have more significant impact than equipment that is not (so, for example, a transformer at the top of a pole would have less of an impact than a box of similar size that is within a normal site line, or on the ground). The characteristics of the facility are also important. An unorganized conglomeration of various boxes and wires would have a greater impact than a streamlined and contained single cabinet.*

The Burgoyne paper goes on to state that "...that there are reasons for concern that justify maintenance of significant latitude at the local level over siting and compensation."

The Association's review of Lake County's Article 71, "Regulations for the Placement of Communications Towers and Antennae" and related zoning documentation showed that placement of towers was prohibited in residential zoning, but there was no prohibition in residential areas that had zoning other than residential, for example RR (Rural Residential) is allowed. The proposals for both aforementioned projects are within or adjacent to residential communities.

Based on the articles that the Association has reviewed along with the ability to allow towers within residential communities, we have concluded that when properties are in line-of-sight of communications towers, the value of those properties will decline. For obvious practical reasons, it would be difficult to offer compensation from either the County of Lake or the telecommunications company for those properties that would be negatively affected.

It is our recommendation that the County consider the probable loss in home value for nearby and line-of-sight homes when weighing whether to approve a cell tower or equipment location. While we understand the need to have cell towers close enough to population centers to improve cell service, and we understand the prohibitions against denying cell towers based on a "not in my backyard" complaint, we believe there are locations for cell towers and equipment where fewer property owners would be adversely affected.

Thank you for this opportunity to express our views.

Sincerely,



Mary Benson
President, Lake County Association of Realtors®



YOCHA DEHE
CULTURAL RESOURCES

08-27-18
August 27, 2018

RECEIVED

SEP 04 2018

LAKE COUNTY COMMUNITY
DEVELOPMENT DEPT.

County of Lake
Attn: Mark Roberts, Associate Planner
255 N. Forbes Street
Lakeport, CA 95453

RE: 9475 Mojave Trail Project

Dear Mr. Roberts:

Thank you for your project notification letter dated, August 15, 2018, regarding cultural information on or near the proposed 9475 Mojave Trail Project, Kelseyville, Lake County. We appreciate your effort to contact us.

The Cultural Resources Department has reviewed the project and concluded that it is not within the aboriginal territories of the Yocha Dehe Wintun Nation. Therefore, we respectfully decline any comment on this project.

Should you have any questions, please feel free to contact the following individual:

Reimann Rouse, GIS Analyst
Yocha Dehe Wintun Nation
Office: (530) 723-2805
Email: rrouse@yochadehe-nsn.gov

Please refer to identification number YD - 01182018-02 in any correspondence concerning this project.

Thank you for providing us with this notice and the opportunity to comment.

Sincerely,

Leland Kinter
Tribal Historic Preservation Officer

Frank B Howard, Enrolled Agent

Voice: (707) 245-5565

Email: frank@fbhtax.com

Enrolled to Practice in all 50 States

January 31, 2019

County of Lake
Planning Commission
Community Development Department
255 N Forbes Street
Lakeport, CA 95453

Re: Intent To Adopt A Mitigated Negative Declaration
Horizon Tower-CA 4043-Kelseyville
Major Use Permit, UP 18-01-Location APN: 009-004-21

Dear Sirs and Madams:

In a conversation at approximately 3:48pm on Thursday, January 24, 2019, with Mr. Gubera, land owner with regard to the above mentioned Major Use Permit, Mr. Gubera advised me that neither the cell tower companies nor the cell phone companies approached him with regard to the above mentioned site for the Horizon tower mentioned above. In fact, Mr. Gubera stated that he approached the person, whom he referred to as a friend with whom he played basketball with on a regular basis, and advised him that he was interested in placing a cell tower on his land in the Clearlake Riviera area. He further asked if the person to whom he was speaking could make it happen.

During the public hearing, the commissioner asked such representative, 'Why did you pick this particular site for the tower?' To which the representative explained all of the reasons the cell tower would be a good location for the area, he did not in fact, answer the question as it was presented, and therefore the commission did not receive an answer to their specific question and to the reasons that this particular site was so special in their search of locations. Further, whereas there exists over 131,000 acres of land in the County of Lake, it seems that there is a more appropriate site which would serve the telecommunication needs of the area without such severe encroachment on this residential area and within such a beautiful geographic and historic site with so many protected species of animal, bird and fauna, and simply one of the absolute worst sites and most critically impacted by this tower placement.

This matter leaves the residents bearing the burden of those mitigating factors upon their primary asset value as well as the aesthetic value of their homes, wherein they spend the majority of their daily hours and of their lifetime in total. This burden should not be placed on the backs of the citizens of this county, and particularly the residents of the Clearlake Riviera community, when in fact this decision and process of site selection was a simple maneuver of a citizen of an area outside of this area and county for the one and singular purpose of financial gain for himself. This is not a selection criteria for a 'preferred' site that should be allowed by the commissioners when making a decision to violate the sanctity of the personal

5227 Tenino Way

Kelseyville, CA 95451

Frank B Howard, Enrolled Agent

Voice: (707) 245-5565

Email: frank@fbhtax.com

Enrolled to Practice in all 50 States

and residential lifestyle of the Clearlake Riviera community at large, and very specifically myself in serious opposition to the location of extreme proximity to my own home.

This represents a very pertinent question to the reason that the residents of the area must be left with the very real loss of value in their most valued life asset, their residential properties in addition to the other numerous concerns brought forth to the commission during the public hearings. The citizens were entitled to the reasons that this property was sought out by the telecommunication companies and why the residents must bear the burden of this monstrous and very unappealing structure in their back yards.

Respectfully,

Under penalties of perjury, in the United States of America and specifically in the State of California, I swear that the foregoing statement is true, accurate and complete to the best of my knowledge.

Frank B. Howard, 11:06 am Thursday January 31, 2019

Frank B. Howard, E.A.



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

FEB - 7 2014



In Reply Refer To: (ER 14/0001) (ER 14/0004).

Mr. Eli Veenendaal
National Telecommunications and Information
Administration
U.S. Department of Commerce
1401 Constitution Avenue, N.W.
Washington, D.C. 20230

Dear Mr. Veenendaal:

The Department of the Interior (Department) has reviewed the above referenced proposal and submits the following comments and attachment for consideration. Because the First Responder Network Authority (FirstNet) is a newly created entity, we commend the U.S. Department of Commerce for its timely proposals for NEPA implementing procedures.

The Department believes that some of the proposed procedures are not consistent with Executive Order 13186 Responsibilities of Federal Agencies to Protect Migratory Birds, which specifically requires federal agencies to develop and use principles, standards, and practices that will lessen the amount of unintentional take reasonably attributed to agency actions. The Department, through the Fish and Wildlife Service (FWS), finds that the proposals lack provisions necessary to conserve migratory bird resources, including eagles. The proposals also do not reflect current information regarding the effects of communication towers to birds. Our comments are intended to further clarify specific issues and address provisions in the proposals.

The Department recommends revisions to the proposed procedures to better reflect the impacts to resources under our jurisdiction from communication towers. The placement and operation of communication towers, including un-guyed, unlit, monopole or lattice-designed structures, impact protected migratory birds in two significant ways. The first is by injury, crippling loss, and death from collisions with towers and their supporting guy-wire infrastructure, where present. The second significant issue associated with communication towers involves impacts from non-ionizing electromagnetic radiation emitted by them (See Attachment).

In addition to the 147 Birds of Conservation Concern (BCC) species, the FWS has listed an additional 92 species as endangered or threatened under the Endangered Species Act. Together with the bald and golden eagle, this represents 241 species of birds whose populations are in trouble or otherwise merit special protection, according to the varying criteria of these lists. The Department suggests that FirstNet consider preparing a programmatic environmental impact statement (see attachment) to determine and address cumulative impacts from authorizing FirstNet projects on those 241 species for which the incremental impact of tower mortality, when

added to other past, present, and reasonably foreseeable future actions, is most likely significant, given their overall imperiled status. Notwithstanding the proposed implementing procedures, a programmatic NEPA document might be the most effective and efficient method for establishing best management practices for individual projects, reducing the burden to individual applicants, and addressing cumulative impacts.

Categorical Exclusions

The Department has identified 13 of the proposed categorical exclusions (A-6, A-7, A-8, A-9, A-10, A-11, A-12, A-13, A-14 A-15, A-16, A-17, and A-19) as having the potential to significantly affect wildlife and the biological environment. Given this potential, we want to underscore the importance of our comments on FirstNet's procedural guidance under Environmental Review and Consultation Requirements for NEPA Reviews and its list of extraordinary circumstances in Appendix D.

Environmental Review and Consultation Requirements for NEPA Reviews

To ensure there are no potentially significant impacts on birds from projects that may otherwise be categorically excluded, the Department recommends including the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act to the list of requirements in this section.

Extraordinary Circumstances

To avoid potentially significant impacts on birds from projects that may otherwise be categorically excluded, the Department recommends including species covered under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act to the list of environmentally sensitive resources. Additionally, adding important resources to migratory birds such as sites in the Western Hemisphere Shorebird Reserve Network and Audubon Important Bird Areas to the paragraph on areas having special designation or recognition would help ensure their consideration when contemplating use of a categorical exclusion.

Developing the Purpose and Need

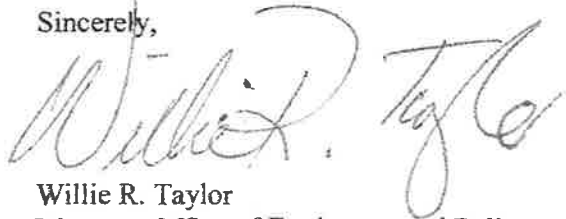
The Department recommends inclusion of language that would ensure consideration of all other authorities to which NEPA is supplemental as opposed to simply the FirstNet mission. As currently written, the procedures are limited to ensuring the purpose and need considers the FirstNet mission. If strictly applied, this approach would severely limit the range of reasonable alternatives, and likely preclude consideration of more environmentally benign locations or construction practices.

Environmental Review Process, Apply NEPA Early in the Process, Where Action is by Non-Federal Entity

The Department recommends that FirstNet be required to coordinate with federal agencies having jurisdiction by law or special expertise on construction and lighting of its network of towers.

Thank you for the opportunity to comment on the draft document. If you have any questions concerning the comments, please contact Diana Whittington, NEPA Migratory Bird lead, at (703) 358-2010. If you have any questions regarding Departmental NEPA procedures, contact Lisa Treichel, Office of Environmental Policy and Compliance at (202) 208-7116.

Sincerely,

A handwritten signature in dark ink, appearing to read "Willie R. Taylor". The signature is fluid and cursive, with the first name "Willie" being the most prominent part.

Willie R. Taylor
Director, Office of Environmental Policy
and Compliance

Enclosure

Literature Cited

- Longcore, T., C. Rich, P. Mineau, B. MacDonald, D.G. Bert, L.M. Sullivan, E. Mutrie, S.A. Gauthreaux, Jr., M.L. Avery, R.C. Crawford, A.M. Manville, II, E.R. Travis, and D. Drake. 2013. Avian mortality at communication towers in the United States and Canada: which species, how many, and where? *Biological Conservation* 158: 410-419.
- U.S. Fish and Wildlife Service. 2008. *Birds of Conservation Concern, 2008*. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, VA. 85 pages. <http://www.fws.gov/migratorybirds>.

Enclosure A

Background

The placement and operation of communication towers, including un-guyed, unlit, monopole or lattice-designed structures, impact protected migratory birds in two significant ways.

The first is by injury, crippling loss, and death from collisions with towers and their supporting guy-wire infrastructure, where present. Mass mortality events tend to occur during periods of peak spring and fall songbird migration when inclement weather events coincide with migration, and frequently where lights (either on the towers and/or on adjacent outbuildings) are also present. This situation has been well documented in the U.S. since 1948 in the published literature (Aronoff 1949, see Manville 2007a for a critique). The tallest communication towers tend to be the most problematic (Gehring *et al.* 2011). However, mid-range (~400-ft) towers as proposed by the First Responder Network Authority (FirstNet, a newly created entity under the Department of Commerce) can also significantly impact protected migratory birds, as can un-guyed and unlit lattice and monopole towers (Gehring *et al.* 2009, Manville 2007a, 2009, 2013a). Mass mortalities (more than several hundred birds per night) at unguyed, unlit monopole and lattice towers were documented in fall 2005 and 2011 in the Northeast and North Central U.S. (e.g., Manville 2007a). It has been argued that communication towers including “short” towers do not impact migratory birds, including at the population level (e.g., Arnold and Zink 2011), but recent findings have contradicted that assertion (Manville 2007a, 2013a, Longcore *et al.* 2012, 2013).

The second significant issue associated with communication towers involves impacts from non-ionizing electromagnetic radiation emitted by these structures. Radiation studies at cellular communication towers were begun circa 2000 in Europe and continue today on wild nesting birds. Study results have documented nest and site abandonment, plumage deterioration, locomotion problems, reduced survivorship, and death (e.g., Balmori 2005, Balmori and Hallberg 2007, and Everaert and Bauwens 2007). Nesting migratory birds and their offspring have apparently been affected by the radiation from cellular phone towers in the 900 and 1800 MHz frequency ranges – 915 MHz is the standard cellular phone frequency used in the United States. However, the electromagnetic radiation standards used by the Federal Communications Commission (FCC) continue to be based on thermal heating, a criterion now nearly 30 years out of date and inapplicable today. This is primarily due to the lower levels of radiation output from microwave-powered communication devices such as cellular telephones and other sources of point-to-point communications; levels typically lower than from microwave ovens. The problem, however, appears to focus on very low levels of non-ionizing electromagnetic radiation. For example, in laboratory studies, T. Litovitz (personal communication) and DiCarlo *et al.* (2002) raised concerns about impacts of low-level, non-thermal electromagnetic radiation from the standard 915 MHz cell phone frequency on domestic chicken embryos – with some lethal results (Manville 2009, 2013a). Radiation at extremely low levels (0.0001 the level emitted by the average digital cellular telephone) caused heart attacks and the deaths of some chicken embryos subjected to hypoxic conditions in the laboratory while controls subjected to hypoxia were unaffected (DiCarlo *et al.* 2002). To date, no independent, third-party field studies have been conducted in North America on impacts of tower electromagnetic radiation on migratory birds. With the European field and U.S. laboratory evidence already available,

independent, third-party peer-reviewed studies need to be conducted in the U.S. to begin examining the effects from radiation on migratory birds and other trust species.

Discussion

Collision Deaths and Categorical Exclusions

Attempts to estimate bird-collision mortality at communication towers in the U.S. resulted in figures of 4-5 million bird deaths per year (Manville 2005, 2009). A meta-review of the published literature now suggests, based on statistically determined parameters, that mortality may be 6.8 million birds per year in Canada and the U.S.; the vast majority in the United States (Longcore *et al.* 2012). Up to 350 species of birds have been killed at communication towers (Manville 2007a, 2009). The Service's Division of Migratory Bird Management has updated its voluntary, 2000 communication tower guidelines to reflect some of the more recent research findings (Manville 2013b). However, the level of estimated mortality alone suggests at a minimum that FirstNet prepare an environmental assessment to estimate and assess the cumulative effects of tower mortality to protected migratory birds.

A second meta-review of the published mortality data from scientific studies conducted in the U.S. and Canada (Longcore *et al.* 2013) strongly correlates population effects to at least 13 species of Birds of Conservation Concern (BCC, USFWS 2008). These are mortalities to BCC species based solely on documented collisions with communication towers in the U.S. and Canada, ranging from estimated annual levels of mortality of 1 to 9% of their estimated total population. Among these where mortality at communication towers was estimated at over 2% annually are the Yellow Rail, Swainson's Warbler, Pied-billed Grebe, Bay-breasted Warbler, Golden-winged Warbler, Prairie Warbler, and Ovenbird. Longcore *et al.* (2013) emphasized that avian mortality associated with anthropogenic sources is almost always reported in the aggregate, *i.e.*, "number of birds killed," which cannot detect species-level effects necessary to make effective and meaningful conservation assessments, including determining cumulative effects. These new findings strongly suggest the need for at least an environmental assessment by FirstNet, or more likely, an environmental impact statement.

Radiation Impacts and Categorical Exclusions

There is a growing level of anecdotal evidence linking effects of non-thermal, non-ionizing electromagnetic radiation from communication towers on nesting and roosting wild birds and other wildlife in the U.S. Independent, third-party studies have yet to be conducted in the U.S. or Canada, although a peer-reviewed research protocol developed for the U.S. Forest Service by the Service's Division of Migratory Bird Management is available to study both collision and radiation impacts (Manville 2002).

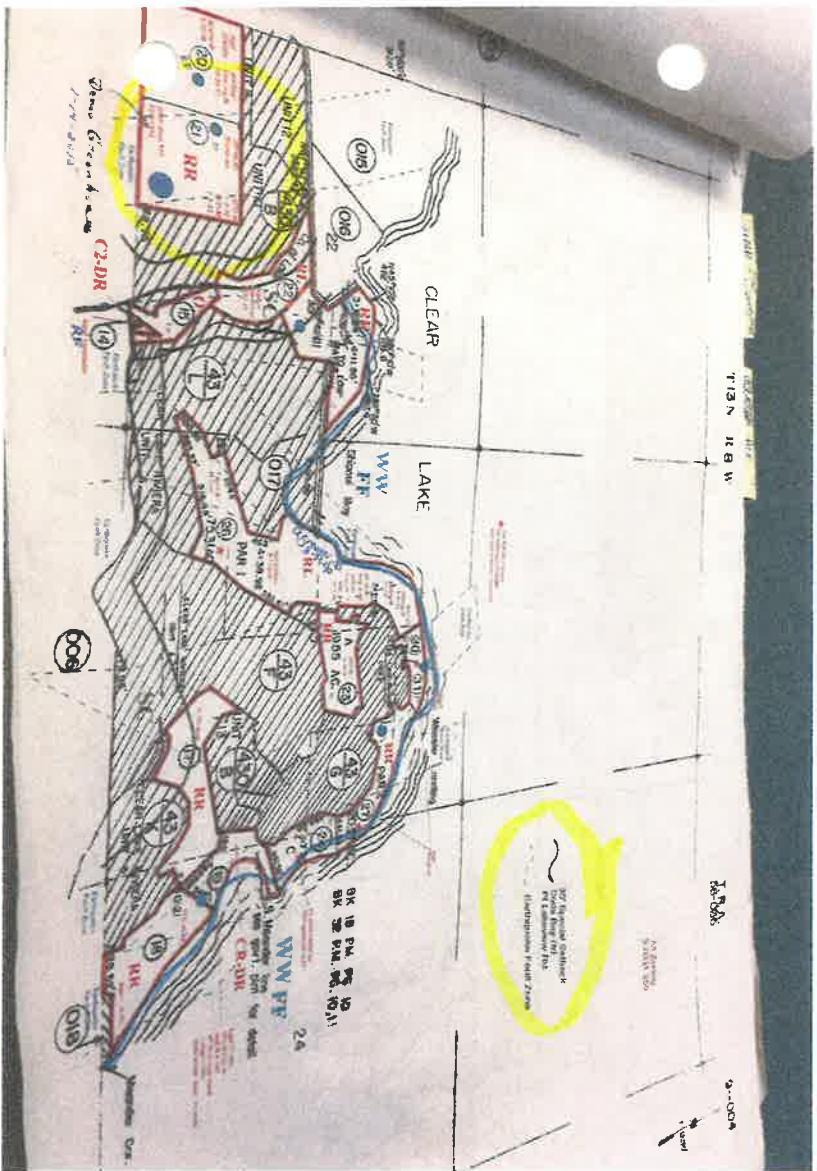
As previously mentioned, Balmori (2005) found strong negative correlations between levels of tower-emitted microwave radiation and bird breeding, nesting, and roosting in the vicinity of electromagnetic fields in Spain. He documented nest and site abandonment, plumage deterioration, locomotion problems, reduced survivorship, and death in House Sparrows, White Storks, Rock Doves, Magpies, Collared Doves, and other species. Though these species had historically been documented to roost and nest in these areas, Balmori (2005) did not observe these symptoms prior to construction and operation of the cellular phone towers. Balmori and Hallberg (2007) and Everaert and Bauwens (2007) found similar strong negative correlations

among male House Sparrows. Under laboratory conditions, DiCarlo *et al.* (2002) raised troubling concerns about impacts of low-level, non-thermal electromagnetic radiation from the standard 915 MHz cell phone frequency on domestic chicken embryos – with some lethal results (Manville 2009). Given the findings of the studies mentioned above, field studies should be conducted in North America to validate potential impacts of communication tower radiation – both direct and indirect – to migratory birds and other trust wildlife species.

Literature Cited

- Arnold, T. W., and R.M. Zink. 2011. Collision mortality has no discernable effect on population trends of North American birds. *Plos ONE* 6:e24708.
- Aronoff, A. 1949. The September migration tragedy. *Linnaean News-Letter* 3(1):2.
- Balmori, A. 2005. Possible effects of electromagnetic fields from phone masts on a population of White Stork (*Ciconia ciconia*). *Electromagnetic Biology and Medicine* 24:109-119.
- Balmori, A., and O. Hallberg. 2007. The urban decline of the House Sparrow (*Passer domesticus*): a possible link with electromagnetic radiation. *Electromagnetic Biology and Medicine* 26:141-151.
- DiCarlo, A., N. White, F. Guo, P. Garrett, and T. Litovitz. 2002. Chronic electromagnetic field exposure decreases HSP70 levels and lowers cytoprotection. *Journal Cellular Biochemistry* 84: 447-454.
- Everaert, J., and D. Bauwens. 2007. A possible effect of electromagnetic radiation from mobile phone base stations on the number of breeding House Sparrows (*Passer domesticus*). *Electromagnetic Biology and Medicine* 26:63-72.
- Gehring, J., P. Kerlinger, and A.M. Manville, II. 2009. Communication towers, lights, and birds: successful methods of reducing the frequency of avian collisions. *Ecological Applications* 19:505-514.
- Gehring, J., P. Kerlinger, and A.M. Manville, II. 2011. The role of tower height and guy wires on avian collisions with communication towers. *Journal of Wildlife Management* 75: 848-855.
- Longcore, T., C. Rich, P. Mineau, B. MacDonald, D.G. Bert, L.M. Sullivan, E. Mutrie, S.A. Gauthreaux, Jr., M.L. Avery, R.C. Crawford, A.M. Manville, II, E.R. Travis, and D. Drake. 2012. An estimate of avian mortality at communication towers in the United States and Canada. *PLoS ONE* 7(4) 17 pp, Open Access.
- Longcore, T., C. Rich, P. Mineau, B. MacDonald, D.G. Bert, L.M. Sullivan, E. Mutrie, S.A. Gauthreaux, Jr., M.L. Avery, R.C. Crawford, A.M. Manville, II, E.R. Travis, and D. Drake. 2013. Avian mortality at communication towers in the United States and Canada: which species, how many, and where? *Biological Conservation* 158: 410-419.
- Manville, A.M., II. 2002. Protocol for monitoring the impacts of cellular telecommunication towers on migratory birds within the Coconino, Prescott, and Kaibab National Forests, Arizona. Peer-reviewed research monitoring protocol requested by and prepared for the U.S. Forest Service. Division of Migratory Bird Management, USFWS. 9 pp, March 2002.
- Manville, A.M., II. 2005. Bird strikes and electrocutions at power lines, communication towers, and wind turbines: state of the art and state of the science – next steps toward mitigation. Pages 1051-1064 *In* C.J. Ralph and T.D. Rich (eds), *Bird Conservation Implementation in the Americas: Proceedings 3rd International Partners in Flight Conference*, U.S.D.A. Forest Service Gen. Technical Report PSW-GTR-191, Albany, CA.
- Manville, A.M., II. 2007a. Comments of the U.S. Fish and Wildlife Service submitted electronically to the FCC on 47 CFR Parts 1 and 17, WT Docket No. 03-187, FCC 06-164, Notice of Proposed Rulemaking, “Effects of Communication Towers on Migratory Birds.” February 2, 2007. 32 pp.
- Manville, A.M., II. 2007b. U.S. Fish and Wildlife concerns over potential radiation impacts from cellular communication towers on migratory birds and other wildlife – research opportunities. Invited Presentation to “Congressional Staff Briefing on the Environmental and Human Health Effects of Radiofrequency (RF) Radiation,” House Capitol 5, Washington, DC. 16 page PowerPoint presentation. May 10, 2007.

- Manville, A.M. II. 2009. Towers, turbines, power lines and buildings – steps being taken by the U.S. Fish and Wildlife Service to avoid or minimize take of migratory birds at these structures. Pages 262-272 in T.D. Rich, C. Arizmendi, D.W. Demarest, and C. Thompson (eds.). *Tundra to Tropics: Connecting Birds, Habitats and People*. Proceedings 4th International Partners in Flight Conference, McAllen, Texas.
- Manville, A.M., II. 2011. Estimates of annual human-caused mortality to North American birds (with literature citations). Division of Migratory Bird Management, USFWS, for public distribution. 12 pages.
- Manville, A.M., II. 2013a. Anthropogenic-related bird mortality focusing on steps to address human-caused problems. A White Paper for the Anthropogenic Panel, 5th International Partners in Flight Conference, Snowbird, Utah. August 27, 2013. 16 page peer-reviewed White Paper.
- Manville, A.M., II. 2013b. U.S. Fish and Wildlife Service (USFWS) revised guidelines for communication tower design, siting, construction, operation, retrofitting, and decommissioning -- Suggestions based on previous USFWS recommendations to FCC regarding WT Docket No. 03-187, FCC 06-164, Notice of Proposed Rulemaking, "Effects of Communication Towers on Migratory Birds," Docket No. 08-61, FCC's Antenna Structure Registration Program, and Service 2012 Wind Energy Guidelines. Division of Migratory Bird Management, Arlington, VA. 5 pages.
- U.S. Fish and Wildlife Service. 2008. Birds of Conservation Concern, 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, VA. 85 pages. <http://www.fws.gov/migratorybirds>.



Dotted Lines Indicate Earthquake Fault Lines
Proposed Project Is In Rectangles ②① ②②