Shasta County Department of Resource Management Planning Division

FOUNTAIN WIND PROJECT
ENVIRONMENTAL IMPACT REPORT

SCOPING REPORT

March 20, 2019

Use Permit No. UP 16-007
State Clearinghouse No. 2019012029

Prepared for:
Shasta County Department of Resource Management Planning Division

Prepared by:
Environmental Science Associates

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FOUNTAIN WIND PROJECT
Scoping Report

1. Introduction

The Shasta County Department of Resource Management Planning Division (County) is preparing an Environmental Impact Report (EIR) for the Fountain Wind Project as part of the County's consideration of the application for Use Permit No. 16-007 filed by Pacific Wind Development, LLC (Applicant), a subsidiary of Avangrid Renewables, LLC (Project).[1] This scoping report documents input contributed by agencies, Tribes, and members of the public during the EIR scoping period (January 15, 2019 to February 22, 2019). As the public agency with principal responsibility for carrying out or approving the Project, the County is the Lead Agency for purposes of complying with the California Environmental Quality Act (CEQA).

CEQA Guidelines Section 15083 provides that a "Lead Agency may…consult directly with any person…it believes will be concerned with the environmental effects of the project." Scoping is the process of early consultation with affected agencies and the public prior to completion of a Draft EIR. Section 15083(a) states that scoping can be "helpful to agencies in identifying the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in depth in an EIR and in eliminating from detailed study issues found not to be important." Scoping is an effective way to bring together and consider the concerns of affected State, regional, and local agencies, the Project proponent, and other interested persons (CEQA Guidelines §15083(b)). Scoping is not conducted to resolve differences concerning the merits of a project or to anticipate the ultimate decision on a proposal. Rather, the purpose of scoping is to determine the scope of information and analysis to be included in an EIR and, thereby, to ensure that an appropriately comprehensive and focused EIR will be prepared that provides a firm basis for informed decision-making. Comments not within the scope of CEQA will not be addressed through the CEQA process but will be included as part of record of information for consideration by the County as part of its decision-making process for the Project.

This report is intended for use by the County in preparing the EIR as formal documentation of initial input received from governmental agencies, Tribes, and members of the public regarding the range of actions, alternatives, mitigation measures, and potential significant effects to be analyzed in depth in the EIR. It also provides access for other agencies and members of the public to see the comments received during the scoping period.

[1] The County is conducting the EIR process, including the preparation of this Scoping Report, pursuant to the requirements of CEQA (Pub. Res. Code §21000 et seq.) and its implementing regulations, the CEQA Guidelines (14Cal. Code Regs. §15000 et seq.).

2. Description of the Project

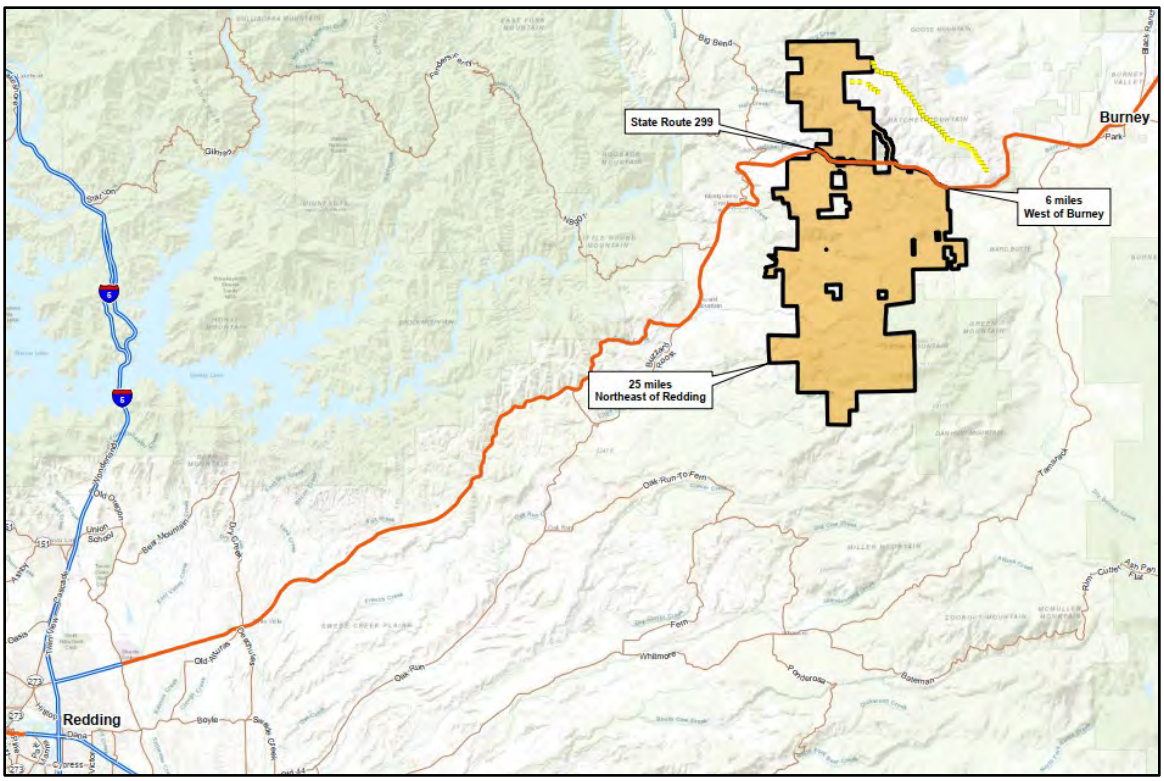
2.1 Project Summary

The Fountain Wind Project is a renewable wind energy generation development proposed by Pacific Wind Development, LLC, within an approximately 30,532-acre, privately-owned area in unincorporated Shasta County. The Applicant has applied for a Use Permit (UP 16-007) to construct, operate, maintain, and ultimately decommission up to 100 wind turbines and associated transformers together with associated infrastructure and ancillary facilities. Each turbine would be no more than 591 feet tall, as measured from ground level to vertical blade tip (total tip height), and would have a generating capacity of 2 to 4 megawatts (MW). The Project would have a maximum total nameplate generating capacity of up to 347 MW. Associated infrastructure and ancillary facilities would include: a 34.5-kilovolt (kV) overhead and underground electrical collector system to connect turbines together and to an onsite collector substation; overhead and underground fiber-optic communication lines, an onsite switching station to connect the Project to the regional grid operated by the Pacific Gas and Electric Company (PG&E), a temporary construction and equipment laydown area, 17 temporary laydown areas distributed throughout the Project site, an operation and maintenance (O&M) facility, permanent meteorological (MET) towers and either Sonic Detection and Ranging (SoDAR) or Light Detection and Ranging (LiDAR) capability, storage sheds, and temporary batch plants. New access roads would be constructed within the project boundary, and existing roads would be improved.

2.2 Project Location

The Project would be located approximately 1 mile west of the existing Hatchet Ridge Wind Project, approximately 6 miles west of Burney, 35 miles northeast of Redding, immediately north and south of California State Route 299 (SR 299), and near the community of Moose Camp and other private inholdings. See **Figure 1**, *Project Location*. Other communities near the Project area include Montgomery Creek, Round Mountain, and Wengler (each approximately 3 miles from the Project area) and Big Bend (approximately 7 miles from the Project area). The Lassen National Forest lies adjacent to the Project area southeast and the Shasta-Trinity National Forest borders the Project site to the north; other surrounding lands are privately owned.

The Project would be constructed on an up-to 2,167-acre Project site (outlined in Figure 1) located within the approximately 30,532-acres that comprise 76 Shasta County Assessor's parcels (APNs). The 76 APNs consist exclusively of private property operated as managed forest timberlands.



SOURCE: Avangrid Renewables, 2019 Fountain Wind Project

Figure 1
Project Location

3. Opportunities for Agency and Public Input

3.1 Pre-scoping Activities

The County initiated pre-scoping activities following receipt of the application for Use Permit No. 16-007. Pre-scoping activities included initial agency and community outreach, the results of which efforts were documented in an Initial Study, and consultation with Tribes pursuant to Assembly Bill (AB) 52 (Gatto, 2014). The Initial Study, initial outreach efforts, and the AB 52 consultation process are summarized below.

Initial Study

Pre-scoping activities included the preparation of an Initial Study. On the basis of the Initial Study, the County determined that preparation of an EIR would be required.

Initial Agency and Community Outreach

Initial agency outreach included communications with: The Burney Fire Protection District, California Department of Fish and Wildlife, California Department of Transportation, Central Valley Regional Water Quality Control Board, Shasta County Assessor/Recorder, Shasta County

Air Quality Management District, Shasta County Fire Department, Shasta County Office of the Sheriff, and the Shasta Mosquito and Vector Control District. Initial community outreach included communications with: The Pit Rive Tribe, Frontier Communications, and the Wintu Audubon Society. Correspondence with these agencies and members of the community is documented in the Initial Study.

Tribal Consultation Pursuant to AB 52

Pursuant to the AB 52 Tribal consultation process, CEQA lead agencies consult with tribes that are traditionally and culturally affiliated with the project area and that have requested consultation pursuant to Public Resources Code section 21080.3.1. The purpose of the consultation is to determine whether a proposed project may result in a significant impact to tribal cultural resources that may be undocumented or known only to the tribe and its members. As set forth in Public Resources Code Section 21080.3.1(b), the law requires:

> *Prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, the lead agency shall begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation.*

The County's AB52 contact list consists of Native American tribes that had submitted written requests for notification of CEQA projects within their geographic area of traditional and cultural affiliation as of December 8, 2017, when the County initiated consultation. The County sent letters by certified mail on December 8, 2017 to two representatives of the Pit River Tribe: Mickey Gemmill[2] and Morning Star Gali.[3] Each letter identified the area within which the Project is proposed as within the Tribe's geographic area of traditional and cultural affiliation. Return receipts for the certified letters indicate the letters were delivered on December 8, 2017. The County received no response to either letter.

[2] Shasta County, 2017a. Letter of Bill Walker, AICP, Senior Planner, Shasta County Department of Resource Management, to Mickey Gemmill, Chairman, Pit River Tribe, regarding Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of Determination that a Project Application is Complete, pursuant to Public Resources Code §21080.3.1. Available online: https://www.co.shasta.ca.us/docs/libraries/resource-management-docs/projects/fountain-wind-project/ab52/ltrpitrivertribemorningmickeygemmillchairman120717.pdf. December 8, 2017.

[3] Shasta County, 2017b. Letter of Bill Walker, AICP, Senior Planner, Shasta County Department of Resource Management, to Morning Star Gali, Tribal Historic Officer, Pit River Tribe, regarding Tribal Cultural Resources under the California Environmental Quality Act, AB 52 (Gatto, 2014). Formal Notification of Determination that a Project Application is Complete, pursuant to Public Resources Code §21080.3.1. Available online: https://www.co.shasta.ca.us/docs/libraries/resource-management-docs/projects/fountain-wind-project/ab52/LtrPitRiverTribeMorningStarGaliTribalHistoricOfficer120717.pdf. December 8, 2017.

3.2 Scoping Activities

Notifications

On January 15, 2019 the County published and distributed a Notice of Preparation (NOP) accompanied by the Initial Study described above, to advise interested local, regional, state, and federal agencies, as well as the public, that an EIR would be prepared for the Project. The County sent the NOP package to trustee, responsible, and potentially affected federal agencies; to the Governor's Office of Planning and Research/ State Clearinghouse; and to three libraries in the Project area. The NOP and NOP mailing list are provided in **Appendix A**.

The County sent separate notice to a mailing list of 603 recipients that included Tribes, property owners within 2 miles of the Project site, and other interested parties. The direct-mail notification and its mailing list are provided in **Appendix B**.

The County also posted an electronic copy of the NOP and the direct-mail notice on its website: https://www.co.shasta.ca.us/index/drm_index/planning_index/eirs/fountain-wind-project. A screen shot of the website as of January 16, 2019 is included in **Appendix C**. In addition to the NOP, direct mail notifications, and web posting, the County notified the public about the public scoping meeting through newspaper advertisements published in the Record Searchlight on January 15 2019, in the Mountain Echo on January 15, 2019, and in the Intermountain News on January 16, 2019. The newspaper notices are provided in **Appendix D**.

Agency Scoping Meeting

The County held an agency-specific scoping meeting on Thursday, January 24, 2019 at 2 p.m. at the Shasta County Administration Building, located at 1450 Court Street in Redding. Notes of the agency-specific scoping meeting are provided in **Appendix E**.

Public Scoping Meeting

The County held a scoping meeting for members of the public on Thursday, January 24, 2019, at the Montgomery Creek Elementary School, located at 30365 State Route (SR) 299 East in Montgomery Creek. Doors opened to view project information at 6:30 p.m.; the public scoping meeting began at 7 p.m. The presentation slides and "story boards" that were displayed at the meeting were posted on the County's website after the meeting and are provided in **Appendix F**. A transcript of comments made by speakers at the meeting is provided in **Appendix G**.

4. Summary of Scoping Input Received

The NOP and other notifications solicited comments on the scope, content, and format of the EIR. Agencies and members of the public were encouraged to submit their comments to the County by U.S. mail, e-mail, via an on-line tool, or in person at the public scoping meeting. In addition to the oral comments made at the public scoping meeting (Appendix G), written input was received from approximately 150 entities. **Table 1** identifies the agencies, Tribes, and members of the public who submitted input on or before the close of the scoping period. Copies of all written input received is provided in **Appendix H**. All input received on or before end of the scoping period is documented in this Scoping Report.

TABLE 1A
AGENCIES WHO SUBMITTED SCOPING INPUT
FOR THE FOUNTAIN WIND PROJECT

Name	Affiliation	Letter ID	Date
Curt Babcock	California Department of Fish and wildlife	A1	2/19/19
William Solinsky	California Department of Forestry and Fire	A2	1/25/29
Marcelino Gonzalez	California Department of Transportation	A3	2/12/19
Patricia Nelson	California Governor's Office of Emergency Services	A4	2/7/19
Gayle Totton	Native American Heritage Commission	A5	2/12/19
John Waldrop	Shasta County Air Quality Management District	A6	1/16/19

TABLE 1B
TRIBES AND TRIBAL MEMBERS WHO SUBMITTED SCOPING INPUT
FOR THE FOUNTAIN WIND PROJECT

Name	Affiliation	Letter ID	Date
Anguiano, James	Atsuge Band-Pit River Tribe	T1	2/14/19
Davis, Radley	Illmawi Band-Pit River Tribe	T2	2/22/19
Wolfin, Gregory	Illmawi Band-Pit River Tribe	T3	2/14/19
Yiamkis, Tony	Illmawi Band-Pit River Tribe	T4	1/24/19
McDaniels, Brandy	Madesi Band-Pit River Tribe	T5, H	2/15/19
Walters, Raquel	Madesi Band-Pit River Tribe	T6	2/7/19
Cawker, Donna	Pit River Tribe	T7	1/28/19
Forrest-Perez, Natalie	Pit River Tribe THPO	T8	2/14/19
Riggins, Patricia	Pit River Tribe	T9	2/14/19
Johnson, Melany	Susanville Indian Rancheria THPO	T10	2/14/19

NOTE: In identifying individuals as Tribal members, this report relies on self-identification by the correspondents; except for those identified as Tribal Historic Preservation Officers, tribal membership has not been confirmed. Within the Column "Letter ID," the letter "T" refers to the designation of the letter or other communication included in Appendix H, whereas the letter "H" indicates that scoping input also was received at the public scoping meeting as documented in the transcript included in Appendix G.

TABLE 1C
ORGANIZATIONS AND MEMBERS OF THE PUBLIC WHO SUBMITTED SCOPING INPUT FOR THE FOUNTAIN WIND PROJECT

Name	Letter ID	Date
Alward, Lon	P1	2/04/19
Alward, Lori	P2	2/10/19
Alward, Lyda	P3	2/08/19
Sheila	P4	2/14/19
Baga-Weaver, Angel	P5	2/14/19
Baier, Edmond and Irene	P6, H	2/04/19
Baker, Bryce	P7	2/19/19
Baker, Douglas	P8	2/18/19
Baker, Nadine	P9	2/19/19
Baker, Traci	P10	2/18/19
Bales Mountain Quarry	P11	2/11/19
Bates, Linda	P12	2/19/19
Beaver, Linda & Marvin	P13	2/06/19
Benton, Crystal	P14	2/14/19
Billings, Bruce	P15	1/30/19
Bond Weiland, Susan	P16	2/5/19
Bond, Richard & JoAnne	P17	2/18/19
Boyan, Barbara and Craig	P18	2/04/19
Brown, Erin	P19	2/14/19
Brown, Jeremy	P20	2/18/19
Brown, Naomi and Greg	P21	1/19/19
Bucholz, John	P22	2/05/19
Buelow, Teri	P23	2/03/19
Byers, Brook	P24	2/10/19
Carreno, Sabrina	P25	1/24/19
Carter, Nancy	P26	1/30/19
Chamberlain, Mark	P27	1/28/19
Coughlin, Dan	P28	2/16/19
Danielson, Jeanne	P29	2/11/19
Dickson, Kelly	P30	2/18/19
Dorroh, Lynn	P31	2/11/19
Epperson, Ron	P32, H	2/06/19
Evans, William	P33	2/11/19
Fenimore, George	P34	2/13/19
Ferguson, Jon	P35	2/14/19
Ferguson, Lynn	P36	2/13/19
Flood, Laurie	P37	2/12/19

Name	Letter ID	Date
Forster, Carol	P38	2/14/19
Forster, Carol and James	P39	2/14/19
Freeman, Jonathon	P40	2/22/19
Frolich, Jennifer	P41	2/14/19
Gable, John	P42, H	2/02/19
Gheen, Pat	P43	2/13/19
Gifford, Jennifer	P44	2/16/19
Good, Mike and Kathy	P45	2/19/19
Hall, Mike	P46	2/21/19
Henning, Nick	P47	2/22/19
Henrich, Pedro	P48	2/14/19
Holden, Richard	P49	2/22/19
Humphreys, Robert	P50	2/14/19
Jenkins, Deever	P51	1/28/19
Johnson, Steven	P52	2/10/19
Karabats, Janis	P53, H	2/15/19
Kauer, Rick	P54	2/02/19
Kay Douglas, Lorrie	P55	2/20/19
Kloeppel, Robert	P56	2/08/19
Knauer, Chuck	P57	2/6/19
Lammers, John	P58	2/12/19
Lammers, Prudence and Robert W	P59	2/19/19
Lammers, Robert	P60	2/7/19
Lancaster, Gail and Dwayne	P61	2/21/19
Langlois, Lionel	P62, H	2/11/19
Larson, David	P63	1/26/19
Lattin, Jess	P64	2/22/19
Leaf, Seabrook	P65	2/14/19
Loveness, Linda	P66	2/22/19
Lynch, Gina	P67	2/10/19
Lynch, Robin	P68	2/10/19
Lynch, Ryan	P69	2/10/19
MacDonald, Keith	P70	2/22/19
Maher, Mary	P71	2/14/19
Martin, Lindsay	P72	2/14/19
Mazzini, Jessie	P73	1/28/19
McDonald, Lisa	P74	2/08/19

TABLE 1C (CONTINUED)
ORGANIZATIONS AND MEMBERS OF THE PUBLIC WHO SUBMITTED SCOPING INPUT FOR THE FOUNTAIN WIND PROJECT

Name	Letter ID	Date
McVey, Susan	P75	1/24/19
Messick, Elizabeth	P76, H	2/12/19
Micheletti, Monica	P77	2/20/19
Miller, Carol	P78	1/28/19
Murphy, Doug	P79	2/14/19
Murphy, Elizabeth	P80	2/10/19
Murphy, Hannah	P81	2/11/19
Murphy, Morgan	P82	2/10/19
Murphy, Spencer	P83	2/10/19
Narducci, Gary and Sharon	P84	2/11/19
Oliveira, Laureen	P85	2/14/19
Osa, Joseph and Maggie	P86, H	2/13/19
Osa, Maggie	P87, H	2/08/19
Owens, L.A	P88	2/19/19
Palatino, Charles and Cynthia	P89, H	1/31/19
Popejoy, Bill and Brenda	P90	2/04/19
Rains, Randal	P91	1/23/19
Reed, Kevin	P92	2/14/19
Sierra Club	P93	1/27/19
Simonis, Angela	P94	2/14/19
Skalland, Shari	P95	2/22/19
Sours, Judy	P96	1/29/19
Sours, Stan	P97	1/27/19
Spackman, Jeff	P98	2/11/19
Stanford, David	P99	2/22/19
Stapp, John and Sandra	P100	2/11/19
Stein, Bruce	P101	2/10/19
Stoneback, Keith	P102	2/22/19
Stremple, Susan	P103	2/10/19
Stremple, Theresa	P104	2/11/19
Sublette, Karen	P105	2/22/19
Swarts, Myra and Orvil	P106	2/10/19
Swarts Stremple, Myrna	P107	2/10/19
Tassen, Paula	P108	1/30/19
Tavares, Trudy	P109	2/11/19
Taylor, Patricia	P110	2/21/19
Tinkler, Candace	P111	1/28/19
Waldkirch, Lori	P112	1/28/19
Watson, Evan	P113	2/11/19
White, Jaclyn	P114	2/12/19
Wiegand, Jim	P115	2/14/19
Willett, Kathy	P116	2/14/19
Williams, Marvin & Linda	P117	2/4/19
Williams, Ralph	P118	2/14/19
Wintu Audubon Society	P119	2/14/19
Woodward, Anne Marie M.D.	P120	1/20/19

NOTE: Within the Column "Letter ID," the letter "P" refers to the designation of the letter or other communication included in Appendix H, whereas the letter "H" indicates that scoping input also was received at the public scoping meeting as documented in the transcript included in Appendix G.

4.1 Approach to the Consideration of Scoping Input

The County has reviewed the full text of all scoping input received and will consider it in preparing the EIR. Summaries of the issues raised are provided below for ease in review by other agencies and members of the public.

Input Received on Issues Outside the Scope of CEQA

CEQA requires lead agencies in preparing an EIR to analyze significant effects on the environment. For purposes of CEQA, the term "environment" means the physical conditions that exist in the area that will be affected by a proposed project including "land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance…. The 'environment'

includes both natural and man-made conditions" (Pub. Res. Code §21060.5; CEQA Guidelines §15360). Input on topics that are beyond the scope of CEQA was received during the scoping period. Examples of such input include comments about:

a. Economic changes, such as financial benefits to the community (such as a desire to receive donations from the applicant to support scholarships or community programs, or lower energy costs) or others (such as potential workers or suppliers of Project materials) if the Project is approved (including the owner of the Project site and whether the applicant is a foreign or domestic entity), or declines in tourism-related income. CEQA is clear that potential impacts to property values are beyond the scope of CEQA, no matter how potentially severe they may be [*Porterville Citizens for Responsible Hillside Development v. City of Porterville* (2007) 157 Cal.App. 4th 885, 903].

b. Perceptions of unfair distribution of benefits and burdens of the local community relative to more distant, urban areas in terms of renewable energy production and energy demands;

c. Psychological and social impacts on community character also are beyond the scope of CEQA. *Preserve Poway v. City of Poway* (2016) 245 Cal.App.4th 560. The character of the communities that would be affected by the Project have been described generally in scoping input as reflective of "country living, quiet, pure and clean", "undisturbed by civilization," and as "a refuge from city life." Community character input also was received in connection with changes being experienced in people's expectations regarding the ability to use their neighbors' land (such as increasingly strict anti-trespassing policies);

d. Expressions of favor or disfavor for renewable energy, the Project, an aspect of the Project, or a potential alternative without reference to a change in the environment that would be attributable to the Project; and

e. Non-project-specific comments, including quotations from legal requirements without providing a stated connection to the project, and general feelings about renewable energy, the wind industry, or comments about other energy projects where questions about the reliability of data or other issues may remain.

The County acknowledges its receipt of input that is beyond the scope of CEQA and has included it in the record of materials for consideration by decision-makers even though it will not be addressed in the EIR. The environmental consequences of a project are but one of multiple factors that may be taken into consideration when a Lead Agency is deciding whether or not to approve a proposal.

Input Received on Issues Within the Scope of CEQA

The purpose of scoping is to solicit input as to the scope and content of the EIR, including potential impacts of concern and mitigation measures or alternatives to be considered. This type of input was received during the scoping period and is summarized below. These summaries include "raw" input that has not been vetted for accuracy; they represent to the greatest extent possible commenters' actual input.

a) Aesthetics

Scoping input was received regarding the existing environmental setting, which includes: Daytime and nighttime views of the Hatchet Ridge Wind Project, which are described as visible

from Interstate (I)-5 and locations in Modoc and Siskiyou counties; two major transmission lines that are described as "crisscrossing" the Montgomery Creek/ Round Mountain community before connecting to the regional grid PG&E's Round Mountain substation; the Fountain Fire burn scar; and SR 299. Scoping input regarding regulatory setting suggests that the County consider the General Plan section that addresses the visual effects of all new development.

Scoping input expressed general concerns about impacts to existing daytime and nighttime views, the potential to limit the possibility of SR 299 being designated a scenic highway at some point in the future; and requests to analyze potential changes to views from nearby homes (including private properties in Moose Camp) and to views from geographic locations (including SR 299, Round Mountain, Oak Run, Burney, Mount Shasta, Castle Crags State Park, Redding, Bella Vista, Palo Cedro, Anderson, Cottonwood and I-5, Fall River Mills, Lassen Volcanic National Park, and Big Valley Point).

Commenters suggested that project elements that could trigger changes in aesthetic resources include site preparation activities (e.g., timber removal, road construction), and construction, operation, maintenance, and decommissioning of the proposed turbines, meteorological towers, and overhead power lines. Commenters identified the density and proximity of the proposed turbines to viewers as causing potential impacts, as well as the introduction the motion of turbine blades in the landscape and as perceived as "shadow flicker." Commenters identified the potential for FAA-required safety lighting to affect existing night-sky conditions as a concern for affected residents and other observers. Commenters suggested that temporary disturbances would change views during the time needed for the temporarily disturbed areas to be reclaimed and that permanently-cleared or minimally-revegetated areas (e.g., for the underground and above ground transmission lines) are to be considered. Commenters also suggested that the addition of truck traffic where now there is very little traffic at all would affect the scenic character of the area.

To assess potential cumulative effects, commenters identified the following for inclusion as part of the cumulative scenario specifically with respect to aesthetics: The Hatchet Ridge Wind Project and its impacts, including shadow flicker across SR 299.

To mitigate anticipated impacts to aesthetics, commenters suggested consideration of the following measures: eliminating turbines, relocating them north of SR 299, relocating them further south of SR 299, increasing setbacks, and painting turbine towers and blades a color other than white or with a pattern would have less visual impact.

b) Agriculture and Forestry Resources

No scoping comments were received regarding agriculture resources. Scoping input received regarding forestry resources noted that the site is subject to herbicide use and thinning under existing (baseline) conditions and included expressions of concern that the development of a wind project on the proposed site would: 1) remove trees that have taken years to recover from prior wildfire events, 2) result in tree removal on a much greater scale than if commercial timber harvesting were approved, and 3) result conversion to non-timber-producing use, where the forest conversion could lead to loss of nutrient-rich topsoils, disrupted nutrient cycling, and increased erosion.

To assess potential cumulative effects, commenters identified the following for consideration as part of the cumulative scenario specifically with respect to forestry: the growing scarcity of productive forest lands through timberland conversion, harvesting associated with timber harvesting plans (THPs), and the devastating impacts of recent forest fires, drought, and tree mortality in Shasta County and nearby areas.

c) Air Quality

Scoping input from the Shasta County Air Quality Management District advises the County that the AQMD typically refers to California Health and Safety Code Section 41700 as the guideline when dealing with prohibited discharges, and nuisance complaints, but has not specifically defined "substantial." Regarding the regulatory setting, the AQMD also recommends the following for the County's consideration: Protocol for Review- Land Use Permitting Activities (Nov. 2003), Environmental Review Guidelines- Procedures for Implementing CEQA (Nov. 2003); and Rule 3:2 (Specific Air Contaminants), Rule 3:16- (Fugitive Emissions), Rule 3:31 (Architectural Coatings) and Rule 3:32 (Adhesives and Sealants). Further, all heavy equipment operating on site must be registered under the State of California Portable Equipment Registration Program; on site fuel dispensing and storage must meet California Phase 1 vapor recovery requirements; and, in the event that operations are being conducted in an area containing naturally occurring asbestos, a plan shall be submitted that meets the requirements of the Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations.

Other air quality-related scoping comments related to the proximity of residential receptors to project emissions from construction materials delivery vehicles (including wide or "super" loads for turbine components) originating outside the county, secondary impacts resulting from increased emissions from other vehicle delays resulting from traffic controls and lane closures required for materials delivery, emissions from construction worker commute trips and construction vehicles, on-site vehicle and equipment emissions for site preparation-related timber harvesting, and dust. Comments noted that dust would be caused by construction work, travel on Project roads in and near Moose Camp (resulting in declining attendance of functions at the social hall and events that include cooking and eating outdoors). One comment noted that the prevailing south-west winds of summer would exacerbate the Project's anticipated dust-related impacts. Another expressed concern that water truck-based applications would not be sufficiently effective in reducing dust impacts during construction or during the life of the Project thereafter.

d) Biological Resources

Scoping input received regarding the environmental setting for the analysis of biological resources identified the fact that the Project site that was replanted after the Fountain Fire, and is maintained with herbicide use and thinning. Existing invasive species in the area include: Scotch Broom, Pampas Grass, Star Thistle and Johnsongrass. Further, the Project area abuts both the Lassen National Forest and the Shasta-Trinity National Forest.

Regarding data inputs to be considered in the analysis, one scoping commenter questioned whether the Applicant's bird point count surveys adequately estimate all avian species that use the project area due to an inconsistency with recommendations in guidance published by the California Energy

Commission. Another commenter suggested that bird count surveys should (but so far do not) account for sand hill cranes' seasonal migration in early spring and late fall. More information was requested about why avian surveys were not conducted of nighttime migration for the Sandhill crane, in light of anecdotal evidence that the migration of this species descends into the proposed turbines' rotor range during storm events in winter. Nighttime migration survey methods (including radar, acoustical and near-infrared) were recommended. Further, scoping comments mention wolverine sitings on Hatchet Ridge, crossings of SR 299, and presence in the Tahoe National Forest, scoping comments suggest that these sitings could indicate recolonization of this species' California habitat may be in progress and, on this basis, request furbearer studies. Other input notes that site terrain and landforms are distinguishable from the Hatchet Ridge Wind Project site, and so information from that project site should be considered with caution in the context of this site. Finally, recognizing that the Project site has the potential to support aquatic, riparian, or wetland habitat, one commenter requested that a preliminary jurisdictional delineation be provided of lakes, streams, and associated riparian habitats potentially affected by the Project including wetlands identification pursuant to the U.S. Fish and Wildlife Service's definition of "wetland" as adopted by the California Department of Fish and Wildlife.

Regarding the regulatory setting, scoping input identifies the following laws as relevant to the analysis: The Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and the Bald and Golden Eagle Protection Act (BGEPA).

Potential impacts of concern identified relate to all manner of flora and fauna, including:

- Vegetation, wetlands, and whether the analysis would consider streams, creeks, peats, bogs and meadows and aquatic habitat for brook trout and other fish;
- Rare, threatened, and endangered plants, and California rare plants that were identified as existing near the northern part of the Project area on U.S. Forest Service lands;
- Elderberry longhorn beetle identified in scoping comments as present along SR 299;
- Fully-protected animals (e.g., ring-tailed cat);
- The pack of gray wolf near Lassen National Park (federally/State endangered);
- Species of Special Concern;
- Invertebrates/insects, fish, amphibian (frogs, salamanders), reptiles, and other wildlife species (birds, mammals);
- common wildlife species (game, non-game, specially-protected species, etc.) also were identified in comments as present in the Project area, including rabbits, fox, raccoon, California Brown bear, wolverine, American marten, badger, mountain lion, bobcat, Rocky Mountain elk, and deer; and
- Wildlife corridor/movement areas and other key seasonal use areas.

Scoping input identifies several avian species in the Project area, including nesting and other raptors (i.e., bald eagles, golden eagles, red-tailed hawks, red kite, osprey, Northern goshawk, Northern spotted owl, great grey owl); Species of Special Concern (e.g., olive-sided flycatcher

and yellow-headed blackbird); yellow warbler, migrating and other waterbirds and fowl (i.e., Sandhill crane, which migrates in early spring and late fall, white pelican, heron, hooded merganser, swan, Canadian geese, and mallards) and other birds, including hummingbirds, woodpeckers, mountain jays and crows.

Scoping comments request that the analysis consider the potential for the proposed turbines to result in mortality, injury, or displacement or other adverse impacts to the avian species that inhabit, nest in, pass or migrate through, or forage within the Project area. Scoping comments request that the analysis estimate the number of birds that would be killed by collisions with different sizes of towers and at different tower densities and layouts and the potential for disturbance to nest sites and foraging habitat from increased human intrusion from traffic, noise, road widening, and the construction of ancillary facilities and structures. Regarding the hoary bat and other bats, scoping input recommends consideration of the work of Curt Babcock. Other input refers to studies suggesting that changes in electric field and air pressure effects in the vicinity of turbine blade tips can burst the capillaries in the lungs of bats that fly near them, and request that the analysis evaluate this potential impact.

Other temporary and permanent impacts of concern were identified as relating to forest habitat, habitat fragmentation, edge effects associated with new or wider roads and other cleared areas, and the potential for the proposed vegetation clearing to increase the amount of light that penetrates the forest floor, which may result in displacement and changes in species composition. Scoping input also suggests that the proposed diversion of water to construct the project would negatively impact biodiversity and that the Project could contribute to cyanobacteria/toxic algae that would harm members of the community. Other impacts identified as being of potential concern relate to Project activities' potential to spread invasive species; introduce noise that, at even moderate levels (40-60 dB) is associated with physiological and behavioral changes in birds, terrestrial mammals, amphibians, and bats; introduce "infrasound," which is sound waves with frequencies below the lower limit of 20Hz that may affect the behavior and well-being of animals including geese, worms, chickens and cows; introduce hazardous features that could trap, displace, or lead to death of wildlife; and introduce artificial lighting that could have adverse impacts to birds and nocturnal species. Scoping comments asked whether the proposed red blinking light technology would disrupt the normal, natural balance of the ecosystem based on comparability to products as "Nite Guard Solar-Powered Night Animal Predator Light," which is claimed to successfully deter and frighten nocturnal species such as owls, coyotes, opossum, raccoons, fox, bobcats, muskrats, bears, cougar, wild boar, mink and weasels. Fisheries dependent on the water quality afforded by the existing ecosystem, scoping input suggests, would be disrupted by the proposed construction activities.

For inclusion in and consideration as part of the cumulative scenario specifically for biological resources, scoping input identifies the permanent and temporary reduction of several thousand acres of habitat as a result of timberland conversion, fires, drought and tree mortality; other sources of avian mortality including buildings, windows, and domestic cats; other sources of bat mortality including mosquito abatement projects dating back to the 1960s; and trend data indicating declines in populations for species such as spotted owl, goshawk, and English peak greenbriar.

Scoping input identifies potential mitigation measures to avoid or reduce potential impacts to biological resources, including whether painting turbine towers and blades a color other than white or with a pattern could reduce bird strike impacts, whether the color of the FAA security lighting could be changed to reduce the attractiveness to birds; and whether a greater carcass search distance could be imposed than previously required to more accurately quantify avian mortality.

e) Communication Interference

Scoping input requests that the EIR analyze whether Project components such as wind turbines or meteorological towers could cause communications interference that adversely affects residents' and others' ability to coordinate with emergency service providers via cell phone, 2-way radio, landlines, or the internet. One comment also asked about potential interference with television reception. Concerns were raised specifically regarding potential interference with the communications infrastructure and communications needs of SHASCOM (the Shasta Area Safety Communications Agency), California Highway Patrol, air ambulance service providers such as PHI and REACH, aviation companies that use the flight path over the proposed site, and Valley Industrial Communications, which repairs and handles repeaters and radio problems for public safety entities such as the Sherriff's Office and SHASCOM.

f) Cultural

Scoping input received regarding Tribal Cultural Resources is summarized in subsection s), below. Scoping input about cultural resources more generally suggests that analysts inquire with the California Historical Research Information System (CHRIS) regarding archeological records, and with the Native American Heritage Commission regarding sacred lands file research and tribal consultation. Potentially affected historic resources were identified as including Moose Camp, official historical sites on the Buffum Homestead that were certified after the 1992 Fountain Fire, and a cabin within the Project site that was built in the 1800s that would have to be demolished. The potential to disturb human remains including Indian burials and burial sites also was identified. Mitigation measures were recommended relating to the potential for inadvertent discoveries and regarding the disposition of non-burial recovered cultural items. Caltrans asked whether a historic resource recordation area report would be required and, if so, requested inclusion in conversations regarding any proposal to include SR 299.

g) Economic and Social Impacts

Expressly in the context of CEQA Guidelines Section 15131(a)'s "chain of cause and effect" provision, the County received scoping input suggesting that the project's impacts to existing scenic vistas would have a detrimental effect on property values that would cause a reassessment of property values and corresponding loss in tax revenues relative to current conditions. Input from a forensic appraiser in Wisconsin was received, and requests for a guarantee of compensation against property loss relating to the Project were made. Additional input was received suggesting that a pattern of behavior exists of targeting socio-economically suppressed areas, and exploiting them for personal gain.

h) Energy

Scoping input received regarding the environmental setting for the analysis of energy, including energy efficiency, includes seven hydropower plants in the Project area (Pit #1 through Pit #7) with additional hydropower plants including the ones located at Shasta Dam, Spring Creek Power plant, Judge Francis Carr Powerhouse, Trinity Dam and Keswick Dam; as well as five privately owned hydropower plants in Shasta County, including Balta on Battle Creek, Kilarc on Cow Creek, Hat Creek, Roaring Creek and Haynes Burney Creek. The existing energy setting also includes Wheelabrator and cogeneration power plant facilities in Shasta County.

Scoping commenters request that the analysis consider fuel use for construction equipment, backup power generation, construction vehicles, and worker transportation to/from the Project site as well as for vehicles idling on SR 299 during materials delivery and as required to start/re-start a turbine. Other comments request disclosure of the difference between estimated and actual power generation from the turbines, including an explanation of the existing sources of energy that would be replaced by this Project; and consideration not only of whether water diverted for Project use would reduce the water going through existing hydropower plants, but also that the transmission of power over long distances is not efficient.

i) Geology and Soils

Scoping input received regarding the environmental setting for geology and soils suggest that landslides and road collapses are not uncommon in the project area and identify the presence of Montgomery Creek formations, which are described as “extremely permeable” primarily alluvial fan deposits of sand and mixed rocks. Comments question whether such deposits are suited for the proposed foundations, suggest that the compaction that would be needed to provide road access throughout the site could alter the current underground water flows to Class 1 streams, and note that applications of pesticides could degrade water quality. A “full geological investigation” is requested to address movement of water throughout the geology.

j) Greenhouse Gas Emissions and Climate Change

The County received scoping comments regarding the existing environmental setting for the evaluation of impacts relating to greenhouse gas (GHG) emissions and climate change, including about annual rainfall assumptions and annual average wind speed.

Input also expressed concern that operation of the wind turbines could result in “localized atmospheric warming” (also referred to as a “heat island effect”) that would affect the snow pack and temperatures required to grow apples. The possibility also was raised that the wind turbulence of turbines located along ridge lines could impact local weather by disrupting normal air flow over ridge tops, that spinning turbine rotors increase the vertical mixing of heat and water vapor, thereby affecting downwind meteorological conditions, including rainfall.

Multiple scoping comments requested disclosure of the Project’s net effect on GHGs, including any reduction of other green sources of energy production (such as local hydroelectric capacity that would have to be throttled back during the operation of the proposed turbines) and any reduction in the site’s GHG sequestration capacity caused by the temporary and permanent

removal of thousands of acres of forest. Comments also requested that the analysis provide a "cradle-to-grave" carbon lifecycle analysis that factors in emissions associated with the mining, manufacture, transportation, and construction of turbines, concrete, rebar, and other materials for the Project.

k) Hazards and Hazardous Materials

Scoping input relating to Hazards and Hazardous Materials suggest consideration of Shasta County's local hazard mitigation plan, which addresses wildfires and other hazards. Potential causes or contributors to hazards were identified as increased truck traffic on Moose Camp roads, activities that would disturb natural deposits of arsenic (which could be released to surface waters), and equipment that could leak of toxic chemicals or flammable oils (such as transformers, turbines, or batteries).

l) Hydrology and Water Quality

Scoping input regarding the existing environmental setting for Hydrology and Water Quality identify a host of headwaters, surface waters, and other sources of drinking water in the Snow Mountain area, including: Hatchet Creek, Montgomery Creek, the South Fork of Montgomery Creek, Goat Creek, Indian Springs, Willow Creek, Cedar Creek, Blue Lake, Little Cow Creek, the North Fork of Little Cow Creek, Mill Creek, Cheddar Creek, Sawdust Creek, and Buffum Creek. Drinking and agricultural water for the 20-family community of Wengler is pulled from Roaring Creek through the Vaughn Ditch. Area waters also are used for recreational activities (swimming and fishing) as well as for aquatic habitat.

There are three existing wells in Moose Camp that provide water for domestic use; an additional well is located at the Caltrans Hillcrest Rest Area. Existing groundwater quality is described as full of iron and minerals that make the water from some wells unsuitable for gardening or domestic use. There is one fire hydrant in the area; it is located at the Halcumb Cemetery in Montgomery Creek.

Regarding the regulatory setting, scoping input requests the use of current reports or other information from the water board regarding the present status of the water table and the Pit River watershed.

Many comments expressed concern about potential impacts to existing water rights and water supplies (including creeks, rivers, ditches, springs, and wells) resulting from hydrologic disturbance caused by construction and other stresses on the aquifer from temporary and permanent clearance of timber, road widening, application of gravel to ground surfaces, compaction of earth, cable trenching and related clearance, transmission line infrastructure and related clearance, excavation for foundations including the burying of concrete, blasting, and Project-caused vibration. Because soils in the area are broken "volcanic rock, fragile and extremely fast draining," there is widespread concern that the use of heavy equipment could change the direction of underground water flows. Concerns about potential impacts caused by Project-related water use (e.g., for dust suppression) were raised, as were concerns about the potential for Project activities to contaminate area waters due to erosion and runoff from

construction-related soil disturbance in the watershed, hazardous materials that could leak or drip onto the ground and then migrate to area waterways or wells, or the proposed use of Round Up, similar defoliants, soil sterilants, or herbicides to clear or maintain land within the Project site.

Regarding cumulative effects specifically to hydrology and water quality, scoping input recommends consideration of onsite and offsite water courses and springs, sediment yields, and water quality in light of existing stresses on area waters, including from illegal marijuana grow operations' water demand and pesticide use (e.g., carbofuran, and neurotoxic insecticide) which contaminate the water.

m) Land Use and Planning

Scoping input asked whether the Project would be consistent, or would conflict, with Shasta County Code Section 17.92.025 regarding use permits for high voltage electrical transmission and distribution projects.

n) Noise and Vibration

Scoping input identified existing potential receptors in Moose Camp that could be affected by increased noise and vibration during the Project's construction, operation, and maintenance. Comments suggested that noise could result from additional vehicles traveling along the main road proposed between the two substations (which would abut residential property) and along the three roads that surround Moose Camp's fence line, from heavy equipment and from the proposed concrete plant; from operation of the turbines (including low frequency sonic and infrasonic noise caused by the blades combined with the creaking and groaning of the structures) and from operation of the power lines (described in scoping comments as the "hissing sound," "constant buzz" and "sizzle and pop" audible in winter or when it is cold or moist). Vibration could be caused by operation of the turbines.

o) Public Health

Scoping input described the existing environmental setting for the EIR's consideration of potential impacts to human health as including the identification of Shasta County and the Round Mountain area as having the highest rates of cancer, neurological disorders, suicide, osteoporosis, and dementia in the state; and the fact that the intermountain community is made up primarily of older citizens, who may be more susceptible to health impacts.

Scoping comments specifically identified questions or concerns relating to blade throw, ice throw, the potential exacerbation of dust-related allergies, and for light pollution to compromise health. Other scoping comments identified concerns relating to electromagnetic radiation (EMF) from high voltage power lines and turbines and their potential to cause neurological problems, cancer, Alzheimer's disease, dementia, Parkinson's disease, and depression. Other comments identified shadow flicker and its potential to trigger epileptic seizures, migraines or affect mental health. Some comments focused on infrasound (i.e., sound waves with frequencies below the lower limit of 20Hz) and the potential it may have to cause neurological and physiological disorders resulting in feelings of sea sickness, annoyance, fatigue, pressure or tinnitus (ear ringing), sleep disturbance or sleeplessness, headaches, or vibroacoustic disease. Other scoping

input identified the use of glyphosate weed killers such as Roundup as having potential to cause cancer and/or deoxyribonucleic acid (DNA) disruption, resulting in sterility and deformities. Concerns about an unspecified condition called "wind turbine syndrome" also were raised as having the potential to cause sleep disturbance, headaches, tinnitus, a sense of quivering or vibration, dizziness, nausea, nervousness, high blood pressure or rapid heartbeat, difficulty with concentration, memory loss, irritability and anger, and seizures.

Potential mitigation measures proposed in scoping comments to address potential health impacts include not build high-powered lines within 1,000 feet of any existing residence and increasing setbacks to 1,500 feet, filtering inverters, and burying collector lines.

p) Public Services

Scoping input regarding Public Services in the Project area note that Cal OES provides community support, including disaster response and recovery, that the local community is served by a volunteer fire department (the Montgomery Creek Fire Company). Concerns expressed relating to Public Services include potential inhibition of the use of the emergency flight care helipad in Moose Camp for transport of sick or injured from Alturas to Redding, preclusion of the use for emergency egress to SR 299 of the road outside the yellow gate to the west of Moose Camp, and whether water diverted for Project use would reduce the water source serving the only fire hydrant in the Project area (located at the Halcumb Cemetery in Montgomery Creek).

q) Recreation

Although there are no parks in the project area, scoping input suggests that the Project would affect areas that provide recreation based on swimming, hunting and fishing, hiking, biking, cross-country skiing, snowmobiling, and bird watching.

r) Transportation

Scoping input received regarding the existing environmental setting for the EIR's analysis of transportation suggest that SR 299 is narrow, of steep grade in the Project area, and subject to commercial accidents on a regular basis. Further, there is a road located within 100 feet of Moose Camp that provides the owner of the Lammer Ranch access to SR 299, and has provided emergency ingress/egress for residents of Moose Camp since the 1930s; this road is "seldom used."

Concerns were expressed about the potential for the Project to result in impacts to transportation during construction, operation, and maintenance. During construction, potential impacts could result from the number and size of loads needed to transport and deliver of turbine components (SR 299) and gravel. Delays could adversely affect emergency vehicles trying to get through town; local users of SR 299 and adjoining roads; and commuters heading to Redding for work, entertainment or shopping. The analysis also should consider delays during the time to repair SR 299 post-materials delivery. Potential impacts during operation and maintenance could be caused by members of the general public wanting to get up close to the turbines (as they do for the Hatchet Ridge Wind Project), regular traffic to/from the O&M Facility (which is proposed on a road located within 100 feet of Moose Camp that provides the owner of the Lammer Ranch

access SR 299 and emergency ingress/egress to SR 299 for residents of Moose Camp) and use of the main road proposed between the two substations (which abuts residential property).

s) Tribal Cultural Resources

Scoping input regarding Tribal Cultural Resources note that natural and cultural resources are indistinguishable from the Pit River Peoples and are a central element of the spirituality, traditional ceremonial practices, religious expressions, history, and identity of the Tribe and Tribal members. Tribal members explain that the Tribe and its nation have deep ties to the area, which they describe as a place of refuge, ceremony, healing, prayer, fasting, hunting, gathering, and other sacred traditional uses. Burial grounds are believed to present in the Project area. Tribal members express concern that the construction, operation, and maintenance of the Project could infringe on the freedom of religion and the cultural practices of the Pit River Tribe and other Indian Tribal Nations in the region and that the Project could adversely affect sacred sites, traditional plants, and the viewshed of mountains held sacred by the Tribe including Yet-Tey-Cha-Na (Lassen Peak) and Kohm Yamani (Snow Mountain). Comments mention an old ridgetop trail connects the Pit River to Goose Valley to the Lassen area and has traditionally been, and continues to be, used to reach remote areas during vision quests. The ridge also is identified as a boundary between the Itsatawi, Madesi and Atsugewi Bands. Birds traditionally important to the Pit River culture (such as eagles and eagle nests, osprey, ducks, and geese) cross the ridge and could be injured or killed by the turbine blades. Deer also migrate across the ridge. Commenters suggest that sounds generated by the Project could disrupt bird and animal patterns, as well as human experiences in the area. Existing conditions identified in comments as contributing to ongoing impacts to tribal cultural resources include burdens from power generating activities associated with the Hatchet Ridge Wind Project, power lines, dams, and PG&E hydroelectric activities.

Scoping input identifies sources of information and relevant regulation of impacts to Tribal Cultural Resources as including federal and state statutes, declarations, executive orders, resolutions, decrees, and conventions; guidance documents provided by the Native American Heritage Commission; and, regarding the ridgetop trail, old General Land Office Maps. The Tribal Historic Preservation Officer (THPO) from the Susanville Indian Rancheria asked whether it is too late to request consultation under AB 52.

t) Utilities and Service Systems

Regarding Utilities and Service Systems, scoping comments ask whether existing electrical infrastructure is adequate to transmit electricity to be generated by the Project reliably and safely once it hits the Round Mountain station operated by PG&E. It is suggested that these lines are at or over electrical capacity during peak times 7 months or more of the year.

u) Wildfire

Scoping input received regarding the existing environmental setting for the EIR's analysis of potential impacts related to wildfire note that the Project is proposed in an area designated by the California Department of Forestry and Fire Protection as a "State Responsibility Area (SRA)," as

a "Very High Fire Hazard Severity Zone (VHFHSZ)," and as within approximately 1.5 miles of the 1992 Fountain Fire at Round Mountain. Existing conditions are windy; the terrain is (up to 25 percent grade). There is a history of lightning strikes and fires, both natural and human-caused, in the area. Options for ingress and egress are limited. Furthermore, the existing forest, which was planted after the Fountain Fire, is mostly pine. Trees are approximately 20-30 feet tall and grow 3-4 feet apart, deer brush and manzanita grow in the understory, and years of pine needles cover the forest floor. It is suggested that the current owners will not allow controlled burns to occur because of the timber value. Regarding the regulatory setting, scoping comments note that Shasta County recently prepared a local hazard mitigation plan that addresses wildfires and other hazards.

Potential Project-related ignition sources identified in scoping comments include: road-building activities (e.g., scraping, grinding, blasting), installation and operation of new electrical infrastructure, the use of existing transmission lines that may sag and reduce vegetative clearance, and addition of turbines in the landscape that might act as lightning rods or malfunction, igniting a fire at such a height that it cannot easily be extinguished. Commenters note that the largest wildfires in the State began under transmission lines, including the Fountain Fire for which this Project is named. Other potential impacts identified include the exacerbation of existing challenges to aerial firefighting by the Forest Service and others, including restrictions on flying near turbines or dropping fire retardant; wildfire impacts on equipment, roads, culverts, fencing, runoff (water quality), and wildfire visual impacts to adjacent landowners.

Suggested mitigation measures include tending the forest before any major construction starts and planting trees appropriate distances apart rather than brush (even if the brush is native to the area). Scoping input suggests that the cumulative scenario for wildfire-related impacts should include ongoing impacts of the Fountain Fire of 1992 and the Camp and Carr fires of 2018.

v) Alternatives

Scoping comments regarding potential alternatives suggested that the EIR evaluate:

i. No Project alternative

ii. Reduced-project alternative (i.e., with fewer turbines and/or a more concentrated placement of turbines);

iii. Modified project alternative that restricts turbines to at least 1 mile from the Moose Camp fence, or moves them to the south relative to the existing proposal or north of SR 299;

iv. Alternative sites, such as off-shore in Central California or on-shore in Modoc County, Tehama County, Contra Costa County's Altamont Pass, Kern County's Tehachapi Pass, Riverside County's San Gregorio Pass, or someplace with less carbon sequestration potential than the proposed conifer and deciduous forest location or repowering the Applicant's existing wind facilities (including Dillon, Tule Wind, Phoenix Wind, Manzana Wind, Mountain View III, and Shiloh);

v. Alternative technologies, such as solar, cogeneration, or increasing hydroelectric generating capacity at existing Shasta County facilities); and

vi. Alternative approaches, including conservation and demand side management and improving the efficiency of existing infrastructure for the delivery and storage of excess power already generated in California.

w) Cumulative Scenario

The EIR will analyze the potential for the Project's impacts to combine with the incremental impacts of other projects to cause or contribute to significant cumulative effects. The cumulative scenario will include ongoing impacts of past projects, as well as the impacts of other present and reasonably-foreseeable, probable future projects. Scoping input suggests that the cumulative scenario should include:

- Timber Harvesting Plans (THPs), including the Terry Cloth 144-acre 99 percent clear-cut THP approved in 2015 along Hatchet Ridge;
- Other wind energy projects, including the Hatchet Ridge Wind Project as well as wind projects in Solano County, the Altamont Pass, and Tehachapi Pass;
- Other power lines, including PG&E's lines into and out of the substation where the Project would connect;
- The area's fire history, including the Carr, Hirtz, and Delta fires as well as the Montgomery Creek fire that occurred in August 2018;
- Other natural events, including volcanic eruptions

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Appendix A
Notice of Preparation

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NOTICE OF PREPARATION

Fountain Wind Project

TO: State Clearinghouse
Distribution List (attached)

FROM: Shasta County
Dept. of Resource Management,
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

EIR CONSULTANT:
Environmental Science Associates
Janna Scott, Project Manager
550 Kearny Street, Suite 800
San Francisco, CA 94108

CONTACT:
Lio Salazar, AICP, Senior Planner
Phone: (530) 225-5532
E-mail: lsalazar@co.shasta.ca.us.
Mail: See mailing address above.

SUBJECT: Notice of Preparation of an Environmental Impact Report (EIR)

PROJECT TITLE: Fountain Wind Project (Use Permit No. UP 16-007)

Shasta County is the Lead Agency under the California Environmental Quality Act (CEQA), and is preparing an Environmental Impact Report (EIR) for the project identified as the Fountain Wind Project, a wind energy project proposed on private timberland and consisting of up to 100 wind turbines with a generating capacity of up to 347 megawatts. The purpose of this Notice of Preparation (NOP) is to solicit guidance from Responsible, Trustee, and other agencies (as well as input from members of the public) as to the scope and content of the EIR, including potential impacts of concern and mitigation measures or alternatives that should be considered. The project location and project site are shown in Figure 1, which is attached to this NOP.

The probable environmental effects of the project are identified in the Initial Study attached to this NOP. Detailed project information, including the Initial Study, is currently available on the internet:

https://www.co.shasta.ca.us/index/drm_index/planning_index/eirs/fountain-wind-project

WRITTEN SCOPING COMMENTS: Written scoping comments will be accepted at any time during the 30-day scoping period. Due to the time limits mandated by state law, your response must be sent at the earliest possible date, but not later than the deadlines described below. Direct all questions and send all written comments to the project CONTACT (listed above).

PUBLIC SCOPING MEETING NOTICE: Shasta County will hold a public scoping meeting for agencies and individuals to learn more about the CEQA process for this project, and to receive comments regarding the appropriate scope and content of the EIR. The meeting will be held Thursday, January 24, 2018, at Montgomery Creek Elementary School, located at 30365 State Highway 299 East, Montgomery Creek, CA 96065. Doors will open at 6:30 p.m. for informal viewing of project related information. The formal scoping meeting will begin at 7:00 p.m.

If you do not have internet access or have trouble downloading project information from the internet address noted above, a copy may be reviewed or obtained at the Shasta County Dept. of Resource Management, Planning Division located at 1855 Placer Street, Suite 103 Redding, CA 96001. You may also call, e-mail, or mail the project CONTACT (listed above) for assistance.

If you would like to receive e-mail notifications about the Fountain Wind project, please email FountainWind411@esassoc.com with "Subscribe" in the subject line. The County will not sell your electronic contact information to anyone for any purpose. However, any information you provide may be subject to disclosure in response to a request for public information about the project.

The project description, location, and probable environmental impacts are noted in the Initial Study. The Initial Study preliminarily identifies the issues anticipated to be addressed briefly in the EIR (either because the resource is not present in the area or would not be affected by the project) and those impacts that the EIR will address in more detail. The EIR also may consider environmental issues that are raised by Responsible Agencies, Trustee Agencies, other interested agencies, and members of the public during the scoping process.

We need to know the views of your agency or organization as to the scope and content of the EIR germane to your agency's statutory responsibilities or to areas of interest to your organization in connection with the proposed project. Specifically, we are requesting the following:

1. If you are a public agency, state if your agency will be a responsible or trustee agency for the project and list the permits or approvals from your agency that will be required for the project and its future actions;
2. Identify potential significant environmental effects and mitigation measures that you believe need to be explored in the EIR with supporting discussion of why you believe these effects may be significant;
3. Describe special studies and other information that you believe are necessary for the County to analyze the potential significant environmental effects, alternatives, and mitigation measures you have identified;
4. Provide the name, title, e-mail address, and telephone number of the contact person from your agency or organization that we can contact regarding your comments.

Due to the time limits mandated by State law, your response must be received by the County of Shasta by the following deadlines:

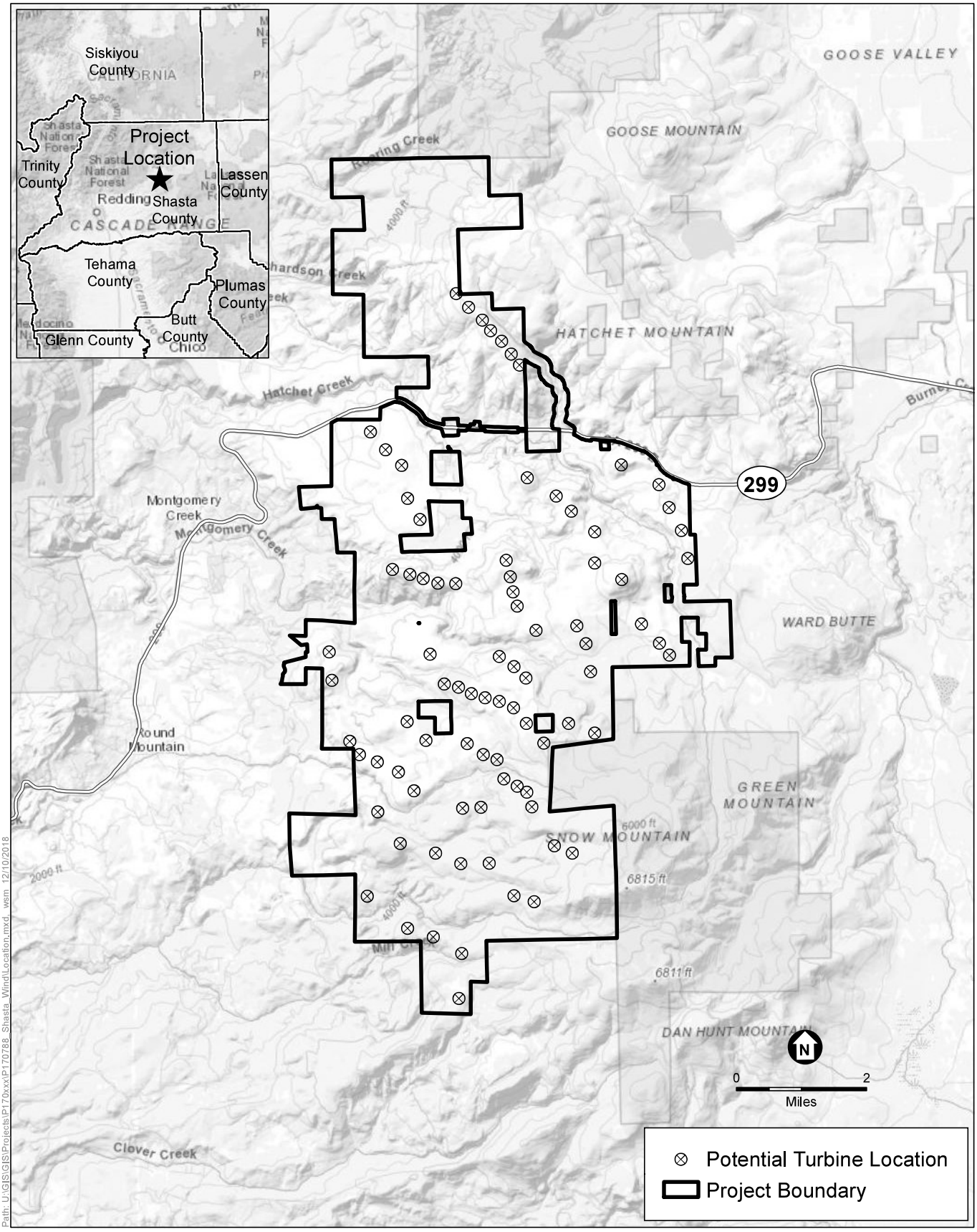
- **For responsible and trustee agencies, not later than 30 days after you receive this notice,**
- **For all other agencies, organizations, and individuals not later than 30 days following the publication of this Notice of Preparation. The 30-day review period ends on Thursday, February 14, 2019.**

If we do not receive a response from you, your agency or organization within the applicable time frame, we will presume that you, your agency or organization has no response to make.

A Responsible Agency, Trustee Agency, or other public agency may request a meeting with Shasta County or its representatives in accordance with CEQA Guidelines Section 15082(c). A public scoping meeting will be held during the scoping period as noted above. Electronic copies of project-related documents and technical studies are available online via a project-specific webpage at: https://www.co.shasta.ca.us/index/drm_index/planning_index/eirs/fountain-wind-project.

Date: January 15, 2019

Lio Salazar, AICP, Senior Planner



Fountain Wind NOP

Figure 1
Project Location

ESA

Fountain Wind Project NOP Distribution List

Name	Affiliation	Address	City	State	Zip	Email	Delivery Method
Morgan, Scott	State Clearinghouse	1400 Tenth Street	Sacrament	CA	95814	scott.Morgan@opr.ca.gov	FedEx
Salazar, Lio (Senior Planner)	Shasta County Department of Resource Managemen	1855 Placer Street, Suite 103	Redding	CA	96001	lsalazar@co.shasta.ca.us	Certified Mail
Goland, Kristen	Pacific Wind Development, LLC	1125 NW Couch Street, Suite 70(	Portland	OR	97209	kristen.goland@avangrid.com	Certified Mail
	Shasta Cascades Timberlands, LLC c/o New Forests	235 Pine Street, Suite 1475	San Francis	CA	94104		Certified Mail
Shillinglaw, Brian (Re: Fountain Wind Project)							
Babcock, Curt (Habitat Conservation Program Manager)	California Department of Fish and Wildlife	601 Locust Street	Redding	CA	96001		Certified Mail
	Central Valley Regional Water Quality Control Board,	364 Knollcrest Drive Ste 205	Redding	CA	96002	Dannas.Berchtold@waterboards.ca.gov	Certified Mail
Berchtold, Dannas J.							
Bosenko, Tom	Shasta County Sheriff's Office	300 Park Marina Circle	Redding	CA	96001	tbosenko@co.shasta.ca.us	Certified Mail
Bradley, Mike	California Department of Forestry and Fire Protectior	6105 Airport Road	Redding	CA	96002		Certified Mail
Brown, Jeff	Caltrans Division of Aeronautics	P.O Box 942874	Sacrament	CA	94274-0001	jeff.brown@dot.ca.gov	Certified Mail
Fletcher, Dale (Building Division Manager)	Shasta County Department of Resource Managemen	1855 Placer Street, Suite 102	Redding	CA	96001	DFletcher@co.shasta.ca.us	Certified Mail
Grah, Kathy	Caltrans District 2, Local Development Review MS6	1657 Riverside Drive	Redding	CA	96001-0536	Kathy.grah@dot.ca.gov	Certified Mail
	California Department of Fish and Wildlife	601 Locust Street	Redding	CA	96001	Kristin.Hubbard@wildlife.ca.gov	Certified Mail
Hubbard, Kristin (Environmental Scientist)							
	U.S. Army Corps of Engineers, Sacramento District, R	310 Hemstead Drive STE 310	Redding	CA	96002	Matthew.P.Kelley@usace.army.mil	Certified Mail
Kelley, Matthew P.							
Norris, Jennifer	U.S. Fish and Wildlife Service	2800 Cottage Way, W2605	Sacrament	CA	95825		Certified Mail
Re: Fountain Wind Project	Federal Aviation Administration, U.S. Department of	800 Independence Avenue, SW	Washingto	DC	20591		Certified Mail
Re: Fountain Wind Project	California Department of Forestry and Fire Protectior	PO Box 944246	Sacrament	CA	94244		Certified Mail
Re: Fountain Wind Project	California Highway Patrol- Redding Office	2503 Cascade Boulevard	Redding	CA	96003		Certified Mail
	Shasta County Department of Resource	1855 Placer Street, Suite 201	Redding	CA	96001	cserio@co.shasta.ca.us	Certified Mail
Serio, Carla	Management, Environmental Health Division						
	Central Valley Regional Water Quality Control Board,	364 Knollcrest Drive Ste 205	Redding	CA	96002	Bryan.Smith@waterboards.ca.gov	Certified Mail
Smith, Bryan							
	US Navy, Military Training Routes					Alexander.stone@navy.mil	Email
Stone, Alexander (U.S. Navy Pacific Fleet)							
	Shasta County Air Quality Management District	1855 Placer Street, Suite 101	Redding	CA	96001	jwaldrop@co.shasta.ca.us	Certified Mail
Waldrop, John							
Zanotelli, Jimmy (Fire Marshal)	Shasta County Fire Department	875 Cypress Ave	Redding	CA	96001	Jimmy.Zanotelli@fire.ca.gov	Certified Mail
Re: Fountain Wind Project	Shasta County Library, Anderson Branch	3200 West Center St	Anderson	CA	96007	askus@shastalibraries.org	US Post
Re: Fountain Wind Project	Shasta County Library, Burney Branch	37038 Siskiyou Street	Burney	CA	96013		US Post
Tracy, Anna	Shasta County Library	1100 Parkview Avenue	Redding	CA	96001	annat@shastalibraries.org	US Post

ENVIRONMENTAL INITIAL STUDY

Fountain Wind Project
Pacific Wind Development, LLC

June 28, 2018

ENVIRONMENTAL INITIAL STUDY
with
References and Documentation

Prepared by Stantec and Pacific Wind Development, LLC in co-ordination with and for
SHASTA COUNTY DEPARTMENT OF RESOURCE MANAGEMENT
PLANNING DIVISION
1855 Placer Street, Suite 103
Redding, California 96001

SHASTA COUNTY
ENVIRONMENTAL CHECKLIST FORM

1. Project Title:
Fountain Wind Project (UP16-007)

2. Lead agency name and address:
Shasta County Department of Resource Management, Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001-1759

3. Contact Person and Phone Number:
Lio Salazar, AICP, Senior Planner, (530) 225-5532

4. Project Location:
The Project would be located west of the existing Hatchet Ridge Wind Farm, approximately 6 miles west of Burney, 5 miles northeast of Redding, and immediately north and south of State Route 299 East.

5. Applicant Name and Address:
Kristen Goland, Pacific Wind Development, LLC
1125 NW Couch Street, Suite 700
Portland, OR 97209

6. General Plan Designation:
Timber (T)

7. Zoning:
Timber Production (TP) and Unclassified (U)

8. Description of Project:
The Fountain Wind Project (Project) will consist of up to 100 wind turbines and associated infrastructure, with a nameplate generating capacity of up to approximately 347 megawatts. The Project will be located on 76 Assessor parcels totaling approximately 30,532 acres. In addition to the wind turbines and associated transformers, the Project includes ancillary facilities such as lay-down areas, access roads, underground and overhead collector lines, an operation and maintenance building, and substation components. See Section 1.0 for a complete description of the proposed Project.

9. Surrounding Land Uses and Setting:
The Project will be entirely within privately owned lands which are currently and would continue to be operated as managed forest timberlands. An approximately 64,000-acre (100 square miles) burn scar from the Fountain Fire, which impacted the area in 1992, coincides with northern portions of the Project area. The Lassen National Forest is adjacent to the southeast; other surrounding lands are privately owned. Communities in the vicinity of the Project include Burney, Moose Camp, Hillcrest, Wengler, Montgomery Creek, and Round Mountain.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):
See Section 1.6 for a list of local, state, and federal permits/approvals expected to be required. See Appendices B and C for agencies preliminarily consulted or notified.

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, has consultation begun?
No formal consultation request was received in response to a letter sent to the Pit River Tribe on December 8, 2017.

NOTE: Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☒	Aesthetics	☒	Agricultural & Forestry Resources	☒	Air Quality
☒	Biological Resources	☒	Cultural Resources	☒	Geology / Soils
☒	Greenhouse Gas Emissions	☒	Hazards & Hazardous Materials	☒	Hydrology / Water Quality
☒	Land Use / Planning	☐	Mineral Resources	☒	Noise
☐	Population / Housing	☒	Public Services	☐	Recreation
☒	Transportation / Traffic	☒	Tribal Cultural Resources	☒	Utilities / Service Systems
☒	Mandatory Findings of Significance				

DETERMINATION: (To be completed by the Lead Agency)
On the basis of the initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☒ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR of NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Copies of the Initial Study and related materials and documentation may be obtained at the Planning Division of the Department of Resource Management, 1855 Placer Street, Suite 103, Redding, CA 96001. Contact Lio Salazar, AICP, Senior Planner at (530) 225-5532.

Lio Salazar, AICP
Senior Planner

June 28 2018
Date

for Richard W. Simon, AICP
Director of Resource Management

June 28, 2018
Date

1.0 PROJECT DESCRIPTION

The Fountain Wind Project (Project) is a renewable wind energy generation development to be constructed and operated in eastern Shasta County, California, by Pacific Wind Development, LLC (PWD or Applicant), a subsidiary of Avangrid Renewables, LLC. The Project would consist of wind turbines and associated infrastructure, with a nameplate generating capacity of up to approximately 347 megawatts (MW).[1] The Project would be located west of the existing Hatchet Ridge Wind Farm, approximately 6 miles west of Burney, 35 miles northeast of Redding, and immediately north and south of California State Route 299 (SR 299; see Figure 1). It would be constructed within an area of approximately 30,532 acres of private land, distributed over 76 tax assessor parcels, owned by Shasta Cascades Timberlands, LLC.

The lands underlying the Project are zoned as Timber Production (TP) and Unclassified (U) under the Shasta County Zoning Plan. Shasta County Code (SCC) Section 17.08.030(D) pertains to the TP district and allows, with approval of a use permit, the construction of "gas, electrical, water, or communication transmission facility, or other public improvements, in accordance with Government Code Section 51152." Per SCC Section 17.64.040, a wind energy system is allowed with approval of a use permit in the U district as long as it is not otherwise prohibited by law and not inconsistent with any portion of the General Plan[2]. Per SCC Section 17.88.035, a Use Permit is required in all districts for wind energy systems which do not meet the definition of "small wind energy system," defined as being greater than 50 kilowatts in size. Consistency with the General Plan is further discussed in Section 2.10.

The Project would consist of up to 100 turbines, each having a generating capacity of 2 to 4 MW. The Project would also include ancillary facilities such as construction laydown areas, temporary batch plant(s) - if needed, access roads, underground and overhead collector lines, an operations and maintenance (O&M) facility, storage sheds, and substation components. The Project layout presented in Figure 2 represents proposed locations of Project infrastructure. PWD is currently conducting a number of environmental studies to collect additional site condition information (ongoing and anticipated studies are described in Section 3.0). Information gained from these studies will be used to further refine the Project layout, as appropriate, to avoid and minimize environmental impacts and meet project objectives.

1.1 Project Location and Existing Site Conditions

PWD has a long-term lease of approximately 30,532 acres with Shasta Cascade Timberlands, LLC for construction and operation of the Project. This leased area is hereafter referred to as the Project area. However, all proposed Project activities would occur within the Project site, a smaller area which is currently being studied. The Project site constitutes survey corridors for the Project within which all ground-disturbing activities, both permanent and temporary, would occur and which would be occupied by permanent Project facilities.

The Project area is located in the southern end of the Cascade Range and is within the Cascades Ecological Region (USEPA 2013), which is a Level III ecoregion primarily covering parts of Oregon and Washington but also including a discontinuous land area near Mt. Shasta in California. This ecoregion is characterized by underlying volcanic rock strata and a physiography defined by recurring periods of glaciation. With high plateaus and valleys that trend east-west, this ecoregion includes steep ridges as well as both active and dormant volcanoes, and is marked by a generally mesic, temperate climate which supports productive coniferous forests. At higher elevations, subalpine meadows may occur that support unique flora and fauna. The Project area is characterized by a number of buttes and peaks separated by small valleys formed by a number of tributaries in the Pit River and Cow Creek Watersheds. Significant waterways within the Project area include the north and south forks of Montgomery Creek and Little Cow Creek. Elevations within the Project area range from approximately 3,000 to 6,600 feet.

Land ownership within the Project area is exclusively private, consisting of managed forest timberlands. An approximately 64,000-acre (100 square miles) burn scar from the 1992 Fountain Fire, which impacted the northern portions of the Project area. The Lassen National Forest lies adjacent to the southeast; other surrounding lands are privately owned. Communities in the vicinity of the Project include Burney, Moose Camp, Hillcrest, Wengler, Montgomery Creek, and Round Mountain. State Route 299 East bisects the Project area with the majority of the Project area (23,791 acres) located south of the highway. The Project area is accessible via several existing named and unnamed private roads extending from SR 299 East (Figure 2).

1.2 Project Overview

This section provides an overview of each of the Project facilities. These include:

- Up to 100 turbines erected on tubular steel towers set on concrete foundations, with associated turbine pads, laydown areas, and potentially (based on turbine model) pad mounted transformers;
- A 34.5-kilovolt (kV) overhead and underground electrical collector system linking each turbine to the next and to the onsite collector substation;
- An overhead and underground communication system (fiber optic cabling) adjacent to the electrical collector system;
- An onsite collector substation and switching station for connecting the Project to the existing Pacific Gas and Electric Company (PG&E) transmission line;
- Access roads, consisting of existing and new roads;
- A temporary, 10-acre construction and equipment laydown area, construction trailer area, and associated parking area;
- Seventeen temporary, 2-acre laydown areas distributed throughout the Project site;
- An O&M facility including an operations building and outdoor storage area;
- Permanent meteorological (MET) towers and one Sonic Detection and Ranging unit or one Light Detection and Ranging unit;
- Storage sheds; and
- Temporary batch plant(s) - if needed.

Typical dimensions and disturbance areas for each Project component are provided in Table 1-1. The proposed Project layout is shown in Figure 2.

Table 1-1. Project Facilities and Disturbance Areas

Project Component	Quantity	Typical Area of Construction Soil Disturbance (Total)	Typical Area of Permanent Disturbance (Fill/Structures/Grading)[1]
Turbines and pads (incl. construction laydown areas)	Up to 100	5 acres per turbine	2.5 acres per turbine[2]
Underground electrical collector system[3]	Up to 56 miles	50-foot-wide per linear foot	30-foot-wide corridor maintained clear of large vegetation where it deviates from paralleling access roads
Overhead electrical collector line (including roads for construction, pull points, and pole construction) and 2-track road to access during operations[4]	Up to 16 miles	100-foot-wide per linear foot	50-foot-wide right-of-way per linear foot cleared of large vegetation
Onsite collector substation and switching station	1	25 acres	collector substation – 5 acres switching substation – 15 acres
Access roads (includes crane roads)[5]	Up to 21 miles of new roads Current layout shows 87 miles of existing roads that may potentially be used	40.0-foot-wide per linear foot drivable surface and nominally 80.0-foot-wide for construction clear area	20-foot-wide per linear foot with a 1-foot shoulder on both sides and nominally up to an additional 6-feet on either side where required for storm water drainage design
O&M facility	1	5 acres	5 acres, with 5,460-square foot O&M Building
Operations storage sheds	2	NA (located in temporary laydown areas)	0.5 acres

Table 1-1. Project Facilities and Disturbance Areas

Project Component	Quantity	Typical Area of Construction Soil Disturbance (Total)	Typical Area of Permanent Disturbance (Fill/Structures/Grading)[1]
Temporary construction and equipment area, construction trailer area, and associated parking area	1	10 acres	0.0 acres
Temporary laydown areas	17	2 acres per laydown area	0.0 acres
Temporary batch plant, if necessary	2	3 to 5 acres	0.0 acres
MET towers	2	1 acre per structure	0.1 acres
Anticipated Total Construction Disturbance 2,167 acres			
Anticipated Total Permanent Disturbance 972 acres			

[1] Permanent impact acreages are a subset of total impacts.
[2] Includes defensible fire space around each turbine.
[3] Portions of the electrical collector system would be within the access road construction buffer; no additional permanent impacts would occur in these areas. Note that acreage includes co-located underground communications system (cabling)
[4] For impact calculations assumed a 7-foot-wide corridor centered on the transmission line; actual impacts would be less and limited to pole and pull site locations. Note that acreage includes co-located overhead communications system (cabling)
[5] Acreage includes both existing and new road segments.

1.2.1 Wind Turbines

PWD is currently considering a range of turbine models from leading manufacturers, varying in generating capacity and dimensions. Models selected for the project would in combination meet the desired approximately 347 MW nameplate generating capacity of the Project. The final turbine model and specific number of turbines will be selected based on availability at time of construction, conformance with PG&E grid requirements, onsite wind resources, and other Project-specific factors.

The turbines would be three-bladed, horizontal-axis models, meaning that the rotor shaft and nacelle, which houses the electrical generator, are mounted at the top of a tubular tower, and must be pointed into the wind. Turbine towers would be mounted on a concrete pedestal supported by a permanent concrete foundation. Turbine models being considered range in height; however, none will exceed a maximum height at the top of the blade of 591 feet above ground level. Turbine dimensions representative of models under consideration are shown in Figure 3. Each turbine will require a step-up transformer which would either be housed within the turbine nacelle or approximately 5 feet from the tower foundation on a reinforced concrete box pad, approximately 9 by 9 feet.

A Federal Aviation Administration (FAA) approved lighting plan would be developed for the Project. This plan would specify the installation of flashing red lights on designated turbines and met towers to improve nighttime visibility for aviation.

A temporary construction work area, or turbine pad, would be cleared and graded for each turbine. Work areas vary in size, and would be constructed differently in keeping with each turbine site's topography. A typical turbine pad is shown in Figure 4. Although turbine pad size and configuration would vary depending on terrain, each turbine pad would require an approximately 200-foot by 250-foot area that is cleared and leveled to approximately 2 percent slope or less. The cleared area is necessary for foundation excavation and construction, assembling the turbine, and also to stage the construction crane which would hoist turbine sections into place. Additional area would be needed for rotor assembly depended upon site conditions and installation. The turbine construction area would not be paved. A compacted-soil crane pad would be located within the 200-foot by 250-foot turbine pad area; however, the actual crane pad size and location would be determined by the contractor in the field. The crane pad would provide a soil bearing capacity designed to provide a stable foundation for the crane and would be left in place post construction.

Turbine foundations will likely be spread footing and specifically designed as determined by geotechnical investigations. Spread footings, would be primarily buried underground to a depth of approximately 10 to 15 feet with a pedestal extending approximately 1 foot above ground. The base would be approximately 50 to 80 feet in diameter, depending on the turbine

model selected. Prior to finalizing the location of each turbine, soil borings would be collected to verify soil and rock characteristics to an approximately 50-foot depth to ensure sufficient soil strength and bearing capacity to provide a stable foundation for the turbine.

Once construction is completed, a permanent 15-foot gravel ring would be placed around the base of the foundation. The gravel would provide a stable surface area for maintenance vehicles, and would minimize surface erosion and runoff. All temporarily impacted areas would be replanted with non-aggressive resident species that are compatible with wind farm operations, replacing timber stock for future production where appropriate and with native, slow-growing shrubs and hardwoods elsewhere. This would be conducted in accordance with the Shasta County Fire Department, per a project-specific Fire Management Plan developed in concert with the Shasta County Fire Department.

1.2.2 Electrical Collector System and Communications System

Power generated by the turbines would be collected by an electrical collector system which would consist of both aboveground and underground 34.5-kV power lines. This system would feed into an onsite collector substation, which would step up the voltage and transmit the power to the point of interconnect with the PG&E transmission system. The majority of the collector system would be located underground and installed adjacent to the onsite access road bed where possible. Where necessary, portions of the collector system would be above ground to transmit power that would otherwise require multiple underground cables, respond to construction challenges or to avoid environmental impacts. These include:

- Corridors where it is necessary to transmit more than 20 to 25 MW, which exceeds the capability of an underground cable.
- Steep terrain, where the use of backhoes and trenching machines is infeasible or unsafe;
- Stream and wetland crossings, where an aboveground line can avoid or minimize environmental impacts;
- The presence of cultural resources, where an aboveground line can avoid or minimize impacts; and
- The presence of soils with low thermal conductivity (preventing adequate heat dissipation from the conductor) or rocky conditions that significantly increase trenching costs.

For the underground portions of the electrical collector system, cables would be directly buried in trenches and would terminate at individual turbines, at locations where they connect to junction boxes, overhead power lines, or at the onsite substation. Depending on the subsurface conditions, the need for blasting is not expected but may be required to install the trenches. Each trench would contain power cables, a ground wire, a fiber optic communication cable for the Supervisory Control and Data Acquisition (SCADA) system (to transmit data from the turbine controllers to the onsite substation and O&M facility) and a marker tape above the cables to alert anyone digging in the area. Although designs have not been finalized, PWD anticipates that the underground collector cable system would be placed within a 46-inch-deep and at least 12-inch-wide cable trench generally located along the length of the proposed turbine access roads. Typical cable trench details used for construction of the underground electrical system are shown in Figure 5.

Where the underground collector system would be co-located with access roads no additional ground disturbance would occur in association with construction of the underground electrical collection system (i.e., disturbance is accounted for in association with the access roads). In areas where the underground collector system trenches are not able to be co-located with access roads, up to a 50-foot-wide temporary disturbance area would be required. Underground portions of the collector system would have no permanent impacts; however, a 30-foot-wide corridor would be maintained clear of large vegetation where underground collector lines deviate from paralleling access roads.

Above ground portions of the electrical collector system would have a maximum pole height of 90 feet and wire heights ranging from 20 to 30 feet above the ground unless special circumstances warrant different clearances. This will not be known until final construction drawings are completed. Clearing for installation of the overhead collector line would require a temporary workspace consisting of an approximately 100-foot-wide corridor centered on the overhead line, within which a 50-foot-wide corridor would remain permanently disturbed with low vegetation and two track access for maintenance. However, actual permanent impacts would be considerably less, limited to individual pole locations. PWD would design all

aboveground collector lines in accordance with the Avian Protection Plan Guidelines prepared by the U.S. Fish and Wildlife Service (USFWS; USFWS 2005) and the Edison Electric Institute's Avian Power Line Interaction Committee (APLIC 2012). All temporarily impacted areas would be replanted with non-aggressive resident species that are compatible with wind farm operations, such as short, native, slow-growing shrubs. A Habitat Restoration Plan and Vegetation Management Plan will be developed prior to construction. Typical overhead electrical collector pole design is shown in Figure 6.

1.2.3 Onsite Collector Substation and Switching Station

The onsite collector substation and switching station would increase the voltage of the electricity from the 34.5 kV collection system voltage to 230 kV, the same voltage as the existing PG&E 230-kV line. The switching station would be co-located with the substation and would facilitate the interconnection of the Project's electricity to the PG&E transmission line. Approximately 25 acres would be needed for construction of the substation and switching station. The final permanent footprint of the substation and switching station site would be approximately 5 acres for the collector station and 15 acres for the switching station and consist of a graveled area, fence, and parking area for maintenance vehicles.

1.2.4 Access Roads

Access to the Project site would be provided from SR 299 onto existing logging roads. Internal Project access would be facilitated by the addition of new roads and the use of existing, privately owned logging roads, which would be improved as needed and widened to meet construction and maintenance activity requirements. Existing roads will be used to the extent possible. For the purpose of estimating maximum potential impacts, this discussion assumes the same level of disturbance for all Project access roads.

During construction, select portions of existing roads within the Project site would be widened to, and new access roads would be constructed to, approximately 40-foot drivable surface with 20 feet on each side for cut, fill, and construction, for a nominal 80-foot-wide total disturbance area. The road surface would be a graded and graveled all-weather surface. Based on the preliminary layout shown in Figure 2, PWD anticipates road modifications would be needed for portions of private logging roads off of SR 299, to accommodate turbine component delivery and other large delivery trucks, potentially including cranes and other heavy construction equipment. However, the road layout may be modified as the Project design is refined to maximize use of existing roads.

As required, existing culverts would be replaced with wider or stronger culverts. For both new and existing roads, drainage improvements would be made in accordance with the Project's erosion control plan pursuant to the Project's National Pollution Discharge Elimination System (NPDES) permit. Figures 7a and 7b show typical road designs. For more information on cut and fill, grading, blasting and culvert locations see Section 1.3.

During operation, service vehicles and equipment would continue to use Project access roads for routine maintenance activities. Permanent access road widths would be reduced to 20-feet-wide drivable surface with a 1-foot shoulder on both sides and nominally up to an additional 6-feet on either side where required for stormwater drainage design. However, in areas where significant cuts and fills were required to construct the road, permanent disturbance may be as wide as 60 feet to accommodate stormwater controls and road design. Permanent access roads would be maintained through periodic grading and compacting to minimize naturally occurring erosion. Catch basins, roadway ditches, and culverts would be cleaned and maintained regularly.

1.2.5 Temporary Construction and Equipment Area, Construction Trailer Area, Associated Parking Area, and O&M Facility

The temporary construction and equipment area, construction trailer area, and associated parking area would consist of an approximately 10-acre compacted gravel pad on a cleared and graded footprint (Figure 2). During construction, this area would be used to store large equipment and materials, to refuel equipment, and to collect and temporarily store construction waste. It would also serve to provide temporary parking, construction office space, and temporary (portable) sanitary facilities. Refueling of construction vehicles would be accomplished by a vendor supplied fuel truck making daily or weekly deliveries to approved storage tanks. It would not be practical to remove construction equipment from the wind farm site for refueling and general maintenance such as changing fluids and lubricating parts; therefore, these activities would take

place onsite and some fuel will be stored onsite. Following construction, portions of the construction staging and equipment laydown area not used for permanent O&M facilities would be restored to pre-construction conditions through the removal of gravel and replanted with non-aggressive resident plant species that are compatible with Project operation, replacing timber stock for future production where appropriate and with native, slow-growing shrubs and hardwoods elsewhere.

The O&M facility and its associated storage yard and parking area would consist of a permanent 5-acre area which may be located near the SR 299 (Figure 2). Figure 8a, 8b, and 8c include a typical plan and profile of the O&M building. During Project operation, large equipment required for maintenance could be staged in the O&M storage yard.

Water for the O&M facility may be supplied by the installation of a domestic well, or by a water storage tank installed at the building with water periodically transported to the tank. Any efforts to install a domestic well would be conducted in accordance with the rules and regulations of the Shasta County Department of Resource Management's Environmental Health Division. Wastewater from the O&M facility would be processed using an on-site septic system. This system would conform to all County design standards and specifications to avoid impacts on ground- or surface waters.

1.2.6 Temporary Laydown Areas

Construction activities would require 17 two-acre laydown (staging) areas, located throughout the Project site to store and stage building materials and equipment. The laydown areas may be graveled depending upon site soil conditions. The temporary laydown areas would be removed upon completion of construction and replanted with non-aggressive resident species that are compatible with wind farm operations, replacing timber stock for future production where appropriate and with native, slow-growing shrubs and hardwoods elsewhere. Location of the staging areas will be based on further refinement of the site layout.

1.2.7 Temporary Wind Resource Remote Sensing Devices

Doppler effect instruments would be temporarily placed within the Project site to supplement wind resource data gathered by permanent meteorological towers (see following section). These ground-based instruments record ranges of wind resources using laser-based light detection and ranging (LiDAR) and sound detection and ranging (SODAR). Instruments, which are mounted to trailers and which would be transported to the Project site by pick-up truck, would be removed prior to construction.

1.2.8 Permanent Meteorological Towers

Two permanent MET towers would be constructed in the Project site, and existing temporary MET towers would be removed. These towers support instruments that measure and record weather data to assess performance of turbines and guide Project operation. The MET towers would be up to 316 feet tall (Figure 9). Permanent MET towers are typically at the hub height of the turbine selected. Permanent MET towers 200 feet or taller would comply with FAA lighting regulations. All new permanent meteorological towers would be freestanding structures without guy wires to minimize impacts on avian species.

In addition, trailer-mounted SODAR and LiDAR units may be deployed on the Project site to further study wind speed, direction, and turbidity. Both SODAR and LiDAR units are typically mounted on a small utility trailer and can easily be moved using a standard pickup truck. No ground disturbing activity would occur during SODAR and/or LiDAR deployment or use.

1.3 Construction Activities

1.3.1 Grading

Ground-disturbing activities including clearing and grubbing, topsoil stripping, grading, compaction, utility trenching, and placement of aggregate surfacing would occur during the construction of the Project. Grading activities would consist of the removal, storage, and/or disposal of earth, gravel, vegetation, organic matter, loose rock, and debris. The cut and fill required for the Project would be balanced to the extent possible, to minimize the amount of materials that would need to

be brought onto or removed from the site. Estimates of cut and fill cannot be determined until engineering for construction has been undertaken.

A site-specific Storm Water Pollution Prevention Plan (SWPPP) would be prepared for the Project. The SWPPP would identify best management practices (BMPs) that would be used to minimize or eliminate the potential for sediments and pollutants to reach surface waters through storm water runoff. To minimize impacts associated with soil erosion, PWD would prepare a Temporary Erosion and Sediment Control (TESC) Plan that would be implemented by the construction contractor. The TESC Plan would include standard storm water BMPs to reduce the risk of erosion.

To the extent practicable, the Project would maintain the local surface drainage patterns. New Project access roads would be designed to follow natural contours and minimize side hill cuts to the extent possible and would include other BMP such as ditches and culverts to capture and convey storm water runoff. Additionally, with the exception of areas where permanent surface recontouring is required, disturbed areas would be restored to pre-existing grades and all disturbed areas where permanent gravel or aggregate is not required would be revegetated. These measures would reduce the potential for erosion and adverse effects on drainage patterns.

In rocky areas, blasting may be necessary to loosen rock before excavation. If blasting is necessary, a Blasting Plan would be prepared to identify the locations that are anticipated to require blasting. All applicable federal, state, and local regulations for blasting procedures would be identified in the Blasting Plan and would be followed. Explosives would only be used within specified times and at specified distances when the work is located within or nearby sensitive habitat areas.

1.3.2 Transportation of Turbine Components

Turbine components may be transported to the Project area by highway transportation and assembled on site. Each turbine would require multiple deliveries. The specifics of these deliveries would depend upon the final turbine model selected; however, PWD anticipates that each turbine would require up to 15 separate loads, of equipment and materials to its pad, of which eight or nine would be oversized or superloads transporting turbine components. Towers are generally delivered in three, four, or five sections (depending on turbine selected). Each turbine blade, nacelle, rotor, and down-tower components (e.g., controllers, ladders and platforms, pad-mount transformers, pad-mounted transformer vaults, and turbine switchgear) would be delivered separately. Deliveries would be made using transport vehicles that conform to road weight limits; any variances would be incorporated into permits submitted to the California Department of Transportation (Caltrans). A Traffic Assessment Report would be prepared prior to finalization of the Draft Environmental Impact Report.

1.3.3 Construction Schedule and Workforce

The Project construction period is expected to last 18 to 24 months. Construction would be completed during daylight hours, typically from 7am to 5pm but may be earlier or later during the summer months. There may be other circumstances where these hours need to be extended earlier or later, such as during the delivery of superloads, and nighttime construction may occur to avoid traffic, adjust for high winds during daylight hours, and to facilitate schedule. The construction workforce is estimated to include up to 400 construction workers at any given time.

1.3.4 Construction Sequence

During the initial phase of Project construction, access roads would be established. This includes the widening of existing access roads where necessary and construction of new access roads. Temporary staging and laydown areas would also be established to serve as temporary storage for the tower sections, nacelles, blades, and other Project components.

Turbine laydown areas would be cleared including an area of approximately 5 acres (depending on the terrain) at each turbine for the crane pad, construction laydown area, and rotor assembly area. Within the graded turbine laydown area, a gravel pad would be established for supporting a crane to be used to erect the towers and turbines. Prior to construction of the turbine foundations, soil samples would be collected during the pre-construction and construction geotechnical investigation to assist in determine site-specific turbine foundations to be utilized during final engineering.

Once the foundations are constructed, the turbines would be assembled and erected using a combination of forklifts and construction cranes, located on the compacted earthen or gravel crane pad. Construction equipment requiring access to these areas would include both wheeled and tracked vehicles. Cranes used to assemble the turbine components would be delivered to the wind farm site in multiple loads and assembled on site.

While turbines are being installed, construction of the substation, underground and overhead collection system, and O&M building would occur. Once all facilities are constructed, final testing would occur to ensure all systems are working property and according to design. Also, as construction is completed, the temporarily used portions of the construction staging and equipment laydown areas, turbine pad laydown areas, and access roads would be restored to pre-construction conditions through the removal of gravel and replanted with non-aggressive resident plant species that are compatible with Project operation, replacing timber stock for future production where appropriate and with native, slow-growing shrubs and hardwoods elsewhere.

Throughout construction, erosion control procedures would be implemented in accordance with the NPDES permit and the associated SWPPP and TESC. A final site cleanup, including removal of all waste materials, would also be conducted.

1.3.5 Use of Hazardous Materials

Hazardous materials are required during construction and operation of wind energy generation projects. Table 1-2 summarizes materials typically used for such projects, with details about their use and typical quantities.

Table 1-2. Hazardous Materials Associated with Typical Wind Energy Generation Projects

Hazardous Material	Uses	Typical Quantities Present
Fuel: diesel fuel[(a)]	Powers most construction and transportation equipment during construction and decommissioning phases. Powers emergency generator during operational phase.	The Project estimate is over 5,000 gallons to be stored in aboveground tanks during construction. An unknown amount would be used during decommissioning.[(b)]
Fuel: gasoline[(c)]	Used for some construction equipment and transportation vehicles	Because of the limited number of construction and transportation vehicles utilizing gasoline, no onsite storage is likely to occur throughout any phase of the Project.
Fuel: propane[(d)]	Most probable fuel for ambient heating of the control building	Typically, 500 to 1,000 gallons stored in an aboveground propane storage vessel.
Lubricating oils/grease/hydraulic fluids/gear oils	Lubricating oil is present in some wind turbine components and in the diesel engine of the emergency power generator.	Limited quantities stored in portable containers (capacity of 55 gallons or less); maintained onsite during construction and decommissioning.
	Maintenance of fluid levels in construction and transportation equipment.	Limited quantities stored in portable containers (55 gallons or less); stored onsite during operational phase.
	Hydraulic fluid is used in the rotor driveshaft braking system and other controls.	
	Gear oils and/or grease are used in the drivetrain transmission and yaw motor gears.	
Glycol-based antifreeze	Present in some wind turbine components for cooling (e.g., 5 to 10 gallons present in recirculating cooling system for the transmission).	Limited quantities (10 to 20 gallons of concentrate) stored onsite during construction and decommissioning.
	Present in the cooling system of the diesel engine for the emergency power generator.	Limited quantities (1 to 10 gallons of concentrate) stored onsite during operational phase.
Lead-acid storage batteries and electrolyte solution	Present in construction and transportation equipment.	Limited quantities of electrolyte solution (<20 gallons) for maintenance of construction and transportation equipment during construction and decommissioning.
	Backup power source for control equipment, tower lighting, and signal transmitters.	
Other batteries (e.g., nickel-cadmium batteries)	Present in some control equipment and signal-transmitting equipment.	No maintenance of such batteries is expected to take place onsite.

Table 1-2. Hazardous Materials Associated with Typical Wind Energy Generation Projects

Hazardous Material	Uses	Typical Quantities Present
Cleaning solvents	Organic solvents (most likely petroleum-based but not listed under the Resource Conservation and Recovery Act) used for equipment cleaning and maintenance.	Limited quantities (<55 gallons) onsite during construction and decommissioning to maintain construction and transportation equipment.
	Where feasible, water-based cleaning and degreasing solvents may be used.	Limited quantities (<10 gallons) onsite during operations.
Paints and coatings[e]	Used for corrosion control on all exterior surfaces of turbine towers.	Limited quantities for touch-up painting during construction (<50 gallons) and for maintenance during operations (<20 gallons).
Dielectric fluids[f]	Present in electrical transformers, bushings, and other electric power management devices as an electrical insulator.	Some transformers may contain more than 500 gallons of dielectric fluid. Onsite transformers each contain approximately 10,000 gallons of mineral oil.
Explosives	May be necessary for excavation of tower foundations in bedrock.	Limited quantities equal to only the amount necessary to complete the task.
	May be necessary for construction of access and/or onsite roads or for grade alterations.	Onsite storage expected to occur only for limited periods of time as needed by specific excavation and construction activities.
Herbicides	May be used to control vegetation around facilities for fire safety.	If deemed necessary, herbicides would likely be brought to the site and applied by a licensed applicator.

Adapted from "Typical" windfarm equipment lists

Notes:

[a] It is assumed that commercial vendors would replenish diesel fuel stored onsite as necessary.

[b] This value represents the total onsite storage capacity, not the total amount of fuel consumed (see footnote a, above). Onsite fuel storage during construction and decommissioning phases would likely be in aboveground storage tanks with a capacity of 500 to 1,500 gallons. Tanks may be of double-wall construction or may be placed within temporary, lined earthen berms for spill containment and control. At the end of construction and decommissioning phases, any excess fuel, as well as the storage tanks, would be removed from the site, and any surface contamination resulting from fuel handling operations would be remediated.

[c] Gasoline fuel is expected to be used exclusively by on-road vehicles (primarily automobiles and pickup trucks). These vehicles are expected to be refueled at existing offsite refueling facilities.

[d] Delivered and replenished as necessary by a commercial vendor.

[e] It is presumed that all wind turbine components, nacelles, and support towers would be painted at their respective points of manufacture. Consequently, no wholesale painting would occur onsite; only limited amounts would be used for touch-up purposes during construction and maintenance phases. It is further assumed that the coatings applied by the manufacturer during fabrication would be sufficiently durable to last throughout the equipment's operational period and that no wholesale repainting would occur.

[f] It is assumed that transformers, bushings, and other electrical devices that rely on dielectric fluids would have those fluids added during fabrication. However, very large transformers may be shipped empty and have their dielectric fluids added (by the manufacturer's representative) after installation. It is further assumed that servicing of electrical devices that involves wholesale removal and replacement of dielectric fluids would not likely occur onsite and that equipment requiring such servicing would be removed from the site and replaced. New transformers, bushings, or electrical devices are expected to contain mineral oil-based, or synthetic dielectric fluids that are free of polychlorinated biphenyls. Some equipment may instead contain gaseous dielectric agents (e.g., sulfur hexafluoride) rather than liquid dielectric fluids.

1.4 Operations and Maintenance Activities

PWD anticipates employing up to 12 full-time employees upon commencing commercial operation of the Project. Technician staffing is commensurate with site needs which are primarily driven by turbine type. Operation and maintenance activities would generally occur during normal work day hours from Monday to Friday with call outs 7 days a week after normal business hours. Avangrid Renewables National Control Center located in Portland, Oregon would monitor and control the turbines through the SCADA monitoring system 24 hours a day, seven days a week. The system would perform self-diagnostic tests and allow a remote operator to set new operating parameters, perform system checks, and ensure turbines are operating at peak performance. Turbines would automatically shut down if sustained winds or gusts exceed predetermined maximum operating parameters.

On-site equipment during Project operation would include utility vehicles and other equipment that are necessary for operation and maintenance activities. Each turbine would be serviced periodically (e.g., twice a year), or as needed. Typical turbine servicing activities may include temporarily deploying a crane within the construction easement of each turbine, removing the turbine rotor, replacing generators, bearings, and deploying personnel to climb the towers to service parts within the turbine.

The Project would develop and implement a Fire Protection Plan (FPP) prior to construction and operation. The FPP will include emergency response and evacuation procedures that would include immediate reporting notification of local fire agencies. Staff would be equipped with fire suppression equipment, radio and cellular access, and pertinent telephone numbers for reporting a fire.

Environmental monitoring would be conducted in accordance with the approved mitigation and monitoring plan. This may include avian monitoring surveys and monitoring to ensure maintenance of erosion control measures.

The anticipated operational life of the Project is 40 years. After that time, PWD would evaluate whether to continue operation of the Project or to decommission it in accordance with the Decommissioning Plan.

1.5 Project Decommissioning

If, at the end of its anticipated life, the Project is decommissioned, the goal of decommissioning would be to remove the power generation equipment and return the site to a condition as close to its pre-construction state as possible. A Draft Decommissioning Plan would be prepared prior to operations. It is anticipated that requirements in effect at the time of decommissioning would require that all turbines and ancillary structures be removed from the site. The plan would be revised prior to the termination of the Shasta Cascades Timberlands, LLC land lease and implemented once the Project has ceased operation. The Final Decommissioning Plan would be developed in compliance with the standards and requirements for closing a site at the time decommissioning occurs.

When the facility is decommissioned, the turbine components would be removed from the site and the materials would be reused, recycled, or sold for scrap. Decommissioning activities are anticipated to have similar types of construction-related activities. Therefore, all management plans, BMPs, and stipulations developed for the construction phase of the Project would be applied to the decommissioning phase of the Project. Topsoil from all decommissioning activities would be salvaged and reapplied during final reclamation to the extent possible. Working with the land owner, all disturbed soil will be replanted with trees. The vegetation cover, composition, and diversity would be restored to values commensurate with the area's ecological setting. A Decommissioning Plan will address the following procedures: facility dismantling and removal, site restoration, habitat restoration, monitoring and estimated costs.

1.6 Required Approvals and Permits

The county, state, and federal permits that may be required for the Project are listed in Table 1-3 below.

Table 1-3. Approval and Permits Potentially Required for the Proposed Project

Jurisdiction	Permit or Approval
County	Shasta County Use Permit
	Shasta County Building Division – building and grading permits
	Department of Resource Management Environmental Health Division – Hazardous Materials Business Plan
	Department of Resource Management Environmental Health Division—septic system permit
	Department of Resource Management Environmental Health Division—well permit
State	California Department of Forestry & Fire Protection—timberland conversion permit
	California Department of Transportation Division of Aeronautics—permit required per PUC Section 21656
	California Department of Fish and Wildlife (CDFW) Incidental Take Permit under California Environmental Species Act (CESA) Section 2081
	CDFW Notification of Lake or Streambed Alteration under Fish and Game Code Section 1602 CDFW Lake or Streambed Alteration Agreement under Fish and Game Code Section 1603
	Shasta County Air Quality Management District Authority to Construct and Permit to Operate for proposed concrete batch plants
	California Regional Water Quality Control Board—NPDES General Construction Permit, CWA Section 401 Water Quality Certification

Table 1-3. Approval and Permits Potentially Required for the Proposed Project

Jurisdiction	Permit or Approval
Federal	Federal Energy Regulatory Commission—approval to be an Electric Wholesale Generator and to sell electricity at market-based rates
	Federal Aviation Administration—notice of proposed construction, includes Department of Defense screening for military flight path conflict
	USFWS Incidental Take Permit under Section 10 of the Federal Endangered Species Act
	Consultation under Section 106 of the National Historic Preservation Act of 1966 (NHPA) including the preparation of a Cultural Resources Report consistent with Section 106 of the NHPA and Section 15064.5 of California Code of Regulations related to CEQA and Historic Resources.
	US Army Corps of Engineers Nationwide or Individual permit under CWA Section 404

2.0 EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parenthesis following each question. A "No Impact" answer is adequately supported if all the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less-than-significant with mitigation, or less-than-significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more, "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4. Negative Declaration: "Less-than-significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-than-significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from Section XVIII, "Earlier Analyses," may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    a) Earlier Analysis Used. Identify and state where they are available for review.

    b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

    c) Mitigation Measures: For effects that are "Less-than-significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. General Plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project=s environmental effects in whatever format is selected.

9) The explanation of each issue should identify the following:

    a) The significance criteria or threshold, if any, used to evaluate each question; and

    b) The mitigation measure identified, if any, to reduce the impact to less-than-significant

I. AESTHETICS: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☒	☐	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	☒	☐	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☒	☐	☐	☐

a) *Have a substantial adverse effect on a scenic vista?*

Finding: Potentially Significant Impact

The turbines, with heights of up to 591 feet, would be the primary source of long-term visual impact from the proposed Project. The turbines would be taller than the surrounding vegetation. Given the height of the turbines, their placement on ridgelines, and the rural nature of the Project area, the turbines would be visible from certain viewpoints. Views of the turbines from some viewpoints are expected to not be avoidable because of their size and exposed location. Visibility of the turbines would be blocked or partially obscured by topography in some locations, however, and could be diminished in other locations because of factors such as distance from viewers, the angle of observation, atmospheric conditions, and the presence of vegetation and/or structures. A viewshed analysis will be conducted to identify the areas from which at least a portion of one or more turbines would potentially be visible, based on line-of-sight conditions determined by topography.

In addition to the size, form, and color of the turbines, another source of visual contrast from the operation of the Project would be the introduction of motion into a static landscape. The oscillating motion of turbine blades often draws the eye of potential viewers and creates more contrast than does a static structure of similar size and form. Other Project facilities that would have relatively limited visual impact would be access roads, electrical collection and communication networks, substation and two permanent meteorological towers. These features would be much smaller and would generally create much less visual contrast than the turbines.

At nighttime, the substation and the turbines would be minimally lit in accordance with the FAA. This would create a new light source in the wind farm site. Much like the motion of the blades during daytime operations, the blinking safety lights can draw the attention of a casual observer.

Although the change in visual character is not anticipated to be significant, preliminary review merits further evaluation. Therefore, this potential impact will be fully analyzed and evaluated in the EIR. A Visual Resources Technical Report, to be incorporated into the EIR, will be prepared in Spring 2018.

b) *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

Finding: Potentially Significant Impact

There are no roadways in or near the Project area that are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds. However, SR 89, located approximately 11 miles east of the Project area, and SR 44, located approximately 18 miles south of the Project area, are designated as Eligible State Scenic Highways. Also, Section 6.8, Figure SH-1 of Shasta County's General Plan designates the Hatchet

Ridge Summit on SR 299 as a "Gateway or location that marks the entrance to a community of geographic area" (Shasta County 2004). Additionally, SR 299 from Bella Vista east to the Hatchet Ridge Summit gateway and SR 44 from Old Station to Millville is considered a "corridor in which the natural environment is dominant" and SR 299from the Hatchet Ridge Summit gateway to Burney is a "corridor in which natural and manmade environment contrast" (Shasta County 2004).

The proposed Project would likely not be visible from the majority of the Hatchet Ridge Summit due to existing coniferous vegetation limiting views from SR 299; however, the proposed Project may be visible from viewpoints further away along SR 299 to both the east and west. The proposed Project may also be visible from certain viewpoints along SR 89. Further investigation and analysis will need to be conducted to assess the visibility of the proposed Project and to assess the potential impacts to the viewshed. Therefore, this potential impact will be fully analyzed and evaluated in the EIR. A Visual Resources Technical Report, to be incorporated into the EIR, will be prepared in Spring 2018.

c) *Substantially degrade the existing visual character or quality of the site and its surroundings?*

Finding: Potentially Significant Impact

Given the height of the turbines, their placement on ridgelines, and the rural nature of the Project area, the turbines would be highly visible from certain viewpoints. Views of the turbines could not be avoided because of their size and exposed location. Visibility of the turbines would be blocked or partially obscured by topography in some locations, however, and could be diminished in other locations because of factors such as distance from viewers, the angle of observation, atmospheric conditions, and the presence of vegetation and/or structures. A viewshed analysis will need to be conducted to identify the areas from which at least a portion of one or more turbines would potentially be visible, based on line-of-sight conditions determined by topography. Therefore, this potential impact will be fully analyzed in the EIR. A Visual Resources Technical Report, to be incorporated into the EIR, will be prepared in Spring 2018.

d) *Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?*

Finding: Potentially Significant Impact

Pursuant to 14 CFR 77, temporary or permanent structures higher than 200 feet above mean sea level or exceeding any obstruction standards should generally be marked or lighted. In compliance with FAA regulations, the turbines would be equipped with synchronized red flashing lights to satisfy FAA marking and lighting requirements.

Due to the nature of the proposed Project, views of the turbines and the resulting visual impacts are difficult to mitigate, though a few specific design standards will be implemented to reduce visual impacts to the extent practicable. Turbines and towers will be painted a uniform matte white or off-white as recommended by the FAA; the use of a matte finish would inhibit reflections or glare. No signs, writing, or advertising will be permitted on the turbines. The turbines will not be lighted with the exception of the synchronized red flashing lights to satisfy FAA marking and lighting requirements. Where lighting may be necessary elsewhere on the proposed Project, such as at the substation or O&M facility, lights will be shielded and directed downward and inward toward the facilities to prevent offsite glare.

A viewshed analysis will be conducted to identify whether nighttime views would potentially be affected from the turbines equipped with red flashing aviation lights. Therefore, this potential impact will be fully analyzed in the EIR. A Visual Resources Technical Report, to be incorporated into the EIR, will be prepared in Spring 2018.

II. AGRICULTURE AND FORESTRY RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act Contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☒	☐
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☒	☐	☐	☐
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☒	☐	☐	☐

a) *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

Finding: No Impact

The majority of the Project area is considered Other Land by the Farmland Mapping and Monitoring Program (FMMP). A portion of the Project area near SR 299 East is designated by the FMMP as Grazing Land. The Project site does not contain land currently designated as prime, unique, or important farmland by the FMMP. Therefore, the proposed Project would not convert prime farmland, unique farmland, or farmland of statewide importance to nonagricultural use and there would be no impact which means that this impact will not be evaluated in the EIR.

b) *Conflict with existing zoning for agricultural use, or a Williamson Act contract?*

Finding: No Impact

Construction of an electric generating facility is allowed in the TP district with the issuance of a Use Permit. Based on the review of a 2006/2007 Shasta County Williamson Act map (California Department of Conservation 2017), the Project area is not currently under a Williamson Act Contract nor is it zoned for agricultural use by Shasta County. Consequently, the Project would not conflict with existing zoning for agricultural use or a Williamson Act Contract. Therefore, there would be no impact from the proposed Project and the impact will not be evaluated in the EIR.

c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

Finding: Less Than Significant Impact

Portions of the Project area are zoned for timberland production (TP). According to the Shasta County Zoning Ordinance, permitted uses for the TP zoning district generally consist of forest management practices including uses compatible with the growing and harvesting of timber. Construction of an electric generating facility is a conditionally-permitted use. The proposed Project would result in the permanent conversion of 972 acres of timberland to non-timber land use, if approved through the use permit process. Therefore, the proposed Project would not conflict with existing zoning or cause rezoning and would have a less that significant impact on timberlands zoned as Timber Production. As such, this impact will not be analyzed further in the EIR.

d) *Result in the loss of forest land or conversion of forest land to non-forest use?*

Finding: Potentially Significant Impact

The proposed Project would result in permanent conversion of 972 acres of timberland to non-timberland use in the area where there is a permanent Project disturbance (i.e. the turbine pads, new access roads, O&M facility, and substation). The total leased area for the proposed Project is approximately 30,532 acres. All areas within the Project area boundary beyond the proposed Project's permanent disturbance or maintained vegetation would remain in timber production, and the proposed Project would coordinate with the landowner, Shasta Cascades Timberlands, LLC, to restore temporarily disturbed areas (approximately 2,167 acres) to timber harvesting use after proposed Project construction is complete. The precise location of turbines is not presently known. Upon determination of turbine sites, any trees requiring removal, or any tree(s) scheduled to be harvested during the construction period, would be harvested prior to initiation of construction activities in that location. Construction or operation of the proposed Project is not anticipated to affect timber harvesting activities outside of the temporary or permanent disturbance areas.

Due to the permanent loss of timberland to non-timberland use, this potential impact warrants further evaluation and will be analyzed in the EIR.

e) *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?*

Finding: Potentially Significant Impact

The proposed Project would result in permanent conversion of 972 acres of timberland to non-timberland use in the area where there is a permanent Project disturbance (i.e. the turbine pads, new access roads, O&M facility, and substation). The total leased area for the proposed Project is approximately 30,532 acres. All areas within the Project area boundary beyond the proposed Project's permanent disturbance or maintained vegetation would remain in timber production, and the Project would coordinate with the landowner, Shasta Cascades Timberlands, LLC, to restore temporarily disturbed areas (approximately 2,167 acres) to timber harvesting use after proposed Project construction is complete. The precise location of turbines is not presently known. Upon determination of turbine sites, any trees requiring removal, or any tree(s) scheduled to be harvested during the construction period, would be harvested prior to initiation of construction activities in that location. Construction or operation of the proposed Project is not anticipated to affect timber harvesting activities outside of the temporary or permanent disturbance areas.

The proposed Project area is partially zoned as a TP district in Chapter 17.08 of the Shasta County Zoning Ordinance. Uses permitted within the TP zoning district generally consist of forest management including the growing and harvesting of timber and uses compatible with the growing and harvesting of timber. Construction of an electric generating facility is allowed in the TP district with the issuance of a Use Permit. However, because this impact involves changes in the existing environment which could result in conversion of forest land to non-forest use, further evaluation will be required. Therefore, this impact will be analyzed in the EIR.

III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☒	☐	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☒	☐	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emission which exceed quantitative thresholds for ozone precursors)?	☒	☐	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☒	☐	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☒	☐	☐	☐

a) *Conflict with or obstruct implementation of the applicable air quality plan?*

Finding: Potentially Significant Impact

The proposed Project would not be anticipated to conflict with or obstruct implementation of the Northern Sacramento Valley Planning Area 2015 Triennial Air Quality Attainment Plan as adopted by Shasta County, or any other applicable air quality plan. However, proposed Project emissions will need to be modeled to determine if the proposed Project would conflict with an existing air quality plan. Although there is the potential to conflict with the existing plan, previous preliminary evaluation for the Project indicates that any conflict is likely insignificant, however, the need for emissions modeling warrants further evaluation. Therefore, discussion of potential impacts the proposed Project would have on air quality plans will be evaluated in the EIR.

b,c,d,e) ***b)*** *Violate any air quality standard or contribute substantially to an existing or projected air quality violation?* ***c)*** *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?* ***d)*** *Expose sensitive receptors to substantial pollutant concentrations?* ***e)*** *Create objectionable odors affecting a substantial number of people?*

Finding: Potentially Significant Impacts

Construction of the proposed Project would result in the emission of some pollutants as well as the generation of fugitive dust. Heavy equipment (such as trucks, cranes, and earthmovers) would be required in order to construct the proposed Project. The internal combustion of fuels to power this equipment would generate green-house gases and air pollutants. In addition, soil disrupting activities associated with construction of the proposed Project may result in the generation of fugitive dust. Air pollutant emissions and fugitive dust levels would be highest near the proposed Project's construction sites (where the majority of activities would occur); however, lower levels of emissions and fugitive dust would also occur along travel routes to and from the Project area. Operation of the proposed Project has the potential to impact air quality as some emissions would be produced via the internal combustion of fuels for vehicles used by the Project's employees as well as some heavy equipment, such as cranes that may be required periodically for maintenance or repair of the proposed Project.

Construction and operation of the proposed Project would have a minor effect to air quality because proposed Project related emissions and increased fugitive dust levels would be temporary in nature, would occur at relatively low levels

compared to the State and Federal ambient air quality standards, and BMPs would be implemented to minimize the effects of these emissions. The Applicant would implement standard BMPs in order to avoid or minimize impacts to air quality. These include measures to limit fugitive dust generation, limit the risk of wildfires, and requirements to keep all equipment in proper working order.

Preliminary review merits further evaluation and possible mitigation. Therefore, these potential impacts will be fully analyzed and evaluated in the EIR.

IV. <u>BIOLOGICAL RESOURCES</u>: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Have a substantial effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local of regional plans, policies, and regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☒	☐	☐	☐
c) Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☒	☐	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☒	☐	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☒	☐	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community, Conservation Plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☒

a,b) ***a)*** *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?* ***b)*** *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

Finding: Potentially Significant Impacts

Construction of the proposed Project would result in temporary and permanent ground clearing and vegetation removal for installation of proposed Project facilities. Temporary disturbances would occur during construction of the underground and overhead electrical collection system, as well as in temporarily cleared areas around turbine pads, and construction staging and equipment laydown areas. Permanent ground disturbance includes a subset of the construction related disturbance where permanent facilities will be located including the O&M facility and associated parking and storage area, the substation and switching station, the permanently cleared areas around each turbine pad, met towers, and the permanent access roads.

Due to these temporary and permanent disturbances, the proposed Project may have direct or indirect (through habitat modifications) effects on candidate, sensitive, or special status species or on riparian habitat or other sensitive natural community identified in local of regional plans, policies, and regulations or by the California Department of Fish and Wildlife or USFWS. Wind energy projects pose particular potential risk to birds and bats and guidelines for reducing such impacts have been developed (California Energy Commission and California Department of Fish and Game, October 2007). A Site Characterization Study (SCS) will be conducted to assess the presence of habitat for species of concern at the landscape level, assess the potential for presence of plant and wildlife species of concern on the proposed

Project, assess the potential occurrence of areas that may be precluded from development, assess the potential presence of plant communities on the proposed Project that may provide habitat for wildlife species of concern, and assess the potential areas of wildlife concentrations within the proposed Project.

Based on information gathered during the SCS, and through consultation with the landowner biologist and agency representatives, sensitive species surveys for both wildlife and plants may be conducted if sensitive species (or their habitat) is identified within the proposed Project area. A Habitat Restoration Plan and a Vegetation Management Plan will be developed for the Project. Additionally, an Invasive Species Management Plan, as warranted, will be developed for implementation during construction of the proposed Project.

Preliminary review merits further evaluation. Therefore, these potential impacts will be fully analyzed and evaluated in the EIR. Additional studies related to biological resources that are either underway or which are anticipated to be available in time for incorporation into the EIR are: Biological Survey Report, Eagle Use Survey Report, Nest Survey Memo, and Bat Desktop Assessment Report. See Section 3.0 for anticipated timing of these studies.

On March 2, 2018, CDFW provided a response to Shasta County's Informal Consultation Request for the Use Permit for the proposed Project. Comments and recommendations in the letter refer to the forthcoming Project EIR and the studies and data that will inform analysis of baseline conditions and potential impacts. Specific reference was made to the Biological Resources Work Plan, which was developed to identify baseline biological studies to be conducted for the development of the Project, as well as additional special-status species and habitat surveys. Additional comments and recommendations, in general, referred to: additional special-status species and habitat surveys; evaluation of potential impacts to CESA-listed species (or plants or animals listed as endangered or threatened under CESA); avian surveys; rare plant and sensitive natural communities; and additional monitoring and studies related to wildlife and aquatic resources, among other issues. CDFW also requested review of biological studies conducted prior to release of the draft EIR for the Project. The letter is included among those received and attached in Appendix C. A formal response regarding the implications of CDFW's comments and recommendations for the Biological Resources Work Plan and the Project EIR will be prepared and provided to Shasta County.

c) *Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption or other means?*

Finding: Potentially Significant Impact

The Federal Water Pollution and Control Act was initially established by the U.S. Congress in 1948 and revised significantly in 1972 when it became known commonly as the Clean Water Act (CWA). This act is intended to protect the quality of waters in the U.S., including the physical, chemical, and biological properties of these waters (CWA 1972). Waters protected under the CWA are not limited simply by navigability, as upstream waters, headwaters, and connected wetlands are known to impact the integrity of downstream navigable waters. The CWA thus plays an important role in controlling pollutants or sediments that may enter watersheds through varying means. The CWA is administered by the Environmental Protection Agency and the United States Army Corps of Engineers (USACE).

Due to the temporary and permanent disturbances described above, the proposed Project may have adverse effect on federally protected wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrological interruption, or other means. The Applicant will conduct a desktop assessment of the waters, including wetlands, at the proposed Project, in order to inform preliminary design of the Project as well as a future field delineation of jurisdictional waters. The Applicant will communicate with the USACE, if necessary, in an effort to determine the potential occurrence of jurisdictional waters at the proposed Project and will also consult available public information sources such as the National Wetlands Inventory (NWI), which is operated by the USFWS. Additional resources may include examination of aerial imagery or U.S. Geological Survey (USGS) topographic maps. Therefore, discussion of potential impacts the proposed Project would have on federally protected wetlands will be evaluated in the EIR. A Wetlands and Waters Memorandum is anticipated to be completed in the second quarter of 2018.

d,e) ***d)*** *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?* ***e)*** *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Finding: Potentially Significant Impacts

The project would not interfere with any native resident or migratory fish or wildlife species, nor impede the use of native wildlife nursery sites. Due to the temporary and permanent disturbances described above, the proposed Project may have adverse effect on wildlife species, migratory wildlife corridors, and other biological resources. The SCS will assess the presence of habitat for species of concern at the landscape level, assess the potential for presence of plant and wildlife species of concern on the proposed Project, assess the potential occurrence of areas that may be precluded from development, assess the potential presence of plant communities on the proposed Project that may provide habitat for wildlife species of concern, and assess the potential areas of wildlife concentrations within the Project.

In addition to the SCS, a number of baseline wildlife studies are planned in accordance with the USFWS Land-Based Wind Energy Guidelines (WEG; USFWS 2012) Tier 3 – Field Studies, to document wildlife and habitat in the Project area and to predict Project impacts. Therefore, a discussion of these potential impacts will be evaluated further in the EIR.

f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan*?

Finding: No Impact

There are no currently adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans for the Project area or its vicinity. The proposed Project would not conflict with any habitat conservation plan. Therefore, no impact would occur, and this impact will not be analyzed further in the EIR.

V. CULTURAL RESOURCES: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines §15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?	☒	☐	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☒	☐	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☒	☐	☐	☐

a,b) ***a)*** *Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?*
b) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?*

Finding: Potentially Significant Impacts

A Cultural Resources Report will be prepared by Stantec Environmental, LLC, consistent with Section 106 of the 1966 National Historic Preservation Act and Section 15064.5 of California Code of Regulations related to the California Environmental Quality Act (CEQA) and Historic Resources, regarding the identification and protection of historic resources and unique archaeological resources (per CEQA's definition). This report is anticipated to be completed during the spring of 2018. The Applicant's cultural resource consultant will conduct a review of existing information, will coordinate with Native Americans (see Section 2.17), and will conduct field surveys of the Project site in accordance with state and county regulations. If any cultural resources are found, they will be evaluated for significance (per CEQA definition) and any effects on these resources by Project facilities or activities will also be evaluated. If historic resources or unique archaeological resources are identified in the Project site and evaluated as potentially being impacted by the Project, the Applicant will develop and implement measures to mitigate the effects of the Project on these resources. Therefore, these potential impacts will be further analyzed in the EIR.

c) *Directly or indirectly destroy a unique paleontological resource or site or unique geological feature*?

Finding: Potentially Significant Impact

Records searches and map research will be conducted by the Applicant's cultural resources consultant to determine the likelihood of the Project site containing paleontological resources, in accordance with the 2010 Paleontological Resources Preservation Act. Results of these investigations, including an evaluation of effect on any identified paleontological resources, shall be included in the Cultural Resources Report. Therefore, this potential impact will be further analyzed in the EIR.

d) *Disturb any human remains, including those interred outside of formal cemeteries?*

Finding: Potentially Significant Impact

The Applicant's cultural resource consultant will confirm the presence or lack of presence of known human remains within the Project site. As part of the preparation of the Cultural Resource Report, coordination with Native Americans will be conducted. If human remains are discovered during the review of existing information, coordination with Native Americans, or through field surveys of the Project site, the proposed Project design will avoid these remains to the extent practicable. If human remains are discovered during ground-disturbing activities, the Applicant's construction contractors will be required to stop work until the Shasta County coroner has been informed and determines that no

investigation of the cause of death is required; and if the remains are of Native American origin, protocols under California Public Resource Code Section 5097.98 are followed. By following this "stop-work" protocol, impacts to human remains would be minimized. Potential impacts that could occur as a result of the proposed Project will therefore be further analyzed in the EIR.

VI. GEOLOGY AND SOILS: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake, fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publications 42. ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides?	☒	☐	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☒	☐	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☒	☐	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☒	☐	☐	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?	☒	☐	☐	☐

a) *Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:*

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?

ii. Strong seismic ground shaking?

iii. Seismic-related ground failure, including liquefaction?

iv. Landslides?

Finding: Potentially Significant Impact

As discussed in the attached geotechnical report (Appendix A) the proposed Project area does not have any active faults (See Figure 10 of the geotechnical report) and the overall hazard potential related to earthquake seismicity would be considered relatively low. However, the potential for seismic related ground failure, including liquefaction, to occur will need to be further evaluated due to the slight-to-high or slight-to-moderate erosion potential of the surrounding soils in the Project area. The steep slopes in the Project area combined with the characteristics of the underlying soils could result in unstable foundations for the turbines and thus, result in a hazard. Additionally, landslides are apparent in this area, which can be seen in Figure 12 of the geotechnical report. The steep slopes in the Project area will require further evaluation and a final geotechnical investigation to determine the best sites for optimum turbine stability. Therefore, this would be considered a potential impact and will be further analyzed in the EIR.

b) *Result in substantial soil erosion or the loss of topsoil?*

Finding: Potentially Significant Impact

Soil types are mapped in Figure 6 of the desktop geotechnical report (Appendix A). Soils identified within the proposed Project area have slight to high or slight to moderate erosion hazard. A grading permit will be required prior to any grading activities. The grading permit includes requirements for erosion and sediment control, including retention of topsoil. However, given the amount of grading typically required for wind energy projects, there would still be potential for significant impacts related to erosion and sediment control. Therefore, this impact would be considered a potential impact and will be further analyzed in the EIR.

c) *Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

Finding: Potentially Significant Impact

The proposed Project is located within a seismically active region, although the area of the site is relatively low hazard (Shasta County and City of Anderson 2017). As noted in the attached desktop geotechnical report (Appendix A), seismicity in the Project area is relatively low intensity and is not a controlling factor for turbine foundation design and therefore should not expose the proposed Project's structures to risk of loss due to seismic ground shaking or liquefaction.

The Project area does have some steep slopes exceeding 25% and the likelihood of slope failure/landslides is high in specific portions of the Project area. Further evaluation of slope stability will need to be conducted and each turbine site will need to be evaluated for stability before finalizing the location of turbines. Therefore, this potential impact will be further analyzed in the EIR.

d) *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?*

Finding: Potentially Significant Impact

A desktop geotechnical analysis was completed in January 2017 indicating that a preliminary field investigation may not be warranted (Appendix A). A final geotechnical investigation will need to be performed prior to final design and construction. Therefore, this potential impact warrants further evaluation and will be analyzed in the EIR.

e) *Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?*

Finding: Potentially Significant Impact

Prior to obtaining a Shasta County septic permit, further geotechnical investigations will need to be conducted to identify whether the soils are suitable for adequately supporting a septic system. Therefore, this potential impact will be analyzed further in the EIR.

VII. GREENHOUSE GAS EMISSIONS: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☒	☐	☐	☐

a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

Finding: Potentially Significant Impact

Impacts associated with greenhouse gas emissions are more appropriately evaluated on a regional level than at a project scale as greenhouse gas impacts on the atmosphere are generally independent of the point of emission. The internal combustion of fuels to power heavy equipment for construction as well as vehicles trips associated with the proposed Project construction and operation will generate greenhouse gases. However, construction and operation-related emissions would occur at a low enough level that they are expected to have a negligible effect to climate change.

Proposed Project emissions will need to be modeled to determine if the proposed project would generate greenhouse gas emissions, either directly or indirectly that might have a significant impact on the environment. Although there is the potential for greenhouse gas emissions, preliminary evaluation for the project indicates that any conflict is likely insignificant. However, the need for emissions modeling warrants further evaluation. Therefore, the impact potential Impact will be analyzed further in the EIR.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Finding: Potentially Significant Impact

Proposed Project emissions will need to be modeled to determine if the proposed Project would conflict with an existing plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Although there is the potential to conflict with the existing plan, preliminary evaluation for the project indicates that any conflict is likely insignificant, however, the need for emissions modeling warrants further evaluation. Therefore, this potential impact will be analyzed further in the EIR.

VIII. **HAZARDS AND HAZARDOUS MATERIALS:** Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☒	☐	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☒	☐	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☒	☐	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas, or where residences are intermixed with wildlands?	☒	☐	☐	☐

a,b) ***a)*** *Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?* ***b)*** *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Finding: Potentially Significant Impacts

Construction of the proposed Project involves the routine transport, use, storage, and disposal of hazardous materials. Construction requires the operation of heavy equipment and construction vehicles. Hazardous materials required for construction equipment include antifreeze, diesel fuel, gasoline, hydraulic oil, lube oil, and grease. It would not be practical to remove construction equipment from the wind farm site for refueling and general maintenance such as changing fluids and lubricating parts; therefore, these activities will take place onsite. Other hazardous or regulated materials that will be used during construction include paints, adhesives, curing compounds, concrete, bentonite, and fertilizer. Construction equipment used to mix and pour concrete will be washed onsite because it would not be practical to remove this equipment from the site for washing. There will be waste disposal and collection receptacles and sanitary facilities on site during construction.

In accordance with the California Health and Safety Code and California Code of Regulations the Applicant will prepare a Hazardous Materials Business Plan/Spill Prevention Control and Countermeasures Plan (HMBP) that details

proper procedures for storing and using hazardous materials and storing and disposing of hazardous waste. The plan will contain sufficient detail to address the purpose of the plan and to readily translate into the actions necessary to comply with relevant regulations. The plan will include information about site activities, site contacts, worker training procedures, and a hazardous materials inventory in accordance with Article 80 of the Uniform Fire Code. Regulatory requirements and standard industry BMPs for managing the routine transport, use, storage, and disposal of hazardous materials, petroleum products, and solid waste will be implemented, and implementation of these measures would ensure impacts are minor.

The amounts of hazardous materials required during O&M will be less than the amounts needed for construction and storage will be limited to designated areas on the wind farm site. The HMBP will be updated with information about hazardous materials pertaining to the O&M phase, BMPs for managing hazardous materials will be implemented, and appropriate control measures such as secondary containment to contain leaks and spills will be provided.

Hazardous materials will be stored in the O&M facility and storage sheds and used at each turbine. Specific hazardous materials inventories, including quantities, will be documented in the HMBP and updated annually or as required by regulation. Nonhazardous batteries will be stored at the substation. Inspections of each of these facilities for leaks and spills will be done at least monthly. Implementing these measures would ensure that impacts would be minor.

All fuels, waste oils, and solvents will be collected and stored in tanks or drums within a secondary containment area consisting of an impervious floor and bermed sidewalls capable of holding the volume of the largest container stored within. The Applicant will ensure that all equipment operating in or near a drainage, or in a basin, is in good working condition, and free of leaks. All vehicles will have drip pans during storage to contain minor spills and drips. No refueling or storage will take place within 100 feet of a drainage channel or structure. Spill containment materials will be on site or readily available for any equipment maintenance or refueling that occurs adjacent to a drainage. In addition, all maintenance crews working with heavy equipment will be trained in spill containment and response. Additionally, although not a hazardous material, towers will be set back 100 feet from non-participating properties.

Therefore, due to the use of hazardous materials during construction and operations, these potential impacts warrant further evaluation and will be analyzed in the EIR.

c) *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school?*

Finding: No Impact

The Project area is not within 0.25 miles of an existing or proposed school. The closest school, Montgomery Creek Elementary School, is 1.5 miles away from the Project boundary. Therefore, no impact would occur, and this impact will not be analyzed further in the EIR.

d) *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

Finding: Potentially Significant Impact

Construction of the proposed Project on sites listed as hazardous by government agencies could expose employees and the public to hazardous materials. The Applicant will prepare a Phase I Environmental Site Assessment of the Project site (Phase I ESA) in accordance with either ASTM E1527-13 or E2247-08. The Phase I ESA will identify if the Project site includes any hazardous materials sites as identified by California Department of Toxic Substances Control.

The Project site is undeveloped and much of it is located at higher elevation than surrounding land. This decreases the possibility of migration of toxic substances from surrounding land onto the Project site. However, naturally occurring hazardous materials such as asbestos could be encountered during construction. If hazardous materials are present onsite, the development and implementation of a HMBP would mitigate any impacts. Therefore, this potential impact will be further analyzed in the EIR.

e,f) **e)** *For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project result in a safety hazard for people residing or working in the project area?* ***f)*** *For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?*

Finding: No Impacts

There are three publicly operated airports in Shasta County: Fall River Mills Airport, Redding Municipal Airport, and Benton Field. The Project area is more than approximately 20 miles from the closest airport (Fall River Mills Airport). The Project area is not within an airport protection area which includes the lands laying within the approach zones, transitional zones, and conical zones as they apply to a particular airport. Therefore, no impact would occur, and this issue will not be considered in the EIR.

g) *Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?*

Finding: Less than Significant Impact

There is no currently adopted emergency response plan for the Project area, and the proposed Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan for a neighboring populated area (e.g., Burney, Moose Camp, and Montgomery Creek). Further, construction and operation of the Project would not be in conflict with the goals, objectives, or action items listed in the Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan (Shasta County and City of Anderson 2017), specifically those related to reducing the possibility of damage and losses to existing assets, particularly people, critical facilities/infrastructure, and County-owned facilities (Goal 5) from flood, wildfire, earthquake, hazardous materials, or volcano.

Therefore, this would be considered a less than significant impact and will not be analyzed further in the EIR.

h) *Would the Project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

Finding: Potentially Significant Impact

The Project area is located in a "Very High Fire Hazard Severity Zone" according to Figure FS-1 in the Shasta County General Plan (Shasta County 2004). In August 1992, the Fountain Fire burned 64,000 acres, including portions of the Project area. Much of the Project area has been replanted; however, vegetation is still recovering.

The proposed Project could increase the potential for wildfires associated with the use of vehicles and electrical equipment and increased human presence during construction of the Project. Sparks from vehicles and construction equipment, heated mufflers, spark producing construction activities such as welding, and improper disposal of matches or cigarettes, for example, could start a fire. There will also be increased presence and use of petroleum products, including oils and lubricants onsite, thereby increasing the potential for fires.

The proposed Project will develop and implement a Fire Prevention Plan (FPP) prior to construction and operation. With implementation of the FPP, the impacts to the proposed Project related to wildfires during the O&M phase are anticipated to be very low. The risk of fire will be further minimized by the design features of the turbines. Fire prevention features will be incorporated within the turbines.

The FPP will include emergency response and evacuation procedures that will include immediate notification of local fire agencies. Staff will be equipped with fire suppression equipment, radio and cellular access, and pertinent telephone numbers for reporting a fire. These measures may include, but are not limited to equipping earthmoving and portable equipment with internal combustion engines with spark arrestors, requiring vehicles to carry fire suppression equipment when onsite such as fire extinguishers, flappers, and shovels, and storing fire suppression tools at designated locations

within the wind farm. Fuel breaks will also be maintained around the proposed Project facilities including the turbines, substation, and O&M facility in accordance with the Fire Plan (per Public Resource Code 4290).

Due to the high fire severity rating and the potential for the proposed Project to increase the fire risk, this potential impact will be further analyzed in the EIR.

IX. HYDROLOGY AND WATER QUALITY: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☒	☐	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a new deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☒	☐	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☒	☐	☐	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☒	☐	☐	☐
f) Otherwise substantially degrade water quality?	☒	☐	☐	☐
g) Place housing within 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

a,f) ***a)*** *Violate any water quality standards or waste discharge requirements?* ***f)*** *Otherwise substantially degrade water quality?*

Finding: Potentially Significant Impacts

Due to the temporary and permanent disturbances, the proposed Project may have potential for increased erosion and sedimentation from ground disturbing activities primarily associated with construction. Prior to construction, a NPDES General Permit for Discharges of Storm Water Runoff Associated with Construction Activity (General Construction Permit), will be obtained from the Central Valley Water Board. Coverage under a General Construction Permit requires the preparation of a SWPPP and Notice of Intent (NOI). The SWPPP will include pollution prevention measures (erosion and sediment control measures and measures to control non-storm water discharges and hazardous spills), demonstration of compliance with all applicable local and regional erosion and sediment control standards, identification of responsible parties, a detailed construction timeline, and a BMP monitoring and maintenance schedule.

The NOI will include site-specific information and the certification of compliance with the terms of the General Construction Permit. Potential impacts will be analyzed further in the EIR.

b) *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?*

Finding: Less Than Significant Impact

Impermeable surfaces created by the proposed Project will be limited to the concrete tower foundations, substation, and O&M facilities. Access roads, laydown areas, and staging areas will be gravel and therefore permeable. The introduction of a limited extent of impermeable surface associated with the proposed Project would not significantly alter the groundwater recharge or available groundwater supplies.

Water for the operations and maintenance facility may be supplied by the installation of a domestic well, or by a water storage tank installed at the building with water periodically transported to the tank. Any efforts to install a domestic well will be conducted in accordance with the rules and regulations of the Shasta County Department of Resource Management's Environmental Health Division. The Applicant anticipates that less than 5,000 gallons of water will be used per day for operations and maintenance. Construction of a domestic well and groundwater use for operation will only occur if the Applicant determines groundwater is available in the Project area and sufficient to support the proposed Project's uses. It is unlikely the proposed Project will substantially deplete groundwater supplies or interfere substantially with groundwater recharge. Therefore, this would be considered a less than significant impact and will not be analyzed further in the EIR.

c,d,e) ***c)*** *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?* ***d)*** *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?* ***e)****Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

Finding: Potentially Significant Impacts

To the extent practicable, the proposed Project will maintain the local surface drainage patterns. New access roads will be located to follow natural contours and minimize side hill cuts to the extent possible and will include other BMPs such as ditches and culverts to capture and convey storm water runoff. Prior to obtaining a grading permit for the Project, the construction contractor will confirm storm water runoff requirements and, if necessary, incorporate storm water control measures such as seepage pits, drywells, and/or detention basins.

Impermeable surfaces created by the proposed Project will be limited to the concrete tower foundations, the substation, and O&M facilities. Access roads, laydown areas, and staging areas will be gravel and therefore permeable. Permanent storm water control structures will be installed to prevent erosion where access roads, buildings, storage areas, and parking areas are constructed. Upon completion of construction, all disturbed areas where permanent gravel or aggregate is not required will be revegetated. Erosion control measures included in the Temporary Erosion and Sediment Control (TESC) Plan will also prevent water quality degradation from storm water runoff during the operational phase of the proposed Project.

Due to the potential impacts from the proposed Project related to erosion, drainage, and runoff, as well as possible mitigation needed, impacts will be analyzed further in the EIR.

g,h) ***g)*** *Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?* ***h)*** *Place within a 100-year flood hazard area structures which would impede or redirect flood flows?*

Finding: No Impacts

The proposed Project does not include placing housing within 100-year flood hazard area. The Project area is in an area of minimal flood hazards (Zone X). However, the Project area is generally located along mountain ridges and above the floodplain. Therefore, no impact would occur and this impact will not be analyzed further in the EIR.

i) *Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?*

Finding: No Impact

The proposed Project will not be located within an area susceptible to flooding as a result of the failure of a levee or dam. Therefore, no impact would occur, and this impact will not be analyzed further in the EIR.

j) Inundation by seiche, tsunami, or mudflow

Finding: Less Than Significant Impact

Lakes near the Project area are lower in elevation than the Project area and therefore do not pose a significant threat of a seiche. The proposed Project will be inland and not at risk of a tsunami. A large portion of the Project area experienced a forest fire in 1992 and may consequently be at greater risk of significant erosion and mudflows than the area was before the fire. Because the proposed Project would not significantly increase runoff from the Project site or significantly alter existing drainage patterns, operation of the Project would not contribute to the risk of mudflows in the Project area. Although construction activities for the proposed Project would involve grading activities that could potentially increase erosion in the area and the potential for mudflows, compliance with CWA requirements and provisions of the County Grading Ordinance will ensure that this impact is less than significant. Therefore, this would be considered a less than significant impact and will not be analyzed further in the EIR.

X. **LAND USE AND PLANNING:** Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

a) *Would the Project physically divide an established community?*

Finding: No Impact

Burney is the largest established community near the Project area, located approximately 6 miles east of the Project area. The community of Moose Camp is located closer to the Project area (within 1/5 mile of the closest turbine); however, the proposed Project facilities would not create any access issues to or from this community and would not physically divide it. Therefore, no impact would occur, and this impact will not be further analyzed in the EIR.

b) *Would the Project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

Finding: Less Than Significant Impact

The lands underlying the Project are within the TP and U zoning districts. SCC Section 17.08.030(D) pertains to the TP district and conditionally allows the construction of "gas, electrical, water, or communication transmission facility, or other public improvements, in accordance with Government Code Section 51152." Per SCC Section 17.64.040, wind energy systems are conditionally permitted in the U district as long as it is not otherwise prohibited by law and not inconsistent with any portion of the General Plan. The Project, which will convert 972 acres of an approximately 37,436-acre project area from timberland to non-timberland use (see Section 2.2), is consistent with General Plan as the U district lands underlying the proposed Project are timberlands outside of the Timber Protection Zone and as such, power generation facilities are an allowed use per General Plan Policy 6.2.4, T-d.

Also, per SCC Section 17.88.035, a Use Permit is required in all districts for wind energy systems which do not meet the definition of "small wind energy system" (e.g. wind energy systems greater than 50 kilowatts in size). A Use Permit application has been prepared pursuant to SCC Section 17.92.020m, which are the rules governing Use Permits.

Because the General Plan designation and zoning district underlying the proposed Project conditionally allow electrical power facilities, the proposed Project would be considered consistent with the General Plan designation and zoning. Therefore, this would be considered a less than significant impact and will not be analyzed further in the EIR.

c) *Would the Project conflict with any applicable habitat conservation plan or natural communities' conservation plan?*

Finding: No Impact

There are no currently adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans for the proposed Project area or its vicinity. Therefore, the proposed Project would not conflict with any such plan and there would be no impact and no further analysis is warranted in the EIR.

XI. MINERAL RESOURCES: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local General Plan, specific plan or other land use plan?	☐	☐	☐	☒

a) *Would the Project result in the loss of availability of a known mineral resource classified MRZ-2 by the State Geologist that would be of value to the region and the residents of the state?*

Finding: No Impact

The proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State. There are no known mineral resources of regional value located on or near the Project area. Therefore, no impacts would occur, and no further analysis is warranted in the EIR.

b) *Would the Project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

Finding: No Impact

The proposed Project would not result in the loss of availability of a locally-important mineral resource recovery site delineated on a local General Plan, specific plan, or other land use plan. The Project area is not identified in the General Plan Minerals Element as containing a locally-important mineral resource. In addition, the Project area is not designated as a mineral resource zone by the Shasta County Zoning ordinance. Therefore, no impacts would occur, and no further analysis is warranted in the EIR.

XII. NOISE: Would the project result in:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels	☒	☐	☐	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☒	☐	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

a,b,c,d) ***a)*** *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies?* ***b)*** *Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?* ***c)****A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?* ***d)****A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

Finding: Potentially Significant Impacts

The noise level performance standards for new projects, per the Shasta County General Plan (Shasta County 2004) includes the following limits.

- 50 A-weighted decibels (dBA) at the property line of noise-sensitive uses between the nighttime hours of 10:00 p.m. and 7:00 a.m.
- 55 dBA at the property line of noise-sensitive uses between the evening hours of 7:00 p.m. and 10:00 p.m.

The construction of the proposed Project may cause short-term but unavoidable noise impacts depending on the construction activity being performed and the distance to receiver. Noise will also be emitted by turbines during operation. Noise-sensitive land uses in the vicinity of the Project area comprise residences on Haines Road west of Burney and residences and campsites in the Moose Camp area.

The Applicant will prepare a Noise Technical Report to evaluate construction and operational noise associated with the proposed Project and consistent with Shasta County standards. This report will need to establish a baseline noise level for the Project site, predict Project-based noise levels at adjacent property lines, assess potential impacts, and outline mitigation scenarios that could be implemented to reduce potential impacts. To characterize the existing noise environment, long-term, 24-hour, unattended noise level measurements will be made at up to 5 locations continuously over a 5-day period. Monitoring equipment will be located at sensitive receptors – which could include occupied buildings, parks, and adjacent property lines – in order to accurately assess the site's existing short-term and long-term noise levels.

Sound levels from the operation of the turbines will be predicted for the nearest property boundary for daytime and nighttime conditions using the "Cadna/A" software program developed by DataKustik, GmbH (Munich). This modeling tool allows the site terrain to be accurately recreated in three dimensions and wind/atmospheric effects on sound propagation to be evaluated as needed. Results will be shown in detailed sound level contour maps and tables will be developed that include the noise level predicted at the property line of the nearby noise receptor locations.

The collected baseline ambient sound level data and the turbine sound level contribution predicted by modeling will need to be used to determine whether there is potential for exposure of persons to noise level in excess of Shasta County noise standards as well as exposure of persons to excessive ground borne vibration or noise levels. The technical report is anticipated to be completed in the spring of 2018.

Therefore, because further analysis will be required, these would be considered potential impacts and will be evaluated in the EIR.

e,f) ***e)*** *For a project located within an airport land use plan area or, where such a plan has not been adopted, within two miles of a public airport or a public use airport, would the project expose people residing or working in the project area to excessive noise levels?* ***f)*** *For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?*

Finding: No Impacts

The proposed Project is not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private airstrip. Therefore, there would be no impact and no further analysis is warranted in the EIR.

XIII. POPULATION AND HOUSING: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a) *Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?*

Finding: No Impact

The proposed Project does not propose any new homes or new public roads and population growth will not occur as a result of the Project. The temporary workforce required for construction is anticipated to consist partially of local labor, with temporary arrangements (hotels within 1 hour of the Project, RV parks, shared rentals, etc.) accommodating workers from outside of the region. As such, no impact would occur, and no further analysis is warranted in the EIR.

b) *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*

Finding: No Impact

The proposed Project will not displace existing housing because the proposed Project will be constructed on private timber lands used for timber production. No impact would result from Project development and no further analysis is warranted in the EIR

c) *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*

Finding: No Impact

The proposed Project will not displace people because the proposed Project will be constructed on private timber lands used for timber production. No impact would result from Project development and no further analysis warranted in the EIR.

XIV. PUBLIC SERVICES: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Fire Protection?	☒	☐	☐	☐
b) Police Protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

a) *Fire protection?*

Finding: Potentially Significant Impact

The proposed Project area is located in a "Very High Fire Hazard Severity Zone" according to Figure FS-1 in the Shasta County General Plan (Shasta County 2004). The Project could increase the potential for wildfires associated with the use of vehicles and electrical equipment and increased human presence during construction of the proposed Project. Sparks from vehicles and construction equipment, heated mufflers, spark producing construction activities such as welding, and improper disposal of matches or cigarettes, for example, could start a fire. There will also be increased presence and use of petroleum products, including oils and lubricants onsite, thereby increasing the potential for fires.

The proposed Project will develop and implement an FPP prior to construction and operation. The FPP will include emergency response and evacuation procedures that will include immediate notification of local fire agencies. Staff will be equipped with fire suppression equipment, radio and cellular access, and pertinent telephone numbers for reporting a fire. These measures may include, but are not limited to equipping earthmoving and portable equipment with internal combustion engines with spark arrestors, requiring vehicles to carry fire suppression equipment when onsite such as fire extinguishers, flappers, and shovels, and storing fire suppression tools at designated locations within the wind farm. Fire breaks will also be maintained around the proposed Project facilities including the turbines, substation, and O&M facility (per Public Resource Code 4290). With implementation of the FPP, the impacts to the proposed Project related to wildfires during the O&M phase are anticipated to be very low. The risk of fire is further minimized by the design features of the turbines as fire prevention features will be incorporated within the turbines. Additionally, access roads will serve as fire breaks and will provide access for fire suppression activities.

However, due to the high fire risk and the potential for the proposed Project to impact fire risk in the Project area, this potential impact warrants further evaluation and will be discussed further in the EIR.

b) *Police protection?*

Finding: Less Than Significant Impact

The proposed Project will be located on private timber lands owned by Shasta Cascades Timberlands, LLC and the turbine sites will be accessed existing via private logging roads and proposed access roads accessed via the private logging roads. Public access to the turbine sites will be restricted to avoid potential safety hazards per the proposed Project's approved Access Control Plan. All turbine towers will be locked as well as the O&M facility. The substation will be fenced and locked to prevent unauthorized entry. These precautionary measures will minimize the need for police surveillance and response. During construction, when opportunity for theft is high, security will be on site at all times when active construction is not occurring. Therefore, a less-than-significant impact would occur, and while no

further analysis is warranted in the EIR, it will document communication with the Shasta County Sherriff's Office confirming its ability to provide service to the Project.

c,d,e) ***c)*** *Schools?* ***d)*** *Parks?* ***e)*** *Other public facilities?*

Finding: No Impacts

Population growth will not occur as a result of the proposed Project and demands on local parks districts and school districts are therefore not expected to change in direct correlation to the proposed Project. As such, there would be no impacts related to schools, parks, or other public facilities resulting from implementation of the proposed Project and no further analysis is warranted in the EIR.

XV. RECREATION: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Finding: No Impact

Population growth will not occur as a result of the proposed Project therefore use of existing local or regional parks or other recreational facilities are not expected to change or increase. No further analysis is warranted in the EIR.

b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Finding: No Impact

The proposed Project does not propose any new or expanded recreational facilities. In addition, the Project area is not located on public land or otherwise designated as open space or recreational land, nor does it have formal public access for recreation. Therefore, no impacts would occur, and no further analysis is warranted in the EIR.

XVI. TRANSPORTATION/TRAFFIC: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☒	☐	☐	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☒	☐	☐	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☒	☐
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☒	☐	☐	☐
e) Result in inadequate emergency access?	☒	☐	☐	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

a,b) **a)** *Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?* ***b)*** *Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?*

Finding: Potentially Significant Impacts

Temporary increases in traffic due to proposed Project construction have the potential to degrade the level of service (LOS) on public roadways in the proposed Project's transportation and traffic study area. A Traffic Assessment Report is anticipated to be completed in Spring 2018. The traffic impact analysis will examine existing traffic volumes and LOS on roadways and increases in congestion at intersections within the proposed Project study area. Therefore, these potential impacts will be analyzed further in the EIR.

c) *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

Finding: Less Than Significant Impact

There are three publicly operated airports in Shasta County: Fall River Mills Airport, Redding Municipal Airport, and Benton Field. The Project area is more than 20 miles from the closest airport. The Project area will not be located an airport protection area. The proposed Project will not result in changes to air traffic patterns. An FAA determination of no hazard will be requested, and the notice of proposed construction submitted to the FAA will trigger a Department

of Defense screening for military flight path conflict, including training routes. Therefore, a less-than-significant impact would occur. While no further analysis is warranted, the EIR will summarize the FAA determination.

d) *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Finding: Potentially Significant Impact

Safety hazards may increase due to construction-generated traffic such as trucks entering and existing SR 299. Potential for increases in safety hazards from construction traffic will need to be examined in the Traffic Assessment Report. In addition, any safety hazards that result from construction related traffic can be mitigated through the development and implementation of a Traffic Control Plan in accordance with County and Caltrans policies. Therefore, this potential impact warrants further analysis and will be evaluated in the EIR.

e) *Result in inadequate emergency access?*

Finding: Potentially Significant Impact

Emergency access to the Project area could be affected by proposed Project construction—specifically, road closures, detours, and construction-related traffic could delay or obstruct the movement of emergency vehicles. This impact is considered potentially significant, but implementation of a Traffic Control Plan will reduce this impact. The construction of new access roads will also provide more access for emergency vehicles to access the Project site. Therefore, this potential impact warrants further evaluation and will be discussed further in the EIR.

f) *Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?*

Finding: No Impact

The proposed Project will not result in any conflicts with adopted policies, plans, or programs supporting alternative transportation. Therefore, no impact would occur, and no further analysis is warranted in the EIR.

XVII. <u>TRIBAL CULTURAL RESOURCES</u>: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size, or object with cultural value to the California Native American tribe and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).	☒	☐	☐	☐
b) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size, or object with cultural value to the California Native American tribe and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☒	☐	☐	☐

a,b) ***a)*** *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size, or object with cultural value to the California Native American tribe and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k).* ***(b)*** *Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size, or object with cultural value to the California Native American tribe and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

Finding: Potentially Significant Impacts

The identification of tribal cultural resources is a continuing process between the appropriate tribes or tribal representatives and CEQA lead agency. The appropriate tribes or tribal representative are the authority on identifying tribal cultural resources. The archival records search performed as part of the cultural resources analysis resulted in the identification of known tribal cultural resources within or near the study area. Furthermore, initial field review of the Project area did not identify any signs of previously unidentified subsurface tribal cultural resources within or adjacent to the Project area. However, further coordination with Tribes during the CEQA process will be needed to identify highly sensitive areas and resources.

Pursuant to Assembly Bill 52, Shasta County is required to contact the Native American tribes that are culturally or traditionally affiliated with the geographic area in which a proposed project is located within 14 days of a public agency's decision to undertake a project (or a determination that the project application is complete). Notified tribes have 30 days to request consultation with the lead agency to discuss potential impacts on tribal cultural resources and measures for addressing those impacts. Shasta County sent a letter to the Pit River Tribe regarding the project on

December 8, 2017. No formal consultation was requested; however, the Pit River Tribe has responded to Shasta County and requested additional environmental information related to the Project (see Appendix C).

The Applicant's cultural resource consultant will conduct a review of existing information, will coordinate with Native Americans, and will conduct field surveys of the Project site in accordance with state and county regulations. If any cultural resources are found, they would be evaluated for significance (per CEQA definition) and any effects on these resources by Project facilities or activities would also be evaluated. If historic resources or unique archaeological resources are identified in the Project site and evaluated as potentially being impacted by the Project, the Applicant will develop and implement measures to mitigate the effects of the Project on these resources. Therefore, these potential impacts will be further analyzed in the EIR.

XVIII. UTILITIES AND SERVICE SYSTEMS: Would the project:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project which serves or may serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with Federal, State, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

a) *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?*

Finding: No Impact

Construction of the proposed Project will generate a minor amount of wastewater from portable toilets, which will be provided and serviced on a contracted basis. The construction contractor will dispose of sanitary wastewater pursuant to applicable regulations. Wastewater from the O&M building during operation of the proposed Project will be processed using an on-site septic system. This system will conform to all County design standards and specifications to avoid impacts on ground- or surface waters. Therefore, no impact would result from Project implementation and no further analysis is warranted in the EIR.

b) *Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

Finding: No Impact

Construction of the proposed Project will require water for dust control, equipment wash down, wetting of concrete, emergency fire suppression, and other activities. During construction, the contractor will arrange for delivery of water to the site by water trucks from a source with an existing water right. Water for the operations and maintenance facility may be supplied by the installation of a domestic well, or by a water storage tank installed at the building with water periodically transported to the tank. Wastewater from the O&M facility will be processed using an on-site septic system. Because the proposed Project will not connect to any water or wastewater treatment facilities, there would be no impact on the capacity of an existing water or wastewater treatment facilities and therefore, this impact will not be analyzed further in the EIR.

c) *Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

Finding: Less Than Significant Impact

Prior to obtaining a grading permit for the proposed Project, the construction contractor will confirm storm water runoff requirements and, if necessary, incorporate storm water control measures such as seepage pits, drywells, and/or detention basins. Permanent storm water control structures will be installed to prevent erosion where access roads, buildings, storage areas, and parking areas are constructed.

Impermeable surfaces created by the proposed Project will be limited to the concrete tower foundations, substation, and O&M facilities. Access roads, laydown areas, and staging areas will be gravel and therefore permeable. The proposed Project would not be anticipated to significantly increase the amount of storm water runoff and would not alter existing drainage patterns. Therefore, environmental impacts from construction of new storm water drainage facilities would be less than significant and will not be analyzed further in the EIR.

d) *Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?*

Finding: Less Than Significant Impact

Construction of the entire Project will require water for dust control, equipment wash down, batching concrete, emergency fire suppression, and other activities. During construction, water will either be provided from an onsite water well or the contractor will arrange for delivery of water to the site by water trucks from a source with an existing water right.

Water for the operations and maintenance facility may be supplied by the installation of a domestic well, or by a water storage tank installed at the building with water periodically transported to the tank. Any efforts to install a domestic well will be conducted in accordance with the rules and regulations of the Shasta County Department of Resource Management's Environmental Health Division. The Applicant anticipates that less than 5,000 gallons of water will be used per day for operations and maintenance. Construction of a domestic well and groundwater use for operation will only occur if the Applicant determines groundwater is available in the Project area and sufficient to support the proposed Project's uses. It is unlikely the proposed Project will substantially deplete groundwater supplies or interfere substantially with groundwater recharge.

The proposed Project will not require the acquisition or expansion of entitlements and there will be no need to develop infrastructure to connect to an existing water supply distribution facility.

Therefore, the proposed Project would have a less than significant impact and will not be analyzed further in the EIR.

e) *Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand, in addition to the provider's existing commitments?*

Finding: No Impact

Wastewater from the O&M facility will be processed using an on-site septic system. Because the proposed Project will not connect to any wastewater treatment facilities, there will be no impact on the capacity of an existing wastewater treatment facility and therefore, this impact will not be analyzed further in the EIR.

f) *Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?*

Finding: Less Than Significant Impact

Construction debris (e.g. scrap lumber and metal) and operational debris (e.g. office waste and some paper waste) will be collected by either the construction contractor or Burney Disposal Inc. and disposed of at the Burney Transfer Station

and ultimately the Anderson Landfill or recycled with applicable and feasible. A low volume of waste associated with the proposed Project will be anticipated and there will be no need to increase the Anderson Landfill capacity. Therefore, there would be a less than significant impact to landfills and no further analysis is warranted in the EIR.

g) *Comply with federal, state and local statutes and regulations related to solid waste?*

Finding: No Impact

The proposed Project will comply with Federal, State, and local statues and regulations related to solid waste. Construction debris (e.g. scrap lumber and metal) and operational debris (e.g. office waste and some paper waste) will be collected by either the construction contractor or Burney Disposal Inc. and disposed of at the Burney Transfer Station and ultimately the Anderson Landfill or recycled with applicable and feasible. A low volume of waste associated with the proposed Project will be anticipated and there will be no need to increase the Anderson Landfill capacity. Therefore, there would be no impact and no further analysis is warranted in the EIR.

XIX. MANDATORY FINDINGS OF SIGNIFICANCE:	Potentially Significant Impact	Less-Than-Significant With Mitigation Incorporated	Less-Than-Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below the self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

a) *Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

Finding: Potentially Significant Impact

The proposed Project will consist of up to 100 wind turbines and associated infrastructure, located on 76 assessor parcels. In addition to the wind turbines and associated transformers, the Project includes ancillary facilities such as lay-down areas, access roads, underground and overhead collector lines, an operation and maintenance building, and substation components. These activities will require temporary and permanent clearing of ground cover and vegetation, including grading, and therefore have potential to degrade the quality of the environment and affect habitat. Such effects will be evaluated in the EIR.

b) *Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Finding: Potentially Significant Impact

The proposed Project will be located in the immediate vicinity of the Hatchet Ridge Wind Project. Cumulative effects related to the existing wind project, as well as to other currently proposed actions in the Project vicinity, will be fully evaluated in the EIR.

c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Finding: No Impact

The proposed Project will be constructed on private timber lands used for timber production. No displacement of residents will result from development of the Project. As such, no direct or indirect substantial adverse effects on human beings would result from Project development and no further analysis is warranted in the EIR.

3.0 DESCRIPTION OF TECHNICAL STUDIES/ SURVEYS TO BE CONDUCTED

PWD, with support from its environmental consultants, will develop the following to support the Project's environmental review.

3.1 Traffic Assessment Report

A Traffic Assessment Report will be prepared using traffic and transportation evaluation methodology consistent with the Shasta County Circulation Element of the General Plan, as well as Caltrans guidelines. Existing traffic and transportation conditions of the Project area, including the traffic volumes along SR 299 East will be examined. This includes a review of current daily, peak hour and truck traffic volumes to the east and west of the access roads along SR 299. PWD will assess the operation and performance of the existing roadways using the procedures from the Highway Capacity Manual (HCM2010 or HCM 6, as required). This analysis will provide LOS based on vehicular delay and calculate percent time-spent-following slower vehicles. Other existing conditions that will be analyzed include roadway hazards, non-motorized transportation, transit service, rail service and air traffic operations.

Construction trip generation and distribution will be based on the workforce projected for the site and their respective locations of residence or lodging. Construction delivery routes will also be assessed. Likewise, trip generation and distribution will be evaluated during normal operation once the construction phase is complete and the wind project is placed online.

For construction and operations-related traffic, PWD will detail impacts and propose mitigation measures, including:

- Increases in traffic volumes and degradation in levels of service;
- Increases in safety hazards;
- Interference with emergency access and circulation; and,
- Inadequate parking supply to meet the parking demand.

A construction traffic control plan will be developed and implemented to deal with these issues.

3.2 Viewshed Analysis, Visual Simulations, and Assessment of Potential Effects to Visual Resources

A viewshed analysis will be completed to identify locations within the analysis area from which the Project would potentially be visible. The viewshed analysis for the Project will use the preliminary Project layout and a U.S. Geological Survey digital elevation model dataset. The analysis results will identify all points on the terrain surface with a direct line of sight to the tip elevation of one or more Project turbines. Because the turbines are the tallest structures of the proposed Project and are typically sited along ridges to maximize the wind resource, the turbines are generally the most prominent Project facilities and the most likely to be visible. However, it should be noted that the viewshed analysis results will be a conservative representation of potential Project visibility. The analysis represents line-of-sight conditions based only on topography; it does not account for factors that might obscure or block visibility from a specific location or at certain times, such as weather conditions, existing structures, or vegetation.

The viewshed analysis will, along with desktop review of aerial photographs, land use and resource plans, land use data, and the public scoping comments for the Project, serve as a basis for identification of preliminary viewpoints for eventual use in the production of visual simulations. Preliminary viewpoints will be field verified to ensure site visibility and representation with regard to sensitive viewers in the project vicinity, which include residents, recreationists using trails and other facilities within the project viewshed, and roadway travelers. Analysis of simulated views from up to seven viewpoints in the evaluation of potential effects to visual resources is anticipated. Such viewpoints typically afford direct line-of-site to proposed project facilities and as such are often in locations where views are no more than partially obstructed by topography or intervening vegetation.

3.3 Biological Surveys

The principal objectives of biological resource studies are to: 1) conduct a review of existing data on biological resources present or that may occur at the Project in order to provide a preliminary evaluation of the site; 2) evaluate avian use of the Project area including small birds, large birds, and eagles specifically; 3) locate and describe raptor nests in the Project and surrounding area that may be subject to disturbance and/or displacement effects from facility construction and/or operation; 4) estimate seasonal bat use of the Project area; 5) examine potential occurrence of California sensitive species within the Project area; and 6) produce a desktop assessment of wetlands and waters within the Project area. Additional information regarding species that are present or may occur in the vicinity of the Project will be gathered through appropriate agency correspondence and from reports developed for other local or regional projects. This information will be used in final impact analyses where applicable. An initial meeting to discuss biological resource studies with the USFWS, CA Department of Fish and Wildlife, Shasta County, and the Applicant occurred in June 2017.

3.3.1 Site Characterization Study

Recommendations in the WEG (USFWS 2012) call for tiered wind energy project development that includes: Tier 1 – Preliminary Site Evaluation, Tier 2 – Site Characterization, and Tier 3 – Field Studies to Document Site Wildlife and Habitat and Predict Project Impacts. Part of addressing Tiers 1 and 2 includes analysis of existing data sources to determine potential species occurrence at a project. These species may include both wildlife and plants. Special focus is given to species which are state or federally listed as threatened or endangered, or to species that are otherwise considered sensitive by regulatory agencies or non-governmental organizations. Additional site characterization work under the WEG includes identifying and evaluating habitat within project boundaries such as land cover types. The SCS will include a preliminary evaluation of the Project site area that addresses the following key objectives:

- Presence of habitat for species of concern at the landscape level;
- Potential for presence of plant and wildlife species of concern on the Project;
- Potential occurrence of areas that may be precluded from development;
- Potential presence of plant communities on the Project that may provide habitat for wildlife species of concern; and
- Potential areas of wildlife concentration within the Project.

The SCS report will be based primarily on a desktop evaluation of the Project area using accessible resources including both publicly available data (e.g., California Native Plant Society data, California Natural Diversity Database [CNDDB] data), as well as privately held data that may be available from past surveys conducted by the landowner and/or lessee. The Applicant's survey contractor will conduct a reconnaissance-level site visit to evaluate current site conditions at the Project relative to that derived from desktop review. Any state or federally listed, or sensitive plants or wildlife observed during the site visit will be documented and locations will be recorded for later inclusion in the SCS report.

3.3.2 Baseline Wildlife Studies

Baseline wildlife studies at the Project will address use by eagles (bald eagles [Haliaeetus leucocephalus] and golden eagles [Aquila chrysaetos]), non-eagle raptors (e.g., Buteo hawks) and other large birds (e.g., waterfowl), small birds (e.g., passerines) and bats. This work will rely on data gathered during surveys at the Project. However, an initial desktop assessment of bat species that have the potential to occur at the Project area will also be conducted and will help inform follow-up field studies. Following this initial assessment, bat use of the Project will be evaluated through acoustic surveys in 2017. Finally, should the need arise based on information gathered during the initial site visit, and through consultation with the landowner biologist and agency representatives, sensitive species surveys for both wildlife and plants may be conducted.

A draft Biological Survey Report will be completed within two months of survey effort completion. However, a preliminary results memo can be provided to Shasta County by the end of 2017. The draft Biological Survey Report will include a discussion of the methods, results, and potential Project impacts based on the results of avian point-count surveys, raptor nest surveys, and bat acoustic surveys.

3.3.2.1 Sensitive Species Surveys

Sensitive Species Surveys may be conducted to examine occurrence of California sensitive plant and animal species within the Project area, pending consultation with agency representatives and landowner biologists. Should sensitive species surveys be deemed necessary, data collected from these efforts will be included in the Biological Survey Report. In addition, if sensitive species surveys are conducted, a Sensitive Species Memo will be prepared after completion of surveys and will be provided to Shasta County within one month.

3.3.2.2 Eagle Use Surveys

Eagle use (including Bald eagles [Haliaeetus leucocephalus] and golden eagles [Aquila chrysaetos]) in the study area will be determined through direct observation. Following guidelines in the USFWS Eagle Conservation Plan Guidance (ECPG; USFWS 2013, USFWS 2016), as well as recommendations in the WEG, the Applicant's biological survey contractor will initiate a two-year study of eagle use in the Project beginning in April 2017. Surveys will be conducted weekly at half the survey stations, such that each station is surveyed twice per month.

3.3.2.3 Baseline Avian Point-Count Surveys

In addition to the eagle use surveys described above, surveys aimed at evaluating small bird use of the Project area will also be conducted. The ECPG recommends conducting studies of this sort separately from eagle or large bird use surveys to increase detection probability. Assessment of small bird use of the Project area is important as it may allow identification of any previously unknown occurrence of sensitive species, identification of high use periods (e.g., migration windows, breeding seasons), or areas within the larger Project area that may be particularly important to small birds (e.g., reproductive habitats, stopover sites).

Avian point-count surveys will occur from approximately mid-April through June during the spring, and from September through November during the fall. Two years of surveys, conducted during vernal and autumnal migration windows, will begin in April 2017. Completion of this effort will result in data for inclusion in a draft Biological Survey Report.

3.3.2.4 Raptor Nest Surveys

The tiered development approach defined in the WEG includes numerous recommendations for Tier 3 studies, as mentioned previously. The WEG and ECPG not only recommend utilizing surveys for eagles and raptors, as outlined in the previous section, but also suggests that project developers engage in raptor nest surveys if there is potential for the Project to impact breeding raptors, which is the case throughout western North America (USFWS 2012, 2013). The Applicant's survey contractor will conduct aerial raptor nest surveys within and in areas surrounding the Project for two breeding seasons (2017 and 2018). Breeding season varies by species and geographic location, but generally includes February through July in northern California. In addition to the Project area, a 2-mile buffer surrounding the Project will be surveyed for raptor nests, and a 10-mile buffer will be surveyed for eagle nests.

A draft Nest Survey Memo will be provided to Shasta County after completion of the final nest survey each year. Data from the raptor nest surveys will also be included in the aforementioned Biological Survey Report.

3.3.2.5 Bat Desktop Assessment

An assessment of bat use, or potential use, of the Project area will be conducted through a desktop analysis of existing resources to determine the possible species of bat which may occur within the Project area. This desktop assessment will draw upon publicly available resources such as the CNDDB, and Bat Conservation International Species Profiles, which are sortable by state and include known range information. Additional consultation with the landowner biologist or agency representatives may be used to inform this assessment, where applicable. This effort will include a description of habitats for particular bat species at the Project and will result in the production of a list of species that may occur at the Project and the possible timing of occurrence for these species. Because many bat species are migratory, it is possible that some species may only be present during brief migratory windows, or may use habitat within the Project area as maternity sites or

hibernacula. Particular focus will be given to the potential for occurrence of state or federally listed, candidate, or sensitive species.

The result of this desktop assessment will be a draft Bat Desktop Assessment Report.

3.3.2.6 Bat Acoustic Surveys

As part of Tier 3 baseline biological studies, passive bat acoustic monitoring will be conducted. The WEG suggest utilizing passive acoustic monitoring to assess bat use as it is a practical method of determining whether or not threatened, endangered or otherwise sensitive species are utilizing a Project area (USFWS 2012). Bat acoustic monitoring devices will be deployed at the Project area. Data from these surveys will be included in the Biological Survey Report. This report will include a description of the methods, results, and a discussion of potential Project impacts on bats determined to be using the Project area. In addition, data on detector locations will included in the Biological Survey Report.

3.3.2.6 Nocturnal Bird Migration Surveys

A review was conducted of local, regional, and nation-wide radar studies at sites proposed for wind energy development, including the adjacent Hatchet Ridge wind energy facility (Tetra Tech 2013). Results indicated that the majority of spring and fall nocturnal migrants fly at heights well above the rotor swept zone of commercial wind turbines. Additionally, radar has not been demonstrated to be a reliable predictor of collision risk at proposed wind energy sites. Based on an analysis of 15 seasonal nocturnal migration studies conducted at wind energy sites between 1999 and 2009, no correlation was found between pre-construction passage rates and flight heights, and post-construction fatality estimates (Tidhar et al. 2010a). Because radar has been demonstrated to provide limited data relating to risk assessments and operational results from the adjacent operating wind project indicating limited impacts to nocturnal migrants, a nocturnal avian migration survey will not be conducted at the Project.

3.3.3 Project Area Desktop Assessment of Wetlands and Waters

Waters protected under the CWA are considered jurisdictional, and must be defined through a formal delineation process. The Applicant's survey contractor will conduct a desktop assessment of the waters, including wetlands, at the Project, in order to inform a future field delineation of jurisdictional waters. The Applicant's survey contractor will communicate with the USACE, if necessary, in an effort to determine the potential occurrence of jurisdictional waters at the Project and will also consult available public information sources such as the NWI, which is operated by the USFWS. Additional resources may include examination of aerial imagery or USGS topographic maps.

The desktop assessment will result in a Wetlands and Waters Memo. GIS files developed for the Wetlands and Waters memo will also be provided.

3.3.4 Additional Studies

The following studies are also being considered and will be prepared by the Applicant as warranted by environmental review and/or agency coordination:

- Noise Technical Report. Evaluation of potential construction noise associated with the Project consistent with Shasta County standards, if warranted by environmental review. No noise monitoring during construction is anticipated. If blasting is required during construction, noise monitoring protocols will be established and implemented.
- Phase 1 Cultural Resources Report. Will be prepared in a manner consistent with Section 106 of the 1966 National Historic Preservation Act regarding the identification and protection of significant cultural resources, as well as state and county guidelines, and will include relevant information from consultation with Native American tribes.
- Economic Impact Analysis. Conducted in accordance with Shasta County standards.

3.3.5 Anticipated Timing of Studies

Table 3-1 lists the studies described above and provides estimated timing for the completion of each.

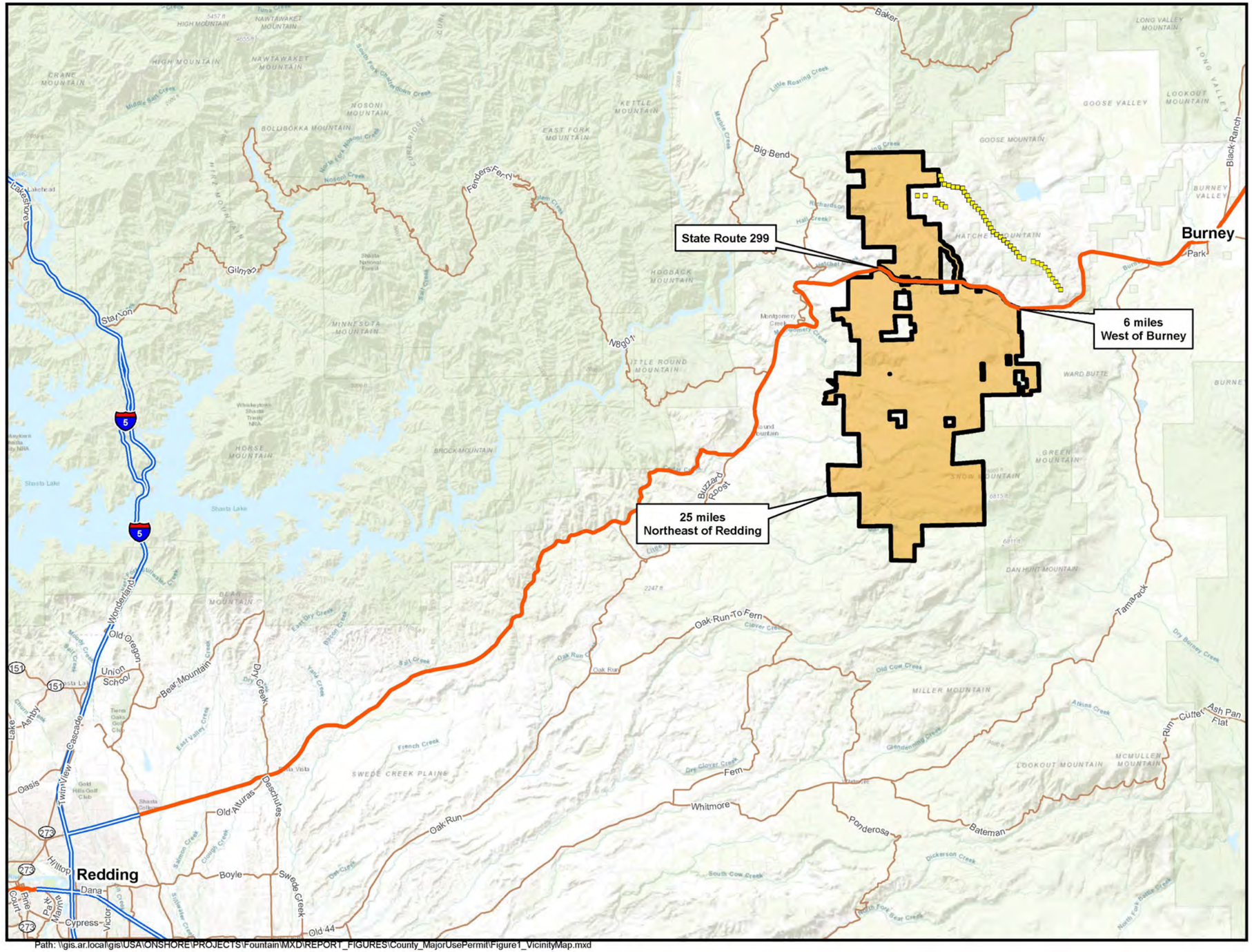
Table 3-1. Summary of Studies and Estimated Timing

Study		Prepared by (if known)	Estimated Timing
Traffic Assessment Report		Stantec	Spring 2018
Visual Resources Technical Report		Stantec	Spring 2018
Biological Surveys and Related Studies			
	Site Characterization Study	West	Fall 2017 (Draft)
	Biological Survey Report	West	Preliminary Results – 1Q 2017 Draft – 3Q 2018
	Eagle Use Survey Report	West	Draft – 4Q 2018
	Nest Survey Memo	West	Results provided – 4Q 2017 and 3Q 2018
	Bat Desktop Assessment Report	West	Draft – Spring 2018
Wetlands and Waters Memorandum		Stantec	2Q 2018
Noise Technical Report		Stantec	Spring 2018
Phase 1 Cultural Resources Report		Stantec	Spring 2018
Economic Impact Analysis		Stantec	Spring 2018

4.0 FIGURES

Figure 1
Vicinity Map

Fountain Wind Project



Legend

- Existing Hatchet Ridge Wind Farm Turbine
- Interstate
- Highway
- Major Road
- Project Boundary

N
W E
S

0 3 6
Miles

AVANGRID RENEWABLES

Path: \\gis.ar.local\gis\USA\ONSHORE\PROJECTS\Fountain\MXD\REPORT_FIGURES\County_MajorUsePermit\Figure1_VicinityMap.mxd

Modified Date: 1/2/2019

Figure 2: Project Area and Facilities Map
Fountain Wind Project
Shasta County, CA

Legend

- Proposed Turbine
- Alternate Turbine
- Existing Turbine - Hatchet Ridge
- Existing Logging Road – Improvements Required
- Proposed Access Road
- Existing Transmission Line
- Proposed Overhead 34.5-kV Collector Line
- Proposed Underground 34.5-kV Collector Line
- Existing Transmission Line
- Project Boundary
- Proposed O&M Facility
- Proposed Collector Substation
- Proposed PG&E POI Switch Yard
- 2-Acre Construction Laydown Yard
- Township
- Highways
- Major Roads
- Existing Roads

N

0 2,500 5,000
Feet

AVANGRID RENEWABLES

Proposed O&M Facility
Proposed Switch Yard
Proposed Substation

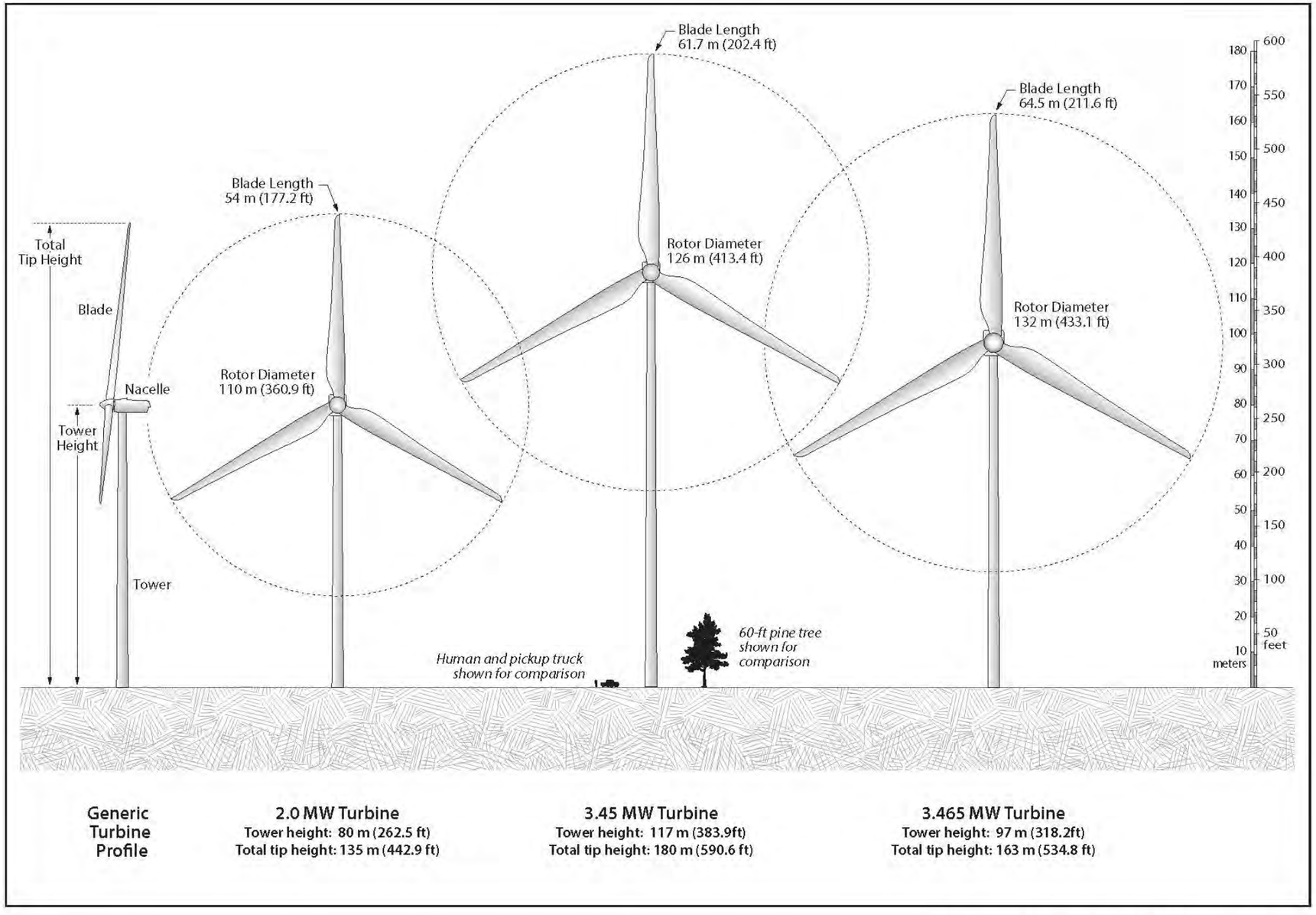
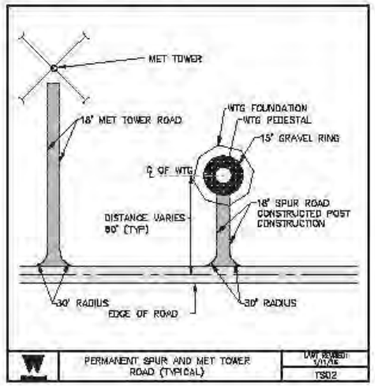
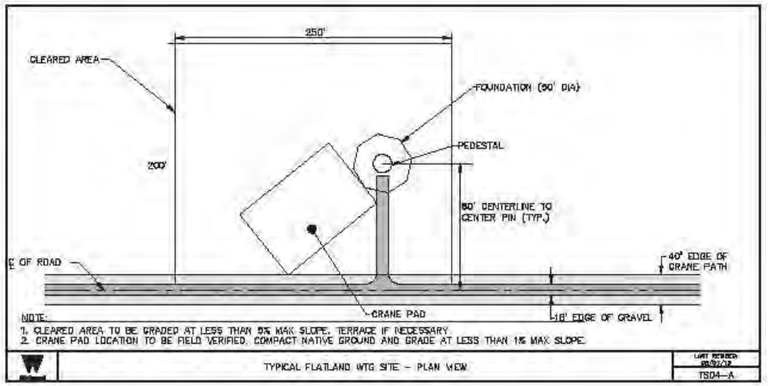


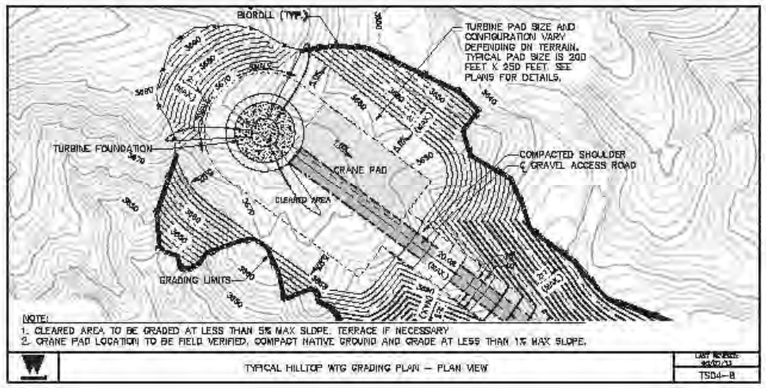
Figure 3: Typical Wind Turbine Profile



PERMANENT SPUR AND MET TOWER ROAD (TYPICAL) — TS02



TYPICAL FLATLAND WTG SITE – PLAN VIEW — TS04-A



TYPICAL HILLTOP WTG GRADING PLAN – PLAN VIEW — TS04-B

Westwood

Phone [970] 927-5150 7292 Evergreen Drive
Fax [970] 927-5222 Suite B Fort Collins, CO 80524
Toll Free [800] 927-5150 www.westwoodps.com

©Westwood Professional Services, Inc.

Designed
Checked
Drawn
Record Drawing by/date

Revisions		
#	Date	Description

Prepared for:

AVANGRID RENEWABLES

1125 NW Couch St, Suite 700
Portland, OR 97209

Fountain Wind Project

Shasta County, California

Turbine Site Details

Figure 4: Typical Turbine Site

NOT FOR CONSTRUCTION

Date 6/19/17
Sheet 1 OF 1

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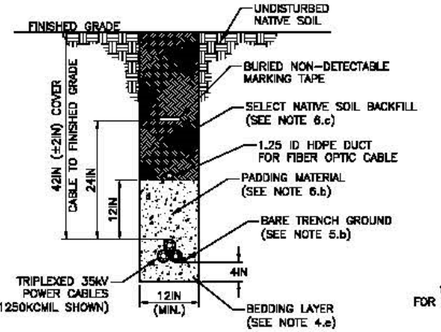
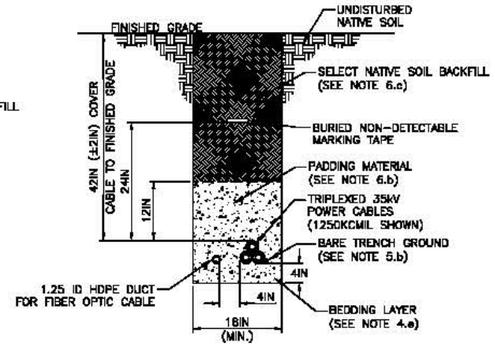
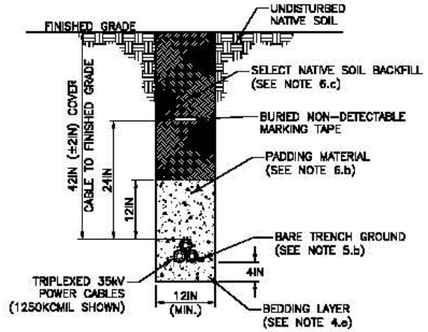


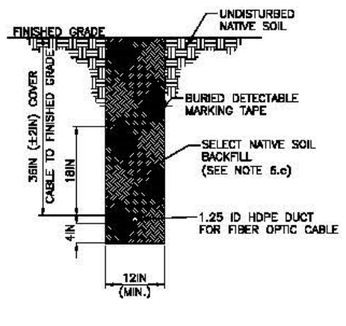
A PRIMARY POWER & COMMUNICATIONS CABLE DITCH



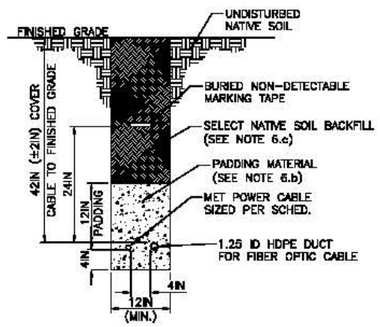
B ALTERNATE POWER & COMMUNICATIONS CABLE DITCH



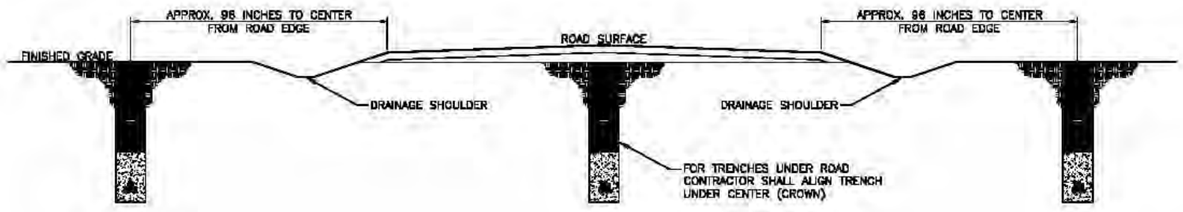
C 3-PHASE POWER ONLY CABLE DITCH



D FIBER ONLY DITCH



E MET TOWER & COMMUNICATION DITCH



F TRENCH LOCATION RELATIVE TO ACCESS ROADS

Figure 5: Typical Cable Trench Details

NOTES

1. ALL EXISTING UTILITIES MUST BE LOCATED BEFORE ANY EXCAVATION/TRENCHING IS STARTED. REGARDLESS OF OTHER UTILITY CONTACTS, CONTRACTOR MUST NOTIFY LOCAL LOCATING CLEARING HOUSE (I.E. ONECALL) OR OTHER STATE BODY.
2. ALL GRADE SURFACES THAT ARE DISTURBED SHALL BE RESTORED TO ESSENTIALLY ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER.
3. THE CABLE ROUTE TO BE FOLLOWED BY CONTRACTOR SHALL BE AS STAKED BY THE OWNER. ALL TRENCHES SHALL FOLLOW AS STRAIGHT A LINE AS PRACTICAL. ANY DEVIATION FROM THE ROUTING PROVIDED SHALL BE DISCUSSED WITH AND APPROVED BY THE OWNER PRIOR TO CONSTRUCTION. ROCK MAY BE REMOVED BY ANY MEANS CONTRACTOR PREFERS, EXCEPT BLASTING. BLASTING WILL NOT BE PERMITTED UNLESS SPECIFICALLY AUTHORIZED BY OWNER.
4. IF THE GROUND WATER LEVEL IS ABOVE THE BOTTOM OF THE TRENCH THE CONTRACTOR AND OWNER SHALL DISCUSS AND AGREE UPON AN ALTERNATIVE CABLE INSTALLATION METHOD. IF THE GROUND WATER LEVEL IS BELOW THE BOTTOM OF THE TRENCH THE FOLLOWING REQUIREMENTS SHALL BE SATISFIED:
   - 4.a. EVERY TRENCH MUST BE A MINIMUM OF 12-INCHES WIDE (WITH PROPER SLOPE FOR WEAK SOILS), AND MUST PROVIDE SUFFICIENT SPACE TO ALLOW COMPACTION AS SPECIFIED WITH THE EQUIPMENT BEING UTILIZED. THE CONTRACTOR SHALL ENSURE THAT SUFFICIENT AMOUNT OF FINE SOIL IS ADDED ABOVE CABLE FOR BACKFILLS.
   - 4.b. THE TOP SOIL MUST BE PUSHED TO ONE SIDE OF THE TRENCH ROUTE AND KEPT SEPARATE FROM BASE MATERIAL. THE STORED TOP SOIL IS TO BE SPREAD UNIFORMLY OVER THE AREA DISTURBED BY TRENCHING FOLLOWING BACKFILL AND COMPACTION.
   - 4.c. CONTRACTOR SHALL PROTECT ALL TRENCHES AND OTHER EXCAVATIONS FROM SURFACE WATER RUNOFF. ANY WATER THAT HAS ACCUMULATED IN THE EXCAVATION SHALL BE REMOVED AND ANY SOFT TRENCH BOTTOM REMOVED AND REPLACED PRIOR TO THE INSTALLATION OF THE CABLES. THIS INCLUDES REMOVAL AND REPLACEMENT OF SAND BACKFILL THAT HAS BECOME CONTAMINATED WITH SILT, ROCKS, MUD, CLAY, ETC. THE REMOVAL OF WATER AND CORRECTION OF SOFT GROUND CONDITIONS DUE TO SURFACE WATER WILL BE THE RESPONSIBILITY OF CONTRACTOR.
   - 4.d. CONTRACTOR MUST PROTECT THE PUBLIC AND LIVESTOCK FROM ALL TRENCHES AND EXCAVATIONS BY UTILIZING SUITABLE BARRICADES OR OTHER WARNING DEVICES.
   - 4.e. ALL TRENCHES SHALL BE EXCAVATED TO DEPTH AS NECESSARY TO MAINTAIN THE SPECIFIED COVER OVER THE INSTALLED CABLE. IF THE BOTTOM OF THE TRENCH CONTAINS ROCKS, WOOD, VEGETATION MATERIAL OR OTHER HARD, ROUGH, OR SHARP MATERIALS THAT COULD DAMAGE THE CABLE, THE TRENCH SHALL BE OVER-EXCAVATED AND BACKFILLED WITH A 4-INCH LAYER OF COMPACTED FINE CLEAN SOIL (NOTHING LARGER THAN WHAT WOULD PASS THROUGH A 3/8-INCH SCREEN) OR SAND PRIOR TO THE CABLE BEING LAID IN PLACE.
5. ALL DIRECT BURIED POWER CABLES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING:
   - 5.a. 34.5kV CABLES SHALL BE PLACED IN A TRIANGULAR CONFIGURATION, WITH NO INTENTIONAL SEPARATION, SECURED TOGETHER AS NEEDED WITH CABLE TIES TO ENSURE THEY REMAIN IN THIS CONFIGURATION DURING AND AFTER INSTALLATION & BACK-FILL. PROPER TIE-WRAP TOOLS SHALL BE USED TO PREVENT OVER-TIGHTENING OF THE CABLE TIE.
   - 5.b. A 4/0 BARE COPPER WIRE SHALL RUN IN THE TRENCH WITH THE POWER CABLES. THERE SHALL BE NO INTENTIONAL SEPARATION BETWEEN THIS WIRE AND THE POWER CONDUCTORS.
   - 5.c. WHEN INSTALLED ABOVE THE POWER CABLES, THE INNERDUCT FOR FIBER OPTIC COMMUNICATION CABLE SHALL BE LAID ON TOP OF THE PADDING MATERIAL. WHEN INSTALLED AT THE SAME DEPTH AS THE POWER CABLE, THE INNERDUCT AND THE POWER CABLE SHALL BE SEPARATED BY A MINIMUM OF 4 INCHES.
   - 5.d. WHERE TWO OR MORE PARALLEL COMMUNICATION CABLES ARE REQUIRED IN TRENCH, LAY EACH INNERDUCT NEXT TO EACH OTHER WHILE STILL MAINTAINING CLEARANCES SHOWN.
6. BACKFILL AND COMPACTION REQUIREMENTS ARE AS FOLLOWS:
   - 6.a. ALL EXCAVATED AREAS, INCLUDING TRENCHES AND BELL HOLES MUST BE THOROUGHLY COMPACTED TO NO LESS THAN 85% STANDARD PROCTOR OR 105 PCF, UNLESS OTHERWISE NOTED. COMPACTION SHALL BE BY PROVEN METHODOLOGY. SPECIAL CARE MUST BE TAKEN IN THE AREAS WHERE THE THERMAL TESTING OF SOILS IN THAT AREA INDICATES A POTENTIALLY HIGH RESISTIVITY. COMPACTION BY FLOODING WILL NOT BE PERMITTED.
   - 6.b. THE FIRST 12-INCHES OF BACKFILL ABOVE THE CABLE (THIS IS THE CABLE PADDING) MUST BE FREE OF ROCKS, TOP SOIL, ROOTS, AND OTHER ORGANIC MATTER (NOTHING LARGER THAN WHAT WOULD PASS THROUGH A 3/8-INCH SCREEN). IF HEAVY STIFF CLAY IS ENCOUNTERED, THE NATIVE MATERIAL MUST BE EITHER MIXED WITH SANDY SOIL FROM OTHER STRATA IN THE SAME TRENCH, MIXED WITH FINE GRADE SAND THAT IS IMPORTED, OR REPLACED WITH IMPORTED MATERIAL.
   - 6.c. SELECT NATIVE SOIL CAN BE USED FOR THE REMAINDER OF THE TRENCH BACKFILL EXCEPT THAT LARGE CLUMPS AND ROCKS LARGER THAN 4-INCHES MUST BE EXCLUDED AND SUFFICIENT FINES PROVIDED TO ELIMINATE VOIDS.
   - 6.d. AT THE BEGINNING OF THE TRENCH BACKFILLING OPERATION, THE CONTRACTOR AND THE OWNER SHALL DETERMINE THE SUITABILITY OF THE NATIVE SOIL FOR USE AS BACKFILL, AND ANY ADDITIONAL MEASURES THAT MAY BE REQUIRED TO ENSURE ADEQUATE COMPACTION.
   - 6.e. THE CONTRACTOR SHALL FILL THE TRENCH TO PRE-CONSTRUCTION GRADE WITH THE STOCKPILED TOP SOIL AND WITH ADDITIONAL BACKFILL ADDED TO ALLOW FOR SETTLING. CONTRACTOR MAY SLIGHTLY OVERFILL TRENCH IN ORDER TO ALLOW FOR SETTLING.
7. CONTRACTOR SHALL PROVIDE AND INSTALL A PLASTIC WARNING TAPE IN ALL TRENCHES DURING BACKFILLING. THIS TAPE SHALL BE INSTALLED APPROXIMATELY 24-INCHES ABOVE THE CABLES. THE TAPE SHALL BE 6" WIDE, RED WITH BLACK LETTERS, MARKED "CAUTION – BURIED ELECTRIC LINES BELOW".
8. EXCAVATED SOIL AND ROCK THAT IS NOT REUSED IN BACKFILLING THE TRENCHES IS TO BE DISTRIBUTED ACROSS THE SITE PER THE DIRECTION OF THE OWNER.
9. ALL EXCAVATION, TRENCHING AND ELECTRICAL SYSTEM CONSTRUCTION WILL BE DONE IN ACCORDANCE WITH THE FORMAL STORM WATER POLLUTION PREVENTION PLAN (SWPPP) FOR THE PROJECT.

CONCEPTUAL DESIGN
NOT FOR CONSTRUCTION

NO.	REVISIONS	DATE	BY	CHK	APR

NO.	REVISIONS	DATE	BY	CHK	APR

AVANGRID RENEWABLES

ENGINEERING RECORD	DATE
DRAWN:	
DESIGNED:	
CHECKED:	
APPROVED:	
CADFILE: Trench Details.dwg	

FOUNTAIN WIND PROJECT
UNDERGROUND COLLECTOR SYSTEM
CABLE TRENCH DETAILS

SCALE: NONE | DWG NO. | SHEET | REV

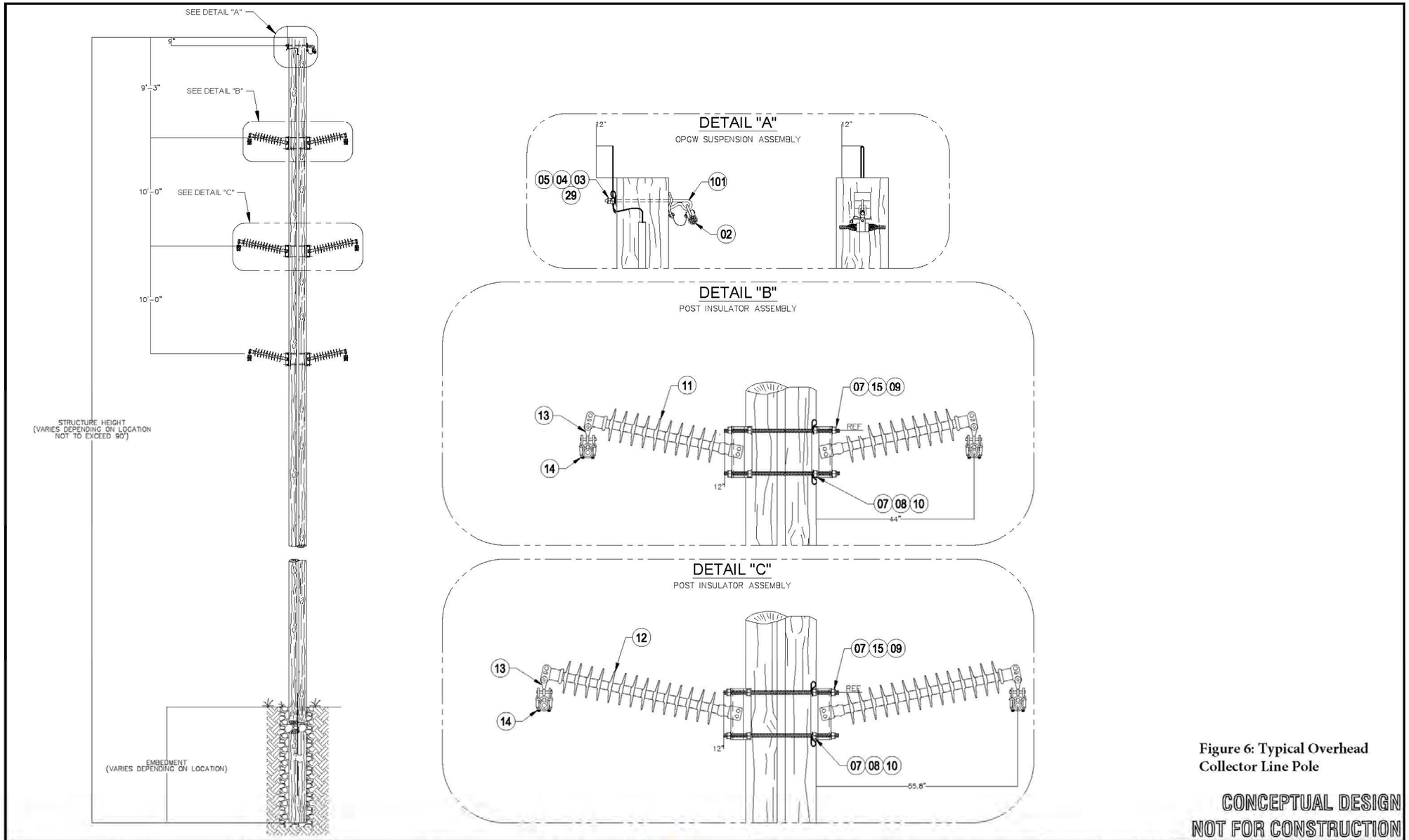


Figure 6: Typical Overhead Collector Line Pole

CONCEPTUAL DESIGN
NOT FOR CONSTRUCTION

NO.	REVISIONS	DATE	BY	CHK	APR

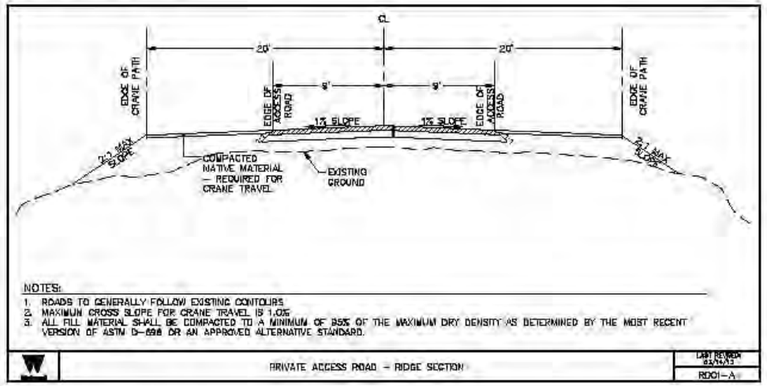
NO.	REVISIONS	DATE	BY	CHK	APR

AVANGRID RENEWABLES

ENGINEERING RECORD	DATE
DRAWN:	
DESIGNED:	
CHECKED:	
APPROVED:	
CADFILE:	

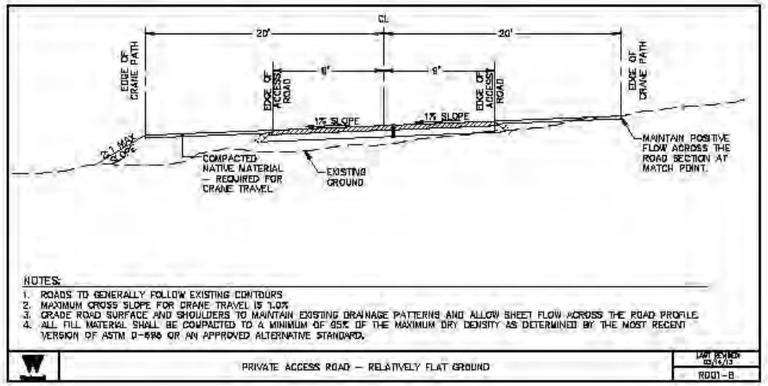
FOUNTAIN WIND PROJECT
OH COLLECTION
DOUBLE CIRCUIT TANGENT

SCALE: | SHEET | REV



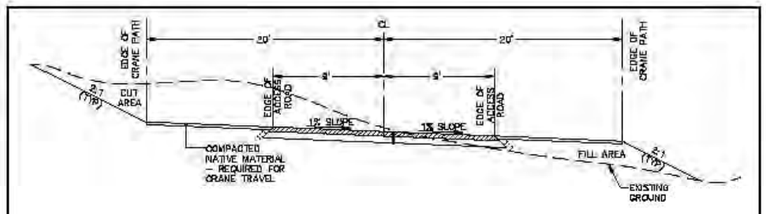
NOTES:
1. ROADS TO GENERALLY FOLLOW EXISTING CONTOURS.
2. MAXIMUM CROSS SLOPE FOR CRANE TRAVEL IS 1.0%.
3. ALL FILL MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MOST RECENT VERSION OF ASTM D-698 OR AN APPROVED ALTERNATIVE STANDARD.

PRIVATE ACCESS ROAD – RIDGE SECTION | LAST REVISION 05/29/03 | RD01-A



NOTES:
1. ROADS TO GENERALLY FOLLOW EXISTING CONTOURS.
2. MAXIMUM CROSS SLOPE FOR CRANE TRAVEL IS 1.0%.
3. GRADE ROAD SURFACE AND SHOULDERS TO MAINTAIN EXISTING DRAINAGE PATTERNS AND ALLOW SHEET FLOW ACROSS THE ROAD PROFILE.
4. ALL FILL MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MOST RECENT VERSION OF ASTM D-698 OR AN APPROVED ALTERNATIVE STANDARD.

PRIVATE ACCESS ROAD – RELATIVELY FLAT GROUND | LAST REVISION 05/29/03 | RD01-B



NOTES:
1. ROADS TO GENERALLY FOLLOW EXISTING CONTOURS.
2. MAXIMUM CROSS SLOPE FOR CRANE TRAVEL IS 1.0%.
3. GRADE ROAD SURFACE AND SHOULDERS TO MAINTAIN EXISTING DRAINAGE PATTERNS AND ALLOW SHEET FLOW ACROSS THE ROAD PROFILE.
4. ALL FILL MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE MOST RECENT VERSION OF ASTM D-698 OR AN APPROVED ALTERNATIVE STANDARD.

PRIVATE ACCESS ROAD – CUT SECTION | LAST REVISION 05/29/03 | RD01-C

Westwood

Westwood Professional Services, Inc.

Designed:
Checked:
Drawn:
Record Drawing by/date:

Revisions
1 06/19/17

Prepared for:

AVANGRID RENEWABLES

1125 NW Couch St, Suite 700
Portland, OR 97209

Fountain Wind Project

Shasta County, California

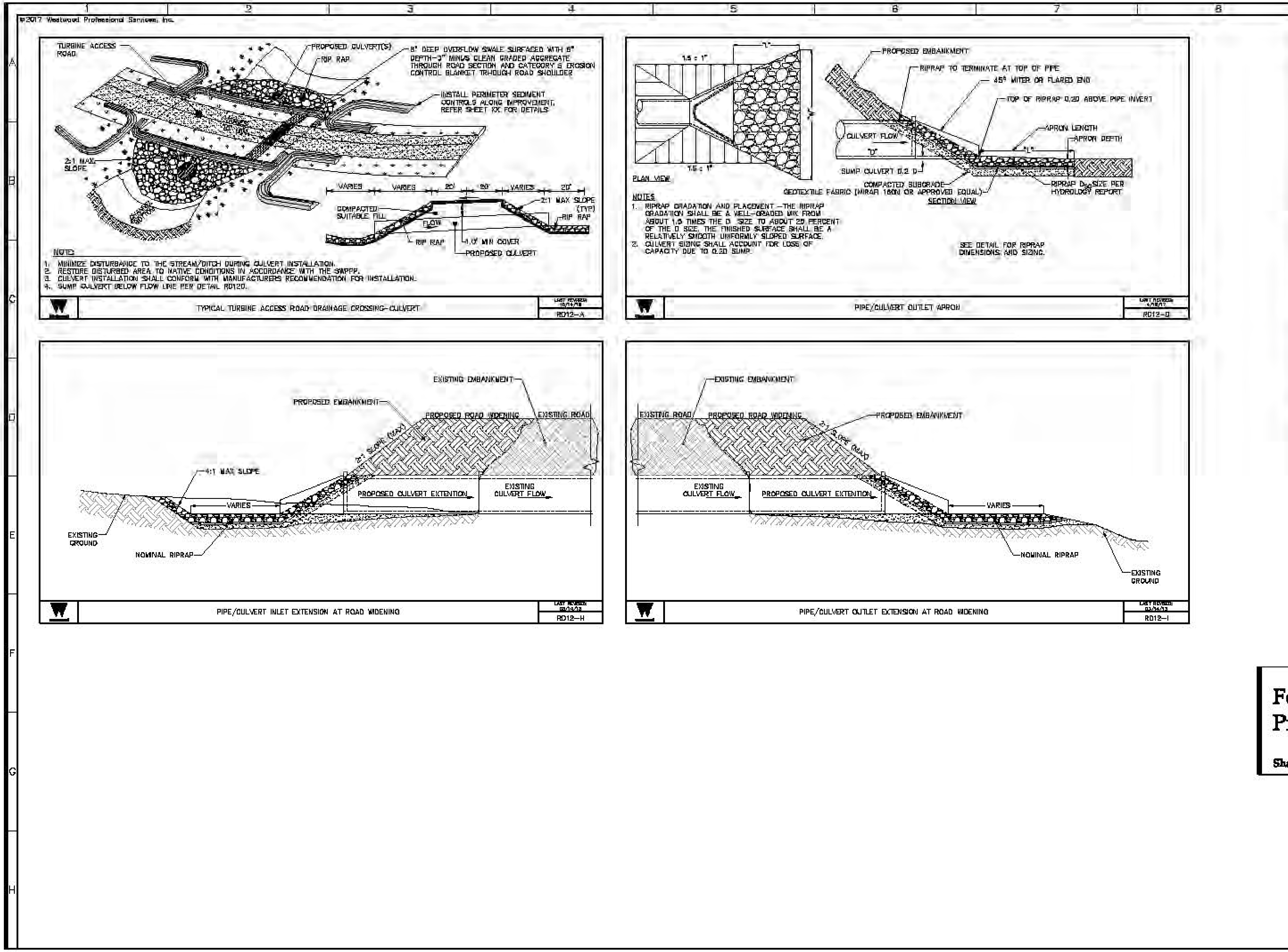
Access Road Details

Figure 7a: Access Road Cross Section Details

NOT FOR CONSTRUCTION

Date 6/19/17
Sheet 1 OF 1

0012593 DTP01.dwg


©2017 Westwood Professional Services, Inc.
TURBINE ACCESS ROAD
PROPOSED CULVERT(S)
RIP RAP
8" DEEP OVERFLOW SWALE SURFACED WITH 6" DEPTH–3" MINUS CLEAN GRADED AGGREGATE THROUGH ROAD SECTION AND CATEGORY 5 EROSION CONTROL BLANKET THROUGH ROAD SHOULDER
INSTALL PERIMETER SEDIMENT CONTROLS ALONG IMPROVEMENT, REFER SHEET XX FOR DETAILS
2:1 MAX SLOPE
VARIES
VARIES
20'
20'
VARIES
20'
2:1 MAX SLOPE (TYP)
RIP RAP
COMPACTED SUITABLE FILL
FLOW
RIP RAP
1.0' MIN COVER
PROPOSED CULVERT
NOTE:
1. MINIMIZE DISTURBANCE TO THE STREAM/DITCH DURING CULVERT INSTALLATION.
2. RESTORE DISTURBED AREA TO NATIVE CONDITIONS IN ACCORDANCE WITH THE SWPPP.
3. CULVERT INSTALLATION SHALL CONFORM WITH MANUFACTURERS RECOMMENDATION FOR INSTALLATION.
4. SUMP CULVERT BELOW FLOW LINE PER DETAIL RD12D.
TYPICAL TURBINE ACCESS ROAD DRAINAGE CROSSING–CULVERT
RD12–A
1.5 : 1"
"L"
1.5 : 1"
PLAN VIEW
PROPOSED EMBANKMENT
RIPRAP TO TERMINATE AT TOP OF PIPE
45° MITER OR FLARED END
TOP OF RIPRAP 0.2D ABOVE PIPE INVERT
APRON LENGTH
APRON DEPTH
CULVERT FLOW
"D"
"L"
SUMP CULVERT 0.2 D
COMPACTED SUBGRADE
GEOTEXTILE FABRIC (MIRAFI 160N OR APPROVED EQUAL)
RIPRAP D_{50} SIZE PER HYDROLOGY REPORT
SECTION VIEW
NOTES
1. RIPRAP GRADATION AND PLACEMENT – THE RIPRAP GRADATION SHALL BE A WELL-GRADED MIX FROM ABOUT 1.5 TIMES THE D SIZE TO ABOUT 25 PERCENT OF THE D SIZE. THE FINISHED SURFACE SHALL BE A RELATIVELY SMOOTH UNIFORMLY SLOPED SURFACE.
2. CULVERT SIZING SHALL ACCOUNT FOR LOSS OF CAPACITY DUE TO 0.2D SUMP.
SEE DETAIL FOR RIPRAP DIMENSIONS AND SIZING.
PIPE/CULVERT OUTLET APRON
RD12–D
EXISTING EMBANKMENT
PROPOSED EMBANKMENT
PROPOSED ROAD WIDENING
EXISTING ROAD
2:1 SLOPE (MAX)
4:1 MAX SLOPE
VARIES
PROPOSED CULVERT EXTENTION
EXISTING CULVERT FLOW
EXISTING GROUND
NOMINAL RIPRAP
PIPE/CULVERT INLET EXTENSION AT ROAD WIDENING
RD12–H
EXISTING EMBANKMENT
EXISTING ROAD
PROPOSED ROAD WIDENING
2:1 SLOPE (MAX)
PROPOSED EMBANKMENT
EXISTING CULVERT FLOW
PROPOSED CULVERT EXTENTION
VARIES
NOMINAL RIPRAP
EXISTING GROUND
PIPE/CULVERT OUTLET EXTENSION AT ROAD WIDENING
RD12–I

Westwood

Prepared for:

AVANGRID RENEWABLES

Fountain Wind Project

Shasta County, California

Drainage Details

Figure 7b: Access Road Cross Section Details

NOT FOR CONSTRUCTION

Date: 6/19/17

Sheet: 1 OF 1

0012593 DTP01.dwg

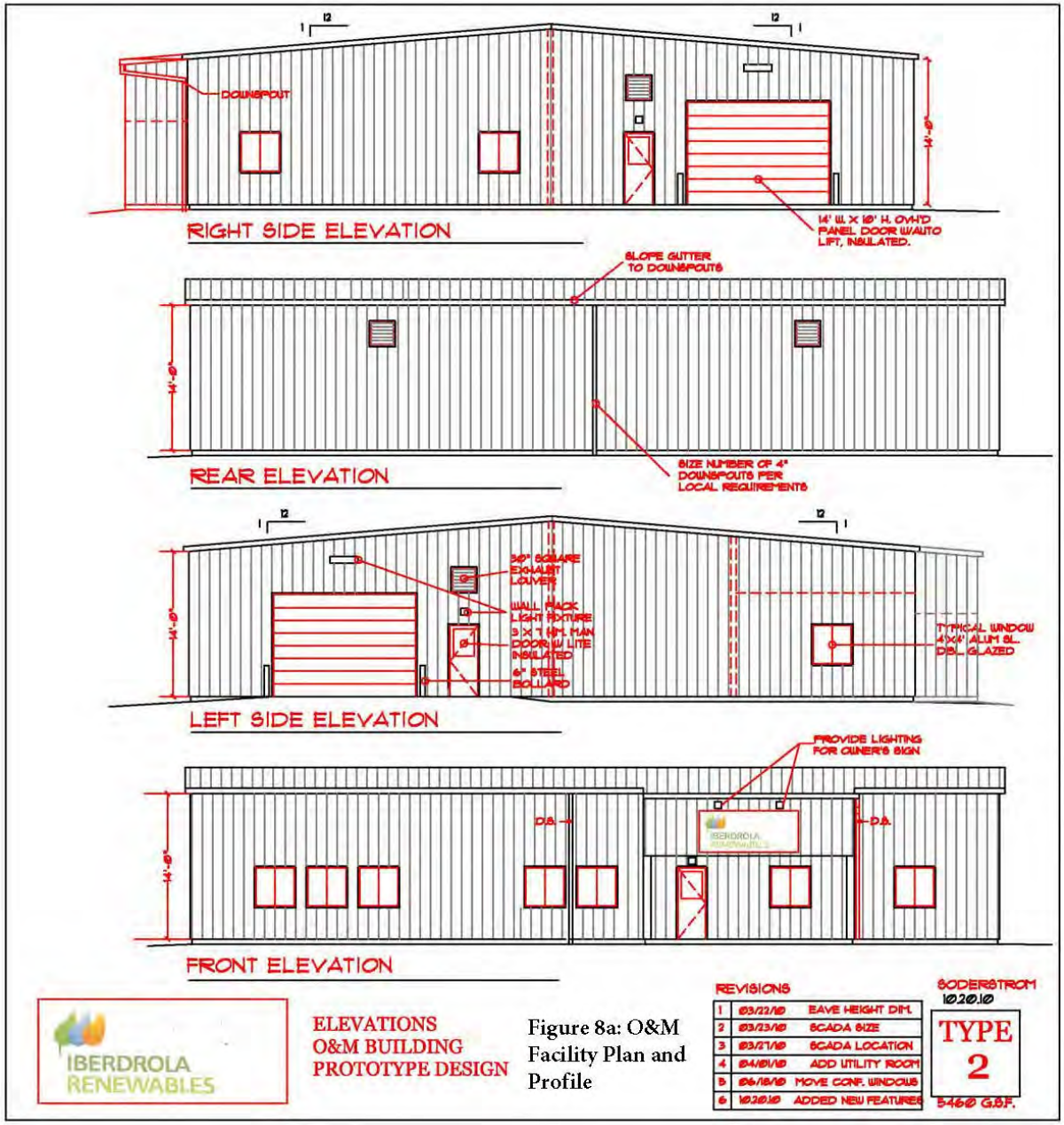


Figure 8a: O&M Facility Plan and Profile

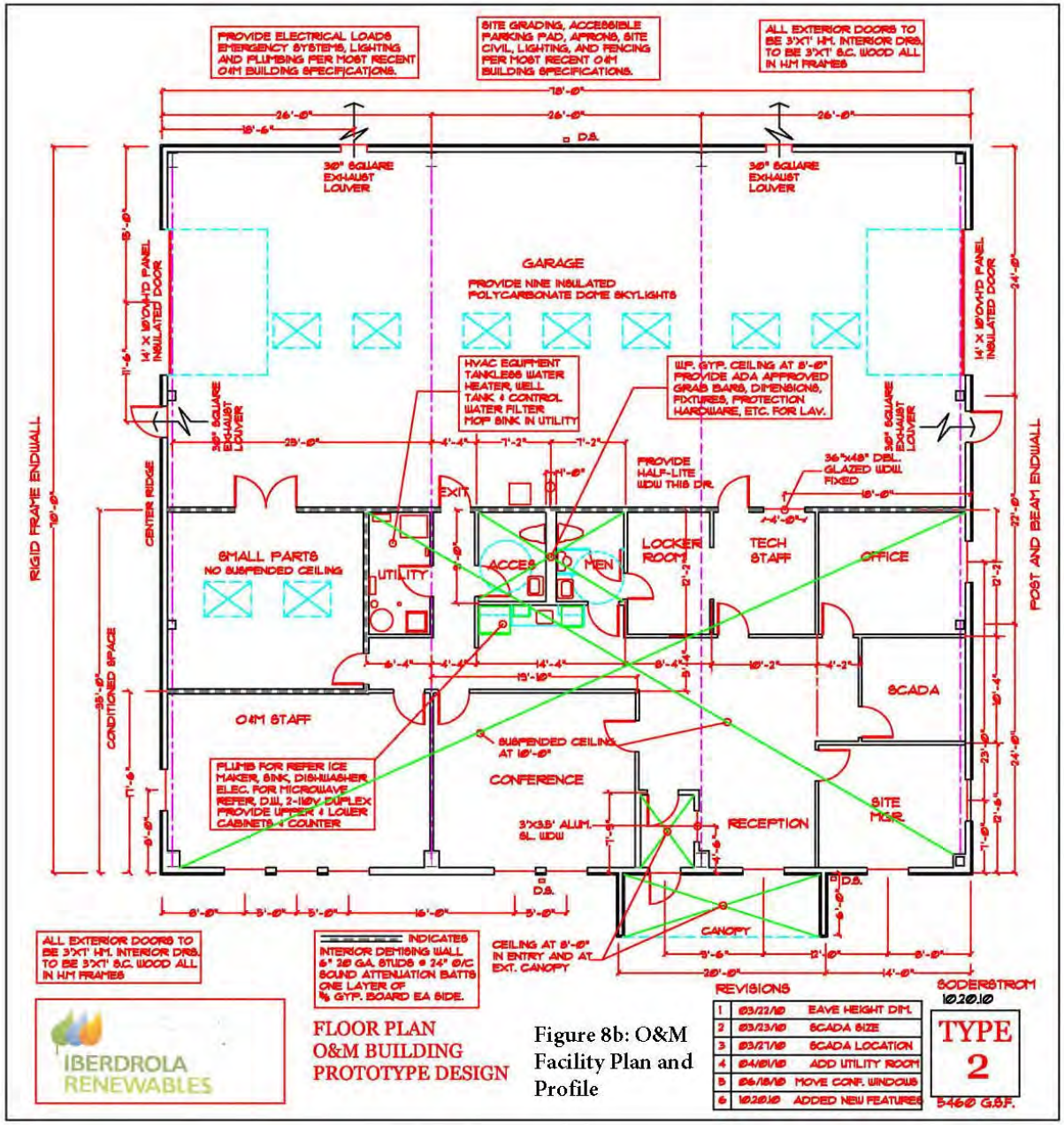


Figure 8b: O&M Facility Plan and Profile

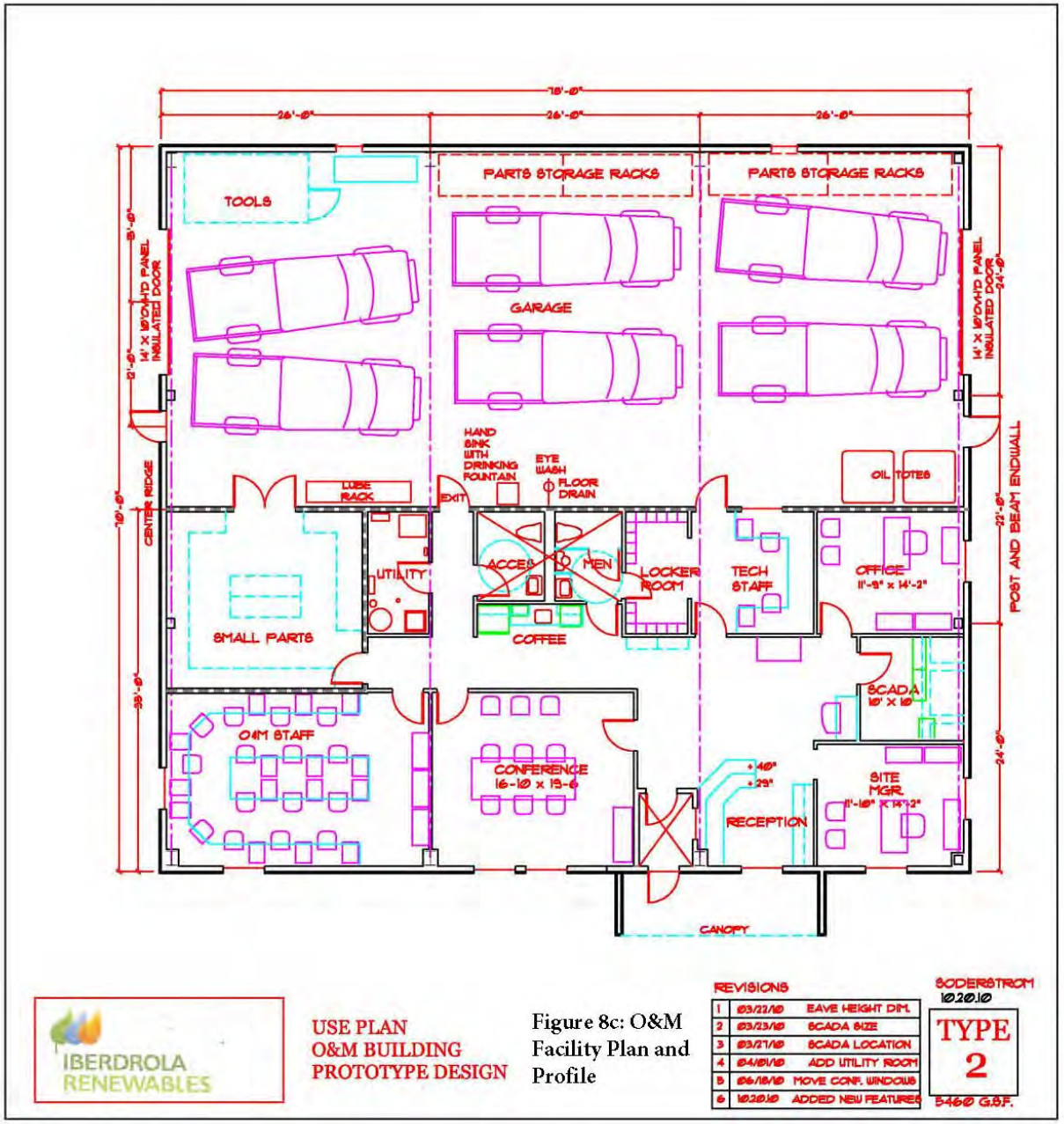


Figure 8c: O&M Facility Plan and Profile

Westwood

Phone (952) 937-5150 7699 Anagram Drive
Fax (952) 937-5822 Eden Prairie, MN 55344
Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.

Figure 9: Site Plan O&M Facility

Designed:
Checked:
Drawn:
Record Drawing by/date:

Revisions:

#	DATE	DESCRIPTION

Prepared for:

AVANGRID RENEWABLES

1125 NW Couch St, Suite 700
Portland, OR 97209

N

0' 50' 100' 150'

Fountain Wind Project

Shasta County, California

O&M Exhibit

NOT FOR CONSTRUCTION

Date: 09/05/17
Sheet: 1 OF 1

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5.0 INITIAL STUDY COMMENTS

PROJECT NUMBER **Fountain Wind Project (UP16-007) - Pacific Wind Development, LLC**

GENERAL COMMENTS:

Special Studies: The following project-specific studies have been completed for the proposal and will be considered as part of the record of decision for the Negative Declaration. These studies are available for review through the Shasta County Planning Division.

1. Desktop Geotechnical Report, *(Prepared by Barr), *(January, 2017).

Agency Referrals: Prior to an environmental recommendation, referrals for this project were sent to agencies thought to have responsible agency or reviewing agency authority. The responses to those referrals (attached), where appropriate, have been incorporated into this document and will be considered as part of the record of decision for the Negative Declaration. Copies of all referral comments may be reviewed through the Shasta County Planning Division. To date, referral comments have been received from the following State agencies or any other agencies which have identified CEQA concerns:

1. Burney Fire Protection District
2. California Department of Fish and Wildlife
3. California Department of Transportation
4. Central Valley Regional Water Quality Control Board
5. Frontier Communications
6. Pit Rive Tribe
7. Shasta County Assessor/Recorder
8. Shasta County Air Quality Management District
9. Shasta County Fire Department
10. Shasta County Office of the Sheriff
11. Shasta Mosquito and Vector Control District
12. Wintu Audubon Society

Conclusion/Summary: Based on a field review by the Planning Division and other agency staff, early consultation review comments from other agencies, information provided by the applicant, and existing information available to the Planning Division, the project, may have a “potentially significant impact” on the environment, and an environmental impact report is required.

6.0 REFERENCES

APLIC (Avian Powerline Interaction Committee) 2012. Reducing Avian Collisions with Power Lines - The State of The Art in 2012. Edison Electrical Institute. http://www.eei.org/resourcesandmedia/products/Pages/ProductDetails.aspx?prod=F20558BF-A097-4289-A8BA-1674B6096523&type=P

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Tetra Tech, Inc. 2013. Hatchet Ridge Wind Farm Post-Construction Mortality Monitoring Year Two Annual Report. Prepared for: Hatchet Ridge Wind, LLC, Portland, Oregon. Available online at: http://wintuaudubon.org/Documents/HatchetRidgeYear2FinalReport3-13.pdf

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USFWS. 2013. Eagle Conservation Plan Guidance: Module 1 - Land-Based Wind Energy, Version 2. US Department of the Interior, Fish and Wildlife Service, Division of Migratory Bird Management. April 2013. Executive Summary and front matter + 103 pp.

USFWS. 2016. Eagle Permits; Revisions to Regulations for Eagle Incidental Take and Take of Eagle Nests; Final Rule. 50 CFR 13 and 22. United States Fish and Wildlife Service, Department of the Interior. 81 Federal Register (Fr) 242: 91494-91554. December 16, 2016.

Woodbridge, B., and C. D. Hargis. 2006. Northern Goshawk Inventory and Monitoring Technical Guide. General Technical Report WO-71. U.S. Department of Agriculture (USDA), Forest Service, Washington, D.C. 80 pp. July 2006.

7.0 SOURCES OF DOCUMENTATION FOR INITIAL STUDY CHECKLIST

In addition to the above, the following are sources of documentation for Initial Study Checklists in Shasta County. All headings of this source document correspond to the headings of the initial study checklist. In addition to the resources listed below, initial study analysis may also be based on field observations by the staff person responsible for completing the initial study. Most resource materials are on file in the office of the Shasta County Department of Resource Management, Planning Division, 1855 Placer Street, Suite 103, Redding, CA 96001, Phone: (530) 225-5532.

GENERAL PLAN AND ZONING

1. Shasta County General Plan and land use designation maps.
2. Applicable community plans, airport plans and specific plans.
3. Shasta County Zoning Ordinance (Shasta County Code Title 17) and zone district maps.

ENVIRONMENTAL IMPACTS

I. AESTHETICS

1. Shasta County General Plan, Section 6.8 Scenic Highways, and Section 7.6 Design Review.
2. Zoning Standards per Shasta County Code, Title 17.

II. AGRICULTURAL AND FORESTRY RESOURCES

1. Shasta County General Plan, Section 6.1 Agricultural Lands.
2. Shasta County General Plan, Section 6.2 Timber Lands.
3. Soil Survey of Shasta County Area, California, published by U.S. Department of Agriculture, Soil Conservation Service and Forest Service, August 1974.

III. AIR QUALITY

1. Shasta County General Plan Section, 6.5 Air Quality.
2. Northern Sacramento Valley Air Basin, 2006 Air Quality Attainment Plan.
3. Records of, or consultation with, the Shasta County Department of Resource Management, Air Quality Management District.

IV. BIOLOGICAL RESOURCES

1. Shasta County General Plan, Section 6.2 Timberlands, and Section 6.7 Fish and Wildlife Habitat.
2. Designated Endangered, Threatened, or Rare Plants and Candidates with Official Listing Dates, published by the California Department of Fish and Wildlife.
3. Natural Diversity Data Base Records of the California Department of Fish and Wildlife.
4. Federal Listing of Rare and Endangered Species.
5. Shasta County General Plan, Section 6.7 Fish and Wildlife Habitat.
6. State and Federal List of Endangered and Threatened Animals of California, published by the California Department of Fish and Wildlife.
7. Natural Diversity Data Base Records of the California Department of Fish and Wildlife.

V. CULTURAL RESOURCES

1. Shasta County General Plan, Section 6.10 Heritage Resources.
2. Records of, or consultation with, the following:
    a. The Northeast Information Center of the California Historical Resources Information System, Department of Anthropology, California State University, Chico.
    b. State Office of Historic Preservation.
    c. Local Native American representatives.
    d. Shasta Historical Society.

VI. GEOLOGY AND SOILS

1. Shasta County General Plan, Section 5.1 Seismic and Geologic Hazards, Section 6.1 Agricultural Lands, and Section 6.3 Minerals.
2. County of Shasta, Erosion and Sediment Control Standards, Design Manual
3. Soil Survey of Shasta County Area, California, published by U.S. Department of Agriculture, Soil Conservation Service and Forest Service, August 1974.
4. Alquist - Priolo, Earthquake Fault Zoning Maps.

VII. GREENHOUSE GAS EMISSIONS

1. Shasta Regional Climate Action Plan
2. California Air Pollution Control Officers Association (White Paper) CEQA & Climate Change, Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act

VIII. HAZARDS AND HAZARDOUS MATERIALS

1. Shasta County General Plan, Section 5.4 Fire Safety and Sheriff Protection, and Section 5.6 Hazardous Materials.
2. County of Shasta Multi-Hazard Functional Plan
3. Records of, or consultation with, the following:
    a. Shasta County Department of Resource Management, Environmental Health Division.
    b. Shasta County Fire Prevention Officer.
    c. Shasta County Sheriff's Department, Office of Emergency Services.
    d. Shasta County Department of Public Works.
    e. California Environmental Protection Agency, California Regional Water Quality Control Board, Central Valley Region.

IX. HYDROLOGY AND WATER QUALITY

1. Shasta County General Plan, Section 5.2 Flood Protection, Section 5.3 Dam Failure Inundation, and Section 6.6 Water Resources and Water Quality.
2. Flood Boundary and Floodway Maps and Flood Insurance Rate Maps for Shasta County prepared by the Federal Emergency Management Agency, as revised to date.
3. Records of, or consultation with, the Shasta County Department of Public Works acting as the Flood Control Agency and Community Water Systems manager.

X. LAND USE AND PLANNING

1. Shasta County General Plan land use designation maps and zone district maps.
2. Shasta County Assessor's Office land use data.

XI. MINERAL RESOURCES

1. Shasta County General Plan Section 6.3 Minerals.

XII. NOISE

1. Shasta County General Plan, Section 5.5 Noise and Technical Appendix B.

XIII. POPULATION AND HOUSING

1. Shasta County General Plan, Section 7.1 Community Organization and Development Patterns.
2. Census data from U.S. Department of Commerce, Bureau of the Census.
3. Census data from the California Department of Finance.
4. Shasta County General Plan, Section 7.3 Housing Element.
5. Shasta County Department of Housing and Community Action Programs.

XIV. PUBLIC SERVICES

1. Shasta County General Plan, Section 7.5 Public Facilities.
2. Records of, or consultation with, the following:
    a. Shasta County Fire Prevention Officer.

b. Shasta County Sheriff's Department.
c. Shasta County Office of Education.
d. Shasta County Department of Public Works.

XV. RECREATION

1. Shasta County General Plan, Section 6.9 Open Space and Recreation.

XVI. TRANSPORTATION/TRAFFIC

1. Shasta County General Plan, Section 7.4 Circulation.
2. Records of, or consultation with, the following:
   a. Shasta County Department of Public Works.
   b. Shasta County Regional Transportation Planning Agency.
   c. Shasta County Congestion Management Plan/Transit Development Plan.
3. Institute of Transportation Engineers, Trip Generation Rates.

XVII. TRIBAL CULTURAL RESOURCES

1. Tribal Consultation in accordance with Public Resources Code section 21080.3.1

XVIII. UTILITIES AND SERVICE SYSTEMS

1. Records of, or consultation with, the following:
   a. Pacific Gas and Electric Company.
   b. Pacific Power and Light Company.
   c. Pacific Bell Telephone Company.
   d. Citizens Utilities Company.
   e. T.C.I.
   f. Marks Cablevision.
   g. Shasta County Department of Resource Management, Environmental Health Division.
   h. Shasta County Department of Public Works.

APPENDIX A: DESKTOP GEOTECHNICAL REPORT

Fountain Wind Project

Shasta County, California

Desktop Study

Prepared for

January 2017

Fountain Wind Project

Shasta County, California

Desktop Study

Prepared for

January 2017

4300 MarketPointe Drive
Minneapolis, MN 55435-4803
Phone: 952.832.2600
Fax: 952.832.2601

Fountain Wind Project Desktop Study

January 2017

Contents

List of Tables

List of Figures

1.0 Executive Summary

The Fountain wind project is located in central Shasta County, about 10 miles west of the town of Burney (Figure 1). The project area is on the edge of the recent Cascade volcanics near where they transition to the Klamath Mountains to the west. The site is generally rolling hills on basaltic lava flows. Fountain is tentatively planned as a 200 MW project using 57 Gamesa G132 turbines.

1.1 Foundation Design

Based on the soil conditions expected at the site, a spread footing is an economical option. Rock anchors or sockets may also be feasible alternatives in isolated areas if site bedrock has adequate strength and joint characteristics. Surficial soils at the site generally pose a low to moderate risk for concrete and steel corrosion. Shallow groundwater may be perched on bedrock surfaces on ridgelines and may require localized drain systems. Ancillary structures in the valleys of the project area may be affected by shallow groundwater levels.

1.2 Civil Design

The climate has wet, cool winters and dry and hot summers. With the elevation of the proposed turbines flooding is not a concern. The project area drains to the Sacramento River.

Access to the site is limited. The project area has some steep slopes exceeding 25%. And there are topographical challenges to the site.

The availability of granular material for road construction is assumed to be good. Barr anticipates the method for constructing access roads in areas with exposed or shallow bedrock will be will be to build the roads with 6 to 8 inches of gravel or suitable road base material on a geotextile fabric. In areas with a significant thickness of soil, the method of road construction will be to strip off the upper layers of unsuitable soil, thoroughly compact the subgrade, and build the roads with 10 to 14 inches of gravel or suitable road base material on a geotextile fabric.

1.3 Electrical Design

The site soils tend to be thin and stony, with low clay content, and the climate is warm and dry. The electrical resistivity may be high and the shallow rock may complicate grounding.

The soil density suggests the soil thermal resistivity will be in the range of 200 to over 700 °C-cm/W. Excavation for the collection system will be difficult due to the shallow competent bedrock.

1.4 Geotechnical Investigation

Based on this desktop review and Barr's experience on wind power developments with similar geological terrains, a preliminary investigation may not be warranted given the expected site conditions. In their current state, proposed turbine locations are largely inaccessible to drill rigs or other heavy equipment

due to the site's thick forest growth. Thick, compressible, or weak soil layers are not anticipated at the turbine sites, which reduces the need for a preliminary geotechnical drilling.

The review of geologic and geotechnical risks completed as part of the desktop study indicate that there are potential concerns related to depth of bedrock, corrosion potential for buried metal and concrete structures, and slope stability. There is the potential for areas of lower strength or high compressibility soils, though due to limited soil thickness, soil strength and compressibility considerations will not likely affect turbine foundation design. Consideration of rock anchors and socket foundations would require in-depth investigation of bedrock properties at proposed turbine locations. Based on Barr's experience with similar geology, rock anchor and socket foundations may not be economical due to the quality and variability of the volcanic and sedimentary bedrock, despite its shallowness.

Aspects of a preliminary geotechnical investigation could be performed during a site visit. Samples could be obtained with a backhoe to provide thermal resistivity, compaction, and corrosivity test results for time-sensitive aspects of the electrical collections system, roadway, and foundation design. Barr estimates that these aspects of a preliminary geotechnical investigation will cost about $20,000, depending upon scope desired. The recommended scope would be to:

- Obtain soil and rock samples to identify soil engineering properties and soil reactivity
- Preliminarily characterize site bedrock for excavatability, and, to a lesser extent, the use of rock anchor or socket foundations
- Document the presence of shallow groundwater (if present) and shallow bedrock
- Preform preliminary site reconnaissance for field identification of geotechnical risks such slope instability
- Collect bulk samples of soils to evaluate thermal resistivity and backfill density
- Preliminary geotechnical report summarizing investigation, site reconnaissance, and limited laboratory testing

Table 1 Geological Hazard Summary

Hazard	Likelihood	Potentially Fatal Flaw	Significance	Potential Mitigation Measures	Recommended Next Steps	Timing	Next Step Cost
Slope failure (Figure 3 and Figure 8)	High in places	No	Some locations may be at risk. Proposed turbine location I5 is at the head of a slope failure that may be associated with development of a downslope road.	• Slope stability evaluation	Site-by-site stability evaluations.	Preliminary or Design Phase	None. Will be assessed during normal investigation
Shallow bedrock (Figure 12)	High	No	Low cost of investigation and moderate cost of mitigation	• Raised foundation design • Blasting for excavations	Drilling and soil testing	Preliminary or Design Phase	None. Will be assessed during normal investigation

2.0 Description of Project

The Fountain wind project is located in central Shasta County, about 10 miles west of the town of Burney (Figure 1). Figure 2 is a map of the project site, showing proposed turbine locations. Fountain is tentatively planned as a 200 MW project using 57 Gamesa G132 turbines.

3.0 Purpose and Scope

The scope of the work is limited to review and assessment of readily available existing information. The goals of this report are to:

- Review readily available existing information, such as geologic maps and reports, geophysical reports, topographic maps, wetlands maps, FEMA flood maps, proposed development maps, and aerial photographs.
- Summarize geologic/geotechnical conditions.
- Identify and qualify geologic/geotechnical risks.
- Recommend a geotechnical investigation approach.
- Summarize soil conditions as it relates to electrical design parameters, thermal, and electrical conductivity.
- Recommend whether or not a preliminary field investigation is warranted and, if so, recommend a scope.
- Address feasible foundation options and issues.
- Identify potential roadway issues.
- Provide conceptual-design level cost estimates.

4.0 Site Geology

The Fountain wind project is on the edge of the recent Cascade volcanics near where they abut the Klamath Mountains to the west. A short distance to the southwest is the northern end of the Great Valley, and the northern end of the Sierra Nevada Mountains is to the southeast. Directly east is the Modoc Plateau. Figure 3 is a topographic map of the project area.

From northern California up to the central coast of Canada, the Pacific plate is sliding under the North American plate, and one result is the vast number of volcanoes and volcanic deposits in this region. Mt Shasta and the other Cascade Mountains are the prominent volcanoes, but there are many smaller examples. The Modoc Plateau is a large lava plain, and is an extension of the Columbia River basalts of Oregon and Washington. These volcanic deposits are generally interspersed with accreted terrain like the Klamath Mountains. As the plates come together, small masses of land that were on the Pacific plate, and were lighter in mass than oceanic crust, smeared onto the North American plate rather than sliding under, sometimes with bits of oceanic crust and deeper earth materials. The Klamath Mountains are a large area of such land (Sawyer, 2006).

The site is between three volcanic centers that are considered to be active (Shasta County, 2011):

- Medicine Lake volcano has erupted at least seven times in the past 4,000 years, most recently about 950 years ago
- Mount Shasta erupted with pyroclastic flows in 1786, and has had relatively minor activity since
- Lassen Peak experienced a series of small explosions in 1914 that was followed by destructive lava flows in 1915

4.1 Bedrock Geology

Figure 4 shows the geology of the area; this map is based on data available from the web, consistent with the Bedrock Geologic Map of California: Westwood Sheet (Lyndon et al, 1960).

The site is primarily underlain by Tertiary andesite (an intermediate volcanic rock, between a rhyolite and a basalt), with basalt and pyroclastics, between 2 and 5 million years old. The extreme northern part of the site is underlain by a younger andesite. The extreme west-central part of the site is underlain by Eocene (56-33.9M years old) sandstone mapped as non-marine by Lyndon et al. (1960). It is likely the volcanics were deposited on an uneven surface of older deposits like the Eocene sandstone, and so the thickness of the volcanics may vary considerably and the top and bottom elevations vary.

The individual formations are not identified on the geologic map. According to Lydon and O'Brien (1964), the most widespread and continuous unit is the Tuscan Formation. The Tuscan contains over 300 cubic miles of volcanic debris, extending many miles to the south. In the area of the site, the Tuscan Formation is overlain by the later succession of Pliocene basalts and andesites, which are the uppermost bedrock under most of the site. These lava flows originated from eruptive centers in the higher elevations of the

Cascade Range. These were later intruded by even younger Quaternary volcanics, such as Burney Mountain, Magee Peak, and Mounts Shasta and Lassan.

The site is bounded by fault lines on the east that have been active since Quaternary time: the Hatchet Mountain fault, active in the last 1.6M years, unnamed faults active in the last 600,000 to 1.2M years, and the Rocky Ledge fault which has been active in the last 15,000 years.

4.2 Soils

Figure 5 shows the soil map unit names, which are summarized by turbine locations below:

- CmD, CmE: Cohasset stony loam: 23 proposed turbine sites
- WeD, WfG: Windy and McCarthy stony sandy loams: 14 proposed turbine sites
- 173im, 174im Gasper-Scarface complex: 8 proposed turbine sites
- CrD: Cohasset-McCarthy complex: 4 proposed turbine sites
- 179im: Goulder gravely sandy loam 3 proposed turbine sites
- 266im: Obie-Mounthat complex: 3 proposed turbine sites
- JdE: Josephine gravelly loam, moderately deep: 1 proposed turbine sites
- LhE: Lyonsville-Jiggs complex, deep: 1 proposed turbine sites
- TcE: Toomes very rocky loam: 1 proposed turbine sites

As with the other soils, the soil complexes are similarly gravely and stoney loams. The parent materials are volcanic ash, lava flows, and volcanic rocks, consistent with the geologic mapping. The Gaspar-Scarface and Goulder soils tend to be the thickest (greater than 200 cm); the others are thin soils over a restrictive layer.

Figure 6 shows the USCS classifications of the surficial soils, which are dominated by silty sands and silty gravel. Most of the proposed turbine locations are underlain by silty gravel.

4.3 Groundwater

Groundwater occurrence is not well documented, and the State of California does not yet release well information on line. According to one report (California Department of Water Resources, June 1984) groundwater production from the volcanic deposits can vary. The volcanic sediments in the Tuscan Formation may yield good amounts of groundwater. The overlying lava flows may be fractured and brecciated and vesicular enough to produce good amounts of groundwater. However, the project area has significant relief and the proposed turbine locations are on high ground. While there is some potential for perched water to occur if an area is underlain by a more crystalline deposits, in most places the

groundwater should be at sufficient depth that it is inconsequential to the project development. This is generally supported by the NRCS soil mapping of depth to water (Figure 7).

4.4 Economic Geology

While there are some oil and gas leases in the County, there is no evidence of exploration or development in the proposed project area.

The Klamath Mountains east of the site contain several mining districts with deposits of copper-zinc, gold, and silver, along with many other mineral commodities including metals, minerals (asbestos and talc), limestone, dimension and crushed stone, and sand and gravel. The volcanic and associated sediments in the Cascade Range, where the site is located, is a source of pumice, cinders, crushed and decorative stone, and sand and gravel (Lyndon and O'Brien, 1974).

5.0 Geologic/Geotechnical Risks

Table 2 Summary of Geologic Hazards

Hazard	Present at Site?	Comment
Flooding/High groundwater	No	The proposed turbine locations are on high ground (Figure 3). FEMA does not project any flood zones in the project area.
Slope failure	Yes	Landslides are apparent on Google Earth^{tm} imagery, notably not far from the proposed I5 turbine location (Figure 8).
Subsidence – Pumping	No	There is little to no irrigation or other high-demand pumping in the region.
Subsidence – Mining	No	Mining has not historically taken place in the project area, although there is mining in the region.
Subsidence – Caves/Karst	No	There are no carbonate or sulfate sedimentary rocks present in the project area (Figure 4).
Earthquake – Seismicity	No	This is a seismically active region, although the area of the site is relatively low hazard (Figure 9; Shasta County, 2011). http://earthquake.usgs.gov/hazards/products/conterminous/
Earthquake – Ground rupture	No	There are no active faults mapped in the region. http://earthquake.usgs.gov/hazards/qfaults/map/
Liquefaction	No	There is low seismicity in the region.
Swelling/ shrinking soil	No	NRCS indicates site soils have low plasticity indices.
Settlement	Unlikely	Some proposed turbine locations are underlain by clayey soil. However, most soils are relatively thin.
Corrosive soil (Steel)	Unlikely	The majority of the site is rated as moderately corrosive by NRCS (Figure 10).
Corrosive soil (Concrete)	Unlikely	The majority of the site is rated as moderately corrosive by NRCS (Figure 11).
Reactive aggregate (ASR)	Unlikely	There should be a variety of aggregate sources.
Made ground	Unlikely	The proposed site is undeveloped and heavily forested.
Collapsible soil	No	The geology and climatic conditions are not suitable for the formation of collapsible soils.
Volcanic activity	Yes	There is known volcanic activity in the region. Although most is hundreds to thousands of years old, Mt Shasta and Mt Lassen are still very much active volcanos and Medicine Lake volcano has been active as recently as about 100 years ago (DeCourten, accessed 12/27/16).

The County hazard plan calls out only two geological hazards: seismic activity and volcanoes (Shasta County, 2011). As noted in Table 5-1, while seismically active, the seismicity generally is relatively low intensity and should not be a controlling factor for turbine foundation design.

5.1 Volcanic Hazards

From the Shasta County Mitigation Plan:

> "Volcanoes produce a wide variety of hazards that can kill people and destroy property. Large explosive eruptions can endanger people and property hundreds of miles away and even affect global climate. Some of the volcano hazards, such as landslides, can occur even when a volcano is not erupting.
>
> Volcanic eruptions result in fires, toxic gas emissions, air pollution, extensive ash deposits, and could catalyze earthquakes, landslides, and floods. Ash deposits can create public health, telecommunications, and structure damage hazards."

The site is about 40 miles from Mt Shasta, 25 miles from Mt Lassen, and 45 miles from Medicine Lake volcano. The most hazardous areas are those within the surrounding 10 mile radius and the downstream river valleys (https://volcanoes.usgs.gov/volcanoes/mount_shasta/hazard_summary.html and https://volcanoes.usgs.gov/volcanoes/lassen_volcanic_center/hazard_summary.html) may be subject to lava, landslides, and lahars. Ash fall, while generally not as hazardous, can cover a much larger area. It is subject to weather and the nature of the eruption, so it is difficult to predict. Major volcanic events are generally not sudden, but are preceded by a series of smaller events that act as warning. The USGS actively monitors such activity.

5.2 Shallow Bedrock

While depth to bedrock is generally not considered a hazard, shallow bedrock will complicate excavations for roads, turbines and the collection system. Shallow bedrock will also complicate installation of grounding systems. The depth to a restrictive layer (generally bedrock) is generally less than 7 feet, except in the northeast corner of the project site (Figure 12).

6.0 Feasible Foundation Types

Feasible foundation types for the project are selected, in part, based upon a combination of critical geotechnical, climatological, and mechanical factors which drive the design selected.

1. **Geotechnical Factors**. The soils at the site are anticipated to consist of alluvium, colluvium, and residual soil. The ridgelines that host turbines onsite contain thin sandy and gravelly soils with silt. The site has low seismicity of a magnitude that would not supersede the design loads due to wind (IBC, 2009). Shallow groundwater may be present on ridgelines where it is perched on the bedrock surface. This condition may require consideration of localized drainage systems for the foundations. Corrosion of steel and concrete is low to moderate across most of the site.

2. **Climatological Factors**. Flooding is not a concern for turbine foundations. Shallow groundwater may be perched on bedrock surfaces along the ridgelines and within the valleys. Frost action is applicable for this site and so the effects of frost heave should be considered during design.

3. **Mechanical Factors**. The overturning moment for a typical Gamesa G132 wind turbine should be considered.

The following foundation types are feasible based on the combination of critical geotechnical and climatological factors identified:

1. **Spread Footing.** In areas with adequate depth of soil or shallow bedrock, the soil conditions will likely be suitable for support of a spread footing.

2. **Spread Footing on Engineered Fill.** It is anticipated that the majority of the site soils will provide sufficient bearing capacity. If low strength soil deposits are encountered at depths less than 15 feet below the surface, some soil correction (likely consisting of removal and replacement of soil with engineered fill or use of stone columns/Geopiers) may be necessary. If shallow groundwater is encountered, stone columns/Geopiers may be a more desirable soil remediation option.

The following foundation types may be feasible in isolated locations (if site bedrock has adequate strength characteristics) based on the combination of critical geotechnical, climatological, and mechanical factors identified:

1. **Rock Anchor Foundation.** This type of foundation is feasible in shallow (i.e., within 1 to 3 feet of the ground surface), strong, and massive bedrock. Shallow bedrock is present in portions of the site, specifically along the western extents of the project site. This type of foundation is constructed by blasting an excavation approximately 25-35 feet in diameter by 5-7 feet deep into the bedrock, drilling anchors to an approximate depth of 20-50 feet, placing an anchor bolt cage and reinforcing in the excavation, and pouring a concrete cap. This type of foundation is highly dependent on the rock strength, joint patterns, and condition. Because this type of foundation is

highly dependent on the competency of the rock at each turbine location, there is more uncertainty associated with it than with a conventional spread footing.

2. **Rock Socket Foundation.** This type of foundation is only feasible in shallow (i.e., within 1 to 3 feet of the ground surface), strong, and massive bedrock. Shallow bedrock is present in portions of the site, specifically along the western extents of the project site. This type of foundation is constructed by blasting an excavation approximately 20 ft x 20 ft x 20 ft into the bedrock, placing an anchor bolt cage and reinforcing in the excavation, and filling the excavation with concrete. This type of foundation is highly dependent on the rock strength, joint patterns, and condition. Because this type of foundation is highly dependent on the competency of the rock at each turbine location, there is more uncertainty associated with it than with a conventional spread footing.

The following foundation types are not feasible based on the combination of critical geotechnical, climatological, and mechanical factors identified:

1. **Deep Foundations.** Due to the shallow depth of bedrock, deep foundations will likely not be required. Less expensive foundation options are suitable for the site.

2. **Dynamic Compaction of Soil Supporting Spread Footing**. The project site is underlain by competent rock; therefore, remediation of loose soils by dynamic compaction is unnecessary.

Based on the competency of the soil and bedrock expected to be encountered at the project location, it is expected that a conventional spread footing will be the most economical type of foundation. Some soil correction may be necessary in areas where soils exhibit lower strengths or higher compressibility, likely consisting of either (a) removal and replacement of soil with engineered fill, or (b) use of stone columns/Geopiers. Rock anchors or sockets may also be feasible alternatives in isolated areas if site bedrock has adequate strength and joint characteristics.

Most of the turbines are underlain by soil that is moderately corrosive to concrete and steel, as shown in Figure 7 and Figure 8. Corrosive soils may require special cement. At worst, sulfate resistant cement (S02) may be required and result in increased foundation costs on the order of 10-20%. Some corrosion-resistant cements are not readily available and can require several months of testing, so early determination is important.

If Avangrid wants to consider foundation options other than a spread footing, a preliminary phase geotechnical assessment is warranted. In addition, if Avangrid wants to consider foundation options other than a spread footing, then the contractor selection process sooner than normal.

7.0 Electrical Design

As reported by the USDA NRCE, the site soils are primarily clayey and silty sands and gravels, typically very gravely or stony and thin (less than 7 feet thick) over bedrock.

7.1 Soil Electrical Resistivity

The soil types of the site indicate generally low ground electrical resistivity across the project area due to generally clayey soils and deep bedrock.

For most engineering applications in soils, the motion of ions in the interstitial formation water is the dominant factor affecting the electrical resistivity. Ions in the formation water come from the dissociation of salts such as sodium chloride, magnesium chloride, etc. (Mooney, 1980). For water-bearing earth materials, the resistivity decreases with increasing:

1. Fractional volume of the material occupied by water
2. Salinity or free-ion content of the water
3. Interconnection of the pore spaces (permeability)
4. Temperature

The presence of clay minerals tends to decrease the resistivity because: (a) the clay minerals can combine with water; (b) the clay minerals can absorb cations in an exchangeable state on the surface; and (c) the clay minerals tend to ionize and contribute to the supply of free ions.

The general range of electrical resistivities for sandy clays is from 1,000 to 8,000 ohm-centimeters (Ωcm) or 10 to 800 ohm-meters (Ωm). Values can range from 100 to 60,000 Ωcm (1 to 6,000 Ωm) for gravels (Telford, 1976).

Climatic variables, including fluctuating average low and high air temperatures of 15°F to 85°F, are important to note when comparing shallow soil electrical resistivity values to studies from other climates (IEEE, 1983). The electrical resistivity of surficial soils will decrease when the soils are warm, increase when cold, and will be notably higher when soils are frozen. However, the bulk resistivity of soils through the depth of construction is not likely to be impacted by air temperature fluctuations. High soil moisture will decrease resistivity.

Redding, California has a mediterranean climate with dry hot summers and mild winters (https://weatherspark.com/averages/31447/Redding-California-United-States).

The USDA NRCS-NCGC SSURGO database was queried for clay contents of soils across the entire site and for soil in the immediate area of the preliminary turbine locations. About 62 percent of the site in general has soils with low clay content and therefore likely high electrical resistivity. About 45 percent of the

proposed turbine locations have similar low clay/high resistivity soils. Soils across much of the site are area is thin and stoney (Figure 5), so there may be some bedrock interference with grounding.

The American Petroleum Institute (API) provides guidance for the potential corrosivity of materials based upon resistivity measurements (API-651, Cathodic Protection of Aboveground Petroleum Storage Tanks, 1997). Following is the General Classification of Resistivity reference adapted from API 651, Chapter 5.3.1.2, Table 1.

Table 3 Classifications of Resistivity

Resistivity Range, Ωcm	Resistivity Range, Ωm	Resistivity Range, Ω feet	Potential Corrosion Activity
<500	<5	<16	Very Corrosive
500 – 1000	5 - 10	16 – 33	Corrosive
1000 – 2000	10 – 20	33 – 66	Moderately Corrosive
2000 – 10,000	20 – 100	66 – 330	Mildly Corrosive
> 10,000	> 100	> 330	Progressively Less Corrosive

The clay content suggests most site soils have low to moderate corrosivity to steel which is similar to the SSURGO data base rating (Figure 8).

Barr recommends an electrical resistivity survey be conducted in order to confirm grounding and cathodic protection design parameters. The work should be performed in accordance with ASTM method G57 "Standard Test Method for Field Measurement of Soil Resistivity Using the Wenner Four-Electrode Method" (equivalent to IEEE Std. 81). Testing should be conducted at each construction site or at a representative number of sites for each soil type and topographic setting.

7.2 Soil Thermal Resistivity

The best approach is to determine site-specific values during the geotechnical investigation phase. However, it is generally the case that the higher the moisture content, density, and quartz content in the soil, the better the thermal properties with respect to heat dissipation. At this site, the soil densities are very low and quartz contents are moderate, and the moisture content is expected to be low, indicating heat dissipation may be low to very low.

Based on data collected by Barr on several wind farms in the Upper Midwest, it was found there is a correlation between dry density and thermal resistivity. This lab data can be further compared with NRCS soil properties to estimate the relative range of thermal resistivity values. In these comparisons, only the dry density of a soil was used, since moisture content cannot be obtained from the NRCS.

Figure 13 shows a 90% confidence interval applied for the thermal resistivity correlation to dry density.

8.0 Civil Design

Available resources including USGS topographic maps, aerial photography, surface soil properties, and regional flooding and rainfall information were reviewed to identify construction limitations that may be present at the project site, as well as potential issues for long-term operation and maintenance. The information collected and analyzed for the Civil Design review is described in this section.

The climate is characterized as a Mediterranean climate with wet, cool winters and warm, dry summers. The average annual precipitation in the region is 28 inches rain and 35 inches snow. Historical averages show that July through September are typically the dry months. Snowfall typically occurs between the months of November to April with December and January receiving the highest totals. The summers are typically warm and dry with no average monthly temperatures above 71.6^0F.

The proposed turbine locations are on high ground so flooding is not a concern. FEMA does not project any flood zones in the project area.

The project area is located in the Lower Pit River watershed which drains to the Sacramento River.

Highway access to the site is limited to State Route 299, between I-5 and State Route 89. Access to interstate I-5 is in the city of Redding west of the project area. Most of the public roads in the region are paved and graveled roads, though some of the planned turbine sites are a significant distance from the nearest road.

A pair of parallel 230-kilovolt transmission lines owned by PG&E run east-west through the middle of the proposed turbine locations.

There are topographical challenges to the site. The project area has some steep slopes along the ridgelines of southern Cascade Mountains, sometimes exceeding 25%.

The availability of granular material for road construction is good. Several pits are identified from online searches in Shasta County near the project limits, which have been shown to be suitable for road construction aggregate. Road construction materials for the existing Hatchet Ridge Windfarm were provided from a pit just east of the project area near Burney, California.

Barr anticipates the method for constructing access roads in areas with exposed or shallow bedrock will be will be to build the roads with 6 to 8 inches of gravel or suitable road base material on a geotextile fabric. In areas with a significant thickness of soil, the method of road construction will be to strip off the upper layers of unsuitable soil, thoroughly compact the subgrade, and build the roads with 10 to 14 inches of gravel or suitable road base material on a geotextile fabric. The gravel thickness and geotextile specification section will be determined after a geotechnical investigation is performed to determine the CBR values for final design. Existing drainage patterns will be maintained by the use of culverts or other drainage features.

For grading activities that exceed 250 cubic yards movement of earth materials or that disturb 10,000 square feet or more Shasta County requires a grading permit. In addition, for earthmoving activities taking place between October 15 and May 1 a wet weather plan must be prepared by an erosion control specialist.

9.0 Geotechnical Investigation

Some of the geologic and geotechnical hazards outlined in Section 5 have the potential to affect project construction procedures and costs. Many of these hazards can be identified in a site visit and evaluated by obtaining bulk samples of the soil and rock. A full drilling program at the preliminary stage of the project could present significant costs, logistical difficulties, and is likely not required if spread footing foundations are planned for the project site, then a full drilling program is likely not required. However, if alternative foundation types are being considered, then the strength, join patterns, and condition of the near surface bedrock should be assessed during a preliminary investigation.

9.1 Summary of Known Conditions

Based on the information available, the key issues at the project site include: corrosivity to concrete, corrosivity to steel, slope stability, and shallow bedrock. Of these issues, the possible presence of shallow bedrock will have the biggest impact on project risk and cost, from a geotechnical and geological standpoint.

9.2 Recommended Preliminary Investigation

The investigation methods required to address these issues are preliminary and low-cost, such that they may be incorporated into a site visit. For this reason, Barr recommends a preliminary investigation to further evaluate these key geologic and geotechnical issues. The proposed preliminary investigation is summarized below:

1. Complete limited geotechnical investigation of site characteristics:

    a. Collect soil and rock samples with a backhoe to identify soil engineering properties and soil reactivity

    b. Preliminarily characterize site bedrock for excavatability, and, to a lesser extent, the use of rock anchor or socket foundations

    c. Preform preliminary site reconnaissance for field identification of geotechnical risks such slope instability

    d. Further document the presence of shallow groundwater and shallow bedrock

    e. Collect bulk samples of soils to evaluate thermal resistivity and backfill density

    Approximately two or three days will be required to complete the recommended scope for the purposes of the preliminary investigation. It is assumed that the boring locations can be accessed by foot from the established network of gravel roads within/surrounding the site.

1. Complete preliminary geotechnical report summarizing site reconnaissance and limited laboratory testing. Though this would be a preliminary investigation, it will need to be a detailed evaluation

of the key issues noted previously, including soil corrosivity/reactivity, shallow groundwater and, to a lesser extent, soil strength/compressibility.

2. Barr estimates that a preliminary geotechnical investigation will cost approximately $20,000, but will vary depending on specific scope details.

9.3 Design Geotechnical Investigation

The final design geotechnical investigation should confirm the depth to bedrock and the stability of slopes adjacent to the final turbine locations, in addition to the typical design program. If a rock socket or rock anchor foundation is considered for the project, the geotechnical investigation would need to be adjusted to collect the appropriate design data.

Assuming a spread footing foundation, the following sections describe the recommended scope for the final investigation.

9.3.1 Site Reconnaissance

A site reconnaissance should be performed to identify any geologic hazards, such as slope failures, perched ground water, or undocumented fill that may be present onsite. In addition, the survey should consist of measurement and locating slope instability or failure planes within rock outcrops for use in analyzing possible block failure. The field survey should be performed by personnel with a background in engineering geology and wind power development.

9.3.2 Drilling Investigation

Borings provide for the ability to sample soil and rock for visual classification and laboratory testing. The resulting data is used to infer such material properties as friction angle, undrained shear strength, unit weight, soil and rock type classification, and groundwater level.

9.3.3 Seismic Refraction Testing

A field seismic refraction study should be performed to allow for the determination of soil and rock shear modulus for use in stiffness calculations during foundation design. The recommended method is by Multi-channel Analysis of Surface Waves (MASW). Measurements should be taken at approximately ten percent of the proposed turbine locations.

9.3.4 Laboratory Testing and Other Work

Testing that should be performed on split spoon, Shelby tube, and bulk soil samples, as well as rock cores, gathered during drilling and should include (but may not be limited to):

- Grain size, Atterberg limits, moisture content, and Proctor density testing for primary soil classification.
- Unconfined compressive strength (with strain measurement) and/or direct shear testing for determination of soil/rock shear strength, elastic moduli, and bearing capacities.

- Chemical testing, including pH, soluble sulfates, and chloride ions, to identify corrosive soils for use in foundation concrete design.

In addition to the geotechnical investigation recommended above, Barr recommends performing field and laboratory testing for use in design of the electrical infrastructure (by others) and roadway design concurrently. This testing should include field electrical resistivity and laboratory thermal resistivity testing as described in Section 7, as well as soil sampling and laboratory testing and data analysis for roadway design as described in Section 8.

9.3.5 Estimated Costs

Based upon experience with similar projects, assuming exploration is limited to that described above (not including testing for electrical design, civil design, or design of other structures), that site access is such that a water truck may reach the turbine locations, and that no additional clearing is required, the cost of implementing this next phase of work is estimated to be on the order of $150,000 to $200,000.

10.0 Limitations

The opinions and probable costs provided in this report are made on the basis of Barr's experience and qualifications and represent our best judgment as experienced and qualified professionals familiar with the project. The cost opinion is based on project-related information available to Barr at this time and includes a conceptual-level design of the project. The opinion of cost may change as more information becomes available. In addition, since we have no control over the cost of labor, materials, equipment, or services furnished by others, or over the contractor's methods of determining prices, or over competitive bidding or market conditions, Barr cannot and does not guarantee that proposals, bids, or actual costs will not vary from the opinion of probable cost prepared by Barr. If Avangrid wishes greater assurance as to probable cost, additional information will need to be collected.

11.0 References

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Reference Checklist

Record Type	Record Location	Reference Outcome*
Water Well Records (local-electronic)	California has yet to release these http://www.water.ca.gov/groundwater/wells/well_completion_reports.cfm	D
Water Well Records (state-electronic)	California has yet to release these	D
State DOT boring records	www.dot.ca.us	D
USGS Maps (electronic)	http://ngmdb.usgs.gov/	A
USGS Maps (hard copy)	http://pubs.er.usgs.gov /	A
USGS Mining/Mineral maps (electronic)	http://mrdata.usgs.gov/	A
USGS Studies/Reports (electronic)	http://pubs.er.usgs.gov/	A
USGS Studies/Reports (hard copy)	Barr Internal Library, http://pubs.er.usgs.gov/	A
State GS maps (electronic)	http://www.conservation.ca.gov/cgs/publications/Pages/index.aspx	A
State GS maps (hard copy)	http://www.conservation.ca.gov/cgs/publications/Pages/index.aspx	A
State GS local/regional studies (electronic copy)	http://www.conservation.ca.gov/cgs/publications/Pages/index.aspx	A
State GS local/regional studies (hard copy)	http://www.conservation.ca.gov/cgs/publications/Pages/index.aspx	A
State GIS boring records (electronic)		D
Soil Survey Maps (electronic)	http://websoilsurvey.nrcs.usda.govv	A
FEMA Maps (electronic)	FEMA Map Service Center	A
Oil/Gas Exploration Boring Logs	ftp://ftp.consrv.ca.gov/pub/oil/maps/Map_S-1.pdf	A
Earthquake Seismic Hazards (USGS)	http://earthquake.usgs.gov/earthquakes/eqarchives//	A
First Hand Karst/Cave Knowledge	http://www.nssio.org	E
Climate Data (electronic)	http://www.noaa.gov	A

*A = reference was reviewed or ordered from agency

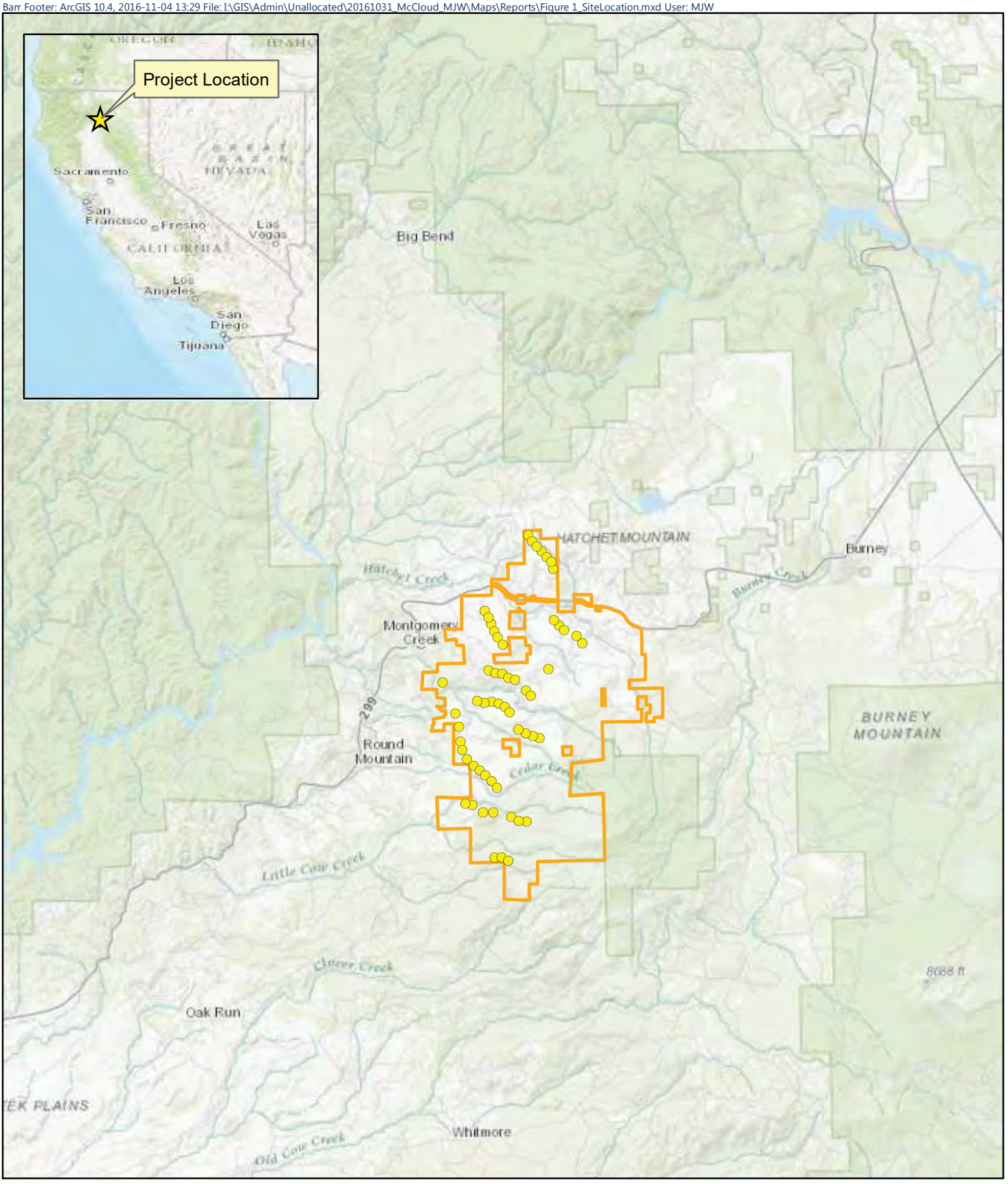
B = reference is available, but only locally and at additional cost

C = reference is potentially available upon special request and at additional cost

D = reference was not found or does not exist

E = reference not applicable to this site

Figures



Turbine Locations

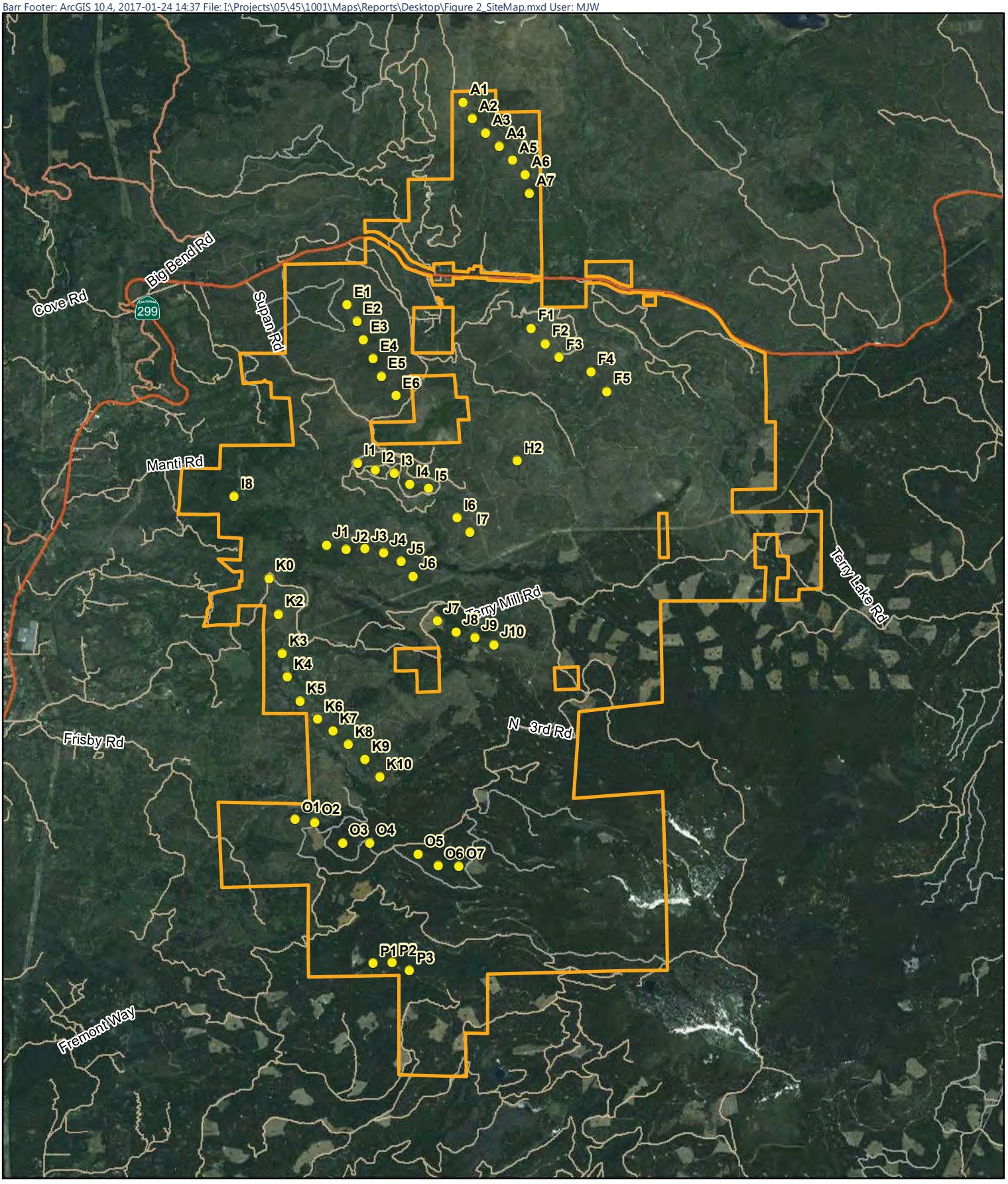
Site Boundary

0 5,000 10,000 20,000

Feet

Figure 1

Site Location
McCloud Project
Avangrid Renewables
Shasta County, California

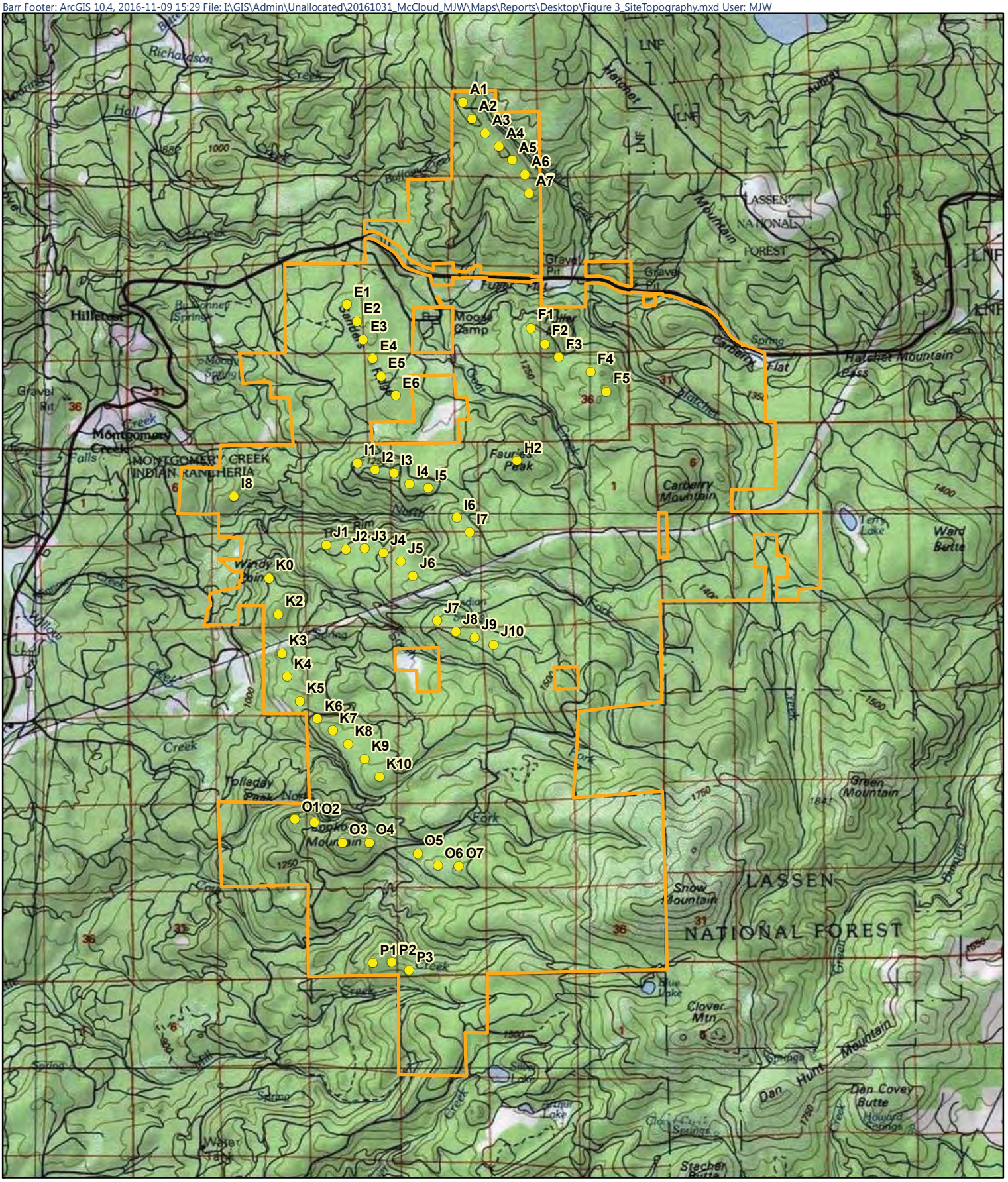


Turbine Locations
Site Boundary
Primary US and State Highways
Secondary State and County Highways
Local, neighborhood, rural or City Street
4WD

N

0 2,000 4,000 8,000
Feet

Figure 2
Site Map
McCloud Project
Avangrid Renewables
Shasta County, California



Turbine Locations

Site Boundary

0 2,000 4,000 8,000

Feet

Figure 3
Site Topography
McCloud Project
Avangrid Renewables
Shasta County, California

- Turbine Locations
- Faults
- Site Boundary

Site Geology

- Ec--Eocene--sandstone
- Mzv--Late Permian to Jurassic--intermediate volcanic rock
- Q--Pliocene to Holocene--alluvium
- Qrv--Holocene--andesite
- Qv--Quaternary--andesite
- Tv--Tertiary (2-24 Ma)--andesite
- Water

N

0 2,000 4,000 8,000

Feet

Source: U.S. Geological Survey, California Geological Survey

Figure 4
Site Geology
McCloud Project
Avangrid Renewables
Shasta County, California

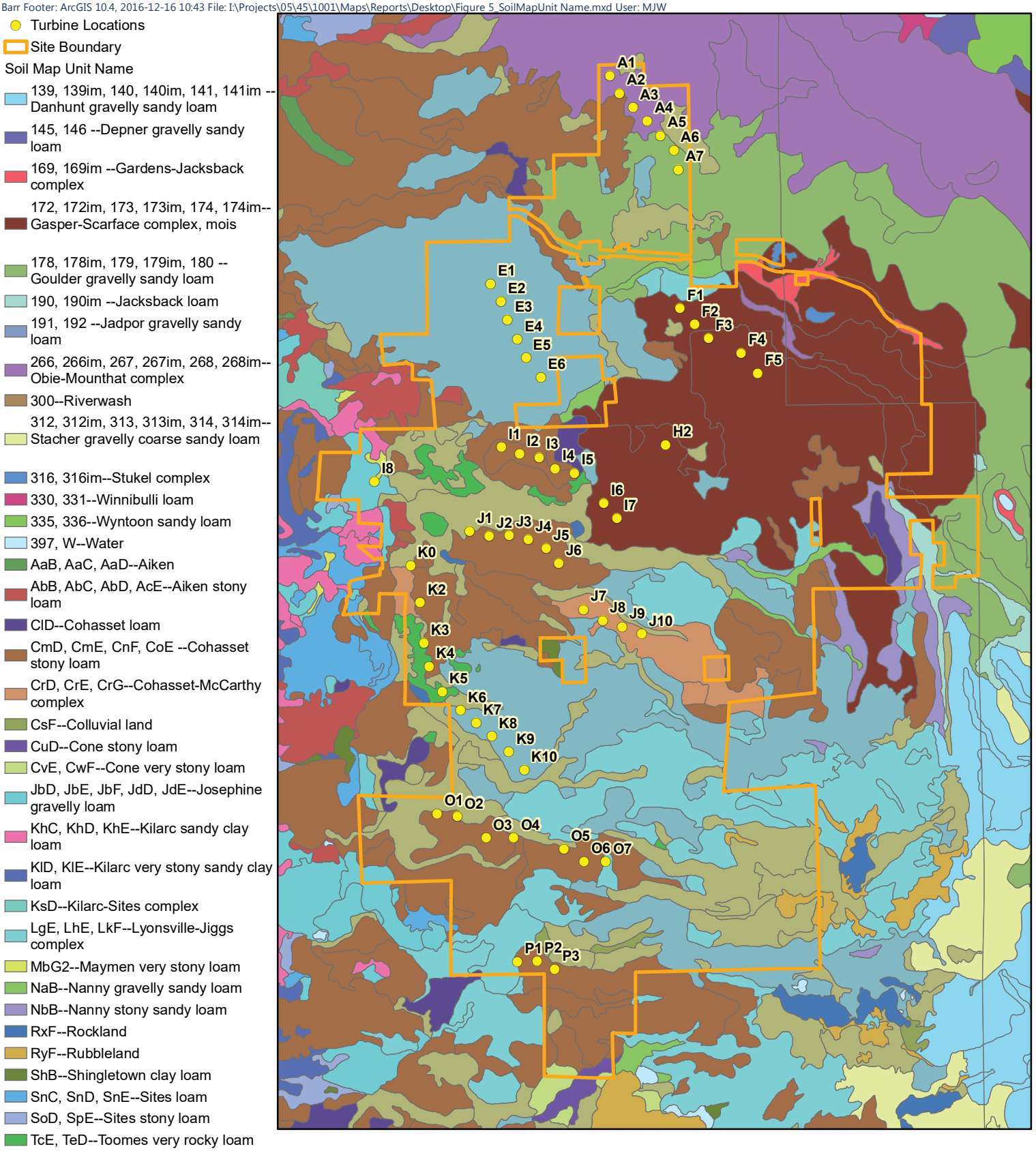
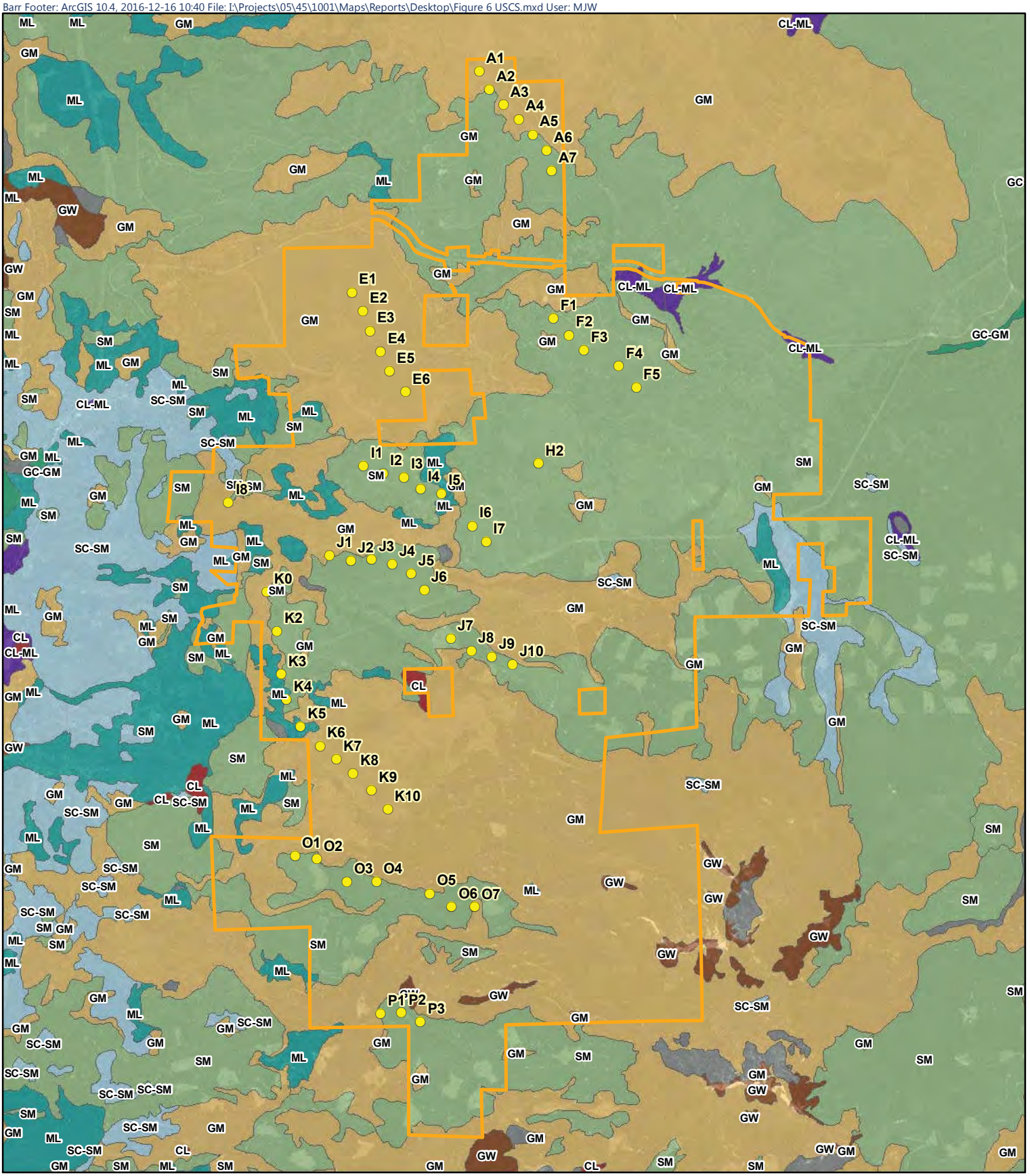


Figure 5
Soil Map Unit Name
McCloud Project
Avangrid Renewables
Shasta County, California



- Turbine Locations
- Site Boundary

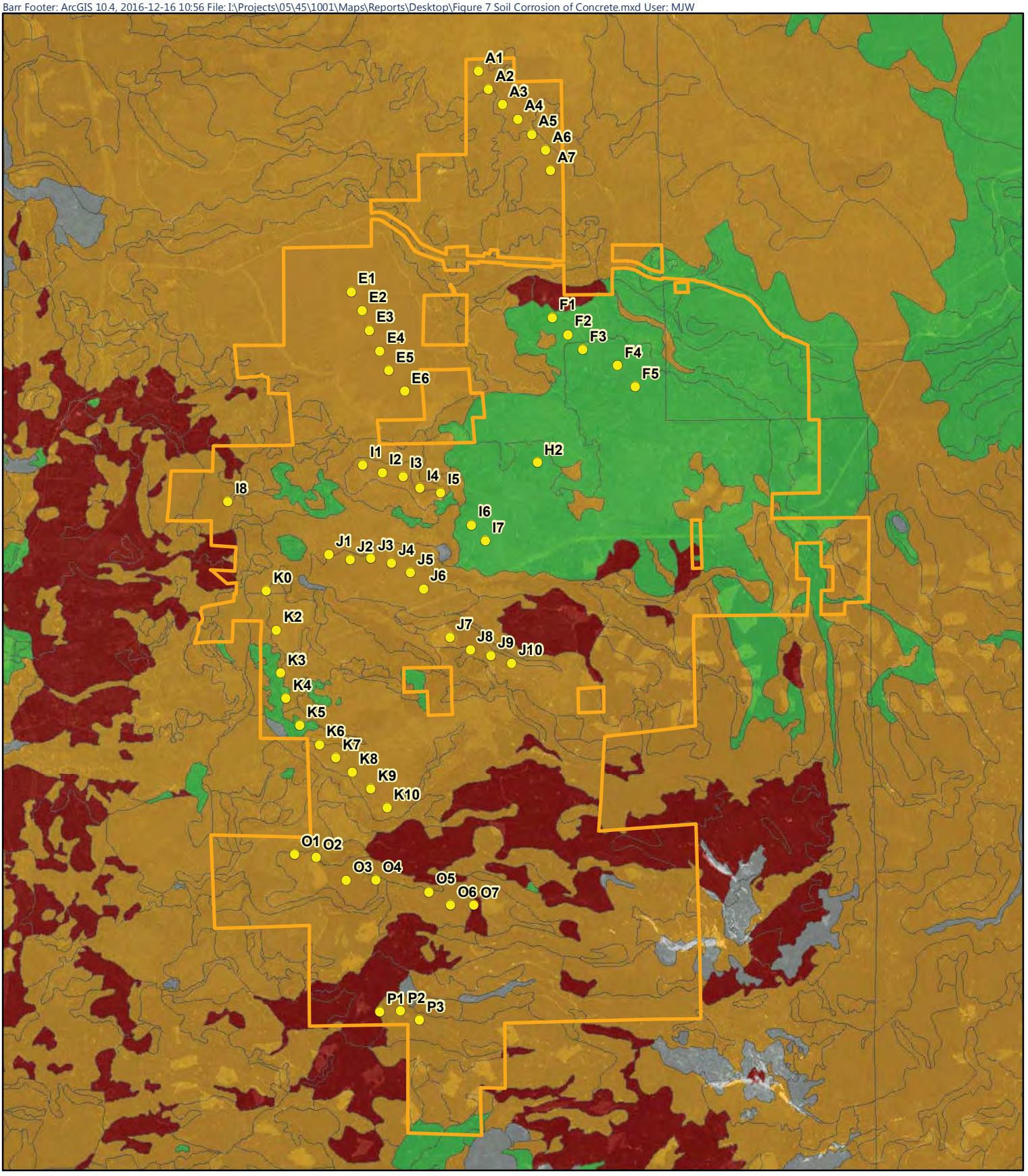
Unified Soil Classification System

- No Data
- CL: Clay of low plasticity
- CL-ML: Clay/silt of low plasticity
- GC: Clayey gravel
- GC-GM: Clayey/silty gravel
- GM: Silty gravel
- GW: Well-graded gravel, fine to coarse gravel
- ML: Silt
- SC-SM: Silty/clayey sand
- SM: Silty sand

0 1,875 3,750 7,500
Feet

Source: NRCS SSURGO Soils

Figure 6
Unified Soil Classification System
McCloud Project
Avangrid Renewables
Shasta County, California

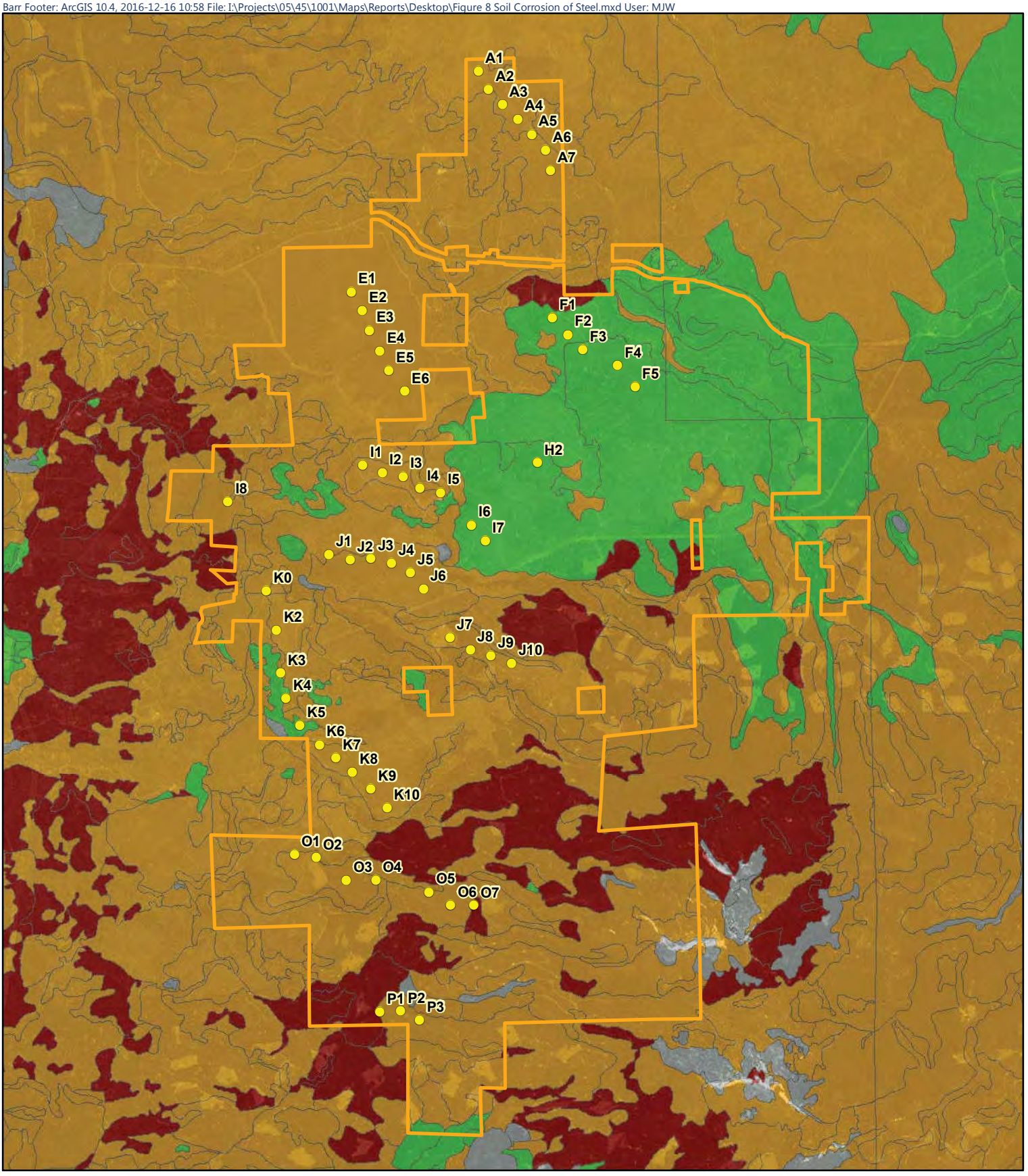


Turbine Locations
Site Boundary
Corrosion of Concrete
No Data
High
Moderate
Low

0 1,875 3,750 7,500
Feet

Source: NRCS SSURGO Soils

Figure 7
Soil Corrosion of Concrete
McCloud Project
Avangrid Renewables
Shasta County, California

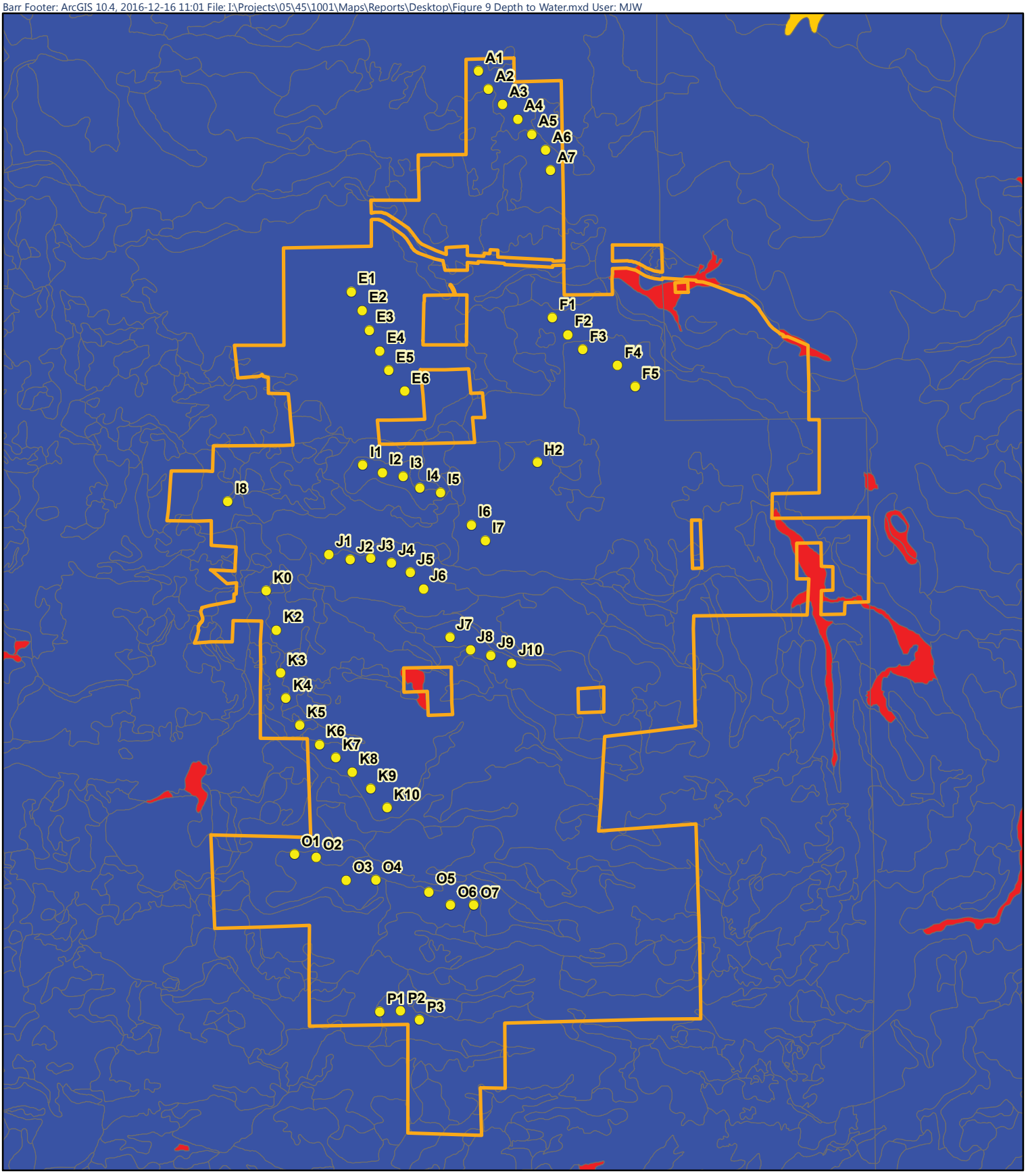


Turbine Locations
Site Boundary
Corrosion of Concrete
No Data
High
Moderate
Low

0 1,875 3,750 7,500
Feet

Source: NRCS SSURGO Soils

Figure 8
Soil Corrosion of Steel
McCloud Project
Avangrid Renewables
Shasta County, California



Turbine Locations
Site Boundary

Depth to Water

- 0 - 50 cm
- 50 - 100 cm
- 100 - 150 cm
- 150 - 200 cm
- 200+ cm

0 1,875 3,750 7,500
Feet

Figure 9
Depth to Water
McCloud Project
Avangrid Renewables
Shasta County, California

Source: NRCS SSURGO Soils

Earthquake Epicenters

Fault Line*

Quaternary Faults**

<15,000 years

<130,000 years

<1,600,000 years

Shaking (%g)

PGA (Peak Ground Acceleration)

< 10%

10 - 20%

20 - 30%

30 - 40%

40 - 50%

50 - 60%

60 - 70%

70 - 80%

>80%

The unit "g" is acceleration of gravity.

Seismic Shaking Hazard Data Source: Based on the USGS/CGS Probabilistic Seismic Hazards Assessment (PSHA) Model, 2002 (revised April 2003). (http://www.consrv.ca.gov/cgs/rghm/psha/Pages/index.aspx)

*U.S. Geological Survey, California Geological Survey
**U.S. Geological Survey 2006, Quaternary fault and fold database for the United States

Miles

2 0 2

Kilometers

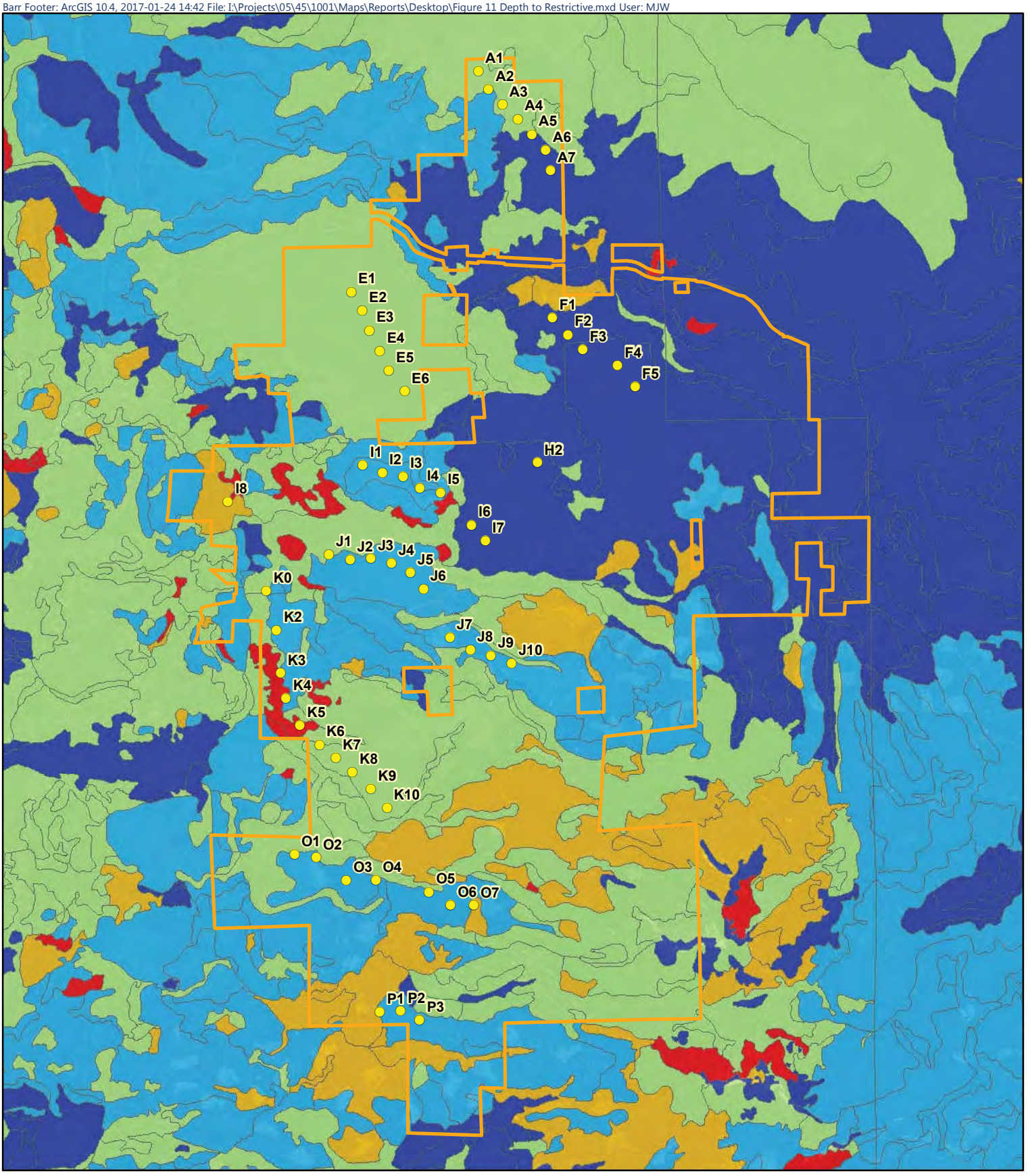
4 0 4

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 10

PROBABILISTIC SEISMIC HAZARD MAP
McCloud Project
Avangrid Renewables
Shasta County, California

Barr Footer: ArcGIS 10.4, 2017-01-24 14:44 File: I:\Projects\0545\1001\Maps\Reports\Desktop\Figure 10 Probabilistic Seismic Hazard Map.mxd User: MJW

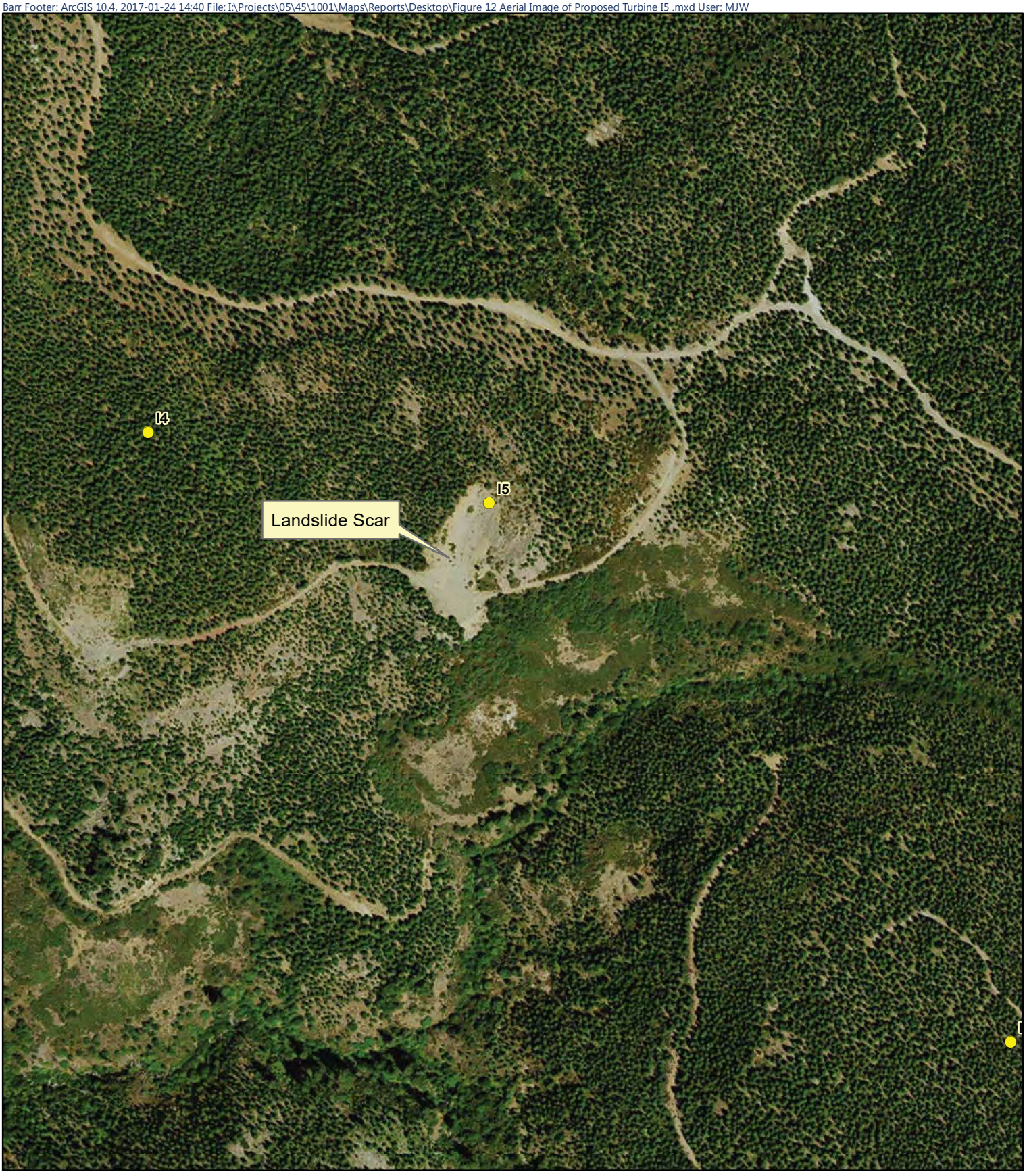


Turbine Locations
Site Boundary
Depth to Restrictive Layer
0-50
50-100
100-150
150-200
>200

0 1,875 3,750 7,500
Feet

Figure 11
Depth to Restrictive Layer
McCloud Project
Avangrid Renewables
Shasta County, California

Source: NRCS SSURGO Soils



Turbine Locations
Site Boundary

0 115 230 460
Feet

Figure 12
Aerial Image of Proposed
Turbine I5
McCloud Project
Avangrid Renewables
Shasta County, California

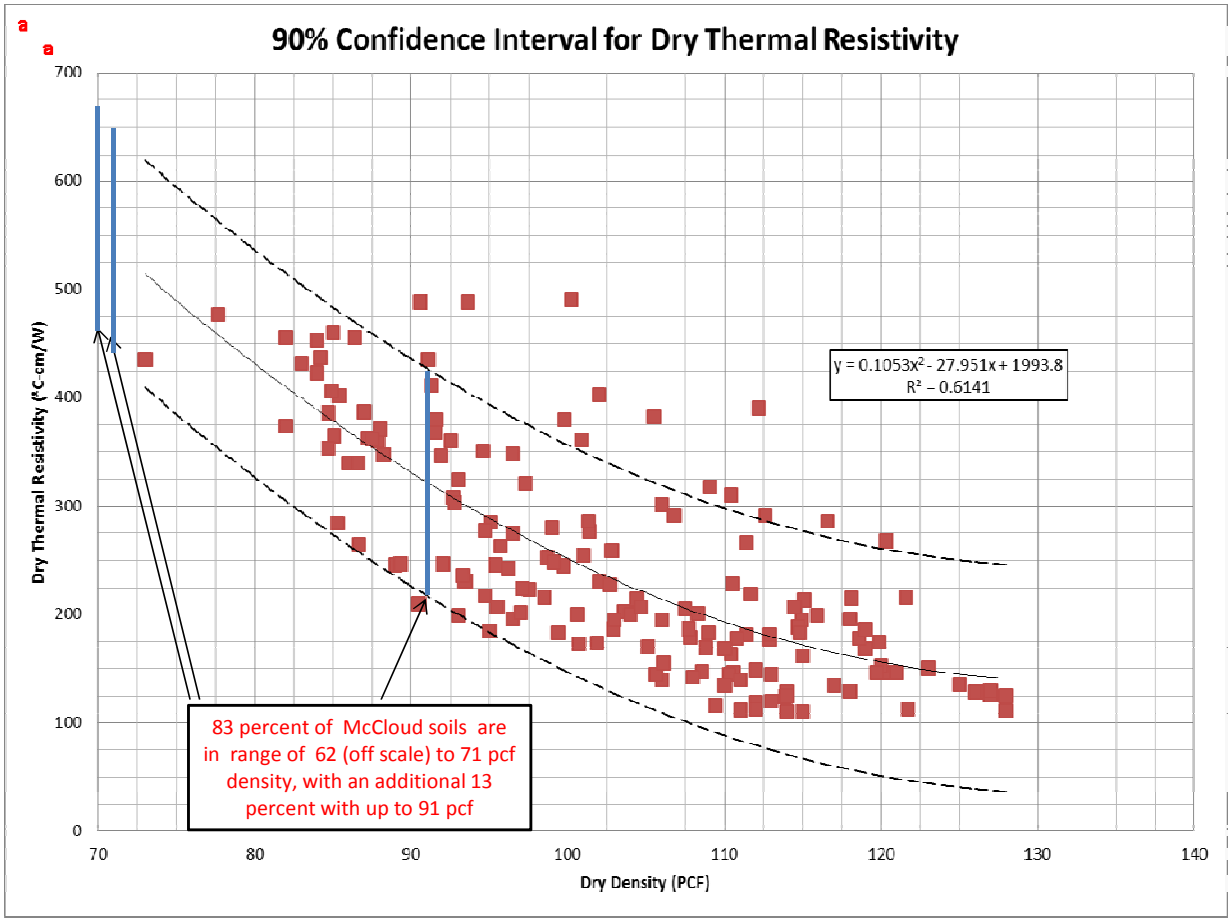


Figure 13
90% Confidence Interval for Dry Thermal Resistivity

APPENDIX B: FOUNTAIN WIND PROJECT REFERRAL DISTRIBUTION LIST

Use Permit 16-007

Fountain Wind Project

Referral Distribution List

Revised January 24, 2018

All Persons and Agencies to receive a letter which refers them to a link to the project information on the Planning Division website.

R = Responsible Agency, C = Community Organization, X = Other

County Files (2)*

Board of Supervisors

X Board of Supervisors Office

X David Kehoe, District 1

X Leonard Moty, District 2

X Mary Rickert, District 3

X Steve Morgan, District 4

X Les Baugh, District 5

Planning Commission

X Jim Chapin

X Tim MacLean

X Steven Kerns

X Roy Ramsey

X Patrick Wallner

Shasta County

X Larry Lees
County Administrative Officer
Shasta County

X Clerk of the Board
Shasta County

X Rubin Cruse
County Counsel
Shasta County

X Dan Little
Shasta Regional Transportation Agency
1255 East Street Suite 202
Redding CA 96001

X Andrew Deckert
Shasta County
Department of Public Health

R Pat Minturn
Shasta County
Department of Public Works

X Shasta County Assessor's Office

R John Waldrop
Shasta County
Department of Resource Management
Air Quality Management Division

R Carla Serio
Shasta County
Department of Resource Management
Environmental Health Division

R Richard Simon
Director
Shasta County
Department of Resource Management

R Kim Hunter
Planning Division Manager
Shasta County
Department of Resource Management

R Dale Fletcher
Building Division Manager
Shasta County
Department of Resource Management
Building Division

X Shasta County
Department of Resource Management
Planning Division
Permits Counter

R Jimmy Zanotelli
Shasta County
Fire Department

X Shasta County
Sheriff's Office
Tom Bosenko

Library

X Shasta County Library
1100 Parkview Avenue
Redding, CA 96001

X Shasta County Library
Anderson Branch
3200 West Center
Anderson, CA 96007

Shasta County Cities

X City of Redding
Development Services Department
Planning Division
777 Cypress Avenue
Redding, CA 96001

X City of Redding - Airports

X City of Anderson
Planning Department
1887 Howard Street
Anderson, CA 96007

X City of Shasta Lake
Planning Department
PO Box 777
Shasta Lake CA 96019

Bordering Counties

X County of Lassen
Community Development Department
707 Nevada Street
Susanville, CA 96103

X County of Modoc
Planning Department
202 West Fourth Street
Alturas, CA 96101

X County of Plumas
Planning Department
555 Main Street
Quincy, CA 95971

X County of Siskiyou
Planning Department
806 South Main Street
Yreka, CA 96097

X County of Tehama
Planning Department
444 Oak Street, Room 1
Red Bluff, CA 96080

X County of Trinity
Planning Department
P.O. Box 2819
Weaverville, CA 96093-2819

Schools

X County Office of Education

X Fall River Joint

X Mountain Union Elementary

X Oak Run Elementary

X Shasta Union High School District
1313 Yuba Street
Redding, CA 96001

X Shasta College
PO Box 496006
Redding, CA 96049-6006

Local Agencies

X Burney Fire Protection District

X Mayers Memorial Hospital

X Shasta Mosquito and Vector Control
19200 Latona Road
Anderson CA 96007

X Western Shasta Resource Conservation District
6270 Parallel Road
Anderson, CA 96007-4833

X Fall River Resource Conservation District

X President
Cow Creek Watershed Management Group
P.O. Box 71
Whitmore, CA 96096

X Economic Development Corporation of
Shasta County
410 Hemsted Drive #220
Redding, CA 96002

X Shasta Regional Transportation Agency

State Agencies

R State Clearinghouse
PO Box 3044
Sacramento CA 95812-3044

X Department of Conservation
801 K Street, MS 18-01
Sacramento, CA 95814

R California Department of Forestry and Fire Protection

X California Highway Patrol
Redding Office
25603 Cascade Boulevard
Redding, CA 96003

X California Historical Resources Information System
Northeast Information Center
123 West 6th Street, Suite 100
Chico, CA 95928

R California Department of Fish & Wildlife
601 Locust Street
Redding CA 96001

R California Regional Water Quality Control Board
364 Knollcrest Drive STE 205
Redding CA 96002

R Marci Gonzalez
Caltrans District 2
Local Development Review MS6
1657 Riverside Drive
Redding, CA 96001-0536

X Caltrans Division of Aeronautics

X California Emergency Management Agency
3650 Schriever Ave.
Mather, CA 95655

X California Energy Commission

R California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Federal Agencies

R Redding Office
U.S. Army Corps of Engineers
Sacramento District
310 Hemsted Drive STE 310
Redding CA 96002

R U.S. Fish and Wildlife Service
2800 Cottage Way, W2605
Sacramento, CA 95825

R Federal Aviation Administration

X Bureau of Land Management - Redding

X U.S. Navy – (military training routes)

X USFS – Lassen National Forest

X Lassen National Park

Native American Groups

X Pit River Tribe

X Pit River Tribe: Madesi / Atsuge / Ajumawi / Aporige

X Pit River Tribe of Historical Preservation

X Roaring Creek Indian Rancheria

X Barbara Murphy, Chair
Redding Rancheria
2000 Rancheria Road
Redding CA 96001

X Caleen Sisk-Franco, Tribal Chair
Winnemem Wintu Tribe
14840 Bear Mountain Road
Redding, CA 96003

X Kelli Hayward
Wintu Tribe of Northern California
PO Box 995
Shasta Lake, CA 96019

X Wintu Educational and Cultural Council
12138 Lake Boulevard
Redding, CA 96003

X Wintu Tribe and Cultural Council

X Wintu Tribe and Toyon Wintu Center

X United Tribe of Northern California, Inc.
20059 Parocast Road
Redding, CA 96003

X Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814

X Greenville Indian Rancheria
P.O. Box 279
410 Main Street
Greenville, CA 95947

X Nor Rel Muk Nation

X Quartz Valley Indian Community

X Shasta Nation

News Media

X KQMS Newstalk 1400
3660 Alta Mesa Drive
Redding CA 96002

X Redding Record Searchlight
1101 Twin View Blvd
Redding CA 96003

X KRCR TV News Channel 7
755 Auditorium Drive
Redding CA 96001

X East Valley Times
P.O. Box 100
Palo Cedro, CA 96073

X Intermountain News

X Mountain Echo

Private Utilities

X Jason Thomas
Pacific Gas and Electric Company
3600 Meadow View Road
Redding, CA 96002

X Frontier Communications
9324 W. Stockton Blvd.
Elk Grove, CA 95758

Community Organizations

C Hill Country Community Clinic
29632 Highway 299 E
Round Mountain, CA 96084

C Audubon Society – Wintu Chapter

C California Native Plant Society
Shasta Chapter
P. O. Box 990194
Redding, CA 96099-0194

C Sierra Club – Shasta Chapter

C Moose Recreational Camp
P.O. Box 491587
Redding, CA 96049-1587 (added 1/24/18)

Applicant

X Pacific Wind Development, LLC
1125 NW Couch Street, Suite 700
Portland, OR 97209

X Oxbow Timber I, LLC
98 Mill Street
Weed, CA 96094

APPENDIX C: AGENCY CONSULTATION AND NOTIFICATION

Prior to an environmental recommendation, referrals for this project were sent to agencies thought to have responsible agency or reviewing agency authority. The responses to those referrals (attached), where appropriate, have been incorporated into this document and will be considered as part of the record of decision for the environmental review associated with Project Use Permit 16-007. Copies of all referral comments may be reviewed through the Shasta County Planning Division. To date, referral comments have been received from the following State agencies or any other agencies which have identified CEQA concerns:

Agency	Commenter	Comment Date
Burney Fire Protection District	Monte Keady, Fire Chief	January 15, 2018
California Department of Fish and Wildlife	Curt Babcock, Habitat Conservation Program Manager	March 2, 2018
California Department of Fish and Wildlife	Kristin Hubbard, Environmental Scientist	March 7, 2018
California Department of Transportation	Marcelino "Marci" Gonzalez, Local Development Review & Regional Transportation Planner	January 31, 2018
Central Valley Regional Water Quality Control Board	Dannas J. Berchtold, Engineering Associate Storm Water & Water Quality Certification Unit	February 5, 2018
Frontier Communications	Chuck Wadowski, Engineer Senior Network Design	January 11, 2018
Pit River Tribe	Brandy Mcdaniels, Madesi Band Cultural Representative for The Pit River Tribe	February 10, 2018
Shasta County Assessor / Recorder		January 16, 2018
Shasta County Air Quality Management District	John Waldrop	January 16, 2018
Shasta County Fire Department	Jimmy Zanotelli, Fire Marshall	February 1, 2018
Shasta County Office of the Sheriff	Lt. Tyler Thompson, Burney Patrol Station	February 8, 2018
Shasta Mosquito and Vector Control District	Darcy Buckalew, Administrative Office Manager	January 12, 2018
Wintu Audubon Society	Bruce Webb And Janet Wall, Co-chairs Conservation	February 14, 2018

SHASTA COUNTY DEPARTMENT OF RESOURCE MANAGEMENT
PLANNING DIVISION
1855 Placer Street, Suite 103, Redding, CA 96001
Date Sent: January 10, 2018

TO INTERESTED/AFFECTED AGENCIES:
Shasta County, acting as the lead agency under the California Environmental Quality Act (CEQA), has determined that an Initial Study will be required for the project described below. This is a request for informal consultation with you or your agency, as required by CEQA Guidelines Section 15063 (g), prior to the preparation of the Initial Study. Please review and comment on the project, and return this form (with comments attached if more space is needed) prior to: **February 9, 2018.**

* *

PROJECT DATA

PROJECT: Use Permit 16-007 (Fountain Wind project)

APPLICANT: Pacific Wind Development, LLC, 1125 Couch Street, Suite 700, Portland, OR 97209

PROJECT DESCRIPTION: The applicant proposes to construct and operate the Fountain Wind Project (Project) which would consist of up to 100 wind turbines and associated infrastructures, with a generating capacity of up to approximately 347 megawatts. The proposed Project would be on 94 Assessor parcels covering about 38,000 acres. In addition to the wind turbines including associated transformers, the Project includes ancillary facilities such as lay-down areas, access roads, underground and overhead collector lines, an operation and maintenance building, and substation components. For more project information please refer to the project narrative and figures on the Planning Division website:

https://www.co.shasta.ca.us/index/drm_index/planning_index/eirs/fountain-wind-project/Project-Description

LOCATION: The project site is located on the west side of the Cascade Range in Shasta County on portions of about 38,000 acres owned by Oxbow Timber I, LLC, located both north and south of State Highway 299 East, to the east of the communities of Montgomery Creek and Round Mountain, and west of Hatchet Mountain Pass. The project site is about 6 miles west of the community of Burney, and about 35 miles east of the City of Redding. For more precise location information, please refer to the project narrative and figures on our website above. Also see Vicinity Map on following page.

* *

AGENCY RESPONSE

☐ No Comment: Note: Your agency's approval will be assumed if no response is received by the above date.

☑ We have reviewed the subject proposal and offer the following comment(s): See attached

Signed: [signature]

For (Agency): Burney Fire Protection Dist

* *

Any questions may be directed to Bill Walker, Senior Planner at (530) 225-5532, or bwalker@co.shasta.ca.us

Sincerely,

W. M. Walker

Bill Walker, AICP, Senior Planner
Planning Division
Department of Resource Management

JAN 11 2018

BURNEY FIRE PROTECTION DISTRICT

Established 1939

January 15, 2018

Shasta County Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

RE: Fountain Wind Project

The following are the comments on the Project Use Permit 16-007, The Fountain Wind Project proposed by the applicant Pacific Wind Development, LLC operating out of Portland, Oregon.

1. Burney Fire District has no specific jurisdiction for fire suppression or fire prevention activities within the area designated, for the Fountain Wind Project. As such, these comments do not address any specific requests regarding these issues. However, the Burney Fire District does stand willing to provide these services as much as is lawful and prudent under the law by contract with Pacific Wind Development, LLC.

2. The Fountain Wind Project is within the Burney Fire District Ambulance service area and does have first response obligation for all EMS, medical and rescue operations within the proposed project. Burney Ambulance personnel will provide Advanced Life Support and Basic Life Support to the project. Burney Ambulance personnel will gain all weather access to the project site through the use of a 4x4 ambulance, a John Deere Gator [side-by-side] with patient hauling capabilities, or a Ski Doo rescue snowmobile. Burney Fire District would ask Pacific Wind Development to ensure the operator of the Fountain Wind Project to assist Burney Fire District in maintaining and increasing these vehicles in the following manner.
    a. Current aging ambulance fleet is in need of a replacement vehicle ($125,000)
    b. Current John Deere Gator is in need of an upgraded transport trailer ($3000)
    c. Current Ski Doo snowmobile is in need of a patient hauling towable rescue sled. ($5000)

Burney Fire District leadership is excited about the growth potential of the energy industry in Central Shasta County and will do all to support their operations when asked.

Respectfully submitted,

Monte Keady
Fire Chief

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State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Region 1 – Northern
601 Locust Street
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EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

March 2, 2018

Bill Walker
Planning Division
Shasta County Department of Resource Management
1855 Placer Street, Suite 103
Redding, CA 96001

Subject: Informal Consultation Request for Use Permit 16-007, Fountain Wind Project, Shasta County

Dear Mr. Walker,

The California Department of Fish and Wildlife (Department) has reviewed the Use Permit and associated documents for the Fountain Wind Project (Project), Use Permit 16-007. The Department offers the following comments and recommendations.

As a Trustee Agency for the State's fish and wildlife resources, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants and their habitat. As a Responsible Agency, the Department administers the California Endangered Species Act (CESA) and other provisions of the Fish and Game Code (FGC) that conserve the State's fish and wildlife public trust resources. The Department offers the following comments and recommendations on the Project in our role as the State's Trustee Agency for fish and wildlife resources, and as a Responsible Agency under the California Environmental Quality Act (CEQA), California Public Resources Code section 21000 et seq.

Project Description

The informal consultation request is for a Use Permit for the construction of the Fountain Wind Project (Project). The Project proposes a 347 megawatt wind energy development consisting of up to 100 wind turbines, associated infrastructure, and ancillary facilities located in the vicinity of the communities of Burney, Moose Camp, Hillcrest, Wengler, Montgomery Creek, and Round Mountain, in Shasta County, CA. Project infrastructure and ancillary facilities include 17 construction laydown areas, two possible temporary batch plants, temporary construction and equipment area, construction trailer area, and associated parking, 87 miles of existing access roads that may need to be upgraded and up to an additional 21 miles of new access roads, up to 56 miles of underground and up to 16 miles of overhead collector lines, an operations and maintenance facility, storage sheds, an onsite substation and switching station, and two permanent meteorological towers.

Comments and Recommendations

The following comments are intended to assist the Lead Agency in making informed decisions early in the Project development and environmental review process. The Department understands that further Project information and environmental documents are forthcoming and will be submitting additional comments as data collection proceeds and environmental documents develop. Because of the lack of data provided to the Department regarding the exact Project boundary, the Department is being particularly conservative and cautious in our review and recommendations.

Biological Resources Work Plan

The Department provided a brief synopsis of concerns regarding the Biological Resources Work Plan presented at the June 2017 consultation meeting in a letter addressed to you dated July 25, 2017 (attached), sections of which will be expanded on below.

The Biological Resource Work Plan (Work Plan) outlines the baseline biological studies to be conducted for the development of the Project. The Work Plan relies on multiple State and federal guidance documents to determine appropriate preconstruction biological studies and protocols. These documents include the 2007 California Energy Commission/Department's *California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development* (CEC/CDFG Guidelines), the 2012 United States Fish and Wildlife Service (USFWS) *Land-Based Wind Energy Guidelines* (WEG), and the 2013 USFWS *Eagle Conservation Plan Guidance*. In general, the Department defers to the approach most likely to result in comprehensive data collection to inform the CEQA and permitting processes, or the best available science regarding survey and/or monitoring techniques. We note that some of the guidance in current use for wind energy development is over 10 years old. In certain cases, this guidance may be superseded by more current approaches, but should still be considered a minimum standard to produce adequate pre-development studies and surveys.

The Department requests an update to the Work Plan to address comments here and in our July 25, 2017 letter. Specific information should be included regarding survey protocols to be utilized, including datasheets, timing of surveys, and a description of all surveys to be conducted as part of the proposed Site Characterization Study. If survey protocols suggested below are altered, the Work Plan should discuss reasons for this deviation.

All necessary biological surveys should be conducted in advance of the draft EIR circulation, and should not be deferred until after Project approval. All survey reports should be sent to the Department at Attn: CEQA, 601 Locust Street, Redding, CA, 96001.

Special-Status Species and Habitat Surveys

In addition to the surveys proposed for bats and avian species, the Department recommends the completion of a comprehensive baseline survey including a complete assessment of the flora and fauna within and adjacent to the Project area, with particular emphasis upon identifying special-status species including rare, threatened and endangered species, Fully Protected species, and Species of Special Concern. This assessment should also address locally unique species, rare natural communities, and wetlands, and must be conducted at the appropriate time of year to identify species of concern. Seasonal variations in use of the Project site should also be addressed.

The assessment area for the Project should be large enough to encompass areas potentially subject to direct impacts and areas in which reasonably foreseeable indirect Project impacts will occur. Examples of indirect impact assessment areas include any area in which sensitive species or habitat would be impacted by noise from construction or ongoing maintenance activities, noise and vibrations from blasting, fugitive dust, Project lighting, habitat fragmentation, downstream impacts to waters of the state, etc. Both the Project footprint and the assessment area (if different) should be clearly defined and mapped. The areas depicted in Figure 17 of the Use Permit Application may not provide adequate survey coverage.

CESA-Listed Species

Take of species of plants or animals listed as endangered or threatened under CESA is unlawful unless authorized by the Department. However, a CESA 2081(b) Incidental Take Permit (ITP) may authorize incidental take during Project construction or over the life of the Project. The draft EIR must state whether the Project could result in any amount of incidental take of any CESA-listed species. Early consultation for incidental take permitting is encouraged, as significant modification to the Project's description and/or mitigation measures may be required in order to obtain a CESA Permit.

The Department's issuance of a CESA Permit for a project that is subject to CEQA will require CEQA compliance actions by the Department as a Responsible Agency. The Department as a Responsible Agency under CEQA will consider the Lead Agency's draft EIR for the Project. The Department may require additional mitigation measures for the issuance of a CESA Permit unless the Project CEQA document addresses all Project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a CESA Permit.

The Department recommends the future draft EIR address all potential impacts to CESA-listed species, a range of alternatives, and feasible avoidance and mitigation measures to reduce impacts to less than significant.

Candidate Amphibian Species - Foothill Yellow-legged Frog and Cascades Frog

Foothill yellow-legged frog (*Rana boylii*) and Cascades frog (*R. cascadae*) habitat occurs in the Project area. On June 21, 2017, the California Fish and Game Commission (Commission) accepted the petition to list the foothill yellow-legged frog as a threatened species and will be initiating the preparation of a Status Review to determine whether listing as threatened is warranted. Based on the findings published July 7, 2017, the foothill yellow-legged frog is considered a candidate species as defined by FGC section 2068.

On October 11, 2017, the Commission accepted the petition to list Cascades frog as a threatened or endangered species and will be initiating the preparation of a Status Review to determine whether listing as a threatened or endangered species is warranted. Based on findings published October 17, 2017, the Cascades frog is considered a candidate species as defined by FGC section 2068.

During the Status Review period, FGC section 2085 confers full legal protection of an endangered or threatened species on a candidate species. This includes the general prohibition on "take" of the species, as defined in FGC section 86 as to "hunt, pursue, catch, capture or kill" or to attempt to engage in any of these activities.

Mainly regarded as a stream obligate, few studies have focused on upland habitat use by foothill yellow-legged frog; however, it is likely that these frogs utilize a wide range of watershed features, including terrestrial habitat, depending on the season. One study in Tehama County found frogs rarely go beyond 12 m from the channel during any time of the year (Bourque 2008). However, during the same study, Bourque observed a female move up a dry tributary and over a ridge to an adjacent watershed, a distance of over 7 km from her original location, although much of this was in wetted channels. Nussbaum et al. (1983) reported finding frogs 50 m away from water under debris. Cook (2012) described frequent observations of foothill yellow-legged frogs in terrestrial locations far (16 m to 331 m, average distance of 71.3 m) from natal streams and in urban settings, near Ukiah, Mendocino County.

Cascades frogs typically utilize lentic waterbodies for breeding, however, egg masses have also been observed in slow flowing streams, with adults and juveniles utilizing a variety of aquatic habitats during different life history stages. Adult Cascades frogs have been documented as undergoing extensive overland movements. In a study conducted in the Trinity Alps, radio tracked individuals were documented as completing seasonal migrations of over 1600 meters (Garwood 2009). Two radio tracked frogs were observed navigating through steep terrestrial terrain (Garwood and Welsh, 2007). Because this species is known to undergo long distance seasonal migrations, surveys of adjacent critical habitat must occur in order to gain an understanding of migratory pathways within the Project site and to ensure the preservation of connectivity between populations. Dispersing animals are vital to maintaining the genetic flow and population viability of this species.

The Department recommends the completion of a habitat assessment and subsequent focused surveys for these species in all areas of the Project that may directly or indirectly impact species habitat as discussed above, including aquatic and terrestrial habitat, migration routes, and critical Cascades frog habitat adjacent to the Project site. Prior to the commencement of these surveys, a Survey Plan must be developed and submitted to the Department for review. The Survey Plan should include what life-stage(s) will be surveyed for, survey method(s), timing of surveys, and location of surveys. The Survey Plan should provide justification for timing and methodology or survey design (e.g., watershed characteristics, regional snow pack, timing and rate of spring runoff, day length, average ambient air and water temperatures, local and seasonal conditions). For sites with suitable breeding habitat, two consecutive seasons of negative egg mass/larval surveys are recommended to support a negative finding.

If there is potential take of foothill-yellow legged frog or Cascades frog may be potential due to direct or indirect impacts related to Project construction, such as through direct removal, filling, hydrological interruption, sedimentation, impaired water quality, or other means, the applicant will need to apply for an ITP in order to comply with CESA, as discussed above. The Department may issue an ITP authorizing the take of a candidate species when it is incidental to an otherwise lawful activity, the impacts of the take are minimized and fully mitigated, the applicant ensures there is adequate funding to implement any required measures, and take is not likely to jeopardize the continued existence of the species. If, at the time of Project implementation, either species is not listed under CESA or is no longer a candidate, CESA authorization will not be required. However, since both species are California Species of Special Concern, impacts to either one may still be significant under CEQA.

Willow Flycatcher Protocol Surveys

The Department is aware of known breeding occurrences of willow flycatcher (*Empidonax traillii*, State Endangered) on or near the Project site and potential habitat may occur on the Project site based on the Department's willow flycatcher habitat model. Therefore, a qualified biologist proficient at delineating willow flycatcher habitat and conducting surveys should determine if suitable habitat occurs within the Project site and conduct surveys to determine site occupancy. Surveys should be conducted using the recommended protocol: A Willow Flycatcher Survey Protocol for California (Bombay et al. 2003) available at: https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=84019&inline.

Northern Spotted Owl Protocol Surveys

Northern spotted owl (*Strix occidentalis caurina*, State Threatened, federally Threatened) critical habitat designated by the USFWS and northern spotted owl territories are located in close proximity to the Project site. The Department recommends the completion of surveys following the revised January 9, 2012, U.S.

Fish and Wildlife Service *Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls* and consultation with USFWS staff regarding potential impacts to this species.

Great gray owl

Great gray owl (*Strix nebulosi*, State Endangered) habitat is modeled within and near the Project site; therefore, a habitat assessment and surveys for this species should be conducted to determine presence within or near the Project site.

Gray Wolf

Since December 2011, at least two packs of gray wolves (*Canis lupus*) and three separate individual wolves have been detected in California. Key wolf use areas to date have included western Lassen and eastern Siskiyou counties, although wolves have also been known to utilize parts of Modoc, Plumas, Shasta, and Tehama counties. Wolves historically occupied diverse habitats in North America, including forests, grasslands, deserts and tundra. Their primary habitat requirements are the presence of adequate water and prey, mainly elk and deer. Wolves will also consume other mammals, birds and reptiles and scavenge carrion. Gray wolves were extirpated from California in the 1920s and little is known about the historical abundance and distribution of wolves in California. As human population and human development have increased dramatically since wolves last occurred here, the Department remains uncertain about where and how many wolves will establish as they continue to naturally recolonize the state. The gray wolf is listed as an endangered species pursuant to both the federal Endangered Species Act (Act) and the CESA.

No localized wolf activity is currently known from within or near the Project Area. If gray wolf activity is detected during Project wildlife surveys, or if, prior to or during construction activities, the current Department wolf activity map[1] identifies localized wolf activity within or adjacent to the Project Area, the Project proponent should consult with the Department. The Department will determine if Project activities pose any potential impacts to gray wolves, particularly with respect to potential modification or disruption of key pup rearing areas such as dens and rendezvous sites. Typical mitigation measures the Department might recommend to minimize any such impacts include limited operation periods, disturbance buffers, reduced speed and signage on haul roads, modification of haul routes to avoid key areas, and additional biological monitoring.

[1] https://www.wildlife.ca.gov/conservation/mammals/gray-wolf

State Listed and Fully Protected Avian Species

Bald eagle (*Haliaeetus leucocephalus,* State Endangered) and greater sandhill crane (*Grus canadensis tabida,* State Threatened) are both State listed pursuant to CESA and are Fully Protected under FGC section 3511. Both of these species are documented in close proximity or on the Project area. Because these species are Fully Protected, the Department is not authorized to issue permits for their incidental take as discussed below.

Fully Protected Species

The Department designates certain animals as Fully Protected in FGC sections 3511, 4700, 5050, and 5515. Fully Protected animals may not be taken or possessed at any time and the Department is not authorized to issue permits or licenses for their incidental take[2]. Fully Protected animals should be considered during the environmental review process and all Project-related should must be avoided and impacts be mitigated to a less than significant level.

Bald eagle, golden eagle (*Aquila chrysaetos*), greater sandhill crane, and American peregrine falcon (*Falco peregrinus anatum*) are all Fully Protected species pursuant to FGC. All of these species have the potential to be impacted by this Project. This list should not be considered comprehensive, as stated in the Department's July 2017 letter, additional research is necessary, including database queries, to determine the full list of species with potential to occur on the Project site.

Species of Special Concern

Species of Special Concern status applies to animals generally not listed under the federal Act or CESA, but which nonetheless are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. Species of Special Concern (SSC) should be considered during the environmental review process (see CEQA Guidelines, § 15380 and CEQA Guidelines Appendix G (IV)(a)). Section 15380 of the CEQA Guidelines clearly indicates that SSC should be included in an analysis of project impacts if they can be shown to meet the criteria of sensitivity outlined therein.

Sections 15063 and 15065 of the CEQA Guidelines, which address how an impact is identified as significant, are particularly relevant to SSC. Project-level impacts to listed (rare, threatened, or endangered) species are generally considered significant thus requiring lead agencies to prepare an EIR to fully analyze and evaluate the impacts. In assigning "impact significance" to populations of non-listed species, analysts usually consider factors such as population-level effects, proportion of the taxon's range affected by a project, regional effects, and impacts to habitat features.

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[2] Scientific research, take authorized under an approved NCCP, and certain recovery actions may be allowed under some circumstances; contact the Department for more information.

The Project has the potential to adversely impact many SSC, including the following: Western pond turtle (*Emys marmorata*), southern long-toed salamander (*Ambystoma macrodactylum sigillatum*), Pacific tailed frog (*Ascaphus truei*), Northern goshawk (*Accipiter gentiles*), California spotted owl (*Strix occidentalis occidentalis*), yellow warbler (*Setophaga petechia*), olive-sided flycatcher (*Contopus cooperi*), American badger (*Taxidea taxus*), Pacific fisher (*Pekania pennanti*), and California wolverine (*Gulo gulo*). Although the Project is outside of the current known range of California wolverine, it is within historic range; therefore, the Department requests immediate notification if California wolverine is observed incidentally on the Project site. This list should not be considered comprehensive, and as stated in the Department's July 2017 letter, additional research is necessary, including database queries, to determine the full list of species with potential to occur on the Project site. Additional surveys will be necessary to identify impacts to SSC species. For Northern goshawk, the Department recommends that surveys follow the protocol discussed below.

Additional Department Watch List species with potential to occur on or near the Project site, or with potential to be impacted by Project activities include: Cooper's hawk (*Accipiter cooperii*), sharp-shinned hawk (*Accipiter striatus*), and osprey (*Pandion haliaetus*).

Northern Goshawk Protocol Surveys

Many Northern goshawk (California SSC) occurrences are documented on and near the Project site. For this reason, the Department requests the completion of focused protocol-level Northern goshawk surveys. As recommended in the CEC/CDFG Guidelines, these surveys should follow existing survey protocols for special-status raptors. The Department recommends utilizing the USFWS 2006 protocol outlined in the *Northern Goshawk Inventory and Monitoring Technical Guide*, which can be found at: https://www.fs.fed.us/biology/wildecology/docs/GoshawkTechGuideJuly06.pdf. As with other recommended surveys, this survey should be added to the Work Plan, along with detailed information regarding how the survey will follow the protocol and information on survey timing and locations.

Avian Point Count Surveys

The Use Permit Application and Work Plan propose to conduct avian point count surveys to document small bird use of the Project area, and state that this survey is consistent with the CEC/CDFG Guidelines. Based on the CEC/CDFG Guidelines, "*small bird use counts are useful for assessing displacement effects and habitat losses to resident songbirds and other small birds*" and are intended to provide a density estimate of resident breeding songbirds. This survey is not intended to be utilized in lieu of or supersede Bird Use Counts (BUC), which should be conducted on all wind energy projects according to the CEC/CDFG Guidelines. The BUCs are intended provide baseline data on avian species richness and relative abundance and

to estimate the spatial and temporal use of the site by all birds, including large birds such as raptors, vultures, corvids, and waterfowl, as well as songbirds and other small species. BUCs should be conducted for 30 minutes once a week for at least one year, covering most daylight hours and different weather conditions. Small bird counts are intended for use in addition to the BUCs. The Department requests that a protocol for BUCs be developed and addressed in the Work Plan, which should, at a minimum, meet the requirements outlined in the CEC/CDFG Guidelines. The BUCs should be conducted in addition to the proposed small bird surveys, eagle surveys, and raptor nest searches.

The current survey proposal for small birds indicates that surveys will be conducted weekly at one quarter of the identified survey points targeting the spring and fall migration period, thus surveys at each point will occur once per month during the specified time frame. For small bird counts, the CEC/CDFG Guidelines recommends that surveys be conducted at two-week intervals, no earlier than a half-hour before and no later than four hours after sunrise. If turbine locations are known, the CEC/CDFG Guidelines recommend that small bird survey sites be established every 820 feet (250 meters) in a row between turbines. Additional survey sites may be necessary to estimate the density of special-status bird species occupying the site during the breeding season. Survey duration and frequency should be increased to meet the requirements of the CEC/CDFG Guidelines or a detailed justification should be provided if this would not occur.

The information gathered from BUCs and small bird surveys is intended to be used in the evaluation of potential impacts to avian species, to guide proper turbine siting, and refine the Project layout. This information will be an essential part of a thorough CEQA analysis that considers potentially significant impacts to resident and breeding bird habitat. The currently proposed survey effort will not adequately quantify bird use throughout the year.

Eagle/Large Bird Use Surveys

The eagle/large bird use surveys are proposed to follow the Eagle Conservation Plan Guidance (ECPG). The ECPG provides specific guidance "*to help make wind energy facilities compatible with eagle conservation and the laws and regulations that protect eagles*." The Department requests information (detailed above) as to how large bird use of the Project site will be documented in addition to the proposed surveys for eagles and raptor nests.

The Work Plan indicates that the proposed surveys are consistent with the CEC/CDFG Guidelines by conducting eagle/large bird use surveys on a weekly basis. The Work Plan also indicates that the proposed weekly surveys will be conducted "*at approximately one quarter of the points such that all points are surveyed once per month*." The CEC/CDFG Guidelines recommend conducting bird use counts (as

discussed above), which includes large birds, for 30 minutes once per week at all sampling locations for a minimum of one year.

Nocturnal Avian Surveys

The Department recommends the completion of nocturnal avian migration surveys for the Fountain Wind Project. The Work Plan states that a nocturnal avian migration survey will not be conducted at the Project site based on an analysis conducted by Tidhar et al. 2010[3], which concludes that, "*radar has been demonstrated to provide limited data relating to risk assessments,*" and based on the post-construction monitoring results from the Hatchet Ridge wind facility. The only reference the Department could find regarding Tidhar et al. 2010 was a poster presented at the National Wind Coordinating Collaborative Wildlife and Wind Research Meeting in 2010. The Department requests a copy of the peer-reviewed literature that resulted from this poster and additional information regarding locations of the studies analyzed.

A more recently published study indicates that nocturnal radar surveys, coupled with acoustic monitoring and night vision surveys, have proved to be useful tools for determining fatality risk at wind energy sites and for determining turbine placement (Johnston et al. 2013). Because Fountain Wind covers a much larger and varied topographic area than the Hatchet Ridge wind facility, the Department recommends using caution when making inferences from studies and reports produced for Hatchet Ridge. As the CEC/CDFG Guidelines recognize, "*slight topographical or habitat variations can make substantial differences in bird and bat site use and potential impacts*." Additionally, an evaluation of the nocturnal migration study conducted for the Hatchet Ridge wind facility found that thermal imaging technology, night vision, and/or acoustic monitoring would have provided better information on the types of birds detected along with information on flocking and flock size. In addition, the evaluation states that the radar surveys were "*conducted during a time of year prior to the main migration period of large, flocked waterbirds, and the data were collected entirely under typically good weather conditions*", instead of during the main migration periods or in poor visibility conditions in which large mortality events are most likely to occur. Waterbird fatalities were documented during low visibility conditions at the Hatchet Ridge wind facility during post-construction monitoring. The Department recommends utilizing multiple survey methods to conduct the nocturnal migration survey in order to document migratory pathways and minimize the risk of migratory bird collisions with turbines.

In addition to the nocturnal avian migration surveys, the Department recommends the completion of focused nocturnal owl surveys, specifically due to the potential presence of multiple special-status owl species within or near the Project site, as discussed

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[3] Tidhar, D., C. Nations, and D.P. Young. 2010. What Have We Learned from Pre-Construction Radar Studies? Poster Presented at the National Wind Coordinating Collaborative (NWCC) Wildlife and Wind Research Meeting VIII, October 19-21, 2010, Lakewood, Colorado.

above. Owl surveys should be designed to detect all species of owls potentially present within the Project site, not just the special-status owls discussed above.

Bat Monitoring

The Department recommends the placement of additional bat detectors in order to provide broader coverage of the Project area. Four detector locations in an approximately 38,000-acre (59 square mile) Project area is not adequate coverage to document bat use of the Project site. Based on site maps, the northern and southern portions of the Project area are not currently being surveyed for bat use. Migratory bat fatalities have been documented at the nearby Hatchet Ridge Wind Farm, including hoary bats (*Lasiurus cinereus*). Hoary bats comprise the largest percent of bat fatalities at wind energy facilities in North America (Arnett and Baerwald 2013), and recent research suggests that wind development may threaten the population viability of this species (Frick et al. 2017).

While standard guidance does include installing acoustic detectors on MET towers, (generally because they are the only structures tall enough to sample the airspace within the rotor swept area) it is not appropriate to limit the number of detector sites based on the limited number of MET towers. The USFWS WEG states (emphasis added): "*The number of detectors needed to achieve the desired level of precision will vary depending on the within-site variation (e.g., Arnett et al. 2006, Weller 2007, See also, Bat Conservation International website for up-to-date survey methodologies). One frequently used method is to place acoustic detectors on existing met towers*, approximately every two kilometers across the site where turbines are expected to be sited."

Kunz et al. (2007) provide a summary of available guidance:

> *"Ideally, acoustic monitoring should be conducted at the site of each proposed wind-energy facility, although practical limitations prevent coverage at all potential turbine sites. The Alberta Bat Action Team recommended a minimum number of preconstruction monitoring stations placed at each north, east, south, and west periphery of a proposed Project area, with one station in the center (Lausen et al. 2006); however, we suggest additional stations be placed in the vicinity of any variations in terrain, especially those that may potentially serve as a flyway (e.g., a forest gap). Alternatively, a systematic sample of the area of interest is recommended with a random starting point along the axis of the wind resource area. If a 3-dimensional sample survey using a vertical array of bat detectors is deployed (Fig. 13), a grid could be placed over the wind resource area with some systematic selection rule. For example, the minimum number of detectors for a site with five turbines would require deployment of 15 bat detectors. For larger Projects, more detectors would be needed."*

It will be necessary to install additional acoustic monitoring stations to adequately characterize bat activity at both above-canopy and ground level. More than two MET towers would allow installation of acoustic detectors within the appropriate height to detect bats that would fly through the rotor swept area. If additional MET tower installation is not possible, temporary towers could be installed. These temporary towers likely will not be able to achieve the ideal height for acoustic sampling, but will still provide useful data on bat species within the Project area. We recommend a minimum of one acoustic monitoring station per two kilometers on MET or temporary towers across the site as per WEG recommendations. Each station should have at least two detectors, one as close as possible to rotor height, and one near ground level (2-3 meters above ground level).

The CEC/CDFG Guidelines state: "*Monitoring for a full year is recommended because little is known about the timing of bat migratory activity in many parts of the state, and some bat species overwinter in California and can be active throughout the year.*" Additionally, the WEG recommends monitoring for a full year in areas where there is year round bat activity. Because the Project site and adjacent lands include habitat features conducive to bat activity, many of the species with potential to occupy the Project area have the potential to be active year round, and bat fatalities were documented in each season during post-construction monitoring at the Hatchet Ridge wind facility, the Department recommends the completion of bat surveys year round, instead of the proposed May 1 – November 15 timeframe.

The Work Plan does not address how potential impacts to low-intensity echo locators such as Townsend's big-eared bat (*Corynorhinus townsendii*) or pallid bat (*Antrozous pallidus*), both California SSC, will be evaluated and mitigated for. Acoustic monitoring in general, and especially at the effort level proposed, may not reliably detect these species. This is particularly important given that the proposed Project is in close proximity to habitat for Townsend's big-eared bats and pallid bats. These species occur in nearby Lassen National Forest, and may occur within the Project area, if suitable habitat exists.

The Bat Desktop Assessment should also include resources from the Western Bat Working Group (http://wbwg.org/).

In addition to a description of methods, results, and discussion of Project impacts, the Biological Survey Report to be prepared for this Project should include analyses of known or potential nearby bat roosting sites and how the proposed Project may impact bat species traveling through the Project area between sites, a cumulative impact analysis of mortality based on the proximity to the Hatchet Ridge wind facility and recent research regarding hoary bat populations, a detailed description of acoustic analysis, and the inclusion of acoustic call vouchers. The acoustic information gathered to date may not be adequate to determine Project impacts.

Wildlife Movement Study

The Use Permit Application recognizes that the Project may have an adverse impact on migratory wildlife corridors and proposes to conduct a Site Characterization Study. The Department requests the completion of a focused wildlife movement study to document movement corridors within the Project site, not just to document wildlife concentration areas as proposed.

Deer Habitat

The Project is located within deer fawning habitat as mapped by the Department. Impacts to deer should be identified in subsequent environmental documents for this Project, including impacts from fencing, construction, noise, lighting, etc.

Rare Plants and Sensitive Natural Communities

Rare plant surveys should be conducted following the Department's November 2009 *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (provided to the County on June 28, 2017, found at: https://www.wildlife.ca.gov/Conservation/Survey-Protocols#377281280-plants). These surveys should be conducted at the appropriate time of year and under the correct conditions to identify species with potential to occupy the Project area. Surveys should include all California Rare Plant Ranked plants and all plants listed as rare, threatened, or endangered.

California Rare Plant Ranked plants either meet the definitions of CESA and are eligible for state listing (Rank 1, 2 and 3 species) or may be significant locally (Rank 4 species). Impacts to species listed as California Rare Plant Rank 1, 2, and 3 or their habitat should be analyzed during preparation of environmental documents relating to CEQA, as they may meet the definition of Rare or Endangered under CEQA Guidelines section 15125 (c) and/or section 15380. Impacts to species listed as California Rare Plant Rank 4 should be analyzed when impacts will occur to populations at the periphery of a species' range, in areas where the taxon is uncommon or has sustained heavy losses, in areas where populations exhibit unusual morphology or occur on unusual substrates, or at the type locality for the population.

Surveys should also identify any natural communities with a State rank of S1-S3. Natural communities with ranks of S1-S3 are considered sensitive natural communities to be addressed in the environmental review process. State rank S1 indicates a critically imperiled community because of its extreme rarity in the state, S2 indicates as community that is imperiled in the state, and S3 indicates a community that is vulnerable to extirpation within the state. Please see https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities for more information.

Invasive Species

The Department recommends the completion of invasive plant species mapping in order to document locations of invasive species on site and avoid or minimize the potential spread of invasive species during Project construction. Invasive species control measures should be developed and include those found in California Invasive Plant Council guidance documents, including post-construction monitoring to ensure that invasive species are not spread or introduced during construction activities.

Proposed Survey Corridors

The Use Permit Application references the use of survey corridors, which constitute areas of temporary and permanent ground-disturbing activities. More information regarding the width of these corridors is necessary. The survey area for the Project must encompass all areas of direct impact and areas in which reasonably foreseeable indirect Project impacts will occur, including areas in which sensitive species habitat would be impacted by noise from construction or ongoing maintenance activities, noise and vibrations from blasting, fugitive dust, Project lighting, habitat fragmentation, and downstream impacts to waters of the state. The survey area should encompass an area large enough to obtain an understanding of wildlife usage and movement within the Project site in order to document potential direct, indirect and cumulative impacts to wildlife, and thus allow for proper siting of turbines. Without further information, the Department does not believe the areas mapped in Figure 17 will accomplish this goal. The Department requests additional information regarding the use of survey corridors, including the width of the corridors, location of corridors in relation to Project activities, and the surveys proposed to be conducted within these corridors.

Lake or Streambed Alteration Agreement

A Lake or Streambed Alteration Agreement (LSAA) will be required for Project activities that modify a streambed and/or bank, use material from a streambed or divert or obstruct streamflow. The Project proponent will need to notify the Department pursuant to FGC section 1602. At a minimum, a notification will be required for the work proposed in on site drainages, including the replacement of culverts and ongoing maintenance of culverts discussed in the Use Permit Application. In issuing a LSAA, the Department would be acting as a Responsible Agency under CEQA, as discussed above. As such, the Department would be required by CEQA Guidelines section 15096 to review the certified CEQA document and to make certain findings concerning the activity's potential to cause significant adverse environmental effects. It is therefore important that future environmental documents address all of the potential streambed alteration impacts and propose feasible mitigation, such as those set forth below.

a. Protection and maintenance of the riparian, wetland, stream or lake systems to ensure a "no-net-loss" of habitat value and acreage.

b. Provisions for the protection of fish and wildlife resources at risk that consider various life stages, maintain migration and dispersal corridors, and protect essential breeding (i.e. spawning, nesting) habitats.

c. Delineation of buffers along streams and wetlands to provide adequate protection of aquatic resources. No grading or construction activities should be allowed within these buffers.

d. Placement of construction materials, spoils, or fill, so that they cannot be washed into aquatic resources.

e. Prevention of downstream sedimentation and pollution. Provisions may include, but not be limited to, detention basins, buffering filter strips, silt barriers, etc.

Aquatic Resources

The Use Permit Application recognizes that the Project may have adverse effects on federally protected wetlands as defined by section 404 of the Clean Water Act "*through direct removal, filling, hydrological interruption, or other means*", and proposes to conduct a desktop assessment of waters on the Project site, including wetlands, "*in order to inform preliminary design of the Project as well as future field delineation of jurisdictional waters*." The U.S. Army Corps of Engineers as well as the National Wetlands Inventory (NWI) will be consulted to determine the potential for jurisdictional waters to occur on the Project site. The USFWS website cautions that the objective of the NWI maps are to produce reconnaissance level information and are based on aerial imagery, analysis of which includes an inherent margin of error. The Department recognizes the usefulness of such databases in pre-survey planning, but cautions in relying too heavily on these resources without conducting adequate on the ground assessments and surveys.

The Department maintains responsibility for wetland and riparian habitats. It is the policy of the Department to strongly discourage development in wetlands or conversion of wetlands to uplands. In 1993, Executive Order W-59-93 established a comprehensive wetlands policy for the State that sought no overall net loss and long-term net gain in the quantity, quality and performance of wetlands acreage and values. The Fish and Game Commission also has adopted a Wetlands Resources Policy, which recognizes the habitat values of wetlands and the damage to fish and wildlife resources from projects resulting in a net loss of wetland acreage or habitat values (Fish and Game Commission 2013a). The policy states[4]:

[4] Fish and Game Commission policy available at: http://www.fgc.ca.gov/policy/p4misc.aspx#WETLANDS

> *"It is the policy for the Fish and Game Commission to seek to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California. Further, it is the policy of the Fish and Game Commission to strongly discourage development in or conversion of wetlands. It opposes, consistent with its legal authority, any development or conversion, which would result in a reduction of wetland acreage or wetland habitat values. To that end, the Commission opposes wetland development proposals unless, at a minimum, project mitigation assures there will be "no net loss" of either wetland habitat values or acreage. The Commission strongly prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values."*

The Department recommends the applicant conduct a complete and thorough wetland delineation to identify wetlands or stream resources present on-site. The delineation report should include a jurisdictional delineation including wetlands identification pursuant to the USFWS wetland definition[5] as adopted by the Department[6], which utilizes hydric soils, saturation or inundation, and vegetative criteria, but requires the presence of only one of these criteria (rather than all three as required by the U.S. Army Corps of Engineers) in order to classify an area as a wetland. Many stream, wetland and riparian habitats subject to the Department's authority extend well beyond the jurisdictional limits of the U.S. Army Corps of Engineers, and must be included in the delineation. The jurisdictional delineation should also include mapping of ephemeral, intermittent, and perennial stream courses potentially impacted by the Project as well as a quantification of impacts to these resources. In addition to "federally protected wetlands" (see CEQA Appendix G), the Department considers impacts to any wetlands (as defined by the Department) as potentially significant. Site design should include provisions for protection of onsite wetlands, should they occur, including their watersheds.

Temporary Impacts and Revegetation

The Use Permit Application states that all temporarily impacted areas will be replanted/restored with "*non-aggressive resident species that are compatible with wind farm operations, replacing timber stock for future production where appropriate and with native, slow-growing shrubs and hardwoods elsewhere*." Changing the vegetation communities within the temporarily impacted areas on the Project site to habitats compatible with wind farm operations is not a temporary impact, nor is it restoration as discussed in the Use Permit, and should be analyzed as a permanent impact in future environmental documents for this Project. The Department recommends an analysis of the change in vegetation communities based on the proposed replanting scheme. The

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[5] Cowardin, Lewis M., et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service.
[6] California Fish and Game Commission Policies: Wetlands Resources Policy; Wetland Definition, Mitigation Strategies, and Habitat Value Assessment Strategy; Amended 1994.

Department supports the use of native species in revegetation efforts; however, the species should be representative of the native species currently occupying the Project site. A detailed revegetation plan should be developed for review.

Additionally, clearing for collector lines and subsequent vegetation management under these lines that will "*remain permanently disturbed with low vegetation and two-track access for maintenance*" should not be considered a temporary impact. The Use Permit Application concludes that the permanent impacts from this activity would be limited to individual pole locations. As stated above, the change in the vegetation community would require this impact to be considered and analyzed as a permanent impact.

Consultation with Local Stakeholders

The Department recommends consultation with local environmental groups and experts, including local Audubon chapters and staff from universities and colleges as discussed in the CEC/CDFG Guidelines. These consultations may provide critical information regarding wildlife usage near the Project site and aid in identifying potentially adverse impacts of the Project.

Tower Lighting

The Use Permit specifies that flashing red lights will be installed on turbines and meteorological towers to improve nighttime visibility for aviation. In order to minimize impacts to birds moving across the landscape at night, the Department recommends following USFWS WEG and Communication Tower Guidance (USFWS 2016) for tower lighting by utilizing the minimum number of lights required, at the minimum intensity, and the minimum number of flashes per minute (i.e., longest duration between flashes and "dark phase"), with all lights synchronized to flash simultaneously.

Overhead Electrical Lines

The Department is concerned with the risk of bird strike and electrocution posed by the proposed 16 miles of overhead collector lines. Additionally, the poles associated with these lines provide perch and nesting locations that may attract raptors into the Project area. To reduce the potential for avian collisions, and provide consistency with the CEC/CDFG Guidelines and WEG, the Department advises that overhead electrical collector lines be placed underground to the maximum extent possible. Project evaluation must include consideration of the wildlife- and habitat-related impacts of both above- and below-ground electrical lines.

Grading and Erosion Control

Section 2.3.1 – Grading, of the Use Permit Application discusses the preparation of a Temporary Erosion and Sediment Control Plant and the use of standard storm water BMPs to reduce the risk of erosion. Additional erosion control BMPs may be required in the LSAA issued for this Project. Erosion control methods must be monitored and maintained in good working order throughout the life of the Project.

All access roads, whether newly constructed or existing should be constructed, upgraded, and maintained consistent with the guidance presented in the *Handbook for Forest, Ranch, and Rural Roads* (http://www.pacificwatershed.com/roadshandbook.) This section also discusses the potential for blasting to loosen rock prior to excavation. The proposed Blasting Plan should include measures to protect special-status species and sensitive natural communities.

Hazardous Materials

The Use Permit Application states that refueling and hazardous materials storage will not take place within 100 feet of a drainage channel or structure. Depending on site-specific conditions and topography, this distance may need to be increased. In addition to drainages, all hazardous materials must be kept away from any special-status species habitat and/or sensitive natural communities found on the Project site. Appropriate buffers should be developed through additional consultation with resource agencies. The Use Permit Application also states that BMPs will be implemented to ensure "impacts are minor". Any potential impacts to special-status species, sensitive natural communities, or onsite drainages from hazardous materials must be mitigated to a level of less than significant.

Review of Biological Studies

The Department requests that biological studies conducted for the Fountain Wind Project be sent to the Department for review prior to the release of the draft EIR for this Project.

Environmental Data

CEQA requires that information developed in EIRs and negative declarations be incorporated into a database that may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code § 21003, subd. (e)). Accordingly, any special status species and sensitive natural communities detected during Project surveys must be reported to the California Natural Diversity Database (CNDDB). The online submission and PDF CNNDB field survey forms, as well as information on which species are tracked by the CNDDB, can be found under their corresponding tabs at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data.

Additionally, the Department requests that field survey forms be submitted to the Northern Region office at: Attn: CEQA, 601 Locust Street, Redding, CA, 96001.

Bat acoustic data should also be submitted to the Bat Acoustic Monitoring Portal (BatAMP). Information on BatAMP and submitting data can be found here: https://batamp.databasin.org/.

The Department appreciates the opportunity to provide comments early in the environmental review process and looks forward to providing further comments and guidance as data collection and the review process proceeds. If you have any questions, please contact Kristin Hubbard, Environmental Scientist, at (530) 225-2138, or by e-mail at Kristin.Hubbard@wildlife.ca.gov.

Sincerely,

for

Curt Babcock
Habitat Conservation Program Manager

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ec: Bill Walker, Kim Hunter
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Dannas J. Berchtold
Central Valley Regional Water Quality Control Board
Dannas.Berchtold@waterboards.ca.gov

Kristin Hubbard, Michael R. Harris
California Department of Fish and Wildlife
Kristin.Hubbard@wildlife.ca.gov; Michael.R.Harris@wildlife.ca.gov

From:	Hubbard, Kristin@Wildlife
To:	Bill Walker
Cc:	Battistone, Carie@Wildlife; Burkett, Esther@Wildlife
Subject:	Fountain Wind Helicopter Survey Permit Requirements
Date:	Wednesday, March 07, 2018 11:39:25 AM

Hi Bill,

I just recently received guidance from our Statewide Raptor Coordinator, Carie Battistone, that a Memorandum of Understanding (MOU) with the Department is required for aerial raptor surveys such as those being conducted for the Fountain Wind Project. The reason behind this is that helicopter surveys are not a passive monitoring tool, and if not performed correctly, can result in nest failure or take of eggs, nestlings, or adults of State Listed and/or Fully Protected raptors, which are protected under State law. More information can be found here: http://www.dfg.ca.gov/wildlife/nongame/research_permit/mou.html. As stated on our website, the MOU process for Fully Protected species requires a minimum of 6 weeks processing time.

Please forward this email to the Fountain Wind Project applicant to advise them to contact Carie Battistone at Carie.Battistone@wildlife.ca.gov, or Esther Burkett in her absence at: Esther.Burkett@wildlife.ca.gov, in order to apply for an MOU.

Thank you,
Kristin

Kristin Hubbard
Environmental Scientist
California Department of Fish and Wildlife
2440 Athens Avenue
Redding, CA 96001
(530) 225-2138

From: Gonzalez, Marcelino@DOT <marcelino.gonzalez@dot.ca.gov>
Sent: Wednesday, January 31, 2018 10:57 AM
To: Bill Walker
Cc: Grah, Kathy M@DOT; Pascal, Anthony C@DOT; Stinger Jr, Rob F@DOT; Veatch, Steve C@DOT
Subject: FW: Sha-299-68.1 Wind Turbines

Bill,

Regarding the new Pacific Wind Development (UP 16-007) turbine project. Our main comment is that the project description include that coordination will occur with Caltrans and CHP regarding the transport of turbine equipment and materials due to the potential oversize and weight of the materials to prevent damage to the highways and surrounding infrastructure while minimizing the impact on the travelling public.

Thanks for the opportunity to review. If you prefer a letter response, let me know.

Marcelino "Marci " Gonzalez
Local Development Review
& Regional Transportation Planner
(530)225-3369

-----Original Message-----
From: Barnes, Stacey@DOT
Sent: Friday, January 12, 2018 1:30 PM
To: Gonzalez, Marcelino@DOT <marcelino.gonzalez@dot.ca.gov>; Pascal, Anthony C@DOT <anthony.pascal@dot.ca.gov>; Veatch, Steve C@DOT <steve.veatch@dot.ca.gov>
Cc: Anderson, Don L@DOT <don.anderson@dot.ca.gov>; Grah, Kathy M@DOT <kathy.grah@dot.ca.gov>; Balkow, Thomas C@DOT <thomas.balkow@dot.ca.gov>; Moore, David E@DOT <dave.moore@dot.ca.gov>; Akana, Eric E@DOT <eric.akana@dot.ca.gov>; Orr, Eric D@DOT <eric.orr@dot.ca.gov>; Casas, Aaron D@DOT <Aaron.Casas@dot.ca.gov>; Rich, Tamara J@DOT <tamara.j.rich@dot.ca.gov>; Maxwell, John G@DOT <john.maxwell@dot.ca.gov>; Stinger Jr, Rob F@DOT <rob.stinger@dot.ca.gov>; Anderson, Don L@DOT <don.anderson@dot.ca.gov>
Subject: RE: Sha-299-68.1 Wind Turbines LESSONS LEARNED due Feb 2

I recall a large meeting, and you may have been there, with a representative from the Hatchet wind farm, CHP, Jan Meyers from TMC, Ed Lamkin, and others possibly. It was quite an orchestration effort, and I think the work put into establishing the route and logistics went a long way to preventing any permanent damage to the highway route. According to Clint Burkenpas, who was the TMC manager at the time, Jan thoroughly went over the route with the representative and drove it ahead of time, identifying all the possible obstacles, and even went so far as to change out signs to make them temporarily removable to easily accommodate the large transport vehicles. It may also help to take before and after pictures of concern areas? It's a little tough to pin mitigation on them when there is no encroachment permit involved, unless we plan to make them expand the road connection. Rob may have been part of that meeting, maybe he can add his two cents. I don't think Transportation Permits was too involved other than issuing them a permit for transport.

Stacey Barnes, PE
Project Manager Plumas Co.
Caltrans District 2
(530) 225-3439

-----Original Message-----
From: Gonzalez, Marcelino@DOT
Sent: Friday, January 12, 2018 10:28 AM

To: Barnes, Stacey@DOT <stacey.barnes@dot.ca.gov>; Pascal, Anthony C@DOT <anthony.pascal@dot.ca.gov>; Veatch, Steve C@DOT <steve.veatch@dot.ca.gov>
Cc: Anderson, Don L@DOT <don.anderson@dot.ca.gov>; Grah, Kathy M@DOT <kathy.grah@dot.ca.gov>; Balkow, Thomas C@DOT <thomas.balkow@dot.ca.gov>; Moore, David E@DOT <dave.moore@dot.ca.gov>; Akana, Eric E@DOT <eric.akana@dot.ca.gov>; Orr, Eric D@DOT <eric.orr@dot.ca.gov>; Casas, Aaron D@DOT <Aaron.Casas@dot.ca.gov>; Rich, Tamara J@DOT <tamara.j.rich@dot.ca.gov>; Maxwell, John G@DOT <john.maxwell@dot.ca.gov>
Subject: Sha-299-68.1 Wind Turbines LESSONS LEARNED due Feb 2

Stacey and all,

Do we have any 'Lessons Learned' from the Hatchet Wind project? Extreme Heavy loads, CHP escorts. Will these things damage highway pavement in transport? Is that mitigatable?

Anything that we want the County to consider in their environmental review to allow a NEW wind turbine project with even larger turbines and a lot more of them, if it gets approved?

Comments, concerns, suggestion. Response by Feb 2.

http://www.redding.com/story/news/2017/12/28/portland-firm-wants-build-100-turbine-wind-project-california/975861001/

Portland firm wants to build 100-turbine wind project near Burney

A Portland, Oregon, firm has filed an application to build up to 100 wind turbines - more than twice as many as Hatchet Ridge - in eastern Shasta County.

The turbines would be located north and south of Highway 299 and west of the Hatchet Ridge wind energy project completed in 2010.

The turbines proposed by Pacific Wind Development could also dwarf the 418-foot-tall turbines on Hatchet Ridge, where there are 44 turbines.

While turbine heights haven't been decided, the firm's application says they could be up to 591 feet tall, nearly as high as the 602-foot Shasta Dam.

William Carlson said he can see the Hatchett Ridge turbines from his home north of Redding. Having another set of turbines built closer to where he lives would be worse.

"I think the closer it gets to Redding, the more objectionable it is," Carlson said.

The massive project would be built on 37,436 acres leased from Oxbow Timber I LLC. When operating at capacity, the turbines could produce up to 347 megawatts of electricity, enough to power about 260,000 homes, according to a formula from the Lawrence Livermore Labs.

At buildout, the Fountain Wind Project would have about 12 full-time employees, according to a report submitted with an application to the Shasta County Planning Department.

Pacific Wind Development set up monitoring towers several years ago to test whether the area east of Montgomery Creek was suitable for further wind development.

Scott Kringen, the project developer, said the company is in the early stages of development and will need to go through approval through several local, state and federal agencies.

Shasta County planning officials said the project will likely have to go through a thorough environmental analysis.

"Again, it's very early, and we have lots of work to do, but we think we have a great wind farm site here that can create jobs and deliver a new source of clean energy for Californians," Kringen said.

But Carlson said he didn't believe the benefit of clean energy was worth the cost of ruining the view in a county heavily dependent on tourists who visit the area to enjoy the outdoors.

"For the environmental benefits you get, it's too steep of a price to pay for the (loss of) aesthetics," he said.

The application report says views of the turbines are expected because of their height and exposed locations.

"In addition to the size, form and color of the turbines, another source of visual contrast from the operation of the project would be the introduction of motion into a static landscape," the report says.

Carolyn Adams of Burney said she initially opposed the Hatchet Ridge wind turbines, which can be seen from her home. But over the years she has grown used to seeing the turbine blades turning on the hilltop west of Burney.

Jim Wiegand of Redding said he thinks the wind turbines will be bad for birds because they will be killed by the turbine blades.

OPINION: It's not too late to help slow climate change

"I'm real sad to hear this," Wiegand said after hearing the news about the proposed wind development. "These turbines slaughter everything. It's really sad."

Kringen said the company will work to minimize impacts on birds.

"Wind farms can have an impact on birds, which is why we collaboratively work with stakeholders, scientists and reputable avian organizations to minimize those impacts and find a sustainable path forward," he said.

California Water Boards

Edmund G. Brown Jr.
Governor

Matthew Rodriquez
Secretary for
Environmental Protection

Central Valley Regional Water Quality Control Board

5 February 2018

Bill Walker, Senior Planner
Shasta County Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

REQUEST FOR COMMENTS FOR USE PERMIT 16-007 (FOUNTAIN WIND PROJECT), SHASTA COUNTY

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) is a responsible agency for this project, as defined by the California Environmental Quality Act (CEQA). On 12 January 2018, we received your request for comments on Use Permit 16-007 (Fountain Wind Project).

The applicant is proposing to construct and operate the Fountain Wind Project (Project) which would consist of up to 100 wind turbines and associated infrastructures, with a generating capacity of up to approximately 347 megawatts. The proposed Project will be on 94 Assessor parcels covering about 38,000 acres. In addition to the wind turbines including associated transformers, the Project includes ancillary facilities such as lay-down areas, access roads, underground and overhead collector lines, an operation and maintenance building, and substation components.

Based on our review of the information submitted for the proposed project, we have the following comments:

General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (CGP)
Construction activity, including demolition, resulting in a land disturbance of one acre or more must obtain coverage under the CGP. Use Permit 16-007 (Fountain Wind Project) must be conditioned to implement storm water pollution controls during construction and post-construction as required by the CGP. To apply for coverage under the CGP the property owner must submit Permit Registration Documents electronically prior to construction. Detailed information on the CGP can be found on the State Water Board website: http://www.waterboards.ca.gov/centralvalley/water_issues/storm_water/construction_general_permits

Clean Water Act (CWA) Section 401, Water Quality Certification
The Central Valley Water Board has regulatory authority over wetlands and waterways under the Federal Clean Water Act (CWA) and the California Water Code, Division 7 (CWC). Discharge of dredged or fill material to waters of the United States requires a CWA Section 401 Water Quality Certification from the Central Valley Water Board. Typical activities include any modifications to these waters, such as stream crossings, stream bank modifications, filling of wetlands, etc. 401 Certifications are issued in combination with CWA Section 404 Permits issued by the Army Corps of Engineers. The proposed project must be evaluated for the presence of jurisdictional waters, including wetlands and other waters of the State. Steps must

be taken to first avoid and minimize impacts to these waters, and then mitigate for unavoidable impacts. Both the Section 404 Permit and Section 401 Water Quality Certification must be obtained prior to site disturbance. Any person discharging dredge or fill materials to waters of the State must file a report of waste discharge pursuant to Sections 13376 and 13260 of the California Water Code. Both the requirements to submit a report of waste discharge and apply for a Water Quality Certification may be met using the same application form, found at: http://www.waterboards.ca.gov/centralvalley/water_issues/water_quality_certification/wqc_application.pdf

General Order of Waste Discharge Requirements for Timberland Management Activities on Non-Federal and Federal Lands (Order No. R5-2017-0061)

The Fountain Wind Project proposes to convert 972 acres of private timberlands to non-timberland use in the area where there is to be permanent Project disturbance. As stated in the proposal, this conversion will require a Timberland Conversion Permit through the California Department of Forestry & Fire Protection. Additionally, activities described within the project proposal suggest that timber harvest may occur within temporary disturbance areas. Pursuant to the California Water Code, any person that discharges waste or threatens to discharge waste from timber harvesting activities that could affect the quality of the waters of the state must apply for coverage under the General Order of Waste Discharge Requirements for Timberland Management on Non-Federal and Federal Lands (Order No. R5-2017-0061)). If your timber harvesting activities pose a threat to water quality, you must apply for coverage under the General Order prior to the start of timber operations, or file for Waste Discharge Requirements at least 90 days prior to the start of operations. Failure to do so can result in civil liabilities of up to $5000 for each day the violation occurs (see California Water Code Section 13261).

All new projects submitted for permit enrollment, on or after 9 June 2017, should request enrollment under the appropriate General Order category. Forms and associated documents for General Order enrollment are available at the following web address: https://www.waterboards.ca.gov/centralvalley/water_issues/forest_activities/

Enrollment in the Waiver may require you to conduct monitoring of the project area and submit a report each year after operations begin and until the Central Valley Water Board has accepted a Notice of Termination.

If you have any questions or comments regarding this matter please contact me at (530) 224-4783 or by email at Dannas.Berchtold@waterboards.ca.gov.

Dannas J. Berchtold
Engineering Associate
Storm Water & Water Quality Certification Unit

DJB: db

cc w/o enclosures: Mr. Matt Kelley, U.S. Army Corps of Engineers, Redding
Ms. Donna Cobb, Department of Fish and Wildlife, Region 1, Redding

SHASTA COUNTY DEPARTMENT OF RESOURCE MANAGEMENT
PLANNING DIVISION
1855 Placer Street, Suite 103, Redding, CA 96001
Date Sent: January 10, 2018

TO INTERESTED/AFFECTED AGENCIES:
Shasta County, acting as the lead agency under the California Environmental Quality Act (CEQA), has determined that an Initial Study will be required for the project described below. This is a request for informal consultation with you or your agency, as required by CEQA Guidelines Section 15063 (g), prior to the preparation of the Initial Study. Please review and comment on the project, and return this form (with comments attached if more space is needed) prior to: **February 9, 2018.**

PROJECT DATA

PROJECT: Use Permit 16-007 (Fountain Wind project)

APPLICANT: Pacific Wind Development, LLC, 1125 Couch Street, Suite 700, Portland, OR 97209

PROJECT DESCRIPTION: The applicant proposes to construct and operate the Fountain Wind Project (Project) which would consist of up to 100 wind turbines and associated infrastructures, with a generating capacity of up to approximately 347 megawatts. The proposed Project would be on 94 Assessor parcels covering about 38,000 acres. In addition to the wind turbines including associated transformers, the Project includes ancillary facilities such as lay-down areas, access roads, underground and overhead collector lines, an operation and maintenance building, and substation components. For more project information please refer to the project narrative and figures on the Planning Division website:

https://www.co.shasta.ca.us/index/drm_index/planning_index/eirs/fountain-wind-project/Project-Description

LOCATION: The project site is located on the west side of the Cascade Range in Shasta County on portions of about 38,000 acres owned by Oxbow Timber I, LLC, located both north and south of State Highway 299 East, to the east of the communities of Montgomery Creek and Round Mountain, and west of Hatchet Mountain Pass. The project site is about 6 miles west of the community of Burney, and about 35 miles east of the City of Redding. For more precise location information, please refer to the project narrative and figures on our website above. Also see Vicinity Map on following page.

AGENCY RESPONSE

☐ No Comment: Note: Your agency's approval will be assumed if no response is received by the above date.

☒ We have reviewed the subject proposal and offer the following comment(s):

Signed: Chuck Wadowski - FRONTIER FACILITIES EXIST ALONG HWY 299.

For (Agency): CHUCK WADOWSKI - FRONTIER COMMUNICATIONS

Any questions may be directed to Bill Walker, Senior Planner at (530) 225-5532, or bwalker@co.shasta.ca.us

Sincerely,

W. M. Walker

Bill Walker, AICP, Senior Planner
Planning Division
Department of Resource Management

From: Brandy McDaniels <bmcdaniels@pitrivertribe.org>
Sent: Saturday, February 10, 2018 11:11 PM
To: Bill Walker
Cc: mickydb@hotmail.com; Mickey Gemmill; Charles White; Yatch Bamford; Buzz Ward
Subject: Use Permit 16-007 (Fountain Wind project) Pacific Wind Development, LLC

Bill Walker, AICP, Senior Planner,
While your maps are of poor quality and resolution on your project description web page, it is clear that the Fountain Wind project is entirely within the Ancestral territories of the Pit River Tribe. Specifically the Ancestral boundaries of the Madesi, Itsatawi, and Atsugewi Bands of the Pit River Tribe. Therefore I am requesting the following information regarding this project so that adverse impacts to historical, traditional religious, and cultural properties can be evaluated:

- Draft Cultural Resource report
- Ground water recharge analysis
- Viewshed analysis and potential impacts to visual resources report
- Biological surveys
- Site Characterization studies, which include but are not limited to animals, plants, and habitat.
- Request that a sensitive species survey be conducted, if it has not already been completed.
- Bat desktop assessment
- Economic impact

Regards,
Brandy McDaniels, Madesi Band Cultural Representative for the Pit River Tribe
530-515-6933

John Waldrop
AQ

SHASTA COUNTY DEPARTMENT OF RESOURCE MANAGEMENT
PLANNING DIVISION
1855 Placer Street, Suite 103, Redding, CA 96001
Date Sent: January 10, 2018

TO INTERESTED/AFFECTED AGENCIES:
Shasta County, acting as the lead agency under the California Environmental Quality Act (CEQA), has determined that an Initial Study will be required for the project described below. This is a request for informal consultation with you or your agency, as required by CEQA Guidelines Section 15063 (g), prior to the preparation of the Initial Study. Please review and comment on the project, and return this form (with comments attached if more space is needed) prior to: **February 9, 2018.**

PROJECT DATA

PROJECT: Use Permit 16-007 (Fountain Wind project)

APPLICANT: Pacific Wind Development, LLC, 1125 Couch Street, Suite 700, Portland, OR 97209

PROJECT DESCRIPTION: The applicant proposes to construct and operate the Fountain Wind Project (Project) which would consist of up to 100 wind turbines and associated infrastructures, with a generating capacity of up to approximately 347 megawatts. The proposed Project would be on 94 Assessor parcels covering about 38,000 acres. In addition to the wind turbines including associated transformers, the Project includes ancillary facilities such as lay-down areas, access roads, underground and overhead collector lines, an operation and maintenance building, and substation components. For more project information please refer to the project narrative and figures on the Planning Division website:

https://www.co.shasta.ca.us/index/drm_index/planning_index/eirs/fountain-wind-project/Project-Description

LOCATION: The project site is located on the west side of the Cascade Range in Shasta County on portions of about 38,000 acres owned by Oxbow Timber I, LLC, located both north and south of State Highway 299 East, to the east of the communities of Montgomery Creek and Round Mountain, and west of Hatchet Mountain Pass. The project site is about 6 miles west of the community of Burney, and about 35 miles east of the City of Redding. For more precise location information, please refer to the project narrative and figures on our website above. Also see Vicinity Map on following page.

AGENCY RESPONSE

☐ No Comment: Note: Your agency's approval will be assumed if no response is received by the above date.

☒ We have reviewed the subject proposal and offer the following comment(s):

Signed: John G. Waldrop

For (Agency): Shasta County AQMD

Any questions may be directed to Bill Walker, Senior Planner at (530) 225-5532, or bwalker@co.shasta.ca.us

Sincerely,

W. M. Walker

Bill Walker, AICP, Senior Planner
Planning Division
Department of Resource Management

Shasta County AQMD Comments Regarding Fountain Wind Project 16-007

The informal comments below are provided to the Shasta County Planning Division in relation to the Fountain Wind Project.

Construction phase emissions-
Associated with heavy-duty equipment, fugitive dust, and emissions from construction vehicles traveling to and from each component site, grubbing/land clearing and grading/excavation.

Assess for and apply Standard Mitigation Measures- Potential mitigation measures are listed below.

Particulate Matter- PM10

-Alternatives to open burning of vegetative material on the project site will be used by the project applicant unless otherwise deemed infeasible by the AQMD. Examples of suitable alternatives are chipping, mulching, and conversion to biomass fuel.
-The applicant will be responsible for ensuring that all adequate dust control measures are implemented in a timely and effective manner during all phases of project development and construction.
-All material excavated, stockpiled, or graded should be sufficiently watered to prevent fugitive dust from leaving property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering should occur at least twice daily with complete site coverage, preferably in the mid-morning and after work is completed each day.
-All areas (including unpaved roads) with vehicle traffic should be watered periodically or have dust palliatives applied for stabilization of dust emissions.
-All onsite vehicles should be limited to a speed of 15 miles per hour on unpaved roads.
-All land clearing, grading, earth moving, and excavation activities on a project will be suspended when winds are expected to exceed 20 miles per hour.

-All inactive portions of the development site should be seeded and watered until suitable grass cover is established.
-The applicant will be responsible for applying (according to manufacturer's specifications) nontoxic soil stabilizers to all inactive construction areas (previously graded areas that remain inactive for 96 hours) in accordance with the Shasta County Grading Ordinance.
-All trucks hauling dirt, sand, soil, or other loose material should be covered or should maintain at least 2 feet of freeboard (i.e., minimum vertical distance between top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114. This provision will be enforced by local law enforcement agencies.
-All material transported off site will be either sufficiently watered or securely

covered to prevent a public nuisance.
-During initial grading, earth moving, or site preparation, the project will be required to construct a paved (or dust palliative–treated) apron, at least 100 feet in length, onto the project site from the adjacent paved road(s).
-Paved streets adjacent to the development site should be swept or washed at the end of each day to remove excessive accumulations of silt and/or mud that may have accumulated as a result of activities on the development site.
-Adjacent paved streets will be swept at the end of each day if substantial volumes of soil materials have been carried onto adjacent public paved roads from the project site.
-Wheel washers will be installed where project vehicles and/or equipment enter and/or exit onto paved streets from unpaved roads. Vehicles and/or equipment will be washed prior to each trip.
- Prior to final occupancy, the applicant will reestablish ground cover on the construction site through seeding and watering in accordance with the Shasta County Grading Ordinance.

PM 2.5, NOx, ROG

-Limit the area subject to excavation, grading, and other construction activity at any given time.
-Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.
-Replace fossil-fueled equipment with electrically driven equivalents (provided they are not run by a portable generator set).
-Require that all diesel engines be shut off when not in use to reduce emissions from idling.
-During the smog season (May through October), lengthen the construction period to minimize the number of vehicles and equipment operating at the same time.
-Off-road trucks should be equipped with on-road engines when possible.
-Minimize obstruction of traffic on adjacent roadways.
-Power construction equipment with diesel engines fueled by alternative diesel fuel blends or ultra low sulfur diesel (ULSD). Only fuels that have been certified by ARB should be used. ARB has verified specific alternative diesel fuel blends for NOX and PM emission reduction. The applicant should also use ARB-certified alternative fueled (compressed natural gas [CNG], liquid propane gas [LPG], electric motors, or other ARB certified off-road technologies] engines in construction equipment where practicable.
-Use construction equipment that meets the current off-road engine emission standard (as certified by ARB) or that is re-powered with an engine that meets this standard.

Operational phase emissions- Identify any type of equipment that may require a District permit such as backup generators.

January 16, 2018- JW

SHASTA COUNTY DEPARTMENT OF RESOURCE MANAGEMENT
PLANNING DIVISION
1855 Placer Street, Suite 103, Redding, CA 96001
Date Sent: January 10, 2018

TO INTERESTED/AFFECTED AGENCIES:
Shasta County, acting as the lead agency under the California Environmental Quality Act (CEQA), has determined that an Initial Study will be required for the project described below. This is a request for informal consultation with you or your agency, as required by CEQA Guidelines Section 15063 (g), prior to the preparation of the Initial Study. Please review and comment on the project, and return this form (with comments attached if more space is needed) prior to: **February 9, 2018.**

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APPLICANT: Pacific Wind Development, LLC, 1125 Couch Street, Suite 700, Portland, OR 97209

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https://www.co.shasta.ca.us/index/drm_index/planning_index/eirs/fountain-wind-project/Project-Description

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AGENCY RESPONSE

☒ No Comment: Note: Your agency's approval will be assumed if no response is received by the above date.
☐ We have reviewed the subject proposal and offer the following comment(s):

Signed: EAZ

For (Agency): Shasta County Assessor/Recorder

Any questions may be directed to Bill Walker, Senior Planner at (530) 225-5532, or bwalker@co.shasta.ca.us

Sincerely,

W. M. Walker

Bill Walker, AICP, Senior Planner
Planning Division
Department of Resource Management

From: James Zanotelli <Jimmy.Zanotelli@fire.ca.gov>
Sent: Thursday, February 01, 2018 9:40 AM
To: Bill Walker
Subject: Fountain Wind Project

Bill,

I looked over the info on the county website. I have a few comments. I did not see the info below listed in the report. I'm not sure if this is the point to make these request, or wait to add the comments to the official conditions for the project.

1. There isn't any mention in their fire protection plan of fire hydrants, fire systems or fire water on-site for firefighting purposes.
2. The O&M building for the Hatchet project had fire sprinklers, I would assume the O&M building for this project would require the same.
3. SCFD would like 5000 gallon water tanks placed in strategic locations throughout the wind farm for firefighting.

Jimmy Zanotelli
Fire Marshal
Shasta County Fire Department
530-225-2425
jimmy.zanotelli@fire.ca.gov

SHASTA COUNTY

Office of the Sheriff

Tom Bosenko
SHERIFF - CORONER

FAX COVER SHEET

DATE: 02/08/18

TO: BILL WALKER

SHASTA COUNTY DEPT. OF RESOURCE MANAGEMENT

FROM: LT. TYLER THOMPSON

TOTAL # OF PAGES (including transmittal sheet): 3

If not received correctly, please call: 245-6977

MESSAGE:

SHASTA COUNTY DEPARTMENT OF RESOURCE MANAGEMENT
PLANNING DIVISION
1855 Placer Street, Suite 103, Redding, CA 96001
Date Sent: January 10, 2018

TO INTERESTED/AFFECTED AGENCIES:
Shasta County, acting as the lead agency under the California Environmental Quality Act (CEQA), has determined that an Initial Study will be required for the project described below. This is a request for informal consultation with you or your agency, as required by CEQA Guidelines Section 15063 (g), prior to the preparation of the Initial Study. Please review and comment on the project, and return this form (with comments attached if more space is needed) prior to: **February 9, 2018.**

****

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****

AGENCY RESPONSE

☐ No Comment: Note: Your agency's approval will be assumed if no response is received by the above date.

☒ We have reviewed the subject proposal and offer the following comment(s): SEE ATTACHED

Signed: _____

For (Agency): SHASTA COUNTY SHERIFF'S OFFICE

****

Any questions may be directed to Bill Walker, Senior Planner at (530) 225-5532, or bwalker@co.shasta.ca.us

Sincerely,

W. M. Walker

Bill Walker, AICP, Senior Planner
Planning Division
Department of Resource Management

SHASTA COUNTY

Office of the Sheriff

Tom Bosenko
SHERIFF - CORONER

Bill Walker, Senior Planner
Planning Division
Department of Resource Management

02/07/18

RE: Use Permit 16-007

DIRECT IMPACT FOR PUBLIC SAFETY/LAW ENFORCEMENT SERVICE:

The Shasta County Sheriff's Office is the primary law enforcement agency for the 94 Assessor parcels covering approximately 38,000 acres located on the west side of the Cascade Range, about six miles west of the town of Burney in Shasta County. This is the proposed sight of the Fountain Wind Project which would consist of up to 100 wind turbines and associated infrastructures.

The Shasta County Sheriff's Office would like further analysis to identify the impact the Fountain Wind Project will have on public safety and the law enforcement services supplied by the Shasta County Sheriff's Office.

Tyler Thompson, Lieutenant
Burney Patrol Station
(530) 245-6158

SHASTA COUNTY DEPARTMENT OF RESOURCE MANAGEMENT
PLANNING DIVISION
1855 Placer Street, Suite 103, Redding, CA 96001
Date Sent: January 10, 2018

TO INTERESTED/AFFECTED AGENCIES:
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* *

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* *

AGENCY RESPONSE

☒ No Comment: Note: Your agency's approval will be assumed if no response is received by the above date.

☐ We have reviewed ~~the subject proposal and offer~~ the following comment(s):

Signed: _____

For (Agency): Shasta Mosquito and Vector Control District

* *

Any questions may be directed to Bill Walker, Senior Planner at (530) 225-5532, or bwalker@co.shasta.ca.us

Sincerely,

W. M. Walker

Bill Walker, AICP, Senior Planner
Planning Division
Department of Resource Management

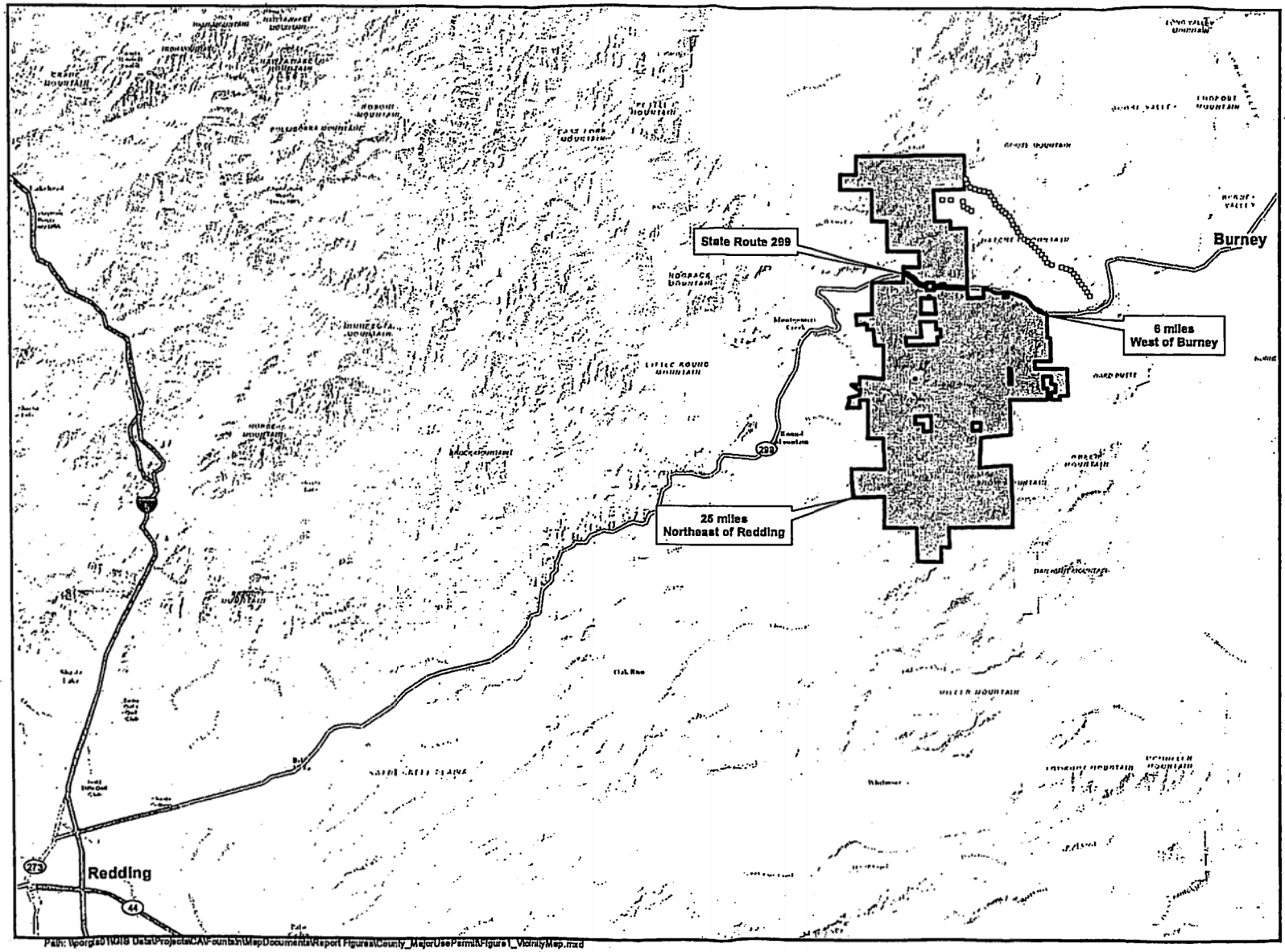

Figure 1
Vicinity Map

Fountain Wind Project

Legend

- Existing Hatchet Ridge Wind Farm Turbine
- Project Boundary

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AVANGRID RENEWABLES

Path: \\porgis01\GIS Data\Projects\CA\Fountain\MapDocuments\Report Figures\County_MajorUsePermit\Figure1_VicinityMap.mxd

Modified Date: 10/18/2017

Wintu Audubon Society

Birding in Northern California

PO Box 994533
Redding, CA 96099-4533
wintuaudubon.org

February 14, 2018

Bill Walker, Senior Planner
Shasta County Department of Resource Management
1855 Placer St., Suite 103
Redding, CA 96001

Subject: Use Permit Application 16-007 (Fountain Wind), Informal Consultation per CCR 15063(g)

Dear Mr. Walker:

Wintu Audubon welcomes the opportunity to respond to your request for comments pursuant to CCR 15063(g). Wintu Audubon has approximately 450 members in Shasta County. Wintu Audubon is prepared and pleased to offer its services as a local conservation organization with special knowledge of wildlife potentially impacted by the project. We are concerned about the bird, bat and other wildlife impacts that may result from this major wind development project, and wish to be certain that appropriate studies and surveys are conducted in advance of the preparation of California Environmental Quality Act (CEQA) documents, so that appropriate measures to minimize impacts (including but not limited to turbine and road siting and layout redesign) and appropriate mitigation for impacts which cannot be adequately reduced are fully examined and disclosed during the CEQA process rather than after it.

Due to the potential for mortality to or displacement of special status bird and bat species, that inhabit or migrate through this area (eg. greater Sandhill crane, bald eagle, willow flycatcher, yellow warbler, great grey owl), and potential for fragmentation of their habitats, Wintu Audubon believes an Environmental Impact Report (EIR) must be required for this project. We caution that the results of mortality surveys at the nearby Hatchet Ridge site, although a part of the information sources that are available, must not be used as predominant evidence that bird mortalities will be similar at the site in question. Many habitat features of this site are quite different from the Hatchet Ridge site, including but not limited to variability of terrain and landforms, variability and age classes of conifer species, post-Fountain Fire vegetation characteristics, water features present including seasonal and perennial ponds, lakes and wetlands, and presence of fish-bearing streams. In addition, unlike the Hatchet Ridge wind

farm, the proposed (and alternate) turbine sites are much more widespread across the project area.

We note from a review of the applicant's timelines for CEQA document preparation and wildlife (including bird and bat) surveys, that the applicant may anticipate preparation of draft CEQA documents prior to full completion and report preparation for those surveys. This would be counter to the intent of CEQA to fully disclose the likelihood of impacts prior to circulation of CEQA documents rather than after it, and counter to California Energy Commission's CALIFORNIA GUIDELINES FOR REDUCING IMPACTS TO BIRDS AND BATS FROM WIND ENERGY DEVELOPMENT (2007). We submit that all bird and bat use surveys should be completed and incorporated by reference in advance of the release of the draft EIR, so that their conclusions may fully advise the impact, avoidance and mitigation analyses of the EIR.

It is difficult to comment on the adequacy of the design of bird surveys which are currently underway, and perhaps in major portion nearly completed. Point count locations are not displayed with sufficient detail relative to the landforms and habitats in the project area to allow any determination of their adequacy, both in number and location. Moreover, a full analysis of bird habitat types in the project area should be performed to provide the basis for the design of the surveys. We do not have adequate information to determine to what extent and how this was done. We are concerned that bird surveys have been and may continue to be carried out only during spring and fall periods. The area's use by certain bird species such as raptors may vary seasonally by habitat type, so surveys only conducted in spring and fall may not disclose summer foraging ranges by raptors, for example.

For small birds including passerines, the application states 2 years of surveys will be conducted during vernal and autumnal migration windows beginning April, 2017. It further states "completion of this effort will result in data for inclusion in a draft Biological Survey Report, which will be available by first quarter 2018." As noted above, these milestone dates are inconsistent and appear not to comport with the applicant's CEQA review expectations.

The applicant states that no surveys of nighttime migration will be conducted, because most nighttime migration is above turbine rotor elevation. There are, however, anecdotal records that the area has experienced massive low-level migration of Sandhill crane during storm events. The above referenced CEC Guidelines state: "For nocturnal migratory birds, conduct additional studies as needed if a project potentially poses a risk of collision to migrating songbirds and other species." The study cited in the Use Permit application is not fully instructive as to this possibility for this site. The applicant also states that radar surveys have been discredited as unreliable, but the use of acoustical or near-infrared methods is not discussed. The possibility of low level Sandhill crane migration during storm events should be fully examined, and studies designed to further address this if feasible.

We are concerned about the configuration of the project including widely disparate turbine sites and many improved access roads, and the attendant construction and operation effects that will tend to fracture wildlife habitats. We suggest that consideration of alternate configurations that will concentrate facilities and roads and thus lessen the effects of habitat fragmentation should be considered.

The site plan indicates that 4 or more MET towers will be maintained beyond the construction phase and indefinitely during normal operations. Due to the risk of mortality to birds from MET tower guy

wires, the above referenced CEC Guidelines recommend that permanent MET towers should not be guyed at turbine sites, or if guy wires are necessary, then effective bird deterrents installed.

The application presents a number of milestone dates for surveys and related reports. Wintu Audubon would appreciate knowing the approximate revised schedule status for these milestones.

The above referenced CEC Guidelines call for the identification and consultation with conservation groups (such as Wintu Audubon) in advance of design and implementation of bird and bat studies and surveys. We have not been contacted on this project in the past. Although we appreciate the opportunity to consult at this current "early" stage, we have insufficient information on the design protocols for any of the studies underway on this project to determine their adequacy. We trust that studies can be amended or augmented should the need be identified.

The CEC Guidelines also call for identifying conservation orgs such as Audubon to consult with the developer throughout project planning and CEQA review. Wintu Audubon stands ready to perform this role. We can be available by phone or in person for further consultation as necessary to clarify our position on any of these planned studies and reports, and throughout project planning.

Sincerely,

Bruce Webb, phone (530)515-5324 and Janet Wall, phone (530)547-1189
Co-Chairs, Conservation
Wintu Audubon Society

Cc: Wintu Audubon Board of Directors
California Audubon

Name	Affiliation	Address	City	State	Zip	Email	Type of Entity	Delivery Method
Goland, Kristen	Pacific Wind Development, LLC	1125 NW Couch Street, Suite 700	Portland	OR	97209	kristen.goland@avangrid.com	1_Applicant	Certified Mail
Shillinglaw, Brian (Re: Fountain Wind Project)	Shasta Cascades Timberlands, LLC c/o New Forests	235 Pine Street, Suite 1475	San Francisco	CA	94104		1_Landowner	Certified Mail
Salazar, Lio (Senior Planner)	Shasta County Department of Resource Management	1855 Placer Street, Suite 103	Redding	CA	96001	lsalazar@co.shasta.ca.us	1_Lead Agency	Certified Mail
Babcock, Curt (Habitat Conservation Program Manager)	California Department of Fish and Wildlife	601 Locust Street	Redding	CA	96001		1_Responsible Agency	Certified Mail
Berchtold, Dannas J.	Central Valley Regional Water Quality Control Board, Stormwater & Water Quality Certification Unit	364 Knollcrest Drive Ste 205	Redding	CA	96002	Dannas.Berchtold@waterboards.ca.gov	1_Responsible Agency	Certified Mail and email
Bradley, Mike	California Department of Forestry and Fire Protection	6105 Airport Road	Redding	CA	96002		1_Responsible Agency	Certified Mail
Brown, Jeff	Caltrans Division of Aeronautics	P.O Box 942874	Sacramento	CA	94274-0001	jeff.brown@dot.ca.gov	1_Responsible Agency	Certified Mail
Fletcher, Dale (Building Division Manager)	Shasta County Department of Resource Management	1855 Placer Street, Suite 102	Redding	CA	96001	DFletcher@co.shasta.ca.us	1_Responsible Agency	Certified Mail
Hubbard, Kristin (Environmental Scientist)	California Department of Fish and Wildlife	601 Locust Street	Redding	CA	96001	Kristin.Hubbard@wildlife.ca.gov	1_Responsible Agency	Certified Mail
Kelley, Matthew P.	U.S. Army Corps of Engineers, Sacramento District, Redding Office	310 Hemstead Drive STE 310	Redding	CA	96002	Matthew.P.Kelley@usace.army.mil	1_Responsible Agency	Certified Mail
Norris, Jennifer	U.S. Fish and Wildlife Service	2800 Cottage Way, W2605	Sacramento	CA	95825		1_Responsible Agency	Certified Mail
Re: Fountain Wind Project	Federal Aviation Administration, U.S. Department of Transportation	800 Independence Avenue, SW	Washington	DC	20591		1_Responsible Agency	Certified Mail
Bradley, Mike (Region Chief)	California Department of Forestry and Fire Protection	PO Box 944246	Sacramento	CA	94244		1_Responsible Agency	Certified Mail
Serio, Carla	Shasta County Department of Resource Management, Environmental Health Division	1855 Placer Street, Suite 201	Redding	CA	96001	cserio@co.shasta.ca.us	1_Responsible Agency	Certified Mail and email
Smith, Bryan	Central Valley Regional Water Quality Control Board, Stormwater & Water Quality Certification Unit	364 Knollcrest Drive Ste 205	Redding	CA	96002	Bryan.Smith@waterboards.ca.gov	1_Responsible Agency	Certified Mail and email
Stone, Alexander (U.S. Navy Pacific Fleet)	US Navy, Military Training Routes					Alexander.stone@navy.mil	1_Responsible Agency	Email
Waldrop, John	Shasta County Air Quality Management District	1855 Placer Street, Suite 101	Redding	CA	96001	jwaldrop@co.shasta.ca.us	1_Responsible Agency	Certified Mail and email

Zanotelli, Jimmy (Fire Marshal)	Shasta County Fire Department	875 Cypress Ave	Redding	CA	96001	Jimmy.Zanotelli@fire.ca.gov	1_Responsible Agency	Certified Mail and email
Keady, Monte (Fire Chief)	Burney Fire Protection District	37072 Main Street	Burney	CA	96013	burneyfd@burneyfireems.org	Agency	Certified Mail and email
Morgan, Scott	State Clearinghouse	P.O. Box 3044	Sacramento	CA	95812-3044	scott.Morgan@opr.ca.gov	1_State Clearinghouse	FedEx
Grah, Kathy	Caltrans District 2, Local Development Review MS6	1657 Riverside Drive	Redding	CA	96001-0536	Kathy.grah@dot.ca.gov	Agency	Certified Mail
Re: Fountain Wind Project	California Highway Patrol- Redding Office	2503 Cascade Boulevard	Redding	CA	96003		Agency	Certified Mail
Bosenko, Tom	Shasta County Sheriff's Office	300 Park Marina Circle	Redding	CA	96001	tbosenko@co.shasta.ca.us	Agency	Certified Mail
Re: Fountain Wind Project	Shasta County Library, Anderson Branch	3200 West Center St	Anderson	CA	96007	askus@shastalibraries.org	Library	FedEx Ground
Re: Fountain Wind Project	Shasta County Library, Burney Branch	37038 Siskiyou Street	Burney	CA	96013		Library	FedEx Ground
Tracy, Anna	Shasta County Library	1100 Parkview Avenue	Redding	CA	96001	annat@shastalibraries.org	Library	FedEx Ground
Lt. Tyler Thompson, Burney Patrol Station	Shasta County Sheriff's Office	300 Park Marina Circle	Redding	CA	96001	tthompson@co.shasta.ca.us	Agency	Certified Mail and email
	Shasta County, Clerk of the Board	1450 Court St. Suite 308B	Redding	CA	96001-1673	clerkoftheboard@co.shasta.ca.us	Agency	FedEx

Name	Affiliation	Address	City	State	Zip	Email	Type of Entity	Delivery Method
Goland, Kristen	Pacific Wind Development, LLC	1125 NW Couch Street, Suite 700	Portland	OR	97209	kristen.goland@avangrid.com	1_Applicant	Certified Mail
Shillinglaw, Brian (Re: Fountain Wind Project)	Shasta Cascades Timberlands, LLC c/o New Forests	235 Pine Street, Suite 1475	San Francisco	CA	94104		1_Landowner	Certified Mail
Salazar, Lio (Senior Planner)	Shasta County Department of Resource Management	1855 Placer Street, Suite 103	Redding	CA	96001	lsalazar@co.shasta.ca.us	1_Lead Agency	Certified Mail
Babcock, Curt (Habitat Conservation Program Manager)	California Department of Fish and Wildlife	601 Locust Street	Redding	CA	96001		1_Responsible Agency	Certified Mail
Berchtold, Dannas J.	Central Valley Regional Water Quality Control Board, Stormwater & Water Quality Certification Unit	364 Knollcrest Drive Ste 205	Redding	CA	96002	Dannas.Berchtold@waterboards.ca.gov	1_Responsible Agency	Certified Mail and email
Bradley, Mike	California Department of Forestry and Fire Protection	6105 Airport Road	Redding	CA	96002		1_Responsible Agency	Certified Mail
Brown, Jeff	Caltrans Division of Aeronautics	P.O Box 942874	Sacramento	CA	94274-0001	jeff.brown@dot.ca.gov	1_Responsible Agency	Certified Mail
Fletcher, Dale (Building Division Manager)	Shasta County Department of Resource Management	1855 Placer Street, Suite 102	Redding	CA	96001	DFletcher@co.shasta.ca.us	1_Responsible Agency	Certified Mail
Hubbard, Kristin (Environmental Scientist)	California Department of Fish and Wildlife	601 Locust Street	Redding	CA	96001	Kristin.Hubbard@wildlife.ca.gov	1_Responsible Agency	Certified Mail
Kelley, Matthew P.	U.S. Army Corps of Engineers, Sacramento District, Redding Office	310 Hemstead Drive STE 310	Redding	CA	96002	Matthew.P.Kelley@usace.army.mil	1_Responsible Agency	Certified Mail
Norris, Jennifer	U.S. Fish and Wildlife Service	2800 Cottage Way, W2605	Sacramento	CA	95825		1_Responsible Agency	Certified Mail
Re: Fountain Wind Project	Federal Aviation Administration, U.S. Department of Transportation	800 Independence Avenue, SW	Washington	DC	20591		1_Responsible Agency	Certified Mail
Bradley, Mike (Region Chief)	California Department of Forestry and Fire Protection	PO Box 944246	Sacramento	CA	94244		1_Responsible Agency	Certified Mail
Serio, Carla	Shasta County Department of Resource Management, Environmental Health Division	1855 Placer Street, Suite 201	Redding	CA	96001	cserio@co.shasta.ca.us	1_Responsible Agency	Certified Mail and email
Smith, Bryan	Central Valley Regional Water Quality Control Board, Stormwater & Water Quality Certification Unit	364 Knollcrest Drive Ste 205	Redding	CA	96002	Bryan.Smith@waterboards.ca.gov	1_Responsible Agency	Certified Mail and email
Stone, Alexander (U.S. Navy Pacific Fleet)	US Navy, Military Training Routes					Alexander.stone@navy.mil	1_Responsible Agency	Email
Waldrop, John	Shasta County Air Quality Management District	1855 Placer Street, Suite 101	Redding	CA	96001	jwaldrop@co.shasta.ca.us	1_Responsible Agency	Certified Mail and email

Zanotelli, Jimmy (Fire Marshal)	Shasta County Fire Department	875 Cypress Ave	Redding	CA	96001	Jimmy.Zanotelli@fire.ca.gov	1_Responsible Agency	Certified Mail and email
Keady, Monte (Fire Chief)	Burney Fire Protection District	37072 Main Street	Burney	CA	96013	burneyfd@burneyfireems.org	Agency	Certified Mail and email
Morgan, Scott	State Clearinghouse	P.O. Box 3044	Sacramento	CA	95812-3044	scott.Morgan@opr.ca.gov	1_State Clearinghouse	FedEx
Grah, Kathy	Caltrans District 2, Local Development Review MS6	1657 Riverside Drive	Redding	CA	96001-0536	Kathy.grah@dot.ca.gov	Agency	Certified Mail
Re: Fountain Wind Project	California Highway Patrol- Redding Office	2503 Cascade Boulevard	Redding	CA	96003		Agency	Certified Mail
Bosenko, Tom	Shasta County Sheriff's Office	300 Park Marina Circle	Redding	CA	96001	tbosenko@co.shasta.ca.us	Agency	Certified Mail
Re: Fountain Wind Project	Shasta County Library, Anderson Branch	3200 West Center St	Anderson	CA	96007	askus@shastalibraries.org	Library	FedEx Ground
Re: Fountain Wind Project	Shasta County Library, Burney Branch	37038 Siskiyou Street	Burney	CA	96013		Library	FedEx Ground
Tracy, Anna	Shasta County Library	1100 Parkview Avenue	Redding	CA	96001	annat@shastalibraries.org	Library	FedEx Ground
Lt. Tyler Thompson, Burney Patrol Station	Shasta County Sheriff's Office	300 Park Marina Circle	Redding	CA	96001	tthompson@co.shasta.ca.us	Agency	Certified Mail and email
	Shasta County, Clerk of the Board	1450 Court St. Suite 308B	Redding	CA	96001-1673	clerkoftheboard@co.shasta.ca.us	Agency	FedEx

Appendix B
Direct Mail Notice

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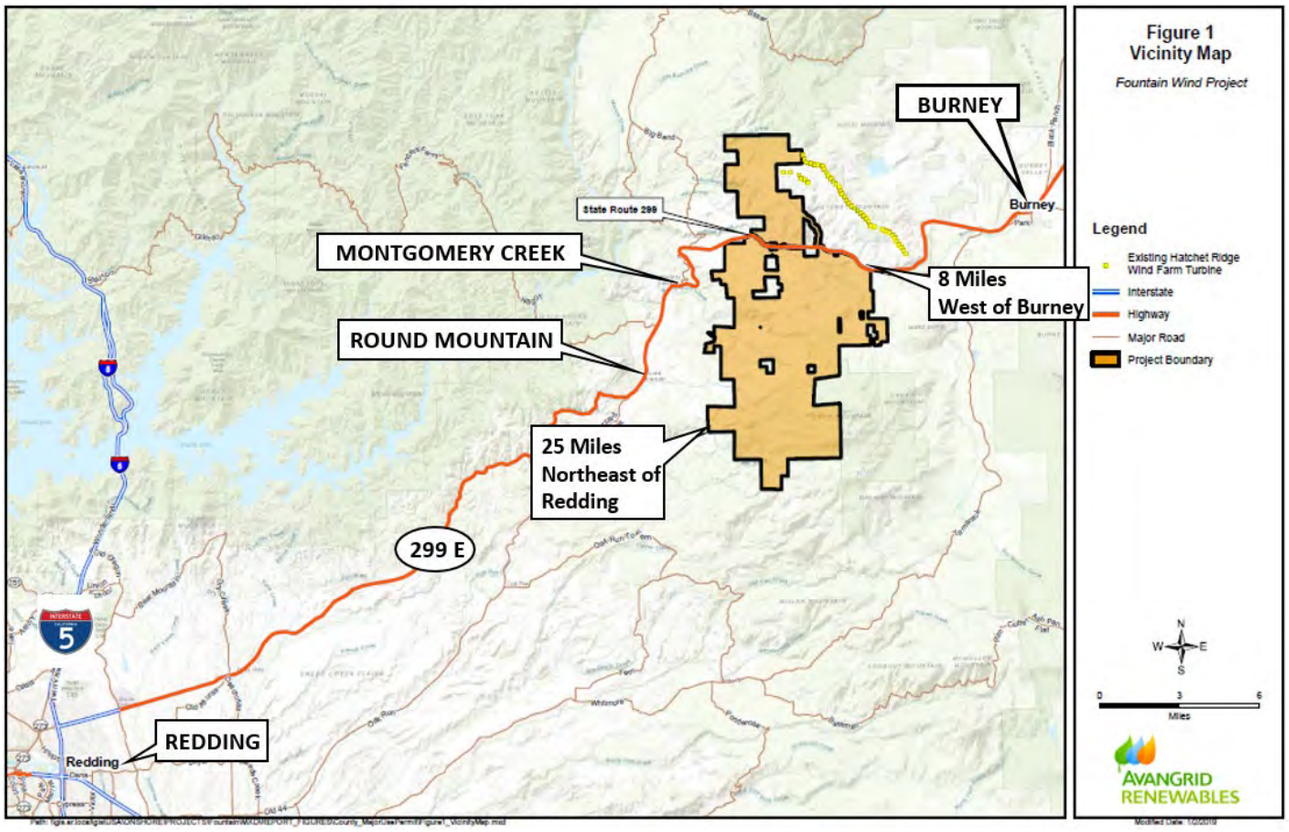
NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT (EIR); NOTICE OF 30-DAY EIR SCOPING PERIOD AND REQUEST FOR WRITTEN SCOPING COMMENTS; AND NOTICE OF PUBLIC EIR SCOPING MEETING REGARDING THE PROPOSED FOUNTAIN WIND PROJECT

PROJECT TITLE: Fountain Wind Project (Use Permit No. UP 16-007) **APPLICANT:** Pacific Wind Development, LLC 1125 NW Couch Street Suite 700, Portland OR 97209 **PROJECT LOCATION**: The Project would be located west of the existing Hatchet Ridge Wind Farm, approximately 6 miles west of Burney, 35 miles northeast of Redding, and immediately north and south of California State Route 299 (SR 299); see vicinity map below. It would be constructed within an area of approximately 30,532 acres of private land owned by Shasta Cascades Timberlands, LLC. The project site includes portions of land, referenced by 76 Shasta County Assessor's parcels numbers, located in Township: 35N, Range: 10 E, Sections: 14, 22, 23, 25-29, 32-36; Township: 35N, Range: 20 E, Sections: 30,31,32; Township: 34N, Range: 10 E, Sections: 1-17, 21-23, 25-29, 33-36; Township: 34N, Range: 20 E, Sections: 5-8; Township: 33N, Range: 10 E, Section: 3; all Mount Diablo Baseline and Meridian.



NOTICE OF PREPARATION: Shasta County is the Lead Agency under the California Environmental Quality Act (CEQA), and is preparing an Environmental Impact Report (EIR) for the project identified as the Fountain Wind Project, a wind energy project proposed on private timberland and consisting of up to 100 wind turbines with a generating capacity of up to 347 megawatts. A Notice of Preparation will initiate a 30-day scoping period on January 15, 2019. The scoping period will close February 14, 2019. The purpose of the Notice is to solicit guidance as to the scope and content of the EIR, including potential environmental impacts of concern and mitigation measures or alternatives that should be considered. Detailed project information, including an Initial Study, is available on the internet: https://www.co.shasta.ca.us/index/drm_index/planning_index/eirs/fountain-wind-projectA copy of the Initial Study can also be reviewed or obtained at the Shasta County Dept. of Resource Management, Planning Division located at 1855 Placer Street, Suite 103, Redding, CA 96001. If you would like to receive e-mail notifications about the Fountain Wind Project, please email FountainWind411@esassoc.com with "Subscribe" in the subject line.

WRITTEN SCOPING COMMENTS: Written scoping comments will be accepted at any time during the 30-day scoping period. Send all direct questions and all written comments to the project contact, Lio Salazar-Senior Planner, at the Shasta County Department of Resource Management, Planning Division, 1855 Placer Street, Suite 103, Redding, CA 96001, or via e-mail at lsalazar@co.shasta.ca.us. Mr. Salazar may be contacted for additional information at (530) 225-5532.

PUBLIC SCOPING MEETING NOTICE: Shasta County will hold a public scoping meeting for agencies and individuals to learn more about the CEQA process for this project, and to receive comments about the scope and content of the EIR, including what potential environmental impacts of the project should be addressed in depth in the EIR. The merits of the project will not be discussed at this meeting, nor will comments regarding approval or denial of the project. No decision to approve or deny the project will be made at this meeting. The meeting will be held Thursday, January 24, 2019, at the Montgomery Creek Elementary School, located at 30365 State Highway 299 East, Montgomery Creek, CA 96065. Doors will open at 6:30 p.m. for informal viewing of project related information. The formal scoping meeting will begin at 7:00 p.m.

List of Recipients

January 10, 2019 direct Mail Notification of Public Meeting

Fountain Wind Project (Use Permit No. UP 16-007)

Name	Affiliation	Type of Entity
ABACHERLI JOHN DEAN SR & JANET E		Property owner
Abou-Taleb, Moustafa	California Emergency Management Agency	Agency
ADAMS MARY LOU REVOCABLE TRUST		Property owner
ADLER PAUL G DECEDENTS TRUST		Property owner
ALLEN M T FAMILY TRUST		Property owner
Anderson, Chester	Western Shasta Resource Conservation District	Agency
ANGEL WAYNE M & TRUDI BE 2001 TRUST		Property owner
AREA H LLC		Property owner
AREA H LLC		Property owner
ARELLANO LORI L		Property owner
ASHER JOHN S & CINDY J		Property owner
Ashurst, Bob, Chief Engineer	KRCR TV News Channel 7	Media
AXELSON MARY E		Property owner
BADGER DAVID D & DENA L		Property owner
BAGA ANGEL M		Property owner
BAGA JOE & SHEILA		Property owner
BAKRICH MARK & WINDY		Property owner
BALDWIN JASON		Property owner
BARBER JASON M		Property owner
BARKER JERRY ETAL		Property owner
BARLOW CANDY		Property owner
BARRY MICHAEL D		Property owner
BARTIC KENNETH DEAN		Property owner
BARTOLOMEI ROBERT DEAN & ANGELA		Property owner
BAUER KEITH U & KAP J		Property owner
Baugh, Les	Shasta County Board of Supervisors-District 5	Agency
BEARD RICHARD A TRUST 2017		Property owner
BELL CASSANDRA & CARTER CASSANDRA		Property owner
BENEKE NORMAN L & JENNIE		Property owner
BENNETT JERALD D & JOYCE L		Property owner
Bennett, Frieda (Chairperson)	Quartz Valley Indian Community	Tribe
BERG & BERG ENTERPRISES LLC		Property owner
BERTAGNA PAUL		Property owner
BERTAGNA PAUL J TR ETAL		Property owner
BICKLEY TERRY		Property owner
BIG WHEELS RANCH		Property owner
BLACK FAMILY CABIN LLC		Property owner
BLACKBURN PATRICK & COWLES SEAN		Property owner
BLACKBURN PATRICK & COWLES SEAN		Property owner
BLAND DELORES & ROCKY MILTON		Property owner
BLANKENSHIP STEVEN L		Property owner
BLAYLOCK DONNA 2006 TRUST		Property owner
BLAYLOCK DONNA A TR ETAL		Property owner
BLISS ROBERT & BRANCH KEVIN		Property owner
BLISS ROBERT V		Property owner
BLOECHER JAMES		Property owner

BOBO WILLIAM C & VIOLET P		Property owner
BONE JESSICA MARIE		Property owner
BOONE RANDY M & SUSANNE ETAL		Property owner
Bosenko, Tom	Shasta County Sheriff's Office	Agency
BOTHWELL KRISTINA LYNN		Property owner
BOTTS THOMAS JAMES		Property owner
BOWMAN VERN L & DELLA M		Property owner
BOYAN CRAIG & BARBARA BOYAN FAMILY TRUST		Property owner
BRIGNARDELLO MARCELLO & TRACE		Property owner
BROWER LYNN & COLLEEN		Property owner
BROWN GREGORY & NAOMI LIVING TRUST		Property owner
BROWN RICHARD M & M ANN		Property owner
BRYAN DANIEL M & WENDY L		Property owner
Bryant, Garret	City of Redding, Airports	Agency
Buckalew, Darcy, (Administrative Office Manager)	Shasta County Mosquito and Vector Control District	Agency
BUFFUM ANDY		Property owner
BUFFUM GENE W & CHARLENE M TR ETAL		Property owner
BULL BRADLY		Property owner
Bunn, David	California Department of Conservation	Agency
BURANIS JOHN J REVOCABLE TRUST		Property owner
BUREAU OF INDIAN AFFAIRS		Property owner
BURNS FAMILY TRUST AGREEMENT		Property owner
BURTON DAVID R & DEBRA R TR		Property owner
BYRD ALICE LORAINE LIVING TRUST		Property owner
C & C ESTATE PROPERTIES LLC		Property owner
CALDWELL FAMILY REV TRUST OF 2002		Property owner
CALDWELL FOREST B III		Property owner
CALIFORNIA STATE OF		Property owner
CALIFORNIA STATE OF		Property owner
CAMERA JOHN		Property owner
CAMP CHARLES WILLIAM		Property owner
CAMP CHARLES WILLIAM		Property owner
CANTRELL CAROL ETAL		Property owner
CANTRELL KATRINA ANN		Property owner
CARLTON JAMES WEBB		Property owner
CARR DENNIS B		Property owner
CARROLL MATTHEW & THERESA ETAL		Property owner
CARROLL MATTHEW G & THERESA A		Property owner
CATON JOHN R & KATHERINE A		Property owner
Cerami, Joe	Economic Development Corporation of Shasta County	Agency
CERLETTI KERRY E & TERESA DIANE		Property owner
CHANG CHIA		Property owner
CHANG JOHN		Property owner
CHANG KHOU		Property owner
CHANG KHOU		Property owner
Chapin, James	Shasta County Planning Commission	Agency
CHASE WILBUR L		Property owner
CHEYNE JAMES C & LORETTA M REVOCABLE TRUST		Property owner
CHICOINE DON J & SYLVIA J		Property owner
CHICOINE JOSEPH D & JAN M REV TRUST 2000 ETAL		Property owner
CISNEROS CARMEN M TR		Property owner
CITIZENS TELECOMMUNICATIONS		Property owner

CLIFFORD TYLER C & JOELLE M		Property owner
Cloney, Jim	Shasta Union High School District	Educational
COBB RAYMOND H & VIVIAN K		Property owner
COLE JOHN D JR FAMILY TRUST		Property owner
COLLINS FRED A TRUST		Property owner
COOK JOHN M & ANGELA M		Property owner
COOPER MICHAEL D ETAL		Property owner
Cooper, Sue	Oak Run Elementary School	Educational
CORTER TAMMY		Property owner
CORTES JUAN & GUIZAR SALVADOR		Property owner
CORTEZ ALBERTO CHAVEZ		Property owner
COX GEORGIA M FAMILY TRUST		Property owner
COX JAMES DAYTON ETAL		Property owner
COYLE PATRICK WILLIAM ETAL		Property owner
CRANE JEAN TERRELL TR		Property owner
CRAVER KEVIN T & ERLINDA		Property owner
CRIPPEN FAMILY TRUST		Property owner
Cruse, Rubin	Shasta County, County Counsel	Agency
CUEVAS LUIS ARMANDO CUEVAS ETAL		Property owner
CUMMINGS ROBERT V		Property owner
Curtis, Sean	County of Modoc, Planning Department	Agency
DARNELL CARL JR		Property owner
DAVID ADVENTURE LLC		Property owner
DAVIES ALEX		Property owner
DAVIES ALEX		Property owner
DEBICKI TOMASZ		Property owner
Deckert, Andrew	Shasta County Department of Public Health	Agency
DI MAIO COBY D & CHRISTEL		Property owner
DICKEY MATTHEW J & TERESA M		Property owner
DIDDOMENICO THOMAS		Property owner
Difuntorum, Sami Jo (Cultural Resource Coordinator)	Shasta Indian Nation	Tribe
DILL BILL J & JANE E REV TRST		Property owner
DILLON DAVID B		Property owner
DINKINS FAMILY TRUST		Property owner
Director	Shasta County Department of Resource Management	Agency
DIVERSIFIED CONSTRUCTION SERVICES INC		Property owner
DIXON FAMILY TRUST		Property owner
DOAN JOHNNY & BROOKS BRIAN ALLEN		Property owner
DOEPEL JAMES B		Property owner
Dorroh, Lynn	Hill Country Community Clinic	Medical
EDSON JEREMY R		Property owner
ELAM MICHELE H TR ETAL		Property owner
ELGIN CHARLENE		Property owner
ELLIOTT DANIEL		Property owner
ELLOWAY RANDAL & NOURA 2002 TRUST		Property owner
ELMORE LORRAINE M		Property owner
EPPERSON RONALD & THERESA TR ETAL		Property owner
ESLINGER GAYLEN E & KATHERINE K 1996 TRUSTS		Property owner
EVANS KEITH & KATHERINE L		Property owner
EWIN ROY LEE & TAMMY D		Property owner
FENIMORE GEORGE & JAN		Property owner
FENIMORE GEORGE W III & JANEDYTHE J		Property owner

FENNELL FRANCES J & DON F		Property owner
Fieseler, Adam	Shasta County Department of Resource Management, Planning Division, Permits Counter	Agency
FISHER GILBERT & MAYLE KATHRYN J		Property owner
FITZGERALD FAMILY TRUST		Property owner
FIVES CATHLEEN		Property owner
FLAMBEAU RIVER PARTNERS		Property owner
Flores, Judy	Shasta County Office of Education	Educational
FOLLETT RICHARD & KATHILYN		Property owner
FOLLETT RICHARD W & KATHILYN W		Property owner
FORSTER JAMES RICHARD & CAROL MALLORY LIV TRUST		Property owner
FOUST DOUGLAS C		Property owner
FRASER THOMAS H		Property owner
FREDRICKSON STEVE		Property owner
Frost, Kelly Sr.	KQMS Newstalk 1400	Media
FRUIT GROWERS SUPPLY COMPANY		Property owner
FRYER FRANCESCA B & JOHN C		Property owner
FULLER JEFFREY L & LISA ANNE LIV TRUST ETAL		Property owner
Gali, Morning Star (Tribal Historic Preservation Officer)	Pit River Tribe of California	Tribe
GALUSHA GREGORY D		Property owner
GALUSHA GREGORY D		Property owner
GARBER/BERTAGNA TRUST DVA		Property owner
GARDENHIRE RONALD R & LINDA KAY		Property owner
GARDNER MONICA		Property owner
GEIL JAMES R & IANA R		Property owner
Gemmill, Mickey (Chairperson)	Pit River Tribe of California	Tribe
GHADIRI WOLFIEN		Property owner
Goland, Kristen	Pacific Wind Development, LLC	1_Applicant
GOLDMAN KAREN L & GERRY		Property owner
GOMEZ JOSE		Property owner
GOMEZ-SACASA OSCAR & GOMEZ MYRIAN TRUST		Property owner
Gonzalez, Marcelino "Marci" (Local Development Review and Regional Transportation Planner)	California Department of Transportation	Agency
GOODWIN DIANE		Property owner
GOODWIN LANNY G & KATHLEEN KELLEY		Property owner
Goodwin, Susan	Cow Creek Watershed Management Group	Agency
Goolsby, J. Michael (CEO)	Better Neighborhoods, Inc.	Other
GOOSE VALLEY RANCH LLC		Property owner
GORDON DONALD A & SUE T		Property owner
GOUCK DEAN PHILIP & JEANNE VERBIE		Property owner
Goudreau, Paula	Redding Record Searchlight	Media
GOWER DAVID		Property owner
Grah, Kathy	Caltrans District 2, Local Development Review MS6	Agency
GRANSTROM SHAWN & GENA		Property owner
GRAY DANNY E LIVING TRUST		Property owner
GREENWOOD JEFFERY A		Property owner
GROKENBERGER FAMILY TRUST 1999		Property owner
GUFFEY LONNIE A & BRIGGS MARGARET E		Property owner
GUHY TERRI T		Property owner
GUIMARAES EDUARD		Property owner
GUTIERREZ ULDA E		Property owner
HACKLER JOHN SHERMAN & JEANNE LOUISE		Property owner

HAGGETT MIKEL		Property owner
HALCUMB CEMETERY DIST		Property owner
HALCUMB PUB CEM DIST		Property owner
HALL IVAN ALEXANDER III		Property owner
Hall, Roy (Chairperson)	Shasta Nation	Tribe
HAMUSEK BLOSSOM JAN ETAL		Property owner
HARBER FAMILY TRUST		Property owner
HARNDEN MARILYN		Property owner
HARRIS TERRY L & BUDAY-HARRIS MARILYN S		Property owner
HARRISON TROY A ETAL		Property owner
HASKINS ERIC		Property owner
HASSINGER CAREY BENJAMIN TR		Property owner
Hawkins, Greg	Fall River Joint Unified School District	Educational
Hayward, Kelli	Wintu Tribe of Northern California	Tribe
HEARN MARY P		Property owner
HEATON ROBERT L FAMILY TRUST		Property owner
Hellman, Paul (Director)	Shasta County Department of Resource Management	Agency
HELLUM LAYNE GABRIEL		Property owner
HELMS ERIC E & SHELLIE D		Property owner
HENDERSON JAMES M & SANDRA E DVA		Property owner
HENNING FAMILY TRUST ETAL		Property owner
HENRICH FAMILY 2002 TRUST		Property owner
HER CHAI		Property owner
HEWITT KIM MARIE		Property owner
HOLDEN RANSOM LEROY REV LIV TRUST		Property owner
HOLDEN REBECCA		Property owner
Hubbard, Leslie	County of Trinity, Planning Department	Agency
HUERTA MANUEL REYES		Property owner
HUFF COLLETTE M		Property owner
HUFFT TERRY & KATHRYN		Property owner
HUITRIC ALBERT A ETAL		Property owner
HUMCKE CHRIS J & JENNIFER L		Property owner
Hunter, Kim (Planning Division Manager)	Shasta County, Department of Resource Management, Planning Division	Agency
HUTCHESON ALTON B & MELISSA A		Property owner
ISMAEL MENDIVIL COVARRUBIAS ERIK		Property owner
JACKSON MICHAEL & DENICORE LAURA		Property owner
JENKINS JEREMIAH S		Property owner
JENKINS STEVEN H ETAL		Property owner
JOHN & SUSAN MCVEY REV LIV TRUST		Property owner
JOHNSEN MARK L & CRYSTAL		Property owner
JOHNSON LARRY		Property owner
JOHNSON STEVEN J		Property owner
JONES DAVID & DIANE		Property owner
JONES PATRICK		Property owner
JONES SANDRA		Property owner
JORDAN WILLIAM ROBERT		Property owner
JOSEPH SUMREAY		Property owner
JUNKERSFELD ROBERT & CAROL		Property owner
Keady, Monte (Fire Chief)	Burney Fire Protection District	Agency

KEEFER MINNIE M ETAL		Property owner
KEELER KIMBERLY J		Property owner
Kehoe, David A.	Shasta County Board of Supervisors-District 1	Agency
KELLY JIM TRUST		Property owner
Kerns, Steven	Shasta County Planning Commission	Agency
KIMBERLING MARGARETTE L		Property owner
KING PAUL S & BETH A		Property owner
KIRK KELLEM & JESSICA		Property owner
KLEIN JEFFREY F		Property owner
KLOEPPEL ROBERT T 2000 FAMILY TRUST		Property owner
KOENIG PAUL HARRY		Property owner
KROCKER FAMILY REVOCABLE TRUST 2010 ETAL		Property owner
KRUSE ROBERT & LORRAINE		Property owner
KRUSE ROBERT D & JUANITA L		Property owner
KUNKLER LARON L REVOCABLE TRUST OF 2007		Property owner
KUTRAS GEORGE ETAL		Property owner
La Russa, Judy	East Valley Times	Media
LAFFAN DANIEL J & IVIE L		Property owner
LAMMERS TRUST		Property owner
LAMMERS VICTOR & HELEN M FAMILY TRUST		Property owner
LAMMERS VICTOR & HELEN M FAMILY TRUST		Property owner
LAND PEARL VENTURES LLC		Property owner
LANGE ROLAND E JR		Property owner
LANGE ROLAND E TRUST		Property owner
LARABEE MELVIN & JOAN		Property owner
LARABEE MELVIN H & JOAN M		Property owner
LARRUCEA JESSICA		Property owner
Larson, Dave		Other
Larson, Pam		Other
Larson, Pam and Dave		Other
Lassen National Forest Supervisor's Office	U.S. Forest Service	Agency
LAWRENCE RAYMOND & CINDY ANN		Property owner
LEACH ELIZABETH S TR		Property owner
LEE LA PET KOU		Property owner
Lees, Larry	Shasta County, County Administrative Officer	Agency
LEONARD REVOCABLE TRUST		Property owner
LESLIE WARD J & SHIRLEY J TR		Property owner
LIBBI TRUST		Property owner
Libonati, Susan (President)	California Native Plant Society- Shasta Chapter	Organization
Little, Dan	Shasta Regional Transportation Agency	Agency
LOFARO JOSEPH PAUL ETAL		Property owner
LOPEZ ULISSES		Property owner
LOR NELSON		Property owner
LOR YENG		Property owner
LOVE JAMES MAKIN & GAYLE ANN		Property owner
LOVENESS VINTON A & LINDA		Property owner
Lt. Tyler Thompson, Burney Patrol Station	Shasta County Sheriff's Office	Agency
LUNTEY KEVIN & DENISE		Property owner
LUSTIG GOPALA KRISHNA		Property owner
MACDONALD KEITH & LISA		Property owner
MacLean, Tim	Shasta County Planning Commission	Agency

MALAT KENNETH D		Property owner
MALAT KIMBERLY REHFELD & JASON REHFELD		Property owner
MALLORY MARGARET G MARITAL TRUST		Property owner
MARCKS KIM & FROLICH JENNIFER		Property owner
MASL DAVID & SHIREEN JT REV LIV TRUST ETAL		Property owner
MASON KENYON & PAMELA		Property owner
MASON WAYNE NEAL		Property owner
MASSEY REBECCA & MCCALL DEANNA		Property owner
Mata, Jennifer	Bureau of Land Management- Redding	Agency
MATHESON LINDA L & DANIEL ETAL		Property owner
MATSUO FLORENCE M TR		Property owner
MATTHEWS STUART W & MARY		Property owner
Maze, Kristen	County of Tehama, Planning Department	Agency
MAZZINI FAMILY TRUST - TRUST A		Property owner
MAZZINI JESSIE E & HOVEMAN ALICE RACHEL		Property owner
MAZZINI JESSIE ELAINE & HOVEMAN ALICE RACHEL		Property owner
MCCONNELL BARBARA		Property owner
McDaniels, Brandy (Madesi Band Cultural Representative for the Pit river Tribe)	Pit River Tribe	Tribe
MCDONALD BARRY A		Property owner
MCDONALD JACK W & GERTRUDE		Property owner
MCGARRY STEVEN P		Property owner
MCGRAW HENRY & ELIZABETH 2018 FAM TRUST		Property owner
MCGRAW HENRY R & ELIZABETH G		Property owner
McMaster, Wade (Chairman)	Wintu Tribe of Northern California	Tribe
MCMILLAN 1999 FAMILY PARTNERSHIP LP		Property owner
MCMILLAN 1999 FAMILY PARTNERSHIP LP		Property owner
MCMILLIAN JERRY D		Property owner
MELTON CRAIG 2012 TRUST		Property owner
MESSICK ELIZABETH L		Property owner
MILLER ALEXANDREA		Property owner
Millington, Mike (President)	Fall River Resource Conservation District	Agency
MILLIRON FAMILY TRUST		Property owner
MINTO FAMILY SPECIAL NEEDS TRUST		Property owner
Minturn, Pat	Shasta County Department of Public Works	Agency
MONTGOMERY CREEK COMM CHURCH		Property owner
MONTGOMERY ROXANNE & TILLOTSON VAUGHN		Property owner
MONTGOMERY TRUST		Property owner
MONTGOMERY WENDY M		Property owner
MOORE KENNETH TRUST		Property owner
MOORE ROBERT TOWNSEND JR		Property owner
MOOSE RECREATIONAL CAMP		Property owner
Morgan, Leslie (Assessor-Recorder)	Shasta County Assessor's Office	Agency
Morgan, Steve	Shasta County Board of Supervisors-District 4	Agency
MORRISSEY JAMES & ADA LEA FAMILY TRUST ETAL		Property owner
MORROW DAVID L & JOYCE M 1997 REV TRUST		Property owner
Moty, Leonard	Shasta County Board of Supervisors-District 2	Agency
MUCHA MELANIE M		Property owner
MUKAI MARK S & MIDORI		Property owner

MULDER TIFFANY		Property owner
MURO CAROL R		Property owner
Murphy, Barbara (Chair)	Redding Rancheria	Tribe
MURTHA PAUL M & NICOLE M L		Property owner
MURTHA PAUL M & NICOLE M L		Property owner
NEEBS MONGOMERY TRUST		Property owner
NEWELL JAMES		Property owner
NEWTON JOHN O		Property owner
NICHOLS AILEEN A & SHANE P		Property owner
NOBLE MARTY J		Property owner
NORGAARD ALVIN & ZENE		Property owner
NORMAN ELENA TRUST		Property owner
NORMAN SHARON A		Property owner
Northeast Information Center	California Historical Resources Information System	Agency
OAK RUN LUMBER CO LLC		Property owner
OAK RUN LUMBER CO LLC		Property owner
OCONNELL SEAN		Property owner
OLIVEIRA MAURO & CLAIR LAUREEN		Property owner
OLSEN TIM		Property owner
ONETO GARY & TINA		Property owner
ONGACO ROMMEL D ETAL		Property owner
ORR SURVIVORS SPOUSE FAM TRUST		Property owner
OSA FAMILY TRUST		Property owner
OSA FAMILY TRUST		Property owner
OST MICHAEL & LINDA		Property owner
OWENS LYNN A		Property owner
P G & E		Property owner
PACHECO SCOTT T ETAL		Property owner
PACHECO TONY		Property owner
PAGE JUSTIN S		Property owner
PALMER BRUCE L & VIRGINIA		Property owner
PALMER BRUCE L & VIRGINIA L TR ETAL		Property owner
PARHAM EUGENE W & LINDA D PARHAM REV TRUST		Property owner
PARNELL LIVING TRUST		Property owner
PARSONS JOHN & MARJORIE M		Property owner
PATTERSON JAMES D JR & TRICIA LIVING TRUST		Property owner
PAULIONAS A N		Property owner
PEAK LEE J		Property owner
PERRY EDWARD GLEN		Property owner
PIERCY WILLIAM E & JANICE		Property owner
PIERSON CHARLES H II & JENNIFER L		Property owner
PIRES RONALD A JR & LEEANN		Property owner
PIRES RONALD JR		Property owner
PIRES RONALD LIVING TRUST		Property owner
PIT RIVER TRIBE		Property owner
POPP DAVE EDWARD		Property owner
POTTER PHILLIP L		Property owner
POTTER WILLIAM J & SUSAN E TR ETAL		Property owner
Potter, Jack (Chairperson)	Redding Rancheria	Tribe
PRAVDENKO IVAN		Property owner
PUHLMAN FAMILY TRUST		Property owner
QUIGLEY PAMELA S		Property owner
RADA STEVEN J & BALASOW EMMA V		Property owner
Ramsey, Roy	Shasta County Planning Commission	Agency

Ramstrom, Karen	Shasta County, Health and Human Services Agency, Public Health Services	Agency
RASMUSSEN VICTORIA ETAL		Property owner
RATCLIFFE FAMILY TRUST		Property owner
RAZZAIA SUSAN B TRUST ETAL		Property owner
Re: Fountain Wind Project	Shasta County Board of Supervisors Office	Agency
Re: Fountain Wind Project	California Energy Commission, Media and Public Communications Office	Agency
Re: Fountain Wind Project	California Highway Patrol- Redding Office	Agency
Re: Fountain Wind Project	California Public Utilities Commission	Agency
Re: Fountain Wind Project	City of Anderson, Planning Department	Agency
Re: Fountain Wind Project	City of Shasta Lake, Planning Department	Agency
Re: Fountain Wind Project	County of Lassen, Planning and Building Services	Agency
Re: Fountain Wind Project	County of Siskiyou, Planning Department	Agency
Re: Fountain Wind Project	County of Trinity, Planning Department	Agency
Re: Fountain Wind Project	Lassen Volcanic National Park	Agency
Re: Fountain Wind Project	Native American Heritage Commission	Agency
Re: Fountain Wind Project	Shasta County Assessor/Recorder	Agency
Re: Fountain Wind Project	Shasta County, Clerk of the Board	Agency
Re: Fountain Wind Project	Shasta County Library, Anderson Branch	Library
Re: Fountain Wind Project	Intermountain News	Media
Re: Fountain Wind Project	KKRN Community Radio	Media
Re: Fountain Wind Project	Mountain Echo	Media
Re: Fountain Wind Project	Mayers Memorial Hospital	Medical
Re: Fountain Wind Project	Sierra Club, Shasta Group	Organization
Re: Fountain Wind Project	Moose Recreational Camp	Other
Re: Fountain Wind Project	Nor Rel Muk Nation	Tribe
Re: Fountain Wind Project	Pit River Tribe of Historical Preservation	Tribe
Re: Fountain Wind Project	Pit River Tribe: Madesi/Atsuge/Ajumawi/Aporige	Tribe
Re: Fountain Wind Project	Quartz Valley Indian Community	Tribe
Re: Fountain Wind Project	United Tribe of Northern California, Inc.	Tribe
Re: Fountain Wind Project	Wintu Educational and Cultural Council	Tribe
Re: Fountain Wind Project	Wintu Tribe and Cultural Council	Tribe
Re: Fountain Wind Project	Wintu Tribe and Toyon Wintu Center	Tribe
Re: Fountain Wind Project	Roaring Creek Indian Rancheria	Tribe
RED RIVER FORESTS PARTNERSHIP		Property owner
REDDIN 2013 REVOCABLE FAMILY TRUST		Property owner
REECE FRANCES A		Property owner

REITENBACH ROBERT JR ETAL		Property owner
RENWICK THELMA REV LIV TRUST		Property owner
REYNA RUBEN		Property owner
RICHARD BRENT		Property owner
Rickert, Mary	Shasta County Board of Supervisors-District 3	Agency
RIDEOUT MARCIA JO		Property owner
ROBERSON THOMAS K & RAMONA		Property owner
ROBINSON LINDA		Property owner
ROCKWELL MICHAEL & JAINY		Property owner
RODRIGUEZ WILLIAM A		Property owner
ROJAS SOPHIA		Property owner
ROSEMONT STEVEN DOUGLAS		Property owner
Ross, Clay	Mountain Union Elementary	Educational
Ross, James (Assistant County Counsel)	Shasta County, County Counsel's Office	Agency
RUDAS ROBERT J & CONSUELO S 2015 REV TRUST		Property owner
RUDOLPH ROBIN C		Property owner
RUMBOLTZ MATHEW CARL ETAL		Property owner
RUMRILL RAY JR & LOIS		Property owner
RUSSICK MARC D		Property owner
SAAVEDRA ENRIQUE		Property owner
SAAVEDRA NICOLE		Property owner
SABAH NICOLE & GIANNOTTI JASON		Property owner
SAEFRUNG KETMANEE		Property owner
SAELEE FOU CHOY & NGING CHIANG		Property owner
SAELEE YAO TAH		Property owner
Salazar, Lio (Senior Planner)	Shasta County Department of Resource Management	1_Lead Agency
SANTHOUSE DANIEL & RENEE A		Property owner
SANTHOUSE INVESTMENTS LLC		Property owner
SATRAN MONTE & DONNA REV TRUST 2018		Property owner
SCHELL MARLIN		Property owner
SCHINAUER ROBERT LOUIS & MARIA THERESA TR		Property owner
SCHOLFIELD GUADALUPE		Property owner
SCHOLFIELD NATHAN E ETAL		Property owner
SEAFORD ELVIRA D & HOWARD O		Property owner
SEAFORD HOWARD O ETAL		Property owner
SEAY DONALD		Property owner
Self, Kyle (Chairperson)	Greenville Indian Rancheria of Maidu Indians	Tribe
SENN KATHERINE M		Property owner
SETTLEMIRE MICKEY DEAN		Property owner
SHARPE MICHAEL G		Property owner
SHASTA CASCADE TIMBERLANDS LLC		Property owner
SHASTA COUNTY OF		Property owner
SHASTA FOREST PROPERTIES LLC		Property owner
SHASTA MORTGAGE COMPANY		Property owner
SHERMAN DONALD & BEVERLY FAM TR-SURV TRUST		Property owner
SHERMAN DONALD & BEVERLY FAM TR-SURV TRUST		Property owner
Shillinglaw, Brian (Re: Fountain Wind Project)	Shasta Cascades Timberlands, LLC c/o New Forests	1_Landowner
SHOEN PAUL F TR		Property owner
SHOEN PAUL F TR		Property owner
SIERRA PACIFIC HOLDING CO		Property owner

SIERRA PACIFIC HOLDING CO		Property owner
SIERRA PACIFIC INDUSTRIES		Property owner
SIMONIS GARTH HENRY		Property owner
SISK LEE & CYNTHIA		Property owner
SISK MATTHEW RYAN		Property owner
Sisk-Franco, Caleen (Chief)	Winnemem Wintu Tribe	Tribe
SIZEMORE KARA KATHRYN		Property owner
SKALLAND FAMILY TRUST 2015		Property owner
SLEEPY CREEK HOME TRUST		Property owner
SLOAN LISA ROSE		Property owner
SMALLEY JON M LIVING TRUST		Property owner
SMITH AILEEN & DOROTHY		Property owner
SMITH AILEEN A		Property owner
SMITH JOHN D		Property owner
SNOW LARRY		Property owner
SPARKS BARRY LEE		Property owner
SPLAN T E & D E		Property owner
SPUNG CAMERON		Property owner
STATON MARE J LIVING TRUST		Property owner
STENLUND TYSON & JAMIE		Property owner
STEPHENS RICHARD L & PAMELA J		Property owner
STEPHENSON ROSS GRAHAM TRUST OF 2013 ETAL		Property owner
STEWART PATRICIA A & GARBER ADRIANNE		Property owner
STOMPS GARY A & SHARON J		Property owner
SWAIM MARTHA J		Property owner
Swanson, Jeffery J.	Swanson | Moore Attorneys	Other
TANENBAUM COLLEEN L ETAL		Property owner
TAYLOR FAMILY REV TRUST OF 2012		Property owner
TAYLOR GREGORY RAYMOND		Property owner
TEAGUE TRISUSANTI LIVING TRUST		Property owner
TERRAS ROBERT T		Property owner
THAI DAO HONG		Property owner
Thomas, Jason	Pacific Gas and Electric Company	Utility
THORN JOHN & HILL SHYLA LENORE		Property owner
TINKLER FAMILY TRUST		Property owner
TJADEN GARY & JOY LAND TRUST		Property owner
TOPE DAVID LEE & KIMBERLY ANN		Property owner
TORIX KATHRYN ANN		Property owner
TOWNSEND MARY CLAIRE LIVING TRUST		Property owner
Tracy, Anna	Shasta County Library	Library
TRAFTON FAMILY REVOCABLE TRUST 2004		Property owner
TROXELL FAMILY TRUST		Property owner
TROXELL GERALD B		Property owner
TRUMAN GEORGE & MARYENE REV TRUST 2012		Property owner
TRUMAN GEORGE E & MARYRENE C REV TRUST 201		Property owner
TURNER PAUL A & MARY ANN FAM TRUST-SURVIVORS TRUST		Property owner
TUTTLE SCOTT & BOLLERSLEV DIANA		Property owner
TYSON JAMES L SR & TRECIA		Property owner
UNITED STATES FOREST SERVICE		Property owner
UNITED STATES FOREST SERVICE		Property owner
UNITED STATES OF AMERICA		Property owner
VALDES KAREN M		Property owner
VAN STEEN MICHAEL J		Property owner
VAN VORIS 2005 TRUST		Property owner
VANG NAO POR		Property owner

VANG POR ZE		Property owner
VANG POR ZE		Property owner
VANG PORCHOUA		Property owner
VANG TSI HNU KEVIN & CHENG KAREN		Property owner
VANOY ROBERT D		Property owner
VANOY ROBERT D		Property owner
VARA OSUALDO JR		Property owner
Vaupel, Larry	City of Redding , Development Services Department, Planning Division	Agency
VERBON MARCO & MARION TRUST		Property owner
VERRETTE TAMARA & PATRICK		Property owner
VILLA VICTOR J & LYNNE F		Property owner
VITAE VENTURES		Property owner
VOORHEES GENELLE E REV TRUST		Property owner
VOPAT FRANK AND GUDRUN TRUST		Property owner
W ADVENTURE		Property owner
Wadowski, Chuck (Engineer Senior Network Design)	Frontier Communications	Utility
WAKEFIELD TIM		Property owner
WALDO DORIS H LIVING TRUST		Property owner
Wall, Janet	Audubon Society- Wintu Chapter	Organization
WALLACE REVOCABLE TRUST		Property owner
Wallner, Patrick	Shasta County Planning Commission	Agency
WALTERS BARBARA LEA		Property owner
WAMPLER MARK A SR		Property owner
WANAT BENJAMIN M & TEN BROECK MOLLY D		Property owner
WARREN LYNN LEWIS		Property owner
WATROUS STANLEY ROBERT		Property owner
Webb, Bruce and Wall, Janet (Co-chairs Conservation)	Wintu Audubon Society	Organization
WENDLANDT DAVID		Property owner
WETMORE EARL & JOAN LIVING TRUST		Property owner
WHEELING STACY		Property owner
WHEELING STACY J		Property owner
WHITE FAMILY TRUST		Property owner
WHITE RICHARD & ROBIN REV FAMILY TRUST		Property owner
White, Charles (Tribal Adminstrator)	Pit River Tribe of California	Tribe
Whitehouse, Gene (Chairperson)	United Auburn Indian Community of the Auburn Rancheria	Tribe
WHITEHURST MISTY		Property owner
WILLARD RICHARD D & NANCYE		Property owner
WILLETT KATHLEEN BUFFINGTON		Property owner
WILLIAMS FAMILY 2014 REVOCABLE TRUST		Property owner
WILLIAMS MARVIN L 2002 REVOC TRUST		Property owner
WILLIAMS NEIL K & HEATHER A REV TRUST		Property owner
WILLIAMSON SHAWN & MELLISA		Property owner
Wilson, Randy	County of Plumas, Planning Department	Agency
WOODRUFF SARAH L		Property owner
WOODWARD ANNE M REV TRUST ETAL		Property owner
WORSLEY DANIEL D A		Property owner
WULFESTIEG CARL N & CLARA A		Property owner
Wyse, Joe Dr.	Shasta College	Educational
XIONG JENNY		Property owner
YANG HERR GER		Property owner
YANG PANG		Property owner

YANG PAO & LOR XIONG	Property owner
YANG SONG & ANTHONY	Property owner
YORK GARY W & GLENDA	Property owner
YOUNG FRED & CHOVICK NORA	Property owner
YOUNGBLOOD BRYON D & DOROTHY B	Property owner
ZDYBEL ROBERT J	Property owner
ZDYBEL ROBERT J	Property owner
ZHOO YUGANG	Property owner
ZIEMANN SAMUEL ROBERT	Property owner

Appendix C
Project Website

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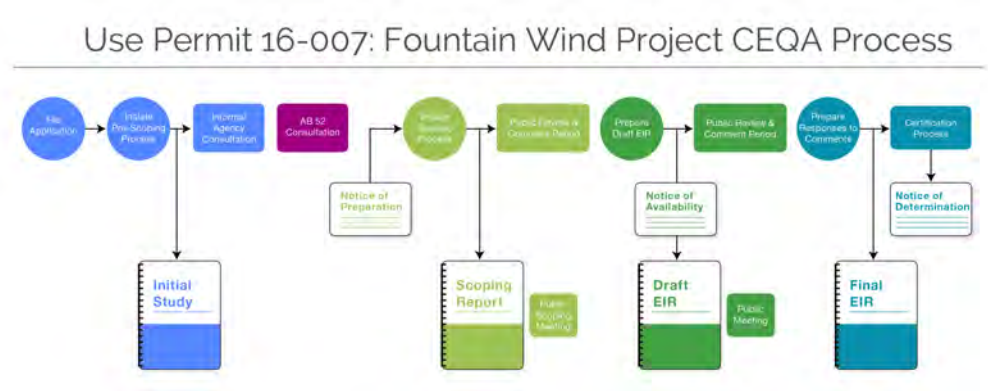
Fountain Wind Project

Welcome to the Shasta County Department of Resource Management's website for the California Environmental Quality Act (CEQA) review of the Fountain Wind Project proposed by Pacific Wind Development, LLC. This site provides access to public documents and information relevant to the CEQA review process via the links provided below.

Receive E-mail Notifications

If you would like to receive e-mail notifications about the Fountain Wind Project, please email FountainWind411@esassoc.com with "Subscribe" in the subject line.

Click on the graphic below for more information about the process and documents linked below



Pre-scoping

- Application Form
- Use Permit 16-007 Application
- AB 52 Consultation

Scoping

- Notice of Preparation
- Initial Study
  - Appendix A
  - Appendix B
  - Appendix C
- Public Notice Mailing
- Public Notice Newspaper
- Public Scoping Meeting Information
- Public Scoping Meeting Presentation
- Scoping Report

Draft EIR

- Publication anticipated Mid 2019

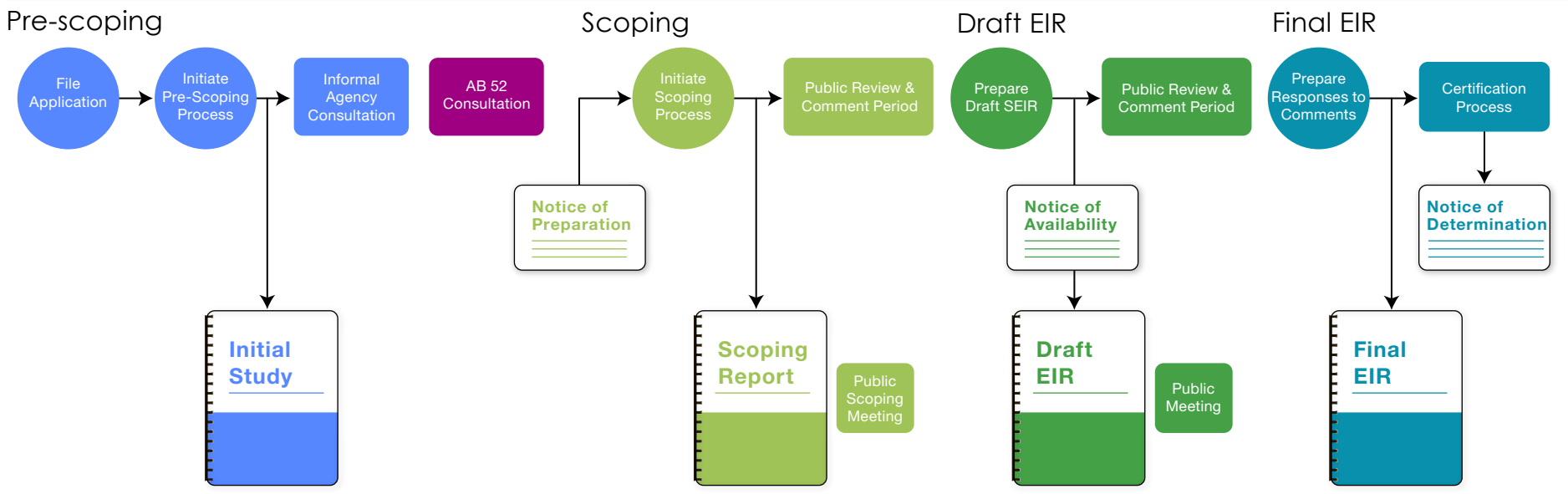
Final EIR

- Publication anticipated Late 2019

County Decision-making Process

- Anticipated Early 2020

Use Permit 16-007: Fountain Wind Project CEQA Process



Background

Pacific Wind Development, LLC, in its application for Use Permit 16-007, requests County authorization to construct, operate, maintain, and decommission the Fountain Wind Project (Project), which would consist of up to 100 wind turbines and associated infrastructure and facilities. Including transformers, lay-down areas, access roads, underground and overhead collector lines, an operation and maintenance building, and substation components. The Project would be located on 76 assessor parcels and would have a nameplate generating capacity of up to approximately 347 megawatts (MW).

The proposed project is subject to CEQA review because the County has been presented with a discretionary action to approve or deny the requested application. Before making a decision about the application, the County is required to analyze potential environmental impacts of the project, and to present the findings in an environmental document for public review and comment.

This website provides access to public documents and information relevant to the CEQA review process. The CEQA process for this Project generally falls into five phases: Pre-scoping, Scoping, preparation of the Draft EIR, preparation of the Final EIR, and the decision-making process. Information about each phase and associated documents is provided below.

Pre-scoping

Pre-scoping takes place after an applicant has submitted an application for a project. It involves the initial review of the application by the County, including a review for application completeness and a determination of what level of environmental review will be needed for the project. Documents produced during Fountain Wind Project pre-scoping period include the project application submitted by the applicant, an update to the application based on the County's preliminary review of the project application, and notification of the project to the Native American tribe that requested notice of proposed projects in the project area (AB52 Consultation).

An Initial Study was also prepared during the pre-scoping period. The Initial Study includes a detailed project description and initial analysis of the potential environmental impacts of the project. The Initial Study identified one or more potential significant adverse impacts, therefore the County determined an EIR would be needed for the Fountain Wind Project. Because the Initial Study is also used as a scoping tool, it is included with the Scoping documents.

Scoping (January 15 to February 14, 2019)

Scoping is initiated after it is determined that an EIR will be prepared for a project and a Notice of Preparation is filed with the State Clearinghouse. The scoping process takes place early in the environmental review process. It is intended to identify the range of environmental considerations pertinent to the proposed project and feasible alternatives or mitigation measures to avoid or reduce potentially significant environmental effects. For the Fountain Wind Project, the process includes inviting Responsible, Trustee, and other interested agencies, as well as members of the public, to provide input about the scope of the EIR and to attend a public scoping meeting. Documents produced during the scoping process include the Notice of Preparation, public notifications, scoping meeting materials, and a Scoping Report that will include all input received by the County during the scoping period, including written and oral comments received at the scoping meeting. All input –written or oral- will be considered in the preparation of a Draft EIR for the project.

Draft EIR

A Draft EIR is an informational document that provides a detailed analysis of the potential environmental consequences of approving a proposed project. The Draft EIR for the Fountain Wind Project will: describe the applicant's proposed project; evaluate potential significant direct, indirect, and cumulative impacts to the environment; and discuss ways to avoid or reduce potential significant impacts, including mitigation measures and alternatives to the project as proposed. As an environmental disclosure document, the Draft EIR will inform one factor among several to be considered as part of the County's overall decision-making process. Documents produced during the Draft EIR process include the Draft EIR and project-specific or site-specific technical studies that will be considered as part of the analysis. The County will release the Draft EIR for a 45-day comment period, during which agencies and members of the public will be invited to review the Draft EIR and provide comments.

Final EIR

Before the County may approve a project for which an EIR has been prepared, it must prepare and certify a Final EIR. The most important aspect of a Final EIR is the responses it provides to significant environmental points made in comments received from agencies and members of the public during the Draft EIR review period. The Final EIR for the Fountain Wind Project will consist of the Draft EIR or revisions to it, comments and recommendations received during the comment period, a list of all who provided input during the Draft EIR review period, and the County's responses to comments.

County Decision-making Process

The County's decision-making process for the Fountain Wind Project will be a two-step process: a decision whether to certify (accept) the EIR followed by a decision whether to approve the requested use permit (UP16-007). Approval of the use permit would allow the applicant to move forward with construction and operation of the proposed Fountain Wind Project. The Shasta County Planning Commission will make these decisions based on the whole of the record and proceedings for the application, including: all presentations and testimony taken during public hearing(s) called for the purpose of making a decision on the project, the analysis, public comments, and findings presented in the EIR, and the County required findings for approval or denial of a use permit.

Advance notice of the Planning Commission's intent to hold a public hearing(s) to deliberate and decisions on the project will be made in accordance with CEQA, other State laws, and the Shasta County Code. Any decision the Shasta County Planning Commission makes on the project, whether to approve or deny, may be appealed to the Shasta County Board of Supervisors within 10 business days after the Planning Commission's decision.

Project Description

34.5 kV Collector Substation Prelim Site Plan

Appendix A2 Tower Elevation Drawing

Cable Trench Details

Double Circuit Tangent

Figure 1 Vicinity Map

Figure 2 Project Area and Facilities Map

Figure 2 Project Facilities Map

Figure 3 Typical Wind Turbine Profile

Figure 4 Typical Turbine Site

Figure 7a Access Road Details

Figure 7b Access Road Details

Figure 8a O&M Facility Plan and Profile

Figure 8b O&M Facility Plan and Profile

Figure 8c O&M Facility Plan and Profile

Figure 12 Avian Use Point Counts

Figure 13 Bat Acoustic Monitoring Locations

Figure 14 Eagle Nest Survey Area

Figure 15 Visual Impact Assessment Area

Figure 16 Sound Impact Assessment Area

Figure 17 Environmental Survey Corridors

Figures Combined_100817_dVo v2

O&M Exhibit

Use Permit Written Statement 10.17.17_FINAL

AB 52

AB 52 Consultation

As part of the AB 52 consultation process, CEQA lead agencies consult with tribes in determining whether a proposed project may result in a significant impact to tribal cultural resources that may be undocumented or known only to the tribe and its members.

As set forth in Public Resources Code Section 21080.3.1(b), the law requires:

Prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, the lead agency shall begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation.

The County initiated consultation with the Tribes on its AB52 contact list by letter. Requests for data and follow-up correspondence occurred as follows:

Native American tribes that have submitted to Shasta County written requests for notification of CEQA projects within their geographic area of traditional and cultural affiliation as of 12/08/2017.

- Pit River Tribe
- Wintu Tribe of Northern California and Toyon-Wintu Center

Letters were sent the Tribe that identified the area within which the project is proposed as within their geographic area of traditional and cultural affiliation

- 12/08/2017 Pit River Tribe, Mickey Gemmill
- 12/08/2017 Pit River Tribe, Morning Star Gali

Appendix D
Newspaper Notices

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Record Searchlight

PART OF THE USA TODAY NETWORK

PROOF OF PUBLICATION

SHASTA COUNTY PLANNING
SHASTA COUNTY PLANNING
1855 PLACER ST SUITE 103
REDDING, CA 96001

STATE OF WISCONSIN, COUNTY OF BROWN

I hereby certify that the Record Searchlight is a newspaper of general circulation within the provisions of the Government Code of the State of California, printed and published in the city of Redding, County of Shasta, State of California; that I am the principal clerk of the printer of said newspaper; that the notice of which the annexed clipping is a true printed copy was published in said newspaper on the following dates, to wit;

January 15, 2019

such newspaper was regularly distributed to its subscribers during all of said period.

Legal Clerk

Subscribed and sworn to before on January 15, 2019:

Notary, State of WI, County of Brown

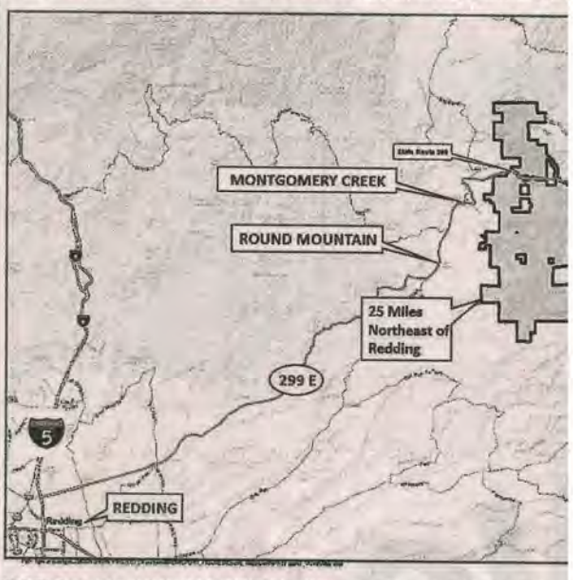
11/9/22
My commission expires

KAZOUA YANG
NOTARY PUBLIC
STATE OF WISCONSIN

Ad#: 2208496
P.O.:
# of Affidavits: 0

NOTICE OF PREPARATION OF AN ENVIRONMENT
NOTICE OF 30-DAY EIR SCOPING PERIOD AND
SCOPING COMMENTS; AND NOTICE OF PUBLIC
REGARDING THE PROPOSED FOUNTAIN

PROJECT TITLE: Fountain Wind Project (Use Permit No.
Wind Development, LLC 1125 NW Couch Street Suite 70(
LOCATION: The Project would be located west of the exi
approximately 6 miles west of Burney, 35 miles northea
north and south of California State Route 299 (SR 299); se
constructed within an area of approximately 30,532 acres
Cascades Timberlands, LLC. The project site includes po
Shasta County Assessor=s parcels numbers, located in Town
14, 22, 23, 25-29, 32-36; Township: 35N, Range: 20 E, Se
Range: 10 E, Sections: 1-17, 21-23, 25-29, 33-36; Township:
Township: 33N, Range: 10 E, Section: 3; all Mount Diablo B



NOTICE OF PREPARATION: Shasta County is the Lea
Environmental Quality Act (CEQA), and is preparing an En
for the project identified as the Fountain Wind Project, a w
private timberland and consisting of up to 100 wind turbines
to 347 megawatts. The purpose of this Notice of Preparation
the scope and content of the EIR, including potential enviro
mitigation measures or alternatives that should be consider
including an Initial Study, is currently available on the inte
ca.us/index/drm_index/planning_index/eirs/fountain-wind-pr
A copy of the Initial Study can also be reviewed or obtaine
Resource Management, Planning Division located at 1855 Pl
CA 96001. If you would like to receive e-mail notifications a
please email FountainWind411@esassoc.com with "Subscrib
WRITTEN SCOPING COMMENTS: Written scoping comme
during the 30-day scoping period initiated by this notice. S
written comments to the project contact, Lio Salazar-Senio
Department of Resource Management, Planning Division,
Redding, CA 96001, or via e-mail at lsalazar@co.shasta.ca.
will close on Thursday, February 14, 2019. Mr. Salazar m
information at (530) 225-5532.
PUBLIC SCOPING MEETING NOTICE: Shasta County will
for agencies and individuals to learn more about the CEQ
to receive comments about the scope and content of the
environmental impacts of the project should be addressed
of the project will not be discussed at this meeting, nor will c
denial of the project. No decision to approve or deny the proj
The meeting will be held Thursday, January 24, 2019, at the

Invoice

Mountain Echo-

PO Box 224
Fall River Mills, CA 96028

Date	Invoice #
1/16/2019	3748

Bill To
Shasta County Dept. of Resource Managemen 1855 Placer, Suite 200 Redding, CA 96001 Attn: Jessica Diridoni

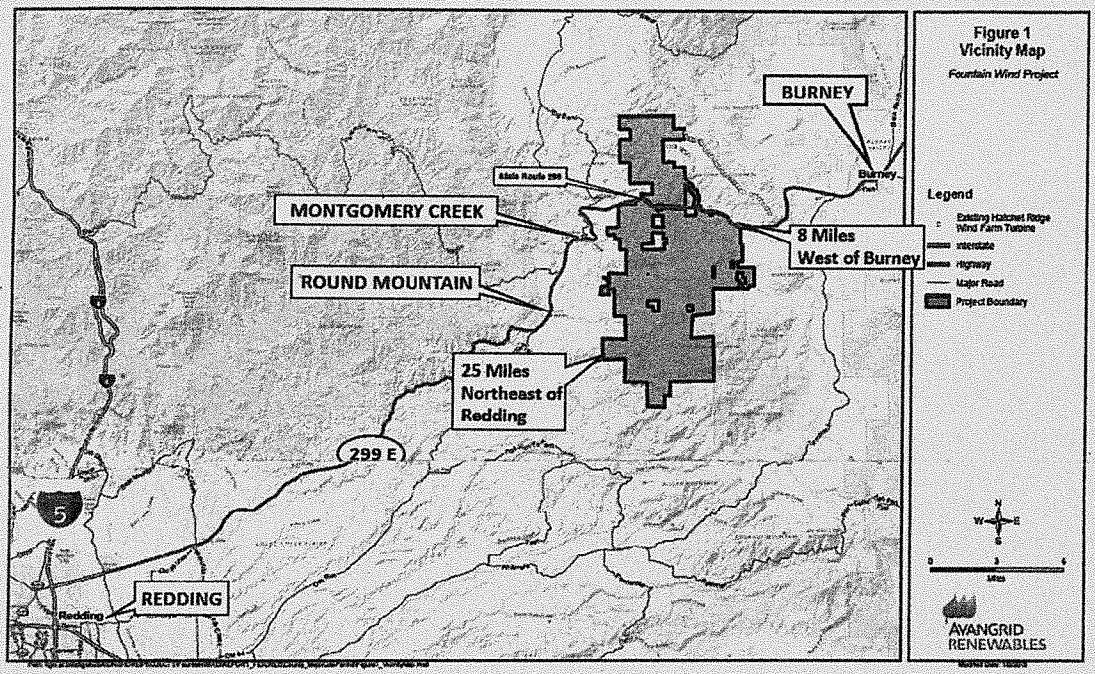
P.O. No.	Terms	Project

Quantity	Description	Rate	Amount
	1/4 pg EIR Notice Fountain Wind Project	204.75	204.75
		Total	$204.75

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT (EIR); NOTICE OF 30-DAY EIR SCOPING PERIOD AND REQUEST FOR WRITTEN SCOPING COMMENTS; AND NOTICE OF PUBLIC EIR SCOPING MEETING

REGARDING THE PROPOSED FOUNTAIN WIND PROJECT

PROJECT TITLE: Fountain Wind Project (Use Permit No. UP 16-007) APPLICANT: Pacific Wind Development, LLC 1125 NW Couch Street Suite 700, Portland OR 97209 PROJECT LOCATION: The Project would be located west of the existing Hatchet Ridge Wind Farm, approximately 6 miles west of Burney, 35 miles northeast of Redding, and immediately north and south of California State Route 299 (SR 299); see vicinity map below. It would be constructed within an area of approximately 30,532 acres of private land owned by Shasta Cascades Timberlands, LLC. The project site includes portions of land, referenced by 76 Shasta County Assessor=s parcels numbers, located in Township: 35N, Range: 10 E, Sections: 14, 22, 23, 25-29, 32-36; Township: 35N, Range: 20 E, Sections: 30,31,32; Township: 34N, Range: 10 E, Sections: 1-17, 21-23, 25-29, 33-36; Township: 34N, Range: 20 E, Sections: 5-8; Township: 33N, Range: 10 E, Section: 3; all Mount Diablo Baseline and Meridian.



NOTICE OF PREPARATION: Shasta County is the Lead Agency under the California Environmental Quality Act (CEQA), and is preparing an Environmental Impact Report (EIR) for the project identified as the Fountain Wind Project, a wind energy project proposed on private timberland and consisting of up to 100 wind turbines with a generating capacity of up to 347 megawatts. The purpose of this Notice of Preparation (NOP) is to solicit guidance as to the scope and content of the EIR, including potential environmental impacts of concern and mitigation measures or alternatives that should be considered. Detailed project information, including an Initial Study, is currently available on the internet at: https://www.co.shasta.ca.us/index/drm_index/planning_index/eirs/fountain-wind-project

A copy of the Initial Study can also be reviewed or obtained at the Shasta County Dept. of Resource Management, Planning Division located at 1855 Placer Street, Suite 103, Redding, CA 96001. If you would like to receive e-mail notifications about the Fountain Wind Project, please email FountainWind411@esassoc.com with "Subscribe" in the subject line.

WRITTEN SCOPING COMMENTS: Written scoping comments will be accepted at any time during the 30-day scoping period initiated by this notice. Send all direct questions and all written comments to the project contact, Lio Salazar-Senior Planner, at the Shasta County Department of Resource Management, Planning Division, 1855 Placer Street, Suite 103, Redding, CA 96001, or via e-mail at lsalazar@co.shasta.ca.us. The 30-day scoping period will close on Thursday, February 14, 2019. Mr. Salazar may be contacted for additional information at (530) 225-5532.

PUBLIC SCOPING MEETING NOTICE: Shasta County will hold a public scoping meeting for agencies and individuals to learn more about the CEQA process for this project, and to receive comments about the scope and content of the EIR, including what potential environmental impacts of the project should be addressed in depth in the EIR. The merits of the project will not be discussed at this meeting, nor will comments regarding approval or denial of the project. No decision to approve or deny the project will be made at this meeting. The meeting will be held Thursday, January 24, 2019, at the Montgomery Creek Elementary School, located at 30365 State Highway 299 East, Montgomery Creek, CA 96065. Doors will open at 6:30 p.m. for informal viewing of project related information. The formal scoping meeting will begin at 7:00 p.m. (Publication Date: 01/15/19)

In and For the
County of Shasta
CERTIFICATE OF PUBLICATION

NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT (EIR); NOTICE OF 30-DAY EIR SCOPING PERIOD AND REQUEST FOR WRITTEN SCOPING COMMENTS; AND NOTICE OF PUBLIC EIR SCOPING MEETING REGARDING THE PROPOSED FOUNTAIN WIND PROJECT

State of California

County of **Shasta**

I hereby certify that the Intermountain News Is a newspaper of general circulation with the Provisions of the Government Code of the State of California printed and published in The town of Burney, County of Shasta, State of California; that I am the principle Clerk of the printer of said newspaper, that The notice of which the annexed clipping is a true printed copy was published in said Newspaper on the following dates, to wit:

Published:
JANUARY 16, 2019

I certify under the penalty of perjury that the Foregoing Is true and correct, at Burney, California, on the day of:

JANUARY 16, 2019

Signature
Katie Harrington
Katie Harrington

The Intermountain News
And Shasta Lake Bulletin
P.O. Box 1030, Burney, CA 96013
Phone 530-725-0925;
Fax 530-303-1528

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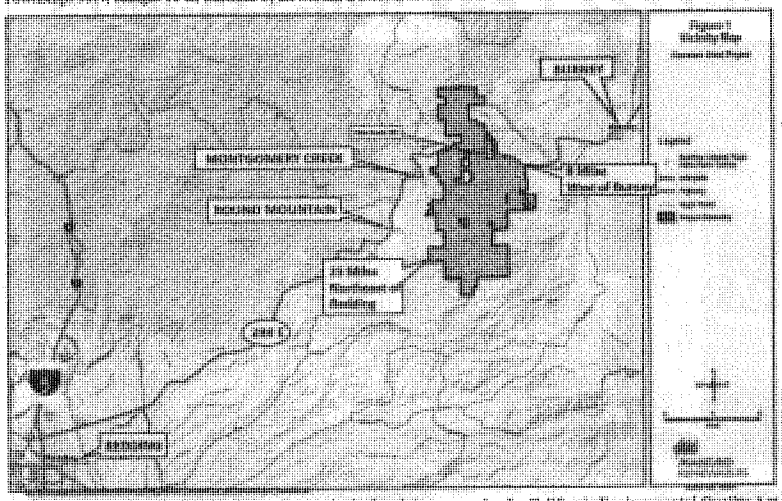

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Appendix E
Agency Scoping Materials

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ESA

550 Kearny Street
Suite 800
San Francisco, CA 94108
415.896.5900 phone
415.896.0332 fax

www.esassoc.com

multi-agency coordination

project	Fountain Wind Project EIR	project nos.	UP 16-007 D170788.00
date	January 24, 2019	time	2 p.m.
subject	Multi-Agency Scoping	route to	Participants; File

Notes

Location

Shasta County Administration Building
1450 Court Street, Third Floor Training Room 352, Redding, CA 96001

Goals

Initial engagement among lead, responsible, trustee, and potentially affected federal agencies regarding potential impacts, mitigation measures, and preferred approaches to be considered in the CEQA process for Shasta County's consideration of Pacific Wind Development's proposed Fountain Wind Project.

Establish plan for regular communication with responsible, trustee, and potentially affected federal agencies to assure that independently enforceable regulated activities are described accurately and considered appropriately in the Fountain Wind Project EIR.

Invitees

See next

Topics (discussion leader/facilitator) — Suggested Start Times

I. Introductions (Lio Salazar) 2:00
II. Overview of Project, History and Goals (Applicant team) 2:10
III. Comments from Agencies 2:20
IV. Next Steps 2:50
- Site Visit to be held January 25, 2019
- Scoping period concludes February 14, 2019
- Pre-publication coordination regarding impacts and mitigation measures
- Publication of Draft EIR

V. Conclude 3:00

Invitees

Shasta County Dept. of Resource Management
- ☒ Lio Salazar, AICP, Senior Planner
- ☒ Paul Hellman, Director, Planning Division
- ☒ Kim Hunter, Planning Division Manager
- ☐ Dale Fletcher, Building Division Manager
- ☐ Carla Serio, REHS, Director, EHD
- ☒ Bruce Grove (SHN)
- ☒ Janna Scott, Jessie O'Dell, Jeff Trow (ESA)

Shasta County AQMD
- ☒ John Waldrop, Air Quality District Manager

Shasta County Fire Department
- ☒ Jimmy Zanotelli, Fire Marshal

California Department of Fish and Wildlife
- ☐ Curt Babcock, HCP Program Manager
- ☐ Kristin Hubbard, Environmental Scientist

CALFIRE
- ☐ Benjamin Rowe, SHU Unit Forester

Caltrans Division of Aeronautics
- ☐ Jeff Brown, Chief

U.S. Fish and Wildlife Service, Sacramento
- ☐ Jennifer Norris, Ph.D., Field Supervisor

Central Valley RWQCB
- ☐ Bryan Smith, Program Manager, Water Quality Certification

U.S Department of Transportation, FAA

U.S. Army Corps of Engineers, Sacramento District, Redding Office

U.S. Navy Pacific Fleet
- ☐ Alexander Stone, US Navy, Military Training Routes

Pacific Wind Development, LLC (Applicant)
- ☐ Scott Kringen, Kristin Goland, and Paul Koppelman
- ☒ Erec DeVost (Stantec)
- ☒ Joel Thompson (WEST)

Shasta County Sherriff's Department
- ☒ Lt. Tyler Thompson

I. Introductions (Lio Salazar)

- Introductions of meeting participants
- CDFW was not able to attend but sent Lio questions to be raised during agency scoping meeting
- Ben Rowe was unable to attend the agency scoping meeting but will attend site visit on 1/25

II. Overview of Project, History and Goals (Applicant team)

- Overview of Project provided by Scott Kringen
- Kristin Goland clarified information about the siting of the turbines, more locations for potential turbine sites are reflected on most current figures than would actually be used. Turbine locations will depend on the type of technology and wind turbine that ultimately is selected.

III. Agency Input

A. <u>CDFW (via Lio)</u>

1. Has the project changed since initial consultation when Bill Walker was involved? Kristin: Changes to the Project are described in letter response to CDFW's letter from March 2017/2018. As indicated in the letter response, surveys requested by CDFW have been performed. Janna: CDFW has received surveys and survey GIS data provided by the Applicant team.

2. Are there any surveys planned for this year? Kristin: Yes. for example, two years of data would be needed for an eagle take permit if Avangrid elects to seek one. Avangrid is considering collecting that data upfront. Kristin to provide quick summary of updated surveys for CDFW.

3. CDFW would like to visit the site. Janna: When the government reopens we should have a conversation with both CDFW and USFWS. Follow-up meeting (with site visit) to be offered with CDFW and USFWS. Kristin: Will prepare a summary of updated survey information

4. Why are there different turbine locations from the NOP figure and the IS and surveys? Kristin: Will draft something to depict progress to current status, including where we will be supplementing some of the surveys. Graphic to be provided.

B. Lt. Tyler Thompson Sheriff's Office- Burney Division

1. Turbine locations are within beat areas.

2. Past experience from Hatchet Ridge Wind Farm. Had issues with traffic control on SR 299 transporting turbines up the two-lane curvy road, which is a major thoroughfare. The manpower from the sheriff's office was not enough for traffic control. CHP was called in but it was still not enough. Overall they had to run overtime and ultimately shut down the highway. The turbines almost didn't make corners. Transportation of turbines for this project would be a potential issue.

3. Calls for service. During construction of the Hatchet Ridge Project, they had gates but left gates open until completion of project. People would drive up and the security staff they had on site would just call the sheriff's department to have those people removed. Had people driving up. Many calls were made to the sheriff's office. Data regarding exact number of calls is not available, but there were likely calls to the sheriff's office 2-3 times a week from onsite security to remove drivers. This impacted overall service to the area when time was taken away to answer these calls.

C. Jimmy Zanotelli- Fire Marshall

1. Concern of potential increase in wildfire risk and how the project could impact evacuation. The Fire Department has evacuation and security details to attend to. Coming off of the Carr and Camp fires, this is a big concern. The Department spent more than $1 million doing security and controlling evacuations for the Carr fire. The project would have the potential to increase the risk of wildfire due to activities such as welding, driving, using chemicals, etc.

2. Evacuation plan or response plan. Jimmy: would be developed through the Sheriff's Department not the Fire Department.

3. Potential for communications interference. Janna: Do you have air support? Does your communication system rely on wireless relay towers in area? Jimmy: On Bunchgrass, west of project area. In Round Mountain, on northeastern side of Hwy 299 there is a repeater which services entire law enforcement in intermountain area and CALFIRE. No planes are used, but CHP has some helicopters and fixed wings. Don't know what the flight patterns are for those helicopters. There is a Helipad behind substation in Burney, medical emergencies go to Burney station and then pick up to helilift people where they need to go. ACC- comms and repeater. Forwarded on to OES. Not in direct line of Bunchgrass, so should be fine.

4. Site security.

    - Paul: Can security kick people off? Tyler: Yes, they can but they didn't. Scott: Bunchgrass road where Hatchet Ridge Project is located is public. The access roads for the project roads are private. There is no public access, so that would probably be less of a concern.

    - Tyler: Are you anticipating closing and locking gates continuously as trucks go in and out? Scott: Yes, that would be our intention. Kristin: Off of the main road yes, we would lock but for roads within project area, those gates would likely be left open for safety reasons. Tyler: There are

lots of access points in that project area, lots of dirt roads and ATV trails that people could use to access the Project site.

- Jimmy: County Fire would need access to the site and access to the turbine locations.
- Janna: Have you received calls for Hatchet Ridge Area? Jimmy: Don't recall too many calls. We would only respond medical or vegetation fire. Not many calls for service in that area.
- Jimmy: Would there be 24-hour security? Kristin: security would come on an hour before [?]. Tyler: We shut down at 0300 resume at 0700 so there is a gap in law enforcement. During that time, law enforcement calls go to Valley Patrol (only 4 people). Calls to the site during that time could hinder service.
- Paul: Would there be blasting? Kristin-: Yes. Jimmy: If you have blasting caps stored up there, that could be a concern. Kristin: There would be fenced laydown areas. Up to 17 storage locations, not all would be fenced. Anything that is of value or could do damage would be locked up. Eric: Blasting is usually done by a specialized contractor who has obligation to secure blasting caps. Tyler: notify sheriff EOD [Explosive Ordnance Disposal (EOD)]. Eric: Blasting plan would discuss all of that, the conditions of blasting etc.

5. Response times and service ratios. Jimmy: We have not adopted anything.

6. Potential to interfere with evacuation or emergency response access. Jimmy: It is a straight shot from Burney on 299 through to Redding. Therefore, traffic on 299 from the project could impact this. Traffic along 299 would affect fire department response times. Both the Fire Department and the Sherriff's Department would need the gate codes.

7. Applicable standards. Jimmy: The project would need to meet County standards and fire standards. We would want more information about plans for fire protection. There is not much water up there, no hydrants. The Hatchet Ridge Project required tank storage for the water. Something similar may be needed for this project. The O&M building would require a sprinkler system, stormwater catchment and diesel driver pump or something like that. All permits would be through the Building Department. No additional permits from the Shasta County Fire Department would be required. Regulations for water storage tanks are located in fire standards [the National Fire Protection Association Standard on Water Supplies for Suburban and Rural Firefighting] 1142. Regulations related to road access width, road base, and culverts are located in [Shasta County Fire Safety Standards] 6.1 and 6.12.

8. Required measures or plans: Jimmy: Many comments provided on the Hatchet Ridge project will be carried forward for this project such as: requirements for fire extinguishers, the necessity of a Fire Prevention Plan for construction. We will also comment about requirements to establish a Rescue Plan from wind turbine towers (This was a requirement for Hatchet Ridge.) Both the Fire Department and the Sherriff's Department would need the gate codes. Jimmy: Ben Rowe wanted to mention the issue that a Timber Harvest Plan would be required through CEQA. This would be a CALFIRE issue.

D. <u>John Waldrop – Air Quality Management District</u>

1. A project like this would not be a huge air quality concern during operation. Biggest concerns would be during construction due to emissions. Submitted comment letter in response to memo.

2. Permit requirements: The following things could require a permit: 1) Operation of a concrete batch plant or aggregate processing on site; 2) installation of emergency backup generators; 3) if a timber harvest plan is created for the project and logging is conducted, resulting in dust; 4) If material is burned onsite, then a smoke management plan would be required. Tier engine to meet state standards.

3. Standards and thresholds.

    - John: Regarding the definition of substantial, we generally go by Health and Safety Code §41700. We do have district protocol for CEQA environmental review. During construction, there would be concerned with anything that would create a nuisance, such as fugitive dust or the track-out of dust or mud onto the highway. The project area is a rural area and does not have a high risk for nuisance.

    - John: Rules that would be applicable are as follows: Specific air contaminants, fugitive emissions, architectural coatings rule which would apply to painting, volatile organic carbon limits for coatings adhesives and sealants, heavy equipment operating on site would need to registered under CA portable equipment registration, distributing or storing gasoline would require a phase one vapor recovery (diesel would not fall under that requirement), and activities in an area of naturally-occurring asbestos would require notification and the development of a plan that meets the requirements of the Asbestos Air Toxic Control Measure for Construction, Grading, Quarrying and Surface Mining Operations.

4. Cumulative scenario. John: I am unaware of other projects which would be cumulative.

E. Other Questions

1. John Waldrop: Out of curiosity, when turbines are generating electricity are they creating ozone? Scott- No, no emissions whatsoever.

2. Paul- What is the typical temporary disturbance for each turbine? Kristin: About 5 acres per turbine would be the largest conservative assessment for temporary disturbance due to needs for cranes and storage. Eric: Permanent disturbance would be about 1/3 acre per turbine. About enough to turn a pick-up truck around

3. Paul: Would the whole footprint would need to be cleared? Kristin: Not necessarily, we would never want to fully clear. It would depend on forest management plan and fire management plan requirements. Also depends on the site - we can't have blade overhang. Also depends on fuel management plan.

4. Paul: How deep is a typical footing? Eric: 12 to 15 feet. A foot of phalange would be above ground for each footing. That is typical for spread footing. Ultimate depth would depend on geotechnical evaluation for each turbine site. May need to be deeper or not. Scott: The turbine foundations would be the same as what was used on Hatchet Ridge. The land would be revegetated and reclaimed after construction.

5. Friant Ranch decision. Lio: applicability to the Project? Janna: Case covers secondary effects to human health. Hazards, water quality, all areas which could potentially affect human health will be discussed in a section either after the resource specific information (in an "Other CEQA Considerations" chapter) or in the Intro to Analysis chapter. We could aggregate the analysis there or provide a crosswalk table that points people to resource-specific sections where potential impacts on human health are discussed.

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Appendix F
Public Scoping Materials

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Fountain Wind Project EIR

Public Scoping Meeting | January 24, 2019

Doors Open: 6:30 p.m.

Presentation & Public Comments: 7:00 p.m.

Agenda

- Introductions
- Purpose of the Meeting
- Project Overview
- CEQA Process Overview
- Pre-scoping Activities
- Scoping: Environmental Impacts and Alternatives
- Public Comments

Introductions

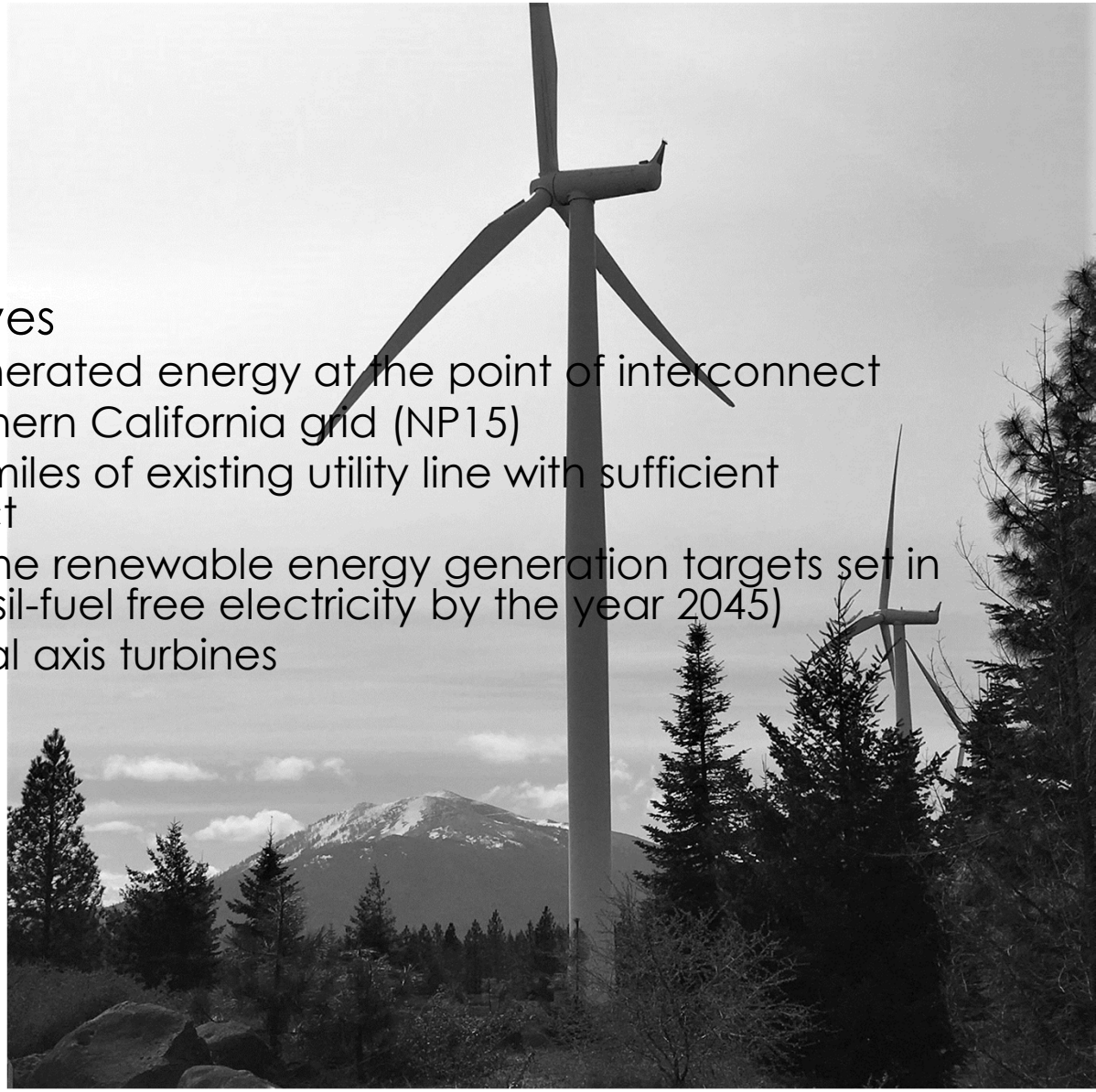
- Shasta County
  - Department of Resource Management, Planning Division
  - Lio Salazar, AICP, Senior Planner, (530) 225-5532, lsalazar@co.shasta.ca.us
  - CEQA Lead Agency (responsible for the EIR)
  - Decision-maker for the requested Use Permit 16-007
- Environmental Science Associates
  - Janna Scott, Project Manager
  - Environmental Consultant to the County
- Avangrid Renewables, Pacific Wind Development, LLC, Applicant
- Other Public Agencies
- Members of the Public

Purpose of the Meeting

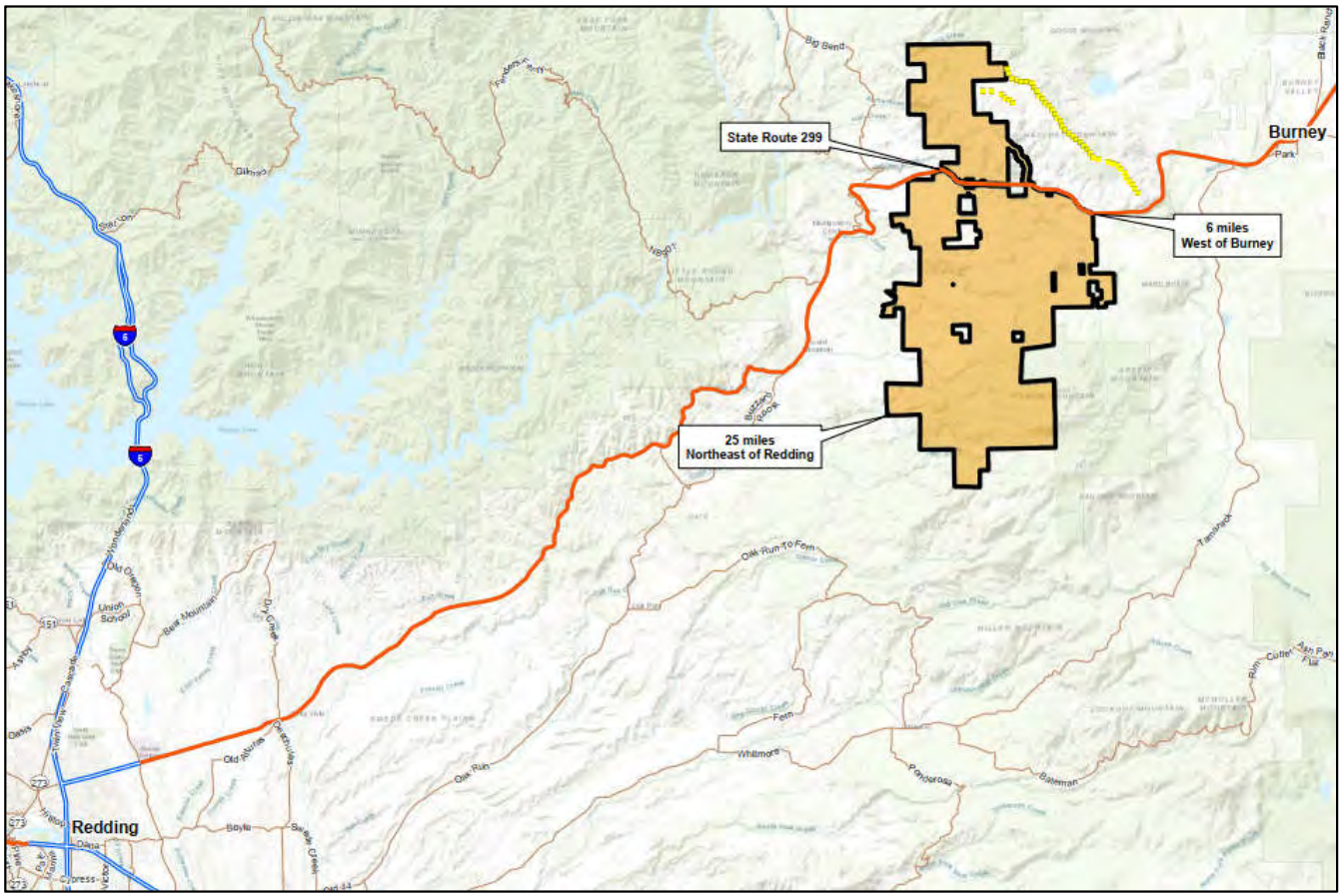
For us to hear from YOU!
Your questions and ideas are welcome and invited.

Project Overview

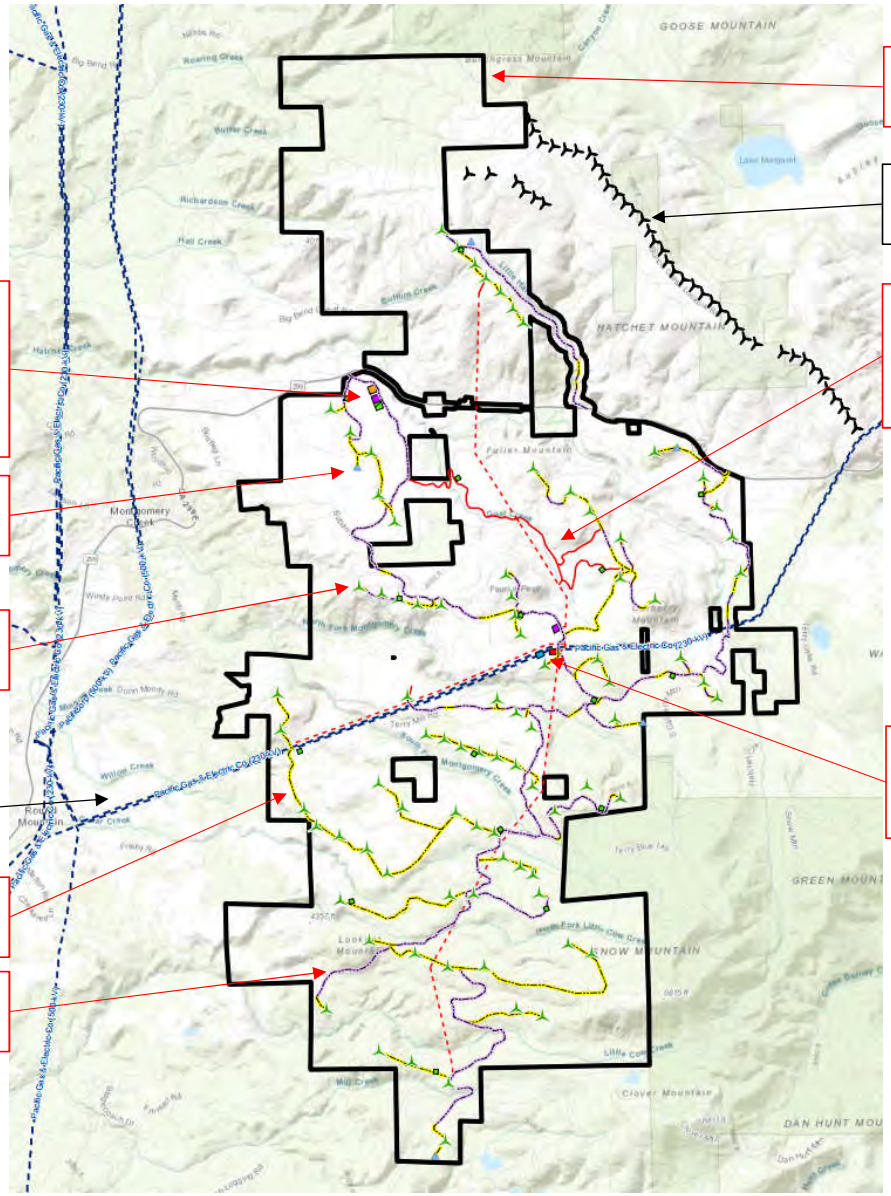
- Applicant's Project Objectives
  - Provide 200 MW of wind-generated energy at the point of interconnect
  - Interconnect within the northern California grid (NP15)
  - Locate the project within 3 miles of existing utility line with sufficient capacity to serve the project
  - Assist California in meeting the renewable energy generation targets set in Senate Bill 100 (i.e., 100% fossil-fuel free electricity by the year 2045)
  - Use state-of-the-art horizontal axis turbines



Vicinity Map

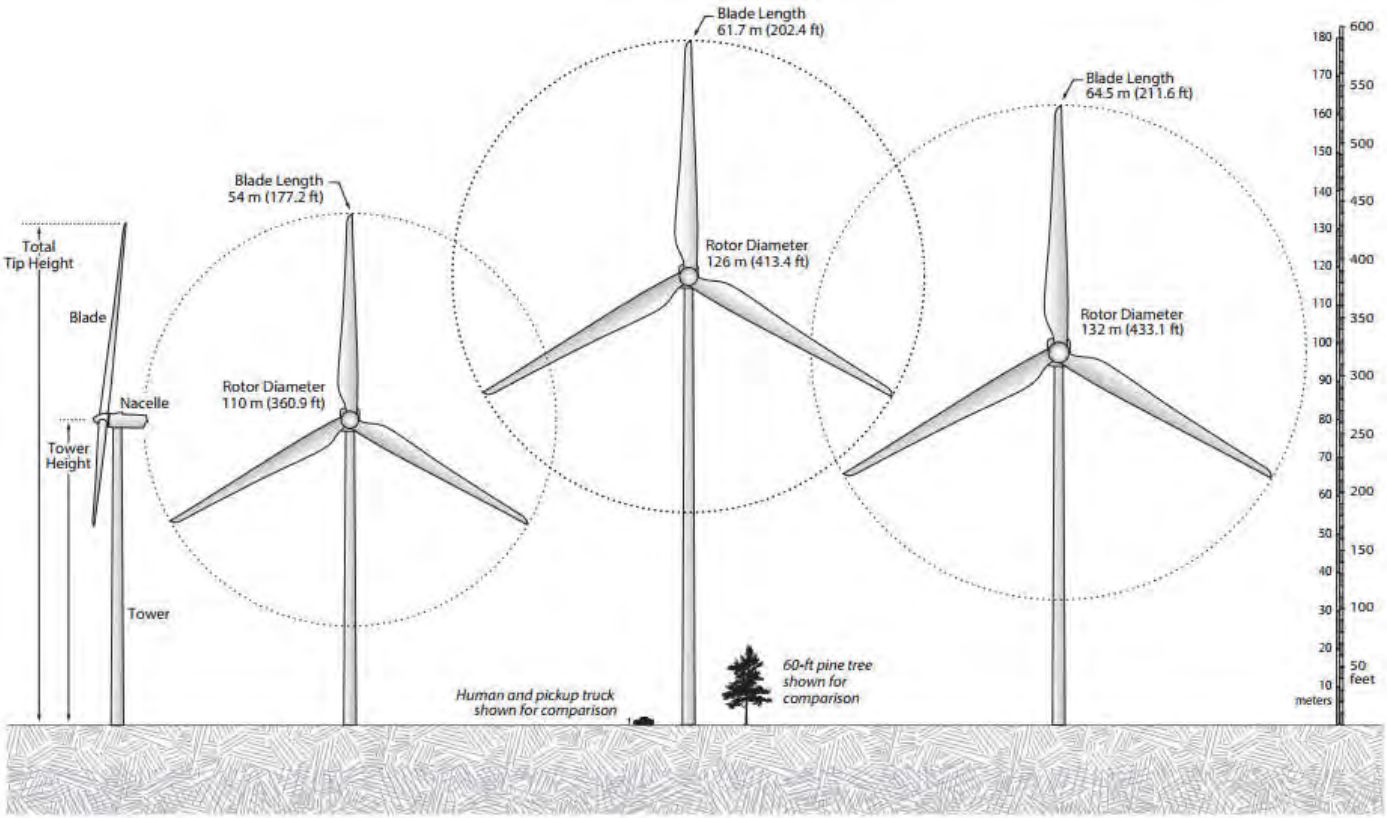


Facilities


GOOSE MOUNTAIN
HATCHET MOUNTAIN
SNOW MOUNTAIN
GREEN MOUNTAIN
DAN HUNT MOUNTAIN
Proposed boundary (black solid)
Existing turbines (black-Hatchet Ridge)
Proposed overhead line (red dotted) and underground line (red solid)
Proposed construction lay-down yard (green), batch plant (purple), and O&M facility (orange)
Proposed met tower (blue)
Proposed turbines (green)
Existing transmission lines (blue)
New roads to be constructed (yellow)
Existing roads to be improved (purple)
Proposed substation (red) and switchyard/ interconnection (blue)

Typical Wind Turbine Profile

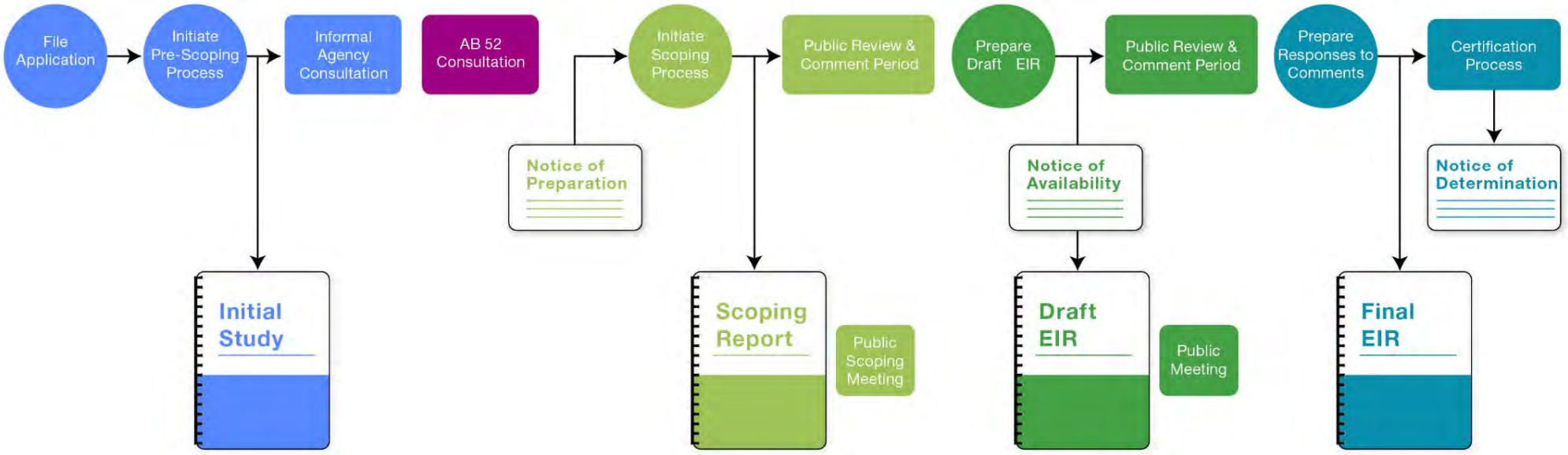
Turbines



Generic Turbine Profile	2.0 MW Turbine	3.45 MW Turbine	3.465 MW Turbine
	Tower height: 80 m (262.5 ft) Total tip height: 135 m (442.9 ft)	Tower height: 117 m (383.9ft) Total tip height: 180 m (590.6 ft)	Tower height: 97 m (318.2ft) Total tip height: 163 m (534.8 ft)

CEQA Process Overview

Use Permit 16-007: Fountain Wind Project CEQA Process



Pre-scoping Activities

Initial Agency Outreach

- Burney Fire Protection District
- California Department of Fish and Wildlife
- California Department of Transportation
- Central Valley Regional Water Quality Control Board
- Shasta County Assessor/Recorder
- Shasta County Air Quality Management District
- Shasta County Fire Department
- Shasta County Office of the Sheriff
- Shasta Mosquito and Vector Control District

Pre-scoping Activities

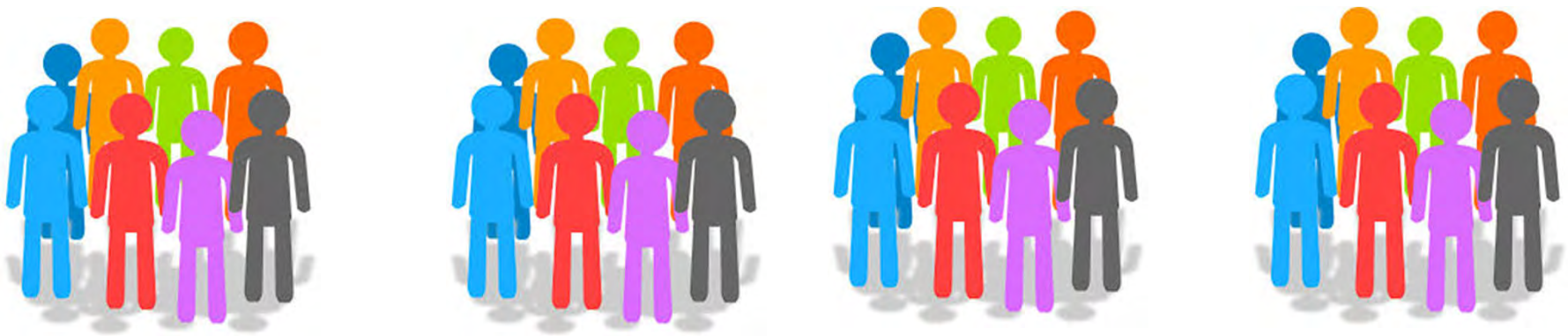
Initial Community Outreach

- Pit Rive Tribe
- Frontier Communications
- Wintu Audubon Society

Pre-scoping Activities

County Consultation with Tribes (AB 52 Consultation)

- Letters sent to Tribes that had requested notification
- No responses were received within the timeframe
- Outreach will continue as part of the CEQA process



Scoping

Purpose

- Solicit input as to the scope and content of the EIR, including potential impacts of concern and mitigation measures or alternatives that should be considered

Agency Scoping

- Responsible Agencies
- Trustee Agencies
- Other Agencies

Public Scoping

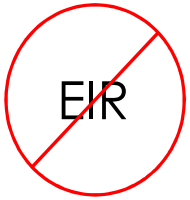
Scoping

Resources to be Evaluated:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality and Greenhouse Gas Emissions
- Biological Resources
- Communications Interference
- Cultural and Tribal Cultural Resources
- Energy
- Geology, Soils, and Paleontology
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Utilities and Service Systems
- Wildfire

Initial Study Determinations of No Impact

- Hazards and Hazardous Materials
  - Emission of hazardous emissions or handling of hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school
  - Cause a safety hazard for people living or working near an airport or a private airstrip, including from noise
- Hydrology and Water Quality
  - Place housing in a flood zone
  - Place structures in a flood hazard area that would impede or redirect flood flows
  - Expose people or structures to a significant risk of loss, injury, or death involving flooding



- Agriculture Resources
- Biological Resources (Conflict with an HCP or NCCP)
- Land Use and Planning (division of established community)
- Mineral Resources
- Population and Housing
- Public Services (schools, parks, other governmental facilities)
- Recreation
- Transportation (public transit, bike, pedestrian facilities)
- Utilities and Service Systems (water or wastewater treatment, water supply, solid waste)

Determinations of Less than Significant or Potential Significant Impact

- Everything else:
  - Aesthetics
  - Air Quality and GHG Emissions
  - Biological Resources
  - Cultural and Tribal Cultural Resources
  - Forestry Resources
  - Geo, Soils, and Paleo
  - Hazards and Hazardous Materials
  - Hydrology and Water Quality
  - Land Use and Planning
  - Noise
  - Public Services
  - Transportation
  - Utilities and Service Systems

- Not addressed in the Initial Study:
  - Communications Interference
  - Energy
  - Wildfire

Scoping: Potential Alternatives

- Project Alternatives
  - Reasonable or feasible alternatives to the proposed project or its location
  - Capable of avoiding or substantially lessening any significant project impacts
  - Ok to impede to some degree the attainment of the objectives or be costlier
- No Project Alternative
  - What would be reasonably expected to occur in the foreseeable future if the proposed project were not approved
  - Based on current plans, consistent with available infrastructure and services

Scoping: Potential Alternatives

Proposed Project

- Use Permit 16-007
- Up to 100 wind turbines, each up to 100 feet tall
- Up to 347 megawatts of renewable (wind) energy generated on approximately 37,436 acres of private land
- Related environmental impacts and benefits

Correction: Up to 600 feet

No Project Alternative

- No Use Permit
- No commercial-scale renewable energy project on the proposed site
- Continued commercial timber production use of the property
- Related environmental impacts and benefits

Potential Alternatives

- How to reduce potential impacts to Aesthetics?
- How to reduce potential impacts to Biological Resources (e.g., to birds, bats, other wildlife, or to wetlands or other habitats)?
- How to reduce potential impacts to Cultural Resources or to Tribal Cultural Resources?
- How to reduce potential impacts from materials delivery or removal during construction or decommissioning?

Public Participation Opportunities

Participate at this evening's meeting

Submit written comments on or before February 14, 2019

- Submit comments using the following link:
  http://comment-tracker.esassoc.com/tracker/fountainwindeir/

Stay informed

- Request to receive project notices electronically
- Keep an eye on the project website

Provide comments on the Draft EIR

Participate in public hearings on the project

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Public Comments this Evening

Written Comments

- Comment sheets
- Computer terminal

Oral Comments

- Speaker Cards
- State and spell your name
- One person to speak at a time
- Support everyone's participation
- Respect others' opinions

Public Participation
Contact Information
Shasta County's Consideration of the Fountain Wind Project (Use Permit 16-007)

Send Mail by U.S. Post:

Lio Salazar, AICP, Senior Planner
Shasta County Dept. of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

E-mail

E-mail Lio Salazar: lsalazar@co.shasta.ca.us

Telephone

Call Lio Salazar: (530) 225-5532

Project Website

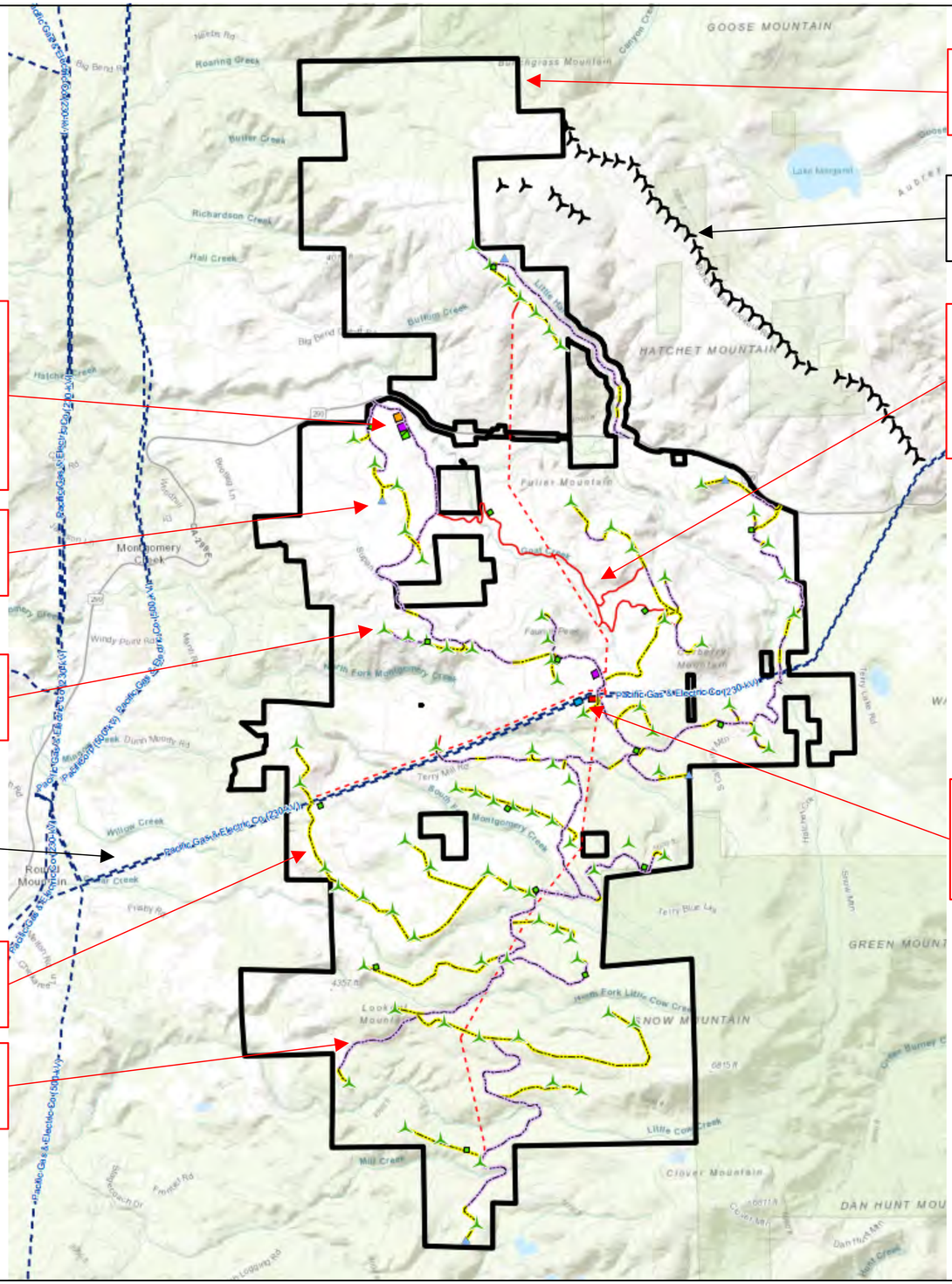
https://www.co.shasta.ca.us/index/drm_index/planning_index/eirs/fountain-wind-project

Project Notifications by E-mail

To receive e-mail notifications about the Fountain Wind Project, please email FountainWind411@esassoc.com with "Subscribe" in the subject line.

We will not sell your information to anyone for any purpose. However, information you provide may be subject to disclosure in response to a request for public information about the project.

Once you opt in, you can always opt out by replying to any system-generated message with the word "Unsubscribe" in the subject line.



Proposed boundary (black solid)

Existing turbines (black-Hatchet Ridge)

Proposed overhead line (red dotted) and underground line (red solid)

Proposed substation (red) and switchyard/ interconnection (blue)

Proposed construction lay-down yard (green), batch plant (purple), and O&M facility (orange)

Proposed met tower (blue)

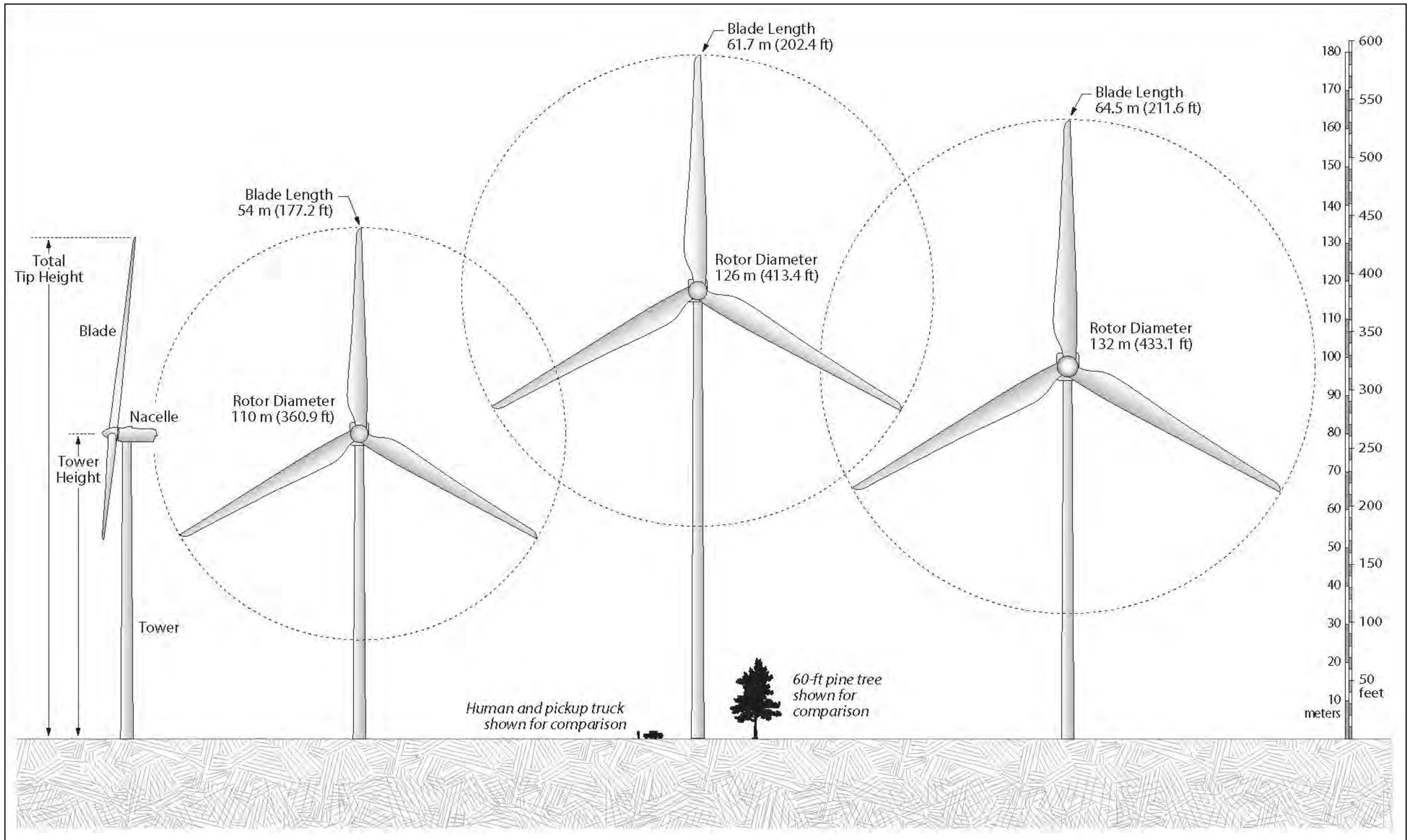
Proposed turbines (green)

Existing transmission lines (blue)

New roads to be constructed (yellow)

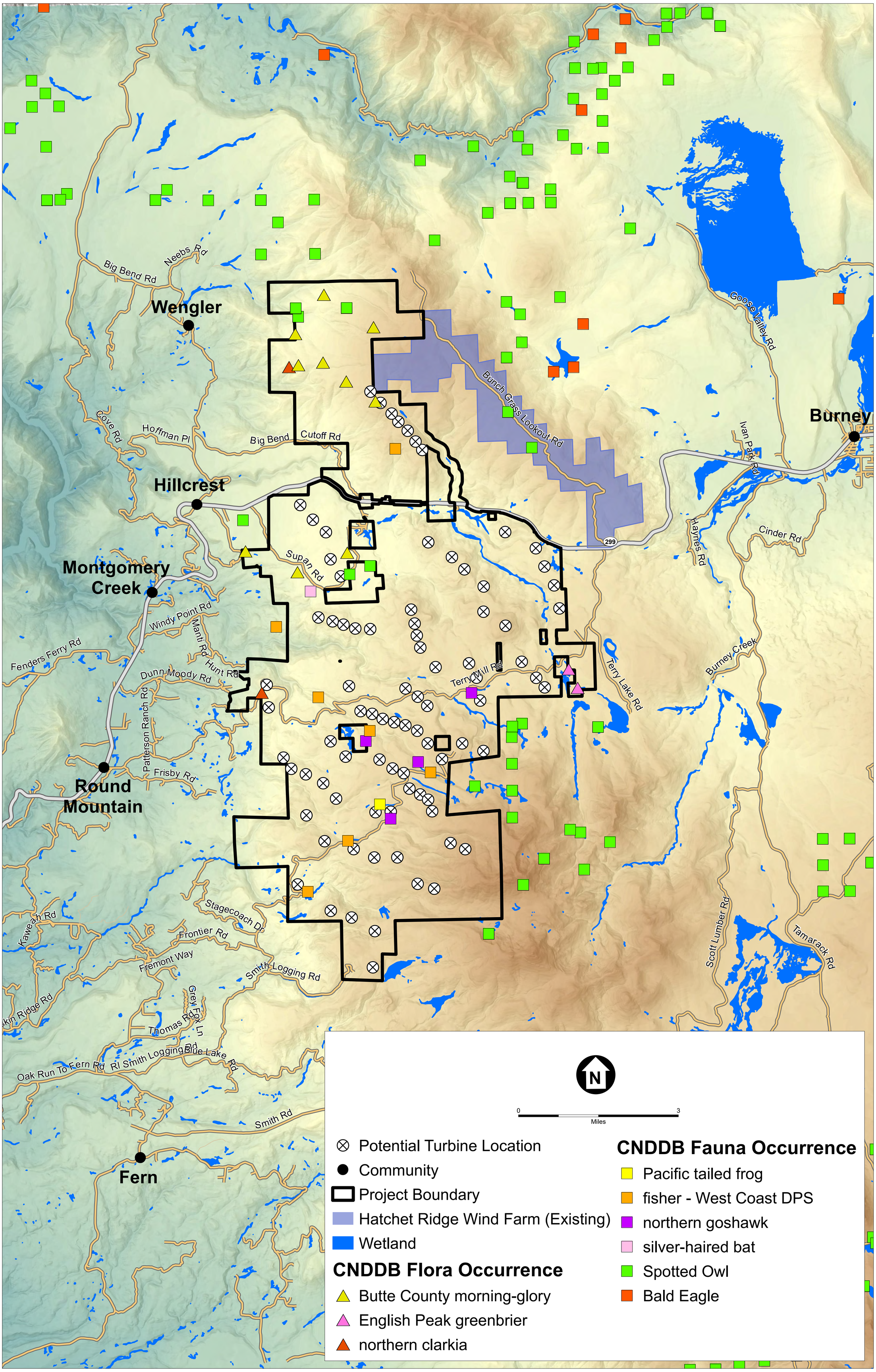
Existing roads to be improved (purple)

Fountain Wind Project: Facilities



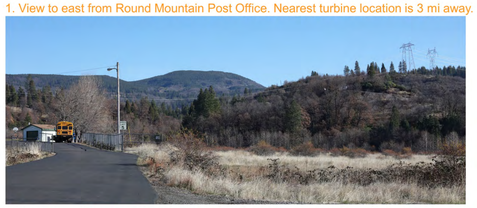
Generic Turbine Profile	2.0 MW Turbine	3.45 MW Turbine	3.465 MW Turbine
	Tower height: 80 m (262.5 ft) Total tip height: 135 m (442.9 ft)	Tower height: 117 m (383.9ft) Total tip height: 180 m (590.6 ft)	Tower height: 97 m (318.2ft) Total tip height: 163 m (534.8 ft)

Typical Turbine Profile



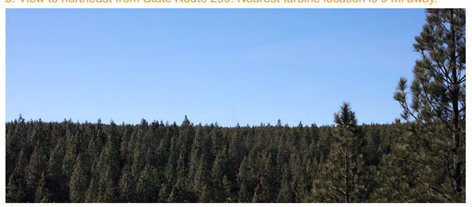
Fountain Wind Project: Preliminary Biological Resources Data

1. View to east from Round Mountain Post Office. Nearest turbine location is 3 mi away.



2. View to southeast from Montgomery Creek. Nearest turbine location is 3 mi away.

3. View to northeast from State Route 299. Nearest turbine location is 3 mi away.

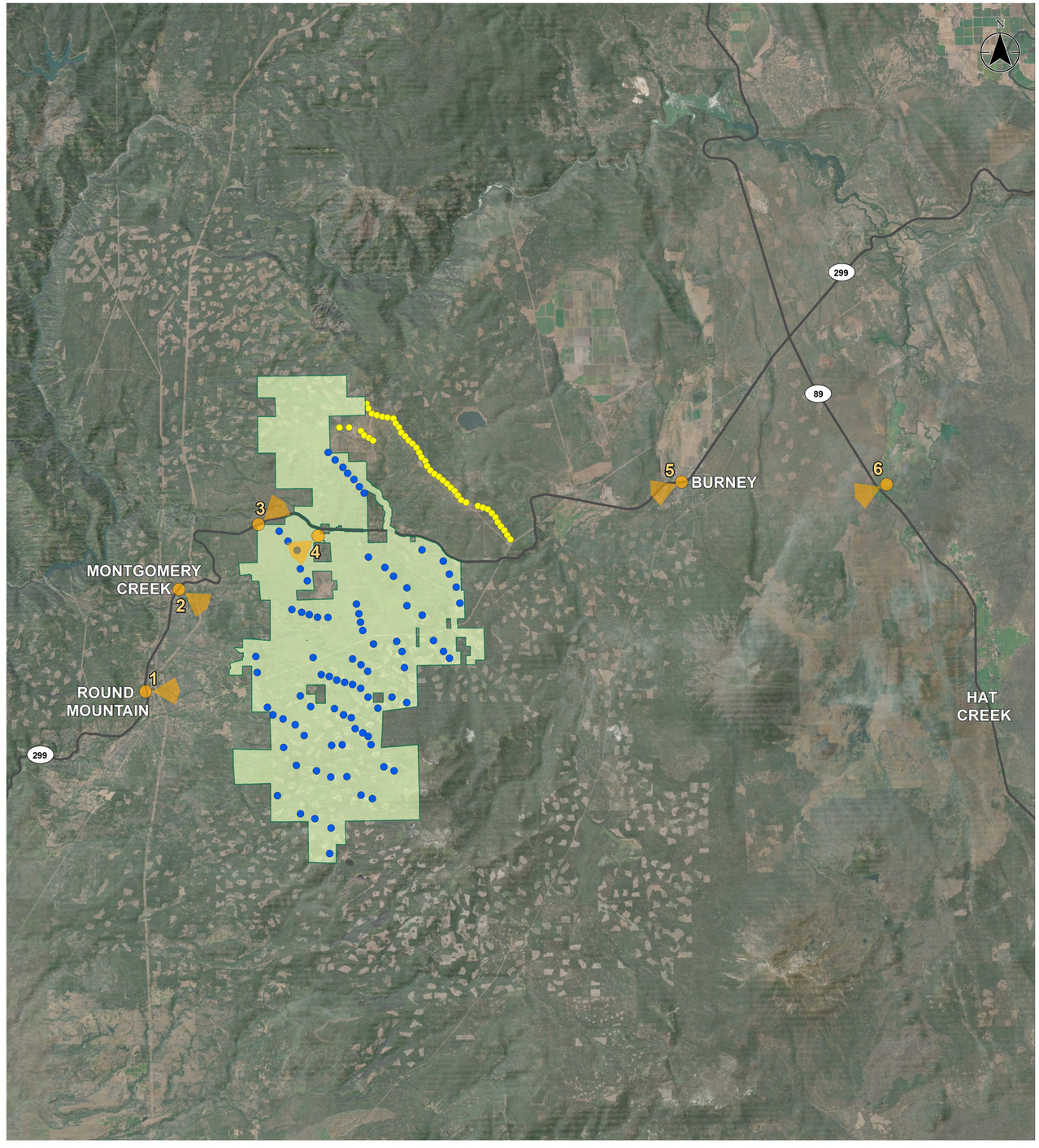


4. View to southwest from Fountain Fire Overlook. Nearest turbine location is 1 mi away.

5. View to southwest from downtown Burney. Nearest turbine location is 7 mi away.

6. View west from State Route 89. Nearest turbine location is 12 mi away.

Note: The above images have been cropped for presentation here and therefore appear more panoramic than they will if they are used in a technical document.



- Viewpoint Location
- View Direction
- Potential Turbine Locations
- Hatchet Ridge Wind Farm Turbine
- California State Highway
- Project Boundary

0 2.5 5 Miles

1:60,000 (A1 original document size of 34x44)

Notes

1. Coordinate System: NAD 1983 UTM Zone 10N
2. Service Layer Credit: ESRI online services, 1/16/2019

Project Location

Shasta County, California

USGS Quad:

Chalk Mountain, Hatchet Mountain Pass, Miller Mountain, Montgomery Creek, Roaring Creek

Source: Stantec, 2019

Fountain Wind Project: Preliminary Viewpoints

Appendix G
Public Scoping Meeting Transcript

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In The Matter Of:

SCOPING SESSION FOR THE FOUNTAIN WIND PROJECT

(Use Permit No. UP 16-007)

TRANSCRIPT OF COMMUNITY COMMENTS

January 24, 2019

J.V. KILLINGSWORTH & ASSOCIATES
1422 Oregon Street, Redding, CA 96001
Phone 800-995-0447 or 530-241-2224 Fax 530-241-5992

Original File SCOPING SESSION FOR THE FOUNTAIN WIND PROJECT (Use Permit No. UP 16-007).txt

Min-U-Script® with Word Index

SCOPING SESSION FOR THE FOUNTAIN WIND PROJECT

(Use Permit No. UP16-007)

---o0o-

Thursday, January 24, 2018

30365 State Highway 299 East
Montgomery Creek, California

7:00 p.m.

TRANSCRIPT Of COMMUNITY COMMENTS

JULIE A. KELSTROM, C.S.R. License No. 10547

INDEX OF COMMUNITY COMMENTS LISTED IN ORDER GIVEN

MARGARET OSSA: I'm Margaret, Maggie, Ossa. I know you talk about the environmental impact, but the reality is this is our environment and this is where we live. So I know that one of my main concerns and questions I'd like to get addressed is where are the visual noise and economic impacts going to be addressed in the study and how do we get information to those, because those affect us, for like property values, tourism to the area, desire to relocate to this area.

The other area is what revenues are going to be generated from this for Shasta County and the members of our community and the surrounding communities, because when I talk about the environment for the visual effects, it isn't just. Us you will be able to see these windmills like in Redding, Anderson, Palo Cedro, Bella Vista. I mean, the whole sky line is going to be windmills 600 feet tall. So that's the environment we would have to be living in.

And I had some questions on there's three different acreage requirements in the documentation. So the permit has requested -- the initial application was 43,473 acres and then there was a document for the description listed 39,196 acres, and the notice was 30,532 acres. So what really is the acreage requirements and what's the truth in that area.

And in the pre-scope, the potential significant adverse impacts you've already identified, are those go or no-go decisions. How much further do you have to go down on the significant impacts you've already identified in the pre-scoping? I don't see where those are being addressed in any of the documentation or the CEQA process on what those areas are and how do we get answers to those.

---o0o---

RANDY COMPTON: Randy Compton, R-A-N-D-Y C-O-M-P-T-O-N, life-long resident of Round Mountain. I'm curious about the environmental impact study if it's going to be based on the current -- current conditions along that ridge. The ecological integrity of that region has been destroyed by clear-cut logging in basically the last 50 years.

And so the environmental report will be based on current conditions or will it be based on like, say, the ecological integrity of creeks and the surrounding areas where clear cutting is not taking place, by environmental conditions in the surrounding areas that have not been clear cut.

I'm also curious about the intent and motivations of this project and of the county decisions that will be made. Are these decisions meant to address the fact that

we're facing climate change or are these decisions going to be made over economic business plans.

I have huge concerns about where our world is going because I've watched here through this region how this region has been beat down, and now we've got this giant project coming. What are the motivations behind it? So I guess that's my big concerns, and I'm very concerned.

---o0o---

BETH MESSICK: A lot of you already know me from being involved with the Tank project. My name is Beth Messick, B-E-T-H M-E-S-S-I-C-K.

I actually have property that is right under the tip of your project, the northwest quarter or the northwest quarter of section eight. Okay. I can address to you the amount of water that comes off the top of that mountainside and floods out my place already. I can show you the amount of mud and rock and debris that will pick up a 5,000 gallon water tank full of water and move it 35 feet through the forest already without that impact.

This is sacred land. There may not have ever in fact been an on-written study done, but may daughter just happens to have a Ph.D from Arizona in anthropology and she had her friends come up when we had the Tank project and do an unofficial anthropological study of the area. And they found right underneath your ridge line, within

feet of your ridge line, a native village and around the corner there was where the shaman lived and was a medicine property.

I don't know where you're going to find that. The whole Montgomery Creek bowl is a coal belt. Jessie Mussini's (phonetic) brother was the one that did research on this four years ago. I've lived on that property for over 50 years. I've seen how it changes and how it morphs with the change that we do to the land, cutting the trees, with the water impact.

What about the EMFs? EMFs don't exist, you know. That's what a lot of scientists will tell us, what are the EMTs coming off these wind turbines and about the power lines themselves and the impact of the those EMFs to us.

I can go on past my three minutes, but I think that's my three-minute limit.

---o0o---

LAWRENCE CANTRELL: L-A-W-R-E-N-C-E C-A-N-T-R-E-L-L.

Okay. I'm here. We did contact -- our tribal treasurer contacted back when you guys sent your letter to us, but we had no response after that. Then it came to -- we can start out now with Medicine Lake Highlands. Same thing. We can go to the first dam that was put on the Pit River. Same thing.

How many of you people have benefited off of what them towers are doing up there now? I mean, that's what -- you know, we're all land holders here. Everyone here owns a piece of land here. Everyone here respects what they have. You respect the scenery. You respect -- we have tribal graves, like she mentioned, that have never been disturbed. And when you go in there and start to dig these big foundations, you're going to find them.

And people don't realize to the Indian people, this is sacred land. We don't hurt it. We don't disgrace it. We try and live where that creator -- on it. So what I have to say is I look around this room. Every one of you have respect for your own property. And I was up in Washington earlier this year -- or last year. And I was talking to a woman out of Canada and she said that slow turbine put around people affects your brain waves.

This come out of Canada, and the documentation I really didn't get a hold of, but, you know, you call it hearsay. But just like us not contacting them, it was hearsay. So what we have to do now is we have to take a look at ourselves and figure out what do we want. Do we want to go on living with peace with the earth or do we want to disturb it to where it is going to take everyone out.

And if we build green, what is really going to

happen here? In the long run you will be controlled by them things. It will control your everyday life. It will control your heating. It will control everything around you that you take for granted now. So my three minutes.

---o0o---

JESSICA JIM: Hi. I'm from Pit River tribe, and I was looking at when they was showing everybody this table that they have up here. I want to speak briefly to the cultural and sensitivity to the cultural activities that they've already been practicing that's already been practiced up there on the mountain known as Hatchet.

And as they referred to, there is sites up there. There's village sites all through the area. The Pit River tribe -- when they notified the Pit River tribe, they didn't do it in a timely manner and the people that they issued the letters to wasn't even in -- they wasn't there. They was gone.

So we're really concerned about being notified appropriately with CEQA with all areas of impact. I'm going to say briefly that the biggest threat to our community here -- I live in Montgomery Creek. I reside here. I've lived here the majority of my life. I've been involved with the tribe forever.

I'm going to say very briefly what I'm going to be asking for is a resolution from our Pit River tribal

counsel opposing this project, and the purpose of that is we have what is known as the Pit River Tribe Constitution. When the three bands of Hatchet they agreed to that area and as a tribe. It was the whole tribe that agreed to it. It was the bands of that area.

Well, the band of this area is Medasi. So in our constitution it says that the membership, which is us, has a right to deny that access to the bands. That's why I'm going to be asking my government to oppose this project. And any comments that go forth from any individual or bands, that's where we're going to get into the labor of law of the constitution. Thank you.

---o0o---

RON EPPERSON: My name is it Ron Epperson, R-O-N E-P-P-E-R-S-O-N.

I didn't know there was this many people living in Montgomery Creek. I've lived here 45 years. Seen a lot of changes in this community.

UNIDENTIFIED SPEAKER: Hold the mic up.

JIM EPPERSON: Is that better? I don't want to make them bad noises again, so thank you.

I may be speaking a little different than a lot of you. We've got those Hatchet Mountain windmills going up there now. They've been going the last three or so years. People on the Burney side are raising cane about that

saying "Oh, it's going to hurt our ridge line. We're going to see those terrible windmills. They're going to be making horrible noises. And they're being compensated for it right now millions of dollars right now.

It goes to revenue. I live closer to those windmills than anybody else around here. I can see them out my bedroom window. I can see them out my kitchen window. I can see them out my front window. Does it hurt my eyes? No. I'll kind of used to seeing them there.

"They're going to be making these terrible whiny noises." On a real quiet night when the wind is flowing just the right direction I can hear a little bit of a wine. I hear far more noise coming up and down this highway, which is four miles away or six miles from my house, than I get off of those windmills.

In another 25 years this illustrious state is going to ban all our internal combustion engines. What are you going to be driving? Electric cars. What are you going to power them with?

What are you going to plug it into?

Oh, yeah, they're going to have these stations where you plug your car in downtown. Where is that power going to come from? Would you rather see a nuclear power plant like Three Mile Island or like Chernobyl? Would you like to see a coal power plant here in your back yard?

Solar. Okay. We'll put in 100 miles of solar panels.

MS. SCOTT: Excuse me. I'm not taking your time.

I want to ask everybody to respect the speaker. This is his three minutes. You can take your three minutes. Please don't take his. Let him say his piece.

JIM EPPERSON: Thank you. Are you going to give me a half a minute you just took?

MS. SCOTT: Yes. I stopped the clock. You can have all your time.

JIM EPPERSON: That's basically what I've got to say. I don't think those windmills are going to hurt anybody. After they're there for a year or two, you won't even notice them anymore. In fact, when I come out of Bella Vista, I like to look up and see that part of this northwest wind mill is, there's one right out of my back yard and I can tell where my back yard is at.

So it doesn't offend me and I don't think it will offend the rest of you either once you're used to them. We're going to get that power from somewhere.

How many of you guys have lived here more than 45 years.

All right. Where does your power come from?

UNIDENTIFIED SPEAKER: My roof.

UNIDENTIFIED SPEAKER: I generate my own.

JIM EPPERSON: Good. So do I. But do I get any compensation from that power I can see being made right up here in my back yard, like they do down in Burney? I don't get anything for it, but that's all right.

I'm through. Thank you.

---o0o---

BOB REITENBACH: My name is Bob Reitenbach, B-O-B R-E-I-T-E-N-B-A-C-H.

I've lived up here now 26 years. I don't know what you people think about all this wind power stuff. I saw what they did in Tehachapi, the very first wind power plant ever to be put in California. I seen the ones down on 205, down that way off of I-5 going out toward Frisco. I tell you what. Almost half of them in Tehachapi are still standing, but they don't work. They don't take them down. They don't fix them. What good do they do us. We bought them. We paid for it in our taxes.

All right. The other thing is we have water power up here. There used to be quite a few people up here selling power to PG&E off of water. You're lucky to have half of them do that anymore because PG&E and our government made so many restrictions on these people that they cannot sell power and they build it cheaper.

What is better, wind and solar or water power? Everything that I've heard of about wind, everybody

complains about the eagles they kill, the birds they kill, stuff like that. Solar, after a while you got to tear it down. That's hazmat. It costs you nothing but money to get rid of. California does not accept your stuff. You have to send it to another state. And when you do that, it's $2500 at the border that they charge you a fee to get rid of your hazmat.

Is that what you want? You want windmills up here and in about 15 years half of them are going to be not working? Because they're not going to go up there and put new generators on it, new propellers on it. All you're going to have is an eye sore and you're paying for it in your taxes because your government just don't give a darn. Thank you.

---o0o---

CHARLIE PALATINO: You know, they call -- can everybody hear me? They call wind power green, but nothing's being said -- my wife and I have been doing some research on this and nothing's being said about the plants that have to fire a line to make those huge foundations. There's approximately three times the carbon footprint comes out of that fire for one foundation than what that wind mill will replace in its lifetime.

And the other thing is that Bob Reitenbach was saying, in Tehachapi -- I have a daughter that lives in

Tehachapi and my son-in-law used to work wind power. He used to put them things up. He said they're the biggest joke you got going. You drive through there -- I could attest to this. I was just there recently. There's blades laying all over the ground. There's rusting towers. It looks like a garbage dump.

So between that and if -- when these things finally live out their life of 20 to 25 years whatever it's supposed to be, who's going to be responsible for going up there and taking them down, digging out the foundations and digging up the wire to put the land back where it was? The taxpayer.

---o0o---

OLNEY QUINN: Olney Quinn, Q-U-I-N-N.

I grew up in Tulelake just north of here. I chose to retire here 11 years ago because I love this part of California. Eastern part of California is a natural water shed. My question is to the EIR to the contractors, what's enough? We feed one out of every three people in the United States with the Shasta Dam. We send power in the Pit River, one through seven, all south. Yet, as homeowners and as people who live here we see none of the benefit of that.

People in this county use the cell phones that are made down in Sacramento and San Francisco and the valley

with the power we provide so they can check to see if their food stamps are in the bank.

What's enough? My question to the contractor. You're obviously union. I'm a union electrician retired. How many does this project that's gonna happen, how many people are going to benefit? How many apprenticeship jobs? How many long-term jobs? The project that's up there now, nobody from the community works on them.

Economically we're in rough shape up here. All we have is our land, if we decide to sell. I personally am looking real hard at Colorado simply because of this government and the way we're taxed. I take my grandchildren, my nieces and nephews out to try to take them to go fishing. You can't get on the Pit River because of all the projects. I took them up to the windmills to show they to them because they are impressive. I was met with a gate, a security camera and a no trespassing sign. We can't enjoy this part of the environment simply because someone else, the Emerson family, is making a hell of a lot of money off of it.

---o0o---

JOHN GABLE: My name is John Gable, like I said, and I represent Moose Camp, and we're right up the street on 299. First, I'd like the Moose Camp members to raise your hands so we can see how many people are represented

tonight.

So actually wrote a speech because I want this to be very specific in what we say. For over 90 years members of Moose Recreational Camp have sought refuge from life in the city on our 146 acres of wilderness. Today approximately 75 families with 50 cabin residences enjoy spending time outdoor and work outdoors and working hard to keep our land driving in its natural state.

Contrary to what was mentioned earlier, we have a park-like setting and we have a playground in Moose Camp and our name for the past 90 years has had "recreational" in it. So I just wanted to make that clear.

Our main concern with the Fountain Windmill project is that a small number of the 100 proposed windmills will dominate our view of the land surrounding Moose Camp these windmill sites appear to be located as close as 1750 feet from our property line and at almost 600 feet tall would create an unreasonable visual impact whether driving into Moose Camp, driving out of Moose Camp or just standing in front of our social hall on Moose Avenue.

We are requesting the Environmental Impact Report take special note of the view shed from Moose Camp concerning windmills 56 through -- excuse me -- windmills through 46 through 50, 65, 66 and 67. These windmills

viewed from Moose Camp would be part of our immediate surroundings in the foreground and not just part of a distant landscape like Hatchet Ridge is today. Thank you.

---o0o---

JANIS KARABATS: I'm new up here. I moved up here while they were building -- I'm in Burney -- while they were building and I watched the 747-length wings drive through town up to the mountains. So that's what would have to be recycled.

My big question, as you went through the EIR, is you said you eliminated human population and housing from the EIR, and I would like to know your criteria for doing that because I see a lot of humans here who are impacted and I feel that you are avoiding something. That's my main point. I'd like to hear what your criteria were and answer.

And the other point I want to make is a quick search of what they discovered in Europe, that these turbines -- and smaller than these. These are big -- anything closer than two kilometers to housing causes problems, health problems. So we're talking about a number that are going to be closer than that. So mainly are you avoiding problems by eliminating EIRS on human populations and houses. That's all I had to say.

---o0o---

LIONEL LANGLOIS: For those of you who don't know me, I've been here in the area since the late '60s. We used to come up here and fish and hunt and whatever and just visit the area. It was just a great virgin area back then. I think Redding had 50,000 people in it or something and there weren't very many people up here at all except for like a few Cascade people that have dug in in the hills.

Anyway, for the last several years starting in '97, I began working for contractors working with PG&E's vegetation management. That would be the guys that come to your house, the Davey Tree guys. I also participated in the inventory that PG&E did throughout the whole state. Mainly I worked on the coast during that. And then I came back here and worked as an inspector for the transmission lines that run through this whole area and even the 12 KV lines that run on the various circuits that run through here.

As we see really recently, fire seems to follow transmission lines and power lines. I think the people in Paradise are pretty aware of that right now. Even though they may not pin that on PG&E, because they found some insulators or something that were shot up, PG&E does do a lot of work to try and clear those lines.

What it looks like this project is going to do,

it's going to create a new transmission line that is going to run from the area where all these 3.45 megawatt generators are and they're going to send a transmission line down through private property that's outside of the Roseburg land that's there already that they're selling, I guess, to an intermediary is what heard earlier in talking to somebody.

So they're selling them that land so that they can generate power. They're going to put in a new fire cord or basically they're going to cut down everything for about 230 feet, depending on whether it's a 115 KV or 230 KV, and that's going to be possibly a source of fire. We did have that fire that started at the fountain and inspecting that area later in time, I'm not really sure, but those lines can clink together when it gets really windy.

And so my main concern and the concern that I have about all this is that some years ago we had a Tank project that they were actually going to tie in those generators up on the hill they just put in, they were going to tie in the cogen plant and they were going to run it into a Tank line. And the reason for this, is what most people don't understand, if you have a 230 KV line, the darn thing is about this fat. It doesn't look like it's that fat, but it's about this fat.

When you're inspecting it in the fall and winter, it's going to sag and that thing comes down, gets close to vegetation or whatever. And we cut tree tops off. We cut everything off out of the way. We make these great Band-Aids like we have running through Montgomery Creek I can see from my house.

I live down in Oak Run. I got 55 acres of forest there. And the thing is is that what's going to happen in the summer is that the lines that we have already, people don't understand, is those things are heated up in the summer. They are really -- they heat them puppies up. And they're taking a lot more than 230 KV and 115. I suppose if you ask PG&E -- yeah, I know I'm going to run out of time.

The idea is that what they're going to do as soon as they do put this thing in, they're going to have their little bit of transmission line and then they're going to put in another one.

MS. SCOTT: I'm going to cut you off.

UNIDENTIFIED SPEAKER: He can have my time.

LIONEL LANGLOIS: And when it does that, they're going to create an entire new corridor. They're going to go through more of this EIR and they're going to eventually they may say "Well, we need to put power somewhere, so we're going to eminent domain your property

and put this thing in."

---o0o---

KEVIN LUNTEY: As Mr. Epperson talked about earlier, my wife and I are really close. We live in Ron and Judy Hospin's (phonetic) old place. They're just east of Moose Camp on the old highway. I sat in on a lot of the hearings for the Burney project and I was kind of not for or against. We're on spring water. I have deeded water rights with my neighbor to the entire section of my land where we are which borders the stuff on the north side of the road.

Nobody's contacted me. Nobody's talked to me. Nobody's asked me any questions about my water, tested my water. Also, some of the concerns that they didn't talk about with the Hatchet project, I think we're probably one of the closest homes to that, I ask you guys to go out and take a look at the chain sign just east of Moose Camp and look at the strobe lights that are on top of the towers that have ruined the view of my back yard.

I know that's not -- don't really care about our property values in this forum, but it should be considered in the environmental impact. It affects our nightly enjoyment of our property. If you're close, I'd encourage you to drive up on the highway, sit there on the side of the highway on a clear night and take a look at what the

strobe lights are doing every night.

Some of the other things -- that's my concerns for the EIR stuff and for Leo. I don't see Ms. Rickert in the room anywhere. Is Ms. Rickert anywhere?

MS. RICKERT: Yep.

MR. GABLE: Excellent. Excellent. So maybe you can hear from some of us and have a different forum. A lot of people have been shot down on stuff. Some of the things they talked about on the Hatchet Ridge project, there was a lot of talk about our access to hunting and fishing up in that area. I know the Pit River tribe, that was a lot of their historical hunting grounds up there and there was a lot of concerns there. The first season of deer season I walked up there and got chased off by the crew on the Windmill project, trying to walk and hunt the ridge there.

I have some concerns over traffic impacts and the times from the construction company. How long are the windmills going to affect our traffic coming up 299? I was involved in the escorting of those original windmills and it was a pretty amazing feat to get those here, but I do know it truly impacted the traffic coming back and forth from Redding to Burney.

So environmental impact stuff, I would encourage you to reach out to all the property owners. Many of the

property owners here in Montgomery Creek and Round Mountain are on spring water. It's where we get our water, it's where we drink from and that's the value of our properties.

Ms. Rickert, I beg you to take into consideration any approval for this on our property values and how it's going to affect Moose Camp folks, our 50 places there. My property, I guarantee -- my wife and I have talked about getting an appraisal now and getting an appraisal after they put the windmills in next to it. I guarantee we're going to lose 20 to 30 percent of our property value. For a lot of us, that's all we have. That's my investment. That's my kids' future. So I ask you to take a look at that.

The other thing -- and, again, I'm not for this or against this, sir, for the construction company. I'm neutral. I'm open. I think two weeks for us to talk about and spit out these things and for you to get all this information and throw it in the EIR by February 14th is kind of unreasonable. I think we should have a different meeting so everybody here could voice our concerns on environmental impact to our personal impacts, so maybe we can affect you guys and help you make a decision to approve or not approve this.

I beg you to do that for us. And we all know this

is probably going to go through no matter what we say or do. So just like the Hatchet wind project, I ask the company and the county what are we going to do for mitigation funds. The Hatchet ridge project gave money to the community. I was the president of the Burney Little League at the time. We benefited from the Hatchet Wind Project. That was one of the reasons that I supported it because they supported our kids. So I ask you to reach out to our communities and maybe help out and help affect that impact. I think you would be well served to do that. So thank you.

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JOYCE KERNS: I believe my question has been addressed. I just simply want to phrase it in a direct question. First, it pertains to if this project were to go through, is there a well-served with PG&E agreement and is there a guarantee that the current lines are sufficient to transmit the electricity that would be generated? And that's the question. Thank you.

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BRANDY MCDANIELS: I'm a member of the Pit River tribe. I'm also the cultural representative for the Madesi band. Welcome to my home. This is my ancestral home right here. I just -- I want to know everyone's concerns, whether they fit this EIR scope or not. I'm

glad to be here tonight and see y'all. I'd like to know more about who is Agangrid. Who owns them? What country? Because a lot of times it's other countries that own these companies and they don't care about us at all.

There's a pattern of behavior to take socio-economically suppressed areas, exploit them for these types of projects that do not even serve the people they affect and displace. There is a significant loss of power when energy is transmitted over long distances. This is inefficient. This is an inefficient project.

The best location for power generation is next to its need and use. This means if cities want power, they need to start generating it, not putting it in our back yard for a money grab. That's what it is. Many of the people that live in this area are off grid and choose to live that way. Many of us enjoy the beauty of this area and these do not add to that.

Arguably, we can currently see the ones on Hatchet from three counties away. That's crazy. Okay. The current windmills on Hatchet kill protected and endangered species. We meet with the U.S. Fish and Wildlife quarterly. And this is illegal. You need a permit to do that. But because this is on government land, they are allowed to self-regulate them. Self-regulation means no regulation. So no reporting. So that's what's happening

to our animals, our environment and a lot of reasons why we live in this special, beautiful place.

I'm not against -- my band, we're not against green energy when it's true green energy that does not adversely affect the cultural, history, health, sustainability, stability, economy and eco system, to just name a few things. So, for me, I'm for a no project alternative. Thank you.

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ANDREW MEREDITH: The first thing I wanted to do was thank -- I want to thank the County of Shasta for putting this together. A lot of you guys don't know, but this is something that some awarding agencies or some public agencies waive is doing these Environment Impact Reports.

You just have to look down in the City of Redding. The City of Redding waived an Environmental Impact Report on a large hospital project that they're trying to do by the river down on what's considered a natural preserve area, and it took our organization to come forward and make the county -- actually make the City of Redding do that. So I want to commend the County of Shasta for having a that requires these. I want to thank Avangrid for coming forward and participating in this process.

I think about projects like this from the

economical advantage standpoints, and I think when you look up the economic benefits to a region, you have to look at when projects like this are constructed where are the people coming from that are doing the work. Are they coming local? Are they local workers that we're putting to work and has a true local benefit.

In Redding -- again, using Redding as an example, Shasta County is building a -- there's a brand-new court house that's being built in Shasta County. I don't think there's one single contractor on that project from Shasta County, not one. It's an absolute travesty. I hope that with Agangrid with this project, they'll look at local workers, work out something with the local organization to make sure that the workers on this project come from Shasta County or come from one of our close by counties.

If this project is going to get built, it should have a local impact economically. I think there's a big work force here that's ready to do the work and wants to see local workers on that project, and I really hope that's the way that we approach that project. Thank you.

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LEE LONGBRAKE: Hi. Ninety-nine percent of the people don't know me and that's by design. I've only lived here 22 years. Susan's been here for over 40 or right at 40. My question is all this traffic. The last

time they did it, going up and down the road, you get stopped, you'd be there for two hours because one of your trucks are jackknifed.

A lot of these people, as you can tell, have appointments with doctors, lawyers, whatever else in town. Who's going to take care of all this traffic? And what about all the wildlife? We got four or five deer everyday get killed. We will have thousands of these trucks and cars, people coming up here. Who's going to regulate that? That's all I've got to say about it. Thank you.

---o0o---

EDMOND BAIER: Some of this was addressed a little earlier. A lot of us have springs, creeks, whatever that we're on. I myself am on Montgomery Creek. I know all the water coming off of this hill where they're proposing this project comes across the highway, ends up in Montgomery Creek, which is a class one feeder for Shasta Lake.

Now, when you start running trucks -- we had a spring on our property when we bought it. They came in and logged it. They ran some tractors on it. The spring no longer exists. We get our water from Montgomery Creek because I have riparian rights. I understand that if they do this project where they're talking about, it will affect most of the people living below that area and all

the way down to probably Dunn Moody.

Now, there have been water wars in the past. Yeah, still people are fighting over water. If they put this project forward and I lose my water, that's the only water I have. I have riparian rights. That's where I draw my water from my house. A lot of people up here did not sink wells. They work off of springs. If they lose their springs, who's going to pay for them to get a well? I can't personally afford to drill a 500-foot well to get water, even though I'm next door to it. People know what wells cost.

When you do your environment study, look where the water is coming from for this entire community. And I'm talking both sides of 299 and Shasta Lake. Thank you.

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DONNA TROXELL: I've been around here for a lot of years, like a lot of us. My grandfather bought the Troxell Ranch in the '20s. He bought that piece of property to grow apples. When you put these turbines in here and everything, it's going to warm up the environment. We have that already from the fires. Most of our apples were like nothing. This is where we make our money. We feed America.

When they put the highway through, my grandmother died at 53, I realized I have to do a lot of improvements.

But anytime they pound our earth, the water table drops. It changes like -- I'm getting all upset. But just like in the canyon up there, they had to put in this wall. It disturbs the springs.

I don't think they really -- I know a lot of these people from Sacramento and stuff, they come up and do these impacts. They really do not have the knowledge of the water, the precious water and everything that keeps this part of the country going, and I really feel like we're being taken advantage of.

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BOB REITENBACH: I got a question. I live over on Dunn Moody. I have two power lines that run through part of my 20 acres. The 2500 line; the 5,000 line. I don't know where you people exactly -- I can't make all this out -- where you're going to do that. But if it comes down anywhere near there, you're going to affect a lot of homes.

We have to be 300 foot minimum from any of these power lines. Otherwise, they cause cancer and Alzheimers. I already have one person in my family that's coming down with Alzheimers, probably because of living that close to the power lines. You know, I don't know what you folks you wanted to know about health. It causes cancer. It causes Alzheimers. It causes dementia. It causes a lot

of things, this electricity.

So what are you going to do about that? Are you going to buy our property if you get any closer than that to our houses?

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ANGEL WINN: Thank you, sir. I lived here all my life, went to school here, went to Cedar Creek when they did have a school down there until the fire came and burned everybody's home up, and all those families, they all had to move. So the school is strong, community strong.

But this mountain, you know, this mountain, this range, all of you know when there's snow on the mountain. Snow mountain. That's a view that you cherish. That's why you're here. You're on the mountain. You know, sure there's going to be some people that might profit from this. This gentleman over here, this project manager, he said they have these things in 22 states. I don't know how many in California. When is enough enough? I think it's enough. We don't need it here.

You know, I run on a generator. I don't use that power. Our tribe don't benefit from the hydropower over there. Some of them are going defunct. But they're historic sites now for PG&E. I mean, they burnt the land up. The Fountain fire, burnt it all up. Now you have

this Carr fire down here. You got mountains all burnt off. Go develop down there. Go build some roads down there. Do your transmission lines down there. See if they like it. There's nothing there. All burned. Perfect for it.

Same thing down there, like our cultural rep said, go build that where the city needs it where they need it. But I have a hard time because it seems like you're smiling when you're up here talking, like this is a funny thing. It's not to me. You know, when those other windmills went up, we opposed them. That's all we can do is say "Hey, I don't like it. Don't do it."

You can speak your mind, so I had to come up here and say what I need to say, you know, for all the creepy crawlers, the four leggeds, the winged, all those things that are part of our world here, the planet. We're encroaching on it. This mountain range from, you know, like Quincy all the way down from Feather Falls that way, all the way up north, now they got these windmills here. It's ugly. It's just ugly. I don't think that the value of that is worth it to us. Thank you.

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CERTIFICATE OF REPORTER

STATE OF CALIFORNIA)

COUNTY OF SHASTA)

I, JULIE A. KELSTROM, do hereby certify:

That said public meeting was taken down in shorthand by me, a Certified Shorthand Reporter, at the time and place therein stated, and was thereafter reduced to typewritten form using computer-aided transcription, and that the transcript is a true record thereof.

I further certify that I am not of counsel or attorney for any of the parties hereto, or in any way interested in the event of this cause, and that I am not related to any of the parties hereto.

WITNESS BY HAND THIS 6th day of February, 2019

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JULIE A. KELSTROM, CSR #10547

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Appendix H
Written Scoping Input Received

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Agencies

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Northern Region
601 Locust Street
Redding, CA 96001
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

February 19, 2019

Lio Salazar
Shasta County Department of Resource Management
1855 Placer Street, Suite 103
Redding, CA 96001

Subject: Review of the Notice of Preparation of an Environmental Impact Report for the Fountain Wind Project, Use Permit Number UP 16-007, State Clearinghouse Number 2019012029, Shasta County, California

Dear Mr. Salazar:

The California Department of Fish and Wildlife (Department) has reviewed the Notice of Preparation (NOP) of the Draft Environmental Impact Report (DEIR) and associated biological reports for the Fountain Wind Project (Project). The Department appreciates this opportunity to comment on the Project, relative to impacts to biological resources.

As a Trustee for the State's fish and wildlife resources, the Department has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and their habitat necessary for biologically sustainable populations of those species (Fish & G. Code, §§ 1801 & 1802). As the Trustee Agency for fish and wildlife resources, the Department provides requisite biological expertise to review and comment upon California Environmental Quality Act (CEQA) documents and makes recommendations regarding those resources held in trust for the people of California.

The Department may also assume the role of Responsible Agency. A Responsible Agency is an agency other than the Lead Agency that has a legal responsibility for carrying out or approving a project. A Responsible Agency actively participates in the Lead Agency's CEQA process, reviews the Lead Agency's CEQA document, and uses that document when making a decision on a project. The Responsible Agency must rely on the Lead Agency's CEQA document to prepare and issue its own findings regarding a project (CEQA Guidelines §§ 15096 & 15381). The Department most often becomes a Responsible Agency when a Lake or Streambed Alteration Agreement (Fish & G. Code, § 1600 et. seq.) or a California Endangered Species Act (CESA) Incidental Take Permit (ITP) (Fish & G. Code, § 2081(b)) is needed for a project. The Department relies on the CEQA document prepared by the Lead Agency to make a finding and decide whether to issue the permit or agreement. It is important that the Lead Agency's Environmental Impact

Report (EIR) consider the Department's Responsible Agency requirements. For example, CEQA requires the Department to include additional feasible alternatives or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect a project would have on the environment (CEQA Guidelines § 15096 (g) (2)).

The Department offers the following comments and recommendations on this Project in our role as a Trustee and Responsible Agency pursuant to CEQA, California Public Resources Code section 21000 et seq.

Project Description and Location

As described in the NOP and Initial Study (IS), the Project proposes a 347 megawatt wind energy development consisting of up to 100 wind turbines, associated infrastructure, and ancillary facilities located in the vicinity of the communities of Burney, Moose Camp, Hillcrest, Wengler, Montgomery Creek, and Round Mountain, in Shasta County, California. Project infrastructure and ancillary facilities include 17 construction laydown areas, two possible temporary batch plants, temporary construction and equipment area, construction trailer area and associated parking, 87 miles of existing access roads that may need to be upgraded, and up to an additional 21 miles of new access roads, up to 56 miles of underground and up to 16 miles of overhead collector lines, an operations and maintenance facility, storage sheds, an onsite substation and switching station, and two permanent meteorological towers.

Consultation History

The Department provided preliminary comments on the Project's Biological Resources Work Plan presented at the June 2017 consultation meeting in a letter dated July 25, 2017. The Department also provided comments during early consultation in a letter dated March 2, 2018. Many of the comments and issues raised in those letters are still relevant and should be reviewed as part of the DEIR development.

Comments and Recommendations

In addition to the NOP and IS, the Department received many survey reports and additional Project information to review, including the following:

- Year 1 Avian Use Study Report and Risk Assessment for the Fountain Wind Project, dated November 5, 2018.
- Great Gray Owl Habitat Assessment, dated October 22, 2018.
- Bat Acoustic Survey Report, dated October 24, 2018.
- 2018 Foothill yellow-legged frog and Cascades frog habitat assessments and surveys dated October 22, 2018.

- Rare Plant Surveys and Natural Vegetation Community Mapping, dated October 17, 2018.
- 2018 Willow Flycatcher Survey Results, dated October 17, 2018.
- 2018 Northern Goshawk Nest Survey Results, dated October 15, 2018.
- Nocturnal Migrant Risk Summary, dated October 10, 2018.
- 2018 Eagle Nest Status Survey Report, dated September 19, 2018.
- 2017 Raptor Nest Survey Report, dated September 19, 2018.
- Site Characterization Study Report, dated January 2017.

The Department has continued to receive pertinent Project information regarding biological resources subsequent to the release of the NOP including:

- Response to CDFW Comments letter, dated November 2018, received January 28, 2019.
- Raptor Nest Survey Clarification Memo, dated January 24, 2019, received January 28, 2019.
- Rare Plant Clarification Memo, dated January 10, 2019, received January 28, 2019.
- Aquatic Resources Survey Report, dated January 31, 2019, received January 31, 2019.

The Department is unable to fully evaluate the NOP, technical studies, and associated documentation to provide a complete and detailed response during the 30-day review period. Although requested in previous communications, the Department has not been provided a seasonally appropriate site visit. Therefore, while the Department is providing this letter in response to the NOP, the Department may continue to identify resource issues and potentially significant impacts of this Project as the environmental review process continues.

DEIR Components

To enable Department staff to adequately review and comment on the proposed Project, we recommend the following information be included in the DEIR, as applicable:

1. A complete assessment of the flora and fauna within and adjacent to the Project area should be conducted, with particular emphasis upon identifying special-status species including rare, threatened, and endangered species. This assessment should also address locally unique species, rare natural communities, and wetlands. The assessment area for the Project should be large enough to encompass areas potentially subject to both direct and indirect Project affects. Both the Project footprint and the assessment area (if different) should be clearly defined and mapped in the DEIR. Several surveys have been

conducted for this Project to date, including bat surveys, several avian surveys, and several focused, species-specific surveys. As stated above, the Department has not had adequate time to review and address all surveys conducted; however, comments on several of these surveys are addressed below. For the remainder of the biological resources with potential to be impacted by the Project, the following information is required in order for the Department to fully analyze potential impacts from the Project:

a. The Department's California Natural Diversity Database (CNDDB) should be queried to obtain current information on previously reported sensitive species and habitat, including Significant Natural Areas identified under Chapter 12 of the Fish and Game Code. In order to provide an adequate assessment of special-status species potentially occurring within the Project vicinity, the search area for CNDDB occurrences should include all United States Geological Survey 7.5-minute topographic quadrangles with Project activities, and all adjoining 7.5-minute topographic quadrangles. The DEIR should discuss how and when the CNDDB search was conducted, including the names of each quadrangle queried, or why any areas may have been intentionally added to, or excluded from, the CNDDB query. As a reminder, the Department cannot and does not portray the CNDDB as an exhaustive and comprehensive inventory of all rare species and natural communities statewide. Field verification for the presence or absence of sensitive species will always be an important obligation of its users. Likewise, your contribution of data to the CNDDB is equally important to the maintenance of the CNDDB. Whenever possible, the Department requests that data be submitted using the online field survey form along with a map with the rare populations or stands indicated.

b. In addition to the CNDDB, other electronic databases such as those maintained by the California Native Plant Society (CNPS), U.S. Fish and Wildlife Service (USFWS), and the U.S. Forest Service (USFS) should be queried.

c. A complete assessment of rare, threatened, and endangered invertebrate, fish, wildlife, reptile, and amphibian species should be presented in the DEIR. Rare, threatened, and endangered species to be addressed should include all those which meet the CEQA definition (see CEQA Guidelines § 15380). Seasonal variations in use of the Project area should also be addressed. Several focused species-specific surveys have been conducted; however, additional surveys may be necessary. All surveys should be conducted at the appropriate time of year and time of day when the species are active or otherwise identifiable. The impact of abnormal hydrologic conditions (e.g. drought or late season lingering snow accumulations) and

the possible impact of those conditions on survey results should be discussed. Species-specific survey procedures should be developed in consultation with the Department and the USFWS. Links to some survey procedures are provided on the Department's website at: https://www.wildlife.ca.gov/Conservation/Survey-Protocols.

The 2012 USFWS *Land-Based Wind Energy Guidelines* (WEG) states that multiple years of pre-construction studies may be needed in order to "*establish a trend in site use and conditions that incorporates annual and seasonal variation in meteorological conditions, biological factors, and other variables.*" Multiple years of surveys may be necessary to determine impacts to CESA listed species such as willow flycatcher (*Empidonax traillii*), foothill yellow-legged frog (*Rana boylii*), and Cascades frog (*R. cascadae*).

d. Species of Special Concern (SSC) status applies to animals generally not listed under the federal Endangered Species Act or CESA, but which nonetheless are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. SSC should be considered during the environmental review process (see CEQA Guidelines § 15380 & CEQA Guidelines Appendix G (IV)(a)). Section 15380 of the CEQA Guidelines clearly indicates that SSC should be included in an analysis of Project impacts if they can be shown to meet the criteria of sensitivity outlined therein.

Sections 15063 and 15065 of the CEQA Guidelines, which address how an impact is identified as significant, are particularly relevant to SSC. Project-level impacts to listed (rare, threatened, or endangered) species are generally considered significant thus requiring lead agencies to prepare an EIR to fully analyze and evaluate the impacts. In assigning "impact significance" to populations of non-listed species, analysts usually consider factors such as population-level effects, proportion of the taxon's range affected by a project, regional effects, and impacts to habitat features.

Olive-sided flycatcher (*Contopus cooperi*) and yellow-headed blackbird (*Xanthocephalus xanthocephalus*) are both SSC species that are discussed in the Site Characterization Study Report as having been observed during nearby U.S. Geological Survey breeding bird surveys; however, these species were omitted from further analysis as to the potential for them to occur on the Project site. The Department recommends addressing these species in the DEIR.

e. Fully Protected animals may not be taken or possessed at any time and the Department is not authorized to issue permits or licenses for their incidental take[1]. Fully Protected animals should be considered during the environmental review process and all Project-related take must be avoided. Impacts to Fully Protected species habitat should be mitigated in the DEIR. In addition to the other species addressed in the Site Characterization Study Report, ring-tailed cat (*Bassariscus astutus*) is a Fully Protected species that has the potential to be impacted by the Project. This species should be addressed in the DEIR.

f. A detailed vegetation map should be prepared, preferably overlaid on an aerial photograph. The map should be of sufficient resolution to depict the locations of the Project site's major vegetation communities, and show Project impacts relative to each community type. The Department's preferred vegetation classification system should be used to name the polygons; however, the vegetation classification ultimately used should be described in detail. Additional information for vegetation mapping can be found on the Department's website at: https://www.wildlife.ca.gov/Data/VegCAMP. Special status natural communities should be specifically noted on the map.

g. The DEIR should include survey methods, dates, and results; and should list all plant and animal species (with scientific names) detected within the Project study area, including common and incidentally observed species. Special emphasis should be directed toward describing the status of rare, threatened, and endangered species in all areas potentially affected by the Project. All necessary biological surveys should be conducted in advance of the DEIR circulation, and should not be deferred until after Project approval.

2. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts, should be included:

   a. The DEIR should present clear thresholds of significance to be used by the Lead Agency in its determination of environmental effects. A threshold of significance is an identifiable quantitative, qualitative, or performance level of a particular environmental effect (CEQA Guidelines § 15064.7).

   b. CEQA Guidelines section 15125 (a-e) directs that knowledge of environmental conditions at both the local and regional levels is critical

[1] Scientific research, take authorized under an approved NCCP, and certain recovery actions may be allowed under some circumstances; contact the Department for more information.

to an assessment of environmental impacts and that special emphasis shall be placed on resources that are rare or unique to the region.

c. Direct, indirect, and cumulative impacts associated with initial Project implementation as well as long-term operation, maintenance, decommissioning, and site remediation of the Project should be addressed in the DEIR pursuant to CEQA Guidelines section 15126.2 (a).

d. In evaluating the significance of the environmental effect of the Project, the Lead Agency should consider direct physical changes in the environment, which may be caused by the Project, and reasonably foreseeable indirect physical changes in the environment, which may be caused by the Project. Expected impacts should be quantified (e.g., acres, linear feet, number of individuals taken, volume or rate of water extracted, etc.).

e. Project impacts should be analyzed relative to their effects on offsite habitats and species. Specifically, this may include public lands, open space, downstream aquatic habitats, areas of groundwater depletion, or any other natural habitat or species that could be affected by the Project (CEQA Guidelines Appendix G (IV and IX)). The Project site abuts both the Lassen National Forest and the Shasta-Trinity National Forest. The Department recommends consulting with USFS biologists to determine potential impacts to sensitive habitats or species occurring on USFS lands that may cross into the Project area.

f. Impacts to and maintenance of wildlife corridor/movement areas and other key seasonal use areas should be fully evaluated and provided (CEQA Guidelines Appendix G (IV), Fish & G. Code, § 1930).

g. Project direct and indirect impacts on each candidate, sensitive, or special-status plant and animal species, and their habitats should be thoroughly addressed. Impacts are based on the sensitivity of each biological resource receptor; in this case, each identified species and habitat. Examples are included below:

- The Department recognizes the effects of artificial lighting on birds and other nocturnal species. The effects are numerous and include impacts to singing and foraging behavior, reproductive behavior, navigation, and altered migration patterns. To minimize adverse effects of artificial light on wildlife, the Department recommends that lighting fixtures associated with the Project be downward facing, fully-shielded, and designed and installed to minimize photo-pollution. The NOP specifies that flashing red lights

will be installed on turbines and meteorological towers to improve nighttime visibility for aviation. In order to minimize impacts to birds moving across the landscape at night, the Department recommends following the USFWS WEG and Communication Tower Guidance (USFWS 2016) for tower lighting by utilizing the minimum number of lights required, at the minimum intensity, and the minimum number of flashes per minute (i.e., longest duration between flashes and "dark phase"), with all lights synchronized to flash simultaneously.

- Noise at even moderate levels (40-60 dB) is associated with physiological and behavioral changes in birds, terrestrial mammals, amphibians, and bats. Anthropogenic noise can disrupt the communication of many wildlife species including frogs, birds, and bats. Noise can also impact predator-prey relationships as many nocturnal animals such as bats and owls primarily use hearing to hunt. Additionally, many prey species increase their vigilance behavior when exposed to noise because they need to rely more on visual detection of predators when auditory cues may be masked by noise. Noise has also been shown to reduce the density of nesting birds and cause increased stress that results in decreased immune responses. The USFWS has recommended guidelines for Project-generated sound levels to avoid certain impacts on northern spotted owl (*Strix occidentalis caurina*). The DEIR should analyze Project noise contributions to ensure Project activities do not significantly impact the local fauna. To avoid or minimize potentially significant impacts to wildlife, the Department recommends restricting the use of equipment to hours least likely to disrupt wildlife (e.g., not at night or in early morning).

- Hazardous features could trap, displace, or lead to death of wildlife. Examples include: open vertical and horizontal pipes; open trenches and exposed excavation areas; pipe networks; materials to control erosion using gabions or non-biodegradable meshes; night lighting; stockpiled vegetation and soils; tarped areas; trash, garbage and open containers; vents on sheds and buildings; and oil leaks from heavy equipment. These potential impacts should be evaluated to reduce or eliminate risks to wildlife.

- Wildlife mortality can occur as a result of road construction, and there is a great deal of research showing that roads can increase the spread of invasive species. Additionally, roads can cause soil erosion and surface run-off that can transfer sediment into streams.

Vegetation clearing for road construction can also increase the amount of light that penetrates the forest floor, which may result in changes in species composition. Vehicle traffic on roads can have a number of environmental impacts including alteration of the physical and chemical environments such as soil compaction, dust mobilization that limits plants' ability to photosynthesize, and disruption of surface water flow. Road use can also result in wildlife mortality, altered abundances and diversity of wildlife, and modification of animal behavior. In order to minimize significant impacts from the construction of new roads, the Department recommends limiting the construction of new roads and use existing roads when possible. When new roads must be constructed, the Department recommends using best management practices that minimize erosion, environmental impacts, and wildlife mortality.

- Clearing/grading may result in the colonization of invasive plant species that reduce habitat quality. The DEIR should require the adoption of site-specific invasive species management plans.

- Forest conversion can lead to loss of nutrient-rich topsoils, disrupted nutrient cycling, and increased erosion. It may also result in increased exposure of species to predation risk and climate stress. The DEIR should analyze the impacts of forest conversion and the Project should be designed to minimize edge habitat and fragmentation.

- Access routes should also be analyzed for biological impacts if new roads or grading is required for Project sites. Construction of new access routes can lead to many substantial adverse impacts on watershed integrity, such as increased erosion.

h. The cumulative effects analysis should include all species and habitats potentially affected by the Project, and for each resource in CEQA Guidelines Appendix G as described under CEQA Guidelines section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts to species and habitats. The short- and long-term effects on wildlife of the wind turbine construction and the effects of turbine operations over the anticipated 40-year life of the Project should be analyzed in the DEIR. The DEIR should also forecast additional potential wind energy development that may be enabled as a result of the current Project proposal, and correspondingly include likely future wind energy

generation projects, timber harvest activities, and forest conversion projects in the vicinity of this Project in the cumulative impacts analysis.

3. A range of Project alternatives should be analyzed to ensure the full spectrum of alternatives to the proposed Project are fully considered and evaluated. Alternatives which avoid or otherwise minimize impacts to sensitive biological resources shall be identified.

    a. If the Project will result in any impacts described under the Mandatory Findings of Significance (CEQA Guidelines § 15065) the impacts must be analyzed in depth in the DEIR, and the Lead Agency is required to make detailed findings on the feasibility of alternatives or mitigation measures to substantially lessen or avoid the significant effects on the environment. When mitigation measures or Project changes are found to be feasible, such measures should be incorporated into the Project to lessen or avoid significant effects.

4. Mitigation measures for adverse Project-related impacts to sensitive plants, animals, and habitats should be developed and thoroughly discussed. Mitigation measures should first emphasize avoidance and reduction of Project impacts. For unavoidable impacts, the feasibility of onsite habitat restoration or enhancement should be discussed. If onsite mitigation is not feasible, offsite mitigation through habitat creation, enhancement, acquisition and preservation in perpetuity should be addressed:

    a. Feasible, enforceable mitigation through turbine layout or design modifications, establishment of buffer zones, operational (seasonal or weather dependent) restrictions, curtailment, detection devices, acquisition and protection of compensatory habitat, or other means should be proposed to reduce Project-related impacts and cumulative effects to less than significant.

    b. The Department generally does not support the use of relocation, salvage, and/or transplantation as mitigation for most impacts to rare, threatened, or endangered species. Studies have shown that these efforts are experimental in nature and largely unsuccessful. If considered, these types of mitigation measures must be discussed with the Department prior to release of the DEIR.

    c. Areas reserved as mitigation for Project impacts should be legally protected from future direct and indirect development impacts. Potential

issues to be considered include public access, conservation easements, species monitoring and management programs, water pollution, and fire management.

d. Plans for restoration and revegetation should be prepared by persons with expertise in northern California ecosystems and native plant revegetation techniques. Each plan should include, at a minimum: (a) the location of the mitigation site; (b) the plant species to be used, container sizes, and/or seeding rates; (c) a schematic depicting the mitigation area; (d) planting/seeding schedule; (e) a description of the irrigation methodology; (f) measures to control exotic vegetation; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for long-term conservation of the mitigation site.

5. Fuel modification impacts on vegetation should be included in the biological resources section of the DEIR. All impacts including future maintenance should be quantified and described.

6. Take of species of plants or animals listed as endangered or threatened under CESA is unlawful unless authorized by the Department. However, a CESA section 2081 (b) ITP may authorize incidental take during Project construction or over the life of the Project. The DEIR must state whether the Project could result in any amount of incidental take of any CESA-listed species. Early consultation for incidental take permitting is encouraged, as significant modification to the Project's description and/or mitigation measures may be required in order to obtain an ITP. Information on how to obtain an ITP is available through the Department's website at: https://www.wildlife.ca.gov/Conservation/CESA/Incidental-Take-Permits.

   The Department's issuance of a CESA Permit for a project that is subject to CEQA will require CEQA compliance actions by the Department as a Responsible Agency. The Department as a Responsible Agency under CEQA will consider the Lead Agency's EIR for the Project. The Department may require additional mitigation measures for the issuance of a CESA Permit unless the Project CEQA document addresses all Project impacts to listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of a CESA Permit.

   In the Department's implementation of CESA, multiple spatial, temporal, and functional impacts are utilized to measure the level of take and its resulting impacts, including indirect impacts, to listed species. Additionally, during ITP preparation, the Department evaluates the scope and duration of incidental

take-related impacts of projects. The Department assesses ecological functions and characteristics of impacted areas by looking at several factors. These factors include assessing the quality of available habitat impacted and the density of listed species in the impacted habitat. Whenever available, actual numbers of listed species or qualitative proxy may be considered. The value of the impacted habitat to species range-wide is another important consideration. Impacts to essential breeding habitat, movement/dispersal corridors, and foraging areas are also assessed.

Acreage-based assessments consider the total amount of habitat lost or degraded and the extent to which the project reduces habitat suitability, and how a project has affected species habitat on a landscape scale. Factors such as total acreage lost; habitat degradation related to changes in structure and resource availability, community constituents (i.e., invasive species), disturbance, new access roads, staging or storage areas and other facilities; the amount of fragmentation/edge being created; and the distance to other suitable habitat are all considered. Temporal considerations include determining the duration of a listed species' habitat being lost or degraded and the length of time the species would be subjected to activities causing impacts, to characterize the impact on essential behaviors or life requirements of the covered species. Considerations include permanent versus temporary loss of use, the duration of actual impacts, the duration of restoration/recovery, the duration of impacts to generation time, movement and other relevant aspects of the life history of the covered species.

To expedite the CESA permitting process, the Department recommends the DEIR address the following CESA Permit requirements:

a. The impacts of the authorized take are minimized and fully mitigated;

b. The measures required to minimize and fully mitigate the impacts of the authorized take and: (1) are roughly proportional in extent to the impact of the taking on the species; (2) maintain the applicant's objectives to the greatest extent possible, and (3) are capable of successful implementation;

c. Adequate funding is provided to implement the required minimization and mitigation measures and to monitor compliance with and the effectiveness of the measures; and

d. Issuance of the permit will not jeopardize the continued existence of a State-listed species.

7. The Department has responsibility for wetland and riparian habitats. It is the policy of the Department to strongly discourage development in wetlands and the conversion of wetlands to uplands. The Department opposes any

development or conversion which would result in a reduction of wetland acreage or wetland habitat values, unless, at a minimum, Project mitigation assures there will be "no net loss" of either wetland habitat values or acreage. If applicable, the DEIR should demonstrate that the Project will not result in a net loss of wetland habitat values or acreage. Mitigation should take into account temporal losses of ecosystem functions and the likelihood of recreating or restoring disturbed habitats to the naturally functioning ecosystem they are meant to replace and propose appropriate mitigation ratios:

a. The Project site has the potential to support aquatic, riparian, or wetland habitat; therefore, a delineation of lakes, streams, and associated riparian habitats potentially affected by the Project should be provided for agency and public review. This report should include a preliminary jurisdictional delineation including wetlands identification pursuant to the USFWS wetland definition[2] as adopted by the Department[3]. Please note that some wetland and riparian habitats subject to the Department's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers. The jurisdictional delineation should also include mapping of ephemeral, intermittent, and perennial stream courses potentially impacted by the Project. In addition to "federally protected wetlands" (see CEQA Appendix G), the Department considers impacts to any wetlands (as defined by the Department) as potentially significant.

b. The Project will require notification to the Department for a Lake or Streambed Alteration (LSA) Agreement pursuant to Fish and Game Code section 1600 et seq. prior to the applicant's commencement of any activity that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank (which may include associated riparian resources) of a river, stream, or lake, or use material from a streambed. The Department's issuance of an LSA Agreement for a project that is subject to CEQA will require CEQA compliance actions by the Department as a Responsible Agency. The Department as a Responsible Agency under CEQA may consider the local jurisdiction's (Lead Agency) EIR for the Project. To minimize additional avoidance, minimization and mitigation requirements by the Department pursuant to Fish and Game Code section 1600 et seq. and/or under CEQA, the DEIR should fully identify the potential impacts to lakes, streams and

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[2] Cowardin, Lewis M., et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service.

[3] California Fish and Game Commission Policies: Wetlands Resources Policy; Wetland Definition, Mitigation Strategies, and Habitat Value Assessment Methodology; Amended 1994.

associated riparian resources, and provide adequate avoidance, mitigation, monitoring, and reporting commitments for issuance of the LSA Agreement. An LSA notification package may be obtained through the Department's website at: https://www.wildlife.ca.gov/Conservation/LSA. The type of LSA Agreement required will be determined based on Project-specific activities described in the DEIR.

8. CEQA requires that information developed in EIRs and negative declarations be incorporated into a database that may be used to make subsequent or supplemental environmental determinations (Public Resources Code § 21003 (e)). Accordingly, any special status species and sensitive natural communities detected during Project surveys must be reported to the CNDDB. The online submission and CNNDB field survey forms, as well as information on which species are tracked by the CNDDB, can be found at the following link: https://www.wildlife.ca.gov/Data/CNDDB/Submitting-Data.

   The Department requests that field survey forms also be submitted to the Northern Region office at: Attn: CEQA, 601 Locust Street, Redding, CA 96001.

   Bat acoustic data should also be submitted to the Bat Acoustic Monitoring Portal (BatAMP). Information on BatAMP and submitting data can be found at: https://batamp.databasin.org/.

Project Specific Comments

Project Maps

Several versions of the turbine location and Project boundary maps are provided in the NOP, IS, and survey reports. The maps show various turbine locations and survey corridors. For example, Figure 1 of the NOP and Figure 2 of the IS show different turbine locations which don't match with the survey corridors depicted in the survey reports for frogs, rare plants, and great gray owl. Additionally, the Site Characterization Survey Report and Rare Plant Survey Report maps depict different Project boundaries. The inconsistency of Project maps makes it difficult to determine where impacts will occur and whether surveys are adequate to address potential impacts to sensitive species and habitats. Surveys must be conducted in all areas of potential direct and indirect disturbance. The DEIR should include updated Project maps with current boundaries, accurate turbine locations, survey corridors, and disturbance areas. A clear explanation of the difference between map versions should also be provided. Changes to turbine locations between maps should also be discussed if relocation occurred due to sensitive biological resources.

Survey Corridors

The Project utilizes survey corridors for several of the biological surveys conducted, which constitute areas of temporary and permanent ground-disturbing activities. As previously noted, inconsistencies between maps indicate that turbine locations may not be finalized, and some locations where turbines are proposed have not been surveyed for all potential species. The survey area for the Project must encompass all areas of direct impact and areas in which reasonably foreseeable indirect Project impacts will occur, including areas in which special status species or their habitat would be impacted by noise from construction or ongoing maintenance activities, noise and vibrations from blasting, fugitive dust, Project temporary and permanent lighting, habitat fragmentation, and downstream impacts to waters of the State. The survey area should encompass an area large enough to obtain an understanding of wildlife usage and movement within the entire Project site, including habitat features that could attract or concentrate birds and/or bats, in order to document potential direct, indirect, and cumulative impacts to wildlife, and thus allow for proper siting of turbines.

Candidate Amphibian Species Surveys

The Department has reviewed the *2018 Foothill yellow-legged frog and Cascades frog habitat assessment and surveys* report. Both foothill yellow-legged frog and Cascades frog are candidate species pursuant to CESA. During CESA candidacy, a species is afforded protections as a listed species and "take" as defined by Fish and Game Code section 86 is prohibited unless authorized by the Department as discussed above. Take authorization pursuant to CESA requires Project- and species-specific avoidance and minimization measures, as well as full mitigation for Project related impacts.

A desktop analysis was conducted for both foothill yellow-legged frog and Cascades frog, with focused visual encounter surveys (VES) conducted in "*the most suitable habitats identified*" for foothill yellow-legged frog only. The Department's informal consultation letter specifically recommended completion of a habitat assessment and subsequent focused surveys for these species in all areas of the Project that may directly or indirectly impact species habitat...including aquatic and terrestrial habitat, migration routes, and critical Cascades frog habitat adjacent to the Project site. Prior to the commencement of these surveys, a Survey Plan must be developed **and submitted to the Department for review**. The Survey Plan shall include what life-stage(s) shall be surveyed for, survey method(s), timing of surveys, and location of surveys. The Survey Plan shall provide justification for timing and methodology or survey design (e.g., watershed characteristics, regional snow pack, timing and rate of spring runoff, day length, average ambient air and water temperatures, local and seasonal conditions). For sites with suitable breeding habitat, two consecutive seasons of negative egg mass/larval surveys are recommended to support a negative finding.

Species subject to CESA take authorizations require robust surveys, often with multiple years of survey effort. Department guidance for foothill yellow-legged frog (van Hattem and Mantor 2018) recommends the completion of two or more surveys in order to increase the likelihood of detection, including a tadpole survey in late spring/early summer followed by a second survey for subadults and adults in late summer. Additionally, the guidance suggests conducting follow-up surveys two to four weeks after the initial survey for surveys that fail to detect foothill yellow-legged frog in suitable habitat. More specifically, the guidance recommends the following:

- Conduct one or two adult frog VES during the breeding and/or oviposition period (generally, April-June). VES during the spring breeding period usually provide the best opportunity for observing adults and egg masses.
- Conduct a tadpole survey four to eight weeks after completing breeding survey(s) (usually from June through early August).
- Conduct a subadult survey during the latter part of the summer or during early autumn (generally late August to early October).

The surveys conducted for foothill yellow-legged frog occurred during one survey period, September 1-4, with no surveys for tadpoles or egg masses and no follow-up surveys. The Department recommends continuation of appropriate foothill yellow-legged frog surveys prior to circulation of the DEIR.

Potential Cascades frog habitat exists within and surrounding the Project site. As stated in the Department's informal consultation letter, while Cascades frog typically utilizes lentic water bodies for breeding, the species can utilize a variety of aquatic habitats during different life history stages. In portions of their range, Cascades frog populations utilize stream habitat more often in the summer due to more xeric habitat conditions and lentic water bodies drying out. Wetland and meadow complexes occur on both sides of the southern portion of the Project. These complexes may provide connectivity throughout this portion of the Project. Because this species is known to undergo long distance seasonal migrations, surveys within the Project site and adjacent habitat must occur in order to gain an understanding of migratory pathways within the Project site and to ensure the preservation of connectivity between populations. Dispersing animals are vital to maintaining the genetic flow and population viability of this species. Additionally, the Department cautions against relying entirely on the California Wildlife Habitat Relationships (CWHR) model for a species that is very restricted in its range and lacks survey efforts in this area. The CWHR does not supplant the need for on-the-ground surveys. The Department recommends continuation of Cascades frog surveys prior to circulation of the DEIR.

Survey corridors depicted in the survey report are inconsistent with turbine locations mapped in the NOP. Additional amphibian surveys will be necessary to cover areas in which additional turbines will be located. Because these are CESA candidate species, surveys for these species will need to occur in all potential

habitat areas, not just those areas with a higher rating based on the CWHR model. Additionally, future survey reports should include information on incidentally observed species, photos of survey locations, stream reach measurements, habitat descriptions, and the additional information requested above.

The Department strongly encourages coordination on future survey efforts for both the foothill yellow-legged frog and Cascades frog. This coordination should include a seasonally appropriate site visit, which will allow the Department to assist in focusing survey efforts and locations. Having the opportunity to view the Project site and survey locations will allow the Department to determine the adequacy of the provided survey information for determination of potential impacts to these CESA candidate species.

Gray Wolf

The *Year 1 Avian Use Study Report and Risk Assessment for the Fountain Wind Project* report documents evidence of gray wolf (*Canis lupus*, State and federally endangered) in Project area. The Department requests that gray wolf sightings or evidence be immediately reported to the Department. Information on reporting gray wolf sightings to the Department can be found at: https://www.wildlife.ca.gov/Conservation/Mammals/Gray-Wolf/Sighting-Report.

Bats

The vast majority of bat fatalities at wind farms in North America are made up of migratory forest roosting bats such as the hoary bat (*Lasiurus cinereus*), silver-haired bat (*Lasionycteris noctivagans*), and western red bat (*Lasiurus blossevilii*), all of which are likely to occur at the Project site. Mexican free-tailed bats (*Tadarida brasiliensis*) are another migratory species known to be impacted by wind projects. In particular, hoary bat make up the largest percent of bat fatalities at wind energy facilities in North America (Arnett and Baerwald 2013). Further, recent research suggests that wind development may threaten the population viability of this species (Frick et al. 2017).

Several SSC bat species were identified as having potential to occur on the Project site and two were documented during surveys—western mastiff bat (*Eumops perotis*) and spotted bat (*Euderma maculatum*). The other special status bat species with potential to occur in the Project area were not detected and therefore discounted as possibly occurring. Two of these species, pallid bat (*Antrozous pallidus*) and Townsend's big-eared bat (*Corynorhinus townsendii*), are known to be hard to detect. Because these species could be utilizing the Project site, the Department recommends assuming presence.

Feasible mitigation options for impacts to bat species must be analyzed in the DEIR, including curtailment of operations during high risk periods for bats (low wind nights). This mitigation has been shown to substantially reduce bat mortality without significant power loss (Arnett et al. 2011).

The Department is aware of additional studies occurring at the Hatchet Ridge Wind Facility in which bat fatality monitoring is being conducted at a more frequent rate than what was conducted during the three year post-construction monitoring period for Hatchet Ridge. This study may be finding higher fatality rates than were previously found. For this reason, the Department recommends caution when inferring fatality rates expected at Fountain Wind based on Hatchet Ridge data.

Spotted Owl

The Site Characterization Study Report indicates there is no potential for occurrence of northern spotted owl (State Threatened, federally Threatened) within the Project area; however, two northern spotted owl activity centers are documented within 1.3 miles of the Project area. Additionally, critical habitat designated by the USFWS is in close proximity to the Project site. For these reasons, the Department recommends the completion of surveys following the revised January 9, 2012 USFWS *Protocol for Surveying Proposed Management Activities That May Impact Northern Spotted Owls* and consultation with the Department and USFWS staff regarding potential impacts to this species. These surveys will be required prior to any timber harvest operations or ground disturbance conducted in support of this Project, with at least a one year, six-visit survey conducted within 0.25 miles of the Project boundary immediately prior to the initiation of timber operations or ground disturbance for the Project. If operations are not completed within a two-year period, three spot check surveys should be conducted in years two and three. Alternately, the two-year, six-visit survey protocol could be utilized.

Additionally, multiple occurrences of California spotted owl (*Strix occidentalis occidentalis*, California SSC) are documented within 1.3 miles of the Project area. The DEIR should analyze impacts to and provide mitigation for impacts to this species.

Northern Goshawk

According to the *2018 Northern Goshawk Nest Survey Results* report, surveys for northern goshawk (*Accipiter gentilis*) were conducted at four historic nesting sites utilizing accepted protocols. The survey report states that the survey locations "*appear to represent the most suitable nesting stands in close proximity (i.e., within 160 m) to areas of potential disturbance based on the most current Project layout as of the date of this report.*" Analysis conducted by the Department indicates potential suitable habitat exists within the northern and southern portions

of the Project area. Turbine location information provided to the Department indicates suitable habitat in the southern portion of the Project area would be directly impacted by Project activities. Previous surveys conducted did not fully encompass available habitat within the Project area, nor were the survey areas representative of the best available habitat with potential to be impacted.

The survey report recognizes that the survey results "*are not broadly applicable across the Project area*" and recognizes additional protocol-level surveys may need to be completed if the turbine layout changes. Based on currently provided turbine layout information, the Department recommends the completion of additional dawn acoustical and broadcast call surveys within all suitable nesting habitat in order to determine appropriate avoidance and mitigation measures. These surveys should be included, along with discussion, in the DEIR. Additional pre-construction surveys will be needed the year prior to the timber operations or site disturbing activities in order to meet timber harvest standards.

Raptors

Fish and Game Code section 3503.5 specifically prohibits take of birds-of-prey (raptors). Additionally, pursuant to Fish and Game Code section 3511, Fully Protected species may not be taken or possessed at any time and the Department is not authorized to issue permits or licenses for their incidental take. Fully Protected raptor species such as golden eagle, bald eagle, and American peregrine falcon, have been observed in the Project area or have high likelihood of utilizing the Project for migration or nesting. Impacts to these species must be avoided. Biological monitoring and "informed curtailment" (rapid shutdown of turbines when raptors are seen approaching), or other technology to detect raptors and shut down turbines accordingly, may be necessary to avoid take of these species. In addition, the Department recommends a robust raptor monitoring and mitigation plan be developed and included in the DEIR for public review.

Rare Plant Survey Report

The Department is concerned with the survey coverage area and the number of surveys conducted for rare plant species. The report states survey corridors were utilized which varied in size and included buffers of all areas potentially subject to ground disturbance. The survey corridors depicted in Figure 1 of the Rare Plant Survey report differ from turbine locations provided to the Department and in the NOP. As stated above, surveys must be conducted in all areas of potential direct and indirect disturbance. For such a large Project site, two survey periods in just one year do not adequately cover the site. At a minimum, a second year of surveys should be conducted with four surveys periods: the first in late March to early April, the second in early May to mid-May, and the third in mid-June to late June or early July, and the

fourth in late July to early August. These four periods are needed to cover the wide elevational gradient on the site and rapid growth and senescence times that can occur for species in this area. The previous survey periods of late May, and late July to early August could have missed many species that would have flowered and died earlier in the season.

The report states that Holland (1986) and Sawyer et al. (2009) were used to classify vegetation communities, although it is not stated how they were used. Holland is outdated and should not be used when the more comprehensive and accurate descriptions of Sawyer et al. 2009 are available and should be the reference of choice for describing plant alliances. This more detailed mapping would also improve the potential to identify possible special status plant species and would also indicate if certain alliances are uncommon in the area and should be avoided or protected. The segregation by burned and unburned vegetation is useful but should be mapped at the alliance level.

In Appendix C, Natural Vegetation Communities Mapped within the Fountain Wind Project Evaluation Area, three "communities" are discussed: "Logged/Recently Logged," "Rock Outcrop," and "Transmission Line Corridor." These are not plant alliances or communities. They are two land-use types and a geologic structure. Areas mapped as these three should be re-mapped as the appropriate alliances based upon the plant species occupying the site.

Several species that were considered in the Site Characterization Study Report were omitted from the scoping list (Appendix A) in the Rare Plant Survey report. Several, but not all, of these are California Rare Plant Rank 3 and 4 species. To reiterate from the informal consultation letter: California Rare Plant Ranked plants either meet the definitions of CESA and are eligible for state listing (Rank 1, 2 and 3 species) or may be significant locally (Rank 4 species). Impacts to species listed as California Rare Plant Rank 1, 2, and 3 or their habitat must be analyzed during preparation of environmental documents relating to CEQA, as they meet the definition of Rare or Endangered under CEQA Guidelines section 15125 (c) and/or section 15380. Impacts to species listed as California Rare Plant Rank 4 should be analyzed when impacts will occur to populations at the periphery of a species' range, in areas where the taxon is uncommon or has sustained heavy losses, in areas where populations exhibit unusual morphology or occur on unusual substrates, or at the type locality for the population.

California Rare Plant Rank 3 and 4 species should be included in the scoping and future surveys for this Project, and impacts should be analyzed in the DEIR.

In addition to addressing the species discussed above, the following species should be included in scoping and future surveys for this Project:

- *Trifolium siskiyouense* – California Rare Plant Rank 1B.1
- *Cuscuta jepsonii* – California Rare Plant Rank 1B.2
- *Anisocarpus scabridus* – California Rare Plant Rank 1B.3
- *Castilleja lassenensis* – California Rare Plant Rank 1B.3
- *Potamogeton zosteriformis* – California Rare Plant Rank 2B.2
- *Stuckenia filiformis* ssp. *alpina* – California Rare Plant Rank 2B.2
- *Potentilla newberryi* – California Rare Plant Rank 2B.3

In Appendix B (Plant Species Encountered within the Fountain Wind Project) of the Rare Plant Survey Report, *Carex comosa* (bristly sedge) is listed as observed. This species is also mentioned in the discussion of Wet Montane Meadow in Appendix C and is listed in the scoping list in Appendix A. *Carex comosa* is a California Rare Plant Rank 2B.1 species. The occurrence locations for this species should have been documented in the Rare Plant Survey Report, along with the numbers of plants observed, and a discussion on the proximity of occurrences to the Project footprint/areas of disturbance. This information is essential to determining if a significant impact will occur to this species and for the development of avoidance and/or mitigation measures. In addition, *Calystegia atriplicifolia* spp. *buttensis* (Butte County morning glory; California Rare Plant Rank 4.2) was documented as observed in Appendix B. Information on occurrence locations, numbers of plants observed, and proximity to Project impacts is necessary for this species as well.

Outdated CNPS definitions are utilized in Table 3 of the Site Characterization Study Report and Appendix A of the Rare Plant Survey report. The CNPS rare species categories utilized in the reports (CNPS 2001) are now referred to as California Rare Plant Ranks. The correct definitions and California Rare Plant Ranks should be utilized in future surveys and the DEIR.

Hatchet Ridge Wind Farm Data

The Department recommends using caution when making inferences from studies and reports produced for the Hatchet Ridge Wind Farm facility. The Fountain Wind Project covers a much larger and varied topographic/elevation area than the Hatchet Ridge Wind Farm facility. As the *California Energy Commission/Department's California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development* (CEC/CDFG Guidelines) recognize: "*slight topographical or habitat variations can make substantial differences in bird and bat site use and potential impacts.*"

The Site Characterization Study references the occurrence of three raptor and 39 songbird fatalities during two years of post-construction fatality monitoring at

Hatchet Ridge Wind Farm. Three years of post-construction monitoring occurred at the Hatchet Ridge site, with additional fatalities occurring in year three.

Additionally, the final post-construction monitoring report for Hatchet Ridge (Comprehensive Three Year Report) changed the way that fatality estimates for rare/infrequent fatality occurrences were reported in the tables and discussed in the text of the report. In all previous reports, both annual and interim reports, rare/infrequent detections were reported as a number; however, in the final report these rare/infrequent detections were omitted and replaced with the statements such as: "*fatality estimates are not estimated for individual species or species groups with <5 fatalities detected due to the modelling constraints of insufficient sample size*." The Department recommends updated post-construction monitoring and reporting protocols be developed specifically for the Project. The post-construction monitoring and reporting plan should be developed for inclusion in the DEIR.

Decommissioning Plan

The DEIR should include a thorough discussion of all potential environmental impacts associated with the Project, including impacts related to decommissioning and site remediation. A decommissioning plan should be prepared that includes details regarding road decommissioning, removal of turbine pads and associated infrastructure, native plant re-establishment, restoration of natural site hydrology, removal of stream crossings, stream protection, sediment and erosion control, etc. Specific performance standards, monitoring, and contingency measures should be discussed. Additionally, the decommissioning plan should include specific information on how decommissioning costs are calculated and how funding will be assured to return the site to pre-Project condition.

Project Timeline and CEQA

The Department requests that the completion of all biological surveys occur prior to the release of the DEIR in order to ensure all Project impacts are identified and analyzed in the document. Release of the DEIR prior to completion of all biological surveys will limit the analysis of potentially significant impacts, including the projected take of bird and bat species. The Department is concerned that an EIR informed with incomplete survey data will not provide a scientifically sound basis for identifying and quantifying potentially significant impacts, informing take estimates, and assessing impacts to resident and migratory bird, bat, and amphibian species. Additionally, an EIR based on incomplete survey data greatly increases the chance that the final EIR will need to be recirculated if additional survey data indicates there may be a

significant new environmental impact, a substantial increase in the severity of an impact, or that the lack of information in the DEIR precluded meaningful public review and comment (CEQA Guidelines § 15088.5 (a)).

Finally, the Department must rely on the EIR in order to issue an ITP and LSA Agreement(s) for the Project, as discussed above. If the information included in the final EIR is insufficient, the Department will be unable to rely on the EIR for purposes of permit issuance, and may require that a supplemental CEQA document be completed. The Department recommends the Project incorporate results of all survey data into the DEIR in order to ensure that identification of potentially significant impacts and proposed mitigation measures are informed by all data collected for that purpose.

Consultation

The Department looks forward to continued consultation regarding fish and wildlife resources. If a timber harvesting plan is necessary, the Department's Timberland Conservation Program will provide additional consultation on impacts to sensitive biological resources during that process.

As the CEC/CDFG Guidelines discuss, the Department recommends consultation with local conservation organizations and experts, including local Audubon chapters such as the Wintu Audubon Society. These consultations may provide critical information regarding wildlife usage near the Project site and aid in identifying potentially adverse impacts of the Project.

These are initial comments to assist the Lead Agency in preparing the DEIR. The Department will have additional comments as data collection proceeds and the DEIR is circulated. For questions regarding this letter, please contact Kristin Hubbard, Environmental Scientist, at (530) 225-2138, or by e-mail at kristin.hubbard@wildlife.ca.gov.

Sincerely,

Curt Babcock
Habitat Conservation Program Manager

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ec: Lio Salazar
Shasta County Department of Resource Management
lsalazar@co.shasta.ca.us

Matthew Kelley
U.S. Army Corps of Engineers
Matthew.P.Kelley@usace.army.mil

Dannas Berchtold
Central Valley Regional Water Quality Control Board
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Jennifer Norris, Robert Doster
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Jennifer_I_norris@fws.gov, Rob_Doster@fws.gov

State Clearinghouse
State.clearinghouse@opr.ca.gov

Curt Babcock, Adam McKannay, Kristin Hubbard
California Department of Fish and Wildlife
Curt.Babcock@wildlife.ca.gov, Adam.McKannay@wildlife.ca.gov,
Kristin.Hubbard@wildlife.ca.gov

Letter A2

Janna Scott

From: Solinsky, Bill@CALFIRE <Bill.Solinsky@fire.ca.gov>
Sent: Friday, January 25, 2019 12:44 PM
To: Janna Scott
Cc: Lio Salazar
Subject: Fountain Wind Project
Attachments: RM-53 TLC.docm

Hi Janna,

I just received the NOP for the Fountain Wind Project that was sent to me from our Redding Office. CAL FIRE will be the responsible agency for the potential approval of a Timberland Conversion Permit (TCP) out of Sacramento, and the review/approval of a Timber Harvesting Plan (THP) out of Redding. Attached is our RM-53 Form for a TCP Permit. Please keep me informed as the project proceeds.

Thank you, Bill

William D. Solinsky, RPF #2297
Forester III, THP Administration
CAL FIRE
CA Department of Forestry and Fire Protection
1416 9th Street, P.O. Box 944246
Sacramento, CA 94244-2460
Phone: (916) 263-3371
Cell: (916) 531-2173
Bill.Solinsky@fire.ca.gov

FOR ADMIN. USE ONLY	
TCP No.	
Date Recd. Sac.	
Date Approved	
Date Expires	
Extension #1 Date	
THP No.	

TIMBERLAND CONVERSION PERMIT APPLICATION

STATE OF CALIFORNIA
DEPARTMENT OF FORESTRY
AND FIRE PROTECTION
RM-53 (Rev 7/00)

Information for Applicants

1. This Timberland Conversion Application consists of three sections that must be completed: Timberland Conversion Application, Timberland Conversion Plat, and Timberland Conversion Plan.

2. The applicant must have a bona fide intent to complete the conversion. As defined in Title 14 California Code of Regulations (14 CCR) §§1100(b) and 1105.2, a "bona fide intention" or "bona fide intent" means a present, sincere intention of the applicant to conform with and successfully execute the conversion plan. The Director shall determine the applicant's intention in light of the present and predicted economic ability of the applicant to perform the proposed conversion; the environmental feasibility of the conversion including, but not limited to, suitability of soils, slope, aspects, quality and quantity of water and microclimate; adequacy and feasibility of possible measures for mitigation of significant adverse environmental impacts; and other foreseeable factors necessary for successful conversion to the proposed land use.

3. By law, timber operations to convert timberland to a non-timber growing use cannot begin until (1) the Director of Forestry and Fire Protection issues a Timberland Conversion Permit to the timberland owner, (2) the owner records the permit with the County Recorder, (3) owner provides a copy of the permit to the timber operator, and (4) a Timber Harvesting Plan (THP) is approved by the Director of Forestry and Fire Protection. The filing of the application and the THP may occur simultaneously, though the second review of the THP will not be scheduled and the THP cannot be approved until the Timberland Conversion Permit is issued.

4. The Timberland Conversion Permit grants exemption from the forest practice stocking requirements in the Forest Practice Act and District Forest Practice Rules. Forest practice requirements of the Act, Rules and related Board of Forestry and Fire Protection Regulations not consistent with the conversion still apply. These include, but are not limited to, such items as erosion control, fire hazard reduction, and watercourse and lake protection. A Timber Harvesting Plan approved by the Director of Forestry and Fire Protection is required for the timber operation.

5. If the conversion should fail or be abandoned, the Director of Forestry and Fire Protection may direct the permit holder to replant with trees. This requirement would apply to those parts of the conversion area where timber harvesting or other

conversion activities have reduced stocking below Forest Practice standards. If the permit holder should fail to comply, the Director may have the work done. The permit holder would then be liable for the costs, including necessary site preparation.

6. Timberland Conversion Permits are subject to requirements of the California Environmental Quality Act (CEQA) and its related administrative regulations. An Environmental Impact Report (EIR) or Negative Declaration (Neg. Dec.) must be submitted to the State Clearinghouse by the lead agency for the prescribed review period of 45 days for an E.I.R., 30 days for a Neg. Dec., and then be adopted by the lead agency before the conversion permit can be issued. If a local government zoning change or use permit is required, the local government agency is the lead agency. Otherwise, the California Department of Forestry and Fire Protection is the lead agency.

7. Special requirements and procedures apply to conversion permits for immediate rezoning from TPZ, are generally required whether timber operations are involved or not.

8. DO NOT APPLY for a Timberland Conversion Permit when (1) forest lands are NOT in a Timberland Production Zone (TPZ) AND (2) when a residential subdivision is planned. Instead, the owner should first apply to county government for the proper (subdivision) use permits and approval of a tentative subdivision map. With these documents, the owner is eligible to file, with the Department, the “Notice of Exemption for Timberland Conversion Permit for Subdivision”, and a “Timber Harvesting Plan”.

9. NOTICE: The above information is only a summation for general situations in timberland conversion. For detail, and the supporting authorization, see:

    Timberland Conversion: Public Resources Code §§4621-4628

    Forest Practice Rules, 14 CCR:
    Coast District, §§911-929.7
    Northern District, §§931-949.7
    Southern District, §§951-969.7

    Related regulations, Board of Forestry and Fire Protection, 14 CCR:
    §§895-909.1
    §§1020-1115.3

    California Environmental Quality Act (CEQA):
    Public Resources Code §§21000-21177
    CEQA Guidelines:
    14 CCR §§15000-15387

TIMBERLAND CONVERSION PLAT

Applicant(s) Name(s) _____

Section(s) _____ Township _____ Range _____ _____ B&M

_____ _____ _____ _____

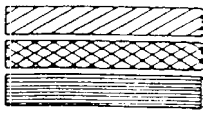
Scale _____ inch(es) = 1 mile

Show section numbers in center of section on plat. Entire plat may be used as one section or as halves of adjoining sections if needed for large-scale detail.

Show the conversion area not in a Timberland Production Zone or the Coastal Zone by _____

Show the conversion area in a Timberland Production Zone by _____

Show the area in a Coastal Zone by _____



(Do not use color shading - it will not photocopy)

Show the timbered area to be cut for conversion only. (Show to the nearest practical boundaries, such as regular 40-acre land subdivision, main roads, streams, or ridges within your property.)

TIMBERLAND CONVERSION PERMIT APPLICATION AND PLAN

APPLICATION

1. Pursuant to Public Resources Code §§4621-4628 and those regulations contained in Title 14, California Code of Regulations, §§1100 et seq., I (we)

Name (s)

Address (s) Zip

hereby apply to the Director of Forestry and Fire Protection for a Timberland Conversion Permit to exempt the timberland described herein, and shown on the attached map or plat as a part of this application, from forest practice stocking requirements for a conversion to a non-timber growing use and/or to enable final immediate zoning from TPZ.

2. Property Description of area to be converted and/or rezoned from TPZ.

   Subdivision(s) Section TWP RNG B&M

3. Acres of timberland to be converted _____

4. The owner(s) of record of this timberland is (are) _____

5. The recorded interest in this timberland is held under deed dated _____, recorded in Vol. _____ at page _____ of official records in _____ County. Assessor's Parcel Number _____

6. This timberland is assessed in the name(s) of : _____

7. I (we) intend to use this timberland in the future for _____

8. Conversion will begin about _____, 20__ and be completed by _____, 20___

9. Is all or part of conversion area in a Timberland Production Zone (TPZ) and is this an application for an immediate rezone?
_____ Yes _____ No. If yes, show the area in TPZ with diagonal black lines on the conversion plat or map, and complete the following items a through e.

   a. Is a check or money order for $100 payable to the California Department of Forestry and Fire Protection enclosed with this rezoning application as required?
   _____ Yes _____ No

   b. Has application for immediate rezoning from TPZ been made to the county or city having property tax jurisdiction?
   _____ Yes _____ No

   c. If applied for, has the county or city tentatively approved immediate rezoning from TPZ? _____ Yes _____ No. If yes, give date _____, 20____

   d. Is there any other property zoned TPZ within one mile of the boundary of the TPZ area proposed for immediate rezoning? _____ Yes _____ No

   e. Are there any proximate non-TPZ lands (on or off the property containing the TPZ proposed for rezoning) suitable for the proposed conversion use?
   _____ Yes _____ No. If no, explain why such non-TPZ lands are not suitable.

_____

_____

_____

10. a. Is a check or money order for the basic $600.00 CDF timberland conversion fee (payable to the California Department of Forestry and Fire Protection) enclosed with this application? _____ Yes _____ No (See Title 14, §1104.3 CCR)

    b. Is a check or money order for the $1,250.00 Fish and Game impact fee (§711.4(d)(3), Fish and Game Code) payable to the State of California enclosed?
    _____ Yes _____ No

    _____ I will submit the fee when notified seven days in advance of filing the Notice of Determination and issuance of the permit.

11. Is any of the conversion area in a Coastal Zone as provided for by the California Coastal Act of 1976? _____ Yes _____ No. If yes, show the area in the Coastal Zone by horizontal black lines on the conversion plat or map and complete the following item a.

    a. Has the Coastal Zone permit for the proposed conversion use been issued?
    _____ Yes _____ No If Yes, date of issuance _____.

12. What element(s) of the county or city general plan applies(y) to the area within the timberland proposed for conversion is located?

13. What is the zoning classification for all or part of the proposed conversion area that is neither TPZ nor Coastal Zone (use the designated zone term such as Agriculture – Forest, not a letter – number designation)? _____

14. Does the county, city or a district have permit, zoning, or other approval jurisdiction for the project that is the purpose of the conversion? ____ Yes ___ No. If yes, complete the following items a. through d.

    a. Name of local government entity _____.

    b. Name the type of permit, zoning or approval required _____.

    c. Has the local government prepared an environmental impact report or negative declaration? If yes, which document was prepared and was it submitted to the State Clearinghouse as required by the California Environmental Act (CEQA) and regulations? _____ Yes _____ No. Type of Document _____ State Clearinghouse Number? _____(the Timberland Conversion Permit cannot be issued until this is done and local government adopts the documents).

    d. Has the local government granted the necessary permits, zoning or approvals required for this project? _____ Yes _____ No.
    If no, explain in the appropriate section of the Timberland Conversion Plan.

15. a. Timberland Base. How many acres of commercial timberland will be removed from the timberland base in the county where the conversion will happen? Provide the number of acres of commercial timberland existing in the county and the percentage of that to be converted, and include a discussion of the cumulative effects of such a proposed change.

    b. Effects on Adjacent Timberlands. What is the land use and zoning of the contiguous parcels around the conversion area? Include a map of the area and the contiguous parcels.

16. All property owners must sign the following affidavit unless the owner is a partnership, corporation, or other organization, in which case the signer must be a partner, corporate officer, or organization officer respectively. An owner's agent may sign the affidavit, if power of attorney designating the agency, and signed by all the owners, a partner, or corporate or organization officer, for these respective kinds of ownerships accompanies the application. If the affidavit or power of attorney is signed in a state other than California, the signature(s) must be notarized.

AFFIDAVIT

I (We) own the herein described property, and declare a bona fide intent as defined in §1100(b), Title 14, California Code of Regulations to successfully complete conversion of the herein described timberland for the stated purpose in accordance with the conversion plan and plat or map, all hereby acknowledged as a part of this application, and in accordance with the timberland conversion permit, timber harvesting plan, and conditions required through the California Environmental Quality Act and related regulations.

I (We) understand that a failure to comply with the specifications contained in the permit and Timberland Conversion Plan can result in enforcement actions by the Department of Forestry and Fire Protection.

I (We) understand that if the conversion fails or is abandoned, that I (we) can be required to restock with trees those areas that do not comply with forest practice stocking requirements. I (We) understand that if I (we) fail to do so, the Director of Forestry and Fire Protection can have the restocking done, including necessary site preparation, and charge me (us) with the costs.

I (We) declare under penalty of perjury that I (we) have fully read this application, conversion plan and plat or map, and that the information given herein is correct to the best of my (our) knowledge.

Executed on _____, 20__, at _____,

State of _____.

Signature(s) of Property Owner(s) Title(s)

_____

_____

(Please print name)

_____

_____

TIMBERLAND CONVERSION PLAN
INSTRUCTIONS

Applicants must complete the General section of this plan and such additional sections as may be appropriate for the specific future use to which the timberlands are to be converted. You may insert supplemental pages including maps to provide complete answers or explain a use not covered. Code the supplemental or continued answers by using the appropriate question number, such as General-7, Grazing-5, etc. Additional information may be required as appropriate.

The Timber Harvesting Plan, upon approval by the Director of Forestry and Fire Protection for the timber operations for this timberland conversion, thereby becomes a part of this conversion plan.

In addition to the Timber Harvesting Plan itself, either the Director or the environmental review process may describe measures to reasonably ensure the success of the conversion or to provide additional environmental protection. When the applicant agrees to these stipulations as conditions for the issuance of the Timberland Conversion Permit, they shall become a part of the Timberland Conversion Plan, either incorporated therein or attached as a supplement thereto.

GENERAL

_____
Timberland Owner(s)

1. The responsible person who may be contacted if different from those given in the application section.

   _____
   (Name) (Address) (Phone)

2. Have you received professional advice or assistance in planning this conversion? _____ Yes _____ No. List name and address of people professionally trained in land management who are advising you on this conversion.

   _____
   (Individual Name) (Firm or Agency Name) (Address)

   _____
   (Profession or Occupation)

3. Do you have or can you obtain sufficient financial resources to carry out this conversion? _____ Yes _____ No

   Should the conversion fail or be abandoned do you have or can you obtain sufficient financial resources to return the land to timber production? _____ Yes _____ No

4. How will the timber be logged? (Will all or only some trees be cut? Will area be tractor-logged or cable-logged, etc?) Describe: _____

5. Slope percent ranges in gradient generally _____% to _____%. Slopes face generally toward the (direction, N, NE, etc) _____

6. Erosion Control Plan. Describe special measures to be taken during and after logging, including road and skid road construction, methods to prevent erosion, protect soil, and protect local streams, ponds, or lakes on or near the conversion area, monitoring by whom and when, action planning in case the monitoring finds additional needs for erosion control actions, when reporting to CDF will be necessary, include who will be responsible for which tasks, and include a map locating the erosion controls. EXPLAIN IN DETAIL: _____

7. a. Is an erosion control plan required by a local government entity?
   ____ Yes ____ No

   b. If yes, the approved erosion control plan must be enclosed and incorporated into this plan.

8. Describe methods of slash disposal and woody vegetation treatment, and any additional land treatment measures that will be taken: _____

9. If conversion fails, or is abandoned for any reason, how will the area be returned to timber growing use to meet the purpose of the Forest Practice Act? Describe land preparation, seeding or planting measures, pest control measures, and weed abatement/competition control. Explain when the services of a Pest Control Advisor would be required: _____

10 Area on which conversion will be completed within 5 years: _____ acres.
Date by which logging will be completed: _____
Date by which final conversion to new use will be completed: _____
NOTE: Conversion Permits are issued for 5 years and may be extended for just cause.

11. What assurances can you give that this conversion is feasible: _____

12. Describe the specific plans for development of the new use: _____

List and attach any documents and sketches illustrating or showing proposed new use:

a.

b.

c.

d.

e.

f.

g.

h.

AGRICULTURE-GRAZING

The following additional information is needed for lands to be devoted to agricultural purposes including grazing:

1. Has the suitability of the soil for the intended agricultural use been determined through examination by and consultation with farm advisors, Natural Resources and Conservation Service district specialists, or other qualified professionals? _____ Yes _____ No. If "Yes" give name and title of specialists and describe findings: _____

2. Describe the soils now supporting timber or other woody vegetation: (clay, loam, sand, decomposed granite, etc.) _____

Give soil series if known:

3. Describe soil treatments necessary or desirable for the new use: (ripping, discing, soil conditioners, fertilizers, mulch, etc., and rate of application)

4. How will other woody vegetation left after logging be eliminated? (Check method)

   Mechanical clearing _____ Chemical eradication _____ Burn _____
   Other (specify)

5. How will natural woody growth be prevented from revegetating the area? (Check method) Mechanical removal _____ Reburn _____ Chemical eradication _____
   Other (specify)

6. What kind and rate of application of seed or kind and spacing of planting stock will be used?

7. If conversion is for grazing, what kind and number of livestock are being grazed now on this property?

   What kind and number of livestock will be grazed after conversion is completed? ___

8. What water developments exist right now on the property?

9. What additional water developments are planned for conversion?

10. What length of fence exists now in connection with the conversion area? _____

11. How much additional length of fence will be added in connection with conversion?

12. Describe buildings or improvements now on property where conversion is planned, such as a residence, barn or other farm structures:

12. Describe buildings or improvements to be added in connection with conversion: ____

SUBDIVISION

Applicable only for lands in Timberland Production Zone. See item 8, informational page.

The following additional information is needed for lands to be devoted to real estate subdivisions:

1. Has "Combined Notice of Intention" per §11010, Business and Professions Code been filed with State Division of Real Estate? _____ Yes _____ No
   If yes, date filed _____

2. Is area approved for subdivision? _____Yes _____No
   If yes, by which local governing authority? _____

3. Name the fire protection jurisdiction in which the subdivision will be (name of incorporated city, fire district, or other, name and describe) _____

4. Will meeting fire protection standards of the fire protection jurisdiction, or of the safety element of the county or city general plan and county or city ordinance be a condition for county or city approval of the final subdivision map?
   _____ Yes _____ No (if not, this may be made a condition of the Timberland Conversion Permit.)

5. Provide a copy of proposed general development plan and indicate plan is included by marking an "X" here: _____

RECREATION

The following additional information is needed for lands to be devoted to recreational development:

1. Provide evidence of county or district zoning and approval with this plan, and list copies of document(s) submitted herewith showing such approval:
   a. _____
   b. _____
   c. _____

2. Are documents attached with this conversion plan: _____Yes _____No

3. Does your plan comply with local health and sanitation requirements and have approval? _____ Yes _____ No. If yes, by which local governing authority?
   _____

4. Will your plan meet county road standards and have county approval of the roads?
   _____Yes _____ No

5. Provide copy of development plan and indicate plan is included by marking an "X" here: _____

WATER DEVELOPMENT PROJECTS

The following additional information is needed for lands to be devoted to reservoirs or other water development projects:

1. Is the reservoir to be built and operated for private use or by a government agency?
   _____

2. If for a public agency, show name of agency: _____

3. If privately owned and operated, do you have a permit, certificate, or similar document(s) from the State (California) Department of Water Resources?
   _____ Yes _____ No

4. Is a reservoir to be built under the Agricultural Conservation program?
   _____ Yes _____No. If so, have you filed the application? _____ Yes _____ No

   Attach copy of application, document of approval, or copy of evidence of professional planning and design and indicate it is attached by marking an "X" here: _____

5. Provide a map showing the high water line in relation to your property and indicate map is included by marking an "X" here: _____

6. Is a permit to appropriate water required from the State Water Resources Control Board? _____ Yes _____ No

7. If 6 above is "Yes", has application been made? _____ Yes _____ No

8. If 7 above is "Yes", give date of application: _____

MINING

The following information is needed for lands to be devoted to mining purposes:

1. Describe kind of material that will be mined or removed: _____
   _____

2. Has an assay or feasibility report been made to determine the quality and the economics of the venture? _____ Yes _____ No
   If yes, summarize findings: _____
   _____
   _____
   _____
   _____
   _____

3. Describe the nature and extent, if necessary, of surface disturbance: _____
   _____
   _____
   _____
   _____

4. Provide map of proposed development and indicate map is included by marking an "X" here: _____

5. Is a county approved reclamation plan required by the Surface Mining and Reclamation Act and county ordinance for this mine? _____ Yes _____ No

6. If 5 above is "Yes", has the county approved a Reclamation Plan for the mine? _____ Yes _____ No (If No, issuance of the conversion permit may be delayed until the county approves the reclamation plan.)

OTHER

Complete applicable detail for intended conversion purpose:

1. Describe soils. Give soil series if known: _____

2. Describe any cultural practices to be followed for soil and vegetation management: _____

3. Describe any water development: _____

4. Describe other management practices intended to maintain the converted use: _____

5. Provide other pertinent information – attach separate sheets if necessary: _____

Letter A3

STATE OF CALIFORNIA - CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom, Governor

DEPARTMENT OF TRANSPORTATION
OFFICE OF COMMUNITY PLANNING
1657 RIVERSIDE DRIVE
REDDING, CA 96001
PHONE (530) 229-0517
FAX (530) 225-3020

Making Conservation a California Way of Life.

IGR/CEQA Review
Sha-299-68.28
Fountain Wind
Use Permit 16-007
NOP DEIR
SCH# 2019012029

February 12, 2019

Lio Salazar, Senior Planner
Shasta County
Department of Resource Management
Planning Division
1855 Placer Street
Redding, CA 96001

Dear Mr. Salazar:

The California Department of Transportation (Caltrans) has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the Fountain Wind Project that proposes to construct, operate, and ultimately decommission 100 wind turbines and associated infrastructure with a generating capacity of up to 347 MW under use permit 16-007. The project is located in proximity to both sides of State Route 299 between the communities of Round Mountain, Montgomery Creek, and Burney.

Access to the project site would be from State Route 299 connecting to existing logging roads. The initial study includes our previous comments and concerns relating to the transport of the turbine components which may require oversized load permits from Caltrans and California Highway Patrol escorts. We also look forward to reviewing the traffic assessment report for the project relating to the potential impacts to the highway road connections and the highway system.

The project area may be a historical resource. If coordination with the Pit River Tribe is required to determine if this an area of concern, Caltrans would like to work with the County and the Tribe in verifying that if a recordation area report is required that it does not include State Route 299. If the recordation includes State Route 299, the cultural impact concerns would need to be addressed for future highway projects. Therefore, it is of significant importance that Caltrans be aware of whether the State Highway is included in a historic resource recordation area report.

Thank you for the opportunity to provide comments on the proposed project. If you have any questions, or if the scope of this project changes, please call me at 225-3369.

Sincerely,

MARCELINO GONZALEZ
Local Development Review
District 2

Letter A4

GAVIN NEWSOM
GOVERNOR

Cal OES
GOVERNOR'S OFFICE
OF EMERGENCY SERVICES

MARK S. GHILARDUCCI
DIRECTOR

February 7, 2019

Mr. Lio Salazar
Shasta County
1855 Placer Street, Suite 103
Redding, CA 96001

Subject: Notice of Preparation for the Fountain Wind Project (UP16-007) SCH No. 2019012029

Dear Mr. Salazar:

Thank you for the opportunity to review and comment on the California Environmental Quality Act (CEQA) Notice of Preparation (NOP) and Environmental Initial Study (IS) for a Draft Environmental Impact Report (DEIR) for the Fountain Wind Project, a renewable energy project proposed by Pacific Wind Development, LLC, based in Oregon. Since one of the areas the California Governor's Office of Emergency Services (Cal OES) provides community support is disaster response and recovery, our review and comment focuses on whether the potential project impacts address related relevant topics.

Although relatively new, the current 2019 CEQA Environmental Checklist Form includes Wildfire and Energy topics to be evaluated as "Environmental Factors Potentially Affected" in view of the recent wildfire disasters in northern California. The project area is located in an area designated by the California Department of Forestry and Fire Protection as a "State Responsibility Area (SRA)," "Very High Fire Hazard Severity Zone (VHFHSZ)," and within approximately 1.5 miles of the 1992 Fountain Fire at Round Mountain. The VHFHSZ information may be accessed by visiting http://frap.fire.ca.gov/webdata/maps/shasta/fhszl_map.45.pdf.

Cal OES is aware Shasta County recently prepared a local hazard mitigation plan that addresses wildfires, among other hazards. It is Cal OES' recommendation, therefore, the CEQA IS be revised to address the Wildfire and Energy environmental considerations and relevant procedures in the local hazard mitigation plan.

Cal OES notes state planning law includes a requirement for consultations with state agencies in regard to information related to hazards. As such, Cal OES is happy to share all available information at its disposal to facilitate the county's ability to comply with state planning and environmental laws.

If you have any questions about these comments, please contact me at (916) 823-1945 or patricia.nelson@caloes.ca.gov.

Sincerely,

Patricia Nelson
Environmental Officer

cc: State Clearinghouse

EMAP Accredited

3650 SCHRIEVER AVENUE, MATHER, CA 95655
(916) 845-8506 TELEPHONE (916) 845-8511 FAX
www.CalOES.ca.gov

Letter A5

STATE OF CALIFORNIA — Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691 Phone (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC

February 12, 2019

Lio Salazar
Shasta County
1855 Placer Street, Suite 103
Redding, CA 96001

RE: SCH# 2019012029 Fountain Wind Project (UP 16-007), Shasta County

Dear Mr. Salazar:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   - **a.** A brief description of the project.
   - **b.** The lead agency contact information.
   - **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
   - **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).
   - **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   - **a.** Alternatives to the project.
   - **b.** Recommended mitigation measures.
   - **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   - **a.** Type of environmental review necessary.
   - **b.** Significance of the tribal cultural resources.
   - **c.** Significance of the project's impacts on tribal cultural resources.
   - **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   - **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
   - **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
   a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
   b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
       i. Planning and construction to avoid the resources and protect the cultural and natural context.
       ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
       i. Protecting the cultural character and integrity of the resource.
       ii. Protecting the traditional use of the resource.
       iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
    a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
    b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
    a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
    b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
    c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address:

Gayle.Totton@nahc.ca.gov.

Sincerely,

for

Gayle Totton
Associate Governmental Program Analyst

cc: State Clearinghouse

Shasta County

DEPARTMENT OF RESOURCE MANAGEMENT
1855 Placer Street, Redding, CA 96001

Paul A. Hellman
Director

Dale J. Fletcher, CBO
Assistant Director

January 16, 2019

ES Associates
ATTN: Janna Scott
550 Kearney Street, Suite 800
San Francisco, CA 94108

Dear Ms. Scott,

RE: Scoping Request for the Fountain Wind Project

The following is a response to questions raised in a memorandum issued by ES Associates on January 14, 2019, regarding the scoping request for the Fountain Wind Project (Use Permit 16007).

Would any other permits or authorizations be required from the Shasta County AQMD to construct, operate, maintain, or decommission the proposed project?

Based on the current project description, the District identifies two potential activities that would require District permitting. Operation of a concrete batch plant/aggregate processing operation, and installation of emergency back-up generators.

1. *For purposes of the Air Quality analysis, the EIR will evaluate whether the project would result in other emissions adversely affecting a substantial number of people. Acknowledging that the project area is an area of naturally occurring asbestos, ground disturbance or other activities that generate dust could cause an impact. Does the District have a standard by which it determines a number of people to be "substantial"?*

   District rules do not contain a definition of "substantial". However the District typically refers to *California Health and Safety Code* Section 41700 as the guideline when dealing with prohibited discharges, and nuisance complaints.

2. *What past, present, and reasonably foreseeable probable future projects within the Sacramento Valley Air Basin should be considered as part of the cumulative scenario?*

   The District is currently unaware of future projects that should be considered as part of a cumulative impact scenario.

☒ *Suite 101*
AIR QUALITY MANAGEMENT DISTRICT
530 225-5674
Fax 530 225-5237

☐ *Suite 102*
BUILDING DIVISION
530 225-5761
Fax 530 245-6468

☐ *Suite 103*
PLANNING DIVISION
530 225-5532
Fax 530 245-6468

☐ *Suite 201*
ENVIRONMENTAL HEALTH DIVISION
COMMUNITY EDUCATION
530 225-5787
Fax 530 225-5413

☐ *Suite 200*
ADMINISTRATION
530 225-5789
Fax 530 225-5807

Toll Free Access Within Shasta County 1 800 528-2850

3. *Can you recommend specific reference materials that would inform the County's analysis?*

   The District maintains and refers to two documents that are referenced for land use permitting activities. The following documents can be accessed at the following link:

   https://www.co.shasta.ca.us/index/drm_index/aq_index/aq_reports.aspx

   Protocol for Review- Land Use Permitting Activities, November 2003
   Environmental Review Guidelines- Procedures for Implementing CEQA, November 2003

The following District Rules should be evaluated for project construction phase activities:

Rule 3:2- Specific Air Contaminants.
Rule 3:16- Fugitive Emissions.
Rule 3:31- Architectural Coatings.
Rule 3:32- Adhesives and Sealants.

Additionally, the following are applicable:

All heavy equipment operating on site, must be registered under the State of California Portable Equipment Registration Program.

On site fuel dispensing and storage must meet California Phase 1 vapor recovery requirements.

In the event that operations are being conducted in an area containing naturally occurring asbestos, a plan shall be submitted that meets the requirements of the Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations.

If you have any questions, please feel free to contact me.

Sincerely,

John Waldrop, Air Quality District Manager
Shasta County AQMD

C: Lio Salazar Shasta County Planning

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Members of the Public

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02/04/2019

In regard to the draft EIR for the Fountain Wind Project. I have a few concerns and I'll try to keep them within the scope of the EIR, but I have many other concerns as do other citizens of the area.

In looking at the draft, there are many concerns, as visual, watershed, and dust from construction. My family has owned a "cabin" in Moose Camp for better than 50 years, the reason they bought there twofold. One, to get out of the valley heat, the other for the pure beauty of the area. Construction of the windmills would significantly impair the beauty of the area, not to mention make a mess of the mountains and ridges during construction with dust and noise. People in that camp like to sit and enjoy the view of the mountains the way they are now, adding 100 windmills would detract not only from the visual enjoyment we enjoy, but the quietness of the area during construction. Another factor that should be looked at very hard is the watershed. I grew up fishing most, or all of the creeks that will be affected, runoff from the construction site during construction would potentially kill of the brook trout that live in the creeks. Then you add, the potential for EMT's from the power lines and the windmills themselves, and that should be enough of a reason to deny the permit.

Then you have the issue of the Indians that have inhabited the area in the past and the fact that it's a sacred ground to them. That alone one would think, could cause the permit to be denied.

I for the life of me can't understand why the citizens of the North State have to destruct this part of our beautiful state to send power down south. There's a reason people come to the area, and it's not to look at windmills, I think the impact to the area in that respect should be looked at also. If the windmills go in the values at Moose Camp with drop.

Thanx for you time.

Lon Alward

2/10/19

Please don't allow wind turbines so close to my summer home at Moose Camp. We enjoy the outdoors and don't want to be hiking in and out of windmills so enormously big.

Lori Alward

From: Sluggo35 <lydalee56@yahoo.com>
Sent: Friday, February 8, 2019 11:24 AM
To: Lio Salazar
Subject: Fountain Wind Project

Lio Salazar,

Regarding the Fountain Wind Project

We have had a recreational family cabin at Moose Camp since the 1960's.
We enjoy the view of mountain ridges and trees. After the Fountain Fire, we rebuilt wanting to have a place for children, grandchildren, and great grandchildren. Now that the trees have just about all grown again since the fire, our view will be of wind turbines? Not what we want to view out our windows thinking we are in the forest. At night, the flashing red lights will disturb the dark starry sky. Is there a way you could at least position the turbines that are close to our fence line farther away??

Lyda Alward
Moose Camp member

Mr. Salazar and the Shasta County Planning Division

My family and I have resided in Round Mountain almost 27 years. We moved up here from Redding because we wanted to be closer to the mountains, wildlife, and natural streams. We wanted our children to grow up learning how to respect nature. We moved up here a few months after the devastating Fountain Fire. It has taken several years for the trees to grow back after the fire. Some of the trees are now taller then our house.

Each year we see another form of wildlife that was chased away by the fire. Each year we know when the weather is going to be changing by the migrating birds. Their path is right over us. Some fly high while others fly p low and even stop to nest. We also have eagles nest in this area.

This area is full of history. From the stage stop and robberies, to the Native American population that was all over this mountain ,to the old lumber mill at the top of Terry Mill Rd.

I have concerns about the fountain Wind Project.

It will have a huge impact on our environment. With the construction of the wind turbines on the mountain our water can change. Many people rely on the water coming from the mountain to live. With the digging, pounding, and vibration it will change the water, maybe even stop the natural springs and creeks. The construction of the turbines can contaminate the water supply . (a couple years ago PG&E put new metal electric poles to raise the power lines. They are now rusting and the rust is running into the ground contaminating the surrounding area)

The migrating birds that have been flying over this mountain for maybe hundreds of years will fly right into the blades. It will kill

thousands. What about the eagles? They like high places, they will be killed by the tall turbines. What about all the wildlife finally coming back they will have to find different homes away from people. Some will probably run into humans where they could be shot. Because their area is getting smaller and smaller.

The Native American tribes in this area have there own history on these mountains. Their ancestors have hunted, fished, gathered, raised families, and died in this area. Many are buried in these mountains. There are artifacts and ever places that are sacred to them. They were here before us. They should be respected. You can not guarantee that none of their sacred places will not be destroyed.

What about the fire hazard that the turbines will cause. The turbines are a machine. They will malfunction at some point and can spark, that will cause a fire. We do get high winds up here so even clearing a huge area around them (killing more precious trees) is not 100% preventable. The transfer cables (power lines) get very hot. It does not have to be a big spark it can also be constant heat on a dry area that will start a fire. The electric lines that now cross over Dunn Moody Rd are very hot. You can hear them sizzle and pop in the winter when it is really cold or moisture hits them. The turbine lines are bigger and will carry more electric therefore hotter.

What about the public safety concerns. There is already a concern with the communication interferences in this area due to the surrounding mountains. (cell phones, internet, 2-way radios, and even landlines) This is nothing knew to the residence that call this area home. We have learned what areas have no reception. It is a constant concern with the public safety officers. A life can be lost due to poor communication because of the interferences. The turbines will add to the already troubling interferences and that is not a good thing when human life is of no concern.

Thank you for your time

Sheila

Mr. Lio Salazar and The Shasta County Planning Division

I am currently a resident of Round Mountain and My Family has resided here for almost 30 years. I'm writing in regard to the proposed Fountain Wind Project (permit 16-007). 5 years ago, My Husband and I purchased the most breathtakingly beautiful piece of property on the mountain that the proposed Fountain Wind Project is wanting to be located. I have many concerns some for the Public's Safety, others for environmental impacts, cultural concerns, and personal concerns for My Property and Family.

PUBLIC SAFETY

Both my Husband and I have/had professions in the Public Safety field. At the Community meeting on Jan. 24th it was mentioned that Turbines effect/cause communication interference. Both My Husband and I have/had to rely on communications (ie. radio, phone and computer) to keep the Public as well as Law Enforcement, Fire and EMS personnel safe. Relaying important information over the radios is so incredibly vital to the Public's safety. Dispatchers receive emergency and non-emergency calls for service from citizens, then relay the information obtained to units in the field over the radio, phone or computer. These calls for service can be for Law, Medical, Fire or for all 3 combined. Due to the ruralness of the Intermountain area the Communications are extremely poor. For the Intermountain Deputies of the Shasta County Sheriff's Office the Comms. is a day to day battle. Typically, their radios are staticky which makes understanding what the Dispatcher is relaying to them very difficult, or sometimes the Dispatchers traffic doesn't come over the radio at all. This difficulty, delays responses to handle Public emergencies and non-emergencies. Dispatchers are often unable to understand traffic the Deputies are providing due to the same issues mentioned. This vital information can mean the matter between life and death, for citizens and our Deputies. For the citizens; unable to get help in a timely manner due to communications issues, and The Deputies; unable to hear or report their location while in a dangerous situation and being unable to radio for help or be understood due to the poor comms. That's just the radios. Also, one of the issues with living in a rural area is that the cellular service is poor in many places which can make calling in an Emergency to 911 difficult. Calls can be lost/dropped and if the calls go through, they have the potential to be staticky and the Dispatcher may be unable to understand the caller which will delay the response by whichever Public Safety Entity is responsible for handling the emergency. Public Safety Entities also rely on the use of cellphones to perform their duties. Cellular service in rural areas are extremely important not just for making calls, as well as receiving them. There are Emergency Warning Systems. One example of this is called a "CODE RED" this is issued by SHASCOM. A CODE RED is issued if there is an emergency in the area of the address registered by the citizen; types of emergencies can be evacuation notices for fires, boil water advisories

and even missing children or dependent adults. Receiving these notifications obviously depends on if you're cellphone has service or not. At our home, which is in close proximity to the proposed turbine locations; my husband and I can receive calls and texts, but internet service is poor. I'm concerned that putting 100, 600-foot turbines across our mountain is going to put our Family as well as our Communities safety at risk. At risk by interfering with our Public Safety Entities already poor radio service, interfering with cellular service; and increasing the difficulty of making Emergency calls, and receiving them. Windmills/Turbines do interfere with communications, whether it be significant interference or minimal interference; ANY interference is a danger to the Public and the Public Safety Entities that rely on them to protect our Communities. Allowing these windmills/turbines to be installed will make an existing problem even worse; this will be at the expense of the Publics Safety. Another concern is that the only Public Safety entities mentioned with being notified about the Turbine Project was the Shasta County Sheriff's Office and Cal Fire. I was disappointed to not see SHASCOM, CHP, the Air ambulances PHI/REACH (their flight path is right through the area being proposed for Turbine placement and can interfere with navigation equipment) and the other aviation companies that utilize this flight path. Also, Valley Industrial Communications (they repair and handle repeaters and radio problems for Public Safety Entities such as the S.C.S.O and SHASCOM) These entities utilize communications in the Intermountain area and may suffer because of the Fountain Wind Project. I'm concerned they as well as the 2 agencies told about the project have not been advised about the communication interference that is going to occur if the project continues. They all deserve to be made aware of the hazards this project is going to create and should have the right to let their voices be heard.

Another Public Safety concern is the fire hazard this project can potentially create. There is a concern of fires starting in the turbines. If a fire sparks in the turbine, lots of oxygen from the high winds on the mountain can quickly fan the flames causing them to jump or spread to vegetation; you will then have a wildland fire. The winds typically blow to the N/W so that means the flames are coming towards town, most likely at a fast rate of spread. Our Community is protected by the Volunteer Fire Dept. Hopefully if a fire ignites there is someone to report it. Most likely no one will be standing next the turbine when it ignites, the reporting party is probably going to be us citizens. We will be able to see the flames or smoke from our homes, if that's the case the fire is probably of fairly good size. If citizens are able to get out on their cellphones, emergency calls will be made to 911 and be transferred to CALFIRE. CALFIRE will take the information from the caller and tone out for Engines to respond to the area. Then the volunteers being paged will have to drive from where ever they are to the station to pick up the Firefighting apparatus. Then make their way to the rural area of the fire. We have a couple engines in our little town, other engines will have to come from other stations which are even further away. As you may be able to tell the time from the fire being reported to engines going on scene can be quite some time. With how fires have been so devastating for our County I am shocked and disappointed that this project with the potential fire danger is even being considered. The City of Redding was advised by citizens about the concerns for the fire hazards

on the outskirts of the City several years ago. Then the Carr Fire happened and now the City of Redding is being sued because they did nothing about the hazards. With Shasta County being as small as it is, we hold 2 spots in the Top 20 for Most Destructive California Wildfires. Also we have dozens of vegetation fires yearly, not just during fire season. It's not a matter of IF another destructive fire happens in our area, it's a matter of WHEN. I truly hope it is not caused by a mistake in allowing this windmill project into our County. Erroring on the side of caution, the side of keeping the Public safe is worth any amount of money.

ENVIRONMENTAL IMPACT CONCERNS

Like I mentioned previously My Husband and I purchased our property about 5 years ago. It's the most beautiful piece of land and it was to be our forever home; the place we were to start a family and raise our children. A place away from the hustle and bustle of the City. What drew us to the area was first: I grew up in Round Mountain and several Family members still reside here, also its beautiful. The property we own (is in close proximity to proposed turbine location) is in the timber has a spring fed lake, almost 60 fruit trees over 40 of them being 5 different types of apples and the trees are over 8o years old. Also, the countless wild animals that we have the privilege of watching thrive on our land. We have several springs that we rely on to keep our property alive. From our lake, to our pastures, our Orchard and our home. We along with a couple of our nearby neighbors rely on the several springs that run through our properties. One of My major personal concerns for The Fountain Wind Project, is the possibility of Spring contamination. Our Springs come from the mountain these Turbines are to be placed on. I'm concerned the process for placing these windmills will contaminate the water or change the water all together. Springs are extremely temperamental. Digging, driving the placement of the fiber optic lines and the vibration from the turbines themselves could cause serious damage to the water we rely so dearly on. Also, vehicles and equipment leave contaminates which most likely will end up in our water because there is so much of it up there. Or our Springs will stop flowing all together. They have never had this type of activity around them. Also, there is the proposal of creating new roads which in turn would give even more access to the public. We've driven off many people creating illegal marijuana grow operations. These illegal operations are extremely harmful to the environment due to the amount of pesticides used by the growers. The one mostly used is carbofuran, and neurotoxic insecticide. This stuff is so toxic it kills animals, you can sniff it and it will cause you to pass out or even kill you. This pesticide soaks into the ground contaminating ground water. Additional roads mean additional access to people wanting to utilize our natural resources for illegal activities. Our water is the most precious natural resource we have.

Another concern is for the Wildlife, like I mentioned above there are many waterways on the mountain that our wildlife rely on to survive. We reside in the path of migratory bird

patterns. Every year we have hundreds of thousands of birds fly over us. We also have hundreds that stop on our lake, and even several dozens of different species stay to nest every spring. From Canadian geese, mallards, hooded mergansers to swans. They also do the same on the waters on the mountain. Migratory birds are protected under the Migratory Bird Treaty Act, and California is getting even stricter on "unintentional take" of migratory birds ie. being killed by turbines. Other birds also live on the mountain which are also protected. We have the privilege of having several bald eagles nesting nearby, red tailed hawks, osprey, owls and other smaller birds that I can't identify other then hummingbirds, mountain jays, woodpeckers and crows. I'm concerned what almost 600-foot windmills are going to do to all these birds. Drive them away? Kill them is more likely. It's horrible to think that they have no say in this whatsoever. And its not just birds, other animals too; deer, bear, mountain lion, fox, ring-tailed cats (they are a protected species in California) and even gray wolves (they have been seen many times on our mountain especially within the last couple years and they are on the endangered species list). The list can go on with the wildlife that calls our mountain home. Sure, they may go elsewhere, which most likely that is what they will do. Move down into more populated areas putting themselves as wells as the human population in danger (ie. Attacks, more traffic accidents caused by wildlife etc.)

CULTURAL CONCERNS

Growing up locally we were always taught that the intermountain area at one point was well populated by Native Americans Tribes, that almost every location had some type of sacredness to it. On our property we enjoy hiking around after a storm to find arrowheads. We have found dozens, we even have a few full spearheads. We've also found hundreds of pieces of shavings from when the Native Americans would make arrowheads and spearheads. There are a couple different areas on our property that we find the most pieces, which means those were the areas the Natives actually sat and made these amazing weapons and tools. If these sites are on our property, I guarantee there are many more on the mountain. The mountain is an incredible vantage point for being able to see the whole town so I'm sure the Natives used this to their advantage. At the Community meeting Pit River Tribal Council members spoke about the sacred sites on the Mountain. Our mountain is so enriched with Cultural history it should be cherished and preserved. There are several Bald Eagles that live up there, a pair that nests in the area where 2 windmills are proposed to be placed. Bald Eagles are spiritual animals that are sacred to Native Americans. I am a Federally recognized Tribal member from a Tribe in Central California and we like many other Tribes believe that Eagles carry our prayers to The Creator. We don't have a lot of Eagles up here, but we do have some. I understand that there is a study being done by Fish and Game about the Eagles fatality rates by wind farms. As I understand it any project sited in areas with low eagle abundance poses relatively less risk of incidental take to Eagles. The taller the windmill the more likely it is to kill birds, and the

proposed windmills at almost 600 feet are going to kill a lot of birds. Eagles are our National Bird and they are protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. It's extremely sad that these sacred birds are going to be put in danger for wind energy.

PERSONAL CONCERNS

Since I already mentioned our safety and water above, aesthetics would be my next concern. We moved back to Round Mountain to enjoy the beauty, nature to get away from the city. One of my favorite things about our property are the big pine and cedar trees. When its nice outside we go enjoy the fresh air, lay out under the trees listen to the spring trickle by, the birds chirping and leaves blowing in the wind and birds flying above us. Now, if the Fountain Wind Project is allowed to be continued, we will have to try and hear the sounds of nature over the loud turbines (they are loud, we occasionally drive up by the Turbines on hatchet and they definitely disturb the peace) in the summer we sleep with the windows open, which the noise would make that difficult (we live in close proximity to the proposed turbine locations) Most people come to the mountains to enjoy nature, they don't want to vacation and look up and see huge ugly pieces of machinery. Turbines are something you see in the desert not the mountains. At night the sky is typically clear and amazing for star-gazing, but it may have a distraction in the future, blinking red lights. Turbines do not make for a peaceful environment. But its not just the turbines that will be put in, its substations and other towers. I feel like no one did a visual-impact study, because I find it extremely hard to believe that these humongous turbines would be found to be acceptable additions to the landscape. It will severely deplete landscape character and beautiful scenery. Which in turn is also going to make property and home values go down. If these turbines were in place 5 years ago, we would not have moved up here. Shasta County residents no longer have beautiful views like we used to. Look to the west, it's all burnt. North is partially burnt. The South looks ugly and that leaves the east; right now, it's beautiful. If this project continues Shasta County will be surrounded by ugly. These turbines in my opinion will cause undue aesthetic impacts.

In doing research about wind farms, I found a surprising number of health concerns and issues caused by wind turbines. Several studies stated, "wind energy projects create negative impacts on human health and well-being, the impacts are experienced mainly by people living near wind turbines". The intermountain community is made up primarily of Older citizens, Older persons have more health problems so now they have the potential of being victimized by this project which may cause them even greater health issues. Personally, for me, the proposition of the Project is stressing me out. I have so many concerns and worries that it is showing. I'm worried for My Family, my little girl, our beautiful property and the life we've

made. All I wanted was a beautiful place surrounded by nature and wilderness, so my little girl can grow up like I did. But now that is all in jeopardy of going away.

Quality of life concerns should be taken into consideration. This wind farm is going to negatively impact the quality of life for intermountain residents. Not just for Round Mountain and Montgomery creek, but Burney, Mcarthur, Fall River and other small communities will be impacted by this project. From response delays by Public Safety entities due to communications interference caused by the turbines to aesthetic reasons. And the aesthetics are going to impact even further then the communities I mentioned. But, for us here in Round Mountain and Montgomery Creek its going to change our lives, this project has already begun to negatively impact us, and the process is still in the beginning stages. I'm concerned for the condition of our community if the project continues, our beautiful peaceful community will no longer be such. And at what cost? How are we in the intermountain community going to benefit from this wind project? I could not find where exactly the energy created is going, since it isn't mentioned I assume its other than right here. Will we be compensated for what we will have to endure because of this wind farm? I'm assuming all we get is just that, disturbed peace, negative effect on our quality of life, possible safety being in danger from communication issues, fires, contaminated water, lost water, dead birds, cultural sites destroyed; all for the all mighty dollar.

Thank You,

Angel Baga-Weaver

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: EDMOND E. BAIER AND IRENE D. BAIER RESIDENTS

Comment: ON ACCOMPANYING SHEETS

Privacy notice: Please provide contact information inside the dotted line. The contents of this box *only* will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address: PO BOX 51 / 30050 DITTMAN RD, MONTGOMERY CREEK, CA. 96065

Email Address: reniesplace@yahoo.com

Opt-in to mailing list (must provide valid address): ☒ Yes, mail Project updates ☐ No, do not send mail

Opt-in to email list (must provide valid email address): ☐ Yes, email Project updates ☒ No, do not send email

FOUNTAIN WIND PROJECT
PUBLIC COMMENT

OUR CONCERNS ARE MULTIFACETED. I WOULD LIKE TO ADDRESS THE WATER FOR OUR COMMUNITY FIRST. THE WATER FOR THIS COMMUNITY COMES TO US BY WAY OF MANY CREEKS AND SPRINGS FROM THE MOUNTAINS EAST OF HIGHWAY 299, THE FOUNTAIN WIND PROJECT WOULD COMPROMISE TEN MAJOR WATER SOURCES; HATCHET CREEK, A CLASS ONE FEEDER FOR SHASTA LAKE, MONTGOMERY CREEK, ALSO A CLASS ONE FEEDER FOR SHASTA LAKE, BY WAY OF THE PIT RIVER, THE SOUTH FORK OF MONTGOMERY CREEK, GOAT CREEK, INDIAN SPRINGS, WILLOW CREEK, CEDAR CREEK, BLUE LAKE, LITTLE COW CREEK, THE NORTH FORK OF LITTLE COW CREEK, AND MILL CREEK, IT INCLUDES ALL THE SPRINGS AND TRIBUTARIES THAT CONTRIBUTE TO THOSE CREEKS. THIS WOULD REDUCE THE WATER GOING INTO HATCHET CREEK AND MONTGOMERY CREEK, BUT ALSO THE WATER GOING THROUGH PIT 5, PIT 6, PIT 7, POWER PLANTS, AND THE WATER GOING INTO SHASTA LAKE, IT WOULD ALSO JEOPARDIZE THE ONLY FIRE HYDRANT IN ROUND MOUNTAIN AND MONTGOMERY CREEK, AT HALCOMB CEMETERY.

WIND MILLS ALSO HEAT THE AIR, AS WE HAVE WITNESSED ALREADY FROM THE ORIGINAL FORTY FOUR WIND MILLS ON HATCHET PASS, OUR SNOW HAS BEEN VERY LIMITED SENSE THEY WENT UP, WE NEED THE SNOW TO REPLENISH THE GROUND WATER SO IT WILL LAST THROUGH THE SUMMER, WE ALSO NEED THE COLD TO GROW GOOD APPLES, AND SOME OTHER CROPS.

THE ESTHETIC FACTOR OF THE WIND MILLS, SOME AS TALL AS A SIXTY STORY BUILDING, WOULD KILL OUR PROPERTY VALUES AND DESTROY EVERYTHING ALL OF US HAVE BUILT AND WORKED OUR ENTIRE LIFE FOR.

IT WOULD ALSO DISRUPT THE NATURAL EBB AND FLOW OF THE WILD LIFE HERE, MANY OF OUR RESIDENTS HUNT AND FISH, WHICH MANY DEPEND ON TO SUPPLEMENT THEIR FOOD, IT IS A WAY OF LIFE HERE.

WE HAD TWO FIRES HERE LAST SUMMER NEAR WINDY POINT RD. WITH OUR WONDERFUL

VOLUNTEER FIRE PERSONNEL, NEIGHBORING FIRE PERSONNEL, AND THE WONDERFUL AIR SUPPORT, THE FIRES WERE KEPT SMALL. THE WIND PROJECT WOULD PUT THE AIR SUPPORT IN JEOPARDY AND MAKE IT VERY DIFFICULT IF NOT IMPOSSIBLE FOR THEM TO MANEUVER TO BE IN A POSITION TO DROP THEIR WATER OR RETARDANT WHERE IT NEEDS TO BE TO STOP OR LIMIT THE ADVANCE OF THE FIRE, THIS ALSO PUTS THE PILOTS IN DANGER.

WHEN THE SUPPLIES FOR THE ORIGINAL FORTY FOUR WIND MILLS WERE DELIVERED HIGHWAY 299 WAS DAMAGED, AND HAD TO BE REPAIRED, CAUSING MONTHS OF WORK AND MANY LONG DELAYS FOR TRAFFIC ON THIS MAJOR HIGHWAY, ESPECIALLY CONCERNING WAS THE LONG DELAYS FOR EMERGENCY VEHICLES. WHEN THE SUPPLIES FOR THE MUCH LARGER WIND MILLS ARE DELIVERED HIGHWAY 299 WILL AGAIN BE DAMAGED, AND WILL AGAIN REQUIRE MAJOR REPAIR, AND AGAIN THE LONG DELAYS, PUTTING THE ENTIRE AREA IN JEOPARDY

THIS IS A DELICATELY BALANCED AREA AND ALL WHO LIVE HERE WORK TO MAINTAIN THIS BALANCE, THE PROJECT THAT IS PROJECTED WOULD COMPLETELY THROW OFF THAT BALANCE, THE COMPANY BUILDING THIS, IS A FOR PROFIT COMPANY, GOING THIS ROUT IS NOT WORTH DESTROYING THE ENVIRONMENT AND A WHOLE WAY OF LIFE OF PEOPLE WHO HAVE LIVED HERE FOR GENERATIONS, JUST FOR ONE COMPANIES PROFITS, A COMPANY WHO WOULD NOT THINK TWICE ABOUT TAKING PRIVATE PROPERTY BY EMINENT DOMAIN, AND IS OBVIOUSLY NOT CONCERNED ABOUT THE DAMAGE THEY WILL DO TO THE ENVIRONMENT.

Instructions:

You may submit your comment regarding the Fountain Wind Project in writing using the form on the other side of this sheet. Please fold and staple this form and mail it to the address below by February 14, 2019. You may also submit comments on the following website: http://comment-tracker.esassoc.com/tracker/fountainwindeir/ by emailing lsalazar@co.shasta.ca.us or by calling (530) 225-5532 by February 14, 2019.

Place stamp here

Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

2/19/19

My family and I do not want to see the windmills in or near the community of Moose Camp. The environmental impact of there installation and maintenance will affect our community continually. Hazards such as shedding ice and snow, leaking components such as transformers and turbine heads, additional electric infrastructure in the forest, erosion and runoff from disturbed soil into watershed, and risk to wildlife, especially raptors. The noise, size and aesthetics of the windmills will change the natural feel of our community. The constant motion of these huge windmills we hurt the peacefulness of the area for all those who live there.

Bryce Baker

2/19/19

Mr. Salazar,

I am writing to you in regards to the proposed Fountain Windmill Project near my home at Moose Camp. I have many concerns about the proximity of these large wind generators to our residences at Moose Camp.

1. These generators will create a life and safety issue to those nearby. It has been documented that ice can form on the blades during cold temperatures. When the ice breaks loose and the blade is spinning the ice chunk becomes a flying projectile. The owner has no idea of the direction, distance or place of impact. I have heard of ice being thrown up to a mile away. I personally do not want to have my property, animals, friends or family any where near that location.

2. The owner leased this property to build these generators on. I know that there are other suitable places to generate electricity besides near residences. I do not want to look out any of my doors or windows to see these huge wind generators. They are mammoth in size. They will not add to the beauty of our community. Move them up on the ridge away from homes and families. I do believe these will drive down the property value of our homes. I am quite sure that you would not like to have these structures near your home or family.

3. I have worked near the generators on Hatchet Ridge near Bunchgrass. The noise that is made from the blades whizzing around and around is powerful, combined with frequent creaking and groaning of the structures is quite frightening. I do not want to be lying in my bed or working in the yard listening to these strange noises surrounding our community wondering if that thing is coming apart.

4. I know that some wind generators in Wyoming have had blades broken off and thrown from the structures. I know that this is a rarity but most are not constructed near a population. I do not want any portion of a blade landing on my home with myself or in particular any of my children or grand children in. This is an unacceptable risk.

5. Moose Camp is one of Shasta County's best kept secrets. I would like to Keep it that way. The EIR makes one believe that Moose Camp is a campground. This is misleading. Moose Camp is a small community The owner is projecting that some 400 construction workers, contractors and suppliers will be in the area. I am not insinuating that all of these people are unscrupulous but some may see the opportunity to vandalize this rural community that is so far away from law enforcement. How will the owner ensure our security? I am not opposed to the construction of these wind generators but to the close proximity to a residential populous. I know the federal government has guidelines for these issues. I believe Shasta County has the opportunity to set its own as to protect the people who live here. I am positive that none of the board of directors of this corporation live with a 450-600' wind generator within a mile or even five miles of their home and families. I would challenge you to go up to Hatchet Ridge with your family to have a picnic near these existing structures. Also picture these generators at

another 200' taller. Would you want to be near them. Please Find a better location away from homes.

There are thousands of acres that are usable for this purpose. Please move them away from families.

Respectfully, Douglas A. Baker Sent from my iPad

2/19/19

Just to let you know my family and myself are strongly against this project. It doesn't make good sense to put these wind mills any where there are homes or cabins. It isn't safe. Nor is it healthy. Would you want it your backyard. I don't think so

Nadine Baker

2/18/19

Mr. Salazar,

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family to have a picnic near these existing structures. Also picture these generators at another 200' taller. Would you want to be near them. Please Find a better location away from homes. There are thousands of acres that are usable for this purpose. Please move them away from families. There have been recent studies suggesting greater distances from dwellings. Some have suggested a minimum of 1.5 km and up to 5 km. This brings to light that this is a new technology that is still evolving. Please be conservative with the set backs.

Respectfully,

Traci Baker Sent from my iPad Sent from my iPad

Bales Mountain Quarry PO Box 90 Montgomery Creek CA 96065

Dear Mr. Salazar:

At the January 24, 2019 meeting, one of the comments had to do with too much traffic on Highway 299 East.

The project calls for a huge amount of gravel which we have available at Bales Mountain Quarry (BMQ). Since our quarry is the closest rock source to the project, using our products would greatly reduce the traffic on HWY 299E.

We enjoyed the meeting, it was informative and nice to see you again.

Sincerely

Frank and Gudrun Vopat

Owners of BMQ

Phone 530-337-6577

February 16, 2018

Dear Mr. Salazar,

As members of the Moose Camp community, we are writing to respectfully request that you reconsider the Fountain Wind Project. We feel it would be a travesty to locate the proposed windmills in this very scenic area. This area is home to much wildlife and many residents, in addition to numerous visitors wanting to enjoy the beauty of the mountains. While we understand the value of renewable energy, it doesn't make sense to do this while destroying the very things we are trying to save. We urge you to not allow the construction of this project.

My family resides in Shasta County, and has had cabins at Moose Camp since 1930. The existence of the Fountain Wind Project would be a devastating blow to the entire extended family. Not only would it be an emotional loss, but also a financial loss as it would definitely negatively impact the value of our lots and cabins. For nearly 100 years, the Coughlin family has been enjoying the beautiful scenery surrounding Moose Camp, from the cabin deck and also while hunting, fishing, picnicking, and hiking in the surrounding areas where the project is proposed. My children purchased lots in Moose Camp. They plan to build a cabin and spend their retirement years enjoying the serenity and beautiful vistas provided from the area they have purchased. These lots, along with my cabin, and some other Moose Camp cabins, have a beautiful view looking north across Highway 299, where Windmills #71 -76 and # 91-94 are proposed. This view would be forever destroyed by the construction of these windmills. Additionally, windmills 46 – 50, 62 – 67 and 41-15 are all also extremely close to the Moose Camp community and will also create lights, noise, and negatively impacted views.

In addition, the members of Moose Camp and surrounding communities suffered through the devastating losses created by the Fountain Fire in 1992. Many retained ownership of existing properties in spite of the fire. Many others took the financial risk to rebuild, with hopes of the beauty of the area returning with time. My family also took this brave step. It has taken many years, but the area is again a scenic treasure. It seems a real injustice to purposely allow the area to be so negatively impacted again.

While we do understand the potential revenue from this project, we feel that the quality of life of residents and visitors to the area is even more important. The beauty of the area is a very important asset, and we urge you not to destroy this natural resource by proceeding with this Fountain Wind Project.

Thank you for your time and consideration,

Dan Coughlin

Neva Coughlin
Clay Bates
Linda Bates
Sherri Coughlin
Danny Coughlin

2/6/19

We attended the meeting in Montgomery Creek in January, representing Moose Camp, a private camp. We have been a member for over 30 years, and it is our favorite part of our world to go to! The peace and beauty of the area is ideal place to enjoy. We hope as Shasta County develops the EIR that the environment and scenery is not destroyed by Windmills that would affect our views, wildlife and nature as we enjoy now.
We have lived in Shasta County all our lives and would like to keep the serenity of Moose Camp as is!

Linda and Marvin Beaver

From: crystal benton

Sent: Thursday, February 14, 2019 3:31 PM

To: Lio Salazar

Subject: Fountain Wind Project

To whom it may concern,

I am writing you this email as a homeowner and resident since birth. I have lived in the area since 1981. After moving away for a few years, I came back to the area for work, met my husband of 5 years and settled down and bought a home -all in Round Mountain. This place holds a special place in my heart, as I'm sure you would agree. The area is absolutely beautiful.
When I heard of the possible windmill project, I initially thought that it would be like the windmill project at Bunchgrass along the ridgeline of Hatchet. I didn't think that there would be a hundred of them shot-gunned across the hillside. I cannot believe that the county would allow another windmill farm in one of the most beautiful areas of Shasta County. Many of the residents are upset with another windmill project, one that benefits Southern California and not the North. County officials are just further proving that all they care about is the mighty dollar and not the residents of the area.

Has the county considered what could happen to the springs or residents wells and what drilling, construction and other stresses could have on the aquifers and ground water? Can you guarantee that my well will not be effected? Since this will be in my front yard! If my well is effected by this project, will the county drill me a new well, will it drill any other homeowners wells that are effected? My guess is probably not - we will be left to clean up the mess that we were against to begin with.

My last concern, since the county is going to push this through regardless, is fire suppression. The numerous windmills, with their 500+ feet will make air support very hazardous. Last year, summer of 2018, a fire tried to blow up the hillside behind Halcumb Cemetery, I watched what I think was a DC10 circle at very low altitude 5 times before dropping its lifesaving load successfully on the fire. Could that be done with these windmills in place? Anything that can hinder the Forest Service's ability to suppress fire will be a major concern of residents of the area - myself included.

Please consider the future of this area, its beauty and environmental health.

Thank you for your time.

Crystal and Jarid Benton

Round Mountain, CA

Letter P15

January 30, 2019

Mr. Lio Salazar – Senior Planner

Shasta County Department of Resource Management

Planning Division

1855 Placer Street, Suite 103

Redding, CA 96001

Dear Mr. Salazar,

I am one of the 50 cabin owners of the Moose Camp Recreational Camp, located a few miles east of Montgomery Creek on Hwy 299. The time I can spend at the camp, enjoying the quietness of nature, the sounds of the wind thru the trees and the unobstructed view of the forest and the skyline is very special to me. The thought of having a 600 foot tall windmill as close as 1750 from the property line of the camp, and the obstruction of view of the surrounding forest, is very disheartening.

In regards to the proposed Fountain Windmill Project, I would greatly appreciate that the Environmental Impact Report take special note of the view impact from Moose Camp concerning windmills 46 thru 50 and 65, 66 and 67.

Your most sincere consideration would be greatly appreciated.

Sincerely,

Bruce Billings

Bruce Billings

P.O. Box 371

Willows, CA 95988 mobile: 530-517-2113

2/5/19

My family has owned 2 cabins for the past 45 years in the Moose Camp community. I'm writing to try and persuade the planning group for the Fountain Windmill project to re-locate the huge wind turbines that were identified by our camp's president, John Gable, in his presentation to the public last month. Due to the ridges chosen that surround the camp, the closely located turbines will basically surround us, inhibiting the use of our helipad and possibly our emergency exits.
Also, our property's intrinsic value, which ultimately impacts the actual value, will be affected. It will no longer be a refuge from city life. The lights, noise and visual impairments will be detrimental to the serene forest landscape that we have expected when we spend time there. Our camp will be nestled within an industrial complex and not the quiet open environment we invested in and are accustomed to.
Please re-consider the locating of the specified wind turbines.
Thank you,
Susan Bond Weiland

2/18/19

Moose Recreational Camp vs Fountain Wind Project

Or Do the Needs of One out weigh the Needs of the Many..... FACTS TO CONSIDER

1. There are approximately 75 Moose Camp families and 50 cabin residences used year round. All members of Moose Camp pay property taxes in Shasta County. Impact of this project by one developer will impact over 75 families who have been coming to their properties for over 90 years. Moose Recreational Camp is surrounded by mountain ridges. Look north, south, east or west in Moose Camp and you see mountain ridges and those Ridges to the east and west are approximately a half mile away from our boundries. Generations of Moose Camp members have been looking at these ridges since 1929. Moose Camp families have been escaping the city life and spending time in an unspoiled park-like wilderness for 90 years. Current Moose Camp residents have an expectation that they will see trees not windmills on the ridges that surround Moose Camp during the day. Current Moose Camp residents have an expectation that they will see stars at night not blinking red lights. Current Moose Camp residents have an expectation that they will hear birds and squirrels not windmill noise. Moose Recreational Camp

Concerns;

1. EIR Visual impacts...huge windmills in view, windmill shadow flicker

2. Vibration and electromagnetic interference of proposed wind turbines and meteorological tower within 1 mile of Moose Camp fence line.

3. Viewshed of all windmills, meteorological tower and new overhead power lines as seen entering, exiting and from within Moose Camp during all hours of day and night.

4. Noise intrusion throughout Moose Camp during construction of project and maintenance of completed wind turbines with three roads in use surrounding our fence line.

5. Will wind turbines to the west of Moose Camp interfere with use of our emergency flight care helipad? (It is used by EMS/Fire for transport of sick or injured often)

6. Moose Camp uses road outside yellow gate to the west of camp as emergency exit to highway 299 in event of fire or flood. Will wind turbine developer impede our ability to use this road? In Conclusion; This location of the Fountain Wind Project is inappropriate for this area. Wind turbines within a mile radius of Moose Camp and or the town of Montgomery Creek should not be allowed. Squeezing a huge project like this in between two areas where citizens are populated, is as stated above... "Inappropriate". After spending the last 20+ years recovering from the horrific Fountain Fire.....we want to continue to enjoy our camp, not be invaded by a coorporation's project. I would hope that the Board is putting themselves in our positions and making the decision with how they would feel if in our shoes.

Respectfully Richard and JoAnne Bond (Both born and raised in Shasta County and who's ancesters were Shasta Co Pioneers)

Dear Shasta County Planners,

This is a follow-up to a previous email, sent to Mr. Walker of your office on April 14, 2018. We have reviewed the draft EIR for the project and have the following comments.

1. Hazards. We are concerned that possible malfunctions of the enormous blades on the turbines, located on the ridge above our property, could cause serious injury or worse to anyone on our property.
2. Water. Our water rights are tied to a spring on the ridge above our property. We are concerned that the watershed will be disturbed and/or polluted, and the flow of the water down the mountain will be disrupted.
3. Noise. We agree that the noise of the blades, and the noise generated by vehicles needed to maintain the wind farm, will be significant.
4. Traffic and Air Quality. The area is now almost devoid of traffic. We agree that additional vehicles will stir up dust and add pollutants to the air. We are also concerned that, despite any traffic control plan, more trucks will create hazards for hikers, and generally alter the character of the area.
5. Lights. We agree that the lights on the turbines will alter the view of the night sky from our property.
6. Aesthetics. We agree that there are significant impacts on the aesthetics of the area. We concerned about losing the beautiful view from our property. We already see the existing wind turbines as we approach the property.

We believe that mitigation of these environmental impacts can only be achieved by re-locating the 7 turbines currently planned for the ridge above our property to a different place or eliminating them from the plan.

My husband and I are owners of a 10 acre parcel very near the proposed wind turbines (027-140-026). This land was inherited from my mother, and originally was homesteaded by my great-grandparents. The rest of the 160-acre parcel, collectively known as the Buffum Homestead, is owned by other family members. This land has been used for family retreats and gatherings for several generations.

Yours truly,

Barbara Stanford Boyan
Craig Boyan
105 Island Court Walnut Creek, CA 94595
(925) 212-4192
(925) 323-2935

From: Erin Baker <erin.n.baker@gmail.com>
Sent: Saturday, February 16, 2019 7:31 AM
To: Lio Salazar
Subject: Fountain Wind Project

Mr Salazar,
Nearly two decades ago my family and I, just a barefoot ragamuffin, vacationed in the mountains east of Redding, in a small community known as Moose Camp. Like most visitors we fell in love. A few months later my parents bought an abandoned foundation that was erected on a lot of land after the Fountain Fire destroyed the original dwelling. With that purchase our family joined 75 other families in the tight knit mountain community.
I watched as my dad and a dear family friend worked late into the night for months sketching, planning and engineering the blueprints for the humble, yellow pine lined, a-frame home that now stands guard to so many childhood memories.
All nine of us kids helped (and hindered) with the building process. We learned how to pull wire, hang Sheetrock, climb scaffolding, install plumbing fixtures, lay flooring and so much more as my dad built the entire house with his own two hands. Four generations of our family have poured actual blood, sweat and tears into the walls and surrounding land of the cozy abode we call Home.
When I found out about the proposal for the Fountain Wind Project my heart sank, for fear of my 3 young children growing up never knowing the Moose Camp I know and love, with its great community, opportunities and recreation. Even at 6 and 3 years old my oldest sons list Papa Doug's Cabin as one of their favorite places on earth.
I noticed in the Permit Application, Moose Camp is referenced as camp sites, which is factually incorrect, but it is so much more than that anyway. Moose Camp has been a place of retreat for over 90 years, so many stars at night, mountains and trees as far as the eye can see and peace and quiet you can't find in the city. It's one of California's best kept secrets. And I know that the proximity of the proposed Wind Project to Moose Camp will prohibit that sense of retreat from continuing. Having visited wind farms before, I know they aren't a place of rest and relaxation. I can't imagine giant wind turbines towering over our yards, motors humming in the background as my children run from mosquitos at dusk, filthy and sticky from a day of hard play and splashing in the creek. Windmills don't belong in anyone's back yard.
I don't claim to be an expert, but I've spent the last several days researching wind farms and their effect on humans. I can't see how the proposed location is ideal. It will severally alter the quality of life of so many people who live, love and breathe our mountains.
I fully support green energy and am thrilled to see possible movement toward decreasing our carbon footprint in the north state. I know taking care of our God given Earth is so important but for the health, safety and comfort of Shasta county's residents I beg you to keep windmills miles for the nearest homes and residences.
Sincerely,
Erin Brown

2/18/19

I strongly oppose parts of the Fountain Wind Project. My main concern is for the quality of life of the local citizens. Proposed locations of windmills are too close to homes, families and communities. I have a particular interest in Moose Camp, with its 90 year history it holds a strong sense of community and retreat. People flock to those mountains to escape life, when they arrive they find old friends and family doing the same, all enjoying the scenic and peaceful beauty it has to offer. Please don't let a windfarm ruin that for so many people. The members of Moose Camp are some of the kindest people I know. They don't just use their homes for their own selfish retreat, they willingly share their homes with Scouting troops, youth groups, women's church retreats, family reunions, wedding parties and so much more. Their reach is far and wide. Please keep windmills at least a mile from Moose camps fence line. Thank you for your time!

Jeremy Brown

Letter P21

From: Greg and naomi <gnbrown@frontiernet.net>
Sent: Saturday, January 19, 2019 12:44 PM
To: Lio Salazar
Subject: Scoping input for Fountain Wind Project

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From: Greg and Naomi
Sent: Saturday, January 19, 12:31 PM
Subject: Scoping input for Fountain Wind Project
To: lsalasar@co.shasta.ca.us

I am a landowner just west of this project. We live on Montgomery Creek in Montgomery Creek.

I did not notice from reviewing the website that Federal Agencies have been contacted. Both USFS and BLM lands lay just outside this project. If you did not contact them during your initial study, you must wait for the agencies to get back from the mandatory government shutdown. BLM lands are west and south of this project, and USFS lands are within the snow mtn. are just east of the project.

This project has headwaters of many creeks that come from the snow mtn. area, and some within the project including. Montgomery Creek, Hatchet Creek, Cow Creek Cedar creek which all flow into municipal water ways. Assure that any crossings meet BMP's or State requirements.

Assure that California Rare plants are protected. Some exist near the northern part this project on USFS lands.

A Wolverine has been seen twice crossing 299E from south to north near Carberry Flat. Please do furbearer study's.

Since this project is closer to Montgomery Creek than Burney, Montgomery Creek Fire Company should also be contacted during scoping and potentially benefit. This project should benefit this closest local community, even though no green power from this project will be available to this community. Our views from our community will be forever changed. To be a truly green project, benefit to the local community is essential.

An interpretive opportunity exists for this project that could inform people of this project. The fountain fire vista point could be improved and updated by this project.

Please inform us of the acres impacted by power line, permanent buildings and new roads. Existing landings and roads should be used as much as feasible. I did not see the locations of these within the website.

I look forward to meeting you at the public meeting on Jan. 24th.

Naomi R. Brown
Interested Landowner
PO BOX 163
Montgomery Creek, CA 96065

From: Greg and Naomi
Sent: Monday, February 18, 2019 10:28 AM
To: Lio Salazar
Subject: Scoping for the Fountain Wind Project

Lio and team,

Thanks for the extension on the scoping period.

NEPA requires you to contact local agencies and adjoin landowners. I have not seen evidence of scoping contract with federal agencies that border this project during the initial study or scoping notices. The US Forest Service, specific to the Lassen National Forest, Hat Creek Ranger District (manages the Snow Mtn. area) and the Bureau of Land Management Redding Office, that manages both the Dan Hunt area south of snow Mtn. and in the Montgomery Creek isolated parcel next to this project. Please fulfill the CEPA regulations by scoping both USFS and BLM.

During the public meeting at Montgomery Creek School a map was presented showing a Transmission line down Terry Mill Rd, will this require eminent domain? Please protect private land owners.

Can the public get access to the 5 year wind study that was spoken about at the public meeting?

Maintain good access to locals on the Highway 299 and adjoin roads.

Use the Fountain fire vista point as a information education for this project informing them of the output and longevity, and enhance the fountain fire memorial.

Give opportunity to the local community which is Montgomery Creek which will be highly impacted by this project.

Naomi R. Brown
Local Citizen
PO BOX 163
Montgomery Creek, CA 96065
530-337-6413

Sent from Mail for Windows 10

2/5/19

I am a long time lease holder in Moose Camp. I enjoy the serenity of the area. I oppose 600ft windmills shadowing our beautiful property and surrounding views. This wind farm is just way to close to us!

John Bucholz

February 3, 2019,

Fountain Wind Project Opposition Letter:

Submitted by Teri Dona Buelow

I am a second generation member of Moose Camp, LTD. My parents' cabin survived the Fountain Fire in 1992 and my family has spent the last 27 years rebuilding and caring for our 146 acre partial know as Moose camp. There are 75 Moose Camp members and 50 cabin residences used year round.

Mountain ridges surround our cabins to the east & west of our quiet place in the woods are approximately ½ mile from my front door. We have been enjoying these views of trees repopulating after the fire on those ridges along with our own timber plantations surrounding our cabins. We have diligently cared for this plantation and re-growth since 1994. We have created wild life habitat with the planting of thousands of trees around our property. Our residents and members have spent their own time and hard work creating a forest around our quiet place and the wind farm construction will absolutely destroy the peace & quiet we have all enjoyed for generations, 90 years' worth!! We expect to walk out the door at night to a very quiet starry night, not red blinking lights and constant windmill noise. We expect to enjoy the outdoors during the day watching & listening to the birds, squirrels, rabbits, fox & deer that have found sanctuary within our fence lines. We expect our creeks & springs that run throughout Moose Camp can thrive and be stocked with fish for our future generations to enjoy.

Impacts of the wind farm to our existing sanctuary include but not limited to, visual impacts, shadow flicker, property values, noise, vibration and electromagnetic interference of proposed wind turbines and meteorological tower within 1 mile of Moose Camp fence line. We communicate via cell phone, how would those signals be impacted?? Not to mention the noise intrusion and dust during the construction and maintenance of the three roads in use surrounding our fence line. I have experienced this myself already the first of January. Our private way of life would be opened up to the entire world as you clear away trees brush and bring in people from the outside to work. What about the overhead power lines? The constant buzz from the electricity being transmitted??

The next concern of course would be the destruction of our water sheds. We have a private water system supplied by springs surrounding our 146 acre partial. Construction of the wide roads could very well destroy the natural directions of the water flows to supply our springs supply our wells.

I am not opposed to alternative energy in any way, including wind mills, however, there is plenty of space at <u>least one mile outside of Moose Camp proper</u> to build a wind farm that would have a lessor impact on residents of our nearly century old community. Our children & grandchildren & future generations beyond have the right to enjoy the same privileges we enjoyed for past 90 years. They deserve a chance to inherit the cabins to raise their children with. They deserve to carry on traditions established long ago. They deserve to continue to enjoy the memorials place around camp for our fore fathers/mothers that worked so hard to create this beautiful sanctuary.

I request the following:

1. Wind turbines within a mile radius of Moose Camp should be removed from the project of relocated.
2. Need more data (gps cooridinates from cabins) of wind turbine locations to better evaluate the impacts.

Thank you for your considerations,

Teri Buelow

2/10/19

For background, I am a businessman, long time environmentalist, and supporter of organizations like the Environmental Defense Fund and other conservation and renewable energy initiatives. That said, we must be sensitive to how placement of useful energy generation systems using wind, solar, tides, etc. affect the people living near them. The large windmills being proposed here are too close to the historic Moose Camp and should be placed North of Highway 299. Please respect and preserve this multi-generation community from shadow flicker and other optical effects if placed so close. Thank you for considering my point of view.

Brook Byers

1/24/19

Hello

thank you for allowing me to oppose This project for the future. I don’t and can’t no allow this to happen in this area at this time or near future. I have a few reasons

And here is my list.

1. They are so tall like sky scraper .... making them A hazard to wildlife. We have many different species of localized birds and also migration path through that exact area where you would want to put your windmills. They kill animals. The windmill kill thousands if birds. A main concern for me is the white land pelican.... please look into them.

2. They are a fire hazard. I've seen many videos of these windmills malfunctioning and starting huge fires. We are definitely not in an area where we can afford to allow something as catastrophic to happen after the 2017 fires in Redding and in most of California! I am opposed to putting anything that could and will start a fire if not well-maintained.

3. I don't believe that the eco-friendly I think tearing down thousands of acres of forest yes replanted forest from the Fountain FIRE but still planted trees is killing off wild life and then putting in thousands of acres of roads more pollution like trash and hazards. Lots of cement is not green.

4. Three huge enormous ugly unsightly things in a beautiful pristine forest or what used to be a forest.

5. This beings no jobs or income in to the town of Montgomery creek or surrounding small towns... Please understand I am not oppose clean energy but I don’t believe this is the solution for my town. Thank you Your Opposed Montgomery creek community member

Sabrina Carreno

From: Nancy [mailto:tombstonenancy@hotmail.com]
Sent: Wednesday, January 30, 2019 8:41 AM
To: Lio Salazar <lsalazar@co.shasta.ca.us>
Subject: Fountain Wind Project Public Comment

Dear Mr. Salazar,

I have attached my comments/concerns regarding the Fountain Wind Project. As a permanent resident of Moose Camp, I would hate to see Moose Camp totally surrounded by unsightly windmills. Some of them within a half mile of our property.

Thank you for a good meeting last week.

Sincerely,
Nancy Carter

Reference: Fountain Wind Project Public Comment

Commenter: Nancy Carter, Moose Recreational Camp LTD, member and resident

Comment: Moose Recreational Camp, LTD is located approximately six miles east of Montgomery Creek near SR 299E. Moose Camp was designed and developed in 1929, incorporated in 1930, by members of the Loyal Order of Moose from Redding. The original 143 acres of land was designed as a "summer camp" for its members to enjoy nature's beauty and relax in the quiet solitude of the mountains. Though the Camp is no longer associated with the Moose organization, it still remains as a non-profit corporation with 74 members and their families. I have been associated with Moose Camp since 1962, when my family built our first cabin. That cabin perished in the Fountain Fire of 1992, but we rebuilt knowing the trees and tranquility would return. I made Moose Camp my permanent home in 2005.

I am not opposed to developing renewable energy sources. Windmills are relatively safe and, in most cases, have an abundance of air to make them work. However, they do produce unwanted low frequency noise and vibration within a half mile or so. With their installation in so called "remote" areas such as the proposed Fountain Wind Project, they bring unwanted noise from heavy equipment and increased traffic congestion, saying nothing about the aesthetics of the turbines. And these disruptions continue after the turbines have been installed. You have the general public wanting to get up close and personal with the turbines (as evidenced with the Hatchet Ridge Project) as well as the daily maintenance runs made on dirt roads.

My concerns are:

The proposed O&M Facility will be located on a road that is within 100 feet of Moose Camp Property. That road serves two purposes: (1) a direct line for the owner of the Lammer Ranch to access SR299, and (2) an emergency ingress/egress road for residents of Moose Camp that has been available to us since the 1930s. The road is seldom used but with just barely off road accessibility to the turbines on that west ridgeline, it will bring in the looky-loos off SR299.

The proposed locations for turbines 47, 48, and 49 are too close to the western boundary of Moose Camp, contributing unwanted noise, are aesthetically unacceptable, and will bring unwanted public attention to our little niche in the woods. We have worked hard to maintain the peace and tranquility of Moose Camp for almost 100 years. We want very much to continue that.

Address: 32441 Panther Ave, (Moose Camp), Montgomery Creek, CA 96065

Email: tombstonenancy@hotmail.com

Letter P27

From: Mark Chamberlain <mchamberlain77@gmail.com>
Sent: Monday, January 28, 2019 8:41 PM
To: Lio Salazar
Subject: Fountain Windmill Project

I have a cabin in Moosecamp, in the middle of the proposed project.
We have 3 wells that deliver water to 50 cabins. These wells are fed by natural springs throughout the area. Road construction and underground electrical line digging will certainly disrupt the natural flow of many of these springs and could adversely affect our water system. This could even make our cabins unlivable.

Sincerely,
Mark Chamberlain

February 16, 2018

Dear Mr. Salazar,

As members of the Moose Camp community, we are writing to respectfully request that you reconsider the Fountain Wind Project. We feel it would be a travesty to locate the proposed windmills in this very scenic area. This area is home to much wildlife and many residents, in addition to numerous visitors wanting to enjoy the beauty of the mountains. While we understand the value of renewable energy, it doesn't make sense to do this while destroying the very things we are trying to save. We urge you to not allow the construction of this project.

My family resides in Shasta County, and has had cabins at Moose Camp since 1930. The existence of the Fountain Wind Project would be a devastating blow to the entire extended family. Not only would it be an emotional loss, but also a financial loss as it would definitely negatively impact the value of our lots and cabins. For nearly 100 years, the Coughlin family has been enjoying the beautiful scenery surrounding Moose Camp, from the cabin deck and also while hunting, fishing, picnicking, and hiking in the surrounding areas where the project is proposed. My children purchased lots in Moose Camp. They plan to build a cabin and spend their retirement years enjoying the serenity and beautiful vistas provided from the area they have purchased. These lots, along with my cabin, and some other Moose Camp cabins, have a beautiful view looking north across Highway 299, where Windmills #71 -76 and # 91-94 are proposed. This view would be forever destroyed by the construction of these windmills. Additionally, windmills 46 – 50, 62 – 67 and 41-15 are all also extremely close to the Moose Camp community and will also create lights, noise, and negatively impacted views.

In addition, the members of Moose Camp and surrounding communities suffered through the devastating losses created by the Fountain Fire in 1992. Many retained ownership of existing properties in spite of the fire. Many others took the financial risk to rebuild, with hopes of the beauty of the area returning with time. My family also took this brave step. It has taken many years, but the area is again a scenic treasure. It seems a real injustice to purposely allow the area to be so negatively impacted again.

While we do understand the potential revenue from this project, we feel that the quality of life of residents and visitors to the area is even more important. The beauty of the area is a very important asset, and we urge you not to destroy this natural resource by proceeding with this Fountain Wind Project.

Thank you for your time and consideration,

Dan Coughlin

Neva Coughlin
Clay Bates
Linda Bates
Sherri Coughlin
Danny Coughlin

2/11/19

The Fountain Wind Project overlays the aquafer that supplies water to many domestic water supplies in the area including the well at the Cal Trans Hillcrest Rest Area. It feeds many creeks the feed the Pit River and ultimately the Sacramento River. According to reports from a registered forester and a registered hydrologist, the soils in the area are broken volcanic rock, fragile and extremely fast draining. Any hazardous materials spilled during the course of construction would quickly drain into the water supply, affecting not only the local area, but also the motoring public that visit the rest area. In addition, due to the fragile nature of the soil, heavy equipment usage could change the direction of underground water flows, Soils and hydrological studies should be done to evaluate the risks to this water supply.

At the scoping meeting several speakers said electromagnetic radiation from transmission line can cause cancer and Alzheimer's disease. For more than 30 years I have also heard claims it causes dementia and depression. If there are scientific studies to support or disprove these claims, they should be cited in the EIS with links to the source data. If there is no data to conclusively say there is no danger, transmission lines should be located away from residential areas such as Moose Camp and Bootleg Lane.

Jeanne Danielson

2/18/19

To Whom It May Concern,

I am writing to inform you of the effect the Fountain Wind Project will have on the nearby community of Moose Camp. Moose Camp is a tight-knit community of both year-round and seasonal cabin dwellers dating back to 1929. My children are the fourth generation of my family to enjoy the beauty of this quaint little camp. My father built his cabin with his own two hands, and has worked tirelessly to improve the camp's infrastructure for the benefit of all members. He is a hardworking, Shasta County native who has dreamed of passing down this quiet mountain escape to his posterity since he laid out his plans nearly 20 years ago. I remember as a little girl, seeing the devastation of the Fountain Fire as we drove through those mountains, and hearing my father recount with sadness the loss of beauty and wildlife. However on my last trip just last year, I was overcome with gladness to see the height of the trees. And I remember feeling overjoyed that my children will know these mountains as they were meant to be: covered in beautiful trees and flourishing wildlife, with gorgeous, unencumbered views of the hills and valleys below. However, that future is threatened by these windmills. Having grown up in Shasta County, I understand its heritage of renewable energy. And I believe in investing in it for our future. But please consider the effect this project will have on the small community of Moose Camp and its heritage as a quiet mountain escape.

Please consider the hard-working Shasta county residents whose future depends on sustained property values of their Moose Camp structures.

Kelly Dickson

From: Lynn Dorroh
Sent: Monday, February 11, 2019 8:20 PM
To: Lio Salazar
Subject: Comment on Fountain Wind Project

TO: Shasta County Planning Department

RE: Fountain Wind Project

Dear Mr. Salazar:

I have been very concerned about climate change for several years, and work hard to reduce my personal carbon footprint. As such, I am strongly inclined to support wind power. However, not all wind power projects are optimal, and my comments on the Fountain project follow.

The community (social, economic and cultural impacts): Many people don't think of Montgomery Creek, Round Mountain and Oak Run as towns at all. For the people who live in these communities, some for many generations, they are the small towns that they call home. Montgomery Creek and Round Mountain share an elementary school, and Oak Run has a vibrant elementary school attracting students from all over the county. This project will impact our communities very significantly during construction, and to a lesser extent permanently.

Perhaps the western slope of Hatchet Mountain is the right place for this project, but more study and information is needed to assure me, and many others in the local community that the county has done its due diligence in examining the merits of this project.

Technology into the future: The permit application for this project was filed in 2016. The technology related to green energy is changing at a very rapid pace. Are we sure that in four years this project will still make sense? There is a lot of news about off-shore wind projects. Would an off-shore location generate more energy with less impact? I understand the advantage of building on privately owned timberland and the resulting reduced regulatory burden, but our communities do not want to be saddled with a wind project that could be obsolete in not so many years.

I understand that there is another favorable wind site in California, on the Central Coast. When the Diablo reactor shuts down, there will be existing transmission lines that could be used. The cumulative impact of power generation on this area is significant. Hydro plants; the high voltage transmission lines; the Hatchet Wind project. Please be sure that this is the best possible location for this project.

Wildlife: Just recently elk have been identified in our neighborhood on Big Bend Rd. Historically, the wolverine has been sited on Hatchet, in the not too distant past. Wolves are returning to Northern California. How will the impact on these species be mitigated?

Recreation: Many people come to this neighborhood to recreate. The abundance of creeks and waterfalls attract people from all over Shasta County, and beyond. Hatchet, Hall, Roaring, and Montgomery Creeks all are heavily used for fishing and swimming. I'm not as familiar with the creeks on the Oak Run side of the project, but I know they are also heavily used.

Native American cultural sites: The project lies entirely within the traditional lands of several bands of the Pit River Tribe. Some turbines are located very near traditional ceremonial sites. The cultural and historical impact of the project must be thoroughly addressed.

Lynn Dorroh, CEO
Hill Country Health and Wellness Center
P.O. Box 228
Round Mountain, CA 96084
530-337-5755
www.hillcountryclinic.org

Feb.6,2019

Lio Salazar
Shasta County Dept. of Resource Management
Planning Division
1855 Placer Street
Redding,Calif.96001

Dear Mr.Salazar,

Thank you for the opportunity for the public to express their concerns and suggestions regarding the proposed Fountain Wind Project.

As a source of "Green"energy I believe wind is second only to hydro and preferred over solar and geothermal as a reliable and economically feasible power source over time. However I have the following concerns and recomendations:

First,The elecro-magnetic frequency(EMF) emitted from trans mission lines. EMFs have been found to cause neurological problems as well as cancer,alziemers and parkinsons diseases and probably other undocumented maladies. There must have been studies that document these diseases relative to the proximity of these high tension power lines. There is already an abundance of circumstantial evidence that show that living in proximity to these transmission lines is an invisible killer. Shasta County and the Round Mountain area in particular has the highest rates of cancer,neurological disorders,suicides,osteoporosis and dementia in the state apparently due to the Round Mountain substation from which major transmission lines criss-cross throughout the entire North-west.This wind project would significantly exacerbate this EMF invisible killer. Until some technology developes that effectivly shields the EMFs emitted by these transmission lines this project should be denied.

My second concern is the use of glyphosate weed killers such as Roundup to eliminate the growth of any vegitation around the towers. Contrary to the claims by the chemical companies (Monsanto and Singenta) that these compounds biodegrade rapidly becoming harmless elements. Independent studies both here and United Kingdom have shown that even in minute amounts these formulations can cause DNA disruption effecting future generations with sterility and deformities.There are no natural microorganisims that can biodegrade these chemicals back to their basic elements. Several European countries have banned the use of glyphosate herbicides and we should do the same.

I recomend the establishment of a decommissioning fund by the project. Imposing a reasonable fee on each KW of power produced to the Shasta County general fund. Priority given to Shasta County residents for construction and maintainance.

Respectively,
Ron Epperson

Ron Epperson 30716 Neebs Rd. Montgomery Creek,Calif.96065

From: william evans

Sent: Monday, February 11, 2019 4:26 PM

To: Lio Salazar

Cc: Bennett Jd; william evans

Subject: Fountain Wind Project Proposal

Dear Mr. Salazar:

Environmental Impact? When I look out of my living room window here at 17010 Phillips Rd., Oak Run I can see the top of Windy Point located in Round Mountain; soon to be crowned with several 600' tall wind turbines! Wind turbines that will create an ongoing whoosh, whoosh, whoosh all day and all night long. And yes that noise can be heard from several miles away as I have discovered hunting on the east side of Hwy. 299 near the Hatchet Mountain wind project.

Being an avid hunter I have also become alarmed over the recent and complete removal (no trespassing allowed) of almost 200,000 acres of former Roseburg Forest Products timberland in eastern and northern Shasta county by the Australian company New Forests on who's land the parent Spanish company Iberdrola Renewables Inc. will lease to build it's 100 plus wind turbines by a Portland Oregon based construction company.

As an outdoorsman I am also concerned by the many negative reports of bird and bat deaths caused by strikes with wind turbine blades. Blades who's tip speeds can reach 200 mph. Just about every day and night from autumn to spring I here the calls of geese and cranes as they migrate to and from the rice fields and wetlands of the Fall River area. Some of the calls are high up, but many, especially at night and in inclement weather are low, almost tree top level as they make their way east and soon to be in the very path of 600' tall 200 mph spinning blades of death. These wind turbines are going to be placed in the very path of this migratory bird route and the birds that use it as they fly over the ridges surrounding Round Mountain and Montgomery Creek.

Although exact numbers of bird/bat mortality rates due to wind turbine blade strikes very widely: from a low of 573,000 bird and 888,000 bat (Wildlife Society Bulletin) to a high 2012 Spanish Ornithological Society report of Spain's 18,000

wind turbines for a kill rate of 6-18 million birds and bats annually (333-1000) per wind turbine.

Unfortunately here in the U.S. the wind turbine operators are allowed to self report their own violations of the Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). The wind turbine industry treats these data sets as trade secrets and does not share them with the public or conservation agencies, even going so far as to sue to hide this information. Also associated power lines and support towers that can be hundreds to thousands of miles long are seldom or never monitored for strike mortality. Mortality rates do not now nor can they ever likely be able to take into account the numbers of wounded birds and bats finished off by larger ground predators and those that manage to get out of the wind operators' limited mortality risk areas around their towers and lines and are therefor never counted in mortality statistics.

Taken altogether, some experts now estimate that wind turbine bird/bat mortality strike rates may be off by as much as 90%.

It must also be acknowledge that for every wind turbine project that produces energy 10%-40% of the time will require a 100% carbon based gas fired turbine generator plant back up system. Sure to be also placed in a rural and under represented community, with all the associated towers and transmission lines and mortality strike issues.

Finally; if there is one thing we have learned is that even small changes can completely upset the balance of an ecosystem leading to dramatic and often unpredictable consequences. Removing one (or more) species can change everything else and usually not in a good way. It's not 100% clear what the long term consequences of the Fountain Wind project will be, but they will likely be bad for Round Mountain and Montgomery Creek. With very little green (if any) as in the almighty dollar finding it's way back into the surrounding communities and most of it just ending up in Redding and the county general funds.

I am asking that all of the above be taken into consideration and that you will reject the Fountain Wind Project proposal.

Thank you,

William Evans

17010 Phillips Road

Oak Run, Ca 96069

(530) 472-3999

yellowbox42@yahoo.com

2/13/19

Any Environmental Impact Statement or Report must examine the impact on raptors and migrating (daily and annual) waterfowl. Also water rights of way: creeks, rivers, and ditches must be considered and addressed.

George Fenimore

2/14/19

Moose Camp was established in 1928 as a Recreational camp for members of the Redding Moose lodge. This was done to escape the summer heat of Redding, before air conditioning was available. My grandfather was one of the original members of Moose Camp. He, along with a carpenter friend, built the original cabin using only hand tools. This was done in the early 1930's. For 90 years my family has enjoyed the sanctuary and escape from "city life" the cabin and surrounding forest was able to offer. In 1992 the fountain fire completely burned the cabin. With a stand of trees still on our lots, it was decided by our family to rebuild. Only memories and a few pictures were left of the old place my grandfather built.

I am a 5th generation Shasta County resident and there is a reason I live here in this beautiful landscape. I do not want to go up to my cabin and have to see and listen to a GIANT wind mill! I am going to be retiring in the next few years and would love to ENJOY my solitude at the cabin our family has enjoyed for the last 90 years. I am against the windmills this close to our recreational camp. There are too many negative factors involved, based on the immense size of the project. This includes the gigantic concrete plant that will be about a mile from camp and will very likely be loud and easily heard over the silence of the area. Not to mention the constant stream of cement trucks that will be going right along the fence line of Moose Camp. I think this is intolerable.

I know that these companies come in and basically push their way into the landscape. There have been test towers in that area for years. There has also been a large bridge built on top of Hatchet south of 299 I am assuming for the preparation for the construction of the windmills. Once the company spends a large amount of money they will be hard pressed to abandon it. The viewshed will be forever ruined. The solitude, peace and quiet will never be regained. Our property valued will take a hit, since no one will want to have a cabin next to a large wind turbine. It would be difficult for me to sell my cabin and relocate to another area, my roots are very deep here.

I want to go to my cabin with my kids and future grandkids and have them experience the wonders of quiet and driving out in our old Jeep up the hill to see the dark night full of stars. This will not be possible if the night sky is inundated with bright red flashing lights that will be so close that it will dominate the sky. This truly breaks my heart thinking that we can recover from fire and floods, but when man wants to take over the landscape there will be no turning back. Please consider the human aspect of the area that will be forever lost due to the Hatchet Wind Project around Moose Camp.

Jon Ferguson

2/13/19

To Whom It May Concern,

I am a part owner of a cabin at Moose Camp which is a group of 50 cabins (that include a total of 75 families) near Montgomery Creek and I strongly oppose having a "wind turbine farm" anywhere near Moose Camp. I have been coming to our family cabin for 58 years (since I was born). My grandfather built our original family cabin in 1933 which burned in the Fountain Fire in 1992. We rebuilt our cabin in 1995. Since 1933 my family has had many wonderful family gatherings at the cabin. We enjoy getting away from the city and love the peace and serenity and nature that is here at the cabin. In the evenings we often look at the stars in wonderment which shine bright at the cabin because there are no city lights to interfere with the view. We also love the quiet of the woods. Generations of Moose Camp families have been looking at the natural unviolated mountain ridges surrounding the cabins since 1929.

All of this will be completely ruined by having wind turbines within ½ mile of our property. Having the view of the unnatural steel 45-story tall windmills will be horribly intrusive. It may not be on Moose Camp property but it will visually intrusive and the sound will be very disturbing. It will not be a peaceful natural wooded area anymore if there are wind turbines within the vicinity. The value of our property will also be decimated. Moose Camp has been here for 90 years and the reason we come to the cabin is to have peace and quiet not wind turbine noise, flickering shadows and flickering lights at night.

There is also the issue of wind turbine syndrome. As discussed in the article found at https://windwisema.org/about/noise/wind-turbine-syndrome-and-vibroacoustic-disease/, wind turbine syndrome can be caused by being located too close to wind turbines. The symptoms consist of disturbed sleep, headaches, tinnitus (ear ringing), and a sense of quivering or vibration, nervousness, rapid heartbeat, nausea, difficulty with concentration, memory loss, irritability and anger in addition to other symptoms. The possibility of this is very distressing.

In addition there would be enormous amounts of noise intrusion throughout Moose Camp during the construction of the project and the maintenance of the completed wind turbines with the three roads that are used that surround Moose Camp's fence line. Another concern is still being able to use the helipad that we have in Moose Camp if there are wind turbines surrounding us. Also Moose Camp uses the road outside of the yellow gate to the west of camp as an emergency exit to highway 299 in the event of fire or flood. Will the wind turbine developer impede our ability to use this road?

Property owners that allow this kind of disruption on their land are generally well compensated. As for the people at Moose Camp, they stand nothing to gain and much to lose with this development.

All of these issues may give cause for legal action on the part of the owners of Moose Camp.

An informational movie about wind turbines called Windfall is available at itunes.com -- please watch it before considering going ahead with the wind turbines.

This area is not an industrial area and this is a massive industrial project. I urge you- do not put this project in this area!

Sincerely,

Lynn Ferguson

Letter P37

2/12/19

I am not opposed to growth in our community, however when it consists of massive growth that our community is not even going to benefit from, I am adamantly opposed! We are not receiving any of the power that will be generated by these horrific eyesores, nor are we getting any tax relief. Instead, we are only going to achieve a much lower property value on the homes that we have built for our existing family and for our many generations to come.

Our community thrives on tourism and vacationers that come from all over to share in the beauty of our lands in this area. I fear that is going to come to a screaming halt when the beauty of our mountains and surrounding lands are not only going to be filled with 500 foot blades but also the large quantities of additional high powered tension lines that come with it. That brings me to the next set of issues and that is the extremely large concern of everyone in our community of the dangers and health concerns stemming from high-powered tension lines running over our properties. We have already voiced our major concerns regarding the high-powered lines a few years back when we battled T.A.N.C. about these same issues and if you can remember the concerns were such, that the project was denied by the county. Well I think those concerns should be revisited in this case and the same decision should be made again. Our health and well-being cannot be bought out by billion dollar industries, in fact you cannot put a value on our lives or our health.

I pray that this project is turned down from our county officials and is turned away from our area. But in the likelihood that it goes through, I feel as though our community should reap some of the benefits. I purpose that us property owners DO NOT get our properties, that we have worked so hard for, get taken away by eminent domain and that we receive a tax revenue to offset our property taxes. I also feel like we should get lower energy costs to compensate for the inconvenience of having these monstrosities in our back yards and let us use some of the power generated. I also feel that if high- powered lines are built to support this additional power, that they are not constructed within 1,000 feet of any existing residence to safeguard our exposure.

Laruie Flood

Comments for the Fountain Wind Project Draft EIR

Submitted 02/14/2019

My foremost concern is the widespread extent of the project. I would like to see an evaluation of an option with **fewer turbines and/or a more concentrated placement of turbines** to avoid or significantly lessen landscape level impacts.

The impacts I am alluding to are the proximity of traffic and human intrusion on the native wildlife and habitat values. Please consider the effects of the turbine pads, access roads, seasonal use and maintenance visits. Reducing overall ground disturbance has proven to be the best prescription for a healthy ecosystem.

My vested input is related to the private parcel(s) of 80 acres my family has held for nearly fifty years. Our small cabin is a refuge and a legacy property we treasure. I see the **current proposed location of turbines T-27 and T-28** are adjacent to the western horizon from our property. Aside from the disturbing visual impact, the need to build an access road, underground collector line and monitor environmental effects to the meadow makes me wonder if the placement of the two turbines might be reconsidered.

Looking at the Project Area and Facilities map it appears that where Terry Mill Road crosses through our property, Avangrid hasn't addressed whether their specs for "existing logging road – improvements required" are even feasible. There is a bridge that crosses South Fork of Montgomery Creek on a hair-pin turn! It should definitely be looked at as their plans are developed.

I will be following the development of this Project through the EIR process. If you need any clarification of my comments be feel free to contact me.

Sincerely,

Carol M. Forster
19697 State Highway 89
Hat Creek, CA 96040

cmforster@yahoo.com
(530)335-4804

From: forster rick <forsterrick@yahoo.com>
Sent: Thursday, February 14, 2019 3:12 PM
To: Lio Salazar
Cc: carol forster
Subject: Fountain Wind project - scoping comments

To Lio Salazar,

I am writing to voice our concerns regarding construction of roads, power lines, windmills, etc which could impact 80 acres of private land located within the boundary of the Fountain Wind Project. The private land includes five contiguous parcels (029-210-024, 029-210-025, 029-210-026, 029-210-027 and 029-210-028) owned by the Mallory and Forster families.

One of the parcels (028) contains a spring which supplies water to the properties via a ditch running along the west boundary of the contiguous properties. Any disturbance of the spring's channel from the source to the ditch, or the
ditch itself, could stop water from reaching the Mallory family cabin and several other properties. Since the spring is the only source of water available to service these properties we are concerned that heavy construction near parcel 028 could jeopardize the spring's flow.

Other concerns include the environmental impact of other springs and wetlands in the vicinity, and the visual and audible impact of construction near private landholdings. In order to mitigate this problem there should be a minimum distance determined for the building of roads, windmills, power lines etc. from private holdings.

James and Carol Forster
Hat Creek, CA (530) 335 4804

From: Jonathon F <jonathonoak@gmail.com>
Sent: Friday, February 22, 2019 4:13 PM
To: Lio Salazar
Subject: Fountain Wind Project comments

Hello Lio,
Please find my brief comments on the proposed Fountain Wind Project

While I appreciate and applaud the effort to develop green and renewable energy sources the proposed project embodies old, outdated industrial, extractive development models. I appose the project as proposed.

1. The energy produced will placed into a vulnerable and inefficient grid system to be use elsewhere, not benefitting local community members.
    a. We need only to look at projects like Shasta College for smaller scale localized power production.
2. Large Scale, Industrial projects have a large footprint impacting vegetation, wildlife, watersheds, and residents.
    a. In order build and run the projected wind farm a massive and permanent infrastructure will need to be built in what is currently forrest woodlands. Roads, culverts, turbine pads
    b. The project states that 2000 acres of the 30,000-40,000 acre project will be clear cut and denuded of trees. This seems like a gross underestimate when one looks at the impact and size of the land stripped bare for the existing wind farm on Hatchet ridge.
    c. The project will remove trees that currently are absorbing tons per year.
    c. The wind farm would interrupt flight paths of birds and bats and or result in fatalities, include endangered and protected species
    d. The project would impact and alter the feeding and movement patterns of animals that currently inhabit the area.
    e. The project would impact the soundscape and view shed of those who live near by and impact and alter the view shed for the region. As I drove along I5 today north of Redding I could clearly see the Hatchet Wind Turbines. The new towers being even larger would be even larger and more imposing.
    f. The project would drastically alter the character of our eastern county.
3. The project would impact the culture and cultural practices of the Pit River People, a federally recognized Tribe who's members are the traditional caretakers of the land to be developed.

4. We need to increase the efficiency of our energy use. Shasta County, like Shasta College can be a leader in making life sustaining actions addressing our energy needs in creative ways that don't involve deforestation, wildlife death and displacement and extractive ventures that do not even benefit our community.

Thank you for extending the deadline for comments.

Jonathon Freeman
PO Box 808

2/14/19

As a property owner in the center of the land purchase who lives less than 1/10th of a mile from where the map says they will be installing high power wires I would like to know that the springs that provide water will not be effected. That they will look at the amazing population of wildlife here but also at the socio-economic implications. Communication interference- My husband has two different forms of cancer and often relays on emergency services I, as a full time student depend on internet for half of my education. If my property value drops as has been proven in studies in Canada, the equity in my home will disappear along with my child's chance to go to college. To take from a community for private gain seems to have become the modern day American dream for corporations only. Water is our greatest resource and disruption or pollution of our water headlands must not be tolerated. Water is life

Jennifer Frolich

From: John Gable <themooseboard@gmail.com>
Sent: Saturday, February 2, 2019 12:45 PM
To: Lio Salazar
Subject: Moose Recreational Camp LTD Draft EIR Concerns

Moose Recreational Camp - Important Facts

Moose Recreational Camp is surrounded by mountain ridges.

Look north, south, east or west in Moose Camp and you see mountain ridges.

Ridges to the east and west are approximately a half mile away from Moose Camp.

Generations of Moose Camp members have been looking at these ridges since 1929.

Moose Camp families have been escaping the city life and spending time in an unspoiled park-like wilderness for 90 years.

Current Moose Camp residents have an expectation that they will see trees not windmills on the ridges that surround Moose Camp during the day.

Current Moose Camp residents have an expectation that they will see stars at night not blinking red lights.

Current Moose Camp residents have an expectation that they will hear birds and squirrels not windmill noise.

There are approximately 75 Moose Camp families and 50 cabin residences used year round.

Moose Recreational Camp - Concerns For Draft EIR

Visual impacts, shadow flicker, property values, noise, vibration and electromagnetic interference of proposed wind turbines and meteorological tower within 1 mile of Moose Camp fence line.

Viewshed of all windmills, meteorological tower and new overhead power lines as seen entering, exiting and from within Moose Camp during all hours of day and night.

Noise intrusion throughout Moose Camp during construction of project and maintenance of completed wind turbines with three roads in use surrounding our fence line.

Will wind turbines to the west of Moose Camp interfere with use of our helipad?

Moose Camp uses road outside yellow gate to the west of camp as emergency exit to highway 299 in event of fire or flood. Will wind turbine developer impede our ability to use this road?

Need more data (gps coordinates) of wind turbine locations to better evaluate impact.

Moose Recreational Camp - Mitigation

Wind turbines within a mile radius of Moose Camp should be removed from the project or relocated.

-----Original Message-----
From: Pat Gheen [mailto:
pagheen@gmail.com]Sent: Wednesday,
February 13, 2019 9:39 AM
To: Lio Salazar <lsalazar@co.shasta.ca.us>
Subject: Windmills

I oppose of this

Sent from my iPhone

2/16/19

I am not against this project in the least, just the location. We have spent time in Moose camp and it's wonderful to be engulfed in nature. With the project being less than a mile away from the property it would be an awful distraction! It's a huge concern for me!

Jennifer Gifford

From:KathyGood
<kathygood54@icloud.com>
Date:February19,2019at10:18:07AMPSTTo:lsalazar@co.shasta.ca.us
Cc:meimsg3@gmail.com
Subject:FountainWindFarm

We are relatively new to the Round Mountain area. Just recently got a subscription to the REDDING local newspaper. So we received noticeof the meeting at Montgomery Creek school after the meeting was held . There should be more community meetings held to allow people to attend and make comments to the folks who are proposing the Fountain Wind Farm.

Our water and other folks' water in the area comes from springs fed by Snow Mountain and we hope our water table will not be contaminated by construction .

We also have 5 towers supporting 3 power lines running through our property. Will there be more of these of towers.?

The natural beauty of this area will be destroyed by this projects .

Thanks ,
Mike and Kathy Good
16013 Buzzard Roost Road
Round Mountain CA 96084

Our parents were lucky enough to have and know some friends that owned cabins in Moose Camp and were fortunate enough to be able to buy a cabin in 1976. The cabin needed a lot of work to make it very enjoyable to come and use it during the year. We put a lot of decking around the cabin because it is so nice to sit outside and enjoy all the natural beauty surrounding the cabin.

Moose Camp endured a major fire in 1995 and after many years, its beauty is finally back. Our camp members have put in many hours of sweat and money to keep this a place a great place to get away and enjoy nature.

Our family continues to enjoy spending time at Moose Camp, which now make 4 generations of family members. Many other camp members have several generations that are enjoying Moose Camp as well.

It would be devastating to have such an infrastructure like this in our back yard. We would appreciate your consideration of moving some of these stations to other locations to keep our camp in its current state of peacefulness.

Thank you,

Mike Hall and Families

2/22/19

Will this proposed project limit the future possibly of Hwy 299 of becoming a California scenic highway? What are the plans and financial responsibilities of the project owner for the decommissioning and rehabilitation of the project site either in the event of the bankruptcy or sale of the project site. Thanks

Nick Hennig

2/14/19

I am very concerned of the environmental impact the proposed turbines may have to the area. My families ranch (Henrich Family Trust) which is located 7 miles from the end of Terry Mill road is I believe in the area of these turbine locations. On our property are the head waters of cedar creek and close by sawdust creek and the south fork of Montgomery creek. I can't imagine getting up in the morning with a cup of coffee and seeing and hearing large towers all around me and no wildlife to be seen. This June will be 50 years of ownership and my hope would be my children's children could enjoy the property as I have.

Pedro Henrich

From: richard holden

Sent: Friday, February 22, 2019 2:49 PM

To: Lio Salazar

Subject: Fountain Wind Project

I am opposed to the Fountain Wind Project. There are a number of reasons for my opposition. Destruction of habitat, damage to migrating birds, emf, power bleed,social injustice, wealthy versus poor injustice, political injustice (majority forcing its will on a minority)...

But my main complaint is the damage to the beauty of Northern California. I believe I am addressing this complaint to Rosalio Salazar, an important official with Shasta County. Rosalio, you may even occasionally get out of your office to experience the beauty of nature in our north state. Or you may have a view of one of our mountains from your office window. Perhaps you are also opposed to this planned ravaging of nature for corporate greed. Are you, Rosalio? You are very important to a lot of people. Many of them are wealthy and powerful. I am not. If you choose to publish this comment, I would like to address the next paragraph to the American Public.

Northern California is one of the few places in the United States that has not already been spoiled by the encroachment of concrete and metal and steel monstrosities. I can still find places where I can look and see California the way it was before "civilization" began to destroy it. I don't think anyone in America wants to lose that beauty. Because companies like this one have already ravaged other parts of California, especially Southern California, I call upon my fellow citizens, especially those in Southern California, to come to our aid. Please don't let them do to our skyline what they have done to yours. We are a besieged minority that is being attacked by a multi billion dollar foreign corporation that is being aided and abetted by a juggernaut of state and federal incentives (MONEY), and by state and federal and local officials.

Sincerely,

R M Holden
Montgomery Creek, Ca

--
richard holden
rmholden@fastmail.fm

2/14/19

im against this eyesore project

Robert Humphreys

Pacific Flyway

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: DEEVER JENKINS / LOCAL RESIDENT

Comment: A PROJECT OF THIS MAGNITUDE SHOULD NEVER BE UNDERTAKEN IN CLOSE PROXIMITY TO A COMMUNITY. IT IS A FACT THAT HIGH VOLTAGE ELECTRICAL LINES AND TRANSMISSION FACILITIES CREATE A HEALTH RISK FOR ~~THOSE~~ PEOPLE LIVING IN CLOSE PROXIMITY. NINE CANCER CASES IN OUR COMMUNITY HAVE BEEN FOUND TO BE RELATED TO SUCH LINES AND FACILITIES.

MORE IMPORTANTLY, CONSTRUCTION OF THIS PROJECT WILL INTERFERE AND DESECRATE SACRED GROUNDS OF OUR LOCAL INDIAN POPULATION. DRILLING TO SET THE TURBINES IN PLACE WOULD MOST CERTAINLY DISRUPT AND DESTROY ANCIENT BURIAL SITES. THERE IS NO EXCUSE FOR SUCH ACTIVITIES HERE, AND I, FOR ONE, AM PREPARED TO DO WHATEVER IT TAKES TO STOP THIS PROJECT. NOT AND SINGLE LOCAL RESIDENT SUPPORTS IT, SO THIS OREGON COMPANY NEEDS TO GO AWAY!

Privacy notice: Please provide contact information inside the dotted line. The contents of this box *only* will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address: Deever Jenkins
PO3 305
Email Address: Montgomery Creek
CA 96065

Opt-in to mailing list (must provide valid address): ☒ Yes, mail Project updates ☐ No, do not send mail
Opt-in to email list (must provide valid email address): ☐ Yes, email Project updates ☐ No, do not send email

Instructions:

You may submit your comment regarding the Fountain Wind Project in writing using the form on the other side of this sheet. Please fold and staple this form and mail it to the address below by February 14, 2019. You may also submit comments on the following website: http://comment-tracker.esassoc.com/tracker/fountainwindeir/ by emailing lsalazar@co.shasta.ca.us or by calling (530) 225-5532 by February 14, 2019.

P O B 300
Mont. Crk
CA 96065

RECEIVED
SHASTA COUNTY
JAN 28 2019
DEPT OF RESOURCE MGMT
BUILDING DIVISION

25 JAN 2019 PM 2 L

Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001
96001-17592B

Letter P52

February 10, 2019

Steven J. Johnson
19291 Singing Pine Lane
Lakehead, CA 96051

Lio Salazar
Senior Planner
Shasta County Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

Re: Fountain Wind Project (Use Permit No. UP 16-007) EIR Scoping Comments

Dear Mr. Salazar,

The purpose of this letter is to provide scoping comments with respect to the EIR for the project identified as the Fountain Wind Project. I am a landowner directly affected by the proposed project, and a resident of Shasta County. I have a 425 acre ranch located at 20144 Cove Road, Montgomery Creek that includes one mile of Hatchet Creek, and I also have a home on 1.2 acres located at 19111 Meadow Creek Lane, Montgomery Creek, which is on Montgomery Creek. I also own other lands and properties in Redding and elsewhere in Shasta County from which the wind turbines would be visible, and I drive and often hike in and around the Redding area like most local residents. This project, if built, will be an eyesore throughout Shasta County, from Redding, north to Castle Crags, the Trinity Divide, and even from as far away as Mount Shasta.

I firmly believe this project will permanently destroy what are now beautiful views of the mountains east of Redding that have drawn people to the Redding area for over 150 years. In addition to destruction of the viewshed, if the project is approved, the Planning Department, as lead agency, will also be responsible for causing significant negative impacts on tourism in and around the Redding area, and Shasta County more generally, already negatively impacted by the recent fires. Any approval of this project will also virtually assure another fire disaster akin to the Carr Fire, the Hirtz Fire, and the Delta Fire. Indeed, a fire in the project area could easily spread, just like the Carr Fire, and wipe out Moose Camp, Montgomery Creek, and Round Mountain. Similar to what just happened in the Camp Fire in Paradise, electric transmission facilities and operations in the project area, located in the midst of a densely packed artificial forest of highly flammable pines, is almost certain to result in another huge fire sometime during the lifetime of the project. Accordingly, if the project is approved, the Planning

Department, as lead agency, could ultimately be responsible not only for the destruction of the surrounding area, and the cause of billions of dollars of damages, but also for the potential deaths of local residents if there is a major fire in the project area like what just happened in Paradise, or in Redding.

This project should never be approved. Instead, the Planning Department should only allow further wind farm development further East in remote Shasta County or in Modoc county, outside of forested areas, and away from any population centers, and where the turbines would not be visible from populated areas such as Redding or nearby mountain communities like Montgomery Creek and Round Mountain.

In addition to significant negative impacts from potential fire risk, the destruction of the viewshed, and the destruction of property values, my home on Montgomery Creek, just below the proposed project site, relies on the waters of Montgomery Creek for its domestic water supply, and my ranch has agricultural and domestic water rights to Hatchet Creek. Both properties are downstream of the proposed project, and I believe the project could also adversely affect and otherwise pollute the pristine waters of Hatchet and Montgomery Creeks, and well as disrupt and potentially pollute groundwater in the area.

Various significant negative impacts that should be considered and addressed in the EIR therefore should include all of the following:

1. Significant Negative Impacts to the Viewshed. The proposed project will not only be a huge eyesore to the surrounding areas of Moose Camp, Montgomery Creek, and Round Mountain, but the EIR should also address where the proposed project will be visible from in all of Shasta, Siskiyou, and Lassen counties. Focusing on Shasta County, the existing turbines on Hatchet ridge above Burney are already visible from as far away as Mount Shasta, the Trinity Divide, Castle Crags, the Grey Rocks, and various points above Redding. However the existing turbines may not currently be visible from areas in the City of Redding, or from many points along the I-5 corridor, while the new turbines would be. While I believe the construction of the existing turbines on Hatchet ridge was a mistake, and completely ruined the view in Burney, and along Highway 299, the Proposed Fountain Wind Project will be far worse, and will permanently scar the views for the most populated areas of Shasta County. Specifically, the EIR should address whether the proposed new turbines, over 500 feet in height on prominent ridge lines, and spread out among the mountains above Montgomery Creek on the eastern slopes above Redding, will be visible from Redding, the I-5 corridor, and from all of the surrounding mountains and hiking trails in and around Redding and beyond. The scope of the EIR addressing negative impacts to the view shed should not be limited to the immediate mountain towns near Montgomery Creek, and should reflect everywhere in the county and neighboring counties that will have their view shed disturbed/destroyed

by the project.

Dating back over 100 years, one of the primary tourist draws to the Redding area was the beautiful views of Mt. Lassen, Burney Mountain, and the ridges and other mountains to the East of the I-5 corridor, Mt. Shasta to the north, and Shasta Bally, the Trinity Mountains, and the Trinity Alps to the north and west of Redding. Indeed, before there was a highway, the beautiful views as one came up to Redding from the Central Valley were promoted to tourists on the train that pre-dated the highway as the "Road of 1000 Wonders." The proposed project will permanently ruin these historic and unique views to the East as one comes up the I-5 corridor into Redding and beyond, and will permanently ruin the views from the City of Redding, and from the surrounding mountains. The EIR should therefore detail all of the points in Shasta County that the proposed project will be visible from, the population that will be affected (including the millions of travelers on Highway 5), and address and note that the proposed project, for the first time in 150 years, will permanently mar the beautiful views to the East that have drawn tourists here for over 150 years. The visual resource draws tourists and residents alike. However, if visible from Redding and I-5, the ruined views to the East will be experienced by millions of people over time, including those who travel up and down I-5 every day and by some 100,000 residents who would have to look at the eyesore every day. Something like this would never be allowed in Yosemite or Lake Tahoe, and will permanently ruin Redding as a tourist destination forever. The beautiful mountain views, hiking and recreation, should be the image in people's minds for the Redding area, but instead, when they come their view will be drawn to a sea of giant ugly wind turbines, not a beautiful natural setting among the mountains. Please don't ruin Shasta County forever by allowing this project to be built.

2. The "no project" alternative. The EIR should address the "no project" alternative, and specifically whether any of the mountains and ridges visible from I-5 or the City of Redding should be allowed to be further developed with wind turbines at all. There is a simple, easy solution to this problem, which is to only allow wind turbine farms to be built further to the East, where they are not visible from I-5 and Redding, and do not ruin the views that Redding is famous for. Moreover, there are areas in far Eastern Shasta County and Modoc and Lassen counties where the mountains and ridges are not forested, and where it is really windy, and therefore where the sites are far more suitable for wind farm development, rather than building windfarms that will ruin the views for millions traveling on I-5 and tens of thousands of residents in Redding, as well as present severe fire danger (addressed below) by what can only be described as sheer insanity—building a windfarm in the middle of an artificial forest that is sure to burn at some point (again), leaving a bankrupt windfarm project (if their negligence causes the next fire—witness what just happened to PG&E), and therefore a defunct windfarm, forever an eyesore, with a bankrupt owner. The EIR should address all of these likely

possibilities and impacts, including what just happened with PG&E following the Camp fire.

3. Significant negative impact on Tourism and the economy in Shasta County.
The EIR should also address whether and to what extent the proposed project will have a permanent negative effect on tourism and the economy of Shasta County, which depends in a significant way on tourism. Right now, Redding and Shasta County are known in California and nationally as the recent scene of devastating wild fires (addressed below). Tourism will likely be negatively impacted by the fires for years to come. If the proposed project is built, tourism will be further negatively impacted, and the local economy negatively impacted as a result too. People are already afraid of the fire danger, and once they see a sea of wind turbines, they will be even more likely to avoid Redding. People don't want to recreate in view of massive wind power projects.

4. Fire Danger. The fire danger posed by the proposed project cannot be underestimated or mitigated. As noted above, building a huge windfarm, with 25 miles of roads, substation(s), power lines above and below ground, maintenance facilities, and so forth, in the middle of a densely packed artificial forest of flammable pines, has to be the classic definition of insane. The three largest wind power areas in California are all located away from forests, in areas with no trees. Those three areas are the one outside of Palm Springs (built away from the City in the desert), Altamont Pass (in rolling hills where there are no trees, just grazing land for cows), and Tehachapi, built on barren ridges in view of no population centers, where there are no trees (again, just grazing land with cows). Building a wind power project in the middle of an artificial densely packet, highly flammable forest, is beyond negligent, it is crazy.

   The accidental sparking of a fire in the proposed project area is almost inevitable. There is also a history of lightning strikes and fires, both natural and human-caused in that area. The project area cannot be managed with controlled burns because the turbines will be surrounded by highly flammable densely packed pines--a tree plantation--which the owners will not allow to be periodically burned because of the timber value. So the plantation trees, already 30 feet tall, having been planted after the devastating Fountain Fire, will grow 50 or 60 feet tall during the life of the project posing an even higher fire danger over the life of the project.

   The massive Fountain Fire in the early 1990's is well known, and the project is located in part in the area of that fire. There was another fire, just this past summer, very close to the project site which required the entire town of Montgomery Creek to be evacuated for two days. Fortunately, the fire broke out only a few days after the Carr fire started, and therefore there were already hundreds of firefighters and several helicopters that had been scrambled outside of Redding, and some of those fire crews and helicopters

Water travels underground from Burney Mountain and comes up one or two miles before the falls, and some of the water comes out in the middle of the falls. I believe that there is a similar underground river or aquifer that is moving below the proposed project site. I have springs that come out of the ground on my ranch, not far from the project site, and they come out at the same elevation above the bedrock similar to what happens at Burney falls. Other springs feed Hatchet and Montgomery Creeks throughout those hills. I rely on this spring water for domestic water supply on my ranch and also at my house on Montgomery Creek.

The EIR should address the potential impacts of the proposed project on the underground rivers and aquifers beneath the project site, that then erupt in springs downslope from the project area—springs that also feed Hatchet and/or Montgomery Creeks, as well as domestic wells in the area. Significant digging of huge foundations, road building, underground power lines, and other surface and below ground disturbance from construction is likely to significantly impact the aquifer and could pollute the ground water in the area and disturb the movement of groundwater. Project construction and maintenance will also adversely affect surface water run off, and the water quality in the creeks that residents use for domestic water supplies. Worst case, spills and accidents could pollute the drinking water of the local communities, and as noted, I do not believe there is a water treatment plant there, and the project owners are not proposing to build any, which puts these communities at significant risk.

The EIR should also address any proposed use of Round Up or similar defoliants or herbicides to clear or maintain land in the project site, as that will also contaminate the surface and subsurface waters and therefore the drinking water supply of the affected communities including Montgomery Creek. Round Up has been recently found to cause cancer.

6. Negative Impact on Endangered and Threatened Species, and Negative Impact on Birds. As if the tree plantation itself--with single species artificial even age forest virtually devoid of wildlife—were not bad enough, putting an industrial project throughout that plantation would make a bad situation even worse from an environmental standpoint. The trucks, construction, and maintenance activities will make the project site (over 30,000 acres) and surrounding area even more hostile to wildlife, and further destroy any ecosystem that is left there. This will negatively impact endangered or threated species, including fox, marten, fisher, owls, etc. to the point that they will become locally extinct. The extensive clear cutting in the area, combined with this new horror, will essentially further destroy the ecosystem and likely lead to the local extinctions of any of the rare animals that still survive there. I also believe that a wolf migrated through that area (possibly even crossing the project site) a few years ago. He had a

tracking collar and could be tracked on the internet. The point is less about wolves and more about maintaining ridges and mountain corridors for the movement of animals such as elk, deer, bear, lions (and possibly someday wolves). The EIR should address the significant negative impact of the project on the mountain corridors there for the movement of animals and the health of large and small mammal populations and birds. Wind turbines are notorious for killing birds, particularly raptors. There are also bald eagles in that area. Again, those mountains and ridges should be maintained without industrial development for the preservation of wildlife, plant species and ecosystem protection. Road building, erosion, and those impacts will need to be addressed as well as cumulative impacts of all of the above.

7. Negative Impact on local communities and property values.
   Lastly, the EIR should address the fact that the proposed project will likely cause property values in Moose Camp, Montgomery Creek, and Round Mountain to plummet. The beautiful views and natural surroundings in these mountain communities is why people live there, and that will all be ruined. No one will want to live there anymore. No one will want to look out at giant wind turbines on every hill above their homes. These wonderful mountain communities, including Indian Rancherias and other cultural resources in the area, will essentially be destroyed, causing serious financial harm to existing residents, on top of threating their homes and very lives with increased fire danger, potential risks to their water supply, diminished public health and safety, and significant harm to local businesses.

   In short, the EIR should consider all of the above, including the destruction of multiple mountain communities that are already struggling from a poor economy and the recent fires. The project area has never fully recovered from the Fountain Fire and this project invites another such disaster. This project should not be built under any circumstances, and no further wind farm development should be allowed so close to Redding and Burney, or within sight of the population centers of these mountain communities and the greater Redding area.

Sincerely,

Steven J. Johnson

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Janis Karabats

Comment: (1) In the profitability calculations, has the loss of ~~tax~~ subsidies been factored in?
"Federal wind subsidies expected to be phased out by 2020" (www.energycentral.com)

(2) Electricity Production calculated by formula by Lawrence Livermore Labs – based on current 5 yr measurements, model based on past.
However these calcs are based on the assumption ~~#3~~ winds in the future will be as the past.
Not necessarily true — affects Profit

https://www.greentechmedia.com/articles/read/chinese-researchers-claim-global-wind-resources-are-dwindling#gs.TfA14b4
""The results show that surface wind speeds were decreasing in the past four decades over most regions in the Northern Hemisphere."

https://www.sciencedirect.com/science/article/abs/pii/S036054421832231X?via%3Dihub
"Using an observed dataset, we study the changes of surface wind speeds from 1979 to 2016 over the Northern Hemisphere and their impacts on wind power potential. The results show that surface wind speeds were decreasing in the past four decades over most regions in the Northern Hemisphere, including North America, Europe and Asia. In conjunction with decreasing surface wind speeds, the wind power potential at the typical height of a commercial wind turbine was also declining over the past decades for most regions in the Northern Hemisphere. Approximately 30%, 50% and 80% of the stations lost over 30% of the wind power potential since 1979 in North America, Europe and Asia, respectively. In addition, the evaluation of climate models shows their relatively poor ability to simulate long-term temporal trends of surface winds, indicating the need for enhancing the process that can improve the reliability of climate models for wind energy assessments.

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Email Address: janis@karabats.com

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Opt-in to email list (must provide valid email address): ☒ Yes, email Project updates ☐ No, do not send email

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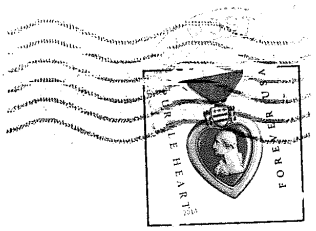

SACRAMENTO CA 957

15 FEB 2019 PM 7 L

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SHASTA COUNTY
FEB 19 2019
DEPT OF RESOURCE MGMT
BUILDING DIVISION

Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

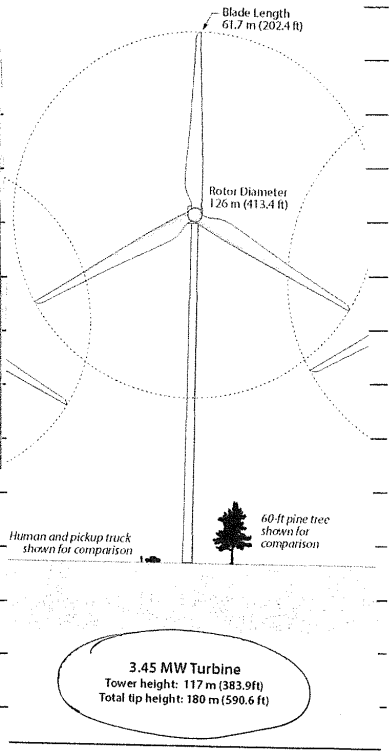
96001-17592B

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Janis Karabats

Comment: I chose pictures to emphasize my comment: How can 100 of these giant wind turbines do anything but totally dominate the visual and atmospheric landscape of our beautiful mountain forest region?



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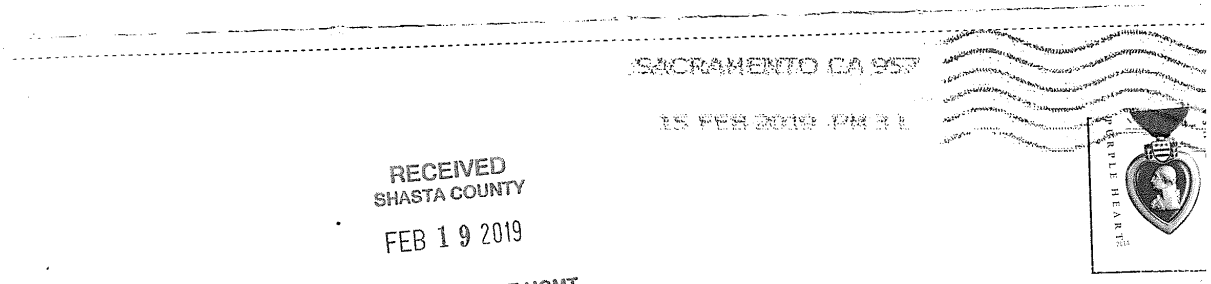

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Janis Karabats

Comment: How much fuel is used to start a wind turbine every time wind fails?

~~How much~~ What are the costs of upgrading power lines over distances to be able to carry projected energy when wind is blowing? (low speed vs top speed).

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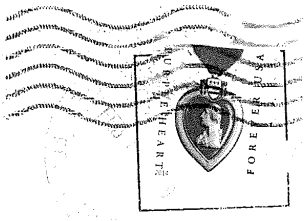
SACRAMENTO CA 957

15 FEB 2019 PM 2 L



Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

96001-175928

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Janis Karabats

Comment:

Bat Protection? How?

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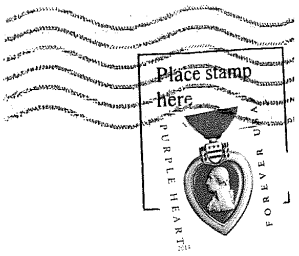

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Planning Division
1855 Placer Street, Suite 103
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96001-17592B

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Janis Karabats

Comment: What specific BENEFIT will these wind TURBINES bring to Shasta County ?

What COSTS.

what happens when Turbines cease being ~~profitability~~ profitable? (ex: subsidies of taxpayers' money ends).

What happens when Provider goes bankrupt because no longer profitable?

WHO then carries the burden of rest of maintenance / replacement / removal / restoration ?

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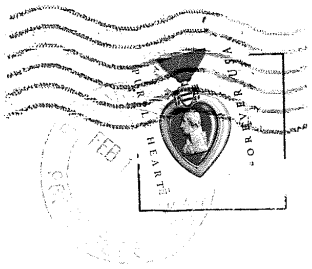

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96001-175928

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Janis Karabats

Comment:

What are Shasta Co. Noise standards?

Do these turbines conform to Shasta Co. Noise standards, as measured from each turbine to human habitations?

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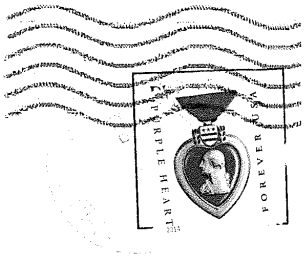

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96001-175928

Letter P54

2/2/2019

While I am not opposed to the project entirely, I do wish to express my displeasure with the placement of towers surrounding Moose Camp. Our members go up there to get away from technology and the hub bub of normal life in the valley. To have these monstrous towers in such close proximity visually to our little community is really a negative and surely will remind us that we are not in the wilderness anymore. My home will be approximately 1600 feet due east of one of the towers, and will dominate the view of all entering our area on Moose Ave. Please consider moving them a few miles to the south, as there is plenty of room back where they will not look so obtrusive.

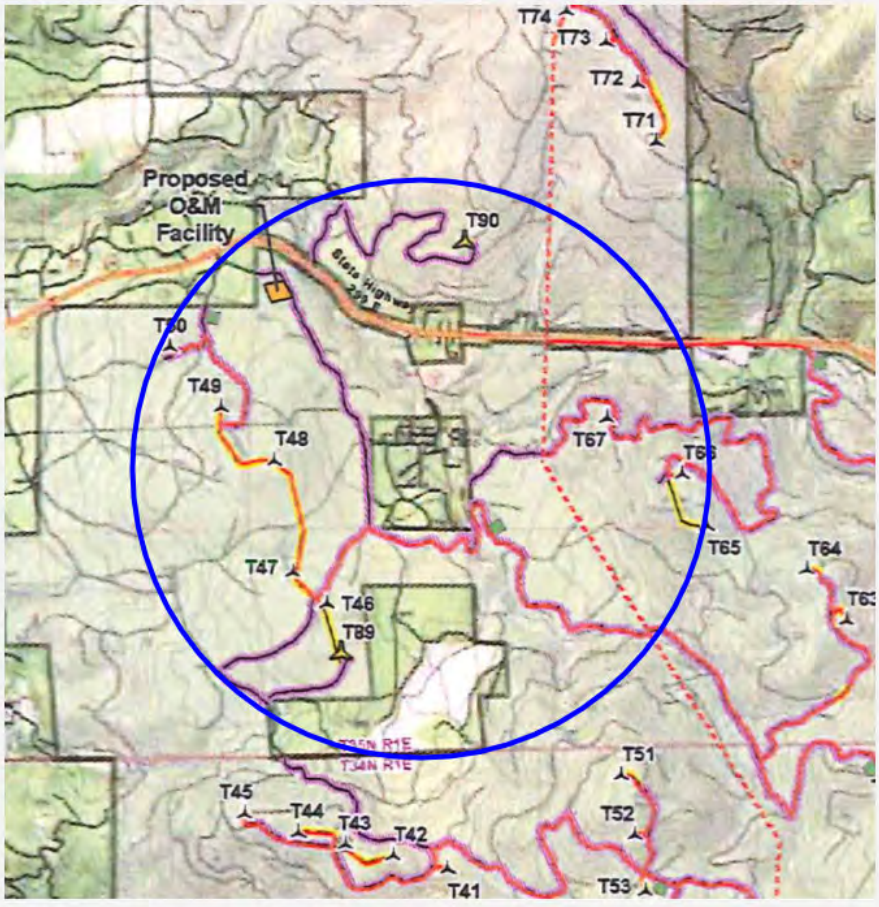
Rick Kauer

Letter P55

Moose Recreational Camp

- Important Facts Moose Recreational Camp is surrounded by mountain ridges. Look north, south, east or west in Moose Camp and you see mountain ridges. Ridges to the east and west are approximately a half mile away from Moose Camp. Generations of Moose Camp members have been looking at these ridges since 1929. Moose Camp families have been escaping the city life and spending time in an unspoiled park-like wilderness for 90 years. Current Moose Camp residents have an expectation that they will see trees not windmills on the ridges that surround Moose Camp during the day. Current Moose Camp residents have an expectation that they will see stars at night not blinking red lights. Current Moose Camp residents have an expectation that they will hear birds and squirrels not windmill noise. There are approximately 75 Moose Camp families and 50 cabin residences used year round. Moose Recreational Camp - Concerns For Draft EIR Visual impacts, shadow flicker, property values, noise, vibration and electromagnetic interference of proposed wind turbines and meteorological tower within 1 mile of Moose Camp fence line. Viewshed of all windmills, meteorological tower and new overhead power lines as seen entering, exiting and from within Moose Camp during all hours of day and night. Noise intrusion throughout Moose Camp during construction of project and maintenance of completed wind turbines with three roads in use surrounding our fence line. Will wind turbines to the west of Moose Camp interfere with use of our helipad? Moose Camp uses road outside yellow gate to the west of camp as emergency exit to highway 299 in event of fire or flood. Will wind turbine developer impede our ability to use this road? Need more data (GPS coordinates) of wind turbine locations to better evaluate impact. Moose Recreational Camp - Mitigation Wind turbines within a mile radius of Moose Camp should be removed from the project or relocated.

Lorrie Kay Douglas



Letter P56

From: Bob

Sent: Monday, February 11, 2019 9:19 AM

To: Lio Salazar

Subject: Fountain wind project

Here a few comments on the subject project.

Approximately 20 years ago I purchased the 194 acres of land I have lived continuously on since then. Prior to that I traveled and worked throughout the world. I could have chosen to live anywhere, but I picked Montgomery Creek because of its natural mountain views and serenity. My house site has a panoramic view of all the mountains around—literally a million dollar view. But the proposal will change that million dollar view into a industrial view of 600 foot windmills equivalent to a sixty story building. I bought this land only with the expectation of the mountain serenity and the nature that comes with it. If this proposal goes through, I foresee that my property values will go down and my property rights of serenity and beauty including my million dollar view will decline. Heaven forbid if it affects my water supply or generates adverse health effects. I am against this proposal. If it goes ahead over the objection of the majority of those of us who actually live here, I will strongly consider all my legal options including class action, injunctions and damages for public and private nuisances, reduction of property value. I will also seek a reduction in property taxes. I truly hope this is all unnecessary in the end. One thing that is for sure: Mother Nature has created natural beauty almost everywhere including Shasta County; only man's decisions can ruin it.

A point raised at the meeting at Montgomery Creek School was whether the firm providing the Environmental Report had a bias favoring the windmill project. The firm representative said basically "no" because she was a scientist and would let the facts on the ground determine the results. With this in mind I looked up the firm's website. While being impressed by their history and their personnel's resumes, I was taken back by one comment made on the site. It was a statement that they had many successful projects. I could only take that to mean that they would write the Environmental Report and do things in a way that would have a successful result for those paying for it. Sounds like a bias to me.

Letter P57

Jessica O'Dell

From: Charles Knauer <cknauer@nccrc.org>
Sent: Wednesday, February 6, 2019 10:13 AM
To: FountainWind411
Subject: subscribe

Hello,
My name is Chuck Knauer. I am the field representative for Carpenters Local 1599 in Redding Ca. We are very interested in this project since it is in our jurisdiction. We are the local union that you would dealing with for carpenters doing concrete formwork and would be assisting Local 102 millwrights since they are a part of the carpenters union. I attended your public scoping session at Montgomery Creek school recently and met some of the representatives for Avangrid Renewables. I would appreciate any info or updated that you could share with me. Thank You

Sincerely,

Chuck Knauer
Field Representative
Carpenters Local 1599

Fountain Wind Project

This is my views on the environmental and aesthetic issues I have with this project. My property (Moose Camp lot) and my family's ranch, grazing and Timber land (Fuller Flat and mountain and Lammers' Home Ranch) will be encroached on all sides. I have imposed the would be towers on pictures of these properties and these towers will scar the landscape for many generations to come. Tried to send the pictures the e-mails bounced back.

What about the endangered species found during the Environmental study, the objections of sacred Pit River Tribe areas and the Moose Camp Recreational property being surrounded with towers. Please consider these issues.

Wind energy is seen by most to be sustainable and green. Noble cause but I disagree of all of the claimed environmental benefits of wind when you look at the entire carbon footprint (cradle to grave) to make, construct, maintain and decommission these massive giant turbines. They are taller than any building North of San Francisco (approaching 600 feet).

The company behind the project (Avangrid Renewables LLC, based in Oregon) is a subsidiary of Avangrid out of New York which is a subsidiary of a huge World Wide company Iberdrola-a Spanish Company. All of these companies have multiple subsidiaries. The US Government gives incentives to these companies building alternative power plants. Where is the benefit to Shasta?

I never thought I would be the one trying to save a spotted owl or other endangered species or lying down in front of a bulldozer but this gigantic project brings out overwhelming emotions for our beautiful corner of Shasta County. What will tourist think of the scarred landscape. I wouldn't wish to return to the scene of the massive turbines for rest and recreation.

Thank you for listening, John Lammers

Concerns with proposed Fountain Wind Project

The proposed fountain wind project will border all four sides of a small family owned ranch. The cattle ranch has been in operation for nearly a hundred years spanning over five generations. The planned turbine locations will decimate the pristine views of the Cascade Ridges and Mt. Shasta. Attached are photographic renderings to illustrate the before and after aesthetics. Ranch views in all directions will be obstructed by giant turbine towers. Some of these towers are designed to be over 600 feet high. As a frame of reference, this height is equivalent to a 50 story building. Higher than any building North of the Bay Area. In addition, the giant turbines will be in close proximity to the occupied ranch house. There is a great concern that living in such close proximity to these turbines and electrical transmission lines will have serious health effects.

The true value of the existing ranch is not the revenue generated from the small cattle operation. The ranch is continuously used for outdoor recreation, family gatherings, weddings and reunions. For generations it has been a place to connect with nature and get away from busy and chaotic urban living. Ruining the natural aesthetics of the property with turbines and lights will significantly decrease the property value and revenue earning potential.

Large 600 foot (50 story) high towers will drastically change the landscape. All environmental studies need to evaluate the visual impacts from the proposed project. The proposed wind towers are taller than any building located North of the Bay Area.

Required aviation lighting requirements will add significant light pollution to the area. Light pollution has been known to compromise health, disrupt ecosystems and spoil aesthetic environments. Environmental study needs to address these concerns. Some of these towers are proposed to be within a 1000 feet of occupied homes.

Noise and vibrations from the massive turbines will need to be studied. Environmental study should address health problems associated with vibrations and both sonic and infrasonic noise propagating from the turbines.

The environmental study should independently consider all impacts from the construction, maintenance, and decommissioning of the wind project. The overall evaluation of the project impact should be studied independently and without any bias from the political views with regard to the often over stated greenhouse gas reduction benefits of wind generated power.

A complete (cradle to grave) analysis should be done on the proposed wind project. Often the true greenhouse gas reduction benefits are not accurately stated when the total life cycle of the project is evaluated. This should include the total carbon cost of the raw materials (aggregate, concrete, steel, trucking, manufacturing), the construction, the power distribution losses, the maintenance over the life of the wind farm, the decommissioning /removal and the disposal.

Additionally, the wind farm project will require substantial removal of hundreds of acres of carbon dioxide producing trees. The reduction of this valuable source of carbon dioxide in the atmosphere should be considered when evaluating the total benefit of the project.

Existing transmission lines in the area are approaching 100 years old. It is assumed these existing transmission lines will be used by the new wind farm. The study needs to address the replacement of the existing transmission lines. This could result in much more environmental impact than initially proposed.

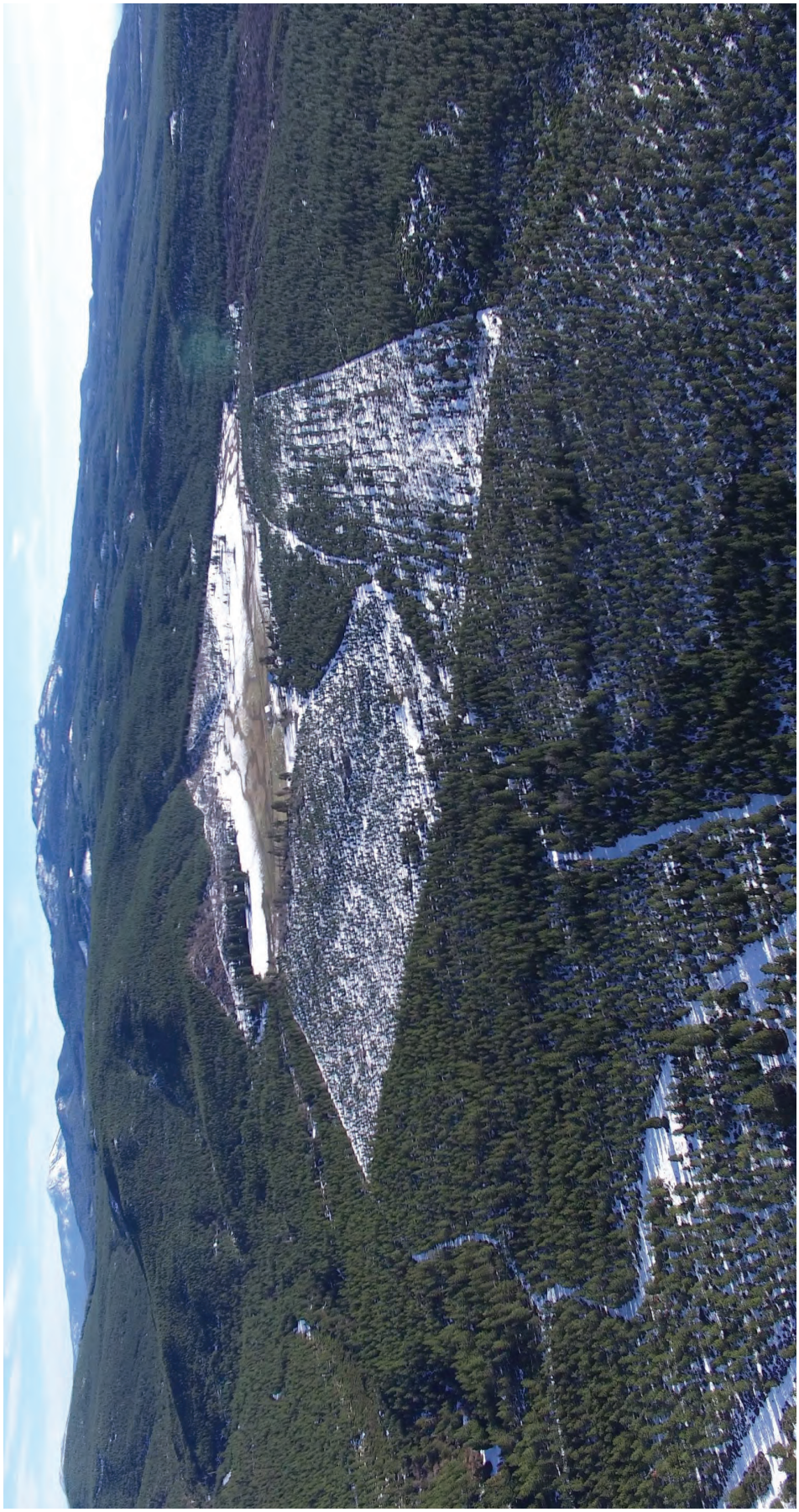
Localized atmospheric warming from wind farms should be studied. This documented phenomenon could affect the eco system in the vicinity of the proposed wind farm.

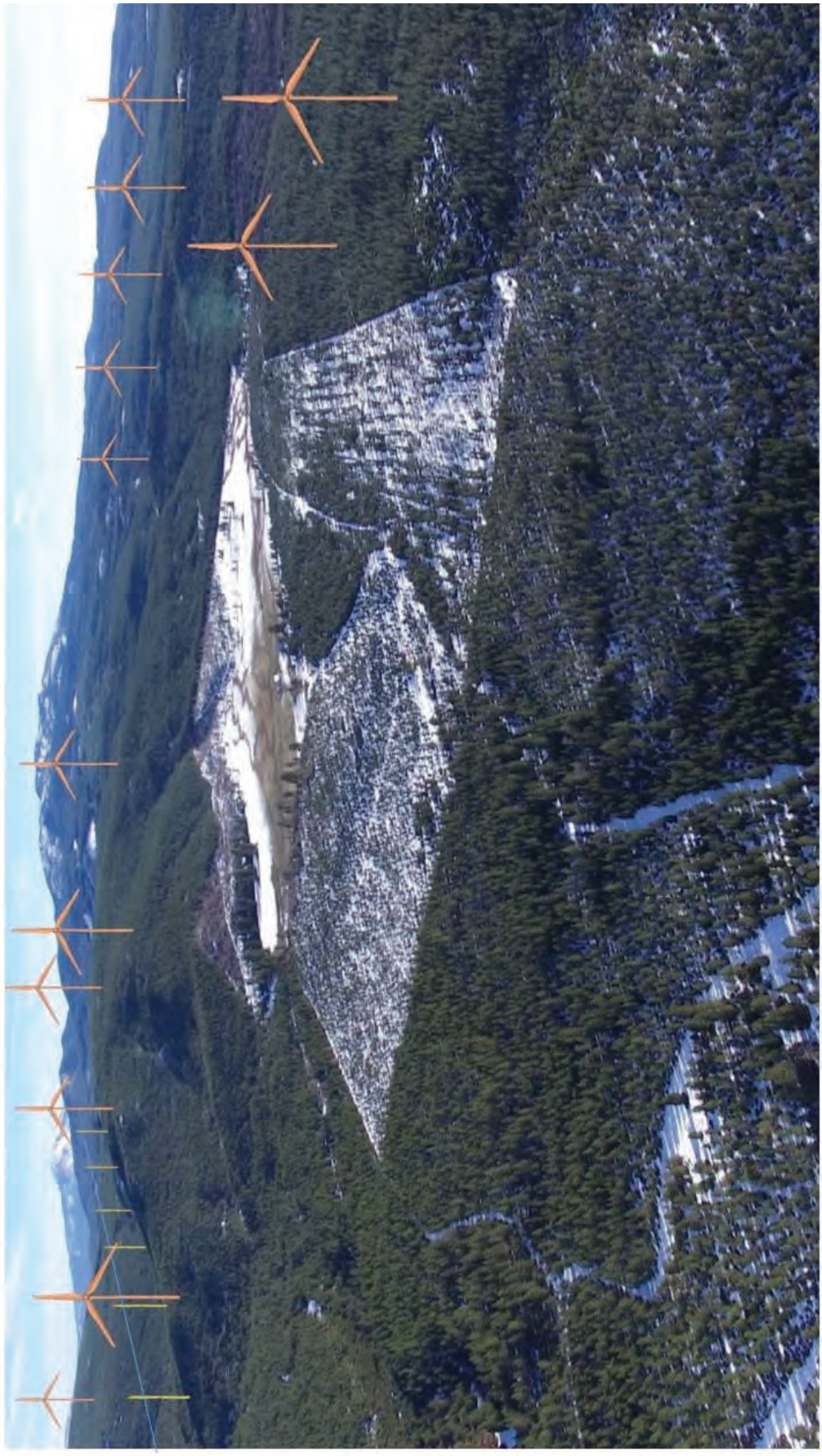
Fire danger from the turbines and electrical distribution lines needs to be studied, evaluated and mitigated.

The community and tax payers should be aware that the Fountain Wind Project is being developed and operated by (Avangrid Renewables LLC - based in Oregon) a subsidiary of (Avangrid - out of New York) that is owned by Iberdrola - a multinational Spanish company. The U.S government backed tax incentives and revenue generated locally from this project will end up being profits for a foreign company.

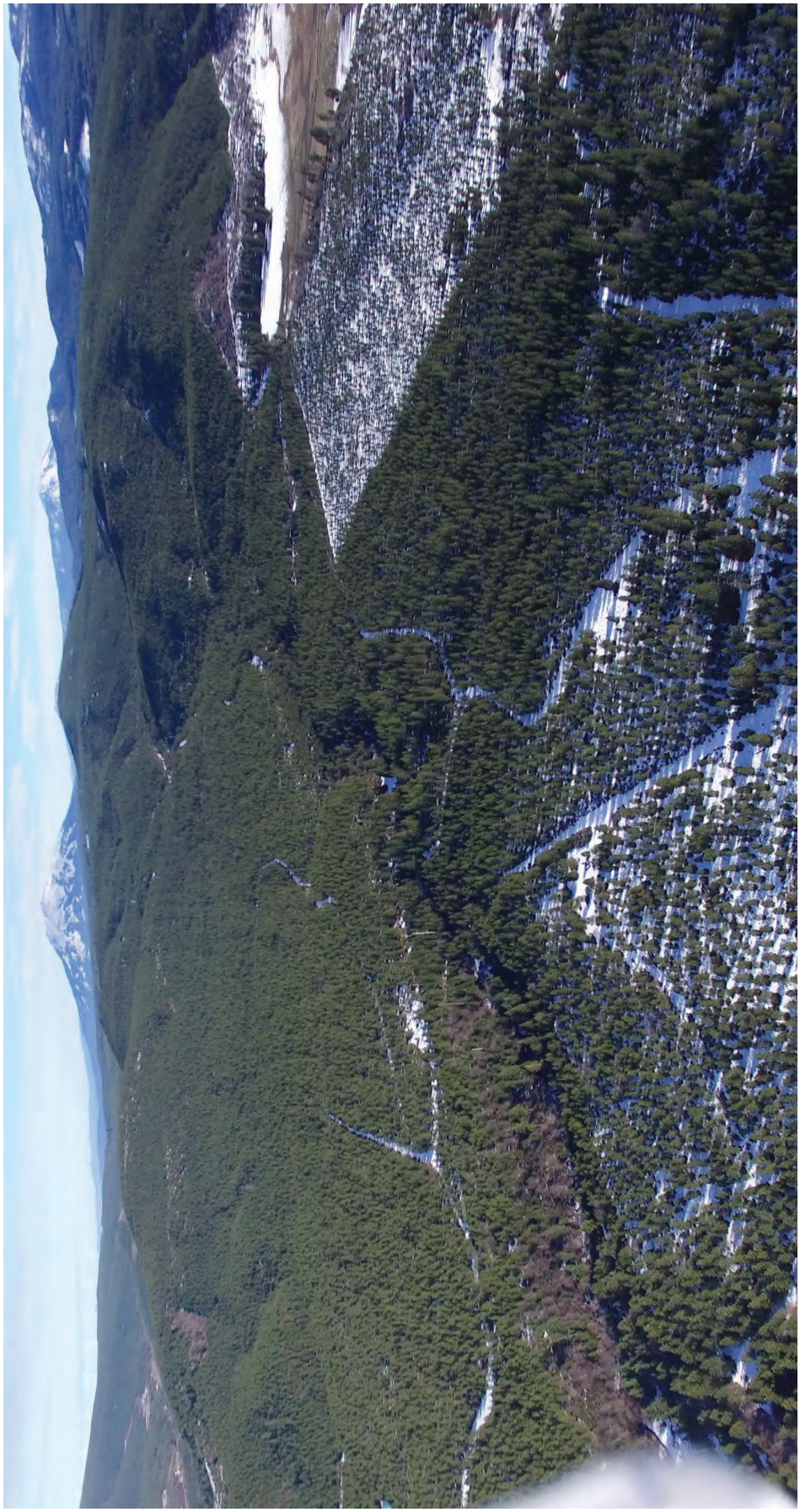
I represent the multigenerational Lammers Family as well as the Moose Camp community. The impact of this project will permanently destroy the landscape and diminish the property worth to the landowners. I urge you to consider the points that are raised in this statement as well as the rights of the individual property owners.

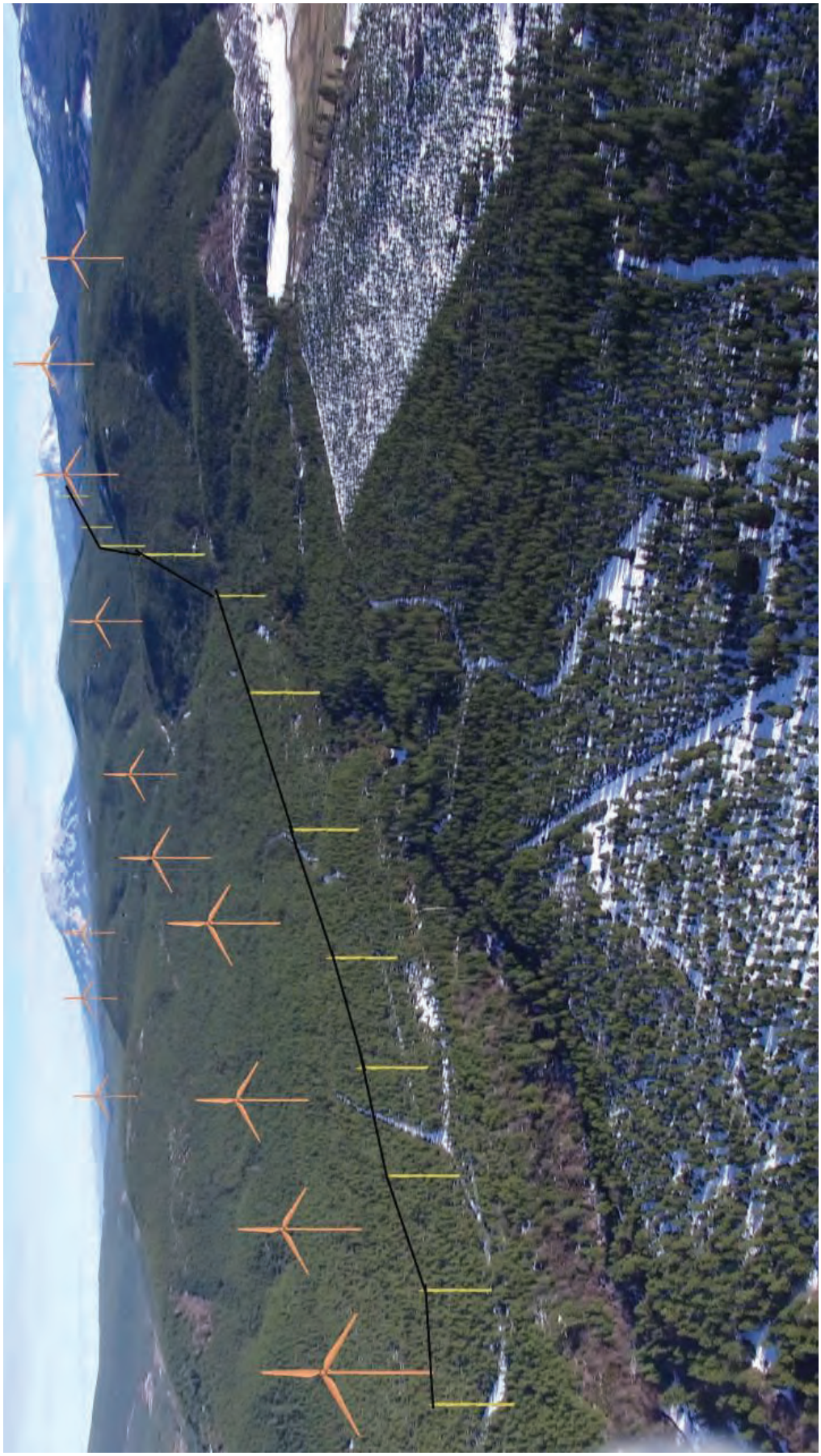
John Lammers
530-908-6708

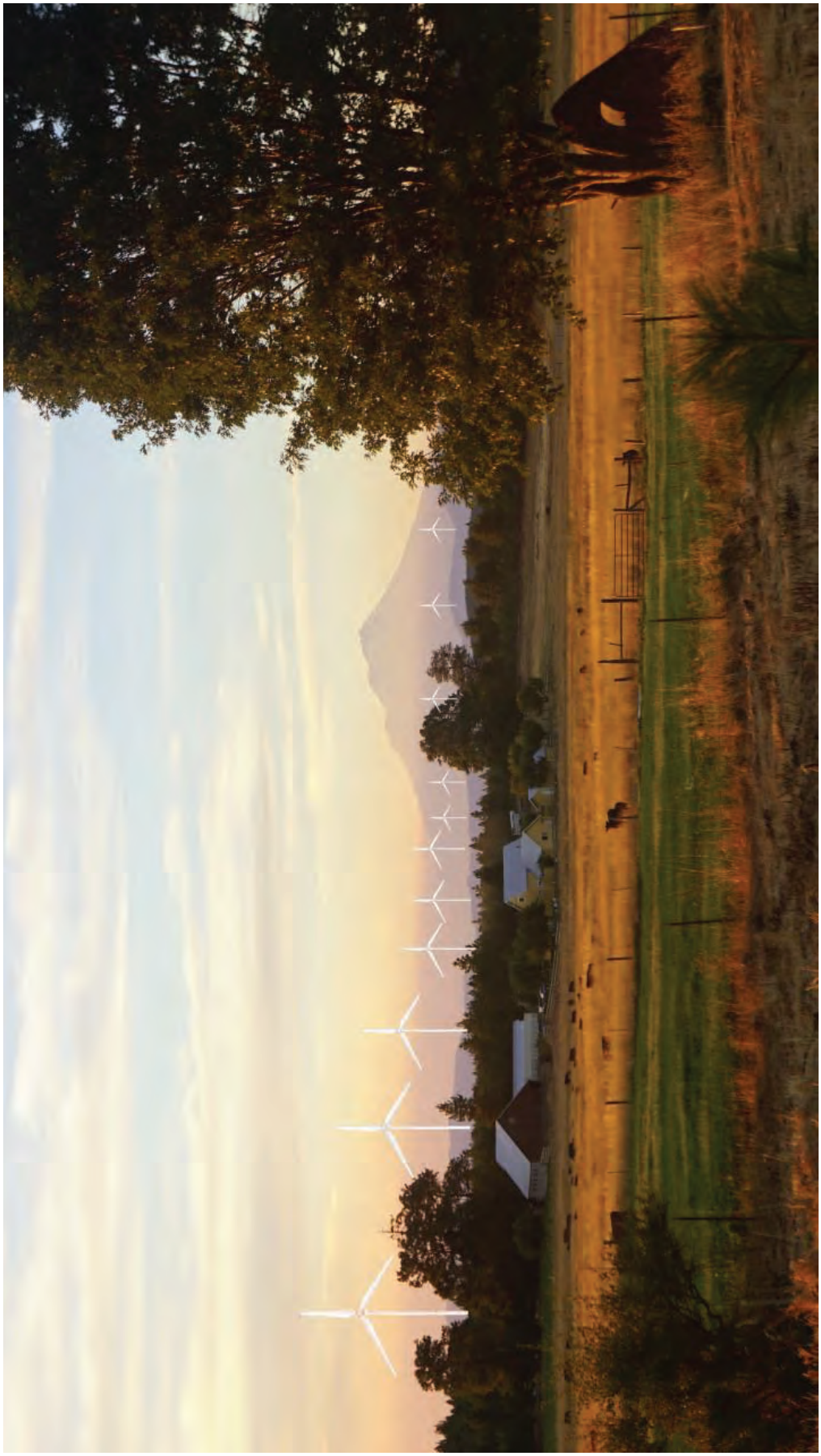


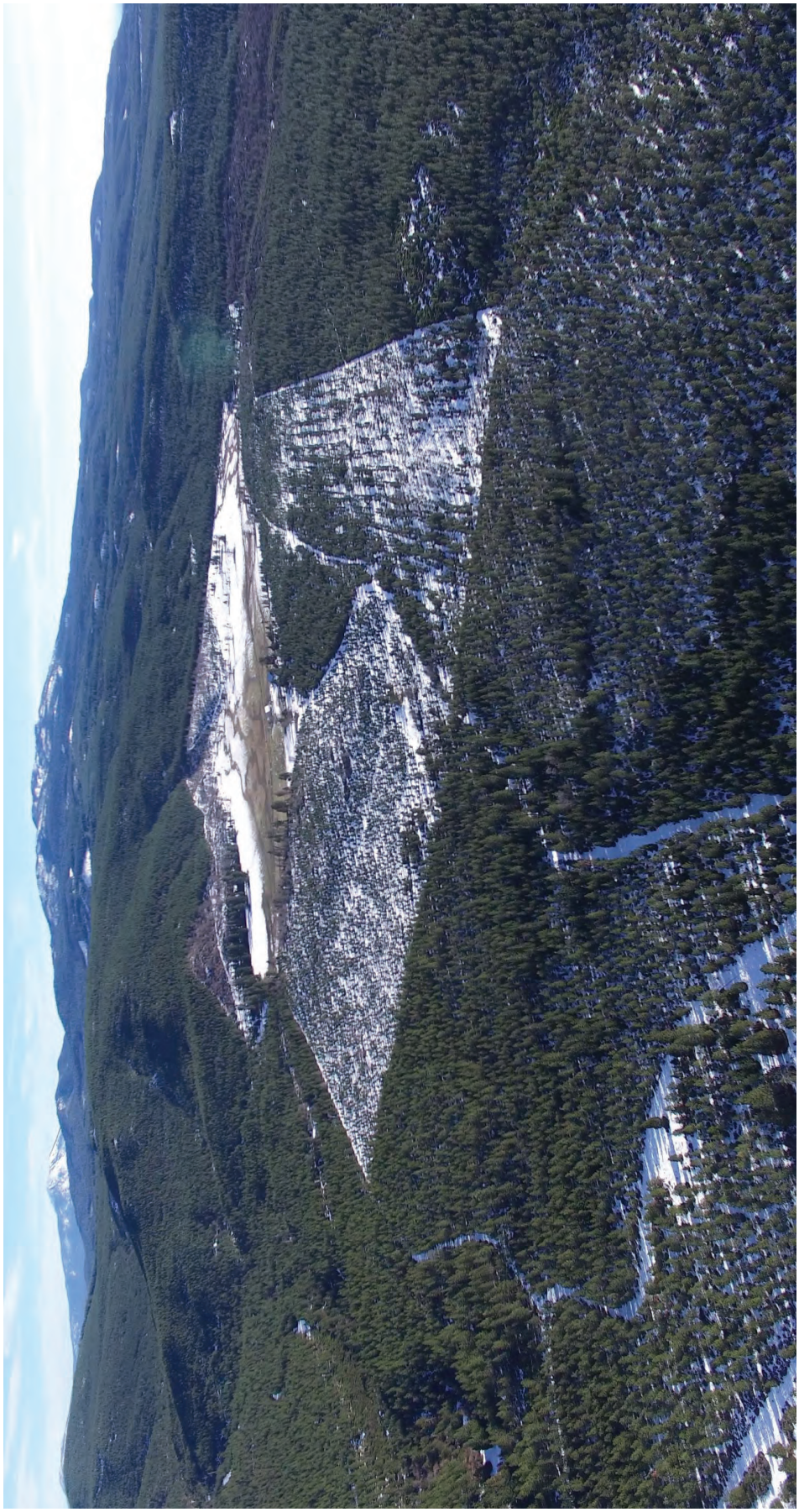


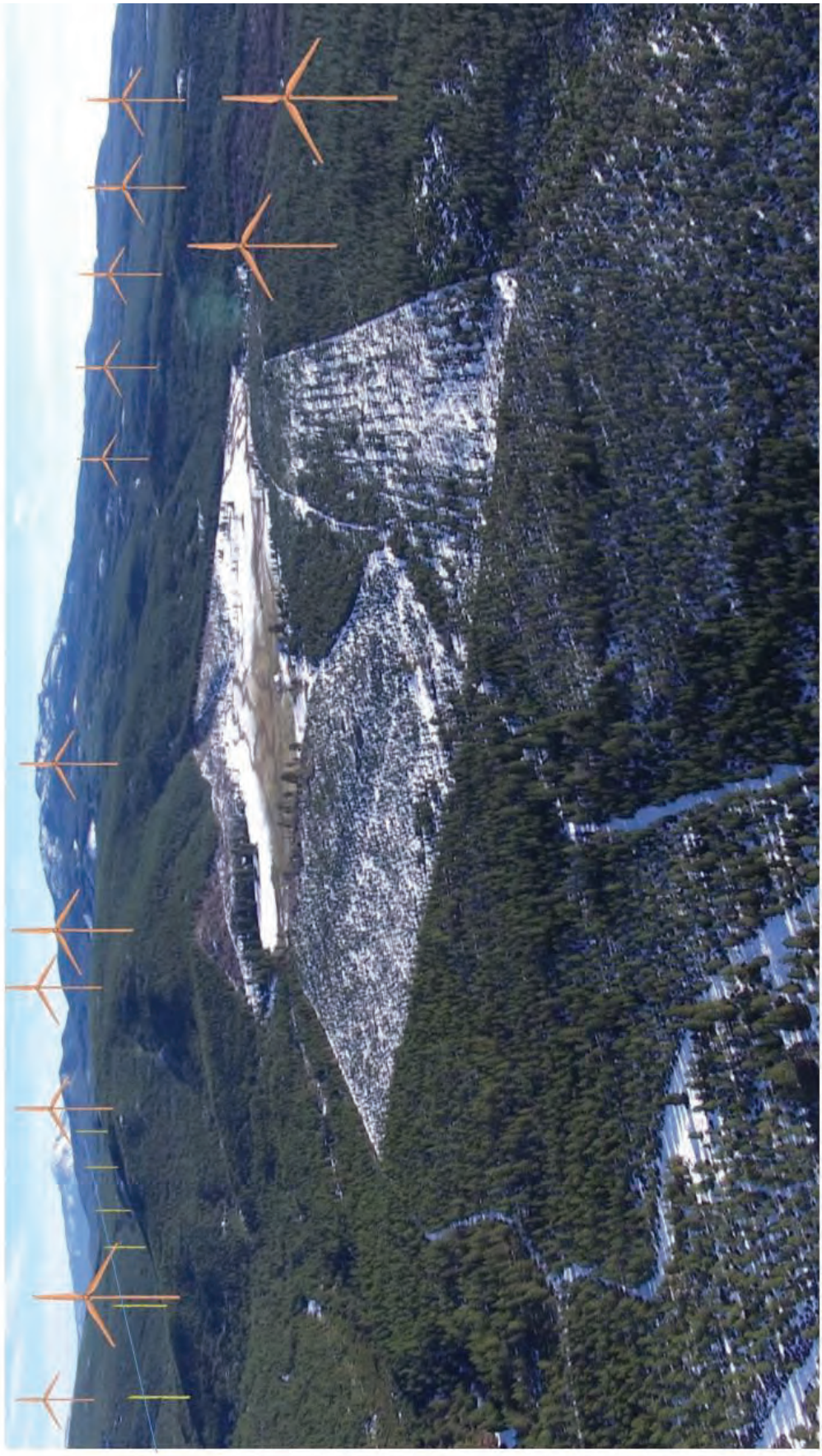

Rte 299
Rte 299
Moose
Camp












Rte 299
Rte 299
Moose
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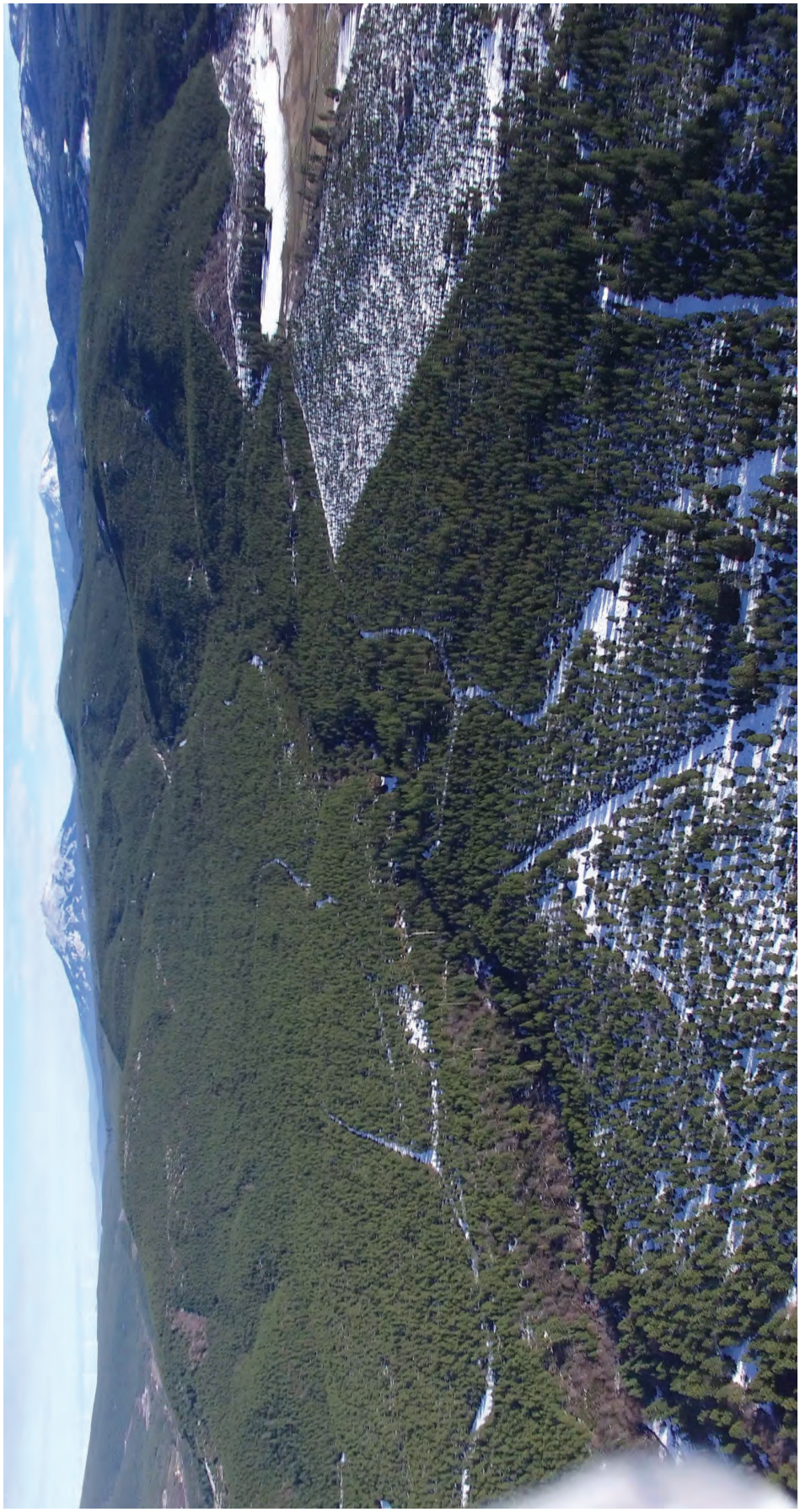
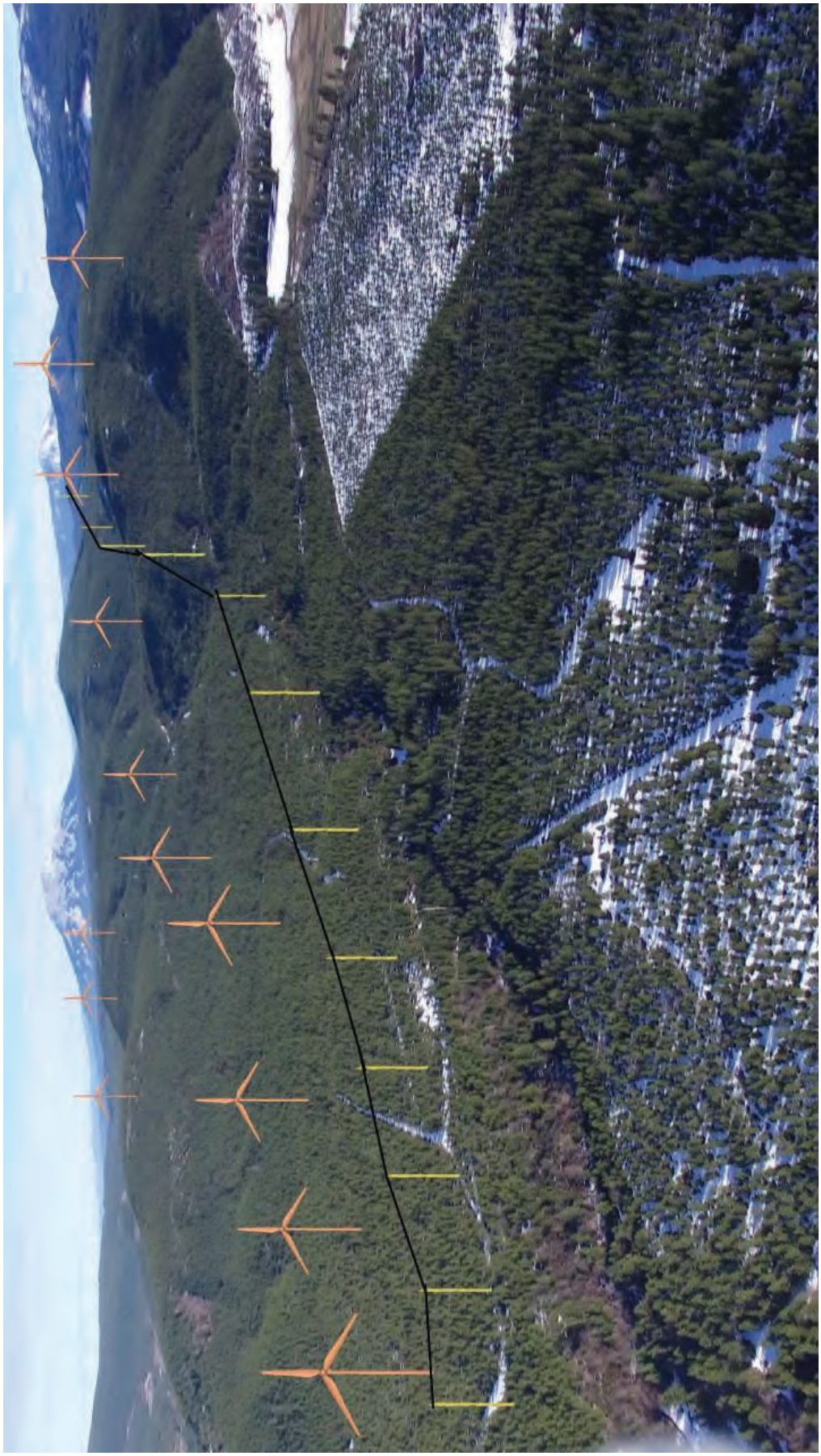
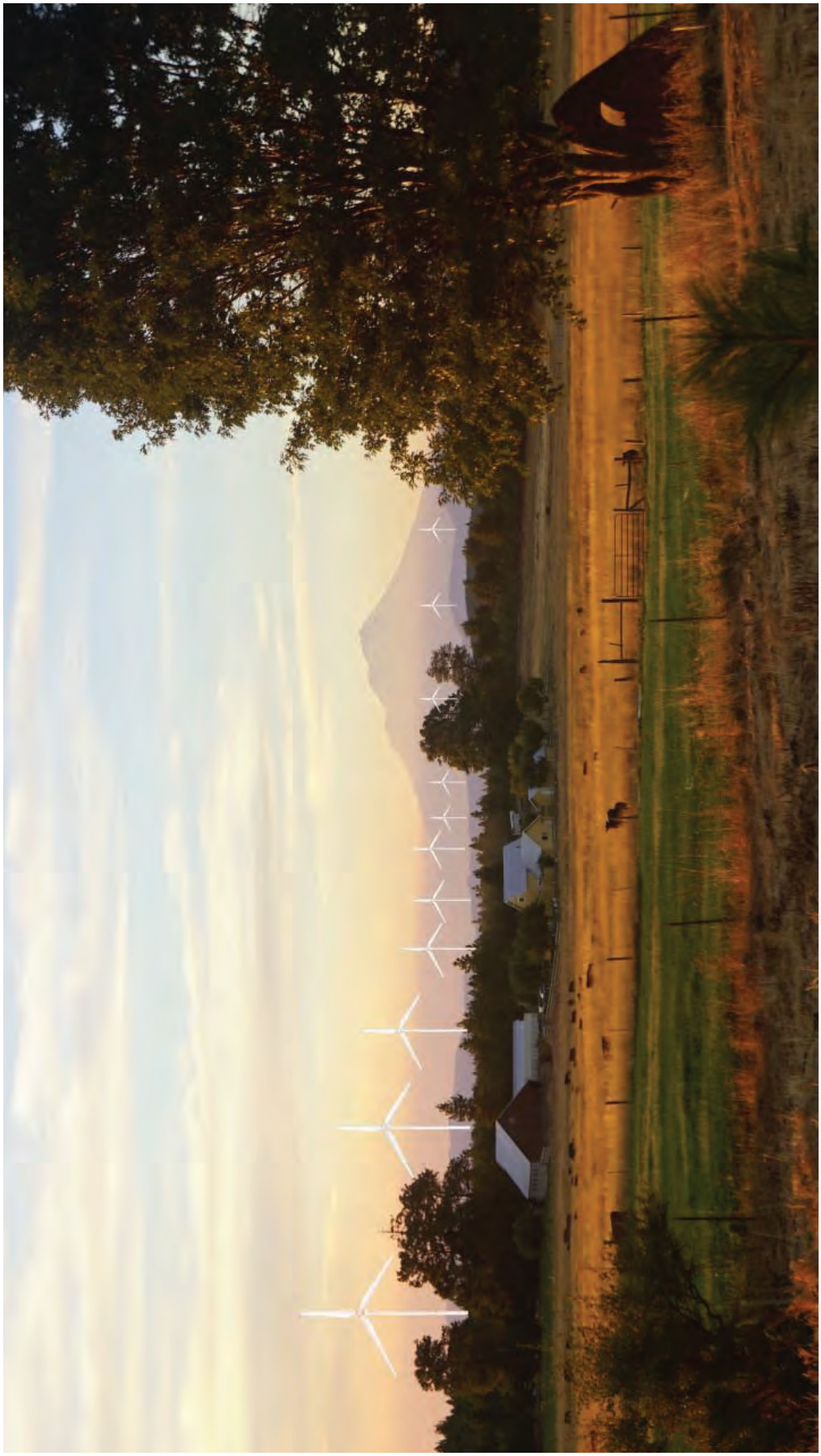






Letter P59

Dear Mr. Salazar:

Shasta County is doing more than its share to have alternative power without constructing more eyesore turbines. There are seven power plants near the proposed wind project. These are Pit #1 through Pit #7. Hydro Plants at Shasta Dam, Spring Creek Power plant, Judge Francis Carr Powerhouse, Trinity Dam and Keswick Dam. Shasta county is doing its share of making alternative power, hopefully enough for Shasta citizens. Does Shasta have to have this huge wind project in its front and back yard for power to be shipped to Southern California?

Shasta County has, I believe five privately owned hydro plants. Balta on Battle Creek, Kelarc on Cow Creek, Hat Creek, Roaring Creek and Haynes Burney Creek.

There are also three Wheelabrator facilities in Shasta County. One in Anderson and two in Burney.
What about more cogeneration plants, seems more people friendly than the massive turbines. Also these cogeneration plants keep over grown forest controlled securing less wild fires.

I am extremely concerned about the esthetics to beautiful Shasta County. Would you like to see wind turbines at Yosemite or other beautiful parks? Truly Burney Falls Park, Lassen Park and Mt. Shasta are as gorgeous as Yosemite.

I am also concerned about future generation looking at discarded 600 ft. turbines that are too expensive to repair and too expensive to dismantle. Who is responsible for cleaning up this condition? Who would pay for this removal? It seems smart to ask the companies proposing this project the removal question. If, heaven forbid, this project is oked by your planning committee, the builders should have monies in a special trust to pay for removal. Rusted 599ft towers in our county should not be tolerated!

I urge a no vote on this project!

Prudence Lammers & Robert W. Lammers, D.V.M.
2-12-19

Comment #1 (2-07-2019)

This project is wrong in many ways. Why ruin this beautiful pristine part of California? We own a ranch behind Moose camp which would be surrounded with turbines taller than buildings in San Francisco. This project would ruin the forest, cause havoc with Highway 299, hinder wild life and be un-imagining disastrous to the beauty of this area with the wonderful streams and views of Mt. Shasta and Lassen. How about putting this project in the dessert or in Tehema Co. to the West of highway 5. Our son took pictures of our ranch and imposed the 600ft towers around it to get a sense of what the ranch would look like---horrible! It would be a crime to sanction this project. It would not benefit Shasta Co. It would not hire locally, it would be a CRIME! My parents farmed and raised cattle on our ranch starting in 1931. My father improved the land he didn't destroy it. The ranch house was built in the 1800 and survived the Fountain Fire, for what, to be destroyed by the Fountain Wind project. Thank you for listening but we pray you will not go forward with the permits to ruin Eastern Shasta County. Sincerely, Dr. Robert W. Lammers

Comment #2 (2-09-2019):

Shasta County derives income from being a scenic, hunting, fishing, hiking and many more nature adventures. Tourist come from all over the world to see Shasta's beauty, Mt. Shasta, Mt. Lassen, lakes and especially Burney Falls. Why would these tourist want to drive through a tunnel of 600 foot wind turbines to enjoy the outdoors. Would you want wind mills at Grand Canyon, Bryce, Yellowstone or Yosemite? Please think long and hard about scarring this gorgeous outdoor area.

Comment #3 (2-20-2019):

No turbines---more co generation plants to protect our forests and prevent wild fires.

Robert Lammers

2/21/2019

To Whom it May Concern, I love the ideas of windmills, given that it does not seem appropriate to have it so close to my family cabin. My great uncle built this cabin in 1953. Generations of of my family have come to this cabin for peace and quiet and family bonding. The idea of having a massive windmill 1/3rd of a mile away is extremely disconcerting. The noise alone will be a constant issue, currently we hear nothing but nature. We are far from the road and hear few noises, that is part of the allure. I don't want to have my vision of the stars to be blinking red lights from windmills, I don't want the noise and the traffic it will generate. Moose Camp is surrounded by trees at this point. Clearly it will have a detrimental affect on Moose Camp and the families that make it their special place. Moose Camp has been there for 90 years. I do not believe that the expectation that windmills be located at minimum a mile from camp is too much to ask. The windmills close to camp need to be removed or relocated. The noise and roads needed to build windmills close to camp will be extremely intrusive. Some issues are shadow flicker, property values, noise, vibration and electromagnetic interference of proposed wind turbines and meteorological tower within 1 mile of Moose Camp fence line. Please take these concerns into consideration.

Sincerely,

Gail and Dwayne Lancaster

Letter P62

Lionel Langlois

PO#33 Ok Run CA 96069

Fountain Wind Project

Questions for EIR 2/14/19

This letter is in response to Public review period after the Montgomery Creek school public meeting 1/24/ 19.

While reading the website listing of EIR topics and findings several areas of concern are identified in this letter. Many of these concerns were brought up in the meeting but were not discussed by the County who repeatedly mumbled something regarding these concerns would be evaluated for merit and addressed in the final EIR. Some of the following concerns were stated by members of the public and many were not due to the limited pre- information presented by Shasta County.

My concerns and questions stem from reading the initial report.

1. Page 13 Herbicide use around turbine facilities.

   Because of the scale of the project and necessity of keeping the access roads and pads clear large swaths of Herbicides possibly including brush and grass killing pesticides such as Roundup will be applied as well as the possibility of soil sterilants to reduce sprouting will be used to limit vegetation. Due to the positioning of the turbines, spread out across the different ridge tops, it will be nearly impossible to track groundwater contamination at all 100 proposed pad locations. The entire area is a source that serves landowners entirely dependent on this watershed.

   Roundup is a known carcinogen that translocates and is now being found in processed food products such as cereals.

   Will BMP practices of monitoring and water testing of wells and springs downstream be carried out initially as a baseline and as the years go by and possible yearly Herbicide applications continue?

2. Page 15 - 2.5 Decommissioning

   The report does not address the removal of the turbine hardware and foundations when the technology is obsolete or inoperable.

   Will all the debris and pads be removed and the land reforested to current tree stocking?

3. Page 19 4.2 Forestry Resources

   It is important to note that the entire proposed project area and new overhead transmission line is Site 1 growing conditions for timber as per USFS data and is part of the burn scar of the 1992 Fountain Fire which has been entirely replanted, maintained by herbicide use and manual

thinning. The new forest created should be used as originally intended and would at this time benefit from a major thinning to produce chips.

Will the area be further developed as power generation expansion in the future?

4. Invasive Species
The area adjacent to The Highway 299 along the access is currently infested with Scotch Broom as well as Pampas Grass, Star Thistle and Johnsongrass, all of which are listed in the top ten invasive species by the State of California. These plants were introduced to the area about the time the 299 highway corridor was improved and are spreading to the surrounding private properties.

The Elderberry longhorn beetle is not mentioned though the bush habitat is also present along the highway.

What will be done to minimize the further introduction of invasive species to the new worksites?

5. Page 27-28 Fire Hazard Severity Zone
The forested areas of Shasta County like most of Northern California are high fire danger areas. The proposed overhead transmission line will increase this fire danger in the immediate area. Unlike the plethora of transmission line the area is scarred by now and maintained at ratepayers expense by PGE, this will be a private spur.

Who will maintain this corridor and what is the cost to private landowners directly adjacent to it in decreased property value and increased fire danger from this line?

6. Page 36 Utilities and Service Systems

The existing electrical infrastructure is not adequate to Transmit this "new" electricity reliably and safely once it hits the Round Mountain station operated by PGE. The lines are at or over electrical capacity during peak times 7 months or more of the year. The Co-gen plants in Burney and the existing wind turbines on Hatchet were not figured in just as the 345MW for this wind project are not.
There is a PGe daily report of what and when power is sent from all the substations. This was made evident when ACRT Contractors inspecting transmission lines needed to adequately assess Transmission line sag for vegetative clearance. Diagrams of expected line sag at various voltages were available to help us assess line clearance. There is increased fire danger from overloaded transmission lines all along the corridor.

Will the EIR address this issue? Will a new transmission line be used to carry the extra voltage similar to the 2008 Tank Proposal through Oak Run, Palo Cedro, Millville and Anderson continuing further South?

7. Page 39 Migrating Waterfowl
   The paragraph here suggests that there is no concern for migrating waterfowl because they will "simply fly over the turbines" which has got to be a joke?
   The spring migration North begins in late January and not in the April/ May window the reports state the study was made in. The Southern Migration begins in late September.
   We are directly in the Western Pacific Migration pattern. Ducks and geese are driven down by severe weather and winds hitting powerlines and even rooftops trying to navigate the wind and storms. Now they will need to be over 600 feet higher to get past the new blades. Even though the blades may not be turning due to excessive wind/storm conditions. These protected birds are already dealing with climate change, loss of habitat and drought further South.

   It is unlikely that the existing Hatchet wind project would give the public an accurate count of hacked up birds. It is a secluded private property removed from the public access. It is not beneficial but detrimental for them to report birds killed.

   Will the public be allowed to monitor avian deaths from this project?
   We first need to see what is already happening on Hatchet. Before this new hardware is installed.

   What Bird deterrents will be put in place?

8. Geology and Hydrology

   The parcels to be included in this project are Montgomery Creek formations which are primarily alluvial fan deposits of sand and mixed rocks. These deposits are not suited for the foundations that are described in the report. The area is extremely permeable as these deposits are found to be 3,000 to 4,000 feet deep. This permeability is a natural watershed for the Montgomery and Cow Creek drainages. The compaction for road access to the dispersed turbine sites will alter the current underground water flows to Class 1 streams that feed into the Sacramento river. Applications of Pesticides to maintain these roads will further degrade water quality.

   What studies will be done to test current water flows to map current waterflow, turbidity and contamination by Herbicides?

9. There is nothing in the report that states that the 100 turbines to be erected are the only ones that will be built.
   The maps do show alternate sites where turbines could be erected using this same EIR.
   This scenario is likely in the future and further increases the need for a new Transmission corridor extending South.

   Will the plans for this extension be included in this EIR?
   Will the landowners along the new or expanded corridor be informed so the impact to their land are included in these final EIR documents?

In Closing

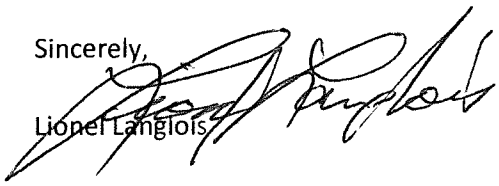
The current public has been led to believe that our government is a democracy and that we have a say in what happens in our Country our State our County and our own Backyard. That we have a say in preparing this EIR. Unfortunately, that is not the case. There should be a public vote to determine if this project will move forward.

Local landowners will not benefit at all from these new facilities. The 260,000 homes that this new project will power will not be anywhere near here.

Shasta County now wants to further benefit from degrading our environment by selling access to our wind to power someone's air conditioning further South.

A speaker at the meeting stated the obvious solution "if they need power down South let them build the power generating facilities there"

Sincerely,



Lionel Langlois

1/26/19

Hello:
It was quite an impressive gathering at Montgomery Creek last Thursday. Lots of good information.
I have a hearing problem which made it difficult for me to hear everything clearly along with the sound system which did not seem to be functioning efficiently. Could the sound system be upgraded possibly?
Has another PUBLIC HEARING date been determined? Can a notification of another public meeting be made by a MAILED notification? Many people do not subscribe to the local newspapers or have computers but do have mailing addresses.
Lastly, on one of your story boards on the stands there is a group of photos showing the view from Burney's Main Street (Highway 299) looking west and for some reason there are no turbines shown in the photo of Hatchett Mountain! They are definitely and prominently visible, (and almost always moving) from Burney's Main Street.
Thank you for organizing the public forum in Montgomery Creek. I look forward to the next meeting in order to learn more.
Best regards,

David Larson, trollholow@aol.com

Comment #2 (2-15-2019):

In the Shasta County General Plan there is a section that deals with the visual effects of ANY new development. When we look at the Hatchet Ridge Wind turbine project we wonder why these guidelines were obviously ignored.
Section 6.8 of the County General Plan clearly addresses VISUAL impacts of these colossal developments. Please read and then consider Section 6.8 including sub-section SH-1, SH-2 and SH-a.

Wind turbines that are nearly as tall as TWO FOOTBALL FIELDS in height can hardly be considered as insignificant! And there will be nearly two and a half times as many as the Hatchet Project.

The General Plan was written for a reason. Part of that reason was to maintain some degree of order as the county is developed. The natural attributes of our County are irreplaceable and once they are bull dozed down or paved over they will never be returned to their natural state. This is known as the Shasta Cascade Wonderland.

This project will be nearly the size of the City of Redding! Redding is 62.4 square miles! The Fountain Wind Project would cover 58.5 SQUARE MILES

We ask that you follow the guidelines of the General Plan regarding this monstrous project.

This project should be built closer to the consumers who will be using this energy. The Central Valley is consistently windy.

Cordially, David Larson, Burney, CA

From: Jess Lattin
Sent: Friday, February 22, 2019 2:54 PM
To: Lio Salazar
Subject: Fountain Wind Project

Sent from Mail for Windows 10
Attn. L Salazar,

I am writing to you to express my opposition to the proposed Hatchet Wind Project. I was born in Shasta county nearly seventy years ago and after spending several years in Lassen county working for the Lassen National Forest I returned to my roots in eastern Shasta County to live out my last few years….There have been many changes in private timber ownership in the area and many changes to the trespass laws of those new owners…nearly all the backroads I used to drive as a young man are now closed, gated off and clear cutting seems to be the current preferred harvest method for what timber is left…I can no longer drive in to fish the head of Montgomery creek because that road was closed shortly after the Fountain Fire…In short a lot of things are happening on private property all around me that I don't like as I am surrounded by property owned by the Oxbow Timber Co. from Australia…I am not happy with Oxbow's attempt to turn my backyard into an OUTBACK WASTELAND but for the most part I don't see their devastation if I stay home and off of Google Earth….That being said a wind farm with 590 foot tall towers dominating the skyline is not something I want to look at for the rest of my retirement years. 100 towers at 590 feet tall….think about having that in your back yard…that is four times taller than the tallest trees that ever grew in this country and I can say that with some authority as I was a professional timber faller for 12 years of my life. I am sure a transmission line will be involved and I oppose that as well…I do believe that utilizing wind to generate power has great merit as a clean energy source but put it in the desert, not the forest.

Jess Lattin
15921 Valhalla drive
Oak Run, Ca. 96069

530-472-1463

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Seabrook Leaf (Local Landowner, Business Owner, & Resident)

Comment:

Please make sure the Environmental Impact Report/Study includes a detailed analysis of the net gains vs. the overall carbon footprint of this project. How much concrete and rebar (and other materials) will be used and what is the environmental impact of the manufacturing of ~~[redacted]~~ and the transport/delivery of these heavy duty materials? What is the carbon footprint/environmental impact of all the heavy equipment use and gravel consumption?

Please consider and calculate estimates of the air pollution caused by vehicles and equipment used during the proposed construction process – Will all of the impacts negate any environmental benefits of wind power?

This project might make profits for the owner, but does it really help Shasta County or the rest of the world? Consider the resources used to manufacture the turbines and support structures.

Also, the E.I.S. should take a close look at probable impacts on wildlife. How will this effect birds, mammals, and insects, for example? Thanks!

Privacy notice: Please provide contact information inside the dotted line. The contents of this box *only* will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address: P.O Box 161 Big Bend, CA 96011

Email Address: yomunko@gmail.com

Opt-in to mailing list (must provide valid address): ☐ Yes, mail Project updates ☐ No, do not send mail

Opt-in to email list (must provide valid email address): ☒ Yes, email Project updates ☐ No, do not send email

Instructions:

You may submit your comment regarding the Fountain Wind Project in writing using the form on the other side of this sheet. Please fold and staple this form and mail it to the address below by February 14, 2019. You may also submit comments on the following website: http://comment-tracker.esassoc.com/tracker/fountainwindeir/ by emailing lsalazar@co.shasta.ca.us or by calling (530) 225-5532 by February 14, 2019.

Seabrook Leaf
P.O. Box 161
Big Bend, CA 96011

RECEIVED
SHASTA COUNTY
FEB 19 2019
DEPT OF RESOURCE MGMT
BUILDING DIVISION

EUGENE OR 974
14 FEB 2019 PM 4 L

TO:

Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

96001-175828

2/22/2019

I am against the Fountain Wind Project so close to our community!

Linda Loveness

2/10/2019

Hi,

Moose Camp is a welcome retreat of calm and peacefulness with pine permeating the air. Although, I live in NJ I return every year to the cabin my grandma built and to visit my sister at her cabin. The noise of the wind turbines, their shadows and their eyesore will greatly impact the bucolic setting. I believe in renewable energy but not when if it greatly impedes a quality of life. There are a lot of acres in the Burney area where no homes or cabins are nearby. Please move these turbines to an area that will not impact homeowners.

Thank you,
Gina Lynch

2/10/2019

As a former California resident and annual visitor together with my whole family to Moose Camp on vacation to enjoy the unique life style and splendid views. It's distressing to find out
Our camp will be encroached by a large wind farm which is not only noisy and too close and will destroy the mountain and forest views which makes this camp so special.

We urge Shasta County to deny permits for this project

Sincerely
Robin Lynch

Letter P69

2/10/19

I have many fond memories of days at moose camp, windmills would change the ambiance dramatically.

PLEASE respect the County of Shasta and its people as much as we do limit the windmills to the area north of highway 299.

Thank you for listening,

Ryan Lynch

From: kbmac1@juno.com [mailto:kbmac1@juno.com]
Sent: Friday, February 22, 2019 12:31 PM
To: Lio Salazar <lsalazar@co.shasta.ca.us>; Tracie Huff <thuff@co.shasta.ca.us>
Subject: scoping comments fountian wind project

This project is proposed in a still wild and scenic area.There are still an abundant number of deer,bear,cougar,rabbit,raccoon,ect,.
also abundant raptors including eagles both golden and bald,many types of hawk,owl all at risk to these gigantic generators .We
observe many other bird species including the sand hill crane,numerous duck,geese,and occasional swans,heron and many other
bird species.All of these beautiful animals habitat will be devastated by this project.The logging that occurs on this land can easily
be avoided by these animals,where the projects are complete in weeks to months and provide open space in the forest.
Many of the people in this community also depend on that area for our water domestic and irrigation.This project could easily change
the water tables and collection ,springs and water ditches ruining the water supplies and systems.
We will also experience a large reduction in our property value spoil many of the present views enjoyed by this community
IN short the project will devastate the community.
sincerely Keith Macdonald

---

1 Cup (Before Bed) Burns Belly Fat Like Crazy!
worldhealthlabs.com
http://thirdpartyoffers.juno.com/TGL3132/5c705c61ae7785c613742st04duc

Letter P71

2/14/2019

Good morning.

My family has had a cabin at Moose Camp for the last 42 years. We feel very fortunate to have this property and to be able to enjoy the pristine mountain area.

I understand that a company has purchased the neighboring property with the plans of constructing a windmill farm 1/3 of a mile from the Moose Camp property. This would have an obvious impact on the camp and the landowners. With the company purchasing 30,000 acres of land, it seems that they could locate these windmills further away from Moose Camp to less the effect of the visuals and noise right in our backyard. It would definitely disrupt the life that we know at Moose Camp.

When doing the EIR for this project, Moose Camp and it's landowners need to be taken into consideration. Not just the windmills but the overhead electrical lines and roads that will need to either be upgraded and widened or newly constructed. It is my understanding that these windmills with be 50% taller than the ones on Hatchet Ridge.

Thank you for your consideration.

Mary Maher

Letter P72

From: Lindsay Henrich

Sent: Thursday, February 14, 2019 5:44 PM

To: Lio Salazar

Subject: I am against the Fountain Wind Project

My name is Lindsay Martin and I am against the Fountain Wind Project. My family owns a cabin and property off of Terry Mill road behind the Roseberg gate. There are numerous turbines that are planned to be installed very close to our property. This would have a devastatingly negative effect to our property. I am very concerned about the noise of the turbines, let alone what an eye-sore they will be. We all enjoy seeing the wildlife when we go up to the cabin and the building/running of the turbines would ruin that. This project will take away the peacefulness and tranquility of our little oasis. The cabin has been in our family for many, many years. My grandfather bought it not long after immigrating from Germany to provide for a better life for his family. My dad has spent most of his life up on this property learning how to live and survive in the wilderness. I have enjoyed numerous cramping trips and family vacations up there. And now we take our son to the property and teach him about nature and how to appreciate the simple things. I am extremely worried the building of these turbines will ruin the roads around the property, run out the wildlife, and basically wreck a family tradition that my grandpa worked so hard to attain.

I wish that you please reconsider the building and placement of these turbines. I would like to be notified of any updates on this project. I would have commented through the fountain wind project website, but the "submit written scope meeting comments link" was taken down as of around 5:15pm Feb 14th.

Thank you for your time,

Lindsay Martin

Letter P73

From: Jessie Mazzini <hozzini@icloud.com>
Sent: Monday, January 28, 2019 11:46 AM
To: Lio Salazar
Subject: Fountain Windmill.

Lio
After reviewing Bill Walkers report on the Fountain Windmill Project (appendix C) I have an abundance of useful information. Specifically, I'm referring to his comments on "Bat monitoring" and the "Hoary Bat". All of his recommendations should be followed.
I'm disappointed that this study does not have more current information from the State Water Resource Control Board. The reviews I have studied make reference to the 1984 report that is 35 years old. A more current report from this agency could offer the present status of the overall impact that the windmills could have on the water table and the Pit River water shed. We need clarity on this issue.
Full geological investigations are pertinent especially on a project of this magnitude. The 299E Fountain curve project is an example when a geological investigation was NOT done, and sadly, major land slides and corrections to the State Highway occurred. A few of us who have lived here our entire lives knew this would be a mistake. It's a long story but the cost of time, energy, and people resources was unnecessary. All of this information should be documented with the State of California.
Aesthetic values verses corporate private property. The cynical part of me would suggest that each individual that is involved with the application of this project should live a minimum of one year within the vicinity of this project. These are not the old type of windmills that one may see when visiting a once useful farm. These windmills are a far cry from the old novel ways of pumping water for your home. The size is monstrous. It's obvious the landscape will be altered but the question remains how much of an alteration? Then one is forced to ask the question whose aesthetic value will be diminished because of the wants of a private property corporation? Or is value even placed on aesthetics ?
To deliberately alter the natural environment should never be taken lightly. The ramifications will be long lasting. The approximate 30,532 acres is also approximately 47 square miles. This is an enormous amount of land that will be impacted by the windmill project. This footprint is immense and just because it is in a rural area that is owned by a private corporation does not warrant the displacement of the wildlife etc etc.
An interesting comparison could be the overall size of the City of Redding. The City of Redding has approximately 61 square miles. The City of Redding is approximately 14 square miles larger than the windmill project. Therefore the windmills footprint would easily cover half of the City of Redding. Is the size of this proposed project so vast it could be viewed from the International Space Station? I believe it is possible.
A project of this enormity should be carefully evaluated. The magnitude of the windmill proposal could impact the entire County. The decision we make now will influence the tomorrow's of the County.
I wonder if the applicant is using SB 100 to justify this overly ambitious project. If so it is very convenient for the applicant. The farming of the renewable resources has reached a point of saturation for the area of Montgomery Creek, Round Mountain, and Moose Camp. Specifically, this area has a long history of hydro farming, timber farming, and yet another windmill farm. When is enough renewable farming enough? Will the alternations of the local environment impact the future loss of its geographic beauty and wonder? Are the revenues for Shasta County worth the loss of the environmental beauty? In the future will Shasta County offer windmill tours? Most individuals (tour) visit our area for the vastness of its geographic beauty and wonder and these visitors contribute a financial infusion towards the Counties revenue. Shasta County has plenty of geological features that can sustain itself without cluttering the environment with additional renewable farming. The sustainability of Shasta Counties spectacular environmental beauty is unmatched throughout the State of California and it should be protected for the future.

Jessie Mazzini
PO Box 96
Montgomery Creek, California

Sent from my iPad

Begin forwarded message:

> Janna
> Thank you for the update. I know you believe in objectivity. This will be a complex study. I also believe you will be methodical in your research. When I first received the Counties notification I was neutral and had no opinion either way on the windmills proposed site. The more I thought about it the more I realized that the footprint of the proposal was immense. I calculated the proposed acreage into square miles. My calculations are crude but I approximated nearly 47 square miles. The proposed height was alarming. Higher than the good ole Statue of Liberty that stands (I believe including the pedestal) a little above 300 ft. I feel very conflicted with the windmill issue. I support SB 100 but I honestly feel our particular area has reached a point of saturation with renewable farming. This area has a long history of timber and hydro farming. All renewable but we also need a balance. Too much of any type of farming that is consecrated in one general area is a bit extreme. This project is maybe overly ambitious.
> Anyway I will continue to do research and if I discover anything that could be of value to your research I will share it with you. I'm thankful that this project warranted a EIR.
> Jessie Mazzini

Letter P73

From: Jessie Mazzini <hozzini@icloud.com>
Sent: Thursday, January 31, 2019 12:54 PM
To: FountainWind411
Subject: Correction

Lio
I misspoke when referring to Bill Walker. I should have given credit to a individual by the name of Curt Babcook the project manager of the habitat conservation who is with California Fish and Game.

Sent from my iPad

From: Lisa MacDonald

Sent: Friday, February 8, 2019 1:31 PM

To: Lio Salazar

Subject: Fountain Wind Project Public Comment

Attachments: Wind_Power___Property_Value_Presentation_by_Kurt_C._Kielisch__Feb__11_.pdf; Analysis of the Impact that a Wind Farm has on Rural Property Value.pptx

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Dear Mr. Salazar,

I am a Realtor in Shasta County. I have been selling real estate for 16yrs in Shasta County. I am very concern about this proposed wind project. I know that this will have a detrimental effect on property values and the ability to sell some properties. The negativity stems from the sight of the wind mills, the lights at night, the noise and health issues.

The Montgomery Creek/Round Mountain area has had to weather through the Fountain Fire 1992, and the large power lines that criss-cross the area. As a Realtor I often get comments from clients about the negative aspect of the power lines and the scarred areas from the fire. We are overcoming the fire finally but now are facing a new challenge of the industrial wind turbines.

I will personally be effected as I live on Terry Mill Rd. I am currently listing a ranch at the end of Terry Mill Rd. The turbines will definitely have a negative effect on the value and the ability to sell the ranch.

I have been in contact with a Forensic Appraiser in WI. Mr. Keith Kielisch has done extensive research into the effects of industrial wind turbines on rural residential property values. With Mr. Keilisch's permission I have attached 2 reports regarding property values.

I am also concerned about the possible disruption of springs that supply domestic water to many homes in the area and water rights that may be effected during construction and maintenance of the project.

I do not think this is "green " energy. The carbon footprint of the manufacturing, transportation and construction of the industrial wind mills far out paces the gain of wind power. Past projects have only been viable with a gov't subsidy.

I am not in favor of this project.

Regards,

Lisa MacDonald
REAL ESTATE CENTER
2777 BECHELLI LN

From: Lisa MacDonald

Sent: Thursday, February 14, 2019 9:18 AM

To: Lio Salazar

Subject: Re: Fountain Wind Project Public Comment

Hello Lio,

I would like to add a supplemental to my prior comments. Please include the following...

I am 1 of 5 owners of a pre1914 deeded water right that draws water from sources in the project area. In exercising this right, the water right holders use and maintain several miles of ditch and water ways in the late spring through fall and have done so for over 100 years. I am very concerned that our water right and ditch system may be disturbed by this project. I would like to see a mitigation measure or condition imposed on the applicant to ensure that no streams, water courses, ditches and water systems located in the vicinity of the project will be impacted in any way.

Regards,

Lisa MacDonald
REAL ESTATE CENTER
2777 BECHELLI LN
REDDING CA 96002

530-941-9082 DIRECT/CELL
530-222-4444 Office
530-222-4473 FAX

LIC #01400197

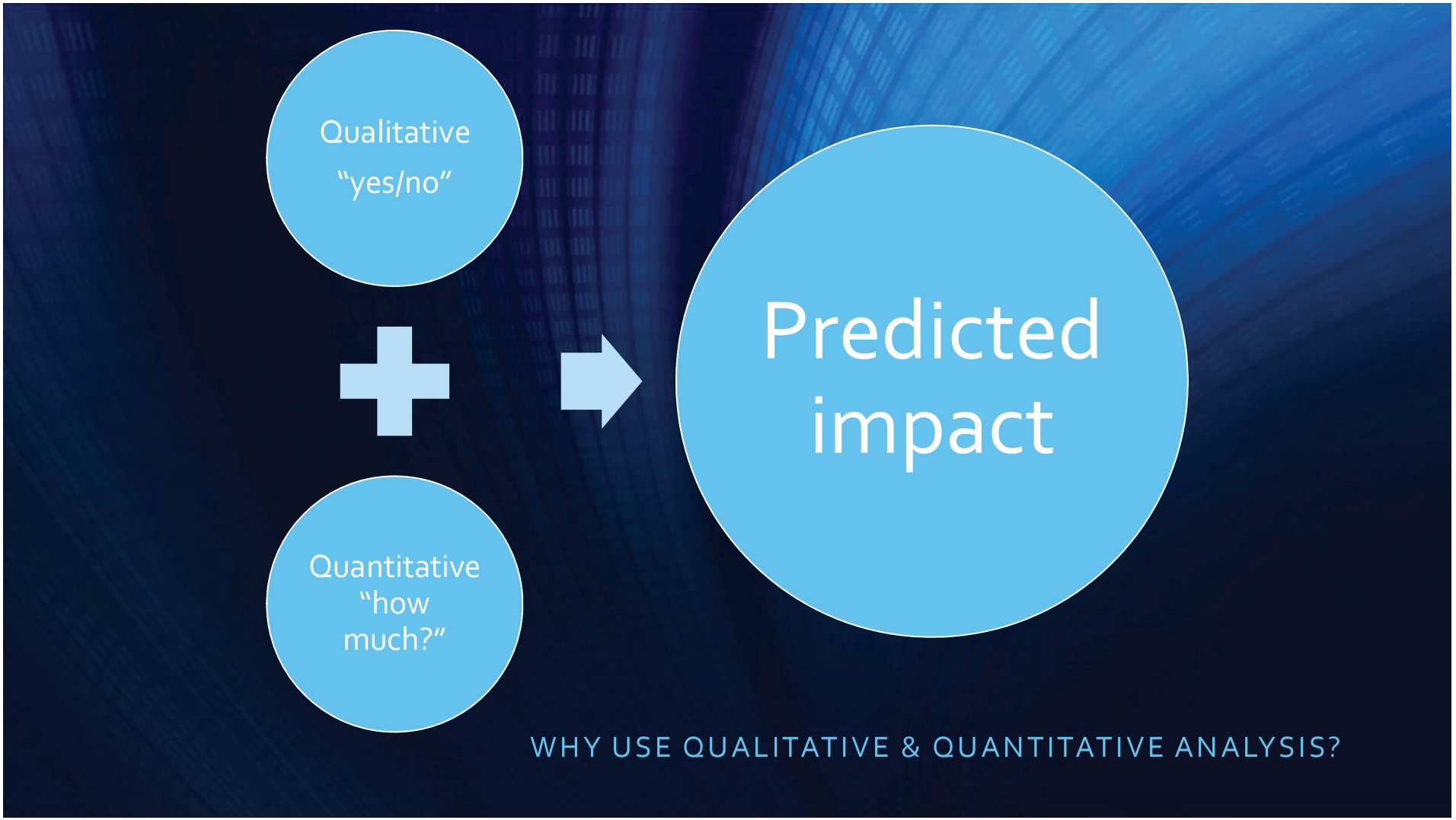
On Monday, February 11, 2019, 11:21:20 AM PST, Lio Salazar <lsalazar@co.shasta.ca.us> wrote:

Analysis of the Impact that the Proposed McClean CountyWind Farm Will Have on Rural Residential Property Value

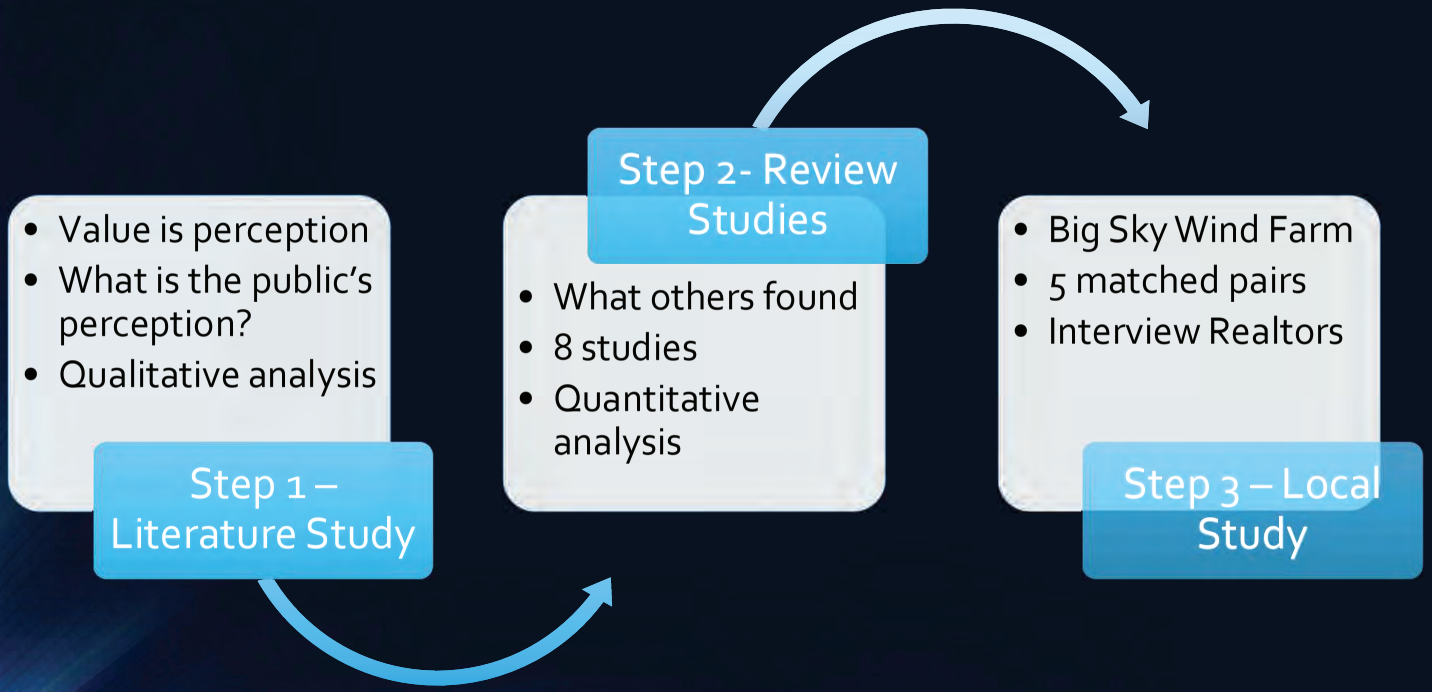
KURT C. KIELISCH, ASA, IFAS, SR/WA, R/W-AC
PRESIDENT/SR. APPRAISER

FORENSIC APPRAISAL GROUP LTD

Letter P74


Qualitative
"yes/no"
Quantitative
"how
much?"
Predicted
impact
WHY USE QUALITATIVE & QUANTITATIVE ANALYSIS?

Purpose is to discover if wind farms impact rural residential property value.



Letter P74

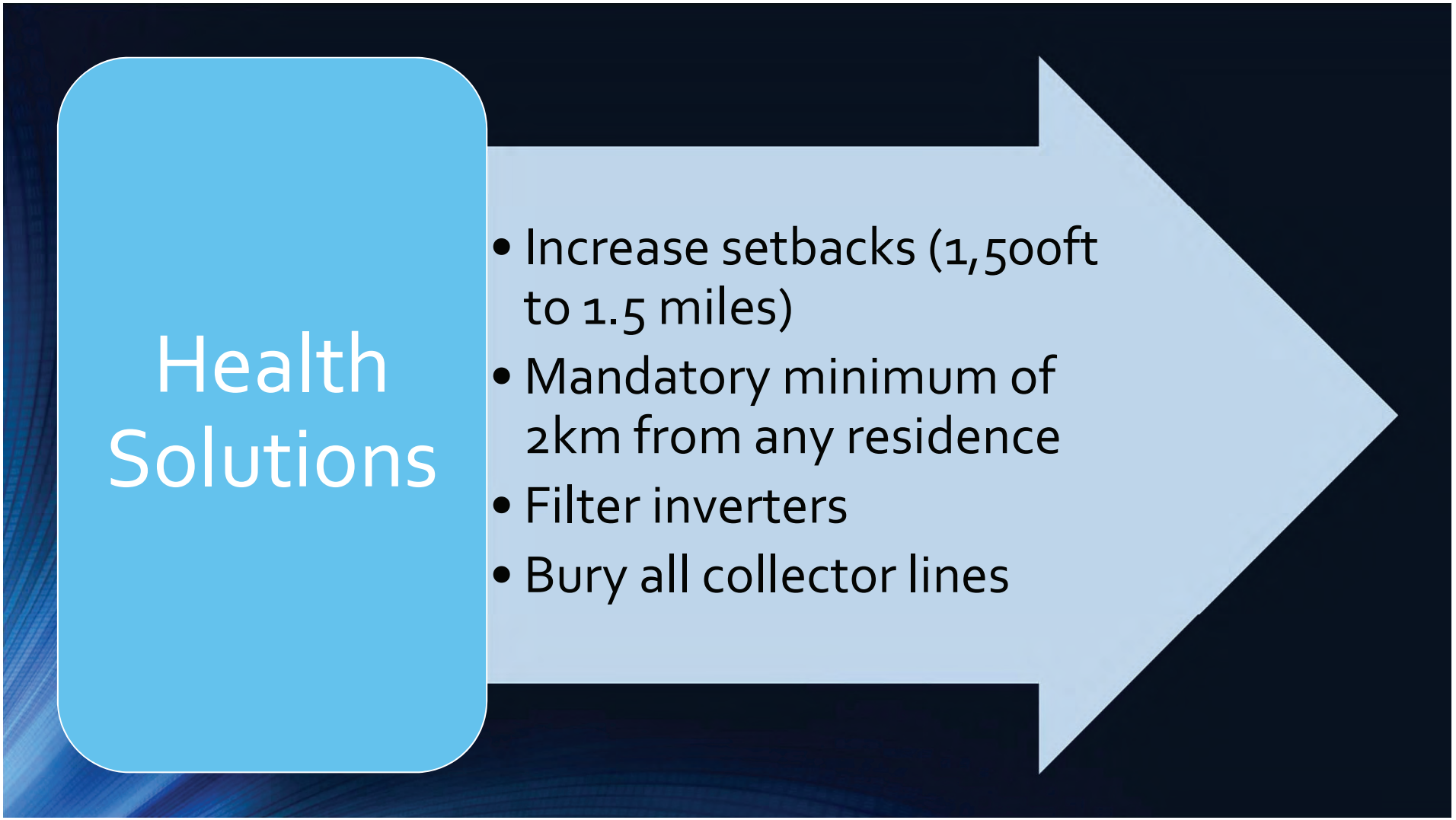

Literature Study
A LOOK AT WHAT THE PUBLIC IS READING & SAYING

Letter P74

Health

- Neurological & physiological disorders
- Sleeplessness & headaches (UofM study)
- Advocates & WHO counter there is no evidence
- Low frequency noise (LFN) reported as the problem

Letter P74


Health Solutions
• Increase setbacks (1,500ft to 1.5 miles)
• Mandatory minimum of 2km from any residence
• Filter inverters
• Bury all collector lines

Letter P74

Hazards

- Subject to accidents & failures
- Ice throw
- Blade throw due to weakening
- Danger to planes/crop dusters
- Nuisance- flicker etc

Letter P74

Conservation

- Protect natural viewshed
- Birds killed
  - 10,000 to 40,000 annually
  - Not close to bird kill by windows
- Bats in greater danger
- Predatory birds killed

Letter P74

Property Values

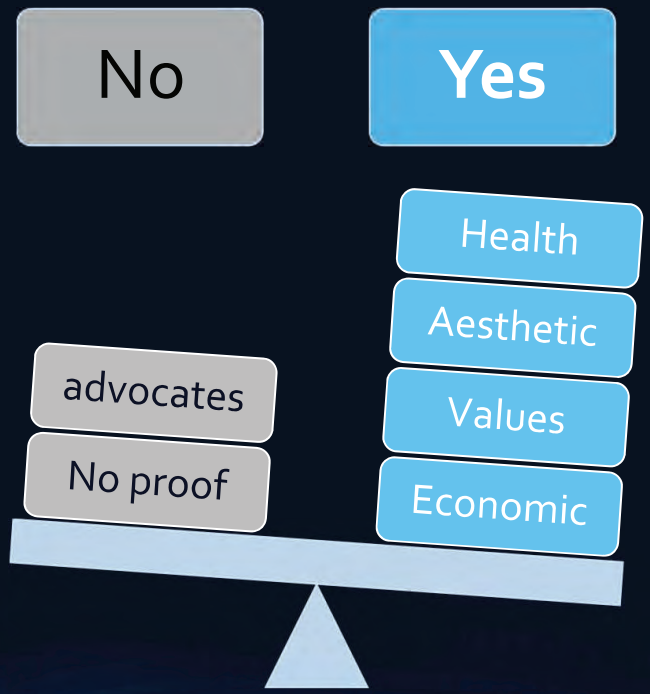
- Wind advocates deny neg impact – claim made up
- Most studies paid by wind
- REPP study finds value increase- critics find loss
- Many small studies found loss of value of 15%-37% (MI Township findings)
- Aesthetics impacted
- Difficult to sell, long listings

Economic Impact

- Tax revenues from project benefit local treasury
- Lost property value takes income from local treasury
- Job creation is nominal in lieu of impact quality of life
- Negative perception makes rural residential home placement undesirable

Letter P74

Qualitative Analysis – Is there a negative impact?



Letter P74

Review of Studies

WHAT OTHERS HAVE FOUND QUANTITATIVELY

Berkeley National Laboratory Study (2009)

- Sponsored by DOE $500,000 grant.
- Used hedonic analysis of 7,500 improved properties.
- Used properties from all over the country and bundled them together for one hedonic study.
- Found no relationship between presence of wind turbines and residential property value.
- All were statisticians no real estate professionals (appraisers/Realtors).
- Used improved properties but only used 12 variables (3 for land, 9 for improvements).
  - Typical 12 for land
  - Typical 25 for improvements
- Used assessment data only for improvement description – did not verify data though.

- Compared rural to urban sales.
  - Wind sales were all rural.
  - Most of the non-wind sales were urban.
- Failed to mention properties bought by developer in Kewaunee, WI, wind farm that could not resale and razed.
- Few wind sales were in close proximity to wind turbines.
  - Only 67 sales (<1%) were within 0.57 miles of turbine & only 63 had a view of them.
  - Conversely, 57% were over 3 miles away.
- Chart (p29) shows poor vista has a -21% loss, below average -9% loss, yet states turbines do not constitute a bad vista.
- A statistic of -5.5% loss was considered statistically insignificant, but for a $250,000 home that's a loss of almost $14,000 – which to them is significant

Letter P74

Impact of Industrial Wind Turbines on Residential Property Assessment in Ontario (2012)

- MPAC did study – assessment agency
  - Both political & governmental
  - Motivation?
- Tested accuracy of assessments from sales, used two zones
  - <2km from wind turbines
  - >2km from wind turbines
- Test would fail (i.e. show impact) if the ASR (assessment to sales ratio) was outside of 0.95 to 1.05.
- Used 15 market areas in Ontario, CA

- Study showed
  - <2km properties had a -4.5%.
  - <2km properties were consistently less than the >2km properties.
- Second test was a multiple regression study
  - Found only 2 market areas had enough sales
  - Found one of the two areas indicated a loss of $6,451 per property if <1km and $3,686 loss if between 1km-2km.
  - Losses were considered statistically insignificant using a 10% factor.
- Study did not measure impact – measured accuracy of assessments.

Letter P74

Case Study Diminution in Value Wind Turbine Analysis (2012)

- Appraiser Ben Lansink was author.
- Based in Shelburne, Ontario, CA
- Did a comparative analysis of 5 properties located within wind farm.
- Properties were purchased by wind farm developer and then resold after project was up and running.
- Properties were bought at full market value by wind developer.
- Bought in 2005-2007, sold in 2009-2012.

- ✓Lansink tested validity of purchase price to ascertain market value was paid.
- ✓Lansink did market trend study to compensate for time.
- ✓Used trend analysis to predict selling price without any impact.
- ✓Then compared actual resell price to predicted model price to derive impact.
- ✓Found losses ranging from -9% to -50% with average loss -39%.

Letter P74

Glen Taylor – wind tower study (2010)

- Glen Taylor is an experienced Realtor
- Informal study in area of Chevron Wind Farm, Evansville, Wyoming.
- Wind farm had 11 turbines.
- Based study on observations of market activity in close proximity of wind farm and a distance away.
- Concluded
  - Detrimental impact to all property value.
  - Properties closest to turbines most affected.

Letter P74

Appraisal Group One Study – Wisconsin (2009)

- Based in Fond du Lac & Dodge Counties, Wisconsin
- Realtor survey.
- Comparative sales simple regression analysis

Letter P74

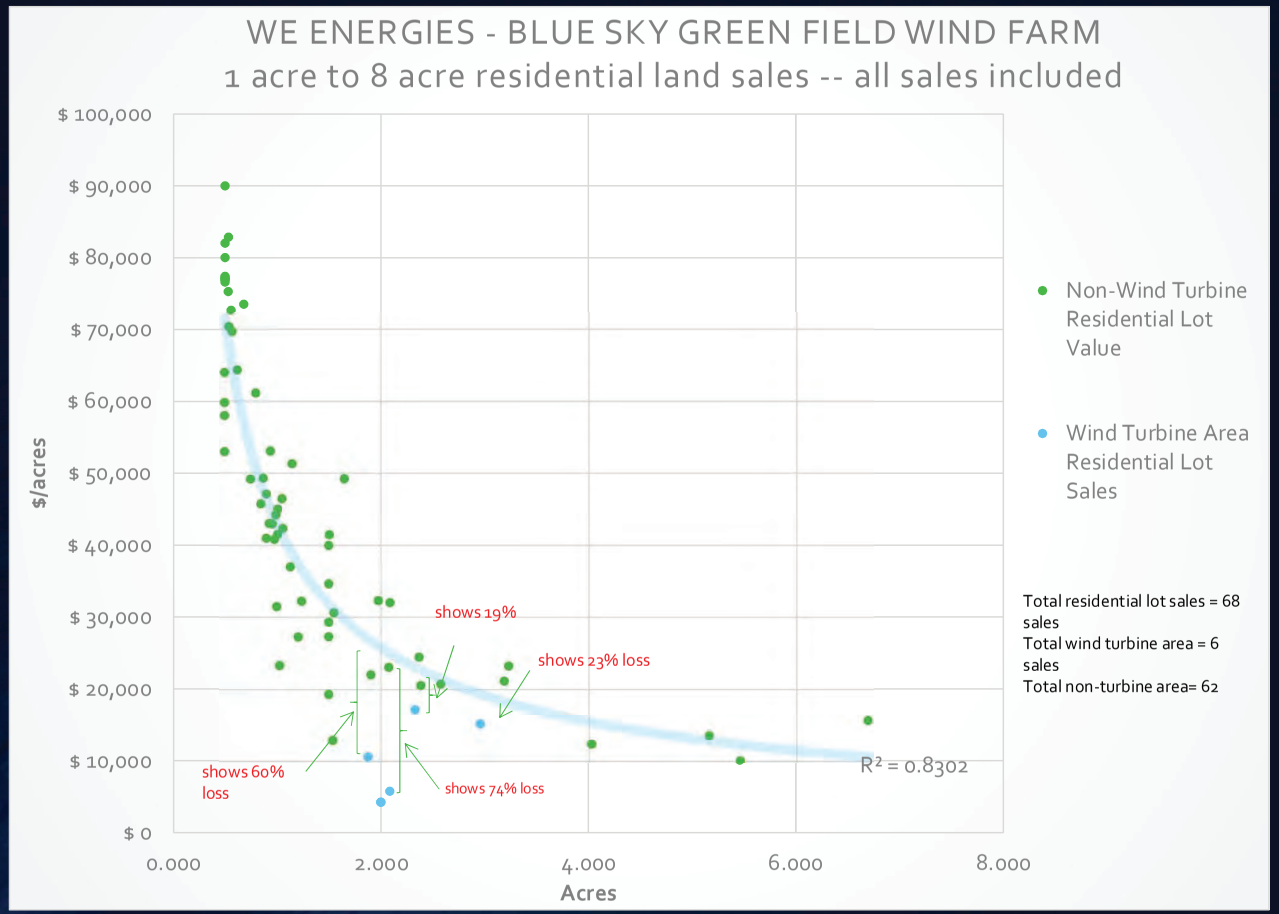
Realtor Survey

- 36 experienced Realtors were surveyed
- Average experience = 13.4 yrs
- All surveyed worked in same geographic area as wind farms.
- All surveys were given in person with the surveyor's signature and date.
- All surveys had pictures and graphics to assist in understanding the question.
- Three distance categories were used
  - **"Bordering"** being 600ft from turbine
  - **"Close"** being 1,000ft from turbine
  - **"Near"** being 0.50 miles from turbine

- In all cases the 1-5 acre residential properties were perceived as negatively impacted.
- Those properties ***bordering*** the wind farm were estimated to have a -39% to -43% impact.
- The ***close*** proximity (a little farther away) properties were estimated to have a -33% to -39% impact.
- The ***near*** (even further away) properties the impact estimate was -24% to -29%.
- Hobby farms had less sensitivity to being impacted negatively.

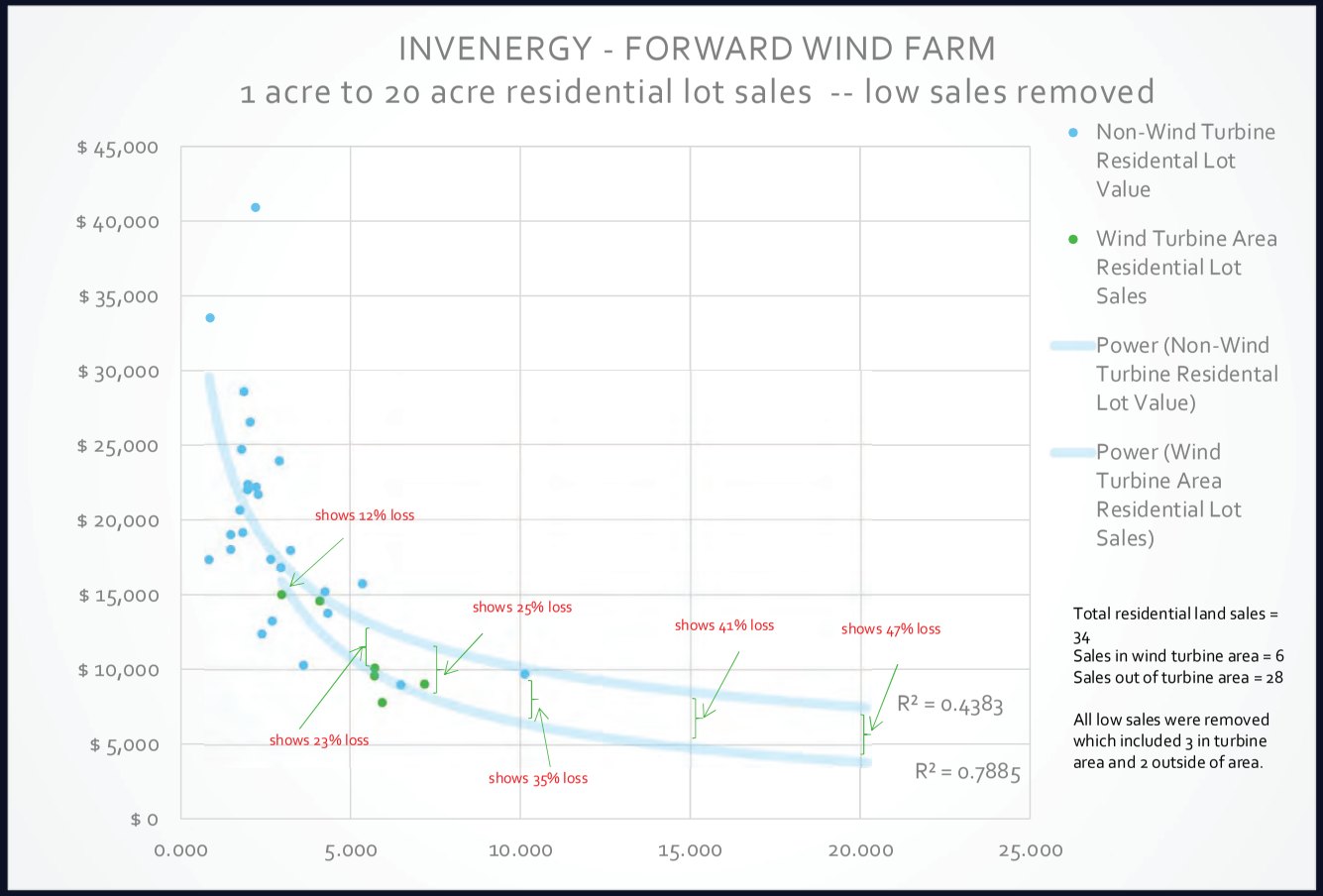
Letter P74

- All non-wind turbine sales were outside of area with no view.
- Land sales only
- Residential land use only
- 68 sales total
  - 6 sales were influenced by the wind farm
  - 62 sales were not influenced.
- Simple regression technique.
- Impact was found to be -19% to -74% with the average being -40%.



Letter P74

- All non-wind turbine sales were outside of area with no view.
- Land sales only
- Residential land use only
- 34 sales total
  - 6 sales were influenced by the wind farm
  - 28 sales were not influenced.
- Simple regression technique.
- Impact was found to be -12% to -47% with the average being -30%.



Letter P74

Clarkson University Study (2011)

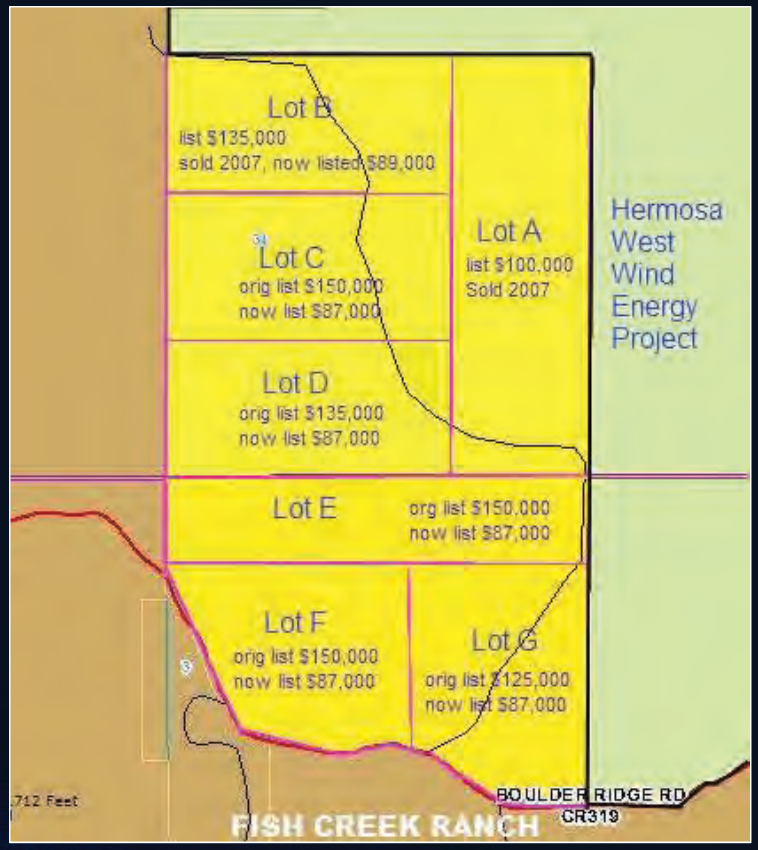
- Authored by Martin D. Heintzelman, Ph.D. & Carrie Tuttle, Ph.D. candidate.
- Title of study- *Values in the Wind: a Hedonic Analysis of Wind Power Facilities.*
- Used 11,369 sales of residential & agricultural properties.
- Time period was 2000 to 2009.
- Northern New York State (NE corner)
- Area is rural, lightly populated, includes 6 wind farms.

- ✓ Study showed impact of wind farm on property values was significantly negative.
- ✓ Distance from the wind farm is a factor, the further away the less the impact.
  - ✓ E.g. -32% impact 0.10 miles away of turbine
  - ✓ E.g. -14% impact 3.0 miles from turbine
- ✓ Found properties 1-to-3 miles away were impacted between -16% to -31%

Letter P74

Coral Springs Development Study

- Development located in Albany County, Wyoming.
- Comprised of 7 lots (35ac each)
- Located on side of foothills.
- Faces valley which has annual elk migration
- Hermosa West Wind Farm was planned and known by buyers
- 3 lots sold since announcement.
- Sales analysis showed loss ranging from -25% to -44%, average= -35%



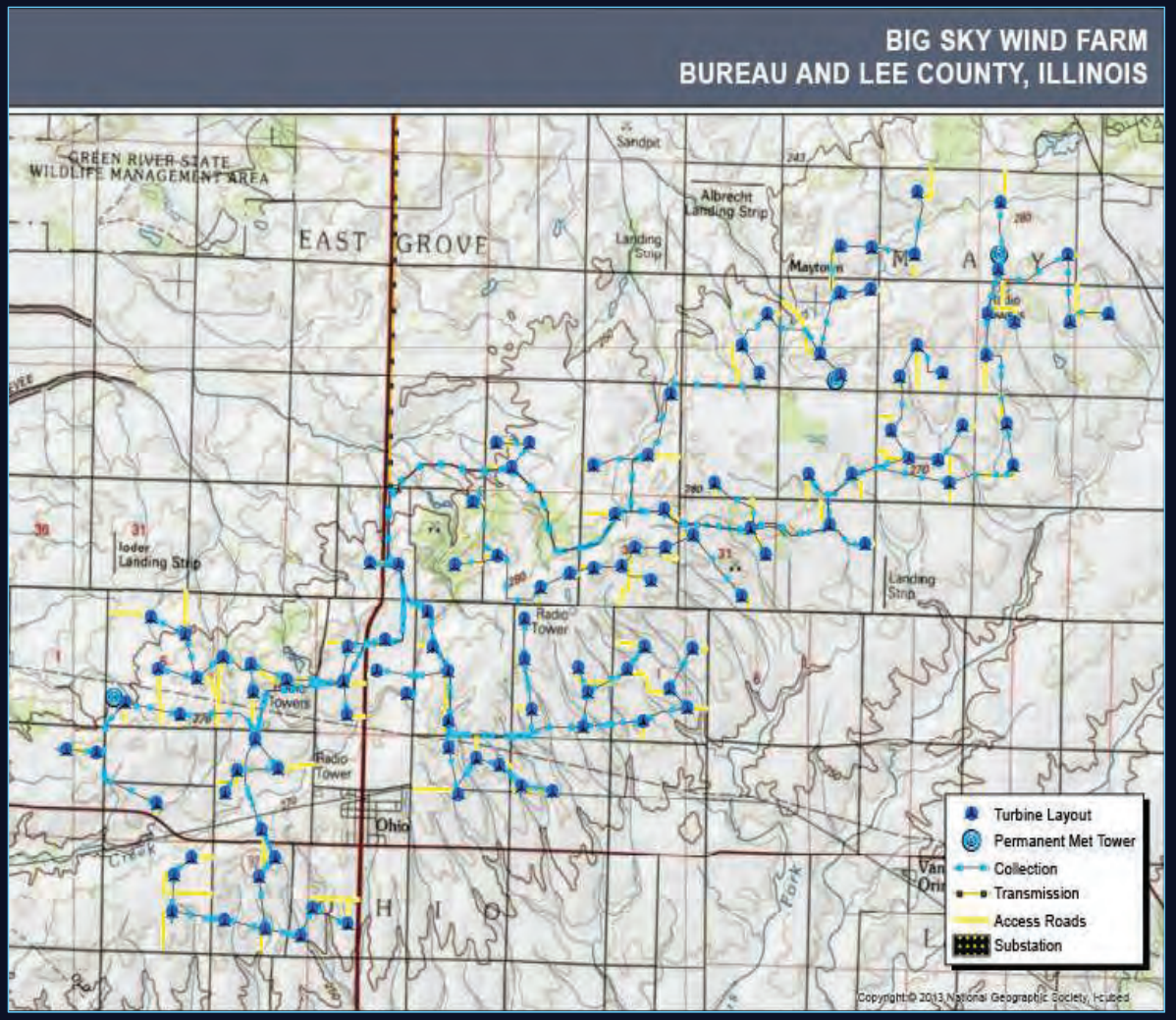
Letter P74

Matched Pair Analysis

BIG SKY WIND FARM – LEE & BUREAU COUNTIES, ILLINOIS

Letter P74

Big Sky Wind Farm



Letter P74

Matched Pair 1

Matched Pair 1						
Item	Sale 1-WF	adj	Comparable 1-A	adj	difference	notes
Sale ID	Subitte-IR-001		Leecter-IR-003			
distance to WT	1.72 miles (cluster)		none visible (see note)			wind turbines 0.875 miles from comparable but cannot see them due to the wooded area and ravines, can see them as you exit and enter subdivision.
address	408 LaMoilee Road		1939 Ole Hickory Rd			
city/county	Sublette/Lee		Amboy/Lee			
sales price	$ 250,000.00		$ 272,000.00			
terms	arms length		arms length			
terms adj	typical	0%	typical	0%		
date of sale	January 9, 2015		June 19, 2015			
difference in months	base		-5			
time adj			none needed	0%		
adj sales price	$ 250,000.00		$ 272,000.00			
GLA (above grade)	2,271		2,008			
$/GLA	$ 110.08		$ 135.46		-23%	comparing GLAs only with no other adjustments
neighborhood	rural		rural- subdivision	$ -		subdivision has superior appeal is factored in land
lot size in acres	3.01		2.2	$ 13,500.00		based on $15,000/ac
lot description	open with few trees		good landscaping, mature trees	$ (10,000.00)		superior landscaping
home style	1 sty- traditional		1 story- traditional	$ -		
exterior siding	vinyl/brick		vinyl	$ 5,000.00		brick 3% adjustment based on cost
home built/eff age	2004/10yrs		2000/14yrs	$ 13,000.00		total economic life used = 55 yrs
condition	very good		very good	$ -		
room count	7 total/4 br/3.5bth		6 total/3 br/2.5 baths	$ 6,000.00		bathroom contribution value = $6,000
GLA in sf	2,271		2,008	$ 21,000.00		contribution value = $80/sf
basement	partly finished		finished 924zsf, br, fam, kit, fair quality	$ (4,000.00)		finished bsmt at $20/sf contribution value includes extra br, family rm, bath less the partial finish of WT sale
patio/deck/porch	patio		deck	$ -		similar
fireplace	yes- 2 sided		yes	$ -		similar
central air	yes		yes	$ -		
garage	attached 3-car		attached 3-car	$ -		similar size
outbuildings	none		2 car garage w/loft	$ (15,000.00)		garage = $15,000 contribution value
other	gravel drive, garden tub, central vac, in ground pool		paved driveway, whirlpool	$ 7,000.00		paved vs gravel= $5,000, whirlpool= garden tub, central vac = $2,000, pool= $10,000
total adjusted $				$ 36,500.00		
total adjusted value (adj + adj sales price)		$ 250,000.00		$ 308,500.00		
difference in value in $					$ (58,500.00)	
difference in value in %					-23%	overall impact due to presence of wind turbines/far

Letter P74

Matched Pair 2A

Matched Pair 2-A						
Item	Sale 2-WF	adj	Comparable 2-A	adj	difference	notes
Sale ID	Ohio-IR-001		Wyanet-IR-001			
distance to WT	0.32 miles		none			no wind turbine was visible from property, closest turbine was 5.58 miles away
address	29813 2010 E. Street		16025 Wyanet-Walnut Rd			
city/county	Ohio/Bureau		Wyanet/Bureau			
sales price	$ 231,000.00		$ 275,000.00			
terms	arms length		arms length			
terms adj	typical	0%	typical	0%		
date of sale	June 2, 2015		April 3, 2015			
difference in month	base		2			
time adj			none needed	0%		
adj sales price	$ 231,000.00		$ 275,000.00			
GLA (above grade)	2,316		1,936			
$/GLA	$ 99.74		$ 142.05		-42%	comparing GLAs only with no other adjustments
neighborhood	rural- near Ohio		rural - near Wyanet	$ -		
lot size in acres	6.07		6.95	$ -		similar in size
lot description	mature landscaping, trees & stream		mature landscaping, young trees	$ 5,000.00		stream typically adds +10% of land value
home style	1.5 sty - traditional		1.5 sty- traditional	$ -		
exterior siding	vinyl		vinyl	$ -		
home built/eff age	2001/eff 12yrs		1998/eff 12 yrs	$ -		similar in condition and effective age
condition	good		good	$ -		
room count	7 total/4 br/2.5bth		6 total/3 br/2.5 baths	$ -		
GLA in sf	2,316		1,936	$ 29,000.00		based on $ 78/sf contribution value
basement	full - unfinished		full- partly finished	$ (12,000.00)		estimated @ $12,000
patio/deck/porch	deck, screened porch		covered porch	$ 2,500.00		deck = cov porch, screened porch = $2,500
fireplace	yes		yes	$ -		
central air	yes		yes	$ -		
garage	2 car attached		2 car attached	$ -		
outbuildings	refurbished barn - ave condition		large steel pole barn with truck & reg overhead doors	$ (20,000.00)		refurbished barn = $10,000 contrib value, pole barn with concrete floor, storage, ave qlty = $30,000
other	concrete drive, hot tub, heated garage		concrete circular drive	$ -		comparable concrete drive was larger $2,000, hot tub $1,000 and heated garage $1,000
total adjusted $				$ 4,500.00		
total adjusted value (adj + adj sales price)		$ 231,000.00		$ 279,500.00		
difference in value in $					$(48,500.00)	
difference in value in %					-21%	overall impact due to presence of wind turbines/farm

Matched Pair 2B

Matched Pair 2-B						
Item	Sale 2-WF	adj	Comparable 2-B	adj	difference	notes
Sale ID	Ohio-IR-001		Marion-IR-001			
distance to WT	0.32 miles		none			no wind turbines visible, closest one is 9.42 miles.
address	29813 2010 E. Street		1033 Pump Factory Rd			
city/county	Ohio/Bureau		Dixon/Lee			
sales price	$ 231,000.00		$ 225,000.00			
terms	arms length		arms length			
terms adj	typical	0%	typical	0%		
date of sale	June 2, 2015		June 24, 2014			
difference in month	base		11			
time adj			none needed	0%		
adj sales price	$ 231,000.00		$ 225,000.00			
GLA (above grade)	2,316		2,900			
$/GLA	$ 99.74		$ 77.59		22%	comparing GLAs only with no other adjustments
neighborhood	rural- near Ohio		rural- near Wyanet	$ -		
lot size in acres	6.07		1.08	$ 40,000.00		estimated 1 acre value at $20,000, 6 acres= $60,000
lot description	mature landscaping, trees & stream		mature landscaping, trees	$ -		
home style	1.5 sty - traditional		1.5 sty- traditional	$ -		
exterior siding	vinyl		vinyl	$ -		
home built/eff age	2001/eff 12yrs		1999/eff 12 yrs	$ -		similar in condition and effective age
condition	good		good	$ -		
room count	7 total/4 br/2.5bth		8 total/4 br/1.5 baths	$ 5,000.00		adj based on one bath
GLA in sf	2,316		2,900	$ (45,500.00)		based on $ 78/sf contribution value
basement	full - unfinished		none (crawl space)	$ 21,000.00		estimated @ $20/sf x 1,038sf due to no basement
patio/deck/porch	deck, screened porch		lg cov porch, lg deck	$ -		deck = deck, screened porch = lg cov porch
fireplace	yes		yes	$ -		
central air	yes		yes	$ -		
garage	2 car attached		2 car attached	$ -		
outbuildings	refurbished barn - ave condition		none	$ 10,000.00		refurbished barn = $10,000 contribution value
other	concrete drive, hot tub, heated garage		gravel drive, hot tub	$ 6,000.00		concrete $5,000, hot tub $1,000, heated garage $1,000, comparable had an above ground pool treated as personal property
total adjusted $				$ 36,500.00		
total adjusted value (adj + adj sales price)	$ 231,000.00			$ 261,500.00		
difference in value in $					$ (30,500.00)	
difference in value in %					-13%	overall impact due to presence of wind turbines/farm

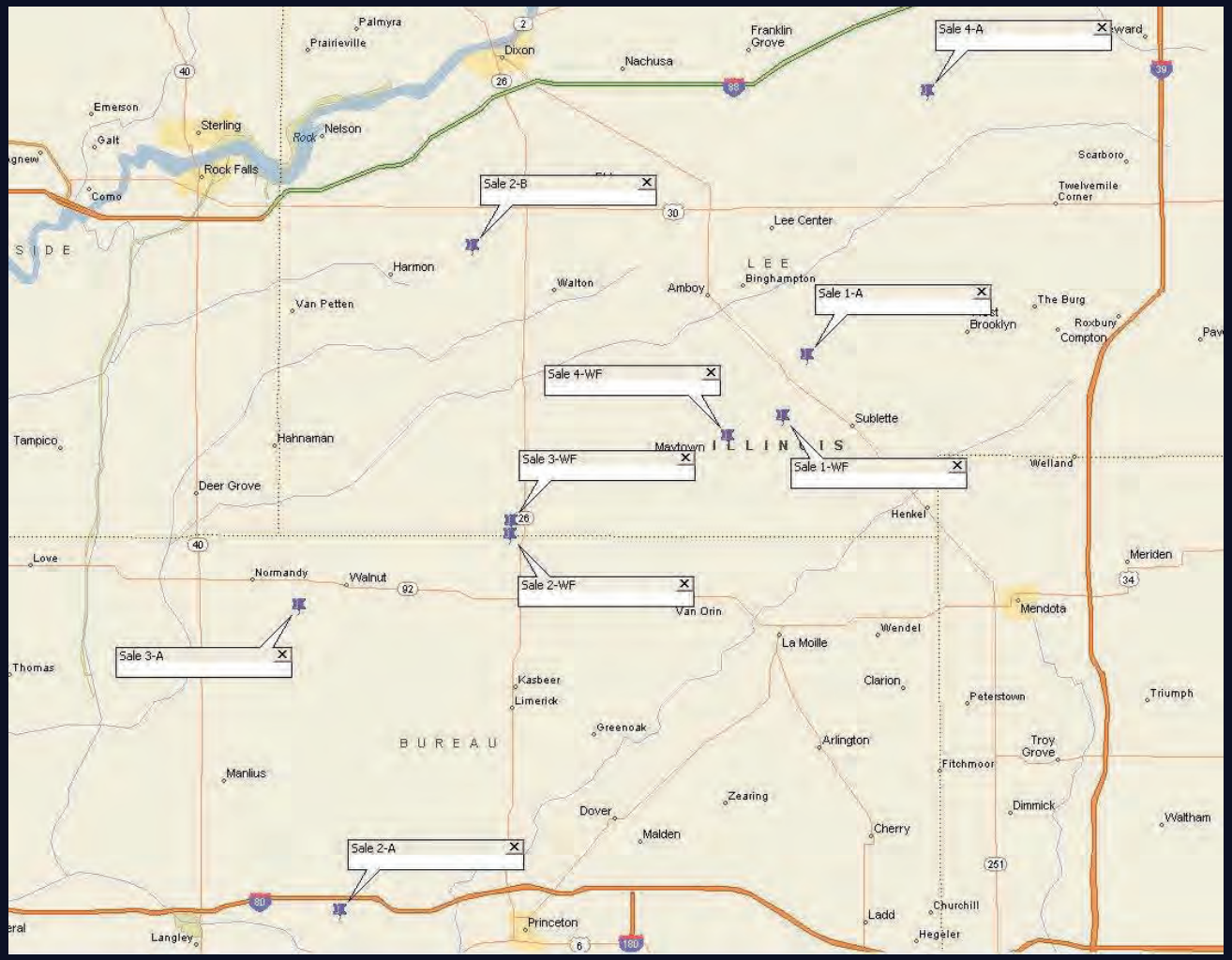
Matched Pair 3

Matched Pair 3						
Item	Sale 3-WF	adj	Comparable 3-A	adj	difference	notes
Sale ID	Eastove-IR-001		Walnut-IR-001			
distance to WT	0.34 miles to nearest one		none visible			closest wind turbine to comparable sale is 5.2 miles
address	31 Peoria Road		27531 1250 E. Street			
city/county	Ohio/Lee		Walnut/Bureau			
sales price	$ 125,000.00		$ 139,700.00			
terms	arms length		arms length			
terms adj	typical	0%	typical	0%		
date of sale	December 8, 2012		February 4, 2014			
diffence in months	base		-14			
time adj			none needed	0%		
adj sales price	$ 125,000.00		$ 139,700.00			
GLA (above grade)	1,420		1,864			
$/GLA	$ 88.03		$ 74.95		15%	comparing GLAs only with no other adjustments
neighborhood	rural- close to Ohio		rural - close to Walnut	$ -		
lot size in acres	2.45		2.5	$ -		similar
lot description	mature landscaping some trees		mature landscaping some trees	$ -		
home style	ranch		ranch	$ -		
exterior siding	vinyl		wood press board, brick wainscoting in front	$ 3,600.00		5% of cost per sf contribution value of residence for press board vs vinyl
home built/eff age	1978/24 yrs		1977/24 yrs	$ -		similar condition and effective age
condition	average		average	$ -		
room count	7 total/3 br/2bth		7 total/4 br/3.5 baths	$ (5,000.00)		adj is for 1.5 baths @$3,000 per bath & $2,000 half
GLA in sf	1,420		1,864	$ (22,200.00)		based on $50/sf contribution value
basement	no basement- slab		full- partly finished	$ (14,000.00)		estimated @ $10/sf x 1420sf due to no basement
patio/deck/porch	brick paver patio		none	$ 2,000.00		
fireplace	yes		yes	$ -		
central air	yes		yes	$ -		
garage	3 car detached		2 car attached	$ 8,000.00		$8,000 per car bay beyond two
outbuildings	32x40 pole shed- newer		none	$ 22,000.00		pole shed estimated at $39,000 new, $22,000 contribution value
other	concrete drive, new greenhouse, fence		concrete drive, none	$ 6,000.00		greenhouse estimated at $5,000 contribution value, fence=$1,000
total adjusted $				$ 400.00		
total adjusted value (adj + adj sales price)	$ 125,000.00			$ 140,100.00		
difference in value in $					$(15,100.00)	
difference in value in %					-12%	overall impact due to presence of wind turbines/farm

Matched Pair 4

Matched Pair 4						
Item	Sale 4-WF	adj	Comparable 4-A	adj	difference	notes
Sale ID	May-IR-001		Bradord-IR-001			
distance to WT	0.53 mi to closest one		none			no wind turbines in view, closest one is 7.89 miles
address	341 Rockyford Road		2369 McGirr Road			
city/county	Amboy/Lee		Ashton/Lee			
sales price	$ 132,000.00		$ 183,000.00			
terms	arms length/divorce		arms length			
terms adj	typical	10%	typical	0%		Realtor stated thought sold under market due to divorce, 10% adjustment was made to represent this based on comments & appraiser's experience
date of sale	February 6, 2015		October 6, 2014			
difference in month	base		4			
time adj			none needed	0%		
adj sales price	$ 145,200.00		$ 183,000.00			
GLA (above grade)	2,000		1,936			
$/GLA	$ 72.60		$ 94.52		-30%	comparing GLAs only with no other adjustments
neighborhood	rural		rural	$ -		
lot size in acres	5.00		3.92	$ 8,000.00		at $8,000/ac
lot description	mature lot, some trees		mature lot, some trees	$ -		
home style	2 sty- farmhouse		2 sty- farmhouse	$ -		
exterior siding	vinyl		vinyl	$ -		
home built/eff age	1901/30 yrs		1901/25 yrs	$ (12,900.00)		used total economic life = 55 yrs
condition	average		average	$ -		
room count	8 total/4 br/2bth		7 total/3 br/1 bath	$ 3,000.00		$3,000 for full bath
GLA in sf	2,000		1,936	$ -		no adjustment needed, very similar in size
basement	full- unfinished		partial- unfinished	$ -		no adjustment needed, similar in use, old basement
patio/deck/porch	cov porch		wood deck	$ -		wood deck = covered porch
fireplace	none		heatilator system	$ (2,000.00)		
central air	none		none	$ -		
garage	none		2 car detached w/game room	$ (12,000.00)		$12,000 contribution value for garage w/14x21 game room
outbuildings	36x120 metal sided shed with heat and bathroom, 36x140 metal sided shed, 50x55 metal sided barn, 28x33 corn crib		40x50 metal sided machine shed	$ 14,000.00		36x140 building old chicken coop= $3,000, 36x120 building has work shop w/bathroom = $18,000, 50x55 barn = $5,000, corn crib is Quonset hut for storage= $3,000, 40x50 machine shed= $15,000
other	gravel drive		gravel drive	$ -		
total adjusted $				$ (1,900.00)		
total adjusted value (adj + adj sales price)	$ 145,200.00			$ 181,100.00		
difference in value in $					$(35,900.00)	
difference in value in %					-25%	overall impact due to presence of wind turbines/farm

Matched Pair Sales Map



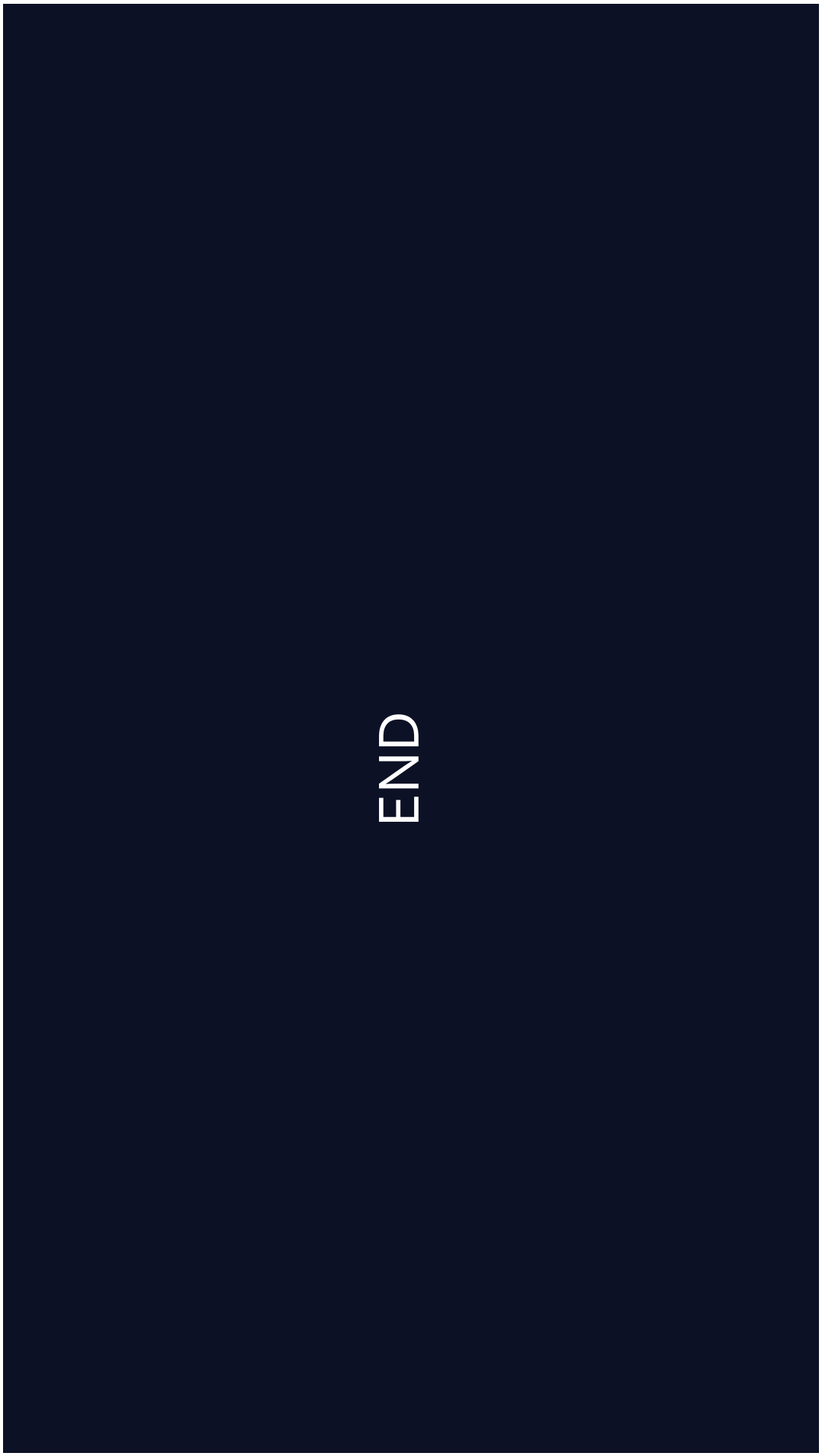
Letter P74

Summary of Matched Pair Sales Study

- Comments from Realtors and buyer of sales showed complexity of valuation of impacts and mostly negative view.
- Comments about 40 Pump Factory Road, Ohio – no good comps.
- Comments about 1950 Shady Oaks Road, Amboy – not a wind turbine influenced sale, can't see the turbines.
- No sales in Zero zone (within the perimeter of the wind farm).
- Matched pair sales impact ranged from -12% to -25%.
- Wind turbine sales had a range of 0.32 miles to 1.72 miles from the nearest wind turbine – average was 0.65 miles.

Conclusion of Impact of Proposed McClean County Wind Farm

- Literature study indicated the general perception of wind turbines is negative with regards to health, environment, property values and economic impact.
- Review of studies indicated a number of studies showing negative impact to residential properties due to the presence of wind turbines.
- Matched pair analysis of the Big Sky Wind Farm indicated that the studies which showed a negative impact due to wind turbines were correct and this impact ranged from -12% to -25%.
- Overall impact of the Wind Farm is estimated to have a negative impact on all rural residential property value the lies with the perimeter of the wind farm and approximately 2 miles from this perimeter. The impact will range from -10% to -50% depending on location and other factors.


END

Wind Turbines & Property Value

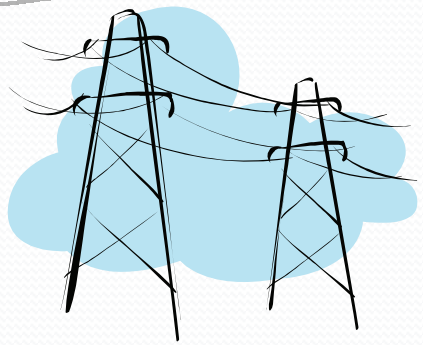
A presentation by
Kurt C. Kielisch, ASA, IFAS, SR/WA, R/W-AC
President/Sr. Appraiser – Appraisal Group One

Letter P74

Focus on Value

- PERCEPTION = VALUE
  - The key to understanding real estate value is to understand it is based on perception.
  - Perception drives the buying decision.
    - E.g. perceived enjoyment of home.
    - E.g. perceived income stream of investment.
  - Perception need not be based on a proven, scientific fact. (e.g. the haunted house or electric power lines)
  - When the buyer acts on this perception through a buying action you have established value and the effects of this perception.

E.g. Perception of Electric Transmission Lines



Perception	Fact
• They cause health problems especially cancer.	• Not proven as a scientific fact, however the jury is still out and there is published literature on this issue.
• They are noisy.	• Sometimes, depending on humidity, power and distance.
• They are unsightly, and ruin the view shed.	• True both near and far.

Letter P74

Perception of Wind Turbines

Perception	Fact
• They cause health problems though noise and deep ultrasonic sound waves, sleep deprivation.	• Not proven as a scientific fact, however the jury is still out and there is published literature on this issue.
• They are noisy.	• True, depending on wind, size, age and distance.
• They cause light flicker.	• True depending on location and distance.
• They are unsightly, and ruin view shed.	• True both near and far.

Letter P74

What Drives Perception?

- Media
  - Printed media
  - Electronic media
  - Internet

To measure this perception of media we conducted a **Literature Review**

Literature Review

- Health Issues
  - Articles found on health disorders including:
    - Sleep deprivation
    - Headaches
    - Dizziness
    - Anxiety
    - Depression
    - Vibroacoustic Disease (VAD) & Wind Tower Syndrome
  - WHO Community Noise Paper of 1995 counters claims.
  - Doesn't affect everyone.
  - Wind industry has counter claims stating "no health impact."
  - Similar to the EMF issue relating to power lines.

Letter P74

Measuring Perception

- To measure the impact of this perception we did two things:
  - Conducted a Realtor Survey of Realtors who worked in a wind turbine area.
  - Conducted an Impact Study using sales of properties impacted by wind turbines compared to those that were not.

Letter P74

Realtor Survey

Purpose: learn from those in the trenches of buying and selling.

Focus: residential land use, both vacant and improved.

Visual field proximity: 3 different levels…

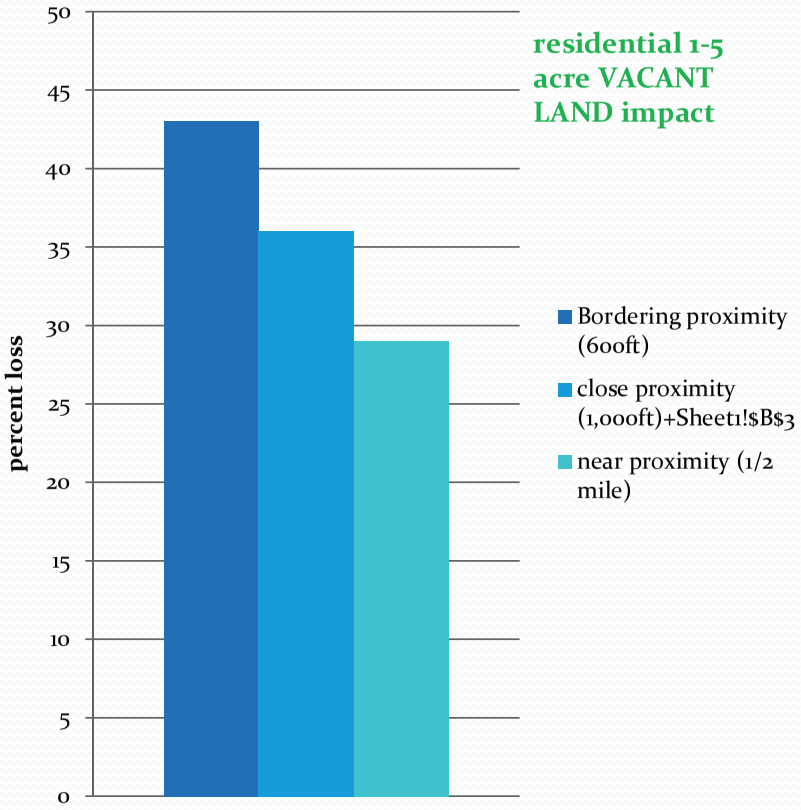
- 600ft from turbine (border)
- 1,000ft (close)
- ½ mile (2,640ft) (near)

- Survey utilized graphics and pictures to standardize the concept being portrayed.
- Survey used Realtors that were in a wind turbine area.
  - Fond du Lac County
  - Northeast Dodge County
- Surveys were given in person, on-site, verified with date, person's name and contact.

Letter P74

Realtor Survey results . . .

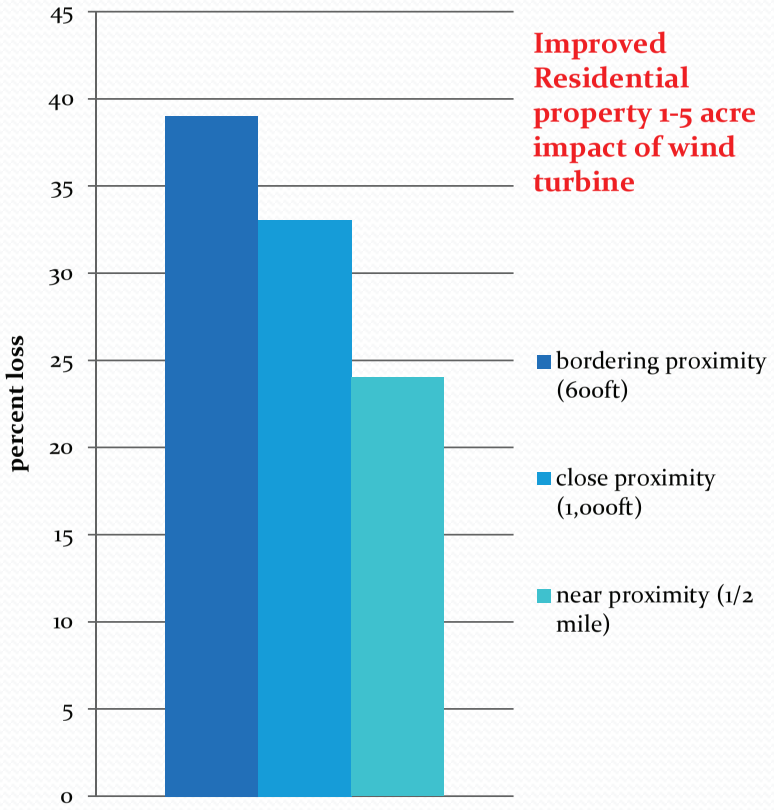
- Question to impact of wind turbine to vacant land:
  - 82% negative if border
    - Loss estimated at -43%
  - 69% negative if close
    - Loss estimated at -36%
  - 59% negative if near
    - Loss estimate at -29%



Letter P74

Realtor Survey results . . .

- Question to impact of wind turbine to improved property:
  - 91% negative if border
    - Loss estimated at -39%
  - 86% negative if close
    - Loss estimated at -33%
  - 60% negative if near
    - Loss estimate at -24%



Letter P74

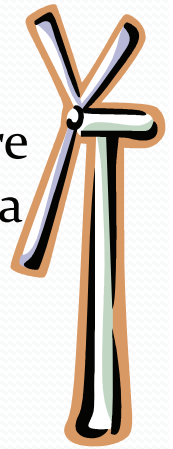
Realtor Survey results . . .

Hobby Farm

- Bordering proximity (600ft)
  - 70% said negative impact
  - 23% said no impact
- Close proximity (1,000ft)
  - 47% said negative impact
  - 47% said no impact
- Near proximity (2,640ft or half mile)
  - 44% said negative impact
  - 47% said no impact

Position of Turbines

- 83% said the impact was negative if the turbines are in the front yard of a 1-5 acre residential parcel.
- 71% said the impact was negative if the turbines were located in the back yard of a 1-5 acre residential parcel.



Letter P74

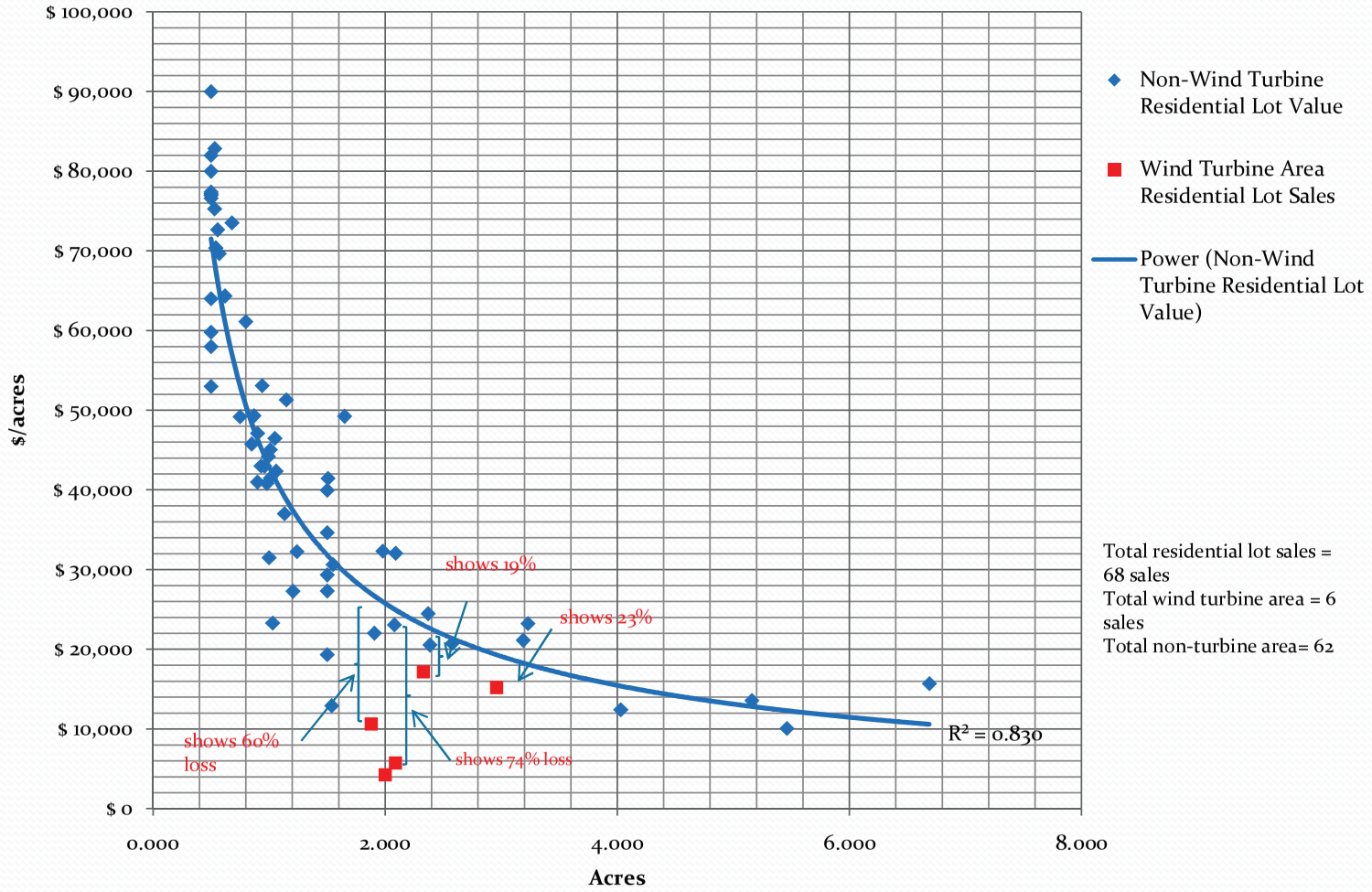
Impact Studies

Checking perception with buying action

Letter P74

WE ENERGIES - BLUE SKY GREEN FIELD WIND FARM

1 acre to 8 acre residential land sales -- all sales included



Total residential lot sales = 68 sales
Total wind turbine area = 6 sales
Total non-turbine area= 62

Letter P74

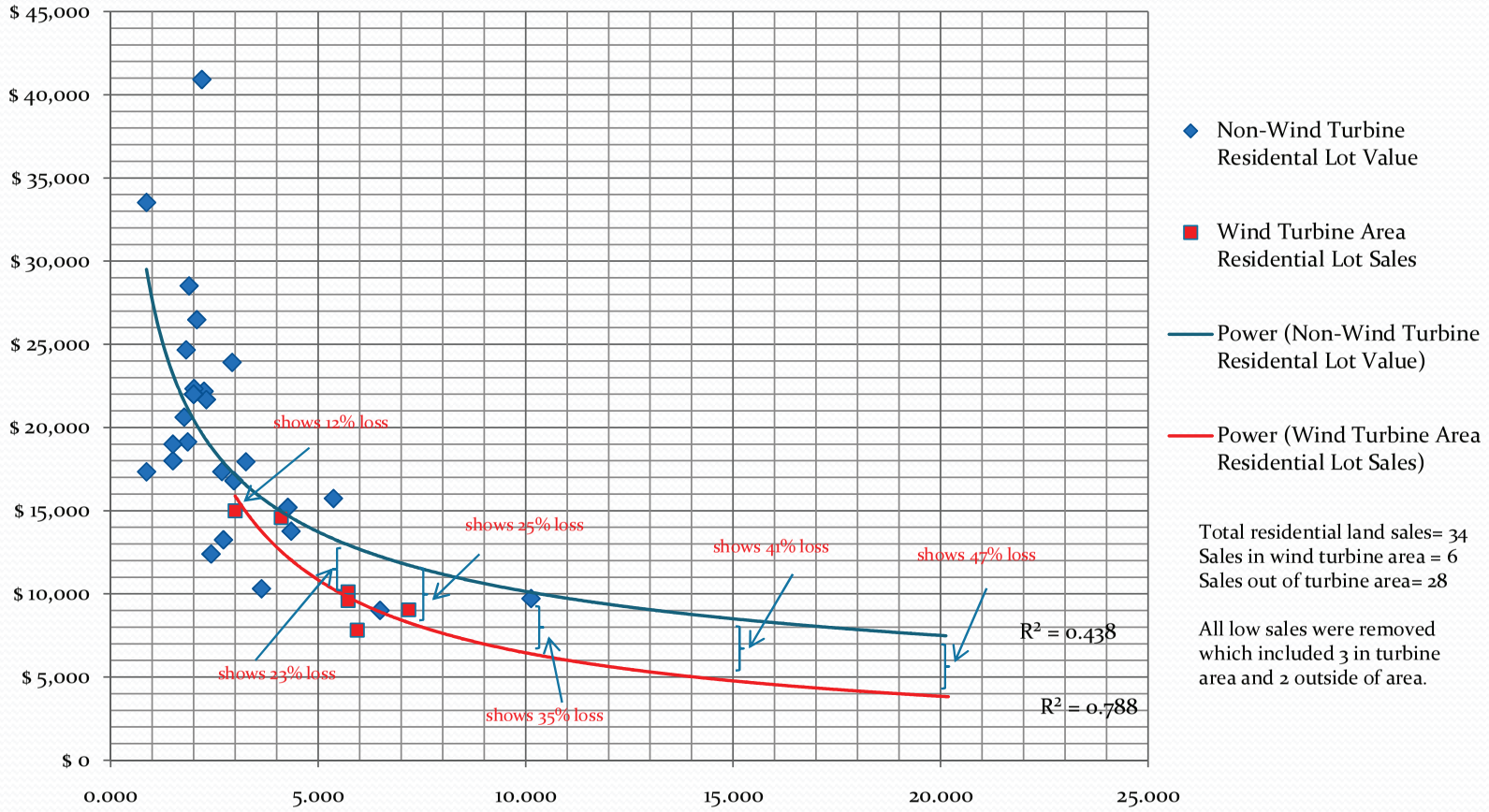
Blue Sky Green Field results . . .

- Sales within the wind turbine area sold for less than comparative sales outside of the turbine area.
- There were substantially less sales available within the wind turbine area than outside of it.
- The impact of the wind turbines on vacant residential land is in the range of -19% to -40%.
- This loss range corresponds with the Realtor survey.

Letter P74

INVENERGY - FORWARD WIND FARM

1 acre to 20 acre residential lot sales -- low sales removed



Total residential land sales= 34
Sales in wind turbine area = 6
Sales out of turbine area= 28

All low sales were removed which included 3 in turbine area and 2 outside of area.

Letter P74

Forward Wind Farm results . . .

- Sales within the wind turbine area sold for less than comparative sales outside of the turbine area.
- There were substantially less sales available within the wind turbine area than outside of it.
- The impact of the wind turbines on vacant residential land is in the range of -12% to -30%.
- This loss range corresponds with the Realtor survey.

Letter P74

Conclusion of Perception of Wind Turbines Impact to Property Value

1. Media has reported on negative health issues and value issues influencing a negative perception.
2. Realtor survey indicated that these perceptions are real in the market.
3. Impact studies suggest the values are substantially negatively impacted in the range of -12% to -40%.
4. The further away, the less the impact.

Letter P74

1/24/19

Mr. Salazar, I am writing in response to the notice of tonight's public scoping meeting about the Fountain Wind Project. I am a landowner with property close to the project (parcel 027-140-024). Several of my relatives also own adjoining parcels of land. Unfortunately, I am unable to attend the meeting. When I heard about the project last February, I spoke to Bill Walker and then sent him a list of my concerns about the project, environmental and otherwise. Judging by the newest project maps, some of my comments were listened to (there is no longer a turbine situated directly uphill of me) for which I am grateful. Since I don't know whether you received a copy of my email to Mr. Walker, I am sending my comments and questions to you now so they can be taken into consideration when you prepare the EIR. 1. I hold riparian water rights on water from Buffum Creek, as do the other owners of what was originally a 160-acre homestead along Buffum Road. These rights date back more than a century. Can you guarantee that the availability and quality of our drinking water will not be impacted, either during construction or during continuing operations in the future? Are you planning to fence off the area where we take water out of the creek and pipe it down onto our lands, and if so, what is your plan for providing us with access to the water? 2. Endangered yew trees grow along some parts of Hatchet Creek, including the area between Highway 299 and the old PG&E drop box. This is not on my own land, but I hope you will be careful to preserve these trees. 3. The wildlife population is still recovering from the 1992 Fountain Fire. In the past 26 years we have planted many trees, but the trees are still maturing and the wildlife has yet to fully recover. Construction projects, noise, and permanent fencing will add more stress to the already-stressed population. I am concerned about the bats and birds which may be killed by the turbines. Based on my own observations, I would say we have only half the birds we had before the fire, with less diversity of species. The bat population was decimated by mosquito abatement projects dating as far back as the 1960s, and fell even further because of the fire. I would say there are 75 to 80 percent fewer bats now than we had fifty years ago. Please do whatever is in your power to reduce the bat and bird kills from the turbines. Otherwise we will be overrun by mosquitos and other insects. 4. Our homestead has traditionally and historically been used as a place to visit and camp in the summer. I have seen some noise level numbers, but it is hard to tell just how loud the turbines will be from our place. Can you give me any information about how far the noise carries? 5. Are you planning to keep the existing county roads open? We currently access our land via Buffum Road, with Big Bend Cutoff Road serving as a second exit in case of fire (although many cars would have a hard time traversing it undamaged). Some of the landowners would like to see the roads kept open, and some would like them to have locked gates. Either way, we need to have a way to access our properties. Thank you for inviting public comment on this project. I have subscribed to the project's email list and look forward to a continuing dialog as your plans progress. If you can answer any of my questions, I will forward the information to my relatives who have land in the area.

Regards,Susan McVey

From: elizabeth l messick <beth.messick@gmail.com>
Sent: Tuesday, February 12, 2019 1:16 PM
To: Lio Salazar
Subject: Fountain Wind Project comments

As owner and occasional resident of the NW1/4 of the NW1/4 of section8, Twnship 34N, range1east, M.D.M. I must comment my concerns in regards to said project.

1. EMFs effects on close residents, on independent power systems(I could pick up my own wind mill on automotive radios), etc.
2. Fire risk is high enough, we have history of fires which would take power down already, this project adds to the risk.
3. You have no idea how the land and water moves in the area, this area is well known for land shifts directly below said project.
4. There has not been an official anthropological study of proposed area, but unofficial sturdy by PhD students showed dwellings and probable burial sites.
5. My land is used for sacred ceremonies by local Native Medicine people currently and the noise of proposed project will definitely interfere.
6. The spring that provides my water may well be effected;will they replace my water?
7. Change in traffic directly above my ranch.
8. Enough of our rural environment and culture has been taken from us over the past one hundred years, this is too much!

Thank you for your time and attention in regards to same.

Elizabeth L. Messick

2/20/19

The proposed Fountain Wind Project will have a devastating effect on wildlife and the environment not to mention diminished property values for those living in the area. I am against installing these windmills and strongly feel that alternative ways can better serve the community.

Monica Micheletti

Letter P78

From: Carol Miller <ranchofeliz@hotmail.com>
Sent: Monday, January 28, 2019 8:57 AM
To: liosalazar@co.shasta.ca.us; Marisa Borg; Mindy Streicher; Joy Tjaden
Subject: Wlindmills

Lio
From the meeting we were at last Thursday night, I take it, you only are handling environmentally issues with the windmills.
So the objections I have to the windmills have to do with the windmills, but also other issues. Who will be handling those questions? Would you so kindly let me know who I speak to those about?
Here are my objections:

1. I understand that Germany own and control the windmills on Hatchet mtn. Will that be the same with the ones on Snow mtn?
2. The destruction that the windmills will do in our area will greatly affect the wildlife around us. We have CA Brown bears, deer, mountain lions, ring tailed cats, raccoons and numerous birds, especially the Canadian geese. It will affect their habitat, water supply and food.
3. We moved to Round mtn to enjoy the beautiful scenery, trees and mountains around us. What the windmills construction will do is ruin all of that. We can even see the Hatchet Mtn windmills from Round Mtn and disturbes our area of wild untouched country that we love.
3. Human water resources will be very disturbed and probably some will disappear. The Montgomery creek is used for swimming, fishing and water source. With of the disturbance of land the creek could even be contaminated with foundation chemicals. Montgomery Creek comes from Snow Mountain, and from there I believe a natural spring. Why would you want to destroy something so natural and beautiful when it could be put somewhere else. The ridge where they want to put the windmills would completely destroy the town of Round Mountain. Many trees would be cut down, new road put in. It would look awful!
4. The property values would decrease, too. We don't intend to sell, we've lived in Round Mtn for nearly 40 years, raised our kids here, we all have enjoyed the country living, quiet, pure and clean and now our grandchildren. And hope to die here undisturbed by civilization. We want to leave the property to our family, as an heritance when we are no longer here.
5. There are studies that have been done on the dangers of Windmills in other areas, especially Canada. I will try to email them to you. Health issues, animal issues, birds issues, etc. And as one man mentioned, the windmills in Tehachpi, CA that the broken windmills are left in a mess on the ground. Germany probably doesn't care what happens to their junk.

There is much more I could say about this windmill idea.... the inconsistency of the reports of how much land used, feet from home dwelling, noise level, remember these windmills will be twice as big as the ones on Hatchet Mountain. The road to build to get the windmills up there will be big, wide and tear out a lot of trees.

Try to remember if you lived here what you would like. I know someone is going to make a lot of money if this goes through, but life is more about money. And it is known that by the time the windmills pay for themselves, they will be old, broken and who will fix them or take the unsightly mess away?

Thank you for considering my objections,
Carol Miller

Sent from Outlook

2/14/19

I have a home in the historic community of Moosecamp in eastern Shasta County. Moosecamp was established in the 1930s and has been an active part of this area ever since.

As currently proposed the will be substantial visual, noise, historical and property value impact to my home and to the Moosecamp community. Substantial mitigations need to be studied and incorporated into this plan,

In the area surrounding Moosecamp the turbines are both too dense and too close to this residential community. They will result in severe visual impact and should be either eliminated or the setbacks should be dramatically increased for proper mitigation. The potential impact of "flicker" should be fully studied (video link: https://youtu.be/MbIe0iUtelQ). Turbine placement should be limited to the north in order to mitigate this flicker impact or, if turbines are placed to the south, the setbacks should be increased. Turbines should not be placed to the east or west of Moosecamp.

The distance to the existing turbines on Hatchet Ridge has been acceptable but as proposed the distance between the proposed turbines and my home and the Moosecamp community would create negative impacts, a visual nuisance and a taking of both historical and economic property values.

Doug Murphy

2/10/2019

I have owned a home in Moose Camp since 1999. My grandparents have lived here since 1967. While I believe in alternative energy sources, I disagree with the size of this project. It is too close to residential areas. The shadows, the noise, the loss of vegetation and wildlife all are negative factors for the size of this wind farm. I also am not in favor of the main road between the two substations being on the edge of our private property. The traffic and visual impact will diminish our property values, etc.
Thank you for your consideration.
Elizabeth Murphy

2/11/2019

My family owns a home in Montgomery Creek off Moosecamp Road and I'm seriously concerned that the addition of 100 wind turbines completely surrounding their home will ruin the tranquility of the area. The turbines will increase traffic in the region, cut down much needed forest which have taken years to recover from the fire, and negatively affect the wildlife in the region. Even now that I live in San Francisco, I continue to visit many times a year because there isn't a more peaceful and beautiful place to vacation in California. I will be heartbroken and devastated if the turbines ruin our view, hurt our precious wildlife, cause forests to be cut down, and cast shadows on our home. I will be forced to find a new place to vacation. After working for the government and at an environmental nonprofit, I understand how valuable renewable energy is. That said, we have to select the locations of our renewable energy sources wisely so to not negatively affect residents in the region. I recommend building turbines NORTH of 299 and not to the south. There are already wind turbines north of 299 and they do not currently affect residents south of 299.

Thank you. – Hannah Murphy

Letter P82

2/10/2019

Please consider putting the windmills farther from Moose Camp. I am a big supporter of renewable energy but I was hoping we could put this windmills in a more remote location that will not disturb my family's peaceful home in the mountains. My Great Great Grandmother, Regina Swarts was the first to have a home in the area and Moose Camp has been a wonderful place for my family and friends to gather and enjoy the serenity of the mountains.

Morgan Murphy

From: Spencer Murphy

Sent: Sunday, February 10, 2019 11:21 AM

To: Lio Salazar

Subject: Re: Fountain Wind Project

My address is:

19607 Sycamore Road

Montgomery Creek, Ca 95065

I will gladly come in and speak with you or the committee on the numerous verifiable health hazards of shadow flicker, though I am sure you are well aware of the dangers associated with it. Here is just one of the numerous studies on shadow flicker:

https://www.epilepsysociety.org.uk/wind-turbines-and-photosensitive-epilepsy#.XGB4-M9Ki-s

Thank you so much for your time,

Spencer Murphy

On Sun, Feb 10, 2019 at 11:11 AM Spencer Murphy <murphyspencer1@gmail.com> wrote:

> Lio Salzar-
>
> After watching the video I have attached regarding the issue of "shadow flicker" produced by these massive windmills, I have taken it upon myself to beg county of Shasta to place all windmills north of highway 299 to not affect the citizens living around Moose Camp Road. After doing research, I have concluded that there is no safe distance escape the issues of shadow flicker and it has nothing to do with how high or low the sun's angle is in relation to North America. Shadow flicker is hazardous to mental health and would ruin my the experience of Shasta County for future generations. My great great grandparents started our lineage in these

beautiful mountains over 90 years ago, and the ashes of my entire family are scattered in the root systems of trees that my great great grandchildren will be able to stand beneath, looking up in awe and bewilderment, thinking of all the generations that have enjoyed this land. I completely support the Fountain Wind Project and its pursuit of harvesting renewable energy. My family, along with the rest of the citizens of Moose Camp are desperate to preserve the epic beauty and tranquility that makes Shasta county so special. PLEASE respect the County of Shasta and its people as much as we do limit the windmills to the area north of highway 299. Thank you so much for your time and consideration of the wishes of the people of Shasta County, I am confident that if you listen to our voices, a compromise can be reached that doesn't harm us, our homes, and our beloved forest.

Sincerely,

Spencer Murphy

Shadow Flicker Link:

https://youtu.be/MbIe0iUtelQ

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Gary & Sharon Narducci Residents of Montgomery Creek 40 years

Comment: We are duply disturbed and concerned regarding the Fountain Wind Project that may affect our 2 communities of Round Mountain & Montgomery Creek. We left the Bay Area 40 years ago to escape the destruction of the natural beauty of surrounding mountains due to housing projects & expanding concrete highways (noise pollution & scenic pollution). After watching various U-tube videos of the windmill project in Australia and seeing and hearing the negative comments (health issues, land erosin, creeks & streams destroyed, wells ruined to name a few) of the people living around the windmills it is shocking that Shasta County would even consider such a large dangerous project like this which would affect our 2 communities. Obviously, not enough research has been done. The last thing we want is to view 100 600ft+ ugly windmills out our windows & property. Many of the homes were purchased long ago for retirement in a pristine area. This project is needless. We are certain you would not choose to have this ugliness & danger looming around your home - So please don't force this on ours.

Privacy notice: Please provide contact information inside the dotted line. The contents of this box *only* will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address: P.O. Box 328 Montgomery Creek, CA 96065

Email Address: slnarducci@hotmail.com

Opt-in to mailing list (must provide valid address): ☑ Yes, mail Project updates ☐ No, do not send mail
Opt-in to email list (must provide valid email address): ☑ Yes, email Project updates ☐ No, do not send email

Instructions:

You may submit your comment regarding the Fountain Wind Project in writing using the form on the other side of this sheet. Please fold and staple this form and mail it to the address below by February 14, 2019. You may also submit comments on the following website: http://comment-tracker.esassoc.com/tracker/fountainwindeir/ by emailing lsalazar@co.shasta.ca.us or by calling (530) 225-5532 by February 14, 2019.

Place stamp here

Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

From: Laureen Oliveira BBHSP

Sent: Thursday, February 14, 2019 6:47 AM

To: Lio Salazar

Subject: Fountain Wind project comments

Number 1. Has a cumulative report been done on the Terry Cloth 144 acre 99 % clearcut thp that was approved in 2015 along Hatchet Ridge?

Number 2. Have all of the springs and Wells been identified along the entire boundary of the proposed wind farm? It has been spoken that the water table for Montgomery Creek starts on Hatchet Ridge. Before you begin this project, identify the headwaters of Montgomery Creek and the Montgomery Creek water table and show its relation to the proposed border of the Wind Farm. Once this has identified, provide a cumulative report on the effects of the clear-cut and it's relation to the headwaters of Montgomery Creek.

Number 3. What is the amount of concrete or cement, and please identify which one, is proposed to be used for the foundation of one wind turbine? How will the amount of that proposed Foundation affect the intermediate area in regards to the identified endangered species in and around Hatchet Ridge territory?

Give a full detailed report on the cumulative impact that the existing Terry Cloth thp, mentioned earlier, on Hatchet Ridge and any other neighboring, existing THP which is already having and affecting endangered species that have been spotted in this territory. The first is the spotted owl within 1.3 miles of hatchet Ridge. The second species that has been spotted within one point three miles of this area is the goshawk. The third species that has been spotted within one point three miles of this territory is the English Peak Greenbrier. If you don't know anything of this. Do some research and provide me with a report of the threatened or endangered species in this area.

Number 4. Please identify the amount of trees that you are proposing to remove. The ages of those trees and the species of those trees. In relation to the thp that has already clear-cut 144 Acres along Hatchet Ridge, how will your wind farm affect the already clear-cut area. Including the springs and Wells along Hatchet Ridge. And along the entire border of your wind farm.

Number 5. Identify any and all herbicides that are planning on being used in that area and provide the California state law which provides you with the legal distance allowed from herbicide spraying and water sources.

Number 6. Identify the long-term effects of the strobing lights in the night sky in relation to night flying creatures, specifically the spotted owl. And also provide any and all reports done on strobing night skies and relation to medically sensitive human beings to a strobing light condition.

Another point regarding the strobing light . Provide a type of agreement from Lassen Observatory stating that your lights from the wind farm will not interfere with their Observatory.

Number 7. Reports have been done on the EMF emissions from the wind turbines and the effects on human health. Provide any and all reports showing the safe distance recommended and by what agency the recommendation is from.

Number 8. Provide proof that the local tribe is in agreement with this project. From what I understand, the wrong Avenue was taken in your approach to the tribe and the timing was not in their favor. I would like to see the pit river tribe have time to respond regarding their sacred sites and traditional ceremonial grounds including burial grounds an ancient villages along Hatchet Ridge.

Number 9. I'm not sure how this ties into the environmental impact report that you are gathering information for at this time, but property values in this area will be affected by the wind farm on Hatchet Ridge. I would like to see property value reports in the area that have windfarms and their values before the windfarms. Many people have come here to retire and have based their entire savings and livelihood on a peaceful retirement in this community with a view of a beautiful pristine environment. Some people have moved here to raise their children, in a place that is unobtrusive from buildings and City skylines. With the opportunity to come into Redding or visit the city as we choose and participate in City activities with our children as we choose. Those that will be benefiting from the wind farm, their proposed, opposed Wind Farm do not even live in this area. This is a rape of our environment, our Skyline, our resources, jeopardizing our very source of water, which in this community is a source of life and existence for many of the community members. As far as I'm concerned, I demand a cumulative impact report for this environment in which you are proposing to put your wind farm. I want a cumulative impact report for five years down the road, 10 years 15 years, 20 years, 25 years, 50 years,. I want proof that in 50 years this wind farm will be viable for this community

and that it will not have left and environmental mess for this community to clean up. I want proof that these particular , exact wind turbines that are being proposed to be erected in our community on our Skyline, proof that these wind turbines have a life of 100 years or MORE before you are going to prove to me that this is "green" energy.

Along with your environmental impact report for this area, I would like to see the environmental impact reports done for every single wind farm that this company has in the United States of America. I would like to see every proposed wind farm that this company has going in the United States of America.

I am within two miles of the border of the proposed Wind Farm. Let it be known that I am in 100% opposition of this project.

Looking forward to a detailed response to everyone of my points.

Have a good day. Thank You for hearing and supporting our community.

Laureen Oliveira

19300 ruff Ryde Road

Montgomery Creek, California 96065

FOUNTAIN WIND PROJECT (UP 16-007) EIR Scoping Comments

From: Joseph & Margaret Osa
21437 Sleepy Creek Rd.
Montgomery Creek, CA

Dear Mr. Salazar,

Thank you for the opportunity to comment on the scoping of the Environmental Impact Report (EIR) for the Fountain Wind Project (FWP) and for the public meeting held at the Montgomery Creek Elementary School on 24 January. We were not allowed the full 30 days to comment on the scope of the EIR because of the late notification by mailer and when the public meeting was held. It is hoped that by signing up for the email notification system via the County's website, we will be allowed the full allocated time to comment on the draft EIR when published.

Our following comments are based on information provided by you and others at the scoping meeting and online, including the Environmental Initial Study (EIS), Pacific Wind Development LLC, dated 28 June 2018 and the California Environmental Quality Act (CEQA) Document. The guiding statues of the CEQA should be strongly considered when evaluating this proposed project, in particular in Section 21001 ADDITIONAL LEGISLATIVE INTENT which states "The Legislature further finds and declares that it is the policy of the state to: (a) Develop and Maintain a high-quality environment now and in the future, and take all action *necessary to protect, rehabilitate, and enhance the environmental quality of the state*. (b) Take all action necessary to provide the people of this state with clean air and water, *enjoyment of aesthetic, natural, scenic, and historic environmental qualities, and freedom from excessive noise.* The EIR should clearly identify how this project **does not** support the Legislative intent of the CEQA because of the Significant Environmental Impacts.

Additionally, according to the Shasta County Code SCC Subsection 17.92.025- Use permits for high voltage electrical transmission and distribution projects.

G. The purpose of this subsection is to establish criteria for High Voltage Electrical Transmission and Distribution Projects in the unincorporated area of the County, and shall apply to all such projects, including, but not limited to, projects submitted by municipal utility districts pursuant to Public Utilities Code Section 12808.5. High Voltage Electrical Transmission and Distribution Projects may only be approved or conditionally approved if **all of the following** findings are made based on substantial evidence in the record:

1. The proposed project is consistent with the General Plan and any applicable specific plan(s);
2. There is a demonstrated need for the proposed project;

3. The project, including route and facilities location and equipment appearance and design, is justified when compared with alternatives, and there are no feasible alternatives that would substantially reduce the adverse effects of the project as proposed; and
4. The proposed project will not, under the circumstances of the particular project, be detrimental to the health, safety, peace, morals, comfort, and general welfare of persons residing or working in the neighborhood of the proposed use or be detrimental or injurious to property and improvements in the neighborhood or to the general welfare of the County; provided, if the proposed project is necessary for the public health, safety, or general welfare, the findings shall so state.

For purposes of this subsection, the term "demonstrated need" means that the applicant has shown that the project is necessary to promote the public health, safety, welfare, and convenience; the term "feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

As shown later in this document the FWP does not meet the criteria of SCC 17.92.025G. (2) There is **no demonstrable need** for this project. (3) The project **is not justified** when compared to alternatives. And (4) the project **will be detrimental** to the health, safety, peace, morals, comfort, and general welfare of persons residing or working in the neighborhood of the project and it will be injurious to property in the neighborhood and to the general welfare of the County. Also, the applicant has not and cannot demonstrate that the project is necessary to promote the health, safety, welfare and convenience of the public and in fact does quite the opposite as evidenced by the environmental impacts to this region.

Several Countries throughout the world and several states, such as Oklahoma and several counties in California, have restricted or banned further Industrial Wind Turbine (IWT) installations because of health and significant environmental impacts. IWTs are a significant fire risk, acting as lightning rods and at such a height that fires can't easily be extinguished. Several Counties within California such as Los Angeles, San Diego and San Bernadine have either banned or restricted further IWT installations and these are the counties with the greatest populations and need for the electrical energy. Shasta County already produces more power than it uses, why should the local residents sacrifice their wellbeing when even in the high power usage areas those residents are not willing to do the same. We strongly recommend that a **"No Project"** or **"Alternate-Site"** alternative, discussed further in this document, be adopted due to the significant environmental impacts of this project.

PROJECT ALTERNATIVES:

According to the California Environmental Quality Act (CEQA) guidelines Section **15126.6. CONSIDERATION AND DISCUSSION OF ALTERNATIVES TO THE PROPOSED PROJECT,** an EIR should consider reasonable alternatives to the project as a whole and not just for some impacted areas. In Subsection (c) "The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects." This

CEQA guidance does not limit the alternatives to those available in Shasta County alone so those outside the immediate area, as will be suggested later in this document, should also be considered. It is assumed that one of the primary objectives is to produce electrical energy from wind in order to reduce so called green-house gasses and other environmental impacts of fossil fuel energy development. Additionally, in Subsection (e) a ***"No Project"*** alternative should also be evaluated. The "***No Project***" alternative should discuss "*what would be reasonably expected to occur in the foreseeable future if the project were not approved."* This would obviously mean avoidance of those environmental impacts that are so disturbing to the local residences and should trouble others throughout Shasta County; especially the resulting increased Fire Risk with its very real possibility of devastating the area and causing the loss of life, and the significant impacts to the Scenic Value of the existing environment. The **"No Project"** alternative should be identified as "Environmentally Superior" according to CEQA guidance.

Also, the guiding statue for consideration of alternative or mitigation measures, including alternate sites as defined by the CEQA guidelines Section **21002. APPROVAL OF PROJECTS; FEASIBLE ALTERNATIVE OR MITIGATION MEASURES** state: *The Legislature finds and declares that it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required by this division are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects. The Legislature further finds and declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof.* The **"Alternate-Site"** alternative discussed in more detail later in this document meets the legislative intent for alternatives per the CEQA guidelines. It also fulfills the objective regarding clean renewable energy production and should also be identified as "Environmentally Superior" to approval of the FWP. The financial considerations used in determining feasibility should not include premature contractual obligations such as leasing of land or future power generation/distribution contracts that the developer may have prematurely entered into prior to public review and approval of the proposed project.

PROJECT DESCRIPTION:

As was pointed out by a local resident at the 24 January Scoping Meeting there is a significant problem with the inconsistencies in the stated acreage of the project, which leads one to wonder if there are other inaccuracies in the project description or what exactly is being evaluated in the EIR. The acreage is listed as 43,743 acres (lot size) in the Planning Permit Master Application and as 39,196 in the attachment to the same application. It is described as approximately 38,000 acres in Appendix C of the Environmental Initial Study and 30,532 in the "Project Description"

section of the same document. Are the project boundaries accurate? What is the true extent of this project including if any future expansion plans? How can an accurate EIR be conducted given the up to 43% area discrepancies?

Another disturbing fact mentioned by the developer, that should not have a bearing on the approval of this project, is that the developer has already entered into a long term lease contract with the land owner, Shasta Cascade Timberlands LLC, **prior to approval** of this project. Local citizens of Shasta County, especially those located near the project area, should not have to endure the impacts of this project just because of the developer's premature business deals. Also, the fact that the FWP would be near a preexisting windfarm project (Hatchet Ridge Project) should not be used to justify approval of the FWP. A lot has changed since the EIR/approval of the Hatchet Ridge Project and many would argue that it should not have been approved even then. The increased realization of the nature of the extreme fire hazard for this area, as demonstrated by the many massively devastating fires throughout this region in the last several years, should cause the reduction of the fire hazard and the protection of life and property in this region, to be the primary guiding principles regarding the approval or disapproval of the FWP.

Also, the description of the project is somewhat misleading with regard to the total generating capacity. The approximately 347 MW and the corresponding hundreds of thousands of homes that would be powered is not accurate. The 347 MW would only occur at peak operating performance (i.e. all wind turbines turning at maximum allowable rotational rate). This condition would not occur very often, if ever. Most wind farms operate at 20-25% of peak capacity, 40% is likely the maximum achievable. Also, because of the intermittent nature of wind power the energy produced could never be solely relied upon without backup generation, usually provided by fossil fuel generators.

ISSUES AND IMPACTS: The following Issues and Impacts are included and listed in accordance with the EIS for easier application of relevancy of each comment and proposed mitigation**.**

I. <u>AETHETICS:</u>

a. ***a)*** *Have a substantial adverse effect on a scenic vista?*

Comments: Although the EIS acknowledges that this area could potentially be significantly impacted it does not clearly define the criteria for determining significance. The EIS goes on to state that "the change in visual character is not anticipated to be significant." This is almost a nonsensical statement given the size and number of wind turbines to be installed. The EIS goes on to state that a visual

analysis should be done to one or more wind turbines, implying that only a small number, maybe as small as one, need be analyzed; this too is nonsensical. The photographs of views from various locations near the project area are inadequate to determine the true extent of the scenic degradation to this area. The Visual Resources Technical Report, referenced in the EIS, should include analysis of views from all nearby homes with modified photographs depicting all of the proposed IWTs installed for both daytime and nighttime. The views should be also be collected from other surrounding areas including, Bella Vista and parts of Redding that can see the eastern ridgeline where the IWTs would be installed. A significant number of the existing Hatchet Ridge project wind turbines can be viewed from as far away as Cottonwood on Highway 5 and these will be closer and almost half again as tall. The analysis should also include the various private homes of local residences in the area as was discussed as the scoping meeting. Some areas such as Moose Camp could have 600 foot tall Industrial Wind Turbines less than 2000 feet away. The permanently cleared areas or minimally revegetated areas, including those for the underground and above ground transmission lines should also be considered when conducting the visual analysis. The visual analysis should include nighttime views as well, with models of all of the Industrial Wind Turbines installed and all of the anticipated lighting, especially those required by the FAA. These towers will likely have medium to high intensity red and white strobe lights that can be seen for miles. Some local residence complain of being able to see the current Hatchet Wind Project FAA lights from their home in Pittsville, nearly 40 miles away. The array of blinking and flashing lights in our night sky is not why we live in this area and should be examined as part of the EIR. Additionally, there was no mention of the factors used for establishing significance when assessing impacts to the scenic vistas. The economic and social impacts, while not directly an environmental impact by definition, can and **should be used** as a factor to establish significance of the visual impacts. According to the CEQA Section 15131 ECONOMIC AND SOCIAL EFFECTS subsection (a) “An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project.” (b) Economic or social effects of a project may be used to determine the significance of physical changes caused by the project. Impacts to existing scenic vistas will have a detrimental effect on property values in the areas surrounding the proposed project. The loss in property value should also cause a reassessment of property values for tax purposes and therefor cause a corresponding loss in tax revenues as compared to current conditions. The changes to the scenic vistas may affect property values for places as far away as Bella Vista and the outskirts of Redding. It is likely that the loss in value will be larger the closer the property is to the Wind Turbines. Loss in property values has been documented in other areas where large scale wind projects have been

constructed. The reduced scenic value would also likely have an effect on tourism as well and may affect some local business. These economic factors do not appear to be considered in the initial studies but should be addressed in the EIR.

i. **Mitigation**: A "**No Project**" alternative would mitigate these impacts and many others. Even with the **"No Project**" alternative, the objective to produce non-fossil fuel based electrical energy, may be accomplished by increasing hydroelectric generating capacity here in Shasta County. The FWP contribution to clean energy is already less significant that it would appear because it requires that the existing clean hydroelectric generation nearby to be idled back while the IWTs are producing power so, it's a zero sum gain for clean energy simply based on total energy generated in this area. Shasta County already provides a tremendous amount of clean energy through its hydroelectric generating facilities, perhaps more could be added or existing ones could be improved thus producing the net additional power desired, cleanly, without the visual and other environmental impacts the Fountain Wind Project will have.

Another possible mitigation scheme that would still allow for the generation of electrical power from wind energy, would be an **"Alternate-Site"** alternative. Shasta County is not required to limit its examination of alternate sites to those within Shasta County alone. While this was suggested in a recent court ruling it was not a requirement imposed by law or regulatory statue. It is not incumbent upon Shasta County citizens or government to be a producer of Wind energy. There are other locations within the state that are much more advantageous to the state's citizens. In the **"Alternate-Site"** alternative underutilized wind farms located in various parts of the country would be revamped. Many wind farms have wind turbines that have fallen into disrepair and are no longer functioning but are frequently still standing such as those in Tehachapi, Altamont Pass, San Gorgonio Pass near Palm Springs, and elsewhere. Portions of existing windfarms have been abandoned or are poorly maintained, often once the government subsidies runout, which is typically 10-15 years. It has taken decades to clean up derelict wind turbines in San Gorgonio Pass with thousands being removed and still hundreds remaining. Reuse existing sites in those or similar areas. The area of San Gorgonio Pass; has abandoned sites, is one of the windiest places in California, has the infrastructure already in place, has desert shrub like vegetation which already does little for Carbon Gas sequestration

and oxygen production unlike our conifer and deciduous forests do, and has already overcome the environmental hurdles, unlike the proposed Fountain Wind Project. The winds haven't stopped blowing there, the money just ran out. The proposer, Avangrid Renewables, has various wind farms such as – Dillon, Tule Wind, Phoenix Wind, Manzana Wind, Mountain View III, and Shiloh, all of which are in non-forested regions of the country. The Developer should be required to document, and provide evidence to Shasta Country, whether they have any sites that could be retrofitted, refurbished or further developed within their existing Wind Farms. All of their current sites are in non-forested and less wildfire prone regions.

Before considering any approval of this project, then as has been done in several areas throughout this country and in Europe, the County should require a "guarantee of compensation against property loss" from the builder for any reasons related to the development of the FWP. Property values could be appraised prior to the commencement of the project and then again upon completion. Loss of any unrealized appreciation during the construction phase could also be factored into the total compensation.

b. ***b)*** *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

Comments: We agree with the statement in the EIS that a thorough analysis should be done for the views along Hwy 299. Although it is not officially a scenic Highway it is none the less a beautiful drive between Redding and the Hatchet Summit area and is considered a gateway to our community and a place characterized by its natural surroundings; this would all change with the construction and installation of the FWP's Industrial Wind Turbines. This area could never be designated as a scenic byway and will instead be dominated by the visual characteristics of the Industrial Wind Turbines. The area is just now fully recovering from the Fountain Fire burn scar with the return of the trees, to adversely affect the local landscape now is just imposing further injury to an area that has already suffered greatly in the past. Several thousand acres will be cleared for the construction phase and nearly 1000 acres will be permanently deforested. This disturbance needs to be modeled in the visual impact assessment. Local comments from residents is that there is a historic property with a cabin built in the 1800s that would have to be demolished; this issue should be further investigated as well.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

c. ***c)*** *Substantially degrade the existing visual character or quality of the site and its surroundings?*

Comments: See above comments for Aesthetics (a, b).

d. ***d)*** *Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?*

Comments: As identified in the EIS the flashing red aviation lights required by the FAA for structures taller than 200 feet, cannot be avoided and would cause a significant impact to the regions visual character. The visual analysis should cover a large area and distance from the project site at night to assess the impacts of these lights just as it should for the other visual concerns. Also, the shadow flicker due to the rotating blades should be thoroughly analyzed for various rates of rotation and at different times of the day and from various sites, especially home owner sites near the Industrial Wind Turbines. Shadow flicker from the nearby Hatchet Wind Project can be seen sweeping across parts of Hwy 299 as the sun drops lower in the western sky which can be disturbing/startling while driving if you don't know where the large moving shadow is coming from.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

II. **AGRICULTURE AND FORESTRY RESOURCES:**

a. ***(a,b,c,d,e)***

Comments: The temporary deforestation of over 2000 acres during the construction phase and nearly 1000 acres of permanent deforestation in this beautifully forested environment is a significant impact. While the Timber Production zoning allows construction of utilities sites under special use permits, most generating facilities do not permanently deforest 1.5 square miles of land. The significance of this impact area is especially important due to the growing scarcity of productive forest lands and the devastating impacts of recent forest fires. Shasta County and nearby areas has suffered tremendous devastation of their forested landscape recently due to forest fires which have destroyed over

981,574 acres in 2018 alone. Our forest lands are not limitless and the analysis of the impacts of any action that converts them to non-timber producing lands should be done in light of the cumulative impacts of recent fire events. Much of Shasta County relies on a few industries: logging, tourism and recreational hunting and fishing. This project will affect those industries and should be thoroughly analyzed.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

III. **AIR QUALITY:**

a. ***b)*** *Violate any air quality standard or contribute substantially to an existing or projected air quality violation?* ***c)*** *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?* ***d)*** *Expose sensitive receptors to substantial pollutant concentrations?* ***e)*** *Create objectionable odors affecting a substantial number of people?*

Comments: The construction phase of the Fountain Wind Project is conservatively estimated to be 18-24 months and will likely have a significant effect on local air quality. There is projected to be as many as 400 workers who will be driving to/from the construction site on a daily bases. There will be a large number of construction vehicles, including timber harvesting operations for the over 2000 acres to be cleared during the construction phase. It is estimated that as many as 15 separate loads per Industrial Wind Turbine would have to be made to deliver its various components with as many as 9 of those as Extra Wide or Supper Loads; that's 1500 loads for the Wind Turbines alone with as many as 900 of them being Extra Wide or Super Loads. These deliveries will originate from various parts of the country outside of the general area and will contribute to air pollution by consuming significant amounts of fuels. The traffic control requirements with single lane traffic controls will waste fuel and contribute to air pollution, as the many vehicles sit in traffic waiting to continue driving on Hwy299. In addition to the 1500 deliveries for the IWTs there are the many deliveries required for the large construction equipment, transmission lines, transformers, other gravel and cement, building materials etc. A significant amount of fossil fuels are consumed in the manufacture, transportation, installation and decommissioning of these IWTs that needs to be fully addressed and accounted for in the EIR. The fuels consumed, exhausts and dust generated

during the two year construction phase need to be thoroughly analyzed in the EIR since they will affect the local community for likely a minimum of two years.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

IV. **BIOLOGICAL RESOURCES:**

a. ***a)*** *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?* ***b)*** *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

Comments: Various studies are referred to in the EIS but are not available on the County's Fountain Wind Project website for review and comment. It would be helpful in providing scoping comments to know the extent of these studies. During the Public Scoping meeting on 24 January it appeared that some data from biological surveys was presented. It was not clear from the data presented, for instance for the Bald Eagle, as to whether the sites noted were known nesting sites or areas where they were observed. We are located within a couple of miles of several proposed IWTs and have regularly observed Bald Eagles, Ospreys and other birds of prey on or around our property which has a large pond on it, yet we did not see any sightings listed for what is essentially the area just a couple of miles west of the IWTs. Also, it appears from the response provided by the local Audubon society that they too have not had an opportunity to review any proposed study for the sufficiency of the methodology used for the studies regarding avian impacts. The local Audubon society suggested that bird surveys be conducted over a year long period to fully capture the different migratory species as they traverse the area. The current schedule for the completion of the EIR by the middle of 2019 would not allow enough time to sufficiently evaluate the various species that may be affected per their recommendation. It is a well-documented fact that IWTs kill a large number of avian species with some estimates being as high as over 500,000 birds killed per year with as many as 80,000 of those being birds of prey.

An extensive Canadian study conducted in 2013 estimated that 8.2 birds were killed per IWT per year. That would result in nearly 20,500 birds killed due to the

FWP and nearly 29,315 when combined with the nearby Hatchet Wind Project over the typical 25 year lifespan of IWTs. The blade tips for the IWTs can turn at well over 100 Miles per hour during maximum operating rotations. The taller the IWT the greater the avian mortality.

A 2013 study produced an estimate that wind turbines killed more than 600,000 bats in the U.S. the previous year, with the greatest mortality occurring in the Appalachian Mountains. Some earlier studies had produced estimates of between 33,000 and 888,000 bat deaths per year.[1] According to some studies it is also known that the effects on the air pressure in the vicinity of the IWTs blade tips can burst the capillaries in the lungs of bats that fly near them [2].

The FWP would be located along the important Pacific Flyway and we regularly see numerous species such as Canadian and Snow Geese, Swans, Pelicans, various herons, ducks, and cormorant on our property just a couple of miles to the west. Coincidentally the pair of Ospreys we so enjoyed in the past have not been seen since the Hatchet Ridge Wind project has been installed. The northern spotted owl and other sensitive species need to be thoroughly addressed by company independent experts. In addition to the birds killed directly by the IWTs there is the permanent and temporarily reduction in habitat of several thousand acres which should also be considered in light of the devastating fires of the last several years in the general region. The accuracy of data from any similar sites used in the analysis should be suspect if it is based on self-monitoring and reporting.

The EIR should also examine the latest scientific evidence on the effects of IWTs on other biological lifeforms within their surrounding environment, in particular those effects caused by infrasound but should also include other possible causes of impacts including changes in electric field and pressure effects. Studies have sighted a measurable effect on the growth rate of some animals near IWTs, possibly due to infrasound effects [3].

Infrasound and other IWT effects have been implicated in behavioral changes of earthworms and other species near them (which may affect soil fertility and revegetation) [4]. Many species of insects and animals use infrasound (low frequency vibrations) to communicate and may be sensitive to those produced by the IWTs. The low frequency vibrations produced by the IWTs can be detected 10 km away or perhaps further depending on local ground characteristics. Low frequency sound/vibrations can travel great distances because they are not easily attenuated by ground or water [4].

As previously mentioned under the Agricultural and Forestry Resource Section above, a tremendous amount of acreage available to native and migratory species of birds and other animals has been significantly altered due to the devastating forest fires and any further disruption in the environment and the potential impacts should be evaluated in light of these significant changes. The wildlife surveys should concentrate on all species that are considered rare or of special concern, especially for this area; badger, martins, wolverines, frogs, salamanders, etc.

Some have tried to minimize the effect of IWTs on the environment, including the impacts to wildlife by comparing it to theoretical effects of fossil fuel generation on the environment due to global warming and other possible effects of consuming fossil fuels. This should not be a bases for attempting to minimize the significance of impacts in the EIR due to the FWP. Just because it may not be as bad as other bad alternatives does not make its impacts insignificant. The project impacts should be compared to the **"No Project"** and **"Alternate-Site"** alternative we recommend for the FWP.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

b. ***c)*** *Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption or other means?*

Comments: The naturally occurring flora and fauna, including any wetland areas are an important source of filtration for waters that enter our local streams and waterways. Many of the homes in the area rely of creek and spring water vice wells or municipalities for their domestic water supplies. Our fisheries are also dependent on the water quality afforded by the existing eco system that will be disrupted by the construction activities of the FWP. The hydrology of the FWP area and all surrounding area especially those at lower elevations would be impacted significantly by the widening of the 87 miles of existing roads, the additional 56 miles of cable trenching with its associated 30 feet wide area of cleared vegetation over these cable ways, the additional 16 miles of overhead transmission lines with their 100 feet of cleared vegetation along their pathways, the temporary clearing of over several thousand acres and permanent clearing on nearly a 1000 acres, the excavation and digging of large concrete foundations up

to 80-100 feet in diameter and 8-10 feet thick at depths of 15-16 feet. The hundreds of thousands of tons of concrete, gravel and compacted earth, will likely affect hydrological flows and water tables. The compaction and disturbance of local geology will likely affect lower elevation hydrological dependent ecosystems. A thorough analysis of all hydrological source and interconnected systems should be conducted in addition to wetlands and there impacts to water quality, fisheries and the local community.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

V. **CULTURAL RESOURCES:**

a. (***a,b,c,d)***

Comments: As mentioned by several speakers during the public scoping meeting held 24 January there are numerous historical sites that are part of the regions Native American heritage. These areas should be protected and preserved. The criteria for specifying the significance of these known sites should be determined by the local tribal community. The FWP should not be allowed to destroy and/or desecrate any sites that are sacred to the local Native Community whose ancestry and heritage is from this area. The sites should be preserved and protected for their cultural and historic significance. Local graveyards would not be dug up for the sake of installing unnecessary IWTs those of our Native American neighbors should not be disturbed either.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

VI. **GEOLOGY AND SOILS:**

Comments: Soil health may be affected by the biological effects of IWTs which should be thoroughly reviewed as sited under Biological Impacts. No further comments at this time.

i. **Mitigation:** The **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail] would eliminate any environmental impacts to this area.

VII. **GREENHOUSE GAS EMISSIONS:**

a. ***a)*** *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?* ***(b)*** *Conflict with an applicable*

plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Comments: Significant amounts of greenhouse gases are produced as a result of the manufacture, transportation, installation and operation of the IWTs of the FWP. The analysis should account for the significant amounts of greenhouse gases used in the creation of the building materials used for the FWP including the significant amounts of concrete and steel as well as many other materials. The fuels consumed in the manufacture, transportation and installation of the transmission cabling and installations and that of the idling traffic during super load transportation and traffic control should all be accounted for. An additional net effect on greenhouse gasses that needs to be accounted for is the reduction of other green sources of energy production such as our local hydroelectric capacity that would have to be throttled back during the operation of the proposed IWTs. Essentially, there is **No Benefit** to the reduction in greenhouse gasses if the increased electrical generation by IWTs is offset by the decreased generation of electricity by existing hydroelectric sources. If plans do not include throttling back the hydroelectric generation then other backup fossil fuel based electrical generation capabilities must be put in place to accommodate the intermittent nature of the electricity generated by the IWTs. The greenhouse gas emissions of the fossil fuel consumed to make up for the other 60-80% of the time the IWTs are not operating needs to be included in the analysis. If fossil fuel generation is the plan for backup generation then the decreased efficiencies of their being operated at different capacities need to also be factored in to the analysis. The cost to decommission and remove or replace the IWTs after their 20-25 life span should also be accounted for in the analysis.

Also, in addition to the fossil fuels possibly consumed for backup generation capability or the reduction of existing green hydroelectric generation there is the reduction in greenhouse gas sequestration capacity by the temporary and permanent removal of thousands of acres of forest. A recent Cornell University study estimated that a single acre of forest would consume approximately 30,000 pounds of carbon dioxide per acre which equates to 72,000,000 pounds of carbon dioxide sequestration capacity loss per year during the construction phase of the FWP and slightly lesser amounts over the years during some regrowth. Nearly 30,000,000 pounds per year of carbon dioxide sequestration capacity would be loss permanently, even after forest regrowth. That's equivalent to the sequestering of over 6500 cars per year during the construction phase and over 3000 cars per year permanently bases on the Environmental Protection Agency's estimate of nearly 11,000 pounds of carbon produced by the average US

automobile in 2012. According to a recent USDA article entitled "Nature's Benefits: Carbon Sequestration" this capacity to sequester carbon dioxide emissions is especially important in light of the tremendous amount of forest acreage which has been destroyed by forest fires in the past several years and the large number of trees killed by beetle infestation and drought. These factors should be accounted for and considered in the EIR.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

VIII. **HAZARDS AND HAZARDOUS MATERIALS:**

a. ***a)*** *Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?* ***b)*** *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Comments: In the initial findings of the EIS for this section it speaks of "Nonhazardous batteries being stored in the substation." What are nonhazardous batteries? Currently all commercially available batteries contain environmentally hazardous substances and hazardous material such as heavy metals, and other chemicals. Lead Acid batteries typically used by the renewable energy industry for wind and solar power generation systems contain dangerous toxic chemicals that can damage the environment if not properly transported, maintained and disposed of. They can also be of significant concern for firefighting personnel should they be subjected to fire as is a real possibility for the FWP. These batteries will likely have a very limited life due to the often used simultaneous charging and discharging of them as a means to regulate inconsistent power generation. [Electrical Batteries for Renewable Energy, by Kyle Slinger]. A better explanation regarding the batteries and how they are used and how the environmental risk associated with them will be dealt with should be provided as part of the EIR analysis.

Also, there appeared to be no consideration for the transformers that are planned to be used by the FWP. There are typically grounding, as well as step-up transformers used at commercial wind farms. The FWP calls for transformers as part of their proposed architecture. The grounding transformers may be used at each IWT with step-up transformers at the substation. Large electrical transformers used by the Wind industry may contain toxic chemicals and flammable oils. Transformer explosions and fires are a large risks at wind farm

substations and IWTs depending on the type of insulating substance used. A clear understanding of the construction of the transformers proposed to be used and how they would be used, maintained, and what steps would be taken to insure they do not contaminate the environment needs to be fully addressed in the EIR analysis.

i. **Mitigation:** There is no reasonable way to mitigate this impact given the high fire risk for this area, other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

b. *g) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?*

Comments: The EIS states that there is no currently adopted emergency response plan for the project area and that the FWP would not physically interfere with an emergency response plan or an evacuation plan for neighboring populated areas (e.g. Burney, Montgomery Creek, and Moose Camp). It also goes on to state that this project does not conflict with the goals of the Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan, particularly to reduce the possibility of damage to property or life including in this area. These statements make no sense in light of Environmental Issues already identified in the EIS and further discussed in this document as "Potentially Significant." The fact that the EIS identifies many studies and further analysis that have yet to be completed should have prevented these statements from even being made at this time. This project will **definitely increase the risk** to property and life due to the increased risk of fire in the area alone. As stated earlier in these comments, this project will interfere with aerial firefighting efforts and other emergency response efforts in the vicinity of the FWP. Emergency firefighting aircraft are restricted from flying near the IWTs or dropping fire retardant on them. These factors restrict the ability of emergency response aircraft from fighting fires in the immediate areas of the IWTs. The steep terrain, as much as 25% grade within the FWP area, require aircraft fire suppression tactics to effectively fight fires in the project and nearby areas. If the IWTs physically limit the ability to fight fire near them and they are less than a mile away from some communities, then they are definitely not reducing the fire risks in this area. This area is considered a Very High Fire Severity Zone per Cal Fire's Fire Severity Zone Map. The very winds that attracted the wind developer to this area also causes this local region to be subject to catastrophic fire damage, as happened during the Fountain Fire in August of 1992.

Existing emergency response plans and/or emergency evacuation plans for this area should be thoroughly reviewed in light of the impacts to ingress/egress, especially during the construction phase, and the limitations to firefighting efforts for the local communities and the project area itself. There are few roads for ingress and egress of this area, should a fire start at the proposed FWP, which extends across both sides of Hwy 299, evacuations and/or emergency response vehicles access, could be severely limited. Many residence are remotely located along numerous small private roads through thickly forested areas; the few County and State roadways connected to these private roads are the local residence's only way out in case of fire or other emergency. Any activity that inhibits their movement and/or increases fire risk in this remotely populated area is putting their lives at risk. These factors should be addressed in the EIR.

i. **Mitigation:** There is no reasonable way to mitigate this impact especially given the very high fire risk for this area, other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

c. *h) Would the Project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

Comments: In light of recent catastrophic wildfires and the changing environmental conditions, including drought and tree mortality, the California Governor's Office of Planning and Research (OPR) has published a revision to the CEQA document dated 28 December 2018. The revised document now contains a new separate Environmental Impact area called "Wildfire." Scoping comments to the above question will be made to that section later in this document.

IX. **HYDROLOGY AND WATER QUALITY:**

a. ***a)*** *Violate (Violate any water quality standards or waste discharge requirements?* ***f)*** *Otherwise substantially degrade water quality? Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?* ***c)*** *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?* ***d)*** *Substantially alter the existing drainage pattern of the*

site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? ***e)*** *Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?*

Comments: The hydrological impacts for this area are potentially significant as the EIS suggests. The naturally occurring flora and fauna, including any wetland areas are an important source of filtration for waters that enter our local streams and waterways. Many of the homes in the area rely of creek and spring water vice wells or municipalities for their domestic water supplies. Our fisheries are also dependent on the water quality afforded by the existing eco system that will be disrupted by the construction activities of the FWP. The hydrology of the FWP area and all surrounding areas especially those at lower elevations would be impacted significantly; by the widening of the 87 miles of existing roads, the additional 56 miles of cable trenching (with its associated 30 feet wide area of cleared vegetation over these cable ways), the additional 16 miles of overhead transmission lines (with their 100 feet of cleared vegetation along their pathways), the temporary clearing of over several thousand acres and permanent clearing on nearly a 1000 acres, will cause significant disturbances to the local hydrology and increase sediment flows and contamination of local streams and other water ways. The excavation and digging of large concrete foundations of up to 80-100 feet in diameter and 8-10 feet thick at depths of 15-16 feet should be considered in the analysis of impacts. The compaction of soils, especially at the installation site in preparation for IWT installation, including the compaction due to the hundreds of tons of concrete of the massive foundations and the sheer weight of the IWTs will likely affect hydrological flows and water tables and should be fully accounted for in the impact analysis. A thorough analysis of all hydrological source and interconnected systems should be conducted in addition to wetlands and there impacts to water quality, fisheries and the local community.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

X. **LAND USE AND PLANNING:**

a. b) *Would the Project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

Comments: The EIS gives a "less than significant" impact rating to this EIR question but the response fails to identify the further guidance given in SCC Section 17.92.025 (G) which defines the criteria for establishing High Voltage Electrical Transmission and Distribution Projects in the unincorporated area of the County. The FWP does not meet 3 of the 4 criteria of this County Planning Code. As stated earlier in these comments, the FWP does not meet the criteria of: (2) There is **no demonstrable need** for this project. (3) The project **is not justified** when compared to alternatives. And (4) the project **will be detrimental** to the health, safety, peace, morals, comfort, and general welfare of persons residing or working in the neighborhood of the project and it will be injurious to property in the neighborhood and to the general welfare of the County. Also, the applicant has not and **cannot demonstrate that the project is necessary** to promote the health, safety, welfare and convenience of the public and in fact does quite the opposite as evidenced by the environmental impacts to this region. The impact for this area should be noted as significant not less than significant.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

XI. **MINERAL RESOURCES:**

a. No Comment

XII. **NOISE:**

a. ***a)*** *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies?* ***b)*** *Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?* ***c)*** *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?* ***d)*** *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

Comments: IWTs generate infrasound. Infrasound is generally considered low frequency sound below 20Hz. Infrasound is not audible to humans but may be perceived through vibrations or pressure waves. They may have significant effects on people's health and feelings of general wellbeing near IWTs. It may also effect animal behavior and their general wellbeing (see comments on Biological Impacts earlier in these comments). When improperly sited, data from the monitoring of two groups of growing geese revealed substantially lower body weights and higher concentrations of a stress hormone in the blood of the first group of geese who were

situated 50 meters away compared to a second group which was at a distance of 500 meters from the turbine.[3]

A scientist working at Sydney University's Auditory Neuroscience Laboratory reports growing evidence that infrasound may affect some people's nervous system by stimulating the vestibular system, and this has been shown in animal models to produce an effect similar to sea sickness. [5]

In research conducted in 2006 focusing on the impact of sound emissions from wind turbines on the nearby population, perceived infrasound has been associated to effects such as annoyance or fatigue, depending on its intensity, with little evidence supporting physiological effects of infrasound below the human perception threshold.[6] Later studies, however, have linked inaudible infrasound to effects such as fullness, pressure or tinnitus, and acknowledged the possibility that it could disturb sleep.[7] Other studies have also suggested associations between noise levels in turbines and self-reported sleep disturbances in the nearby population, while adding that the contribution of infrasound to this effect is still not fully understood.[8][9]

In a study at Ibaraki University in Japan, researchers said EEG tests showed that the infrasound produced by IWTs was "considered to be an annoyance to the technicians who work close to a modern large-scale wind turbine." [10][11][12]

The EIR should review the latest scientific literature for effects of infrasound noise on people and wildlife and be included as part of the EIR.

i. **Mitigation:** Infrasound is an unavoidable characteristic of IWTs and cannot be mitigated thus the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

XIII. **POPULATION AND HOUSING:**

a. No Comment

XIV. **PUBLIC SERVICES:**

a. a) Fire Protection?

Comments: As discussed earlier the IWTs would hamper air support during firefighting operations in the immediate area of the FWP. Effects on emergency communications in the project area should also be analyzed for potential impacts. Because of the high winds in this area, even what would normally be considered a quick response time by local firefighting personnel, may be too long given the extremely high fire hazard rating for this area. Also, as mentioned in an earlier

section the limited ingress and egress to the area could severely hamper emergency vehicle response times and evacuations, particularly during the construction phase. Any proposed projects that increase the local fire risks should not be allowed. Even a small increased risk is large risk for this area.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

XV. **RECREATION:**

a. No Comment

XVI. **TRANSPORTATION/TRAFFIC:**

a. *a,b,b,d,e)*

Comments: The construction phase of the Fountain Wind Project is conservatively estimated to be 18-24 months and will have a significant effect on local traffic flow. There is projected to be as many as 400 workers who will be driving to/from the construction site on a daily bases. There will be a large number of construction vehicles, including timber harvesting operations for the over 2000 acres to be cleared during the construction phase. It is estimated by the developer that as many as 15 separate loads per IWT installed would have to be made to deliver its various components with as many as 9 of those as Extra Wide or Supper Loads; that's 1500 loads for the Wind Turbines alone with as many as 900 of them being Extra Wide or Super Loads. In addition to the 1500 deliveries for the IWTs there would be many deliveries required for the large construction equipment, transmission lines, transformers, other gravel and cement, building materials etc. The traffic control requirements with single lane traffic controls will contribute to traffic congestion in both directions of Hwy299 and hamper access of emergency vehicles and/or evacuations. Emergency aircraft would be hampered in the immediate vicinity of the IWTs.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

XVII. **TRIBAL CULTURAL RESOURCES:**

a. a,b)

Comments: As mentioned by several speakers during the public scoping meeting held 21 January there are numerous historical sites that are part of the regions Native

American heritage. These areas should be protected and preserved. The criteria for specifying the significance of these known sites should be determined by the local tribal community. The FWP should not be allowed to destroy and/or desecrate any sites that are sacred to the local Native Community whose ancestry and heritage is from this area. The sites should be preserved and protected for their cultural and historic significance. Local graveyards would not be dug up for the sake of installing unnecessary IWTs those of our Native American neighbors should not be disturbed either.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

XVIII. **UTILITIES AND SERVICE SYSTEMS:**

a. No Comment

XIX. **MANDATORY FINDINGS OF SIGNIFICANCE:**

a. *b,c*) ***b)*** *Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Comments: ***b)*** As mentioned in the EIS the cumulative effects of being closing located to the Hatchet Ridge project should be considered for all applicable areas of the EIR such as the cumulative effects on bats, various avian species (especially migratory birds and raptors [including our very limited Bald Eagle population]) and other species of wildlife in the area.

The restriction of aerial firefighting efforts in a rugged and fire prone region will be compounded by the closely located Hatchet Ridge IWTs.

Also, there have been studies indicating that the wind turbulence of IWTs, especially those located along ridge lines, can impact local weather by disrupting normal air flow over ridge tops. This turbulence from spinning wind turbine rotors increases vertical mixing of heat and water vapor that affects the meteorological conditions downwind, including rainfall [13] so, the miles of ridge top IWTs of the FWP should be analyzed together with those of the nearby Hatchet Wind Project for possible impacts regarding this phenomena on the local environment.

The cumulative effects of increased fire risk due to the additional sources of potential fire and fuels from the additional IWTs and associated transformers and

other equipment of the Hatchet Ridge project should also all be addressed in the EIR.

i. **Mitigation:** There is no reasonable way to mitigate these impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

b. ***c)*** *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Comments: It's not clear how the EIS could give this particular category a "No Impact" assessment given all of the areas already identified as potentially significant within the EIS itself. The increased fire threat alone has the potential for significant loss of life. Other identified areas should be examined for potential health effects including: infrasound, shadow flicker and wind turbine syndrome. These IWT effects have been a source of thousands of complaints of negative health impacts throughout the world and have led to various regulations in attempts to minimize their impacts. This area should be assessed as "potentially significant" and evaluated considering all of the available scientific evidence for already identified areas of significant impacts.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

DEMBER 2018 AMENDMENTS TO THE 2018 CEQA: The following environmental area discussed are based on the latest amendment to the CEQA document. Two new categories were added that have significant bearing on the FWP.

ENERGY. *Would the project:*

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Comments: Yes, this would result in a significant environmental impact due to wasteful, inefficient or unnecessary consumption of energy resources, during construction and operation. As indicated in earlier sections of this document the only option is the "No Project or Alternate Site". The significant impacts to the environment, including wildlife, and forest lands and other impacts can be mitigated by "No Project" or "Alternate-Site" alternatives identified earlier in this document. There are several alternative sites within the state of California, with much less wildfire risks, with infrastructure already in place, from aging or abandoned IWTs, that can be retro fitted or replaced to generate the clean energy proposed by the FWP. Even though previous wind studies indicate this location may generate the

wind power needed for the FWP, it introduces additional wildfire risks that are not acceptable.

In addition, some of the latest reports and Gap Analysis (from the California Public Utility Commission [CPUC]), indicate the way forward regarding: California's evolving energy market, PG&E's recent bankruptcy filing, grid transmission reliability and safety, renewable energy storage limitations, and the paying of surrounding states to take excess power, all of which need to be resolved and incorporated into the EIR before any further consideration of permit approval for the FWP can take place. These Energy related issue are further discussed below:

According to the CPUC 2018 Report, solar continues to represent the largest portion of renewable energy serving the California load. The report also indicated that with the rapid growth in renewables, particular solar generation, it has dramatically changed California's generation profile, and California's grid operators have had to adapt to these changes. With solar generation, the increase in the morning, when the sun rises, and decrease in the evening requires other resources to balance the generation and load on the electrical system and maintain system reliability. [24] Due to the inability to store enough renewable energy for later use, and the need to balance the electrical grid, California has **paid** Arizona Public Service (APS) Co, to take our excess solar power. "According to APS President of Energy Resource Management, Tammy LcLeod, the Arizona utility will save rate payers up to $18 million with the new system." "The California Independent System Operator (CISO) had too much power coming into the grid from renewable sources and not enough demand to use it up. California was looking for utilities to use the surplus power. Sweetening the pot, the CISO was paying APS to take the power for higher demand Phoenix." [14] Adding another intermittent energy source such as the FWP would exacerbate the problem at this time.

California is part of the four-utility Western Regional Energy Imbalance Market, as such they look for ways to import/export power in the system in an attempt to balance the electrical grid, even **paying other states to take excess power off the grid.** Because of the current renewable storage limitations, and the transmissions system reliability and safety constraints, California's ability to both export excess generation and import generation to meet load demands is limited. Clearly the additional power generated by the FWP will just add to the problems currently being addressed by the CPUC. To approve the FWP will only add to this problem and does not address the wasteful energy, safety, and financial inefficiencies, which do not benefit the California consumers.

Based on the December 2018 California Energy Commission Renewable Energy Report, California's evolving electricity market has been shifting largely due to the increase in self-generation and Community Choice Aggregators (CCAs). CCA's are local public agencies,

typically created by joint powers agreements or city or county ordinance that can directly develop and buy electricity on behalf of their customers. The CPUC's report titled, *California Customer Choice, An Evaluation of Regulatory Framework Options for and Evolving Energy Market* reports that by the end of 2018, as much as 25% of Investor Owned Utilities (IOUs) retail electric load will be served by a combination of rooftop solar, CCA's and direct access providers. The CPUC staff paper further predicted that this number could grow to 85% in the next decade. This potential widespread growth of CCAs presents opportunities and challenges for renewable development, as well as raising broader considerations of reliability, load uncertainty, and cost allocation. [15]

Transmission Agency of Northern California (TANC), in earlier communications with Shasta County regarding the nearby Hatchet Ridge Project and associated transmission system reliability indicated that, "previous interconnection studies have indicated that the injection of power from these projects could have a detrimental impact on the amount of power that could be imported into California from the Pacific Northwest."[16] TANC also indicated "In the absence of specific studies qualifying the impacts or associated mitigation costs of the Project, on the existing 500-kV grid, please be aware that this and similar projects will likely increase the cost of rebuilding or re-conducting existing 230-kV line to maintain appropriate levels and related performance objectives for potentially affected public facilities."[16] Due to the fact that PG&E has filed bankruptcy it seems unlikely that they will take any action for re-conducting or upgrading transmission lines in the FWP area to help stabilize the transmission grid for safety or reliability. With the already identified concerns of reliability and load uncertainty, not to mention the increased costs, and lack of specific studies or analysis, the FWP would only exacerbated the problem by adding additional transmission lines and intermittent power.

According to the CPUCs 2018 report, solar power has dropped in price and installations are on the rise. Additionally, with the mandate that all new homes, beginning in 2020, must have solar power, and the fact that many large businesses and military bases are installing renewable energy systems, the electric grid system safety and reliability is being challenged. The CPUC is taking action **now** to evaluate how they will address the issues and gaps outlined in the Gap Analysis from the Choice Paper [18]. Some of these issues will require updates to regulations and some will include legislative action to determine the future of renewable energy. With all the work in progress by the CPUC it cannot been determined that the FWP, at this requested location, shows any benefit to California's green energy efforts. i.e., (Issue: Contracting for Reliability Resource Requirements) Will there be continued support of the resource procurement necessary for long term supply, renewable resources and Behind The Meter (BTM) technology penetration to meet statewide goals for reliability, de-carbonization and affordability?

The CPUC released a report in May 2018 warning that the emergence of CCAs could potentially destabilize California's energy grid. The CPUC's primary concern is that CCAs have fractured regulatory decision-making regarding reliability, affordability, and safety – decisions that have traditionally been handled by the CPUC. [17]

Due to the emergence of CCAs, Direct Access electricity service providers (ESPs) and BTM technologies, the CPUC embarked on the Customer Choice Project to examine the rapid changes in California's electric sector due to an evolving and increasingly disaggregated electric market. The CPUC published the *California Customer Choice: An Evaluation of Regulatory Framework Options for an Evolving Electricity Marke*t (Choice Paper). This paper looked at critical policy issues associated with increased disaggregation of load and supply and conducted an internal analysis to identify the regulatory gaps that exist and the necessary actions to ensure the core principles are met. The *Choice Action Plan and Gap Analysis* indicates the CPUC "lacks a comprehensive regulatory framework to address burgeoning customer choice options, increasing disaggregated load, and sector fragmentation, which is also creating adverse consequence, that if not addressed, may likely lead to a crisis. The Gap analysis identified the major issues under the core principles of reliability, affordability, and consumer protection. The Choice Action Plan offers a roadmap to anticipate and ameliorate the adverse and unintended consequences of customer choice and disaggregated electricity procurement." [18] This is just further evidence that now is not the time to move forward with the FWP given all of the system challenges and electric grid issues.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail] at this time.

b) *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

Comments: Yes, the conflict is outlined in the information listed under question (a) for Energy above. Conflicts arise, and needs to be addressed adequately, as identified in the final Choice Action Plan and Gap Analysis Report from the Choice Project, as to how the State will address Distribution Grid Services and Resource Adequacy issues. Some of the current energy inefficiencies have already been mentioned, and I am sure there are many more, that can no longer be ignored. The cost of moving forward, despite some of the issues, especially the transmission grid safety and reliability areas, have cost California billions of dollars and hundreds of lives, none of which can be replaced by accelerating clean energy goals without **addressing the safety and reliability concerns first**.

Additionally, according to the 2018 CPUC Report, California is ahead of its current renewable energy goal targets. The report shows the goal of 33% of electrical demand

supplied by renewable energy for 2020, we are at 34% in 2018. Having already exceeded the current goals, California officials need to pause to address the safety, and threat of life issues now. These issues need to be resolved before any further development takes places. Allowing the FWP to introduce an additional 16 miles of transmission lines proposed in the project and another intermittent power source, will only exacerbate the safety risk and degradation of service issues currently being dealt with and studied by the CPUC.

Additionally, research indicates that wind energy is less efficient than previous thought so the EIR should compare other renewable energy source, to this project, as a means to generate the same clean power (i.e. solar farms [placed in valley location], or additional or increased capacity hydro-electric generation). Because of the many significant environmental impacts of the FWP and the inefficiencies as compared to other renewable sources, the FWP should not be approved and other renewable solar or hydroelectric projects should be considered instead. The study below discusses some of the energy density issues of IWT generated renewable energy

> The new study, published in *Environmental Research Letters,* shows yet again that wind energy's Achilles heel is its paltry power density. "We found that the average power density—meaning the rate of energy generation divided by the encompassing area of the wind plant—was up to 100 times lower than estimates by some leading energy experts," said lead author Lee Miller, a postdoctoral fellow who coauthored the report with Harvard physics professor David Keith. The problem is that most estimates of wind energy's potential ignore "wind shadow," an effect that occurs when turbines are placed too closely together: the upwind turbines rob wind speed from others placed downwind.
>
> The study looks at 2016 energy-production data from 1,150 solar projects and 411 onshore wind projects. The combined capacity of the wind projects totaled 43,000 megawatts, or roughly half of all U.S. wind capacity that year. Miller and Keith concluded that **solar panels produce about 10 times more energy per unit of land as wind turbines**—a significant finding—but their work demands attention for two other reasons: first**, it uses real-world data, not models**, to reach its conclusions, and second, **it shows that wind energy's power density is far lower than the Department of Energy, the IPCC, and numerous academics have claimed**.
>
> Further: "While improved wind turbine design and siting have increased capacity factors (and greatly reduced costs), they have not altered power densities." In other words, though Big Wind has increased the size and efficiency of turbines—the latest models stand more than 700 feet tall—it hasn't been able to wring more energy out of the wind. Due to the wind-shadow effect, those taller turbines must be placed farther and farther apart, which means that the giant turbines cover more land. As turbines get taller and sprawl across the landscape, more people see them.

> **In California, which just boosted its renewable-electricity mandate to 60 percent by 2030, wind turbines are so unpopular that the industry has effectively given up trying to site new projects there**.
>
> Big Wind has attempted to intimidate some of its rural opponents by filing lawsuits against them. Last year, NextEra sued the town of Hinton in federal and state court after the town passed an ordinance restricting wind-energy development. The wind-energy giant also sued local governments in Michigan, Indiana, and Missouri, all of which had passed measures restricting wind-energy development.
>
> Why the hardball tactics? Simple: rural residents stand between Big Wind and tens of billions of dollars in subsidies available through the Production Tax Credit. In September, Lisa Linowes, cofounder and executive director of the Industrial Wind Action Group, a New Hampshire-based nonprofit that tracks the wind industry, published an article on MasterResource.org. "The US Treasury estimates the PTC will cost taxpayers $40.12 billion in the period from 2018 to 2027," Linowes wrote, "making it, by far, the most expensive energy subsidy under current tax law." The punchline here is obvious: wind energy has been sold as a great source of "clean" energy. The reality is that wind energy's expansion has been driven by federal subsidies and state-level mandates. Wind energy, cannot, and will not, meet a significant portion of our future energy needs because it requires too much land. [19]

Shasta country already has clean energy projects that support California's goal for clean and renewable energy generation such as the Hatchet Ridge Wind Project and various Hydroelectric Facilities. The Hatchet Ridge Wind Project has 44 turbines generating up to 102 MW of electricity located near Burney. A nearby Hydroelectric Facilities operated by PG&E spans 38 miles of the Pit River, Pit, 3, 4, and 5 near Burney and Big Bend. It has four dams, four reservoirs, three powerhouses, associated tunnels, surge chambers, and penstocks. The nine generating units from the powerhouses have a combined generation capacity of 325 MW.

One of the biggest concerns that must be addressed is the bankruptcy of PG&E. PG&E filed bankruptcy as the "only viable option" to escape potentially $30 billion worth of liabilities for sparking major wildfires in 2017 and 2018. State investigators found the utility sparked a dozen major fires in 2017 through poorly maintained powerlines and equipment. Pacific Gas and Electric (PG&E) may shed more than $40 billion worth of power purchase agreements after the California utility was driven into bankruptcy by liabilities for sparking deadly wildfires, The Wall Street Journal reports.[20]

PG&E wants the U.S. Bankruptcy Court in San Francisco to rule whether the company must honor $42 billion worth of contracts with about 350 different energy suppliers, mostly solar

and wind plants. The goals set by government officials were optimistic before PG&E filed for bankruptcy. **California's grid operator has paid surrounding states on several occasions to take excess power off California's grid caused by overproducing solar and wind farms**. [20] As noted in a recent Bloomberg news article the wildfire crisis and the resulting PG&E bankruptcy, could impact the state's ability to meet its clean energy and climate goals. [21]

Since the installation of the Hatchet Ridge IWTs the environmental safety concerns have escalated tremendously, as witnessed by the recent destructive and devastating wildfires, likely due faulty grid transmission lines (having been poorly maintained), and unpredictable wind patterns (Firenato). With the documented increased safety concerns, and the risk of life threatening wildfires, we do not believe the Hatchet Wind Project should be used as a precedent for determining the approval of the FWP. Many of the same unresolved environmental, safety, economic, and electrical transmission grid impacts from the Hatchet Ridge Project, still exist, some having actually increased in their impact (such as wildfires). The proposed FWP would create cumulative impacts that need to be addressed and resolved, via independent studies, in conjunction with the documented transmission grid safety, reliability, and degradation issues as a whole for the state.

Even though it has been documented that wind generation at the proposed project site is sufficient for a wind generation facility, Shasta County should not approve the permit based on the reduced community safety issues alone and the further ongoing electric generation and transmission issues within the State.

i. **Mitigation:** There is no reasonable way to mitigate this impact especially given the ongoing electric grid issues, other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

WILDFIRE: *– If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*

a) *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

Comments: Shasta County needs to review and update the existing emergency evacuation plan in relation to the recent devastating wildfires that have plagued the area. Per the documentation available on the FWP county web site, only local officials were notified to address any emergency evacuation concerns, others agencies at the State and/or Federal level should also be consulted regarding emergency response considerations. Considering the

recent Northern California fire activity this item should be listed as 'Potentially Significant Impact' with the County providing emergency evacuation plan updates. Due to recent massive and destructive wildfires, in the immediate and surrounding areas, the community emergency evacuation plan needs to be, evaluated, addressed and updated **before** the project developer can indicate if this area has been addressed and how effected any plans would be. The various communities affected by the FWP have very few exit routes near the project area. This limitation has been shown, in the recent Carr, Delta, and Camp fires, to have life threatening and devastating consequences.

The EIS states that there is no currently adopted emergency response plan for the project area and that the FWP would not physically interfere with an emergency response plan or an evacuation plan for neighboring populated areas (e.g. Burney, Montgomery Creek, and Moose Camp). It also goes on to state that this project does not conflict with the goals of the Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan, particularly to reduce the possibility of damage to property or life including this area. These statements make no sense in light of Environmental Issues already identified in the EIS and further discussed in this document as "Potentially Significant." The fact that the EIS identifies many studies and further analysis that have yet to be completed should have prevented these statements from even being made at this time. This project will **definitely increase the risk** to property and life due to the increased risk of fire in the area. As stated earlier in these comments, this project will interfere with aerial firefighting efforts and other emergency response efforts in the vicinity of the FWP. Emergency firefighting aircraft are restricted from flying near the IWTs or dropping fire retardant on them. These factors restrict the ability of emergency response aircraft from fighting fires in the immediate areas of the IWTs. The steep terrain, as much as 25% grade within the FWP area, require aircraft fire suppression tactics to effectively fight fires in the project and nearby areas. If the IWTs physically limit the ability to fight fire near them and they are less than a mile away from some communities, then they are definitely not reducing the fire risks in this area. This area is considered a Very High Fire Severity Zone per Cal Fire's Fire Severity Zone Map. The very winds that attracted the wind developer to this area also causes this local region to be subject to catastrophic fire damage, as happened during the Fountain Fire in August of 1992.

Existing emergency response plans and/or emergency evacuation plans for this area should be thoroughly reviewed in light of the impacts to ingress/egress, especially during the construction phase, and the limitations to firefighting efforts for the local communities and the project area itself. There are few roads for ingress and egress of this area, should a fire start at the proposed FWP, which extends across both sides of Hwy 299, evacuations and/or emergency response vehicles access, could be severely limited. Many residence are remotely located along numerous small private roads through thickly forested areas; the few County and State roadways connected to these private roads are the local residence's only

way out in case of fire or other emergency. Any activity that inhibits their movement and/or increases fire risk in this remotely populated area is putting their lives at risk. These factors should be addressed in the EIR.

ii. **Mitigation:** There is no reasonable way to mitigate this impact especially given the very high fire risk for this area, other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Comments: The FWP terrain is steep, as much as 25% grade, and inhibits firefighting efforts. Due to the steep terrain firefighting air craft would need to be used, which would be limited in their ability to respond because of the height and wind turbulence of the IWTs. One of the reason the developer choose this site is the prevailing winds which substantially increase the risk of fires starting from downed transmission lines or IWTs and also increases the probability of a fire's rapid and uncontrollable spread, as was experienced during the local Fountain Fire of '92 and the very tragic Camp and Carr fires where nearly 100 persons died just last year. In many of the recent fires that plagued Northern California the wind has proven to be a substantial factor in the spread of the wildfires at an unprecedented rate. The fact that IWTs do catch fire and that it is an ongoing concern for the Wind Industry, is well documented. It is thought that the number of fires which have occurred is grossly under reported for various reasons by the Wind Industry. [22]

The IWT nacelles typically contain a large amount of flammable materials including: lubricants for the gears, fiberglass covering of the nacelle, resins, plastics etc. Once the IWTs catch fire, typically within the nacelle, there is little that can be done by fire responders other than to let them burn and try to mitigate the spread of fires on the ground as the IWT spews fiery debris over a large area. There is also the danger to fire fighters of being struck from some of this fiery debris, including the large IWT blades which often fly apart during IWT fires. Several communities in this country and throughout the world have restricted any new wind farm developments in timber and forested areas due to increased fire risk caused by IWT fires, transmission lines, and often because of the remote locations and turbine height, limits resources of firefighting efforts. Fearing more forest fires, an Australian province enacted a law banning placements of wind towers near wooded areas after tens of thousands of acres of forested land were destroyed. [23]

On-site fuel to maintain FWP operations and maintenance, including the transformer oils and other flammable materials impose an additional risk factor to an area that has already been identified as "Very High Risk" as indicated by the Cal Fire maps. Any increased risk even if only slightly should not be allowed and is akin to smoking while pumping gas, it should not be allowed to occur in this area.

According to the CPUC 2018 no issue received more attention than the CPUC's efforts to deal with the increased threat of wildfires throughout the state. Due to the devastating wildfire threat the CPUC, the Governor, Legislature, a host of state agencies and local governments are making fire safety a primary focus. The wind-driven wildfires that plagued the California North state in 2018 were ravenous and lightning fast as seldom seen in California before. The deadly wildfires drive home the reality that the state is facing challenges of keeping people, property and the environment safe. California's fire season is longer and more severe and those challenges are expected to get even worse with prolonged drought, increased tree mortality and various other factors. In 2018 the Safety and Enforcement Division (SED) organized a wildfire safety hearing. The hearing underscored wildfire safety as a top priority for the CPUC which will lead to refined policies and new state laws. As part of these efforts to implement wildfire safety the CPUC will examine PG&E's current corporate governance, management and structure to determine the best path forward for Northern Californians to receive safe energy service. The Commission is also preparing to initiate safety culture proceedings for the other utilities it regulates.

According to CPUC Fire-Threat Map of January, 19, 2018 the proposed project development area is completely surrounded by areas of elevated fire risk Tier 2, and in some areas extreme risk Tier 3, (including likelihood and potential impacts on people and property) from utility associated wildfires. Tier 2 fire-threat areas depict areas where there is an elevated risk (including likelihood and potential impacts on people and property) from utility associated wildfires. Tier 3 fire-threat areas depict areas where there is an extreme risk (including likelihood and potential impacts on people and property) from utility associated wildfires. Many residents in the nearby project development area are already being denied homeowner insurance, or renewals, because we are now considered to be in a 'Very High Risk' area as identified by Cal Fire Hazard Severity maps. The only homeowner insurance options we have been able to obtain are the California Fair Plan, which is considered to be the last resort for homeowner's insurance. The FWP would further exacerbates an already highly volatile environment with high winds, forested mountain terrains subject to lightning strikes (compounded by the turbines themselves) and steep terrain making firefighting efforts more difficult (some areas only available by air support alone) as previously stated. Given the already extremely high fire rating for this area and the additional risk imposed by the FWP, the turbine manufacture(s), developer, project land lease owner, Shasta County, and the State of California could be held liable for furthering any developments of this type.

A report generated by Lawrence Berkeley National Laboratory, Greenware Technologies and Envision Geo for the California's Fourth Climate Change Assessment, titled ASSESSING THE IMPACT OF WILDFIRES ON THE CALIFORNIA ELECTRICITY GRID show that for our region the threat of wildfires is doubled by the years 2040-2049 the same time the IWTs are reaching the end of their serviceable life and more prone to failure and fire which would just compound an already volatile situation.

Because of these newly initiated and ongoing efforts by our state regulatory agencies and governance regarding power generation and distribution no further action should be taken to approve the FWP until clearer guidance is provided by the CPUC for regions such as ours, especially since there is no "Demonstrable Need" for the FWP at this time. .

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Comments: Addressed above and in previous comments.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Comments: Needs to be examined in EIR.

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Sincerely,
Joseph & Margaret Osa
21437 Sleepy Creek Rd.
Montgomery Creek, CA 96065

From: Maggie Osa
Sent: Friday, February 8, 2019 9:49 AM
To: Lio Salazar
Cc: sleepycreek2@gmail.com
Subject: FWP Economic Issues and Impact Consideration

Hi Lio,

I know there were several comments during the pubic scoping meeting about the economic impacts, and benefits, for the Fountain Wind Project (FWP) and you indicated they are not covered in the EIR.

If this information is not covered in the EIR where and how do we get access to the data for this portion of the project?

Also, do you expect the visual analysis, in a 3-D format from the Redding view shed, be included in the Draft EIR?

I appreciate your help with this effort.

Best Regards,
Margaret Osa

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: L A. Owens

Comment: If you can put the towers out of sight fine. If you can't then maybe you should consider the people, County Constituents, who dont want an eyesore instead of our beautiful location. Which one of you is willing to wake up to an eyesore so long as you can enrich yourselves at the expense of the mostly retirees who reside here. move the project back to where we don't have see our hard-earned retirement swapped up just so a bunch non-residents can line their pockets. We were here first, the residents don't want it. As for the local politicians they should understand that no matter their title or how big their shot, All they are is employees and expendable at that. Now go sell us out, We know you will.

Privacy notice: Please provide contact information inside the dotted line. The contents of this box *only* will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address: Lynn A. Owens
PO Box 396
Email Add. Round Mountain, CA 96084

Opt-in to mailing list (must provide valid address): ☑ Yes, mail Project updates ☐ No, do not send mail
Opt-in to email list (must provide valid email address): ☐ Yes, email Project updates ☐ No, do not send email

Instructions:

You may submit your comment regarding the Fountain Wind Project in writing using the form on the other side of this sheet. Please fold and staple this form and mail it to the address below by February 14, 2019. You may also submit comments on the following website: http://comment-tracker.esassoc.com/tracker/fountainwindeir/ by emailing lsalazar@co.shasta.ca.us or by calling (530) 225-5532 by February 14, 2019.

Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Charles and Cynthia Palatino

Comment:

Documented from testimonials given by people living in Canada, Norway and Australia who have had wind farms established near their homes and communities.

HEALTH ISSUES

Never ending nausea	High blood pressure	Dizziness
Ear Pressure	Severe daily headaches	Seizures

It has been scientifically documented that these symptoms and others are due to the low infra frequency ultrasound that emanates from the turbines. You can't hear them because of the low frequencies but their impact is far reaching and can be felt in the surrounding area and register a higher intensity within home walls. Children and elderly are very vulnerable to the infra frequency. Residents leave their homes to live in areas not impacted by the wind farms and their symptoms disappear. People are driven off their land for health reasons.

ENVIRONMENTAL IMPACT

ANIMALS:

Bald eagles nest and hunt in this area regularly. Canadian geese have been seen resting and feeding in our ponds. It has been well documented that wind farms have disrupted migrating bird flyways, also the animal migration routes have also been disrupted. Some bird species have been reported wiped out by the blades. Observers have reported that bat's lungs have imploded when they flew near the blades. Chicken eggs no longer have yoke in them, some chickens stop laying eggs, previously healthy cattle develop issues and die, and baby animals have deformities such as organ swelling and die. It has been documented that earthworms vacate properties that fall within the sphere of influence of wind farms.

LAND:

Environmental degradation is reported wherever these wind farms exist, one example is the fluids contained in the turbines that reportedly seep into the ground. This proposed wind farm will clear-cut a large portion of our forest that was replanted and/or survived the 1992 Fountain Fire, 800 homes were destroyed.
Who will restore the land to its natural state when the turbines are considered obsolete?

EFFICIENCY:

More CO2 is produced in the manufacture of the foundation concrete that the wind mills would eliminate in their production life span. (927 kg of CO2 is emitted per 1000 kg of Portland cement.) They require huge fields to be installed because of the low energy per volume of wind that is generated per tower. Wind is intermittent thus limited efficiency. Ice buildup on turbine blades (better known as ice throw) can throw them off balance and cause blades to shatter.

FIRE DANGER:

In high winds the shut off mechanisms have been known to fail. The ensuing vibration travels down the length of the tower and can cause total splintering of the blades and collapse of the tower. This has been documented on film. Wind turbines have also been filmed exploding into a blaze of fire, sending hot burning components into the air for 100's of yards. With our high winds and dry grass hills this would be a disaster.

Privacy notice: Please provide contact information inside the dotted line. The contents of this box *only* will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address: P.O. Box 317, Round Mountain, CA 96084

Email Address: pal-con@outlook.com

Opt-in to mailing list (must provide valid address): ☒ Yes, mail Project updates ☐ No, do not send mail
Opt-in to email list (must provide valid email address): ☐ Yes, email Project updates ☐ No, do not send email

Instructions:

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Place stamp here

Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

Letter P90

2/4/2019

As lease holders in Moose Camp Recreation property (established 1928) we feel the impact of the Fountain Wind Project in the Montgomery Creek area would be devastating without benefits! The presence of 600 ft. windmills so close to Moose Camp would be nothing but an eyesore and forever change the natural beauty of the area.

Bill and Brenda Popejoy

Letter P91

1/23/19

The water rights for the buffum homestead . It comes into the southeast corner of the homestead from what use to be roseberg property. Also water rights from buffum creek due south of homestead. We use the water yearly till we turn it off for winter.

Thank you, Randal Rains

Letter P92

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

RECEIVED
SHASTA COUNTY
FEB 14 2019
DEPT OF RESOURCE MGMT
PLANNING DIVISION

Commenter Name/Affiliation: KEVIN REED

Comment: BUILD IT, THEY
BRING JOBS TO THIS
WOODS

I THINK

YES

Privacy notice: Please provide contact information inside the dotted line. The contents of this box *only* will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address:

Email Address:

Opt-in to mailing list (must provide valid address): ☐ Yes, mail Project updates ☐ No, do not send mail
Opt-in to email list (must provide valid email address): ☐ Yes, email Project updates ☐ No, do not send email

Instructions:

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Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

Shasta Group
Mother Lode Chapter
P.O. Box 491554
Redding, CA 96049-1554
www.motherlode.sierraclub.org/shasta

January 27, 2019

Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
1855 Placer Street Suite 103
Redding, CA 96001

Subject: Request for 30 Day Time Extension for NOP Fountain Wind Project

On behalf of the Shasta Group of the Sierra Club I am requesting that the County extend the deadline to receive input comments to the Notice of Preparation of the EIR for the Fountain Wind Project from February 14 to March 14, 2019. The first public meeting was held in Round Mountain on January 24, 2019. Prior to that, the general public and especially the residents in the project area did not know how to submit comments on the NOP. I attended that meeting and the obvious response from the audience was how to submit comments on what should be covered in the Draft EIR. Unless the public is given wide berth to include their concerns, there will be a feeling of lack of transparency on the part of the County and the Applicant. I also recommend additional meetings be held in Burney, Palo Cedro and Redding to obtain verbal and written input on the areas of concern for the Draft EIR. These additional meetings and time extension will have little impact on the overall conceptual project schedule but will go a long way in establishing public trust in the CEQA process.

Respectfully submitted,

John Livingston
Chair of the Executive Committee of the Shasta Group of Sierra Club

Shasta Group
Mother Lode Chapter
P.O. Box 491554
Redding, CA 96049-1554
www.motherlode.sierraclub.org/shasta

February 6, 2019

Lio Salazar, AICP, Senior Planner
Shasta County Dept. of Resource Management Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

Subject: Written Scoping Comments-Fountain Wind Project (Use Permit 16-007) Environmental Impact Report (DEIR)

Below are the scoping comments from our Shasta Group of the Sierra Club. Our Group of approximately 1200 members extends geographically from Red Bluff to the Oregon Border in northeastern California. Many of our members will be impacted either directly as their property is near the proposed site, live in the view-shed of the turbine towers, or travel thru the area frequently or occasionally. Please incorporate our comments into the topics covered in the DEIR.

1. The towers, blades, and turbines are traditionally painted white. Please investigate whether other colors or color patters would have less visual impact and lessen bird strikes.
2. The lights atop the towers seem to attract birds which are hit by the blades. Investigate whether the color of the lights can be changed.
3. The DEIR should include cumulative impacts to onsite and offsite water courses, springs, sediment yields, water quality and visual impacts to watercourses.
4. Evaluate wildfire impacts on equipment, roads, culverts, fencing, runoff, and impacts to stream runoff, water quality, and visual impacts to adjacent landowners as wildfire will happen during the life of the project.
5. Evaluate chronic impacts to bird nesting sites.
6. Estimate number of birds killed by different sizes of towers and different tower densities and layouts.
7. Stantec appears to be doing some of the studies for the EIR under the direction and funding of the Applicant. How can Shasta County be guaranteed that the Stantec work is impartial and scientifically peer reviewed?
8. Why do many of the figures in the preliminary studies have a sheet title of McCloud project?
9. Although not transferrable to the project for which the EIR is being prepared, the reported figures on bird kills of the existing 42 wind turbines and meteorological stations should be given in the Fountain Wind Project DEIR.
10. Land values of private land that is visible from the new turbines will be negatively impacted. This should be estimated in the DEIR or a separate document.

11. When the turbines cease to operate individually or collectively over a sustained period of time due to economics they will be abandoned by the Applicant unless the County Use Permit requires a suitable bond that will cover the true cost of removal of all the turbines, infrastructure, roads and revegetation of the entire disturbed areas. This should be required by the County as a condition of any permit for any project of this type.
12. Any new transmission line corridors that change the existing conditions by new roads, towers, wires, or substations should be identified in the DEIR and the cumulative impacts of these facilities on the adjacent lands, people, wildlife and appearance of the area should be identified.
13. The estimated impacts of climate change over the life of the project should be provided and analyzed with respect to the visual landscape appearance and operation of the facilities.

Respectfully submitted,

John Livingston
Chair of the Executive Committee of the Shasta Group of Sierra Club

2/14/19

This letter is in regards to the proposed Fountain Wind Project. The first concern that I have is that the proposed windmills would be equipped with red flashing aviation lights. According to the initial study. "A view-shed analysis will be conducted to identify whether nighttime views would potentially be affected from the turbines equipped with red flashing aviation lights. Therefore, this potential impact will be fully analyzed in the EIR." In the report it also talks about the lights as it would affect a casual observer. Many of the windmills will be placed within a mile of community members homes. The lights would directly impact nighttime views and could cause unwanted light in homes. We are not casual observers. Children in the community have started joking that they will no longer need there nightlights if the windmills are installed. We have chosen to live in a place away from city light pollution. Another concern that I have is regarding how the project would affect the watershed. As discussed at the community meeting many of us get water that comes from the proposed construction site. Disturbing runoff and groundwater could be detrimental to those who own property in the area. There is not only a threat of loss of water but also that of contamination. Most people get their water either from surface water or springs. But it is risky drilling wells in our area because of natural deposits of arsenic. Even in most springs there are trace amounts. There are worries that by disturbing the ground layers more arsenic could be released into springs and run off that people depend on.

Angela Simonis

2/22/2019

Lio Salazar, Project Manager Fountain Wind Project Shasta County, Department of Resource Management - Planning Division

Dear Mr. Salazar,

In regards to sustainable energy, I am a proponent. The ridge for the proposed Fountain Wind Project is ideal in that we usually have daily winds; however, I feel that the concerns of our community outweigh the benefits.

My concerns are:
~ The location, how are you going to SAFELY get the windmills in place? Highway 299 is treacherous, and is not made for bringing large equipment such as you described. There is also no safe access from 299 to the ridge.
~We already have poor radio/cell communication. This project will only worsen it.
~Health and potential cancer issues.
~Our precious water. How will the vibration affect our water sources ?
~What about the wildlife what will be displaced by the windmills? We have nesting bald eagles on our property, will they be safe hunting and flying by the windmills?
~The Pit River Tribe has many sacred sites in this area. How will they be saved?
~Who will maintain and repair the windmills if they break? Will they become an eye-sore like the wind farms in Southern California?
Thank you for taking the time to review all our community concerns before making such a critical decision for our intermountain area.
Sincerely, Shari Skalland

January 29, 2019

Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street Suite 103
Redding, CA 96001

Mr. Salazar:

I realize that no matter how many letters are received, or what the content, issues will be mitigated away and this project will go forward in the name of progress. I still feel it my obligation to speak out.

I have lived on this mountain 45 years. I cannot express my deepest sorrow, angst, anger at the rape of this land and the local residents for the economic gain of the few and more power for the Bay Area of California, or beyond. How much is enough? Our river is already providing hydropower with its seven plants. Our forests have been burned, clear cut, and now seem to be the perfect place for wind generators. Transmission of power over long distances has been proven to be ineffective and many of the largest wildfires in the state began under transmission lines, including our Fountain Fire, which burned my home with so many others.

I have read the preliminary "desktop review" and the 50+ pages of potentially significant impacts. I still do not see the plan for AFTER COMPLETION OF THE WIND PROJECT. How is the power generated going to be delivered to end users? If the plan is to use existing transmission lines, why is there no review of the safety of the existing lines, maximum capabilities of these lines, clearances for fire safety, etc. With a projected lifespan of approximately 40 years, I feel certain that once the generation is in place, there will DEFINITELY be a need for new transmission lines, and with new fire safety concerns, a huge swath of our environment further devastated as EMMINENT DOMAIN crashes through our homes with a new line.

I realize that the building phase of the project is a mere 18-24 months. That doesn't sound like much unless you are a resident that commutes to Redding every day for work, or an emergency vehicle trying to get through our only route to town – Hwy 299. This report outlines 15 separate, heavy loads per tower, with 8 or 9 superloads. Have you estimated the cost of repairs after 1500 heavy loads on our only conduit to Redding?

The fragile watershed on our ridgeline is well documented. Our home, with the majority of others in our intermountain communities, gets our water from springs. The existing wells here are deep and full of iron and minerals – many unsuitable even for gardening, much less drinking water. This project will most likely cause serious "hydrological interruption." We will lose our precious spring water and cannot afford the cost of drilling a well that will be unfit to use without extensive filtration.

As for no impact on population:

b) *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*
Finding: No Impact
The proposed Project will not displace existing housing because the proposed Project will be constructed on private

timber lands used for timber production. No impact would result from Project development and no further analysis is
warranted in the EIR
c) *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*
Finding: No Impact
The proposed Project will not displace people because the proposed Project will be constructed on private timber lands
used for timber production. No impact would result from Project development and no further analysis warranted in the EIR.

While it is true that there are no homes in the project area, the impact on Shasta County is HUGE. I am scheduling "before" and "after" appraisals. I know my property value is going to drop drastically with my viewshed destroyed by towers and transmission lines. There are hundreds of parcels that will be aesthetically affected, so lessening our tax base. I just pray I still have water.

The environmental and personal losses to the communities of eastern Shasta County are far greater than the benefits of generating "green" energy for the southern part of the state. If the power is to be generated for the central state, why is this project not being planned in Contra Costa County, or the East Bay where there are many open, wind-swept agricultural areas, much closer to the end users? My plea is a vote for NO PROJECT HERE.

Sincerely,
Judy Sours
16450 Buzzard Roost Rd.
Round Mountain, CA
judysours@gmail.com

Comment #1 : 1/27/19
Mr. Salazar

I am writing regarding the Fountain Wind Project. First I just tried to go to the project website and got an error message that it had been moved, deleted or didn't exist. How am I supposed to contact them with my concerns about the EIR for this project by their Feb. deadline? Is this another intentional roadblock?

I am primarily writing to express my opposition to this project both on environmental concerns and with social justice concerns. The project stated that they intended to use existing transmission lines. However, as I understand it on their website they have proposed new transmission lines that would essentially be taking the same path as the failed TANC transmission lines. If so this would create a whole new set of environmental concerns that should be addressed as part of this project. Eastern Shasta county and the community of Round Mountain in which we live has already been heavily impacted with hydroelectric, wind power, transfer stations and several transmission corridors. When is enough enough. Our property currently has 2 transmission lines crossing it and is bordered by a third. It is a true social injustice that our community continues to be impacted for the increased needs of the urban areas of CA. When will those communities accept their responsibility for those needs and produce their power close to the point of use. That would include the city of Redding which has historically dismissed the rural areas of eastern Shasta CO. as irrelevant. The dismissal of the human impact of projects like this is criminal. We have done our part for a green CA by building an off the grid home. If this project is approved and the proposed transmission lines go forward will have a third line crossing over our home.

Comment #2 (1-31-2019):

Dear ESA There is a discrepancy in your desk top study 8.0 Civil Design. It states that the annual rainfall is 28 in. That is at the Redding airport which is actually dryer than downtown Redding. We track the rainfall on our rain gauge in Round Mountain as an interest. In 2016-2017 an exceptionally wet year we received 85 inches and in 2017-2018 a dry year we received 45 inches. For this rain year we are currently at 31.31 inches. If you are interested in a more accurate annual rainfall for the area of the FWP I suggest you contact the meteorologists at KRCR TV in Redding they have group of weather watchers they work with in different areas. According to the lifetime residents of Round Mountain I have talked to a normal rainfall year for this area is between 50 and 60 inches. Our elevation is much wetter that the valley so using the annual rainfall at the Redding airport is deceiving and decidedly untrue.

Stan Sours

2/11/19

For over 90 years, members of the Moose Recreational Camp have sought refuge from life in the city on 146 acres of wilderness just a few miles up highway 299 from Montgomery Creek. Today approximately seventy-five families with 50 cabin residences enjoy spending time outdoors and working hard to keep our land thriving in its natural state. We consider our property to be just like a park and even have our own playground. Our main concern with the Fountain Windmill project is that a small number of the 100 proposed windmills would dominate our view of the land surrounding Moose Camp. These windmill sites appear to be located as close as 1750 feet from our property line and at almost 600 feet tall would create an unreasonable visual impact whether driving into camp, driving out of camp or just standing in front of our social hall on Moose Avenue. We are requesting that the Environmental Impact Report take special note of the viewshed from Moose Camp concerning windmills 46 through 50 and 65, 66 and 67. These windmills viewed from Moose Camp would be part of our immediate surroundings, in the foreground, and not just part of a distant landscape like Hatchet Ridge is today.

Jeff Spackman

2/22/19

I would like to register my concern regarding some of the impacts of the proposed Fountain Wind Project. I'm a member of the extended Buffum family, various members of which own the 160-acre Buffum Homestead along Hatchet Creek, which was homesteaded by Frank and Florence Buffum in the 1890s as the summer range for the goats they raised in Anderson, near Redding. The Homestead has served as a refuge and summer gathering point for our extended family for over 100 years. For many years, some family members spent entire summers there. The original cabin was accompanied by a fenced meadow for goats (and horses), and an abundant garden. Since the 1960s I have missed only a few recent summers, bringing my family out to camp and to spend time with cousins from Northern California and from Oregon there on Hatchet Mountain. Some years our gatherings have numbered as many as 50 people. The original cabin went down in a blizzard in the 1930s. The one reconstructed from the remains was burned in the 1992 Fountain Fire. The Buffum family of Redding built and have maintain a pole barn camp site in the Hatchet Creek canyon since before the fire. Other family members (specifically my sister and brother-in-law Barbara and Craig Boyan) have written about the specific concerns I share about the new turbines that would be located just above the Homestead, including impact on the spring and stream that supply our water (which we have used every year since the Homestead was claimed), and on noise pollution, light pollution, danger inherent in the technology itself, and the impact of access for maintenance. I also would like to see the impact on local bird and bat populations thoroughly assessed. It seems to me that so extensive a project would create a huge amount of lethal risk for those inhabitants. The project in its full scope, as proposed, should be shaped and adjusted to address these issues, and those of other local landowners and residents. If the project is going to happen, it seems certain that there is flexibility to the proposal in terms of both the total number of and the specific locations of these huge turbines. In our specific case, I think it reasonable to reduce the number of new turbines and not locate new ones near to the Buffum Homestead. This would be a responsible way to address the concerns laid out in the letter from Barbara and Craig Boyan. I support wind power in general, but am also in favor of thoughtfulness in the specifics of developing and locating and implementing it. I see from the newspapers that many full time local residents have concerns about the impact of this particular project on this particular area, and on their lives. I appreciate the opportunity to weigh in from afar.

David Stanford

Shasta County Planning
Dept. Leo Saldaigue Senior Planner

"Re" Fountain Wind Project!

Please be advised that we are against the Fountain Wind Project, in the Moose Camp, Montgomery Creek area.

The north part of our valley is burned to the west, by the carr fire. To the north by the Hertz & Cash fires. The only pristine and left is to the east of our county, the Hatchet, snow Mt., Burney area.

The loss of wildlife, the noise polution and the decrease in property values is not worth the cost to the north county. If this project is OK'ed, the County Chamber of Commerce will have to rename it's logo From Shasta Cascade Wonderland to Shasta Cascade wind farm, as they will be

over

very visible from Redding and many areas of the north County.

Thank you

John F. Stapp

Sandra L. Stapp

Moose Camp Members

From: Bruce Stein

Sent: Sunday, February 10, 2019 12:02 PM

To: Lio Salazar

Subject: Fountain Wind Project

Dear Mr. Salazar,

I am writing to you regarding the proposed Fountain Wind Project and to respectfully request that you consider the environmental impact these windmills will have on the residents of Moose Camp. It isn't often in one's life that you have the opportunity to satisfy the needs of the many without compromising the needs of the few but this project is just such an opportunity. By merely requiring that the windmill placements be north of Highway 299 the county of Shasta can contribute to renewable energy and also be respectful of the residents in Moose Camp who for generations called their tranquil setting a place for their families to gather and socialize with residents from many diverse backgrounds and places. The shadow flicker and noise produced by these windmills is well documented online. Would you intentionally intend to disrupt the lives of those in Moose Camp by agreeing to windmill placements that would be so harmful to their existence? I ask you to seize this moment to do the right thing by considering the impact those windmills would have on residents in Moose Camp just as you would hope and pray that someone such as yourself would be an advocate for you if the situation were reverse.

Thank you for your consideration.

Sincerely,

Bruce Stein

AXIOMATIC

O: 323.549.4348

C: 310.344.1007

W: http://axiomaticgaming.com

2/22/19

You would be foolish to let this project go through. The total actual cost for the project, the carbon footprint of the project from mining to finish will never be truly off set. Then there is the danger to the wildlife and the damage done to the mountains to construct these giant monstrosities. The estimated power generation vs. true life generation is vastly different. Just look at the projects in southern CA. They do not preform even close to the advertised capacity. Then you have the power fall off went mother nature doesn't cooperate. Please don't destroy the land over a temporary feel good project that has proven to fail to meet the basic goals.

Keith Stoneback

2/10/2019

I grew up going to Moose Camp my entire life. My grandparents, Orville and Regina Swarts owned a cabin there. Their cabin is still in our family and my six siblings and our children are still enjoying the natural beauty of the area. Several years ago windmills went up nearby. We went to go see the windmills and our dogs were cowering and afraid because of the sound they were making. The windmills ruin the beauty of the area, they cast giant shadows and flickering lights that you cannot get away from. The flickering lights will creep through your windows. I am sure they are a danger to anyone with epilepsy or migraines. Have you seen Moose Camp? It is a magical place with small country roads. Windmills and large roads will destroy the wildlife and the life style of the place.

Susan Stremple

2/11/19

To whom it may concern:
Please know after familiarizing myself with
" Shadow Flicker".. I fully believe that this phenomena would be detrimental to the citizens of Shasta County and surrounding the area of "Moose Camp"..unless these windmills were placed far north of the 299 out in the open affecting whereas not to encroach on the fine people of this area.

My family settled in this bucolic area over 115 years ago. I am a 4th generation California. My daughter being the 5th. We take great pride in this fact. my ancestors were born in Shasta County..they lived and breathed this land.

I am all for renewable energy..and I support it. However, I believe there are better options on placement of these massive machines.. The open land there is massive and unencombered . No one living within miles and miles.. place them there.. My great grandmother and grandmother lived just under 100 years respectively and to think that if they were alive today that the land they lived off of and cherished was to be degraded through the placement of said machines.. bringing in the massive sound disruption to a quiet and peaceful land along with the constant "shadow flicker". they would think that their land that they loved had simply lived for had became a land they no longer recognized.. please leave the lasting imprints for generations to come for all to enjoy lands that are untouched by the advancements in our technology.. we simply need to place these massive machines were there is no disruption so that people may enjoy the pristine beauty of our lands for generations to come.

Thank you kindly.

Theresa Stremple

From: Karen Sublette

Sent: Friday, February 22, 2019 11:25 AM

To: Lio Salazar

Subject: Fountain Wind Project

The Fountain Wind Project may affect the Buffum Homestead, my family's land, which is the northwest quarter of section 22. I own the northwest quarter of that homestead. My great-grandparents homesteaded there, over a century ago. Six generations of our family have used and shared it, over the years.

We get together, there, in the summers, some of us (myself included) used to spend whole summers, there. Since our cabins were burned, in the Fountain Fire, of 1992, we have camped on the land we grew up enjoying. Our children and grandchildren now spend time there, too. We all value that land, its beauty, the flora and fauna, clear air, and freedom from noise and light pollution. I am worried that the sound and sight of the huge wind turbines will interfere with what we value.

My son manages the water, from Buffum creek which flows through my land, and is diverted, during the warmer months, to bring water to our family's campsites and to water the seven acre meadow. That water has been clean, drinkable, and sufficient to keep the meadow green and provide for our needs. I am concerned that Buffum creek or the springs that feed it may be disturbed by the project.

While I don't know enough about the effects of these large turbines on the land and animals in the area, to have a clear opinion of whether they are dangerous, or to what degree, I am concerned about the bats and birds that might be harmed by them.

I know other members of the family have written to you. Please take our concerns into account, and help protect our family's homestead.

Thank you.

Karen Sublette

1432 Sardine Creek

Gold Hill OR 97525

541 855-7839

2/10/19

My parents bought their place in Moose Camp in the early fifties. My three siblings and now twenty two grandchildren have enjoyed Moose Camp. They fished the creek, built tree houses, learned too drive an old pickup. They would walk to the service station store on the highway. It was a summer vacation everyone loved It is all of our wishes that it not be ruined with sound and sight of the windmills.

Myrna Swarts Stremple

2/22/2019

We are in total agreement with our fellow residents of Moose Camp, being not in favor of this project. It is unbelievable to think that you would want to extend the Fountain Wind Project to be within 1 mile of Moose Camp. This place has been a haven of rest and recreation for 90 years for many generations My family has resided in Moose camp since the 1950's. We have enjoyed this area for 5 generations. The original Hatchet Ridge Project has been an eyesore for this beautiful mountain area. It was like an invasion of 500ft. monsters that ruined our mountain top with ugly windmills, that do not work most of the time. It is very rare to see more than 5 windmills working at one time. It is a shame that nobody in our area has benefited very much from these particular windmills. Our power has not been lowered, our land destroyed, and the stress it has put on the residents during the construction. Now phase 2 of this hideous project will be worse than the former. It is unfair that 75 residents and 50 homes in Moose Camp and the communities of Montgomery Creek and Round Mountain should have to sacrifice their land and way of life to give power to people in the cities and ruin our landscapes and get nothing in return. The windmills could cause a hazard to our Medical helicopters going from Alturas to Redding. It it also in the flyway for Migratory Birds I would hope that you would give consideration to the people of this area. We our a tourist area for people from all over the Western States and beyond. I'm sure the tourist are not to happy to come and see the 600ft. monsters. I'm sure there should be some alternative route that could be found.

Sincerely, Orvil and Myra Swarts

From: Paula Tassen [mailto:ptassen@icloud.com]
Sent: Wednesday, January 30, 2019 6:01 PM
To: Lio Salazar <lsalazar@co.shasta.ca.us>
Subject: Annual wind speed

Hello, I have a question regarding the wind turbines. My former husband and I had a windmill business that manufactured wind turbine generators in Millville.
He also manufactured solar and hydro electric systems for many years. The annual wind average for Redding is only 8.8 mph annual average wind speed. Our WTG needed 25 mph wind to produce 10KW. I understand Burney is 5.5 mph. What wind speed do these WTG need to produce their maximum electrical output?
Thank

Paula

פולה

<mime-attachment>

From: Trudy Tavares

Sent: Monday, February 11, 2019 5:12 PM

To: Lio Salazar

Subject: Fountain Windmill Projectpro

Good afternoon. My name is Trudy Tavares, and I would like to submit comments related to the Fountain Windmill Project.

The proposed Fountain Windmill project, essentially between Montgomery Creek and Burney, will have a significant impact on the environment and the citizens who live anywhere near them. Two significant issues come to mind.

The first issue is Moose Recreational Camp. This camp was created almost one hundred years ago, but it still thrives today. The residents who own cabins in this camp would look out at potentially 600 foot high windmills, not to mention the ancillary power lines and other supporting structures and equipment. This literally would be just outside our fence line. What consideration has been contemplated for the impact to these families? Further, there are many other residents in this project area who would be similarly impacted. Is this convenient placement or critical placement? Needless to say the aesthetic impact would simply be devastating. Can this even be mitigated? How can one miss a windmill basically the height of a 40 or 45 story building.

The second issue is that of the impacted native American sites. There is no question that almost anywhere in the area, there are historical sites. How can/will this be mitigated? The potential impact to the historical sites is simply not calculable.

Another issue which deserves significant consideration is the potential impact of fire. Is there increased risk in the case of a wildfire if this project is constructed?

It seems logical that consideration should be given to all of these matters, in addition to other environmental impacts. I urge you to require that the EIR prepared for this potential project address these matters very thoroughly, as well as other potential impacts, and to the complete satisfaction of the County This project is far too impactful to our area.

Regards,

Trudy L. Tavares

2/21/19

Dear Sirs and Madam's: I am very concerned about: Fire fighting, planes being able to fly over and into our canyons. Windmills starting fires. 2: communications with our own personal. Interference from the windmills. 3. Property values. 4. Our traffic while transporting windmills, equipment etc. The accidents and lives lost on 299e during Carr and camp fire as an example. People are less tolerant now. 5. Our tax dollars that will be spent to repair highway. I m sure there will be subsidies to put in these windmills. 6: tahachapi is an example of the mess that will be left behind. The life span of these windmills does not justify the expense to put them in. 7. And most important: health The risks that the windmills impose is not worth it. There is other ways and areas that don't put people's lives at risk. We have been locked out of our fishing and hunting areas. Now we are to give up our views tax dollars and property values for something that will only line the pockets of the land owner and the windmill business at the risk to the people.

Patricia Taylor

Letter P111

From: Candace Tinkler <cltinkler@hotmail.com>
Sent: Monday, January 28, 2019 2:04 PM
To: FountainWind411
Subject: Subscribe

I represent the Tinkler Family Trust, and am now I am the sole owner of two formerly Tinkler Family Trust properties at Blue Lake and part of the association of land owners. Blue Lake is located between Snow and Clover Mountains and is immediately adjacent to the Fountain Wind Project. Please keep me updated on the project. My concerns include potential environmental impacts to vegetation and wildlife, particularly on Snow Mountain, aesthetic impacts and viewshed impairment, impacts on bat populations and migratory birds, increased traffic, impairment to the Little Cow Creek watershed from road construction and erosion, impairment to the dark skies of the area, and degradation of my property values. However, I also understand the benefits of wind-generated power and will not form opinions until I learn more about the project and its studies. I am sorry that I missed the public meeting on January 24. I live in Crescent City, CA, and was not able to attend.

Candace Tinkler
P. O. Box 1741
Crescent City, CA 95531
(707) 464-4128 home
(707) 465-7305 work

From: Lori Waldkirch <buckhorn1022@gmail.com>
Sent: Monday, January 28, 2019 8:06 AM
To: Lio Salazar
Subject: Fwd: Raptors attracted to wind farms | Save the Eagles International

Mr. Salazar

Please take a moment and look at the impact this project will have on raptors alone. This project is very close to Shasta Lake and other smaller lake's and that is where these majestic birds live and fish. I am so disappointed in Shasta County Board of Supervisors and everyone else who saw this coming and planned behind closed doors. If you spend much time east of the Sacramento River you will see that we are already inundated with 500KW Electrical towers and lines. No one can stand in your shoes and tell us there isn't a plan for more now? These towers and lines are already at capacity.

I can stand under any of these 500 KW lines, hold up a fluorescent tube bulb and it will glow. What on earth makes you think we want any more than are here already? The hissing sound and the static electricity in the air are enough to make one wonder what it is doing to us, our children and our livestock over time. Don't allow or encourage more without public and landowners opinions.

Do what is right for the health of this county and the fine people who pay the taxes.

Respectfully,
Lori Waldkirch

https://savetheeagles.wordpress.com/2013/05/28/raptors-attracted-to-windfarms-2/

Raptors attracted to wind farms

<ospreys_new_home.jpg>

Click on picture to enlarge

Raptors are attracted to wind turbines

Wind turbines offer great perching opportunities for birds of prey. From up

there, they have commanding views of open spaces colonized by graminae, which attract prey such as mice, voles, rabbits, partridges, grouse etc. , or of bodies of water where fish are swimming.

First, they perch on still blades:

<2-blade_perching_tubular1-e1369699134641.jpg>

Altamont Pass: red-tailed hawk perched on top blade.
Click on picture to enlarge

Better resolution picture here:
http://iberica2000.org/documents/eolica/photos/blade_perching.jpg

Then they perch on nacelles or other parts:

<rtha-perched-on-nacelle.jpg>
Click on picture to enlarge

<4-perching_and_oil_pollution1.jpg>
Click on picture to enlarge

Better resolution picture here:
http://iberica2000.org/documents/eolica/photos/red_tailed_hawk_perched_on_nacelle.jpg

Then they may try to build a nest:

<ospreys_new_home.jpg>

In this case a pair of ospreys succeeded because this turbine at Cape Vincent, NY, was mothballed.
Click on picture to enlarge

For better resolution picture, ask
save.the.eagles@gmail.com

Then they perch when the blades are moving:

See this video of a turkey vulture:

http://savetheeaglesinternational.org/vultures-killed-videos.html

This perilous perching often ends up in loss of life.

But they also get struck while looking for prey or carrion below the turbines:

See this VIDEO of a griffon vulture on Crete island:
http://savetheeaglesinternational.org/vulture-struck-by-wind-turbine.html

CONCLUSION: ornithologists hired by wind farm developers are misrepresenting the facts when they say that raptors "avoid" wind farms, or "are displaced" by them, or even sometimes "get used to them". The truth is that they are **ATTRACTED, then KILLED by wind turbines**. California's very large Altamont Pass windfarm, for instance, kills about 1300 raptors a year, of which 116 golden eagles on average – source: "Developing Methods to Reduce Bird Mortality In the Altamont Pass Wind Resource Area" (pages 73 & 74, table 3-11, last column: "adjusted for search detection and scavenging") – Dr. S.Smallwood et al. (2004). And no, Altamont Pass is no

exception. Raptors are being killed by wind farms all over the world.

Would so many be killed if they "avoided" or "were displaced by" or "got used to " wind turbines?

In another study, Dr. Smallwood noted that raptor flew close to wind turbines **more often than they would by chance:** *"Smallwood and Thelander (2004, 2005) reported that raptors fly disproportionately close to wind turbines, flying within 50 meters of wind turbines between seven and ten times more often than expected by chance. "* See: Annex (A) to "Scottish government, European Commission guilty of ecological vandalism"

So did this study of raptors migrating over water:
http://www.dailymail.co.uk/sciencetech/article-4054530/Wind-farms-DEADLY-birds-prey-Migrating-raptors-attracted-turbines-potential-landing-spots.html

AS A RESULT, MANY RAPTORS GET STRUCK BY THE BLADES:

Some of the eagles killed by wind turbines (tip of the iceberg)
http://www.iberica2000.org/es/Articulo.asp?Id=3071 – Last updated in 2006

Some of the ospreys killed by wind turbines (tip of the iceberg) http://savetheeaglesinternational.org/new/843-2.html

Effects on red kites http://rapaces.lpo.fr/sites/default/files/milan-royal/63/actesmilan150.pdf (pages 96, 97).

MORE: see our main webpage, at www.savetheeaglesinternational.org

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From: Lori Waldkirch <buckhorn1022@gmail.com>
Sent: Monday, January 28, 2019 8:11 AM
To: Lio Salazar
Subject: How Many Birds Do Wind Turbines Really Kill? | Smart News | Smithsonian

Dear Mr. Salazar~.

Please take a minute to open this and have a look. Pay special attention to the end of the article where it talks about "taller" wind turbines.

Kind regards~ Lori

https://www.smithsonianmag.com/smart-news/how-many-birds-do-wind-turbines-really-kill-180948154/

From: Evan Watson

Sent: Monday, February 11, 2019 5:46 PM

To: Lio Salazar

Subject: Fountain Wind Project EIR

Hello Mr Salazar,

I came to the EIR scoping meeting that was held at the Montgomery Creek School last month. Since then I have been doing some research and organizing my thoughts with respect to comments for the Fountain Wind Project EIR. At this point in time I am neither for the project nor against the project. I believe that wind energy will play an important role in California's energy future, but I remain skeptical that there are not superior alternatives to the project at this time. The results of the EIR and hopefully the economic impact analysis will likely be important documents in in my decision to support or oppose the project. With that in mind I believe it is crucial that the EIR be a broad and thorough examination of all relevant environmental considerations. Below I list and discuss the environmental consideration that I believe must be included in the EIR.

Alternative and Substitute Projects

The EIR must explain why this project is environmentally superior to an equivalently sized off-shore wind project. After some research it appears that an off-shore wind project located in Central California has many environmental advantages. First, a project in Central California would be geographical closer to the areas of the state with the highest demand for electricity: the greater Bay Area and Southern California. Secondly, an off-shore wind project would not necessitate building new overhead transmission lines. California fires over the past several summers have demonstrated that electrical transmission lines are a common source of ignition for wildfires, which pose a risk to communities, habitat, and contribute to green house gas emissions. Another advantage of an off-shore project is that the existing transmission lines on the western side of California are less crowded with electricity than lines on the eastern side. Having less crowded transmission lines ensures that renewable energy can be prioritized over other sources and will not be wasted. Furthermore, offshore wind turbines are typically larger than land based, which as explained by the California Audubon Society, has the advantage of offering smaller project footprints and is less harmful to avian species.

Lastly, the Central California coast is an excellent alternative for this project because

in 2024 and 2025 the Diablo Nuclear plant will shut down and all of its existing transmission infrastructure will become available for use. This is a very important point to make clear; in the Central Coast there is an already identified wind energy area close to large capacity and existing transmission infrastructure that will soon become obsolete unless more electricity is generated in the area. Please ensure that a thorough discussion of this alternative is discussed in the EIR.

Sources of energy this project would replace.

The EIR must explain what sources of carbon intensive energy this project will replace. The EIR must ensure that this project will not replace any existing sources of renewable energy, be they hydropower, existing wind generation, solar, or others.

Wildlife

The project area offers a section of unique and relatively un-fragmented wildlife habitat that offers some of the best in California for vulnerable and endangered species. In addition to the already listed and identified species, I believe that the EIR must also closely examine the potential impact on species that may, or are currently re-colonizing California, namely the Wolverine and the Grey Wolf.

In 2008 a wolverine thought to have come from an Idaho population was found in the Tahoe National Forest. Though there is little evidence that a viable population of wolverines currently exists in California, the example of the Tahoe National Forest demonstrates that it is possible for the species to make their way back to their original habitat in California. As re-colonization occurs it is important that there be available and undisturbed areas for wolverines to inhabit. The Hatchet Mountain and the Snow Mountain areas will be important.

Wolves offer a similar, though more concrete and pressing example of the value the project area offers for species of special concern. There is currently one pack of Grey Wolves located east of the project area, near Lassen National Park. These wolves and others will soon be looking to expand their range and the project area is a likely place for this to happen. The state of California has demonstrated a desire and commitment to supporting a population of Grey Wolves in the state and as such any potential impact the Fountain Wind Project may have on the process needs to be closely examined. An additional factor impactful to the wolves is that Rocky Mountain Elk, a common Grey Wolf prey species, are increasingly common in the project area. It is likely that Grey Wolf individuals are already in or near the project area. In my opinion the state has been slow in addressing the reality of having Grey Wolves in California, please ensure that the EIR avoids the same mistakes.

Recreation

The Environmental Initial Study document prepared by Stantec did not identify recreation as an environmental factor to consider in the EIR due to some language about local and regional parks. I would like to make clear that though there are not "parks" in the project area, the Fountain Wind Project will certainly impact recreation. The project area encompasses areas within the Roaring Creek, Hall Creek, Hatchet Creek, Montgomery Creek as well as numerous others that all provide significant recreation based around swimming and fishing. This needs to be considered in the EIR.

Other recreational activities that will be impacted include; Hiking, Biking, X-Country Skiing, Snowmobiling, Bird Watching.

A Carbon Lifecycle Analysis

Should this project proceed the construction process will require significant greenhouse gas emissions. While the marginal Mega Watt of wind energy produced has a low carbon footprint, the initial power that this project produces will have a relatively high emissions foot print. The EIR needs to include a carbon lifecycle analysis of this project and explain how long the project will have to generate power before it beats other sources at the marginal Mega Watt.

Thank you and I look forward to reading the EIR,

Sincerely,

Evan Watson

530-949-1641

The New York Times

Something New May Be Rising Off California Coast: Wind Farms

By Ivan Penn and Stanley Reed

Oct. 19, 2018

LOS ANGELES — California's aggressive pursuit of an electric grid fully powered by renewable energy sources is heading in a new direction: offshore.

On Friday, the federal Interior Department took the first steps to enable companies to lease waters in Central and Northern California for wind projects. If all goes as the state's regulators and utilities expect, floating windmills could begin producing power within six years.

Such ambitions were precluded until now because of the depths of the Pacific near its shore, which made it difficult to anchor the huge towers that support massive wind turbines. "They would be in much deeper water than anything that has been built in the world so far," said Karen Douglas, a member of the California Energy Commission.

Several contenders are expected to enter the bidding, equipped with new technology that has already been tested in Europe.

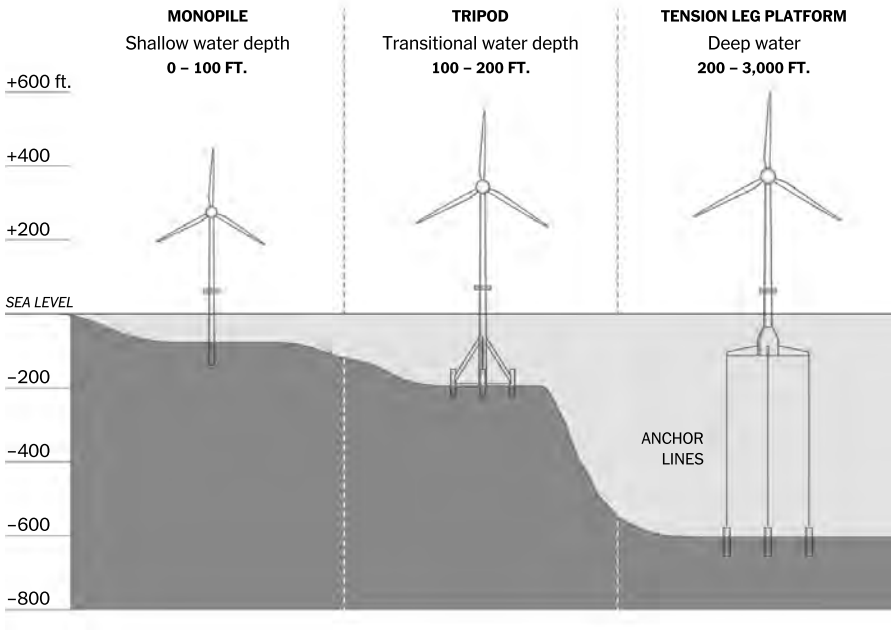
California's determination to fully rely on carbon-free electricity by 2045, mandated in a bill signed by Gov. Jerry Brown in September, is forcing the state to look beyond solar power and land-based wind farms to meet the goal.

"We are early in the process here," Ms. Douglas said, "but offshore wind has potential to help with our renewable energy goals."

The potential rewards from offshore wind development are not without potential downsides, however, and will almost certainly not come without conflict. Development along California's coast has long been a sensitive and highly regulated issue. As has happened elsewhere, there will surely be objections from those who feel their ocean views are being blighted. And the potential impact on birds, fisheries and marine mammals will be closely scrutinized.

Digging Deeper

Building offshore wind farms in deep waters like those off California presents particular challenges. In shallower waters, moorings can be driven directly into the ocean floor. But for greater depths, companies are developing and deploying various designs for floating platforms — like the tension leg platform below — in which the tower is fixed, with anchor lines mooring the platform to the seabed.



By The New York Times | Source: National Renewable Energy Laboratory

California would not be the first place to develop floating wind turbines in the United States. The University of Maine, with $40 million from the Department of Energy, designed its own floating wind platform and produced a test version that it plans to develop as a commercial project to power 8,000 to 14,000 homes by 2021.

But California is a particularly opportune spot for such a project, given the length of its coast and the size of its population. And the coast offers an added advantage: winds over the ocean tend to pick up strength as the sun sets, just when the contribution of solar power is done for the day.

“California has very good offshore wind,” said Walt Musial, a principal engineer and manager of offshore wind efforts at the National Renewable Energy Laboratory.

The Bureau of Ocean Energy Management, part of the Interior Department, identified three areas for leases: a parcel off Humboldt County in Northern California, and two sites in the Morro Bay area on the central coast, near Hearst Castle and Diablo Canyon, the location of the state’s last operating nuclear plant.

Offshore wind projects in California will largely benefit from existing power lines to keep costs down. Several power plants along the coast have closed or will be retired because of pollution and other environmental concerns. And power lines on the state's western side are less congested than those on the eastern side.

In addition to the federal reviews, the wind projects must be cleared by several state agencies, including the California Coastal Commission for impact on federal and state waters; the California State Lands Commission; and the Department of Fish and Wildlife because of concern about protected species.

It is expected that the wind farms would be about 15 to 30 miles off the coast, making them less visible from land and less of a hazard to seals and migratory birds.

But even at that distance, other marine life could be threatened, including sea birds and whales migrating through the channels. In addition to towers hundreds of feet tall, there would be streams of cables connecting the windmills to the electric grid on shore.

An offshore wind turbine farm in the North Sea off Thanet, at the southeast tip of England, was the largest in the world when it opened in 2010.
Gareth Fuller/Press Association, via Associated Press

“I would have some questions whether those cables would mean that whales would not use the area the same way as they have,” said Francine Kershaw, a marine mammal scientist at the Natural Resources Defense Council, which supports wind power, including offshore development. “But collisions with sea birds is probably the major concern.”

Much will depend on the size of the projects. Proposals are expected from the Redwood Coast Energy Authority in Humboldt County, which is seeking developers for 10 to 15 floating wind units that can help it meet the carbon-free mandate.

Redwood Coast, a government-run utility serving 60,000 customers in a mostly rural area, expects to spend about $500 million for the wind farm.

“That level of generation would be a significant chunk of our energy load,” said Matthew Marshall, Redwood Coast’s executive director. “Offshore wind is really the big untapped resource.”

California’s path toward offshore wind development began two years ago when the governor formed a task force with federal and state authorities. Demonstration projects of floating wind turbines off the coast of Norway and Denmark, as well as a small five-turbine farm in Scotland’s waters, encouraged the California efforts.

Equinor, the Norwegian energy company formerly known as Statoil, carried out the Scotland project, still in a demonstration phase. It consists of five large turbines on a platform called a spar — a vertical floating buoy like those used in the oil industry.

“California is one of the places we are looking to work,” said Elin Isaksen, a spokeswoman for renewable energy at Equinor.

Equinor previously acquired a federal lease on about 80,000 acres off Long Island in New York and is working on what the company estimates could be a $3 billion project there to power up to one million homes. Its winning bid for the lease was $42 million.

A second potential bidder for California leases is Trident Winds, which wants to build a 100-unit wind farm on the central coast through a partnership called Castle Wind. Another is Magellan Wind, which is working with Copenhagen Infrastructure Partners, a Danish investment firm involved in a wind project off Massachusetts.

Henrik Stiesdal, a Danish wind energy developer who has been working with the Magellan group, said that until now, offshore wind had been confined to areas like the North Sea and China with shallow coastal waters near population centers. “But there are many places in the world that don’t have that blessing,” he said.

He said the lesson of the offshore and onshore wind industries was that the ability to mass produce the equipment was a key to lowering costs. His design will do that, he said, with components made in a turbine tower factory, shipped to a port and then assembled.

Mr. Musial of the National Renewable Energy Laboratory said such projects would have the same economics as those in shallower waters.

“If we look at the cost breakdown structures of a floating project or fixed-bottom project, they’re using a lot of the same components,” he said. “There’s no big element that makes floating more expensive. In fact, there are some elements that might make floating cheaper.”

Dan Reicher, a former Energy Department official who has been an adviser to Magellan, said he believed that California was starting one of its greatest initiatives in developing clean power.

“In California, we’re not used to falling behind other states when it comes to renewable energy,” Mr. Reicher said. “That is the case when it comes to offshore wind. I think all of that will change with these floating systems.”

The Bureau of Ocean Energy Management will take public comments over the next 100 days. If all regulatory hurdles are cleared, leases could be signed in 18 months.

Ivan Penn reported from Los Angeles and Stanley Reed from London.

A version of this article appears in print on Oct. 19, 2018, on Page B1 of the New York edition with the headline: California Wind Farm Bids May Push Floating Turbines

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February 12, 2019

To: Lio Salazar, Shasta County Department of Resource Management, Planning Division

From: Jaclyn White, 21550 Big Bend Road, Montgomery Creek, Ca 96065

Re: Fountain Wind Project

My name is Jaclyn White and I have lived at 21550 Big Bend Road in Montgomery Creek s with my husband David Pitz for 25 Years. We have 17 acres of forest and pasture land in the community of Wengler in the Roaring Creek Drainage. I have several concerns that I would like addressed in the Environmental Impact Study.

1. Wildlife Conservation: I was pleased to see the letter from the Wintu Audubon Association voicing their concerns about the bird migrations, specifically the migration of the Sand Hill Cranes. One of the delights of living here is the witnessing of the migration of the Sand Hill Cranes in early spring and late fall. They sound their arrival in March and November as they migrate from or to the Sacramento Delta. I usually hear them before I see them around 10:30 am as they fly over our property, and they are flying low enough to count them. These are big birds, standing from 3-4 feet tall. They can be found foraging just north east in McArthur and Bieber on their way north. My concerns are two: The 2017 avian surveys were conducted in April and October and would not have noted the migration of the Cranes in March and November. The wind turbines are almost 600 feet tall. I am concerned that the cranes may be harmed by the turbines. I'd like a further survey conducted in their migration months.
2. Protection of our Water Supply: We pull our drinking and agricultural water from Roaring Creek through the Vaughn Ditch, used by 20 families in Wengler. The most northerly turbines on the Hatchet Ridge overlook the Roaring Creek Drainage. I am concerned that the construction of roadways (20-80 Feet Wide), Underground cable trenches (50-30 Foot corridors, 4 feet deep), and turbine platforms (50 feet deep) will disrupt and/or foul the Roaring Creek drainage and impact our water supply. I am also concerned that the use of herbicides that will be used to clear brush in the turbines, will also wind up in our water supply. Please review the impact of Turbines # T33 and T34 on the Roaring Creek drainage.
3. Fire Safety: The project report identifies the area as a "Very High Fire Hazard Severity Zone". After the Camp and Carr fire destruction of last summer, we are very concerned about the fire risk in our community. As noted in the report this land is zoned as Timberland, but communities have existing in this area since the late 1800's, supported by the timber industry. Wengler is such a community as is Montgomery Creek and Round Mountain. This land is not empty and families have lived here for generations. So fire is a grave concern for all the families that live in these mountains.

   After the Fountain Fire of 1992 the land was a scorched moonscape. Roseburg replanted with mostly pine trees and the forest you see now is about 27 years old. It has been neglected. Trees, now 20-30 feet tall, grow 3-4 feet apart; deer brush and manzanita grow in the understory. Years of pine needles cover the forest floor. This forest is a wall of fuel. Take a

short ride down Buzzard Roost Road, which may be one of the existing roads used to construct the wind farm and you will see what I mean. In the description of building the roads that will be needed, words like scraping, grinding, blasting are used, which only invite fears of the spark that will set off the next blaze through our communities. This forest needs to be tended to before any major construction starts. Small and unhealthy trees and brush need to be removed; adequate spacing for growing a healthy forest needs to be maintained. And, after digging roads and trenches, when trying to mitigate the damage, please don't plant more brush even if it is native to the area. Plant trees appropriate distances apart.

Sixteen miles of overhead transmission lines from Hatchet Ridge, over Highway 299, across Hatchet Creek and throughout the timberland southeast of Montgomery Creek and Round Mountain also cause concern for fire. Fifty-six miles of underground cable will snake along ridgelines throughout the project area, but only if there is no steep terrain, no streams or wetlands, and no rocky conditions. Since that pretty much describes the terrain, I would bet that we will have many more overhead transmission lines along the roads and ridgeline in this fuel laden forest.

Please investigate the reality of the fuel load in this forest land in light of the "new normal" for wild fires and seriously consider the advisability of putting more overhead power lines throughout an unmanaged forest with small communities scattered in proximity to this project.

4. Traffic: This project estimates that each turbine will require the transport of an estimated 15 loads per turbine and 8-9 of these loads will be oversized. That is 1500 loads, 900 oversized, traveling Highway #299, a narrow river canyon for most of the trip, with the steep Montgomery Creek grade at the end. How long will this inconvenience exist? What happens when the oversized turbine meets the hay or lumber truck on Highway 299?

   This will impact those who commute to Redding for work, entertainment or shopping on a daily basis, as well as those who just want to go to the post office. We experienced this with the Hatchet Wind Project and that was only 40 turbines, not as tall. Please assess the safety and impact of these transportation issues carefully for these communities. A traffic control plan will not mitigate the impact of 900 oversized loads traveling the Highway 299 river canyon road.
5. Geology: We are requesting that an on-site geological survey be part of the Environmental Impact Study. This land is slippery and convoluted. Water travels in mysterious ways throughout the geology. Landslides and road collapses are not uncommon. A thorough study and assessment of the how land and water might be impacted in the project area is mandatory. A desktop geological analysis is not sufficient.
6. Visual Impact and Impact on Our Community- This project is huge! It will transform the mountains that ring our community on the north, east and south sides into a wind farm with:
   - ≠ One hundred 300-600 foot wind turbines set 50 feet into the earth, with associated red blinking lights in the night time
   - ≠ 57 miles of underground cable, along the ridgelines, with 30-50 foot wide corridors
   - ≠ A minimum of 21 miles of overhead transmission lines, with 40-80 foot corridors.

   How can this not turn our mountains into an industrial park from Wengler to Moose Camp to Buzzard Roost? When I drive west on Highway 299 will my view of Snow and Round Mountains

and the Montgomery creek valley be one of industrial lights and roads and transmission lines? This community is already impacted greatly by the energy industry. The Pit River is damned in 7 places and parts are restricted for use; two major transmission lines (one 900 yards from my home) run through the community to Round Mountain where PG&E runs a huge transmission station. The Hatchet Ridge Wind Farm glows red on the eastern skyline when I drive home. Isn't that enough? It would be one thing if our communities benefitted in some way, but we get no electricity from these turbines; the 400 construction jobs probably won't employ our community members or youth. I don't know how you assess the value of a rural lifestyle and environment to its residents, but I hope you will. We choose to live here, with all its drawbacks, because of the mountain vistas, the wildlife and the black, star- filled night skies.

Thank you for the opportunity to provide you with the concerns we have about the Fountain Wind Farm Project. While I support the movement away from fossil fuels to renewable energy, I want the County to do due diligence in determining whether this is the right project for this community; and, that we are not creating well-meaning project that will become an environmental problem for the intermountain community.

Letter P115

2/14/2019

Need a several day extension due to the weather related power emergency in Shasta county. I still have no internet and my power just came on. This is not coming from my computer. All my lengthy comments are stuck at my home office on Yellowstone Dr. I am very much against this project due to the lack of any credible impact research that has been conducted by the wind industry. This includes the research conducted at Hatchet Ridge. I have read it. None of it is even close to being scientific and in fact, fraud is a more appropriate word for what has and is taking place. I can prove it and it is all very clearly explained in my comments that I will submit when I get back an internet connection. Some of what I have to say actually warrents a criminal investigation. As of this day, Shasta county has nothing credible that has been submitted to them which would allow any desision to move forward with this project.

Jim Wiegand

From: wiegand@awwwsome.com

Sent: Friday, February 15, 2019 9:27 AM

To: Lio Salazar

Cc: david.benda@redding.com

Subject: fw: Comments against the Fountain Wind Project

Attachments: Comments Fountain Wind - unfinished.docx

Hi Lio, I called and left a phone message tiis morning about receipt of my unfinished comments yesterday. Please acknowledge that my comments were received and that I may add to these comments because of the weather related emergency stopped me from completing and submitting all my intended comments.. My comments are extremely important because CEQA and or Federal EIS requirements do not allow for fraudulent non scientific research to be used in any decision making or in determining project mitigation measures. My comments clearly demonstrate the so called studies that Shasta County will rely on, are severely flawed and lack any meaningful credibility. Jim Wiegand

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From: "wiegand@awwwsome.com" <wiegand@awwwsome.com>
Sent: Thursday, February 14, 2019 6:58 PM
To: lsalazar@co.shasta.ca.us
Cc: trollholow@aol.com
Subject: Comments against the Fountain Wind Project

Hello Lio Salazar, as I wrote earlier today in Shasta County submission #69, we have not had phone service, power or internet for several days. Not until mid-afternoon did my power come back on. The time to comment was cut short to many.

In the enclosed attachment are the comments I had completed before the power went down. They are not completed, but I could do so with another day or two. What should be of utmost interest to Shasta County and the public is what I didn't talk about in my comments. I have what I believe is very strong evidence of research fraud that that took place at Hatchet Ridge. This should be investigated even though the information in this attachment still proves the research conducted at Hatchet Ridge has no credibility, is not scientific and was in fact staged. I cannot stress this enough, none of this bogus research or any of this industry's biased fake research should be used in any way to justify another even far deadlier wind project, like the proposed Fountain Wind project.

Jim Wiegand 4525 Yellowstone Dr Redding, Ca 530 2225338

From: wiegand@awwwsome.com [mailto:wiegand@awwwsome.com]
Sent: Friday, February 22, 2019 10:21 AM
To: Lio Salazar <lsalazar@co.shasta.ca.us>
Cc: david.benda@redding.com
Subject: Comments against the Fountain Wind Project

Hi Lio, enclosed are my updated and lengthy comments. If you or anyone else in the planning department, has any questions about the information I have submitted, please feel free contact me and I will explain in more detail. . Jim Wiegand 530 2225338

Comments on the proposed Fountain Wind project in Shasta County

If "green" wind energy is so good, why do so many people have to lie their asses off about it? Except for making a lot of money for a select group of people, I can see no good that has come from any of this industrial blight.

In January, the Record Searchlight printed this highly deceptive statement, "The Fountain Wind project (100 turbines) could produce up to 347 megawatts of electricity, enough to power about 260,000 homes, **according to a formula from the Lawrence Livermore Labs**." Looks legitimate, but it is not.

Here is another recent statement in the media about 47 of these same 600 ft turbines. This statement estimated less than half the energy output as that printed in the Record Searchlight…. "The project could create enough energy to power 53,000 homes." **https://www.wgrz.com/article/news/proposed-wind-turbines-generating-conflict/71-6fe9d7b5-c029-4d6d-8384-c74d924a3c1c**

But neither of these statements is even close to being true when ethical real-world formulas are used. Could, would, and should are words commonly used by the wind industry to deceive the public so their profits can keep pouring in.

Shasta county should do some of their own wind energy calculations that add up all the massive power losses from the transmission of wind energy from remote locations and make sure to include all the backup energy lost because of these projects. Then factor in the hidden metered power flowing into these projects along with the actual power flowing out. If this is done, Shasta County will uncover a massive "Green" lie being told to the public by this industry.

What's this big lie? Wind energy is inefficient, and the net energy actually being derived from these turbines, amounts to just a miniscule energy contribution.

But the green energy lies I am most concerned with, are the ones that hide the slaughter taking place to highly protected flying species like our disappearing eagles. In these comments I will give a Shasta County a short lesson on how this industry is using fraudulent research to hide their ongoing slaughter to species. I will also show how our Interior Department requires virtually no accountability and is actually helping this industry perpetrate this fraud on the public.

The truth is that wind industry has been rigging their turbine mortality research and species impact research for decades. It's also quite easy to prove. Will Shasta county officials ignore the truth or will they rubber stamp the wind industry's fraudulent research and their bogus environmental impact analysis for

this project? They did with the Hatchet Ridge Wind project. If by chance, Shasta County actually requires credible scientific input, this project has to be denied until honest scientific research is conducted and mitigation of impacts can be fairly mitigated.

In the future the public should absolutely be able to review the Draft EIR for the Fountain Wind project, additional hearings held and be allowed make additional comments. I'm also looking forward to analyzing this EIR. Then I can point out the validity of the information being presented, point out nonscientific citations to fake studies and the fatal flaws to the public.

Actually, having public comments for this project at this time is not really appropriate**. The reason I say this, is because the public is not aware that the truth about these projects is being hidden and their opinions are being manipulated.** The public has no idea that fraudulent nonscientific research and opinions, have concealed important facts about wind energy impacts. The public has no idea that fraudulent nonscientific research was used in the post construction Hatchet Ridge mortality research. Lastly, the public also has no idea that fraudulent nonscientific research was used in the approval process for the Hatchet Ridge.

As scripted, the research conducted at Hatchet Ridge showed no significant mortality impacts. Hopefully, Shasta County officials will not use the industry's paid for biased opinions or their false contrived research, to justify a Fountain Project approval or use it with a fraudulent mitigation of impacts. After all, **how can Shasta County officials or anyone for that matter, fairly mitigate turbine impacts when so many lies are on sitting the table?**

Wind generation facilities. As previously discussed, no other wind permitting projects are currently proposed for the immediate project vicinity. Accordingly, the proposed project would not, by definition, contribute to avian mortality on a cumulatively significant basis. However, development of additional wind projects in the vicinity of Hatchet Mountain would constitute future actions that could lead to a cumulatively significant direct mortality impact on birds and

The Hatchet wind project like other wind projects across the world, have had significant local and cumulative mortality impacts to species. But these impacts

have been hidden with contrived research and from the deliberate avoidance of meaningful scientific research. I will remind Shasta County officials that pretending to do research is not science, deliberately collecting false data is not science and just because public being exposed to this false information, does not make any of it true.

CEQA and Federal laws have no provisions that allow for Shasta County to accept to any biased, unscientific and contrived research created to achieve predetermined nonfactual results. **These laws do not allow research to be rigged so significant effects can be hidden from decision makers and the public**. Yet this rigging is taking place and **it is so easy to prove…….**

(b) The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data. An ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting. For example, an activity which may not be significant in an urban area may be significant in a rural area.

(c) In determining whether an effect will be adverse or beneficial, the Lead Agency shall consider the views held by members of the public in all areas affected as expressed in the whole record before the lead agency. Before requiring the preparation of an EIR, the Lead Agency must still determine whether environmental change itself might be substantial.

40 CFR 1502.1

§1502.1 Purpose.

The primary purpose of an **environmental impact statement** is to serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government**. It shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.** Agencies shall focus on significant environmental issues and alternatives and shall reduce paperwork and the accumulation of extraneous background data. Statements shall be concise, clear, and to the point, and shall be supported by evidence that the agency has made the necessary environmental analyses. An environmental impact statement is more than a disclosure document. It shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions.

§1502.2 Implementation.

To achieve the purposes set forth in §1502.1 agencies shall prepare environmental impact statements in the following manner:

(a) Environmental impact statements shall be analytic rather than encyclopedic.

(b) Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues. As in a finding of no significant impact, there should be only enough discussion to show why more study is not warranted.

(c) Environmental impact statements shall be kept concise and shall be no longer than absolutely necessary to comply with NEPA and with these regulations. Length should vary first with potential environmental problems and then with project size.

(d) Environmental impact statements shall state how alternatives considered in it and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of the Act and other environmental laws and policies.

(e) The range of alternatives discussed in environmental impact statements shall encompass those to be considered by the ultimate agency decisionmaker.

(f) Agencies shall not commit resources prejudicing selection of alternatives before making a final decision (§1506.1).

(g) Environmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made.

§1502.24 Methodology and scientific accuracy.

Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement. An agency may place discussion of methodology in an appendix.

The expert opinions submitted for the approval of Hatchet Ridge wind project were not true and the post construction mortality studies conducted at Hatchet Ridge were a contrived mess. The wind industry's typical scripted studies were used with their nonscientific methodologies, specifically designed to hide most of the fatalities.

When dealing with this industry it is very important to pay attention to deceptive wording or to what they don't say.

Here is one obvious example. Before Hatchet Ridge was approved, this ridiculous expert opinion (shown below), was submitted to Shasta County, downplaying wind turbine fatalities. Yet even in 2008, when America had 25,000 MW of installed wind energy capacity, the USFWS estimated that there

were 440,000 fatalities taking place annually from wind turbines and these low estimates were being derived from this industry's own fraudulent studies.

Biological Resources

The overall direct mortality of birds and bats resulting from collision with objects in the project region is relatively small because of the relative isolation of the project area and the associated lack of large-scale facilities, population, infrastructure, and other projects. Implementation of the proposed project is not expected to result in a significant cumulative effect on bird and bat mortality.

Erickson et al. (2001) estimated the annual number of mortalities of migratory birds in the United States that result from collision with a variety of objects.

- Vehicles: 60–80 million.
- Buildings and windows: 98–980 million.
- Power lines: tens of thousands–174 million.
- Communication towers: 4–50 million.
- Wind generation facilities: 10,000–40,000.

The following analysis outlines the potential, if any, for the proposed project to result in a significantly cumulative impact on the bird-object collisions in the context of the statistics outlined by Erickson et al.

The truth is this, when scientific principles are applied to just the Altamont 2001 turbine research, when this citation was made, their turbines were killing tens of thousands of birds and bats annually. I can prove this statement to anybody with what I have uncovered. Also, when comparing communication towers, buildings, windows, or even domestic cats, these factors kill very few raptors and bats. Information like this is what should have been written and presented to Shasta County, instead of this highly deceptive comparison.

The fact is that raptor and bat deaths at communication towers are virtually nonexistent. This has been known for well over 30 years. Yet the public has been bombarded with disinformation and lies about these forms of mortality as being far more significant than fatalities caused by wind turbines. When the truth is these **wind turbines absolutely annihilate highly protected raptors and bats.**

Another important point is that for decades, mortality studies conducted around communication towers were "scientifically" designed to actually find carcasses. **In contrast staged wind energy studies, like those conducted at Hatchet Ridge,**

are designed with methodologies to specifically allow the majority of fatalities to remain hidden.

And then, to anyone with just a bit of common sense, there is the obvious. The deadly air space around one or even 100 communication towers is relatively insignificant when compared to the millions of cubic feet of rotor sweep, moving with 200 mph blade tip speeds waiting for birds and bats at even a single wind project. The 400 ft. turbines installed at Hatchet Ridge located near slopes, can also easily send carcasses over 200 meters from towers. Yet for Hatchet Ridge research, most fatality searches were limited to clear areas that reached out to about **63 meters**.

Unlike wind turbine research, past communication tower research, reached out 1 ½ times the maximum tower height from bases and carcasses searches were daily. **Not with the 400 foot turbines Hatchet Ridge.** Carcasses searches were restricted to small areas with searches extended out every two weeks and in some cases a month. This massive flaw allowed extended periods of time for turbine carcasses to disappear by industry insiders or by beast.

Speaking of beasts, the Hatchet ridge location is somewhat unique because of the abundance of ground predators that exist in this habitat. The Hatchet Ridge location is inhabited by bears, foxes, martins, coyotes, bobcats, and Mt lions along with many other flying scavengers. Under these conditions, if a special status species or an endangered species happened to be killed by turbines, the odds are that it would never be found. Of course, this wind energy research insanity, is by design.

None of these ground predators and a multitude of others factors are even mentioned in the Hatchet Ridge mortality reports. But I know the foot prints of all these animals were there to seen because the smell of a bloody turbine carcass, will bring them in from miles away. But typical of wind energy research, many important things like this are not even mentioned because **this industry's so-called research is a fabricated stage performance**. For them the less they say the better while ignorant readers are dragged into their rigged world of meaningless calculations and conclusions.

Below is a little more factual information about wind turbine carcass dispersal. It illustrates the absurdity of the mortality research that was allowed to be

conducted at Hatchet Ridge. It was taken from 3-year study in Solano county. While this study was far better than most conducted by the wind industry, it still had a number of very serious flaws. When compared to the Hatchet Ridge turbines the Solano County turbines, were not only shorter, they sat on relatively flat ground, and had shorter blades that reached out from towers 17 meters less. This study, like at Hatchet Ridge, had infrequent searches but search areas were completely searched in all directions and extended out 105 meters from towers. This 105 meters was still not adequate because fatalities were still being found much further out. **Two of these reported fatalities were golden eagles found at 200 and 155 meters away from turbines.**

This is very important information for Shasta County officials……With the research conducted around the smaller Solano County turbines, 2/3 of the carcasses found at these turbines, including those fatalities they happened to find beyond 105 meters, were located beyond 63 meters.

Now look close at this search methodology taken from the study conducted at Hatchet Ridge…….. With the search methodology used for Hatchet Ridge, they set it up so that at least 2/3 of the carcasses would be missed or if found, could be classified as incidental.

2.1.2 Incidental Fatalities

When a bird or bat carcass was found outside of the designated search plot and/or outside of the standardized search period, it was recorded as an incidental fatality. Incidental fatalities were documented with the same level of detail as survey finds; however, they were excluded from statistical analyses. All fatalities documented during the initial sweep survey and during the monthly searches were considered incidental.

covered. Non-searchable area varied between search plots. Four plots were fully searchable, 12 had non-searchable area between 0.5 and 10 percent, and 6 had non-searchable area between 10 and 19 percent, for a total of 7.8 percent of search plots designated as non-searchable. Non-searchable areas were generally located in the outer most third of the established search plot.

Most of the unsearchable areas were located where increasing numbers of carcasses could have be found, even with these small search areas.

But most importantly **the total area beyond 63 meters, the area where the most carcasses from these turbines would be found, was dismissed from the biweekly searches.** Now imagine the multitude of wind turbine carcasses and scattered remains, that were there to be found, but were never reported from the Hatchet ridge turbines. Then there are all the carcasses carted off by the USFWS that can't be reported.

The word "incidental" is important here because it is a trump card for data exclusion, being used in wind industry studies. This very word makes any of these wind industry studies unscientific. It also allows wind industry personnel to handle, move and even hide carcasses when studies are being conducted. When studies have a week, two weeks or even a month interval, wind personnel have reams of time to locate carcasses ahead of searchers.

These research activities produce fraudulent research data. For example, at Altamont Pass during years of formal studies, dozens of golden eagles killed by turbines were excluded from mortality estimates because they have been placed in the incidental category. How do these dead eagles get placed in the incidental category? Wind personnel went around and picked them up ahead of the people doing standardized surveys or they were spotted outside the industry's "designated" and 100 percent unscientific search areas.

The truth is that wind industry's mortality research across America has changed from bad to worse over the years. As turbine grew larger the research has become more fraudulent. For several years now, carcass or mortality searches used in the industry's fake studies, have eroded into searches conducted about once per week on roads and clear gravel pads of turbines.

In order to understand the absurdity of all this, imagine a mailman pulling up to a mailbox then glancing at your driveway. In a fraction of a second, a carcass sitting there in a mangled heap would be incredibly easy to spot. Now think of the hundreds of stops a mailman makes every day. It is about that easy to pre-scan for carcasses ahead of formal searches.

Yet in the wind industry's research now being produced, the industry makes it seem so difficult to find anything from the size a bat to an eagle in their search areas. At one time, there was some truth to this it but this is no longer the case when search areas have been conveniently reduced to roads and cleared areas around turbines. Looking for a carcass on a sliver of road out 100 meters from a turbine and then making a ridiculous calculation for an actual area that can be a thousand times bigger, is not research. But this garbage meets the standards for wind energy research.

Below is information and data taken from the 3-year study conducted in Solano County.

Table 12. Number of incidents per size grouping versus distance from wind turbine tower (Shiloh I)

	# Incidents				Fall Density		
Range	Small & Medium	Large	Bats	Ring Area	Small & Medium	Large	Bats
0-10	23	4	6	314.29	0.07	0.01	0.02
11-20	12	1	8	942.86	0.01	0.0011	0.01
21-30	12	5	16	1571.43	0.01	0.0032	0.01
9 31-40	20	1	18	2200	0.01	0.0005	0.01
49 41-50	18	6	25	2828.57	0.01	0.0021	0.01
65 51-60	34	6	25	3457.14	0.01	0.0017	0.01
52 61-70	43	2	7	4085.71	0.01	0.0005	0.0017
76 71-80	54	6	16	4714.29	0.01	0.0013	0.0034
40 81-90	32	2	6	5342.86	0.01	0.0004	0.0011
71 91-100	63	4	4	5971.43	0.01	0.0007	0.0007
26 101-105	20	5	1	3221.43	0.01	0.0016	0.0003

388 of 505 found beyond 38 meters

Avian carcasses of all size groups tended to be located somewhat evenly over a larger distance range than bat carcasses, which tended to be located closer to the towers. The average distance to the tower for bat incidents was ~50m, while the average distance to tower base for bird incidents was ~65m.

3 year study with undersized 105 meter search areas
100 turbines searched -76 with 80 meter towers and 24 with 65 meter towers
77% of birds and bats were found beyond 38 meter turbine blade length
Had a proper search areas of 150 meters been used well over
90% of the carcasses would have been found beyond the blade length

Searches took place were about once a week and crops were tilled planted and growing in the outer search areas.
Farming hid many of the carcasses and many more would have been found with daily searches.
Even so bat carcasses were still found more than 100 meters from towers

SHILOH I WIND POWER PROJECT

What was reported

ONE YEAR REPORT

Turbine Blade length about 38 meters. Total turbine height 103-118 meters

Table 12. Number of incidents per size grouping versus distance from wind turbine tower

	Distance Range (meters)													
Species Size Group	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-120	121-130	131-200	Total
Small Bird	5	1		1	2		1	6	3	8	3				30
Medium Bird	9	6	2	8	6	15	15	14	3	21	9	1			109
Large Bird	3	1	2	1	1	1	1	1	2	3	1	1	2	1	21
Unknown Bird Species*						1	1	2	1	4					9
Bat	3		4	7	15	9	3	6	4	1					52
Total	20	8	8	17	24	26	21	29	13	37	13	2	2	1	221

* All unknown bird species were small or medium sized passerines

What should have been reported

Table 12. Number of incidents per size grouping versus distance from wind turbine tower

	Distance Range (meters)									Avoided area			
Species Size Group	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-105	106-110	111-120	121-130	131-200
Small Bird	5	1		1	2		1	6	3					
Medium Bird	9	6	2	8	6	15	15	14	3					
Large Bird	3	1	2	1	1	1	1	1	2					
Unknown Bird Species*						1	1	2	1					
Bat	3		4	7	15	9	3	6	4					
Total	20	8	8	17	24	26	21	29	13	**51**				

NOT formally searched and ignored. Carcasses found by accident or easily spotted from a distance

* All unknown bird species were small or medium sized passerines

This study should have expanded formal search areas out to 200 meters from towers

Data from 2006-2007 mortality studies with 105 meter search areas around 1.5 MW wind turbines. Some were mounted on 65 meter towers and others were mounted on 80 meter towers. Large and medium species found beyond 105 meters were seen due to periods of high visibility during crop rotations. Search intervals were approximately once a week allowing many of the fatalities occurring at this site to be missed.

Bats - 73 percent found past 38 meters (turbine blade length) from towers.

All Birds - 78 percent or 179 carcasses were found 38 or more meters from towers.

Had formal search areas included even an area of up to 150 meters, it would be reasonable to expect 85-90% of carcasses beyond 38 meters.

With this Solano study, carcasses were being found out to 200 meters even though intense formal carcass searches had stopped at 105 meters. Read below…….

1. March 10, 2007. One adult male Golden Eagle was found incidentally 200 meters WSW of Tower F3. Its primaries on left wing were gone, it had fractured metacarpals and could not fly (but was still mobile), was therefore non-releasable. As per our protocols the bird was transferred to the Lindsay Wildlife Hospital, Walnut Creek, CA. We wer subsequently informed that it had been euthanized.

100 meters (Table 11). Small carcasses that were found beyond the 100 meters radius included an American Pipit, Horned Lark and Wilson's Warbler, and were found at 102 meters, which is within the 105 meter scanned region. Of the 10 medium sized birds seen beyond 100 meters, 8 were found within 103m, one at 106m (Red-winged Blackbird), and one at 120m (Western Meadowlark, feathers only, was found in grazed pasture). The 5 large carcasses found beyond 100m, all raptor species, were all beyond the 105m search range, with one as far away as 200m (Barn Owl). Raptor carcasses are often easier to find because they are large and thus obvious,

None of the carcasses or injured birds found is listed as federally or state threatened or endangered, however one juvenile male Peregrine Falcon was found 102 meters southeast of tower E2R on November 13, 2007. The status of the Peregrine Falcon, previously federally and state endangered, is currently "delisted", and classified as "SDC", or a state delisting candidate species. Nine incidents were California Species of Special Concern, including a Merlin, 2 Northern Harriers, a Tricolored Blackbird, 4 Yellow Warblers and a Yellow-breasted Chat. Two Burrowing Owl incidents were also found during standardized searches, but were considered caused by "Other" means, and not deemed wind turbine tower (or met tower) related. One Prairie Falcon was found incidentally, at tower C12R. One Golden Eagle, a Protected Species, was found during the second year of this study within the standardized search area. Another Golden Eagle was found incidentally outside the standardized search area.

As I mentioned earlier, wind turbine carcasses disappear by industry insiders or by beast. Besides limiting search intervals and search distance out from turbine bases, one of the easiest ways to rig a study, is to limit search areas to small test or study plots located in the clear areas around turbines. These monitoring protocols effectively ensure that mortality searches around turbines are now conducted primarily on the gravel areas or clear areas and even away from the primary direction of carcass throw. These areas are the easiest areas for wind personnel to pre-scan for bodies ahead of formal searches. In other words, research protocols are specifically designed to focus on the areas that are least likely to have bird and bat carcasses and body parts.

At Hatchet ridge, I could easily scan every one of the 43 cleared areas around every turbine at once or twice a day and so could anyone else including researchers. But this isn't done for studies and carcasses can be easily moved out of these areas ahead of formal searches.

Here is more about the killing potential of this industry's new modern turbines..... In my evaluation of one 7-month wind industry study, I believe many thousands of bat and bird fatalities were concealed in a Post construction study at the Criterion Wind project. This represents an estimated death rate of 111 birds/MW and 357 bats per/MW or nearly 468 birds and bats killed per MW per year. This was my estimated mortality from just 28 - 2.5 MW turbines in

Maryland. The study methodology called for fragmented tiny search areas around the huge turbines with the total of the searched areas equaling about **a complete 50 meter distance from towers.** These ridge line turbines had blades 47 meters in length and search areas calculations should have allowed for launched carcasses out to at least 200 meters from the turbines.

In the mortality report for these turbines it was claimed that searchers systematically searched along predetermined in transects in their search plots. **I was told something completely different by an eyewitness (written statement).** He told me that he had access to the property and that he observed on two occasions wind personnel/employees, randomly picking up carcasses from around turbines. Two people were seen quickly picking up carcasses from the clear areas (roads and graveled areas) around the turbines. These areas were also the designated search areas for the study.

They were seen dumping carcasses in a bucket and driving off to the next turbine. They were not seen with a pen, no hand-held devices, a computer, no notebooks, they did nothing but run around, grab bodies and drive off. This eyewitness even talked with them and saw bat carcasses in their bucket. They did not appear to be professional and barely spoke English. He also said he would be willing to testify to what he saw. This reported activity was likely an organized pre-scan for carcasses ahead of formal searches.

This observed activity was nothing close to being scientific and took place when formal searches were being conducted on these turbines in Maryland. These turbines are also located in the known habitat of the endangered Indiana bat. I have notified the Interior Department on several occasions about this activity and this witness, but they have never responded back.

The Criterion wind project is interesting because it was designed with mortality research methodologies set up so that carcasses searches would be daily. This is almost unheard of with the wind industry's mortality research. I suspect developers thought they had their bases covered with the grossly undersized search areas. The tiny search areas that were chosen at this wind farm site were at least 25 times too small for these 420 ft tall turbines spinning with their 47-meter blades.

But as researchers would soon find out, those tiny search areas, that did not even cover full areas out to 40 meters from turbines, would still produce hundreds of carcasses that would have to be explained away.

"The monitoring study period was about 7 months, from April 5 to November 15, 2011. Search plots were established around all 28 turbines in the project and the carcass search schedule was for daily searches at all turbines (weather and safety permitting). Search plots were generally up to 40 m (~130 ft) radius totaling roughly 80 m2 (~860 ft2). **The shape of the search plots was variable due primarily to the size of the area cleared for construction."**

The project used the 2.5 MW Liberty Wind Turbine and at that time was the largest wind turbine manufactured in the United States. The turbine was developed through a partnership with U.S. Department of Energy and its National Renewable Energy Laboratory for Clipper Windpower. They refer to this arrangement as a partnership, I would call it collusion.

After reading through the facts, I believe most will agree that the research at this site was rigged and likely so at the highest levels, to hide mortality. But even with the most diehard of sceptics, when seeing the basic facts, it should be very obvious that thousands of carcasses went unreported.

It is my opinion, when all the flawed research factors are taken into consideration, the fatalities hidden in this research could have been 20,000 - 2500fatalities. This study reported 1540.

Table 2. Proportion of plots searched within the Criterion Wind Energy Project.

Distance (m)	Area Searched (sq. m)	Total Area (sq. m)	Percent Area Searched
10	8,181.64	8,788.17	93.1
20	24,195.94	26,364.50	91.8
30	37,237.17	43,940.83	84.7
40	42,986.84	61,517.16	69.9
50	37,637.84	79,093.50	47.6
60	27,358.02	96,669.83	28.3
70	17,224.81	114,246.16	15.1
80	8,663.08	131,822.50	6.6
90	2,590.51	149,236.64	1.7
100	696.75	165,890.29	0.4

A total of 262 birds (246 small birds and 16 large birds) and 706 bats were found during standardized carcass surveys or incidentally (Table 3). A full listing of casualties found and the locations of casualties are presented in Appendix A and Appendix B.

The research reported a total of 968 carcasses but if you study the percentages of the areas searched, the areas where the most carcasses would be found were primarily avoided. This is the area beyond the turbines blade lengths. For this study just 52 birds and bats were reported beyond 47 meters. Based upon past studies in CA, this is an area where 85-90% of all carcasses would have been found.

Of the areas out 47 meters, searches only looked at about 75% of this total area. Adjusting mortality for this lack of search coverage brings the 7-month Criterion carcasses total up to 1221. **But this reported 968 total, was just the beginning of the actual carnage that took place around these turbines.**

How important are all carcasses? Very important and waiting a week or more allows more than enough time for scavengers, lease holders or wind personnel to pick up most carcasses. Just finding a carcass and flicking a few feet away from a designated search area excludes a carcass from the data. But it gets much worse because a single carcass found 100-200 meters away from a turbine base on a narrow road, **could actually represent 200 or more carcasses in an honest study** when calculations are conducted for missed carcasses in the proportion of a search areas not scanned by researchers.

The data from hundreds of carcasses collection at Altamont also produced similar dispersal patterns from towers. Turbines under 100 ft tall and with 9-meter blades, launched about 50% of carcasses over twice the length of turbine blades.

With the 7-month Criterion research, the carcass total with their fraudulent data adjustment reported only 1221 fatalities with the tiny searches that where are used. If search areas and calculations accounted for missed fatalities launched out to 200 meters, it is easy to understand how thousands of turbine fatalities occurred during this terrible study and were missed. Were 10,000 fatalities missed in this bogus study or was the real number closer to 20,000 or 30,000?

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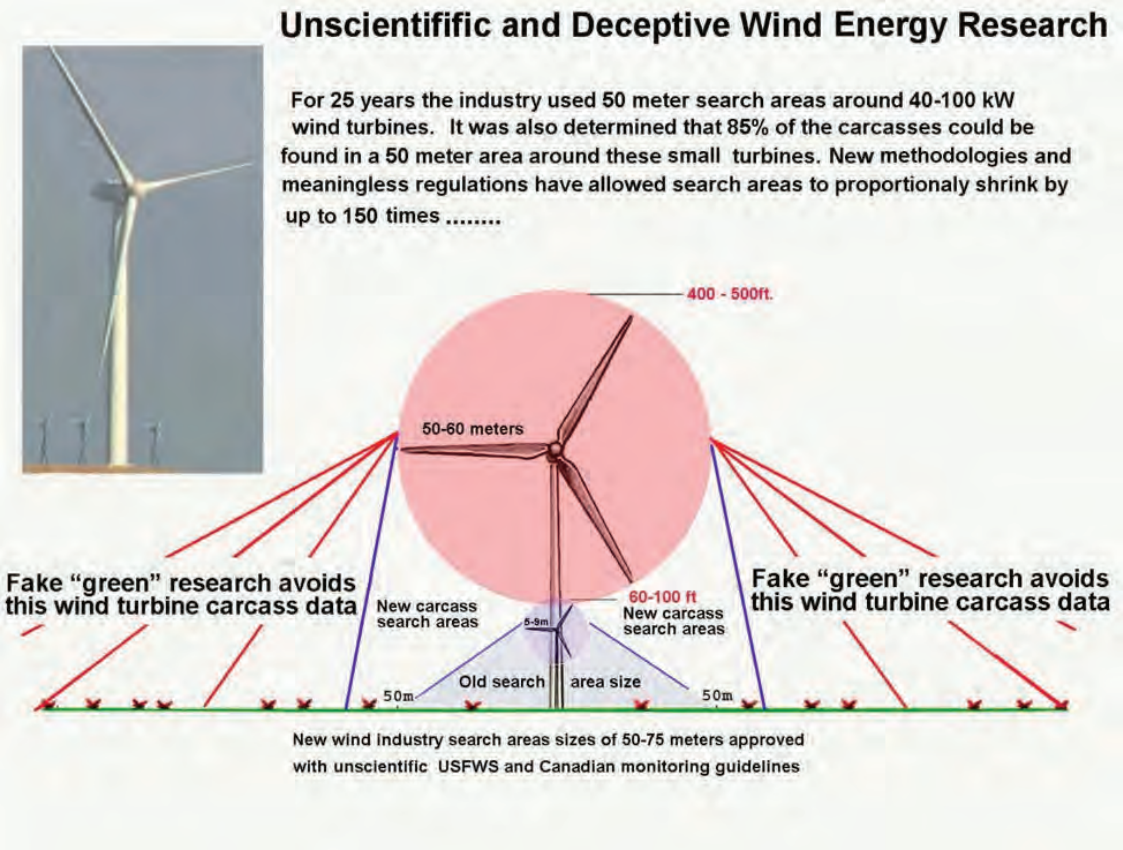

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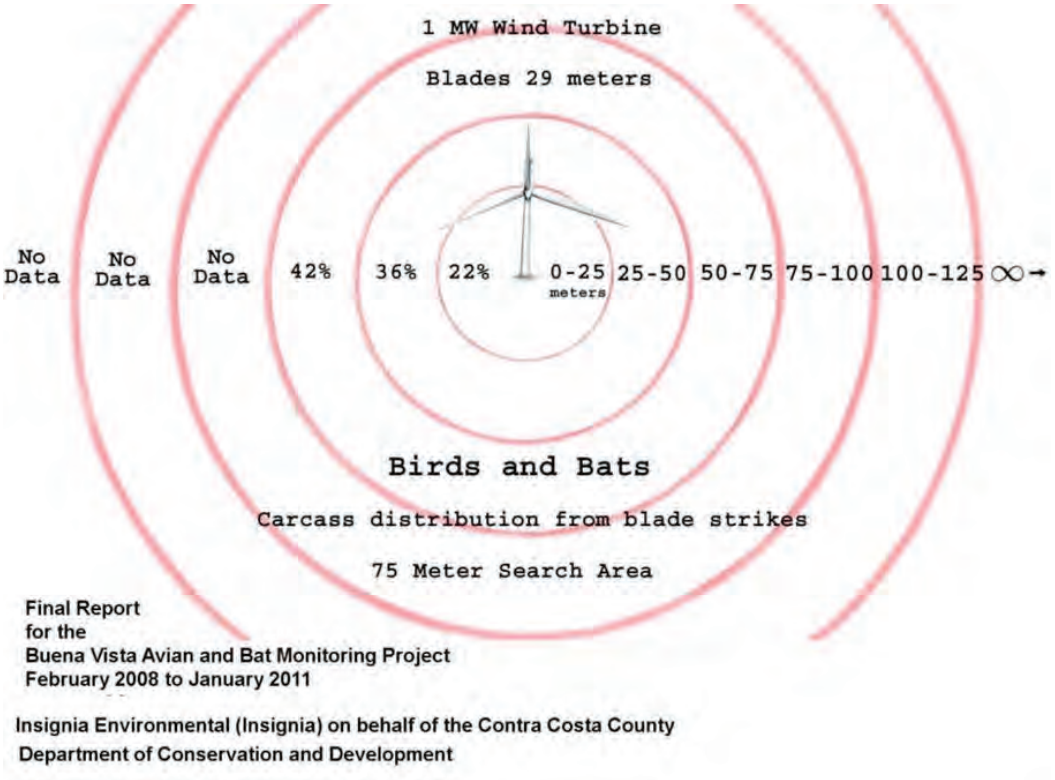
Below is another comparison of carcass dispersal from turbines (1 MW) much smaller than the Hatchet Ridge turbines. This carcass distribution data was collected from a CA study from turbines having much shorter 29-meter blades and much shorter overall heights. In this study it was shown that the highest percentage of carcasses found, were launched well past the length of the blades, 50-75 meters out from towers. Searches did not extend beyond 75 meters but they should have been because many more carcasses would have been found. In the first year of this 38 turbine study, 4 golden eagles were found by researchers.



How many carcasses were missed by the fraudulent Hatchet ridge mortality research? Very likely, thousands.

It appears that the services of Stantec are being used by Avangrid for the Fountain Wind Project. This is important because **nothing** I have seen to date from Stantec, with regards to wind energy research, has any credibility. The public and Shasta County planners need to know this.

On 2/15, I submitted a report about Stantec's research explaining in great detail, their history of poor wind energy research with impossible results to lsalazar@co.shasta.ca.us. I have added this information to the end of these comments.

Dead Eagles and the Wind Industry

In Dec 2016 a law was passed in the US allowing the industrial slaughter of 4200 Bald eagles a year. The public does not know it but this 4200 number, was needed to legally cover the ongoing hidden carnage to America's bald eagles by the wind industry. A slaughter that has been going on for decades and will escalate with the expansion of wind farms in wetland habitats.

The golden eagle population in CA has already been decimated and in order to cover it up, bogus research has been conducted that is overestimating their populations more than 10 times. I haven't seen a golden eagle in the Redding/Lake Shasta area since March 2011. I used to see them regularly

Cumulative mortality information like this below has been hidden by the industry and government agencies for decades.

In Europe, the white-tailed Sea eagle is really their bald eagle, only without a white head. Read below and pay close attention to how quickly these turbines annihilated this fish-eating eagle population on Smola Island Wind. Also remember the fake wind industry research with all their fraudulent data, have never accounted for the mortality that occurs at active nest sites when adults are killed. They pretend it doesn't exist. The Royal Society for the Preservation of Bird's Conservation is mentioned here as well and I will inform everybody, that this group, like Audubon, has sold out and they no longer make truthful statements like this about wind energy.

"June 23, 2006, BBC News reported that 9 White-tailed Eagles have been killed at Norway's Smola Island Wind Energy Facility over a 10-month period. Smola is located off the Norwegian coast where a key population of Europe's largest bird or prey resides.

Since the 68-turbine facility was built, reproductive output has plummeted, with breeding pairs at the site down from 19 to just one.

The Royal Society for the Preservation of Bird's Conservation Director (M. Avery) noted, "So this colony that is very important – was very important – has been practically wiped out because this wind farm was built in exactly the wrong place"

Norwegian Ornithological Society (NOF), 9 May 2006 (our translation):

'SMØLA WIND PARK IS A CATASTROPHE FOR WHITE TAILED EAGLES'

'Eight months after the Smøla wind park started working and, with pomp and ceremony, was declared open, unfortunately we have to conclude that nine white tailed eagles have been killed by the wind turbines. NOF will demand that the turbines are stopped so that everyone can sit down and undertake a thorough review of the problem before more birds are killed.

The adult female white tailed eagle in the picture was the seventh to be killed in collision with turbines at Smøla wind park.

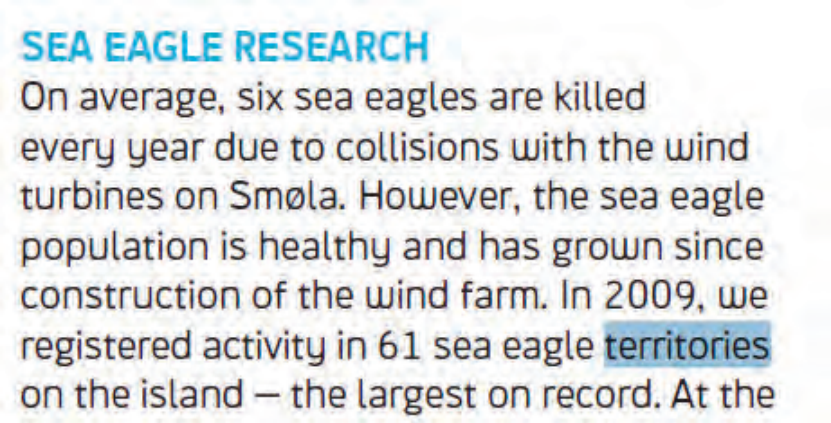
© Espen Lie Dahl.

'Unique knowledge

'NOF sacrificed large resources over several years' of casework in order to stop the construction of a wind power station on Smøla. Our background material was large; through NOF's Project White Tailed Eagle NOF possesses unique knowledge on the species' population and habitat use on Smøla. In addition NOF has considerable understanding of the negative consequences that wind parks can have, especially for raptors. While the authorities and developers used research from wind parks in Denmark and the Netherlands as the basis for their evaluation, NOF went to the large parks in the USA and Spain to check the results from their investigations. We did this in order to find areas with fauna similar to our own, that is with large raptors that actively use wind park areas. Here we found clear evidence that large raptors are hard hit by such developments. When, in addition, we then showed through Project White Tailed Eagle that Smøla has one of the world's densest breeding populations of white tailed eagles, then the tragic consequences that we see today were inevitable!

'[...]
'Population reduction
'Of the nine dead white tailed eagles that so far have been found after eight months operation on Smøla, there are six adult, fully fledged birds and three young birds. Last year radio transmitters were attached to six of the young birds on Smøla. Now, less than a year after tagging, three of these have already been found dead. The discovery of six adult birds will also have dramatic consequences for a species with a low breeding rate and a long life span. With over 100 applications for various wind installations along our coast under consideration, of which many are associated with breeding areas for white tailed eagles, we may in a few decades find that the white-tailed eagle population is much reduced. Also other species such as golden eagles, horned owl, red-throated diver etc. may easily be victims of the wind turbines' beating blades."

In response to such devastation, instead of telling the truth the industry has chosen to lie with carefully worded statements like this one below. Keep in mind the word "territories" is a vague term that only means an eagle was seen in a particular location. In other words, this description is so bad, it is possible that the same eagle was seen in 61 different locations.



SEA EAGLE RESEARCH

On average, six sea eagles are killed every year due to collisions with the wind turbines on Smøla. However, the sea eagle population is healthy and has grown since construction of the wind farm. In 2009, we registered activity in 61 sea eagle territories on the island – the largest on record. At the

The Interior Department used similar language to hide the devastation occurring to golden eagles in the region around Altamont pass. In a 2015 survey sponsored by the USGS made this fraudulent statement below:

"We documented a total of 138 **territorial pairs** of golden eagles during surveys completed in the 2014 breeding season, which represented about one-half of **the 280 pairs we estimated** to occur in the broader 5,169-square kilometer region sampled. The study results emphasize the importance of accounting for imperfect detection and spatial heterogeneity in studies of site occupancy, breeding success, and abundance of golden eagles."

This fraud of a study estimated 280 pairs of golden eagles living in imaginary territories over this entire region even though they could **only document 11 occupied** golden eagle nest sites.

Smola Island is 83 square miles. Their turbines are 2.3 MW and are similar to those used at Hatchet ridge. The Fountain wind project will have much larger turbines with more than twice the deadly rotor sweep installed on Smola Island, in a much smaller area of 58 square miles. The Fountain Wind project will have over 3 times the eagle and species killing rotor sweep of Hatchet Ridge.

How many eagles, raptors or endangered species carcasses have been secretly hauled off from the freezers at Hatchet Ridge by the USFWS? This activity is taking place, but the public can't find out because of DC laws put in place in 1997. It was then that Government agents were silenced, the Freedom of Information Act was amended and the Industry's dead eagle secrets were allowed to remain hidden. A hundred or even a thousand eagles could have been killed at Hatchet ridge and the public would never know the truth. Read on…….

Denver Eagle Repository Facts - Since 1997 they have processed the remains of 43,000 Bald and Golden eagles

Since 1997 the Denver Eagle Repository has not and will not tell the public the origin or the cause of death for any of the eagles they receive. Repository eagles are eagles that have been killed in places where they are likely to be found. That being, on roads, under power lines or at a wind farm. The Eagle repository recycles these eagles to Native Americans.

For Native Americans, the most important part of an eagle, is having the entire carcass in good condition. But receiving a whole golden eagle carcass in good condition from the Denver Repository can take 5 years. This wait, especially for golden eagles, will continue to grow as their populations continue to decline in the West.

Oct. 29, 2015 Krysta Rogers, of the California Department of Fish and Wildlife in Sacramento holds up the wing of a dead golden eagle. The eagle was found injured on July 25 on a wind farm in the Altamont Pass operated by AWI and had to be euthanized, according to an East Bay Regional Park District report. Rogers said the amputation to the bird's left wing was "consistent with a wind turbine strike." *(Gabriela Quirós/KQED)* **https://ww2.kqed.org/quest/2015/10/29/wind-energy-vs-golden-eagles/**

The easiest way for an average person to notice a dead eagle, is when it has been killed on a road. But road kills for eagles are rare. Dead eagles can also be found around power lines but they are spotted with irregularity, can lie on the ground for months rotting and are commonly scavenged upon. Many of these power line eagles have also been electrocuted, making their condition marginal for recycling parts to the Native Americans. Whole eagle carcasses found in acceptable condition and suitable for Indian burials, rarely come from power line fatalities.

In the 1970's the USFWS Eagle Repository, was located in Idaho where they were receiving 50-100 eagles a year, with most of them being golden eagles. Back then, the golden eagle population in the West, was 4-5 times what it is today.

By the 1990's, this Eagle Repository was receiving approximately 600-800 carcasses annually with the majority of these eagle carcasses, being shipped

from CA. It was also a time when most of America's wind turbines, were also installed in CA.

Since the early 1980's, wind farms across America have supplied the largest number of eagle carcasses for the eagle repository but the public has not been told this. Over the last 4 1/2 decades, this intake of eagle carcasses has also escalated. In an effort to keep up with this growing supply, the Eagle Repository was moved to a much larger facility in Denver in 1997. Today the Denver Eagle Repository processes 40-50 times the number eagle carcasses it did during the 1970's.

Back when America had just 2200 MW's of wind energy

Eagles turned in to the repository typically have died of natural causes or fatal encounters with power lines, windmills, vehicles, or illegal shooters or trappers. The repository does not accept poisoned birds because of the hazard they pose to human health.

Published by the US Fish and Wildlife service in 1997 before the Clinton Administration silenced all USFWS agents and ammended the Freedom of Information ACT

Wind farms located in eagle habitat always kill eagles and these wind farms have freezers used for the preservation of eagle carcasses. Wind farms are also the easiest place to ever fine a dead eagle but these locations are off limits to the public. One of the responsibilities of wind farm personnel when in the field, is to scan for carcasses. If an eagle is found, a supervisor is notified. USFWS agents periodically pick up most of these carcasses and have them shipped to the Denver Eagle Repository.

This eagle mortality quote from 2001 made by The Washington Department of Fish and Wildlife is very telling……"The repository does not record the State of origin of carcasses received (D. Wiist, pers. comm.). If criminal activity is suspected (e.g.,gunshot, pesticide mis-use), carcasses may be sent to the USFWS forensics lab in Ashland, Oregon. Eagle carcasses with unknown cause of death are often sent to the National Wildlife Health Lab, in Madison, WI. A report

based on 1,429 carcasses received between 1963 and 1984 indicated that gunshot (23%), trauma (21.1%), poisoning (11.1%), and electrocution (9.1%) were the most prevalent causes of death (National Wildlife Health Laboratory 1985)."

Here is what this quote really is as saying. For decades and from the time wind turbines began slaughtering eagles in CA, the eagle Repository has not released the cause of death for their eagle carcasses. If they had, the repository would have confirmed the devastating eagle mortality being caused by wind turbines, The Repository also no longer releases information for the cause of death for any of the eagle carcasses they receive because if they did, death by gunshots, poisoning and electrocutions would not even account for a third of annual intake of eagle carcasses. Also notice this important number……..The total number of eagle carcasses for the 20 year period (1963 -1984) only averaged 71 a year.

Today the Denver Eagle Repository receives over twice the number of eagle carcasses in a single year, then they did during this entire 20 year period. If the Repository ever produced the causes of death for the eagles they have received since 1997, the most prevalent causes of death would likely show gunshot (8%), trauma including turbine strikes (80%), poisoning (4%), electrocution (3%) and other (5%) because Repository eagles are killed in places where they are likely to be noticed by a person.

I have collected the reported Denver Eagle repository records for most years since 1997. These records are from published studies, Federal court cases, USFWS publications, and a Senate Report. It is important to notice that America's eagle carcass numbers and orders filled to Native Americans, has escalated right along with the development of wind energy outside CA.

1997- The National Eagle Repository filled 984 requests for whole eagles for Native Americans and 229 for eagle parts, for a total of 1244 requests filled. Many of these eagles came from CA wind farms.

1999 - Orders for whole eagle carcasses and eagle parts totaled 1260. Of the requests filled, 788 were bald eagles and and 472 golden eagles

2000- the national Eagle repository sent the largest number of whole eagles to Native Americans since it first started operating. Items distributed included 1063 whole eagles and 425

eagle parts or loose feathers. The repository also received 149 eagle parts with 122 coming from bald eagles and 27 from golden eagles. The average order of loose feathers order increased from 15 to 21 per month.

2001- The repository received 1298 whole eagles 794 and 504 golden eagles as well as 176 eagle parts. With these eagles orders were filled for 1019 whole eagles and 372 eagle feather/parts.

2002 - The Repository received 1,583 eagles and eagle parts from the field during FY 2002. This total included 1,021 bald eagles and 562 golden eagles. Repository staff filled 1,549 requests from Native Americans seeking eagles and eagle parts for religious use; 1,095 whole eagles were distributed while 454 requests were filled with loose feathers or other eagle parts.

2003 - The National Eagle Repository filled 1,699 orders from Native Americans for eagles and eagle parts for religious use; 1,175 of these orders were for whole bird carcasses.

2004 - The National Eagle Repository filled 1,851 requests from Native Americans for eagles and eagle parts for religious use – a record number.

But there is also something else more sinister that has taken place. **Of the eagles being sent into the repository, more of them are now coming in much more mutilated. This is what a wind turbine blade does to an eagle, especially with the industry's massive new turbines. A direct hit from one of these turbines with their much faster blade tip speeds, will cause an eagle to explode into pieces.**

The eagle in the image below was not hit by a meteor, a stray artillery shell or a sudden change in climate. It was killed by a modern wind turbine. The man that witnessed it, then searched a large area and collected all the pieces for this image. The torso, he had to knock down from the branches of a tree.

In 1997 when California's turbines were small and damage to eagle carcasses was less severe, **79% of Repository orders filled were for whole eagles. In the years 1997-2016 orders filled for eagle parts and feathers jumped by more than 11 times from 229- 2600.**

From 2005-2018 the information released about the Denver Eagle Repository is much more

fragmented. But one thing is very clear. Carcasses being received and shipments of body parts by the Repository have escalated . **The majority of these eagle shipments are also bald eagles**.

2005 - The National Eagle Repository filled 1,805 requests from Native Americans for eagles and eagle parts for religious use.

2006 - The National Eagle Repository filled 2,237 requests from Native Americans for eagles and eagle parts for religious use.

2007- The National Eagle Repository filled 2,369 requests from Native Americans for eagles and eagle parts for religious use.

2008 - The National Eagle Repository filled 2,714 requests from Native Americans for eagles and eagle parts for religious use.

2009 - The National Eagle Repository filled 3,270 requests from Native Americans for eagles and eagle parts for religious use.

2010 – No official repository data found, but quotes in articles from Repository employees were reporting over 2000 eagle carcasses are being received annually by the Repository.

2011- No official repository data found, but quotes in articles from Repository employees were reporting over 2000 eagle carcasses are being received annually by the Repository.

2012 - No official repository data found, but quotes in articles from Repository employees were reporting in the media that over 2000 eagle carcasses are being received annually by the Repository. Filled orders for golden eagles 499 bodies and parts. Total eagle orders reported filled 2294.

2013 - The repository filled 1795 bald eagle orders for whole bodies and parts. They also

2014 - Whole and eagle parts received reported to be 2309. Other data was eliminated because I had made public the changing carcasses numbers in the regions of wind energy development.

NATIONAL EAGLE REPOSITORY ANNUAL REPORT: 10/01/13 – 09/30/14

REGION	WHOLE EAGLES AND EAGLE PARTS RECEIVED			WHOLE EAGLE ORDERS FILLED	EAGLE FEATHER & PARTS ORDERS FILLED	COMBINED FILLED ORDERS BY REGION
	Bald	Golden				
	No Data	No Data	REGION TOTAL	BALD/GOLDEN	BALD/GOLDEN	
1			239	135	376	511
2			65	479	1,113	1,592
3			591	129	357	486
4			352	24	114	138
5			229	24	110	134
6			492	170	519	689
7			216	3	13	16
8			125	62	240	302
TOTAL			2,309	1,026	2,842	3,868

NEW REQUESTS RECEIVED

BALD EAGLES	1,176
GOLDEN EAGLES	1,795
EITHER SPECIES	1,379
TOTAL	4,350

NOTES: The incoming bird count is not complete as we are still evaluating birds received in September. The final total number of birds and bird parts received will probably be about 2,400. The total number of eagles and parts shipped, as well as the number of new requests received are complete as of 10/22/14.

NATIONAL EAGLE REPOSITORY ANNUAL REPORT: 10/01/12-09/30/13

REGION	WHOLE EAGLES & EAGLE PARTS RECEIVED			WHOLE EAGLE ORDERS FILLED	EAGLE FEATHER & PARTS ORDERS FILLED	COMBINED FILLED ORDERS BY REGION
	BALD	GOLDEN	REGION TOTALS	BALD/GOLDEN	BALD/GOLDEN	
1	186	60	246	143	384	527
2	30	30	60	527	1,222	1,749
3	547	10	557	164	446	610
4	281	10	291	26	119	145
5	206	3	209	36	166	202
6	256	246	502	197	558	755
7	273	4	277	3	13	16
8	16	136	152	74	260	334
TOTALS	1,795	499	2,294	1,170	3,168	4,338

NEW REQUESTS RECEIVED

BALD EAGLES	1,214
GOLDEN EAGLES	1,906
EITHER SPECIES	1,422
TOTAL	4,542

NOTES:

This is why the new Dec 2016 rule was created in DC, allowing up to 4200 bald eagles to be killed annually.

2015 - The Eagle Repository was very active receiving and filling requests for bald and golden eagles and their parts. In 2015, 3,678 orders were filled and 4,155 new requests were received.

2016 - The Eagle Repository received a total of 2,736 whole eagles and eagle parts; 2,273 were bald eagles and 463 were golden eagles. A total of 3,957 orders were filled – 2,600 for eagle feathers and eagle parts and 1,357 for whole eagle orders.

Until yesterday I had not reviewed these Repository statistics for several years. But for everyone looking at them, it should be easy to see, **by adding a conservative estimate of 2700 dead eagles for 2017 and 2018, the Denver Repository has processed the remains from over approximately 43,000 dead eagles since 1997.**

Remember these are 43,000 plus eagle carcasses for which no cause of death or their origin has been made public by Interior department. My estimate for the origin of these eagles is that at least 50% of these eagles are wind turbine related and 66% is probably more accurate. Lastly keep in mind that wind farms do not find or even report all eagle fatalities. I know this from a lengthy interview I had with an employed Wind Tech.

As I stated earlier, how can Shasta County officials or anyone for that matter, fairly mitigate wind project impacts when so many lies about these projects are sitting the table?

GOVERNMENT WANTS ACCURATE RECORDS

Gate City Becomes Repository for Eagles

By GARY HADEN
Journal Regional Editor

Wanted dead or alive, eagles are a popular commodity so much so the federal government has sent a man to Pocatello to keep track of the big raptors.

James R. "Bob" Norris, a special agent of the U.S. Fish and Wildlife Service for 18 years, would prefer to see eagles fly ing freely, but the nature of his new job means he won't see most birds until they've been hit by cars, electrocuted poisoned or shot from the sky.

Interest in eagles has developed on several fronts in recent years. News that a sheep rancher had commissioned the killing of hundreds of eagles in Wyoming in 1972 incensed environmentalists; at the same time Indians were developing more interest in the use of eagle parts in traditional religious customs.

Since federal law makes killing eagles illegal, Indians now must rely on birds and parts distributed by the U.S. Fish and Wildlife Service.

Previously, Norris explains, each special agent collected birds himself or accepted them from others who found them. The birds were then distributed to Indians who had to apply first to a FW & S regional office at Portland, Ore., Albuquerque, N.M. or elsewhere in the U.S.

No overall record of eagles found dead or injured was maintained. Indians were frustrated by a bureaucracy which had to authenticate each one's sincerity, and no one knew how many eagles might be obtained from different agents for funneling into illegal channels.

At the same time religious Indians wanted more feathers, whites became caught up in buying supposedly authentic Indian artifacts made with feathers. The Interior Department, parent organization of the Fish and Wildlife service, last month announced the arrest of more than two dozen whites and Indians in Oklahoma in connection with illegal selling and possession of feathers.

The sellers, the department reported, were offering fake Indian artifacts made from bald and golden eagles and about 20 other migratory birds. The illegal business, the Interior department says, "sees eagle carcasses selling on the black market for as high as $125 each. . . . As many as 10 eagles might be killed to make one war bonnet. One fan made solely from tail feather of the scissor-tailed flycatcher, which sold for $650, required the killing of 38 birds."

Despite reassurance by the Interior department, many Indians looked upon the arrests as a threat to their right to possess feathers. Indians around the country were reported by the New York Times to be burying their ceremonial costumes.

Keith Banning, F&WS special agent for the Eastern Idaho district, says the recent arrests and the creation of a repository is in no way designed to prevent sincere Indians from practicing religious beliefs.

"I have 35 or 40 requests for eagle parts from Indians right now, and I get an occasional request from educational institutions for a whole bird," Banning explained.

"Any Indian can apply for parts for religious purposes as long as they are compatible with the preservation of the number of birds. There can be no bartering, selling or trading of parts, but the headdresses and other symbols may be handed down from generation to generation in accordance with Indian traditions," the agent explained.

Norris says he's unsure exactly what his duties or job title will be, but expects the most important part of his job will be to collect all birds possible, to record the collection and to distribute them promptly to Indians who want them.

"We're not sure exactly how many birds we'll get, but we expect to get all of the birds found dead or wounded in the Western states. We may get all birds from the six regions in the U.S., and we should surely get all the goldens found dead," Norris said.

"It wouldn't make much sense for our Boston Region," to send bald eagles to the repository," Banning explained, "because Western Indians wouldn't be interested in them and we'd just have to send them back for use by an eastern tribe. As far as Western tribes are concerned, bald eagles don't exist," Banning explained.

The number of birds collected and distributed could be substantial. Banning says he receives from 25 to 70 birds yearly from an area of Idaho roughly east of a line from Salmon south to Glenn's Ferry, and Neal Argy, Boise, special agent for the western portion of the state, says he was handling as many as 100 birds five years ago and will probably receive from 30 to 50 birds this year. (The reduced number, he explains, is due to the fact fewer birds winter in the state since a decline in the rabbit population.)

Birds received from the 27 agents in the Northwest Region and from elsewhere in the country will be examined at the repository on Dillon Street for cause of death, Norris said.

Those which died from no apparent cause will be shipped to the F&WS Research Laboratory in Denver, Colo., for necropsy and then sent back for distribution. Eagles may also be tested for pesticide and poison levels, if a pathologist can be found in this area. Injured birds will be rehabilitated at the Pocatello center and released on Camas Creek Wildlife Refuge near Hamer, Idaho.

Causes of death and injury vary. Banning says he's seen only seven or eight birds which died of bullet wounds in his five and one-half years in the Pocatello office. Argy estimates that 40 per cent of the birds found in the western portion of the state die from electrocution, and 40 per cent die from shooting and a variety of accidents. The remainder die from apparently natural causes. From 80-90 per cent of the birds collected are golden eagles, and only five per cent collected are alive, the agents estimated.

Argy says deaths due to hunters are decreasing because of better education, and Argy and Banning both are optimistic that a study and subsequent implementation of an Idaho Power program will reduce the number of birds electrocuted when they land on power lines.

Stiffer penalties for anyone killing eagles also may reduce the toll. The penalty for a first offense of killing eagles is a maximum of $5,000, or not more than a year in jail or both. In the case of a subsequent violation, the maximum penalty can be doubled.

There's also a provision in the Eagle Protection Act which says "one half of any fine, not to exceed $2,500, shall be paid to person or persons giving information which leads to conviction" of anyone killing eagles.

Finally, there's a provision added to protect eagles from livestock owners who kill eagles because they believe the birds endanger young animals. The law grants federal agencies which issue grazing leases the power to cancel such leases if the lessee is convicted of killing eagles.

While Norris is trying to get the feel of his new job, the eagles continue to come in. During an interview with Banning, Lee Hutchkins, manager of Bear Lake National Wildlife Refuge, called to report finding an eagle carcass, and Norris has been ordered drive to Denver to pick up a load of dead birds at the Research Laboratory.

Norris, a native of Longview, Wash., who worked six years with the Washington Fish and Game Department prior to going to work with the F&WS, has bought a house in the Northgate Addition where he will live with his family.

Crookham Squashes Talk of Candidacy

CALDWELL (Special to the Journal)—Former Republican state senator Bill Crookham has let friends and political supporters know that he is not inclined to run for Congress this year.

Those friends and backers had been urging Crookham to shift over to the Democratic party and make a race against Rep. Steve Symms. Crookham has said he would enjoy the campaign but is not ready to take on the problems of politics now. Enjoying a good contest, he said, is not a proper motive for running for office.

Meanwhile, another Canyon County Republican says he will announce his political plans on Monday. Senate Majority Leader Phil Batt of Wilder is expected to say he won't run for reelection. He has been urged to try for higher office, and has not indicated whether his Monday statement will announce any plans of that kind.

School Offers Class In Caring for Child

A decades old newspaper clipping talks of accurate repository records. Of course, today our Government wants nothing to do with keeping accurate records for the tens of thousands of eagle carcasses that have been shipped to the Denver Eagle Repository.

Conclusion

What I have to say to Shasta County is important because I am a very credible expert. With these comments I have presented factual information about this industry and submitted proof of the fraudulent research that was conducted at Hatchet Ridge.

The lies by omission, the fraud and rigging associated with these wind projects, is real. It is so bad that to my knowledge there are have been no scientifically credible turbine mortality studies that have taken place in the US after 1985. At this time the only way Shasta County officials can approve the Fountain wind project, is to look the other way, accept fraudulent opinions fortified with rigged research and once again become part of this disgustingly perverted process.

For any Shasta County Officials that are troubled by what I have written, I suggest you have a public hearing or debate. Invite the industry and the USFWS

to bring in their army of credentialed sell out experts. Let them try to defend any of the species impact and mortality studies conducted after 1985 with me present. I will only have to ask a few questions to smoke them all out.

If such a hearing does take place, I will present what I believe to be absolute proof of criminal research fraud that took place at Hatchet Ridge.

Jim Wiegand
Redding, CA
530 2225338

Stantec has a history of conducting nonscientific research

It is important to bring this up because I have seen a very consistent pattern with Stantec's research. They consistently choose research methodologies that exclude important data.

I first became acquainted with Stantec research after I read over a 2009 survey conducted on behalf of Iberdrola concerning peregrine falcon use in the region of the proposed Groton New Hampshire Wind project. The peregrine falcon survey for the project was severely flawed because researchers did not even try to observe the falcons when they would be the most active. Peregrine falcons are very active during their daily dawn and dusk hunting activity. They are also very active during courtship rituals in the Spring.

Yet the stated objective of the survey was to investigate whether peregrine falcons use the Project area. These observations were critical because it is during these behaviors the falcons are the most likely to be using the project site. It is also during these distractive behaviors that a collision with a turbine is the most likely.

Even the observers themselves noted this flaw in the survey methodology with the following statement; "Therefore, the results of the 2009 surveys cannot describe peregrine activity during all daylight hours during the period of interest, or describe activity across the entire Project area."

Yet Iberdrola, in their Executive Summary for the project, boldly makes the following statement based upon this survey; " Rare, threatened, or endangered bird species that were documented in the Project area during these surveys include peregrine falcon (state- listed threatened), bald eagle (state-listed threatened), and common loon (state- listed threatened). **None of these species** reside within the project area.

No federally-listed threatened or endangered birds were observed during any of the field surveys."

This statement is false. I am an expert on Peregrine Falcon behavior and know with complete certainty, these falcons did utilize the air space located in their hunting territories above the proposed Groton Wind Project site.

Impossible post operational wind turbine research

What I am presenting next is about the easiest to understand and crystal-clear proof pertaining to Stantec's nonscientific research. As I will show, using the data from past wind turbine mortality studies, the results from Stantec's wind turbine mortality studies are not evenly remotely possible with operating wind turbines spinning with tip speeds of 175-200 mph. Stantec's reported carcass distances around turbines defies all logic including Newton's laws of motion, inertia and gravity. Stantec may be following Canadian Ministry or USFWS wind turbine research guidelines with their studies, but this research isn't scientific and their results have been consistently impossible.

Below are a few of published distance locations for thousands wind turbine carcasses collected over a several decades period. There are many studies with similar carcass distance data. When looking over this wind industry mortality data, notice the recorded carcass distance locations. With this data, about 50-80% of all carcasses were reported at distances beyond the turbine rotor sweep or the turbine blade length out from turbine towers. This data represents what a turbine blade does to birds and bats upon impact. Carcasses are launched with great force into wind currents.

Wind turbine carcasses distribution from Altamont pass around small turbines. Most of the carcasses found were reported far beyond turbine blade lengths.

Prepared for the:

Planning Departments of
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Prepared by:

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Anne Flannery

Wind Turbine Effects on Avian Activity, Habitat Use, and Mortality in Altamont Pass and Solano County Wind Resource Areas

1989-1991

Final Report
March 1992

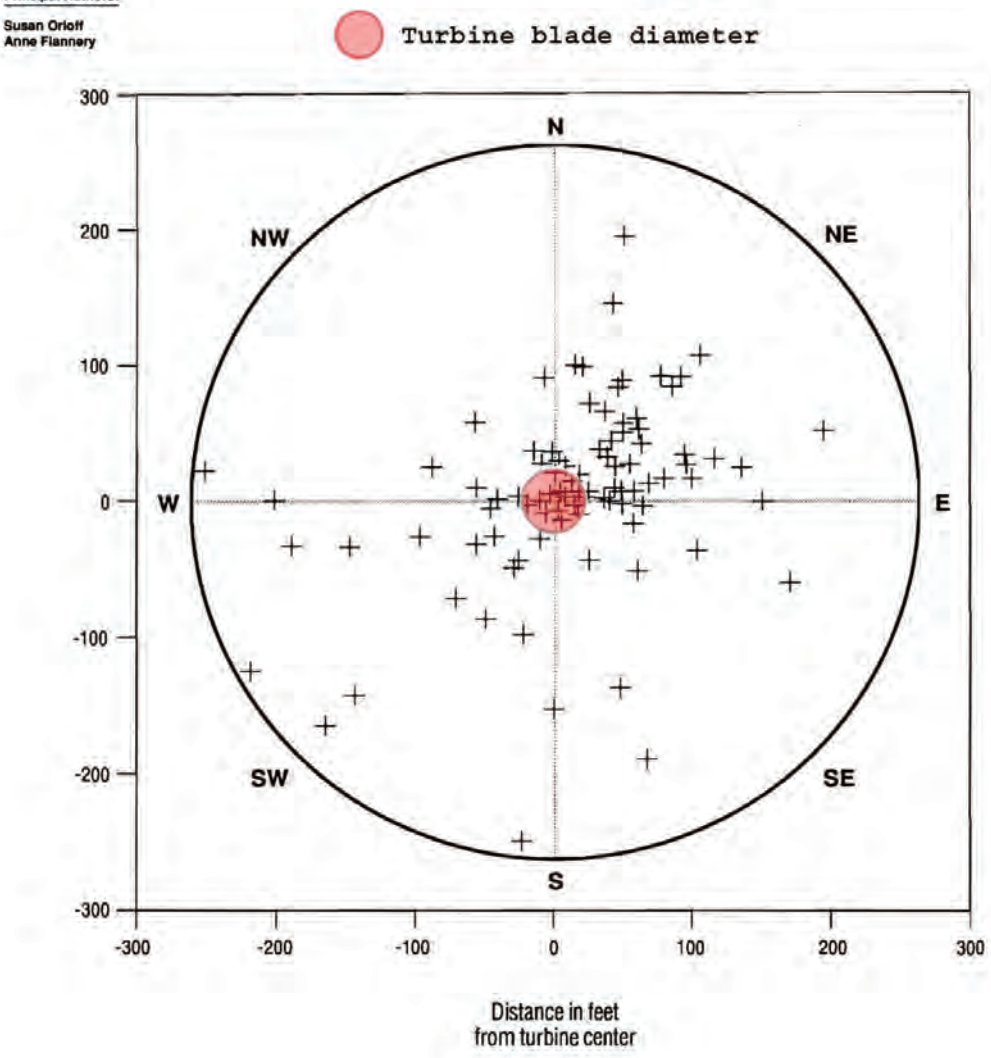

Figure 3-22. Locations of mortalities in relation to turbine centers.

Carcass distribution for 631 small-bodied birds

Average turbine size 103 kW on 24 meter towers with average blade length of 9.25 meters

Small-bodied Birds

Our search radius included 90.5% of the carcasses of small-bodied bird species (Figure 2-9B), of which 75% were located within 34 m of the tower. The mean and standard deviation of these 631 distances was 23.8 ± 19.4 m. Most carcasses were found northeast of the tower, and a considerable number were located southwest (Figure 2-10B), just as the large-bodied bird carcasses had been distributed.

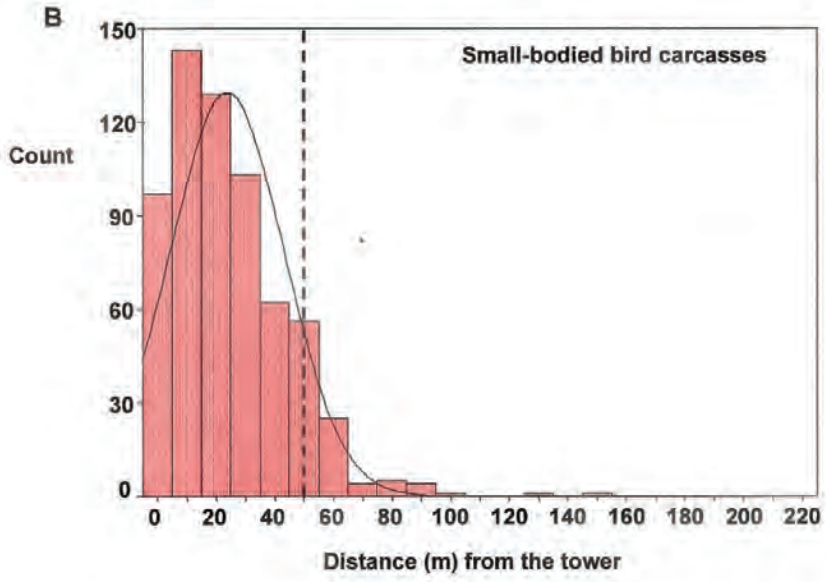

Figure 2-9. Frequency distributions of distance from the wind tower among carcasses of large-bodied (A) and small-bodied (B) bird species

[a] Set 1 includes the 1,526 wind turbines (151.165 MW) in the search rotation through September 2002.
[b] Set 2 includes 2,548 wind turbines (267.090 MW) in the November 2002–May 2003 rotation.
[c] Set 3 includes the 1,326 wind turbines (161.750 MW) not included in any search rotation. Mortality for Set 3 was estimated by taking the weighted average from the two sampled sets of wind turbines ((mortality of Set 1 × 151.165 MW) + (mortality of Set 2 × 267.09 MW)) ÷ 418.255 MW.

Smallwood, K. S., and C. G. Thelander, Developing Methods to Reduce Bird Fatalities in the Altamont Wind Resource Area, Final Report by BioResource Consultants to the California Energy Commission, Public Interest Energy Research – Environmenta Contract No. 500-01-019 (L. Spiegel, Project Manager), 2004.
http://altamontsrc.org/alt_doc/cec_final_report_08_11_04.pdf

Carcass distribution for 468 large bodied birds

Average turbine size 103 kW on 24 meter towers with average blade length of 9.25 meters

2.3.2 Distances of Bird Carcasses from Wind Turbines

Large-bodied Birds

Our search radius included 84.7% of the carcasses of large-bodied bird species determined to be killed by wind turbines or unknown causes (Figure 2-9A). Of these, 75% were located within 42 m of the tower. The mean and standard deviation of these 468 distances was 31.1 ± 30.0 m. Most carcasses were found northeast of the tower, and a considerable number were located southwest of the tower (Figure 2-10A).

Carcass locations of large-bodied bird species differed significantly by distance from wind turbines according to five ranges of tower heights (ANOVA $F = 3.66$; $df = 4, 456$; $P = 0.006$), and post-hoc LSD tests revealed that fatalities were located farther from 25-m and 32-m towers (means = 33 m and 57 m) than shorter towers (mean = 28 m for 14-m towers, and 26 m for 18.5-m towers) or 43-m towers (mean = 28 m). Distance from tower increased with tower height, according to linear regression analysis, although the precision of the model was poor (Figure 2-11A).

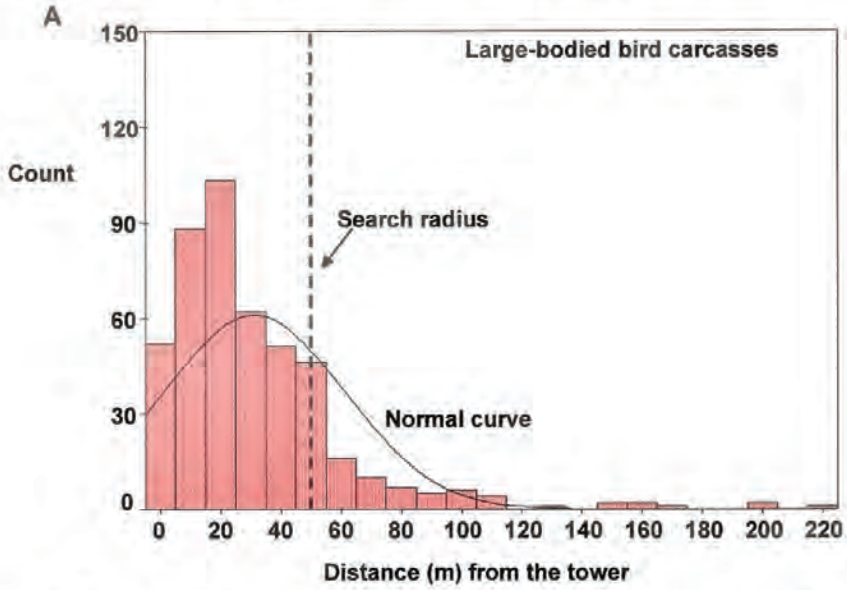

Figure 2-9. Frequency distributions of distance from the wind tower among carcasses of large-bodied (A) and small-bodied (B) bird species

[a] Set 1 includes the 1,526 wind turbines (151.165 MW) in the search rotation through September 2002.
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November 1998 - June 2002
This initial construction phase of the Foote Creek
Rim wind plant (hereafter referred to as FCR I) is comprised of 69 600-kilowatt Mitsubishi turbines (41.4 MW capacity)

During this study 43 of 79 bats were found at or beyond the 21 meter turbine blade length.

Appendix B. Bat mortalities found in Foote Creek Rim Construction Unit I (FCR I), November 3, 1998 - June 5, 2002.

Log No.[a]	Species	Date	Found During Carcass Search?	Plot[b]	Distance from tower (m)	Comments
232	Hoary Bat	8/29/01	Yes	T 50	10	Intact carcass
233	Silver-haired Bat	9/3/01	No	T 58	15	Intact carcass, found by Jeff Gruver (UW) during bat studies on FCR
234	Hoary Bat	9/13/01	Yes	T 22	57	Intact carcass but decomposed
253	Little Brown Bat	6/3/02	Yes	T14	40	Intact carcass

[a] matches log no. on Figure 1
[b] T = turbine; M = meteorological tower (met tower)

At turbine plots, avian casualties were located between 4 and 77 m from the turbines with an average distance of 37.7 m.

[1] The carcasses found at distances too great to determine if they were associated with a wind plant turbine or met tower were all found incidentally during other wildlife studies (e.g., raptor point counts).

Appendix A. Avian mortalities found in Foote Creek Rim Construction Unit I (FCR I), November 3, 1998 - June 5, 2002.

Log No.[a]	Species	Date	Found During Carcass Search?	Plot[b]	Distance from tower (m)	Comments
158	Common Nighthawk	7/27/00	No	unk	-	Intact carcass; 1m south of road; compressed by truck tire; 140m from T 40
175	Rock Wren	8/29/00	Yes	T 23	47	Intact carcass; left eye scavenged; broken left wing, broken ribs
179	Horned Lark	9/5/00	No	unk	-	Feather spot; possible mammal scavenging; 168 m from T 68
182	Townsend's Warbler	9/11/00	Yes	T 11	28	Dismembered carcass; torso, head, wings missing
183	Wilson's Warbler	9/12/00	Yes	T 31	30	Dismembered carcass; part of head, most of tail, 1 wing and body feathers
185	Townsend's Warbler	9/12/00	Yes	T 40	61	Dismembered carcass; head and torso missing
188	White-crowned Sparrow	9/26/00	No	unk	-	Intact carcass; fresh carcass, no visible injuries; 184 m from T 36

FCR I. The Mitsubishi turbines in FCR I are approximately 131 ft (40 m) tall at the nacelle with a rotor diameter of 138 ft (42 m). Tower (turbine) spacing in FCR I is approximately 276 ft (84 m).

Post-Construction Avian Monitoring Study for the Shiloh I Wind Power Project
Solano County, California
Year One Final Report September 2007

Table 12. Number of incidents per size grouping versus distance from wind turbine tower

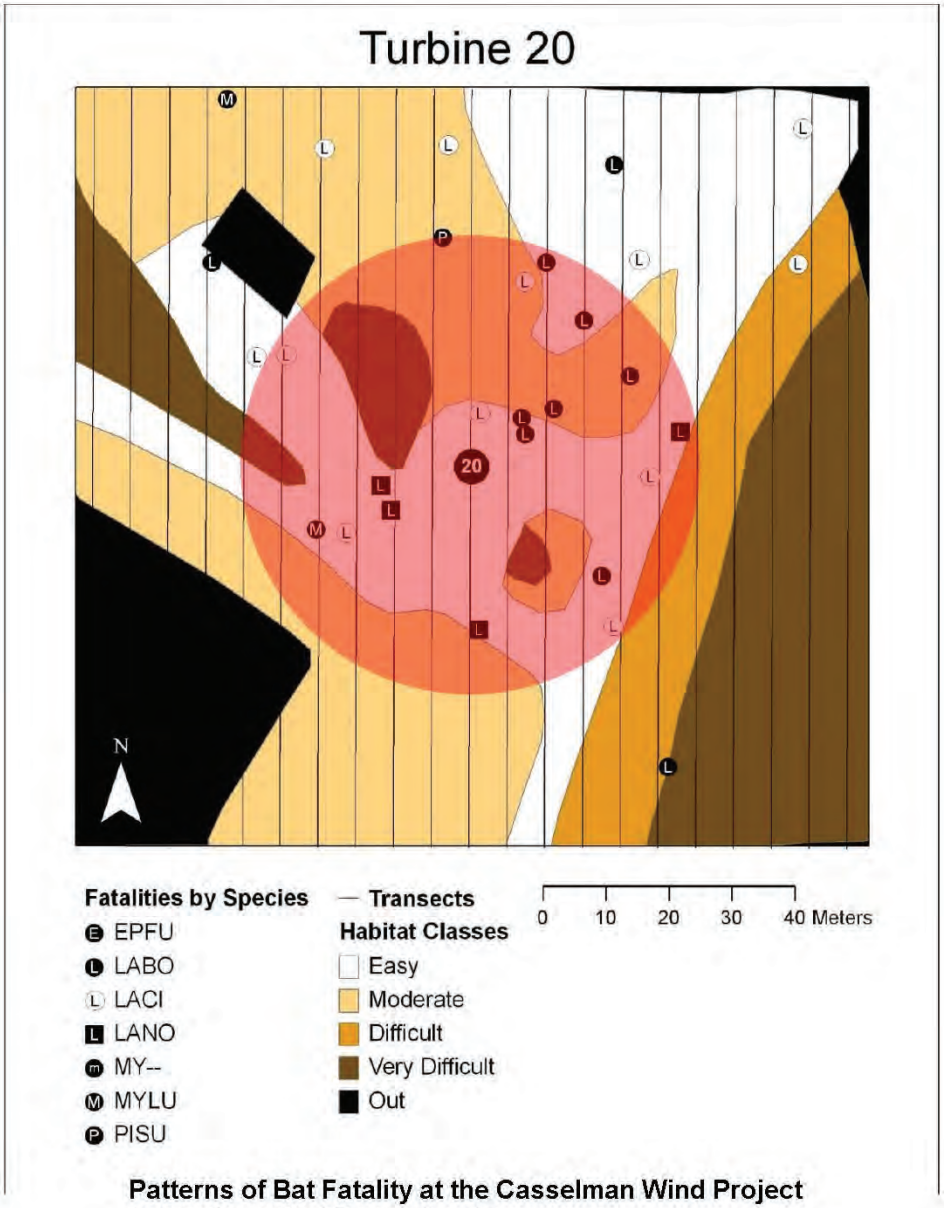
	Distance Range (meters)													
Species Size Group	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-120	121-130	131-200	Total
Small Bird	5	1		1	2		1	6	3	8	3				30
Medium Bird	9	6	2	8	6	15	15	14	3	21	9	1			109
Large Bird	3	1	2	1	1	1	1	1	2	3	1	1	2	1	21
Unknown Bird Species*						1	1	2	1	4					9
Bat	3		4	7	15	9	3	6	4	1					52
Total	20	8	8	17	24	26	21	29	13	37	13	2	2	1	221

* All unknown bird species were small or medium sized passerines

Data from 2006-2007 mortality studies with 105 meter search areas around 1.5 MW wind turbines. Some were mounted on 65 meter towers and others were mounted on 80 meter towers. Large and medium species found beyond 105 meters were seen because of temperary high visibility conditions periods during crop rotations. Search intervals were approximately once a week and as a result many of the fatalities were missed.

Of these reported carcasses 163 or 76% were found beyond the 38 meter blade lengths.

Here is more proof showing wind turbines of just 1.5 MW launching tiny bat carcasses far beyond turbine blade length. The red circle represents rotor sweep. As seen here, when searching in easy terrain many more bats were found far beyond the turbines rotor sweep.



Patterns of Bat Fatality at the Casselman Wind Project in south-central Pennsylvania 2008 Annual Report

Arnett, E. B., M. R. Schirmacher, M. M. P. Huso, and J. P. Hayes. 2009. Patterns of bat fatality at the Casselman Wind Project in south-central Pennsylvania.

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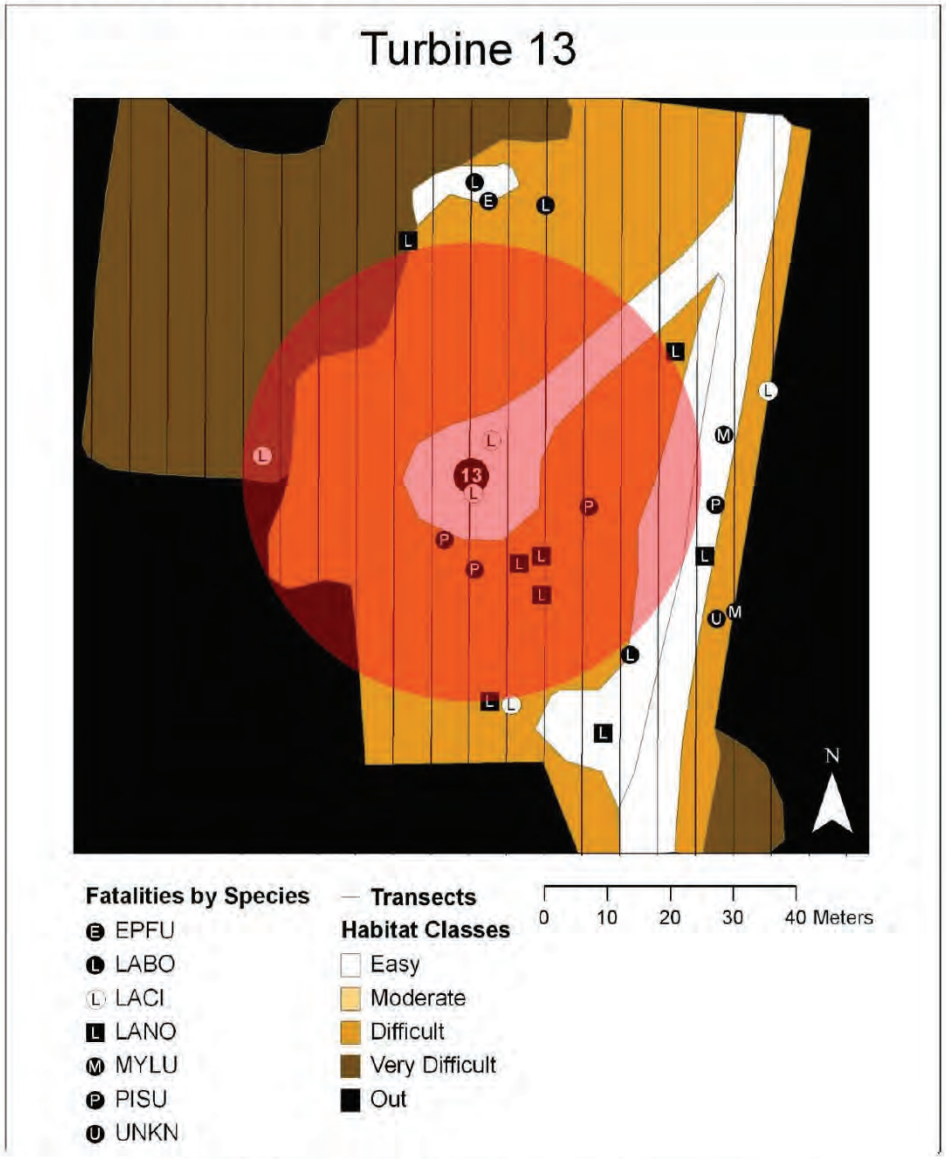

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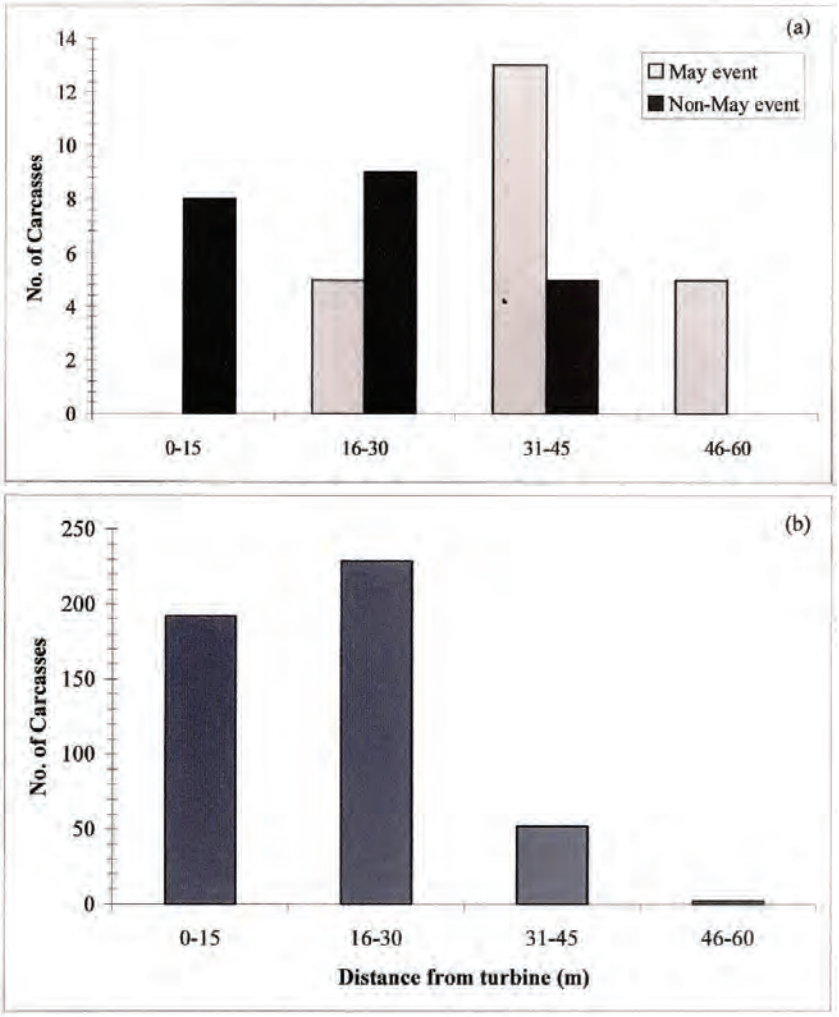
Figure 7. Distances of (a) nocturnal migrant songbirds and (b) bat carcasses from the turbine base (in meters).



Bat Fatalities.

Summary of Fatalities of Bats. A total 475 bat carcasses of 7 species were found during the 23 rounds of searches at the MWEC (Table 5). Red bats were most numerous, accounting for 42.1% of all carcasses found, with hoary (18.5%), eastern pipistrelle (18.3%), little brown (12.6%), silver-haired (5.9%), northern long-eared (1.3%), big brown (0.4%), and unidentified (0.8%) bats accounting for the remainder.

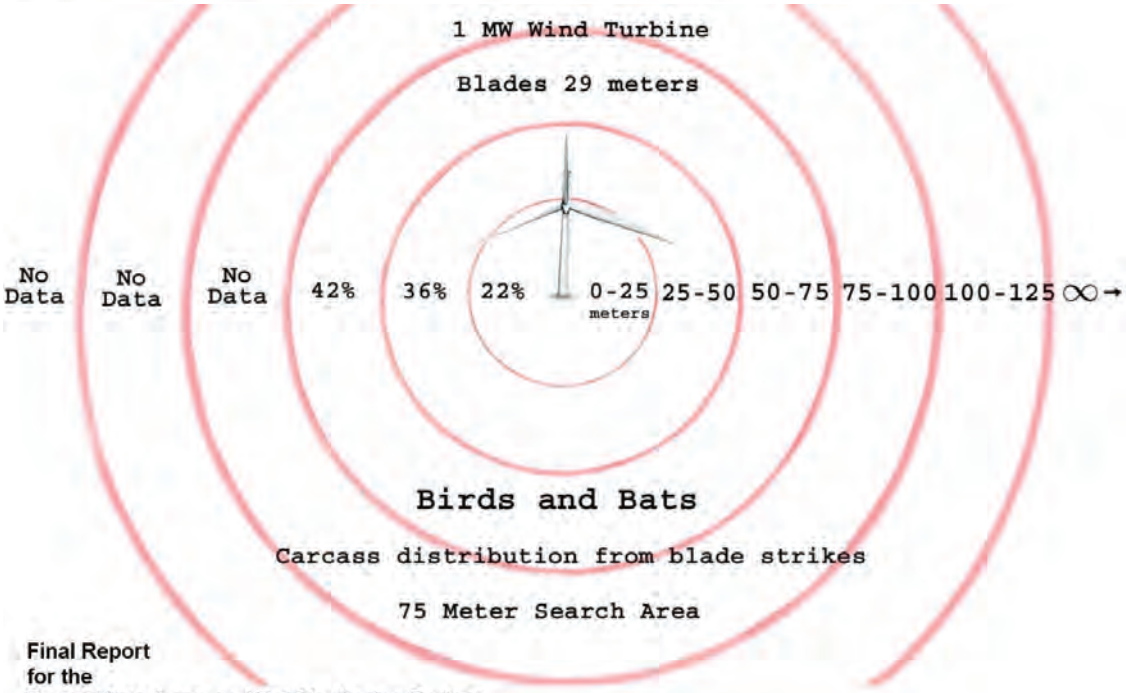
NEG Micon 1.5 MW wind turbine, 34 m rotor blades
Using undersized search areas in difficult search terrain

Below is carcass distribution data collected from Altamont turbines with approximately 9 meter blades and maximum heights of about 100 feet. Today's turbines are 400-500 feet tall and average carcass distribution is reported to be about 20-25 meters from around turbines with 50-60 meter blade lengths.

Table 2-5. Number and Percentage of Turbine-Related Avian Fatalities within and beyond 125 Meters from Turbines

Bird Year	Within 125 Meters	Beyond 125 Meters	Total
2005	545 (99.6%)	2 (<1%)	547
2006	1,185 (99.5%)	6 (<1%)	1,191
2007	1,338 (98.7%)	18 (2%)	1,356
2008	924 (99.1%)	8 (<1%)	932
2009	815 (99.5%)	4 (<1%)	819
Total	**4,807 (99.3%)**	**38 (<1%)**	**4,845**

ICF International. 2011. Altamont Pass Wind Resource Area Bird Fatality Study, Bird Years 2005–2009. September. (ICF 00904.08.) Sacramento, CA. Prepared for Alameda County Community Development Agency, Hayward, CA.



Final Report
for the
Buena Vista Avian and Bat Monitoring Project
February 2008 to January 2011

Insignia Environmental (Insignia) on behalf of the Contra Costa County Department of Conservation and Development

" Turbine and tower characteristics are as follows: 80-meter (m; 262.5 feet [ft]) hub height, 41-m (134.6 ft) blade length, 5,281-square meter (m^2; 56,844 square feet [ft^2]) rotor swept area, and 14.4-rotations per minute (rpm) rotor speed. The rotor swept area extends from 39 m (127.1 ft) above ground level (agl) to 121 m (396.1 ft) agl. "

Table 9. Number of bird carcasses found at each range of distances from the turbine during the 2010 mortality surveys at the Cedar Ridge Wind Farm.

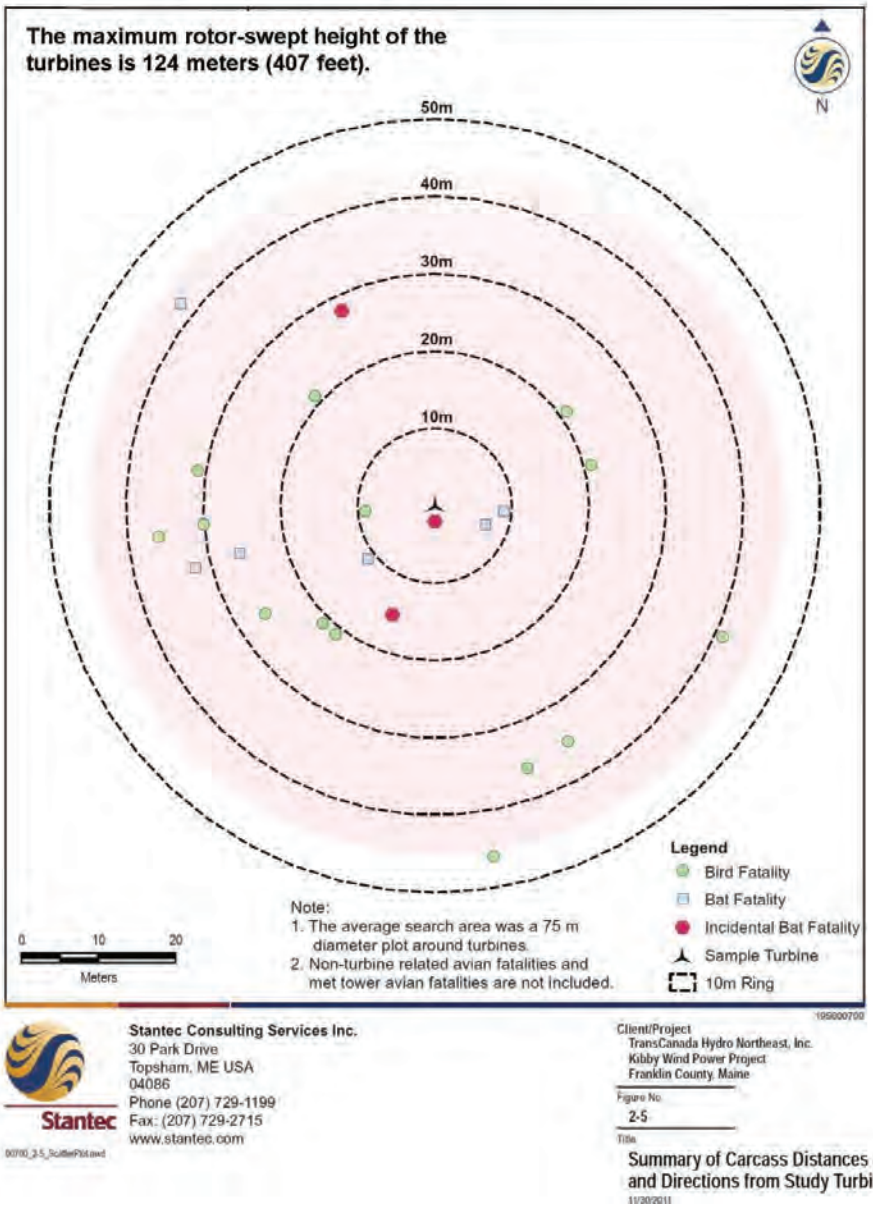
Distance to Turbine (m)	Number of Bird Carcasses	Proportion of Bird Carcasses (percent)
0 to 9	0	0.0
10 to 19	0	0.0
20 to 29	3	12.5
30 to 39	2	8.3
40 to 49	3	12.5
50 to 59	4	16.7
60 to 69	1	4.2
70 to 79	5	20.8
80 to 89	4	16.7
90 to 99	1	4.2
100 to 109	1	4.2

Estimated carcasses beyond 41 meter blade length **79%**

Final Report
Prepared for:
Wisconsin Power and Light
4902 North Biltmore Lane
Madison, Wisconsin 53718-2148

Now look at a few results from Stantec research

One carcass was reported beyond 44 meter blades



As the turbines have grown in size, the blade impact points are reach further out from turbine bases. Industry blades that were once 5-9 meters long are now 50-60 meters long. These new turbines are also 4-5 times taller. **Stantec's mortality research data does not account for bird or bat impact points that are now 50-60 meters out from turbine bases**. In fact, of the hundreds and hundreds of carcasses reported by Stantec, about 99% are reported at distance locations from towers less than the length of

the turbine blades. Instead of reporting 50-80% of carcasses being found at distances beyond the blade lengths, they report the opposite with an average distance of about 1/2 a turbine's blade length.

Mortality Data - Detailed Results Birds

Date	# checks/ week	Turbine #	GPS Location Zone Easting Northing	Observer	Species	Guild	Condition/Estimated Time Since Death	Injuries Sustained	Distance (m)	Direction (°)	Direction (compass)	Ground Cover
01-Feb-10		46	0389918 4890696	CF	Bird Sp.	bird	old - at least 3 days		13	62	E	Soil
08-Feb-10		81	0389704 4894002	WS	Red-tailed Hawk	bird	frozen - less than 5 days	bent wing	23	253	W	Soil
09-Feb-10		30	0384145 4890364	WS	Bird Sp.	bird	complete - >30 days		44	40	N	Soil
16-Feb-10		69	0384733 4886852	WS	Bird Sp.	bird	Bodyless, Wing - >30 days		12	18	N	Soil
22-Feb-10		72	0385840 4892986	CF	European Starling	bird	Fresh, partially scavenged - 1-2 days	Wing	16	166	S	Gravel
04-Mar-10		55	0387550 4889924	JL	Bird Sp.	bird	Fresh, 1-2 days		40	270	W	Soil / Veg
10-Mar-10		65	0384733 4886852	WS	Bird Sp.	bird	Skeleton w/ Feathers, >30 days		43	110	E	Swamp
11-Mar-10		61	0390023 4894173	CF	European Starling	bird	Fresh, 1-2 days	Neck	15	194	S	Soil
23-Mar-10		43	0390564 4891503	JL	Killdeer	bird	Fresh, 1-2 days	Wing / Neck	34	350	N	Gravel
29-Mar-10		1	0381112 4890726	CF	Starling	bird	Fresh, 1-3 days	Neck	12	270	W	Soil
31-Mar-10		29	0384748 4886878	JL	Blue Jay	bird	Old, 3-4 days		14	210	SW	Soil / Veg
31-Mar-10		41	0387552 4886656	CF	Starling	bird	Fresh, 1-2 days	Neck	44	44	NE	Soil / Soybean Veg
05-Apr-10		72	0387700 4892945	WS	Horned Lark	bird	Fresh, < 3 days	Trauma, left side	31	215	S	Soil
06-Apr-10		30	0385820 4892985	WS	Killdeer	bird	Fresh, 3-5 days	Chest trauma	15	319	N	Grass
08-Apr-10		18	0381634 4888714	JL	Grackle	bird	Fresh, 1-2 days	Neck (?)	19	110	E	Mud/Veg
09-Apr-10		81	0384123 4890372	JL	Red-tailed Hawk	bird	Fresh, < 2 days	Neck / Leg	31	105	E	Veg / Soil
12-Apr-10		38	0387277 4888061	JL	Horned Lark	bird	Fresh, 1-2 days	Head	9	90	E	Gravel
13-Apr-10		9	0380923 4890046	JL	Wilson's Snipe	bird	Fresh, 1-2 days	Beak / Body	19	270	W	Gravel
14-Apr-10		29	0384729 4886854	WS	Red-tailed Hawk	bird	Fresh, < 3 days	Decapitated	26	110	E	Soil
14-Apr-10		30	0384732 4886839	WS	Wilson's Snipe	bird	Old, > 5 days		6	160	SE	Grass
15-Apr-10		27	0382244 4891308	JL	Red-tailed Hawk	bird	Fresh, <1 day	Neck (?)	8	330	N	Soil / Rock
16-Apr-10		64	0386550 4893697	JL	Red-tailed Hawk	bird	Fresh, 1-2 days	Wing / Neck	40	330	N	Hay / Mud
21-Apr-10		49	0387565 4886688	CF	Wilson's Snipe	bird	Fresh, 1-2 days	Neck	1	158	S	Gravel
22-Apr-10		9	0380924 4890065	WS	Wilson's Snipe	bird	Decaying, >3 days		28	260	W	Grass
23-Apr-10		56	0385846 4890236	JL	Mallard ♀	bird	Fresh, < 1 day	Neck / Head	10	235	SW	Soil
23-Apr-10		79	0384852 4889368	JL	Wilson's Snipe	bird	Fresh, 2-3 days	Neck	10	50	NE	Soil / Veg
26-Apr-10		2	0382125 4891651	WS	Double-crested Cormorant	bird	Fresh, 3-5 days	Headless	31	320	N	Swamp
26-Apr-10		1	0380953 4891108	WS	Mallard ♀	bird	Fresh, < 3 days	Footless	35	320	N	Grass
26-Apr-10		65	0381077 4890730	WS	Ring-billed Gull	bird	Unknown	Bodyless, wings only	31	60	N	Grass
26-Apr-10		28	0382110 4891660	WS	Wilson's Snipe	bird	Fresh, < 3 days	Broken neck	0	40	N	Tower base
28-Apr-10		63	0388780 4893376	JL	Tree Swallow	bird	Old, 2-3 days		40	350	N	Soil / Veg
29-Apr-10		73	0387728 4892954	WS	Bird Sp.	bird	Fresh, < 3 days	Broken neck	22	100	E	Soil
29-Apr-10		24	0382773 4890019	JL	Ring-billed Gull	bird	Fresh, 1 day	Split in half	49	300	NW	Veg / Soil
03-May-10	2	43	0390538 4891543	JL	Osprey	bird	Really Fresh, < 12 hours	Head	15	135	SE	Soil
04-May-10	2	71	0384293 4893473	WS	Ring-billed Gull	bird	Unknown		40	110		Mud
05-May-10	1	31	0384867 4886113	CF	Mallard ♂	bird	Fresh, 1-3 days	Neck	27	62	E	Soil
05-May-10	1	72	0385678 4892975	CF	Upland Sandpiper	bird	Fresh, 1-2 days	Wing	44	262	W	Vegetation
06-May-10	2	34	0384070 4887239	WS	Black & White Warbler	bird	Fresh, < 3 days	Nothing visible	38	220		Rock
06-May-10	2	34	0384008 4893473	WS	Savannah Sparrow	bird	Fresh, 3-5 days		27	86		Soil
07-May-10	2	71	0386358 4894067	JL	Nashville warbler	bird	Fresh, 1-2 days	Neck?	31	315	NW	Soil
11-May-10	1	4	0380294 4890715	CF	Chimney Swift	bird	Fresh, 1-2 days	Neck?	40	238	W	Vegetation
12-May-10	1	72	0385868 4892992	CF	Yellow Warbler	bird	Fresh, 1-2 days	Neck	36	244	W	Soil / Veg
13-May-10	2	46	0383933 4893057	WS	Northern Harrier	bird	Fresh, 3-5 days	Broken neck	40	150	S	Gravel
17-May-10	2	85	0381871 4892264	CF	Baltimore oriole	bird	Fresh, 1-2 days	Neck?	21	104	E	Soil

Mortality Data - Detailed Results Birds

Date	# checks/ week	Turbine #	GPS Location Zone Easting Northing	Observer	Species	Guild	Condition/Estimated Time Since Death	Injuries Sustained	Distance (m)	Direction (°)	Direction (compass)	Ground Cover
17-May-10	2	33	0384514 4887219	JL	Magnolia warbler	bird	Fresh, 1-2 days	Wing/Neck	40	315	NW	Soil
17-May-10	2	78	0385183 4890985	CF	Red-tailed Hawk	bird	Fresh, 1-2 days	Neck	31	78	E	Vegetation
18-May-10	2	25	0382723 4890484	CF	Philadelphia Vireo	bird	Fresh, 1-2 days	Abdomen	9	40	NE	Vegetation
20-May-10	2	23	0382112 4890206	JL	Horned Lark	bird	Old, > 7 days		41	180	S	Soil / Veg
21-May-10	2	64	0388499 4893739	JL	Red-winged Blackbird	bird	Fresh, 1-2 days	Neck?	29	130	SE	Gravel
24-May-10	2	65	0382179 4892621	WS	Upland Sandpiper	bird	Fresh, < 5 days	Entirely	39	180		Soil
27-May-10	2	46	0389906 4890719	WS	Mourning Dove	bird	3-5 days	Mangled	37	172		Weeds
31-May-10	2	35	0384235 4887843	JL	Ring-billed Gull	bird	Fresh, 2-3 days	Neck	20	95	E	Soil / Veg
31-May-10	2	24	0389903 4890711	WS	Ring-billed Gull	bird	Old, > 5 days	Entirely	34	220		Grass
08-Jun-10	2	68	0386462 4891880	WS	Bobolink	bird	Old, 2-5 days	Entirely	38	234		Cornfield
10-Jun-10	1	75	0384512 4892590	CF	Red-tailed Hawk	bird	Fresh, 1-2 days	Neck	18	22	N	Soil / Veg
10-Jun-10	2	24	0382751 4890005	JL	Ring-billed Gull	bird	Fresh, 1-2 days	Wing / Neck	35	345	N	Soil / Veg
11-Jun-10	2	38	0387304 4887585	WS	Ring-billed Gull	bird	Unknown, feathers only, body has been scavenged		17	234		Soil
16-Jun-10	1	56	0385778 4890243	CF	Ring-necked Pheasant	bird	Fresh, 1-2 days	Neck?	1	194	S	Soil / Veg
16-Jun-10	2	20	0381832 4889279	WS	Killdeer	bird	Feathers only	? Scavenged	40	249		Grass
21-Jun-10	2	42	0386325 4889071	JL	Tree swallow	bird	Fresh, 1-2 days	Wing / Neck	23	320	NW	Veg / Soil
22-Jun-10	1	9	0380911 4890059	JL	Common Grackle	bird	Old, 3-4 days		16	255	W	Gravel
22-Jun-10	2	67	0386811 4891257	WS	Mourning Dove	bird	Fresh, < 3 days		1	200		Soil
23-Jun-10	1	31	0384874 4886158	WS	Wood Thrush	bird	Old, > 3 days	Entirely	29	185		Gravel
24-Jun-10	2	46	0389914 4890729	CF	Tree swallow	bird	Fresh, 1-2 days	Wing?	30	172	S	Gravel
25-Jun-10	2	42	0386302 4889048	CF	Wilson's Snipe	bird	Completely (maggots) 3-4 d	Neck	32	78	E	Gravel

Mortality Data - Detailed Results Birds

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16-Feb-10		69	0384733 4886852	WS	Bird Sp.	bird	Bodyless, Wing - >30 days		12	18	N	Soil
22-Feb-10		72	0385840 4892986	CF	European Starling	bird	Fresh, partially scavenged - 1-2 days	Wing	16	166	S	Gravel
04-Mar-10		55	0387550 4889924	JL	Bird Sp.	bird	Fresh, 1-2 days		40	270	W	Soil / Veg
10-Mar-10		65	0384733 4886852	WS	Bird Sp.	bird	Skeleton w/ Feathers, >30 days		43	110	E	Swamp
11-Mar-10		61	0390023 4894173	CF	European Starling	bird	Fresh, 1-2 days	Neck	15	194	S	Soil
23-Mar-10		43	0390564 4891503	JL	Killdeer	bird	Fresh, 1-2 days	Wing / Neck	34	350	N	Gravel
29-Mar-10		1	0381112 4890726	CF	Starling	bird	Fresh, 1-3 days	Neck	12	270	W	Soil
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08-Apr-10		18	0381634 4888714	JL	Grackle	bird	Fresh, 1-2 days	Neck (?)	19	110	E	Mud/Veg
09-Apr-10		81	0384123 4890372	JL	Red-tailed Hawk	bird	Fresh, < 2 days	Neck / Leg	31	105	E	Veg / Soil
12-Apr-10		38	0387277 4888061	JL	Horned Lark	bird	Fresh, 1-2 days	Head	9	90	E	Gravel
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21-Apr-10		49	0387565 4886688	CF	Wilson's Snipe	bird	Fresh, 1-2 days	Neck	1	158	S	Gravel
22-Apr-10		9	0380924 4890065	WS	Wilson's Snipe	bird	Decaying, >3 days		28	260	W	Grass
23-Apr-10		58	0385846 4890236	JL	Mallard ♀	bird	Fresh, < 1 day	Neck / Head	10	235	SW	Soil
23-Apr-10		79	0384852 4889368	JL	Wilson's Snipe	bird	Fresh, 2-3 days	Neck	10	50	NE	Soil / Veg
26-Apr-10		2	0382125 4891651	WS	Double-crested Cormorant	bird	Fresh, 3-5 days	Headless	31	320	N	Swamp
26-Apr-10		1	0380953 4891108	WS	Mallard ♀	bird	Fresh, < 3 days	Footless	35	320	N	Grass
26-Apr-10		65	0381077 4890730	WS	Ring-billed Gull	bird	Unknown	Bodyless, wings only	31	60	N	Grass
26-Apr-10		26	0382110 4891660	WS	Wilson's Snipe	bird	Fresh, < 3 days	Broken neck	0	40	N	Tower base
28-Apr-10		63	0386780 4893376	JL	Tree Swallow	bird	Old, 2-3 days		40	350	N	Soil / Veg
29-Apr-10		73	0387726 4892954	WS	Bird Sp.	bird	Fresh, < 3 days	Broken neck	22	100	E	Soil
29-Apr-10		24	0382773 4890019	JL	Ring-billed Gull	bird	Fresh, 1 day	Split in half	49	300	NW	Veg / Soil
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07-May-10	2	71	0386358 4894067	JL	Nashville warbler	bird	Fresh, 1-2 days	Neck?	31	315	NW	Soil
11-May-10	1	4	0380294 4890715	CF	Chimney Swift	bird	Fresh, 1-2 days	Neck?	40	238	W	Vegetation
12-May-10	1	72	0385868 4892992	CF	Yellow Warbler	bird	Fresh, 1-2 days	Neck	36	244	W	Soil / Veg
13-May-10	2	46	0383933 4893057	WS	Northern Harrier	bird	Fresh, 3-5 days	Broken neck	40	150	S	Gravel
17-May-10	2	85	0381871 4892264	CF	Baltimore oriole	bird	Fresh, 1-2 days	Neck?	21	104	E	Soil

The Wolfe Island studies conducted by Stantec reported hundreds of carcasses with just several reported beyond 50 meters. I believe the furthest carcasses distance reported was 59 meters. For 400 ft tall turbines this is not reality and it is simply not possible. **What is possible is that 50-80% of the carcasses were not reported and this was never disclosed.** The wind industry's own data proves that any carcass hit by a turbine blade has a much better than 50/50 odds or 1 of 2 chance of this carcass

landing at a distance beyond a turbines blade length.

Below is carcass distribution data collected from Altamont turbines with approximately 9 meter blades and maximum heights of about 100 feet. Today's turbines are 400-500 feet tall and average carcass distribution is reported to be about 20-25 meters from around turbines with 50-60 meter blade lengths.

Table 2-5. Number and Percentage of Turbine-Related Avian Fatalities within and beyond 125 Meters from Turbines

Bird Year	Within 125 Meters	Beyond 125 Meters	Total
2005	545 (99.6%)	2 (<1%)	547
2006	1,185 (99.5%)	6 (<1%)	1,191
2007	1,338 (98.7%)	18 (2%)	1,356
2008	924 (99.1%)	8 (<1%)	932
2009	815 (99.5%)	4 (<1%)	819
Total	**4,807 (99.3%)**	**38 (<1%)**	**4,845**

ICF International. 2011. Altamont Pass Wind Resource Area Bird Fatality Study, Bird Years 2005–2009. September. (ICF 00904.08.) Sacramento, CA. Prepared for Alameda County Community Development Agency, Hayward, CA.

According to Altamont research around their 100kW turbines, a fraction of the size of those in Stantec studies, wind turbine carcasses travel much further in California. St Lawrence county can expect similar Post Operational studies from Stantec with their impossible nonscientific results.

I have yet to read a single wind industry related study or survey conducted by Stantec, that I consider credible. The results and opinions derived these planned bird and bat surveys, should never be accepted by St. Lawrence County or anyone else in New York.

From: wiegand@awwwsome.com

Sent: Friday, February 15, 2019 9:53 AM

To: Lio Salazar

Cc: david.benda@redding.com; trollholow@aol.com

Subject: Additional comments For Fountain Wind Project

Attachments: North ridge {59519B13-6A3F-404F-A655-554182D7A969}.pdf

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Hi Lio, It appears that the services of Stantec are being used for the Fountain Wind Project. Please read over and submit this information perrtaining to Stantec's research as part of my comments. This is important because nothing I have seen to date, with regards to wind energy research from Stantec has any credibility The Shasta County planners and public need to know this.

Prior to an environmental recommendation, referrals for this project were sent to agencies thought to have responsible agency or reviewing agency authority. The responses to those referrals (attached), where appropriate, have been incorporated into this document and will be considered as part of the record of decision for the environmental review associated with Project Use Permit 16-007. Copies of all referral comments may be reviewed through the Shasta County Planning Division. To date, referral comments have been received from the following State agencies or any other agencies which have identified CEQA concerns:

Agency	Commenter	Comment Date
Burney Fire Protection District	Monte Keady, Fire Chief	January 15, 2018
California Department of Fish and Wildlife	Curt Babcock, Habitat Conservation Program Manager	March 2, 2018
California Department of Fish and Wildlife	Kristin Hubbard, Environmental Scientist	March 7, 2018
California Department of Transportation	Marcelino "Marci" Gonzalez, Local Development Review & Regional Transportation Planner	January 31, 2018
Central Valley Regional Water Quality Control Board	Dannas J. Berchtold, Engineering Associate Storm Water & Water Quality Certification Unit	February 5, 2018
Frontier Communications	Chuck Wadowski, Engineer Senior Network Design	January 11, 2018
Pit River Tribe	Brandy Mcdaniels, Madesi Band Cultural Representative for The Pit River Tribe	February 10, 2018
Shasta County Assessor / Recorder		January 16, 2018
Shasta County Air Quality Management District	John Waldrop	January 16, 2018
Shasta County Fire Department	Jimmy Zanotelli, Fire Marshall	February 1, 2018
Shasta County Office of the Sheriff	Lt. Tyler Thompson, Burney Patrol Station	February 8, 2018
Shasta Mosquito and Vector Control District	Darcy Buckalew, Administrative Office Manager	January 12, 2018
Wintu Audubon Society	Bruce Webb And Janet Wall, Co-chairs Conservation	February 14, 2018

FROM THE DESK OF

THOMAS D. WHITESELL

February 18, 2018

Via Email

Honorable Kathleen H Burgess, Secretary to the PSC

Re: Case 16-F-0268, Application of Atlantic Wind LLC for a Certificate of Environmental Compatibility and Public Need Pursuant to Article 10 for Construction of the North Ridge Wind Energy Project in the Towns of Parishville and Hopkinton, St. Lawrence County.

Dear Secretary Burgess,

Please add the attached article by wildlife biologist, James Wiegand, to the filed documents for Case 16-F-0268: "Bird & Bat Report on the North Ridge (Atlantic Wind) Wind Energy Project, Hopkinton NY."

Mr. Wiegand begins his critique of Stantec's North Ridge bird & bat report with the following sizzler:

> I have looked over the bat and avian surveys planned for the DRAFT NORTH RIDGE WIND PROJECT. From my expert viewpoint, these planned surveys are severely flawed and for many reasons could never produce a truthful or conclusive assessment for the species that will impacted by these turbines.
>
> I have been an independent wildlife researcher for nearly 50 years, with field experience that few can match. I am an expert on raptors and have extensively analyzed wind industry-related research from as far back as the mid-1980's. I also have a BS degree in Wildlife Biology from UC Berkeley.

Sincerely,

Thomas D. Whitesell

Thomas D. Whitesell
Party to Case No. 16-F-0268

22 PLEASANT ST POTSDAM NY 13676 (315) 265-4893 PLEASANT13676@GMAIL.COM

Bird & Bat Report on the North Ridge (Atlantic Wind) Wind Energy Project, Hopkinton NY

by
James Wiegand *

On behalf of the
Concerned Citizens for Rural Preservation
Parishville & Hopkinton NY

February 18, 2018

*4525 Yellowstone Dr., Redding CA 96002
jim@jimwiegand.com
(530) 222-5338

Re: Application of Atlantic Wind LLC for a Certificate of Environmental Compatibility for Construction of the North Ridge Wind Energy Project in the Towns of Parishville and Hopkinton, St. Lawrence Co. NY.

To whom this may concern:

I have looked over the bat and avian surveys planned for the DRAFT NORTH RIDGE WIND PROJECT. From my expert viewpoint, these planned surveys are severely flawed and for many reasons and could never produce a truthful or conclusive assessment for the species that will impacted by these turbines.

I have been an independent wildlife researcher for nearly 50 years with field experience that few can match. I am an expert on raptors and have extensively analyzed wind industry related research from as far back as the mid 1980's. I also have a BS degree in Wildlife Biology from UC Berkeley.

Below I will comment on the Stantec submission (quoted in dark blue) that illustrate this poorly planned research:

1.0 Introduction

"This work plan outlines the scope of work for 2016 spring raptor migration surveys and breeding bird surveys. The survey effort is based on the New York State Department of Environmental Conservation (DEC) *Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects* (DEC Guidelines), dated April 2016, and a teleconference held on May 9, 2016, with DEC."

In my expert opinion, these guidelines may be based upon New York State Department of Environmental Conservation (DEC) Guidelines for Conducting Bird and Bat Studies at Commercial Wind Energy Projects, but they deify logic and are not based upon sound scientific research. These Stantec surveys are supposed to identify bird, bat and raptor usage in and around the North Ridge Wind Energy project, yet these surveys are designed to miss much of this species usage by breeding and migratory species. Stantec gives no reasoning for choosing the flawed and inadequate methodology planned for these studies.

2.0 Spring Raptor Migration Surveys

"Spring raptor migration surveys will be conducted during the months of March, April, and May 2016. Surveys will generally be conducted weekly for a total of 11 survey days over the spring migration period. As per DEC Guidelines, surveys will be conducted from 1 prominent location with a good view of the Project area throughout the survey period (Figure 1). Surveys will take

place from 8:00 am to approximately 2 hours before sunset. Surveys will target days with optimal migration weather (southerly, moderate winds) and days with good visibility. Data will be collected on standard raptor datasheets and flight paths will be drawn on Project area maps. Data collected will include species identification, number of individuals, sex and age class (if possible), flight pattern and location, flight behavior, flight height, flight time inside the Project area, time of observation, and weather conditions. Other birds, including flocks of birds, will be recorded as incidental observations to the raptor survey."

No observations from the field pertaining bat or avian species should be considered incidental or considered insignificant. After all turbines are known to kill virtually every bird or bat species that must share habitat and air space with wind turbines.

West of this planned project at the Derby Hill Bird Observatory in Oswego County, NY, on average 40,000 raptors are counted each spring as they migrate northwards, making this site one of the best spring sites in the country. Non-raptor observations are far greater and these can number 40,000-50,000 in a single day.

These non-raptor numbers are very significant and complete bird and raptor counts during seasons of highest usage should be reported from this site.

It is very important to note that even though Derby Hill has thousands of birds and raptors migrating through daily in the spring, it is a completely different story in the fall. At this time of year most of these birds and raptors have chosen other migration routes as they head south.

Some of these primary fall migration routes are inland. One of these New York fall migration routes passes through the well-known Franklin Mt. Hawkwatch location. It is located in Oneonta, NY. This popular fall migration lookout for raptors, sits directly south of Parishville, New York. Many of the raptors traveling through this site have very likely migrated through the Parishville region catching updrafts off the mountains as they make their way south.

Favorable winds for turbines are often favorable winds for all avian migrations. Mountains create obstacles for migrants, and good winds concentrate birds along these pathways. Lower elevations also hold more food sources for migrants in the fall. In looking over the maps below it is very likely that the site chosen for the North Ridge Wind Energy Project, sits in or very close to a major fall stopover and migration corridor for raptors.

This migration corridor in and around the proposed North Ridge wind farm, likely applies to many bird species including nighttime migrants. This should be carefully analyzed with scientific research.


North Ridge Wind Project
Derby Hill Bird Observatory
Oneonta, NY
Image NOAA
Image Landsat / Copernicus
Google


Ottawa
Montreal
Sherbrooke
Cornwall
Plattsburgh
Brockville
Parishville, NY
Burlington
St Johnsbury
Kingston
Watertown
Adirondack Park
Middlebury
White Mountain National Forest
Lake Ontario
Oswego
Rutland
Laconia
Rochester
Rome
Utica
Syracuse
Concord
Dover
Keene
Auburn
Schenectady
Albany
Manchester
Nashua
Norwich
Ithaca
Bath
Oneonta, NY
Elmira
Binghamton
Catskill Park
Kingston
Worcester
Springfield
Boston
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Williamsport
Wilkes-Barre
Bridgeport
New Haven
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50 km
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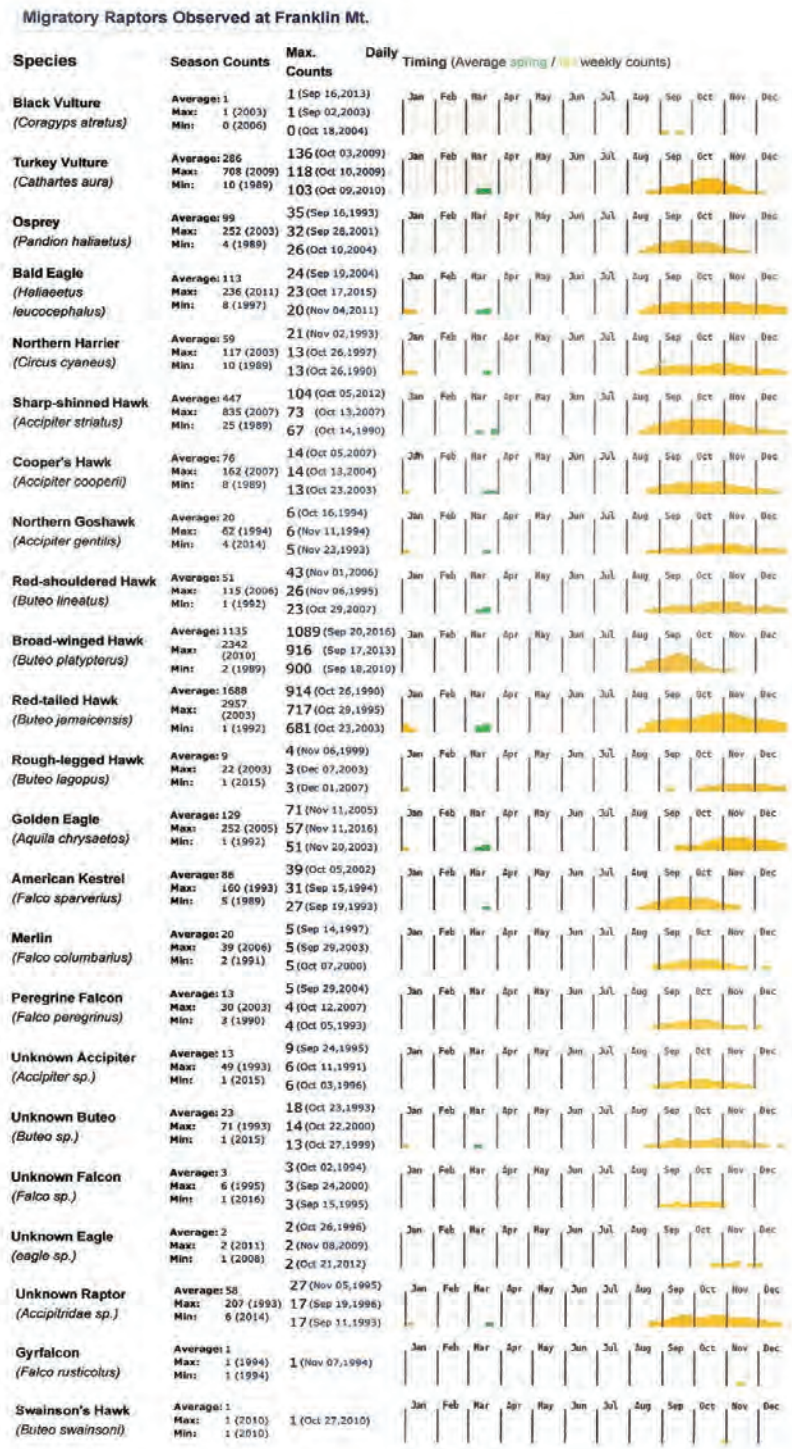


Migratory Raptors Observed at Franklin Mt.

Species	Season Counts	Max. Daily Counts	Timing (Average spring / fall weekly counts)
Black Vulture *(Coragyps atratus)*	Average: 1 Max: 1 (2003) Min: 0 (2006)	1 (Sep 16,2013) 1 (Sep 02,2003) 0 (Oct 18,2004)	
Turkey Vulture *(Cathartes aura)*	Average: 286 Max: 708 (2009) Min: 10 (1989)	136 (Oct 03,2009) 118 (Oct 10,2009) 103 (Oct 09,2010)	
Osprey *(Pandion haliaetus)*	Average: 99 Max: 252 (2003) Min: 4 (1989)	35 (Sep 16,1993) 32 (Sep 28,2001) 26 (Oct 10,2004)	
Bald Eagle *(Haliaeetus leucocephalus)*	Average: 113 Max: 236 (2011) Min: 8 (1997)	24 (Sep 19,2004) 23 (Oct 17,2015) 20 (Nov 04,2011)	
Northern Harrier *(Circus cyaneus)*	Average: 59 Max: 117 (2003) Min: 10 (1989)	21 (Nov 02,1993) 13 (Oct 26,1997) 13 (Oct 26,1990)	
Sharp-shinned Hawk *(Accipiter striatus)*	Average: 447 Max: 835 (2007) Min: 25 (1989)	104 (Oct 05,2012) 73 (Oct 13,2007) 67 (Oct 14,1990)	
Cooper's Hawk *(Accipiter cooperii)*	Average: 76 Max: 162 (2007) Min: 8 (1989)	14 (Oct 05,2007) 14 (Oct 13,2004) 13 (Oct 23,2003)	
Northern Goshawk *(Accipiter gentilis)*	Average: 20 Max: 62 (1994) Min: 4 (2014)	6 (Oct 16,1994) 6 (Nov 11,1994) 5 (Nov 22,1993)	
Red-shouldered Hawk *(Buteo lineatus)*	Average: 51 Max: 115 (2006) Min: 1 (1992)	43 (Nov 01,2006) 26 (Nov 06,1995) 23 (Oct 29,2007)	
Broad-winged Hawk *(Buteo platypterus)*	Average: 1135 Max: 2342 (2010) Min: 2 (1989)	1089 (Sep 20,2016) 916 (Sep 17,2013) 900 (Sep 18,2010)	
Red-tailed Hawk *(Buteo jamaicensis)*	Average: 1688 Max: 2957 (2003) Min: 1 (1992)	914 (Oct 26,1990) 717 (Oct 29,1995) 681 (Oct 23,2003)	
Rough-legged Hawk *(Buteo lagopus)*	Average: 9 Max: 22 (2003) Min: 1 (2015)	4 (Nov 06,1999) 3 (Dec 07,2003) 3 (Dec 01,2007)	
Golden Eagle *(Aquila chrysaetos)*	Average: 129 Max: 252 (2005) Min: 1 (1992)	71 (Nov 11,2005) 57 (Nov 11,2016) 51 (Nov 20,2003)	
American Kestrel *(Falco sparverius)*	Average: 88 Max: 160 (1993) Min: 5 (1989)	39 (Oct 05,2002) 31 (Sep 15,1994) 27 (Sep 19,1993)	
Merlin *(Falco columbarius)*	Average: 20 Max: 39 (2006) Min: 2 (1991)	5 (Sep 14,1997) 5 (Sep 29,2003) 5 (Oct 07,2000)	
Peregrine Falcon *(Falco peregrinus)*	Average: 13 Max: 30 (2003) Min: 3 (1990)	5 (Sep 29,2004) 4 (Oct 12,2007) 4 (Oct 05,1993)	
Unknown Accipiter *(Accipiter sp.)*	Average: 13 Max: 49 (1993) Min: 1 (2015)	9 (Sep 24,1995) 6 (Oct 11,1991) 6 (Oct 03,1996)	
Unknown Buteo *(Buteo sp.)*	Average: 23 Max: 71 (1993) Min: 1 (2015)	18 (Oct 23,1993) 14 (Oct 22,2000) 13 (Oct 27,1999)	
Unknown Falcon *(Falco sp.)*	Average: 3 Max: 6 (1995) Min: 1 (2016)	3 (Oct 02,1994) 3 (Sep 24,2000) 3 (Sep 15,1995)	
Unknown Eagle *(eagle sp.)*	Average: 2 Max: 2 (2011) Min: 1 (2008)	2 (Oct 26,1996) 2 (Nov 08,2009) 2 (Oct 21,2012)	
Unknown Raptor *(Accipitridae sp.)*	Average: 58 Max: 207 (1993) Min: 6 (2014)	27 (Nov 05,1995) 17 (Sep 19,1996) 17 (Sep 11,1993)	
Gyrfalcon *(Falco rusticolus)*	Average: 1 Max: 1 (1994) Min: 1 (1994)	1 (Nov 07,1994)	
Swainson's Hawk *(Buteo swainsoni)*	Average: 1 Max: 1 (2010) Min: 1 (2010)	1 (Oct 27,2010)	

In the above image are fall raptor migration notes from Franklin Mt. in Oneonta, NY. These numbers not

only show high fall passage rates, but that there are also far fewer raptor observations during the spring raptor migration. The opposite migration pattern of what occurs at Derby Hill in the spring. It is also very likely that far fewer raptors move north through the Parishville region each spring.

It defies all logic that Stantec would conduct raptor surveys in the spring while completely avoiding a fall raptor migration that occurs in this region. The fall surveys become even more important because the spring migration is a shorter event. The fall migrations occur for several months beginning in mid-September. The slower moving fall migration will put all raptors and birds at greater risk because migrating raptors will spend more time around these wind turbines in the fall.

According to Stantec, the planned raptor migration survey will be conducted from just 1 prominent location. What is the visibility in all directions from this location? Stantec does not say. With one location, it will not be possible to accurately assess the raptor usage and raptor flights over a 24 square mile region. It will also not be possible to accurately assess the raptor usage and raptor flights over a 24 square mile region in just 11 days of Stantec's choosing. Observations should be daily especially when there are favorable migration winds coming from the southerly direction in the spring and from the north in the fall.

Stantec states" As per DEC Guidelines, surveys will be conducted from 1 prominent location with a good view of the Project area throughout the survey period", but if visibility is limited, one location is not adequate. It may take 10 or more locations to view migration usage for the entire site.

As shown with the information provided, birds and raptors will use different migration routes in the fall and spring. Migration routes can also change from year to year depending on weather conditions. For these reasons, both fall and spring migration surveys are critical.

This statement from Smithsonian sums up some of the differences in fall and spring migrations very well.

"As summer turns to fall and leaves begin to turn, birds of all kinds begin to make their trek from cooler, northern breeding grounds to the warmer, southern areas where they'll spend the winter. With some of the flocks moving by the tens of thousands, the fall migration offers novice and expert bird watchers alike a chance to observe one of nature's great journeys. Fall is a particularly great time to catch birds on their southward migration, explains Scott Sillett, research scientist at the Smithsonian Migratory Bird Center, because the fall migration lasts longer than the spring version, affording birders a better chance at seeing the birds in action. "They're trying to get to where they winter, but they don't have to immediately get there and set up shop and reproduce. It's a different pace of life in the fall," Sillett says. "And in the fall, you have more young birds on their first southern migration. There are more birds moving over a longer period of time."

The migrations of some birds, such as hawks, will be reaching their peak in the coming weeks, while other migrations, like waterfowl, will continue on through November. "

Here is more information showing the different routes taken by birds during fall and spring migrations. "For the first time, scientists at the Cornell Lab of Ornithology have documented migratory movements of bird populations spanning the entire year for 118 species throughout the Western Hemisphere.. "After tracing the migration routes of all these species, we concluded that a combination of geographic

features and atmospheric conditions influence the choice of routes used during spring and fall migration," says lead author Frank La Sorte, a research associate at the Cornell Lab."

I have known for years that bird species use different migration routes for fall and spring by watching my bird feeders. For example, during the spring migration I see Evening Grosbeaks and Western Grosbeaks, during the fall migration I do not.

3.0 Breeding Bird Surveys

Breeding bird surveys will be conducted once each week from May 23 to July 1 (6 weeks). Surveys will be conducted from sunrise until no later than approximately 10:00 am, in weather conditions conducive to hearing and seeing birds. All birds identified by sight or sound within a 10-minute sampling period, including soaring raptors, waterfowl, and other fly-overs, will be recorded at each survey point. Habitat and weather information will be recorded at each survey point. Any distractions or noises affecting bird detection will be noted and the 10-minute point counts themselves will be initiated after a 2-minute quiet period to allow bird activity to return to normal, should it be affected by the observer walking between points.
Surveys will be conducted at 90 points along 15 transects, each between 300 to 400 meters long. Ten transects (with 60 points) will begin at proposed turbine locations (treatment) and 5 transects (with 30 points) will be located greater than 800 meters from proposed turbine locations (control). Transects will be distributed, to the extent possible, on available habitat (forest vs. field). Based on the availability of habitat within the Project area and existing land control, 8 transects will be located in forested habitat (5 treatment and 3 control), and 7 transects will be located in open field or agricultural habitat (5 treatment and 2 control).
Survey points along the forested habitat transects will be spaced 50 meters apart. Seven points will be placed on these transects, resulting in transects 300 meters long. The 8 transects in forested habitat will therefore contain a total of 56 survey points (7 points X 8 transects).
Survey points along the field habitat transects will be spaced 100 meters apart due to the increased detection distances in these open habitats. Field transects will contain either 4 or 5 survey points and will therefore be 300 or 400 meters long and will contain a cumulative total of 34 points. Data analysis will account for the difference in spacing between points along forest and field transects.

On average, 5 to 7 transects will be surveyed during each week within the survey period, and each point will be visited at least twice within the survey window. The final location of each survey point will be recorded with a Global Positioning System (GPS)."

The Stantec breeding bird surveys will start several months too late and the 90 point survey sites should only be a beginning in the analysis of the species using this site. This keyhole approach will miss most of the opportunities to observe nesting activities because nesting activities for some species start in January. For adult geese, this activity begins in late winter as soon as waters open up.

This keyhole approach will also miss or eliminate all the vital migratory bird species data and site usage in the fall.

The Stantec plans says nothing about conducting raptor breeding or raptor usage surveys. These should be conducted, but not when Stantec claims they should be done. The breeding surveys should start in January because raptors like bald eagles and horned owls start their nesting cycles at this time and are easy to notice in their home territories.

I can tell from looking at google earth imagery, that this location has many different raptors nesting in and around the vicinity of the planned project. An accurate survey and not a point survey, would find a multitude of raptor nests. Once again, the Stantec plans have avoided these surveys. They are very important because turbine mortality will cause territory abandonment. At one time, golden eagles nested annually in the 86 square mile footprint of Altamont Pass Wind resource Area (personal observations). There have been no recorded golden eagle nests within this location for over 25 years.

Accurate scientific surveys should include the entire region. Not only completely within the project site but they should extend out in all directions from project site with distances determined by the territory requirements of the species known to be living in the region. Some bird and bat species have very large territories and some nesting species will be impacted because of foraging territories that extend into the project area. For example, eagles and falcons have home territory sizes that can extend more than 100 Sq. Kilometers, a frigate bird's foraging territory can be many thousands.

If there are any Peregrine falcon nests within 10 miles, it is very likely they will spend time hunting over this project site. Nesting bald eagles will also travel several miles to hunt smaller bodies of water that hold fish. Regional sub-adult eagles are also likely to visit ponds with fish. If there are any nesting eagles or sub-adult eagles in the region they will also visit wind turbine locations looking for an easy blade strike meal.

Regional breeding bird and raptor surveys should start as early as January. In New York bald eagles are nest building in January and incubating eggs in February. When conducting these important surveys, a real expert would never limit observations to just a point survey methodology.

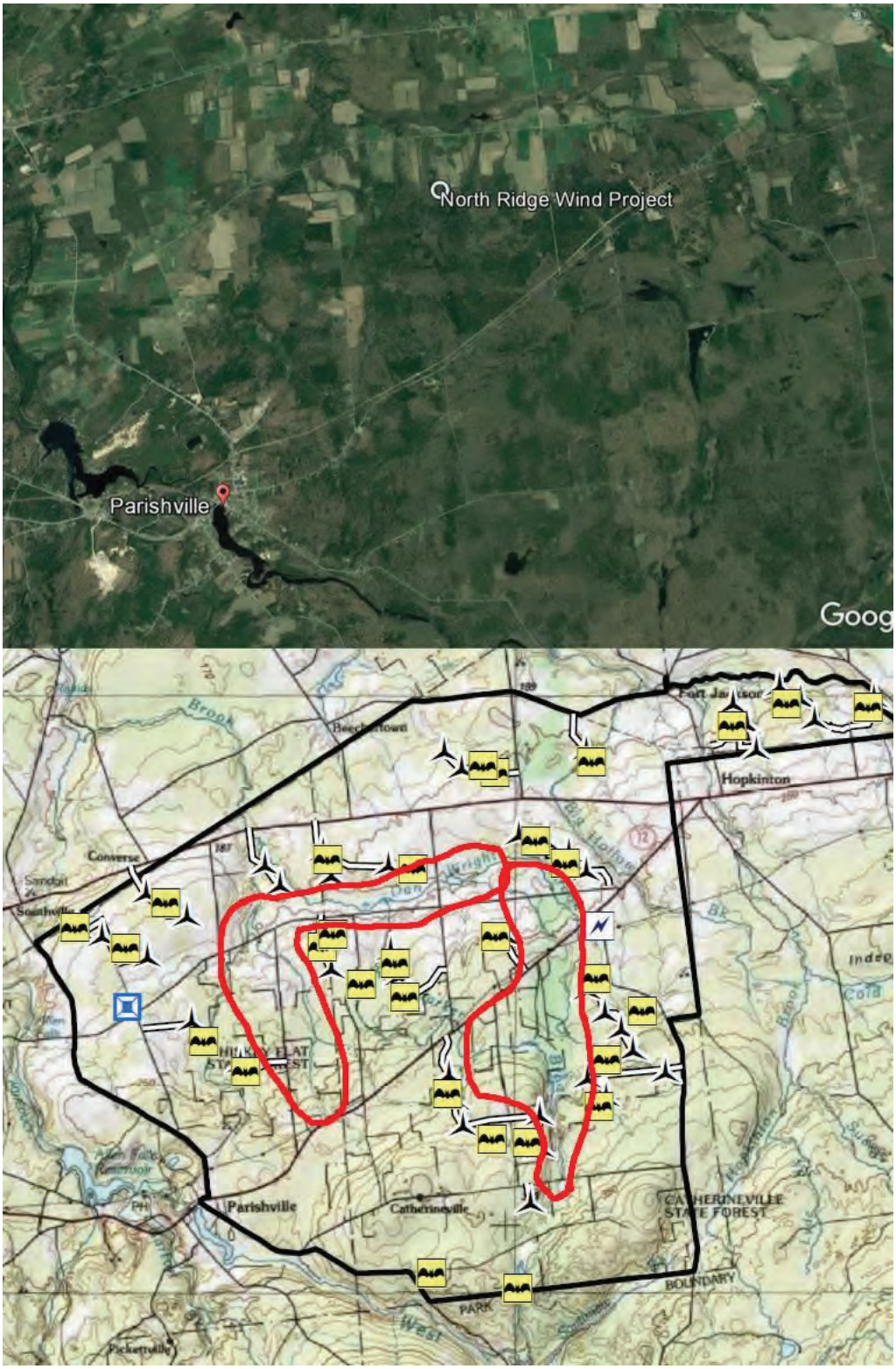
2.0 Bat Presence-Absence Survey

2.1 STUDY DESIGN

The NYSDEC Guidelines recommend use of the USFWS Guidelines for documenting the presence or probable absence of the federally and state-listed threatened northern long-eared bat (Myotis septentrionalis; NLEB) as part of the standard bat surveys at wind projects. During conversations with the USFWS it was noted that records of the Indiana bat would be associated with bats from the Fort Drum area, which are known to use the Glen Falls Park hibernaculum, located near Watertown, New York. Since Fort Drum and the Glen Falls Park hibernaculum are located more than 60 miles southwest of the Project area, Indiana bats are highly unlikely to occur. Despite this, data analysis for this survey will include both bat species.

The USFWS Guidelines prescribe the allocation of summer bat acoustic monitoring based on acreage of potential habitat for projects that cover localized areas or based on the linear (number of km) extent of potential habitat for projects that are more linear in design. Both methods provide challenges when applied to wind projects. Use of the area-based method typically results in excessively and unattainably large sampling requirements if it is applied to the total acreage of leased land, the outer boundary of all project features, or a bat home range buffer around the proposed project infrastructure. Additionally, the term “project area” is ambiguous and is often defined differently from site to site, resulting in inconsistent levels of effort to evaluate bat presence or absence.”

After all this lengthy Stantec discussion and distorted reasoning, this planned bat survey was designed to miss what is probably the most utilized and most important bat habitat located in the project site. Bats are attracted to wetlands and bodies of water because of the abundance of insects. Look at the image below and note the two reds circles. These are two areas that should be a top priority for an accurate bat survey.


North Ridge Wind Project
Parishville
Goog
Hopkinton
Converse
Parishville
Catherineville
CATHERINEVILLE STATE FOREST
BOUNDARY
PARK

It is also known that bats in the New York region migrate hundreds of miles. This was not brought up.

2.2 FIELD METHODS

"Full-spectrum (e.g., Wildlife Acoustics© SM3 or SM4) acoustic bat detectors will deployed for this survey. Each detector will be fitted with a SMM-U1 ultrasonic omnidirectional microphone and the audio and data storage settings will be adjusted according to manufacturer recommendations (i.e.., detectors will operate in "triggered .wav" mode using default trigger threshold settings recommended by the manufacturer).

Each detector will be deployed at a sampling site for 2 nights and will be programed to record for the period between 30 minutes before sunset until 30 minutes after sunrise for each night of survey. In compliance with the USFWS Guidelines, weather conditions at the nearest weather station (KNYPOTSD6 in Potsdam, New York) will be reviewed to confirm that during the first 5 hours of each night the temperature does not fall below 50°F (10°C), precipitation (including rain and/or fog) does not exceed 30 minutes or continue intermittently, and sustained wind speeds are not greater than 9 miles/hour for 30 minutes or more. Should these weather conditions not be met during this 2-night deployment, detectors will be left in place for additional night(s) until data have been collected on 2 survey nights with suitable weather conditions. Data analysis will only occur on the data from the first 2 nights with suitable weather.

The location of detectors will be based on the site selection process described above. However, final micro-siting of each detector will be based on site conditions observed in the field and detector deployment criteria (e.g., distance from vegetation, microphone height above ground) described in Appendix C of the USFWS Guidelines. Final detector locations will be located by GPS and documented on datasheets. "

Once again, none of this plan is scientific or accurate if bat detectors do not cover the wetland areas within and around the project site. The majority of data in any scientific survey should be collected from these feeding locations and not collected from areas where they are less likely to be found. This is especially true when checking for the presence of the federally and state-listed threatened northern long-eared bat.

Equipment should also be set up with no obstacles that will limit the coverage. If coverage is limited by obstacles or range limitations is should be noted

It is also important to note that planned bat data collected from around proposed turbine sites today will change dramatically. With these turbines, new wide-open areas will be created across the project site. Since bats are attracted to open areas, they will be attracted to these new open areas while foraging for insects.

3.2 FIELD METHODS

"A bat detector will be placed on the on-site meteorological (met) tower in late July and will be programmed to record daily from 30 minutes before sunset until 30 minutes after sunrise during the survey period until mid-October (Figure 1). The detector will be hung on the tower at a height of approximately 45 m. Bi-weekly visits will be conducted to download data, verify proper operation of the detector and maintain the detector's power system. "

The planned bat surveys by Stantec do not discuss the total coverage or the effective range for any of the bat detector equipment they plan on using. If Stantec is really looking for Northern Long-eared Bats at this site they, will get the best detector coverage possible from the best locations.

Article 10, The National Environment and Planning Agency (NEPA) and EPA Law

As I have shown here in my discussion, the proposed Stantec studies are riddled with major problems. As a result, these studies cannot possibly satisfy Federal EIS or Article 10 requirements.

Article 10 states, "1. Any person proposing to submit an application for a certificate shall file with the board a preliminary scoping statement containing a brief discussion, on the basis of available information, of the following items:

(a) description of the proposed facility and its environmental setting;

(b) **potential environmental and health impacts resulting from the construction and operation of the proposed facility;**

(c) **proposed studies or program of studies designed to evaluate potential environmental and health impacts,** including, for proposed wind-powered facilities, **proposed studies** during pre-construction activities and a **proposed period of post-construction operations** monitoring for potential impacts to avian and bat species**;**

(d) measures proposed to minimize environmental impacts; "

The studies proposed by Stantec are flawed and will never be able to fairly evaluate or analyze the potential environmental impacts from this project. Under these Article 10 guidelines, impacts can never be evaluated nonscientific studies designed to conceal facts. Using the results from these proposed Stantec studies will hide impacts and they will hide many of species being impacted. Every discussion or proposal that relies upon these studies to "measure" and "minimize" impacts will be seriously tainted. Creating and conducting flawed studies like those proposed by Stantec may satisfy some of the basic Article 10 requirements, but these studies can never satisfy Article 10 sections (a), (b), (c)and (d) because these studies do not adhere to "scientific" standards.

Stantec's proposed studies also will not come close to meeting NEPA or EPA EIS requirements. Once again because these studies are not scientific the impacts from the project will not be fairly evaluated. Their proposed nonscientific studies will conceal obvious facts.

40 CFR 1502.1

§1502.1 Purpose.

The primary purpose of an **environmental impact statement** is to serve as an action-forcing device to insure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government**. It shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.** Agencies shall focus on significant environmental issues and alternatives and shall reduce paperwork and the accumulation of extraneous background data. Statements shall be concise, clear, and to the point, and shall be supported by evidence that the agency has made the necessary environmental analyses. An environmental impact statement is more than a disclosure document. It shall be used by Federal officials in conjunction with other relevant material to plan actions and make decisions.

§1502.2 Implementation.

To achieve the purposes set forth in §1502.1 agencies shall prepare environmental impact statements in the following manner:

(a) Environmental impact statements shall be analytic rather than encyclopedic.

(b) Impacts shall be discussed in proportion to their significance. There shall be only brief discussion of other than significant issues. As in a finding of no significant impact, there should be only enough discussion to show why more study is not warranted.

(c) Environmental impact statements shall be kept concise and shall be no longer than absolutely necessary to comply with NEPA and with these regulations. Length should vary first with potential environmental problems and then with project size.

(d) Environmental impact statements shall state how alternatives considered in it and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of the Act and other environmental laws and policies.

(e) The range of alternatives discussed in environmental impact statements shall encompass those to be considered by the ultimate agency decisionmaker.

(f) Agencies shall not commit resources prejudicing selection of alternatives before making a final decision (§1506.1).

(g) Environmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made.

§1502.24 Methodology and scientific accuracy.

Agencies shall insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement. An agency may place discussion of methodology in an appendix.

Stantec has a history of conducting nonscientific research

It is important to bring this up because I have seen a very consistent pattern with Stantec's research. They consistently choose research methodologies that exclude important data.

I first became acquainted with Stantec research after I read over a 2009 survey conducted on behalf of Iberdrola concerning peregrine falcon use in the region of the proposed Groton New Hampshire Wind project. The peregrine falcon survey for the project was severely flawed because researchers did not even try to observe the falcons when they would be the most active. Peregrine falcons are very active during their daily dawn and dusk hunting activity. They are also very active during courtship rituals in the Spring.

Yet the stated objective of the survey was to investigate whether peregrine falcons use the Project area. These observations were critical because it is during these behaviors the falcons are the most likely to be using the project site. It is also during these distractive behaviors that a collision with a turbine is the most likely.

Even the observers themselves noted this flaw in the survey methodology with the following statement; "Therefore, the results of the 2009 surveys cannot describe peregrine activity during all daylight hours during the period of interest, or describe activity across the entire Project area."

Yet Iberdrola, in their Executive Summary for the project, boldly makes the following statement based upon this survey; " Rare, threatened, or endangered bird species that were documented in the Project area during these surveys include peregrine falcon (state- listed threatened), bald eagle (state-listed threatened), and common loon (state- listed threatened). **None of these species** reside within the project area.

No federally-listed threatened or endangered birds were observed during any of the field surveys."

This statement is false. I am an expert on Peregrine Falcon behavior and know with complete certainty, these falcons did utilize the air space located in their hunting territories above the proposed Groton Wind Project site.

Impossible post operational wind turbine research

What I am presenting next is about the easiest to understand and crystal-clear proof pertaining to Stantec's nonscientific research. As I will show, using the data from past wind turbine mortality studies, the results from Stantec's wind turbine mortality studies are not evenly remotely possible with operating wind turbines spinning with tip speeds of 175-200 mph. Stantec's reported carcass distances around turbines defies all logic including Newton's laws of motion, inertia and gravity. Stantec may be following Canadian Ministry or USFWS wind turbine research guidelines with their studies, but this research isn't scientific and their results have been consistently impossible.

Below are a few of published distance locations for thousands wind turbine carcasses collected over a several decades period. There are many studies with similar carcass distance data. When looking over this wind industry mortality data, notice the recorded carcass distance locations. With this data, about 50-80% of all carcasses were reported at distances beyond the turbine rotor sweep or the turbine blade length out from turbine towers. This data represents what a turbine blade does to birds and bats upon impact. Carcasses are launched with great force into wind currents.

Wind turbine carcasses distribution from Altamont pass around small turbines. Most of the carcasses found were reported far beyond turbine blade lengths.

Prepared for the:

Planning Departments of
ALAMEDA, CONTRA COSTA and SOLANO Counties

and the CALIFORNIA ENERGY COMMISSION
Grant #990-89-003

Prepared by:

BioSystems Analysis, Inc.
Tiburon, CA

Principal Authors:

Susan Orloff
Anne Flannery

Wind Turbine Effects on Avian Activity, Habitat Use, and Mortality in Altamont Pass and Solano County Wind Resource Areas

1989-1991

Final Report
March 1992

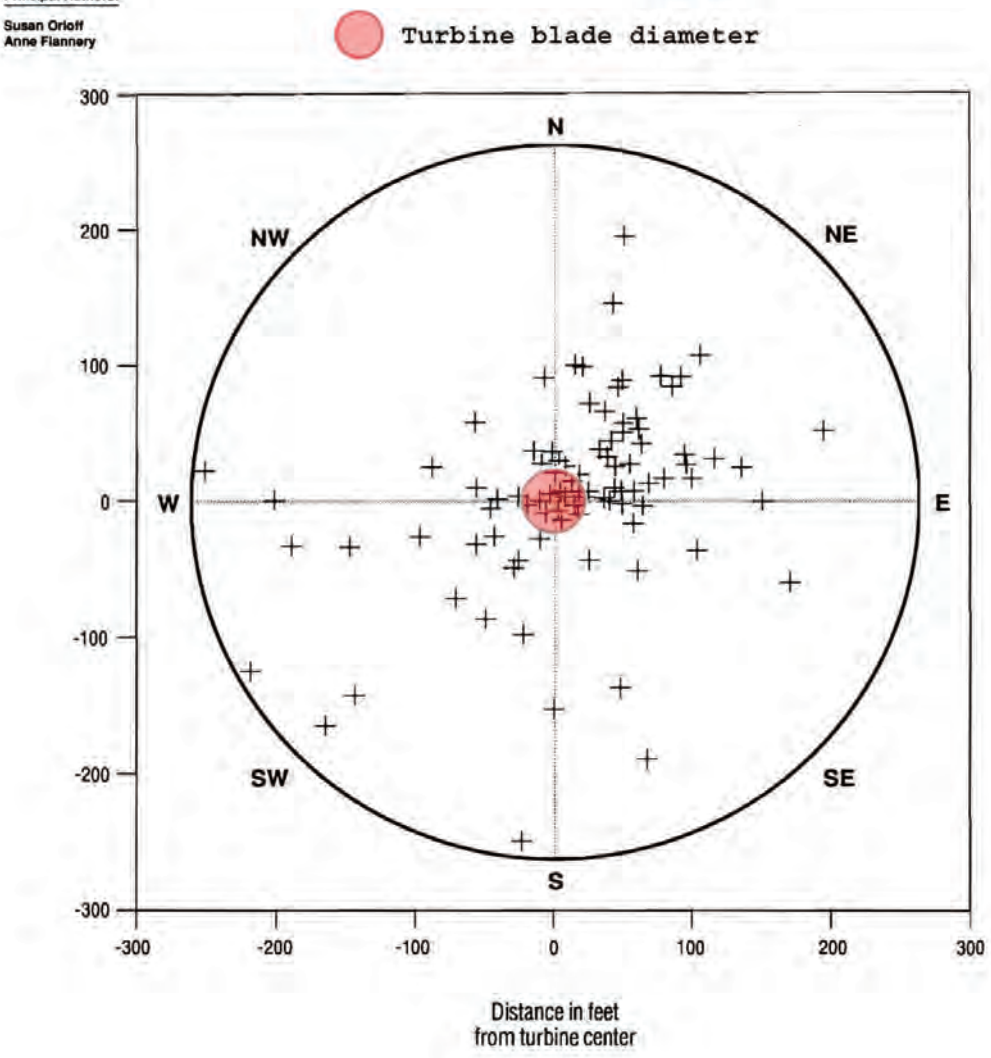


Figure 3-22. Locations of mortalities in relation to turbine centers.

page 107

Carcass distribution for 631 small-bodied birds

Average turbine size 103 kW on 24 meter towers with average blade length of 9.25 meters

Small-bodied Birds

Our search radius included 90.5% of the carcasses of small-bodied bird species (Figure 2-9B), of which 75% were located within 34 m of the tower. The mean and standard deviation of these 631 distances was 23.8 ± 19.4 m. Most carcasses were found northeast of the tower, and a considerable number were located southwest (Figure 2-10B), just as the large-bodied bird carcasses had been distributed.

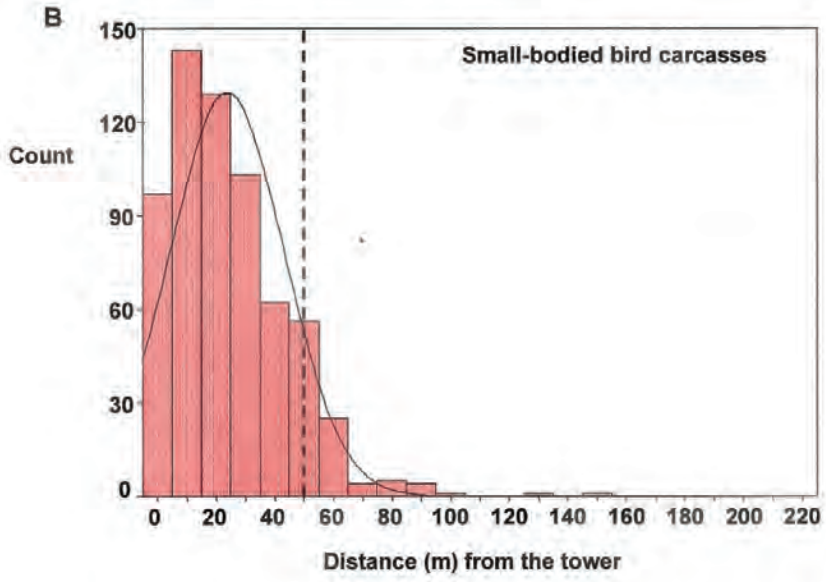


Figure 2-9. Frequency distributions of distance from the wind tower among carcasses of large-bodied (A) and small-bodied (B) bird species

[a] Set 1 includes the 1,526 wind turbines (151.165 MW) in the search rotation through September 2002.
[b] Set 2 includes 2,548 wind turbines (267.090 MW) in the November 2002–May 2003 rotation.
[c] Set 3 includes the 1,326 wind turbines (161.750 MW) not included in any search rotation. Mortality for Set 3 was estimated by taking the weighted average from the two sampled sets of wind turbines ((mortality of Set 1 × 151.165 MW) + (mortality of Set 2 × 267.09 MW)) ÷ 418.255 MW.

Smallwood, K. S., and C. G. Thelander, Developing Methods to Reduce Bird Fatalities in the Altamont Wind Resource Area, Final Report by BioResource Consultants to the California Energy Commission, Public Interest Energy Research – Environmenta Contract No. 500-01-019 (L. Spiegel, Project Manager), 2004.
http://altamontsrc.org/alt_doc/cec_final_report_08_11_04.pdf

Carcass distribution for 468 large bodied birds

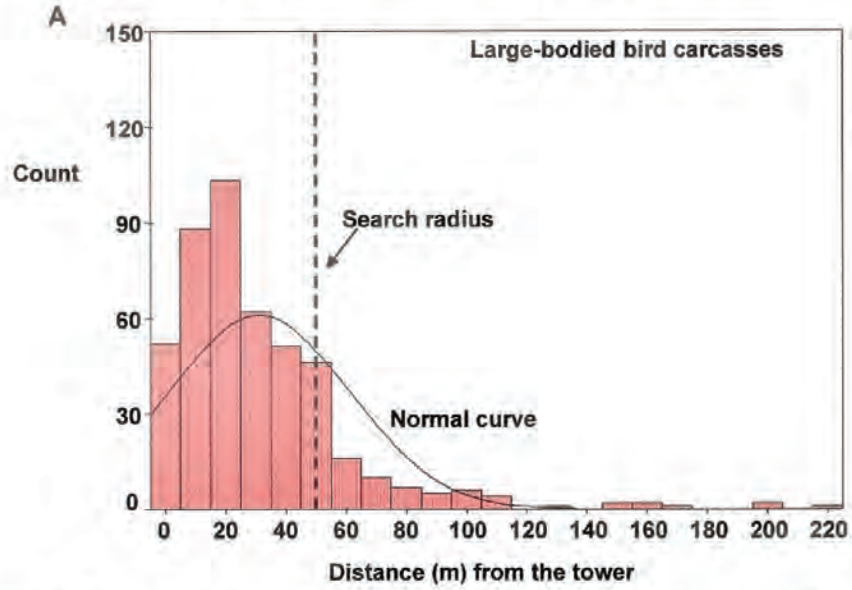
Average turbine size 103 kW on 24 meter towers with average blade length of 9.25 meters

2.3.2 Distances of Bird Carcasses from Wind Turbines

Large-bodied Birds

Our search radius included 84.7% of the carcasses of large-bodied bird species determined to be killed by wind turbines or unknown causes (Figure 2-9A). Of these, 75% were located within 42 m of the tower. The mean and standard deviation of these 468 distances was 31.1 ± 30.0 m. Most carcasses were found northeast of the tower, and a considerable number were located southwest of the tower (Figure 2-10A).

Carcass locations of large-bodied bird species differed significantly by distance from wind turbines according to five ranges of tower heights (ANOVA F = 3.66; df = 4, 456; P = 0.006), and post-hoc LSD tests revealed that fatalities were located farther from 25-m and 32-m towers (means = 33 m and 57 m) than shorter towers (mean = 28 m for 14-m towers, and 26 m for 18.5-m towers) or 43-m towers (mean = 28 m). Distance from tower increased with tower height, according to linear regression analysis, although the precision of the model was poor (Figure 2-11A).



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[a] Set 1 includes the 1,526 wind turbines (151.165 MW) in the search rotation through September 2002.
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November 1998 - June 2002
This initial construction phase of the Foote Creek
Rim wind plant (hereafter referred to as FCR I) is comprised of 69 600-kilowatt Mitsubishi turbines (41.4 MW capacity)

During this study 43 of 79 bats were found at or beyond the 21 meter turbine blade length.

Appendix B. Bat mortalities found in Foote Creek Rim Construction Unit I (FCR I), November 3, 1998 - June 5, 2002.

Log No.[a]	Species	Date	Found During Carcass Search?	Plot[b]	Distance from tower (m)	Comments
232	Hoary Bat	8/29/01	Yes	T 50	10	Intact carcass
233	Silver-haired Bat	9/3/01	No	T 58	15	Intact carcass, found by Jeff Gruver (UW) during bat studies on FCR
234	Hoary Bat	9/13/01	Yes	T 22	57	Intact carcass but decomposed
253	Little Brown Bat	6/3/02	Yes	T14	40	Intact carcass

[a] matches log no. on Figure 1
[b] T = turbine; M = meteorological tower (met tower)

At turbine plots, avian casualties were located between 4 and 77 m from the turbines with an average distance of 37.7 m.

[1] The carcasses found at distances too great to determine if they were associated with a wind plant turbine or met tower were all found incidentally during other wildlife studies (e.g., raptor point counts).

Appendix A. Avian mortalities found in Foote Creek Rim Construction Unit I (FCR I), November 3, 1998 - June 5, 2002.

Log No.[a]	Species	Date	Found During Carcass Search?	Plot[b]	Distance from tower (m)	Comments
158	Common Nighthawk	7/27/00	No	unk	-	Intact carcass; 1m south of road; compressed by truck tire; 140m from T 40
175	Rock Wren	8/29/00	Yes	T 23	47	Intact carcass; left eye scavenged; broken left wing, broken ribs
179	Horned Lark	9/5/00	No	unk	-	Feather spot; possible mammal scavenging; 168 m from T 68
182	Townsend's Warbler	9/11/00	Yes	T 11	28	Dismembered carcass; torso, head, wings missing
183	Wilson's Warbler	9/12/00	Yes	T 31	30	Dismembered carcass; part of head, most of tail, 1 wing and body feathers
185	Townsend's Warbler	9/12/00	Yes	T 40	61	Dismembered carcass; head and torso missing
188	White-crowned Sparrow	9/26/00	No	unk	-	Intact carcass; fresh carcass, no visible injuries; 184 m from T 36

FCR I. The Mitsubishi turbines in FCR I are approximately 131 ft (40 m) tall at the nacelle with a rotor diameter of 138 ft (42 m). Tower (turbine) spacing in FCR I is approximately 276 ft (84 m).

Post-Construction Avian Monitoring Study for the Shiloh I Wind Power Project
Solano County, California
Year One Final Report September 2007

Table 12. Number of incidents per size grouping versus distance from wind turbine tower

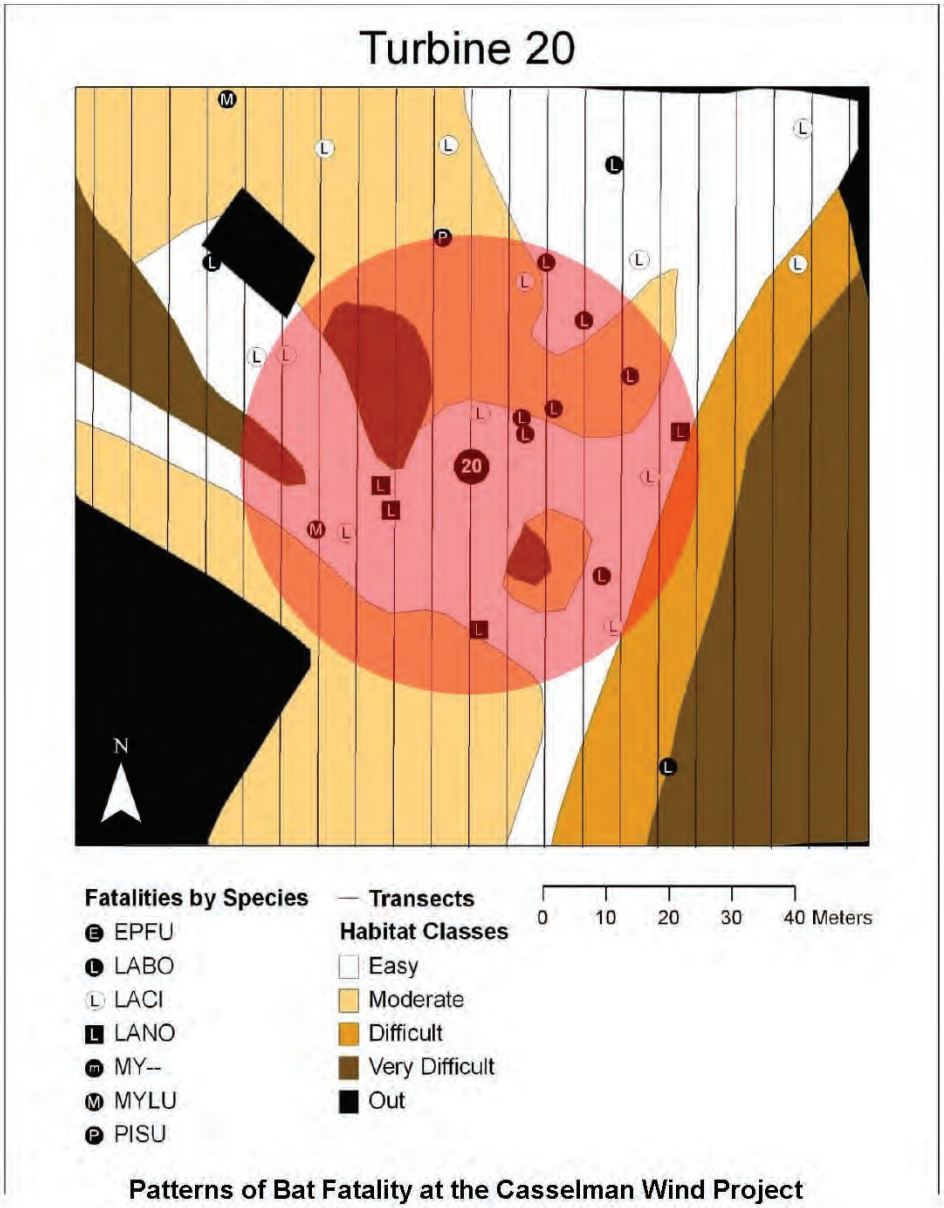
	Distance Range (meters)													
Species Size Group	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	91-100	101-110	111-120	121-130	131-200	Total
Small Bird	5	1		1	2		1	6	3	8	3				30
Medium Bird	9	6	2	8	6	15	15	14	3	21	9	1			109
Large Bird	3	1	2	1	1	1	1	1	2	3	1	1	2	1	21
Unknown Bird Species*						1	1	2	1	4					9
Bat	3		4	7	15	9	3	6	4	1					52
Total	20	8	8	17	24	26	21	29	13	37	13	2	2	1	221

* All unknown bird species were small or medium sized passerines

Data from 2006-2007 mortality studies with 105 meter search areas around 1.5 MW wind turbines. Some were mounted on 65 meter towers and others were mounted on 80 meter towers. Large and medium species found beyond 105 meters were seen because of temperary high visibility conditions periods during crop rotations. Search intervals were approximately once a week and as a result many of the fatalities were missed.

Of these reported carcasses 163 or 76% were found beyond the 38 meter blade lengths.

Here is more proof showing wind turbines of just 1.5 MW launching tiny bat carcasses far beyond turbine blade length. The red circle represents rotor sweep. As seen here, when searching in easy terrain many more bats were found far beyond the turbines rotor sweep.



Patterns of Bat Fatality at the Casselman Wind Project in south-central Pennsylvania 2008 Annual Report

Arnett, E. B., M. R. Schirmacher, M. M. P. Huso, and J. P. Hayes. 2009. Patterns of bat fatality at the Casselman Wind Project in south-central Pennsylvania.

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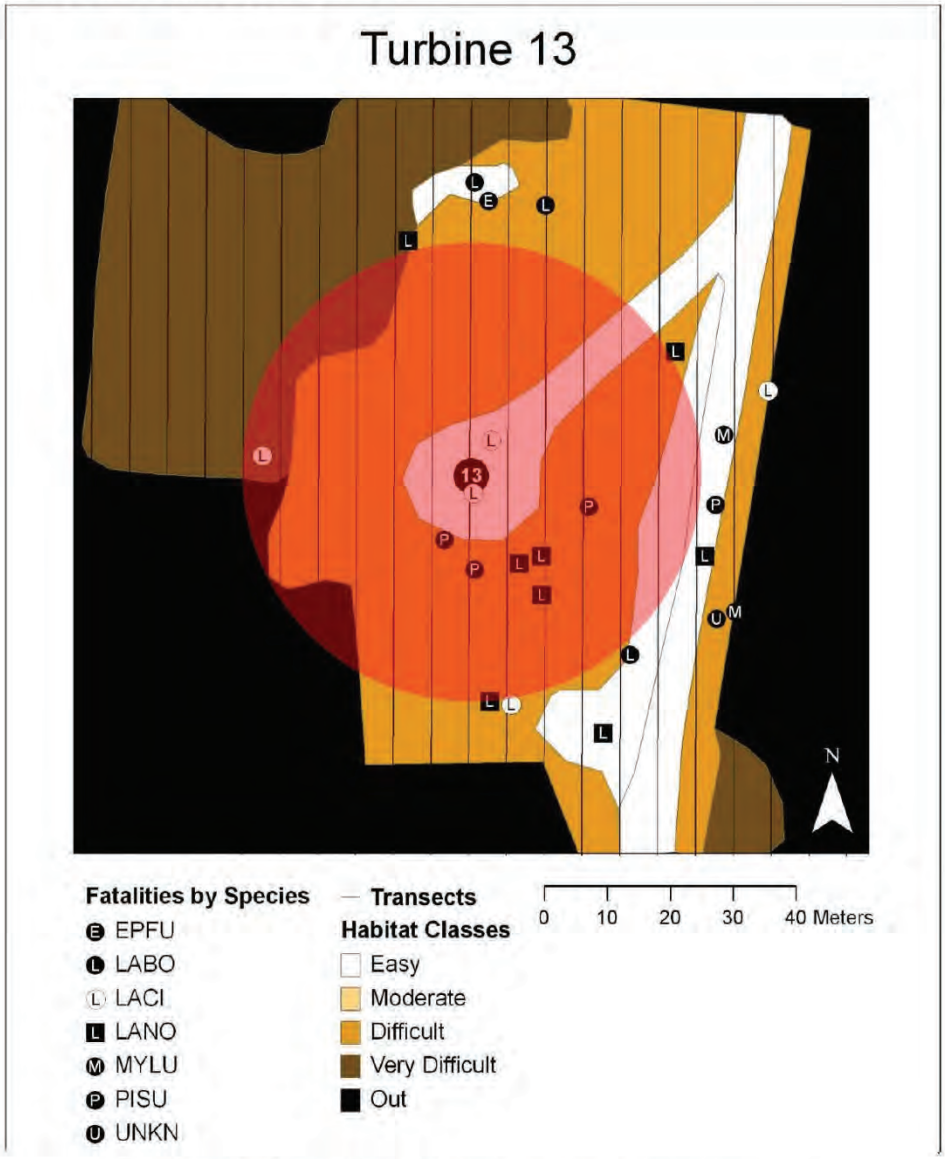

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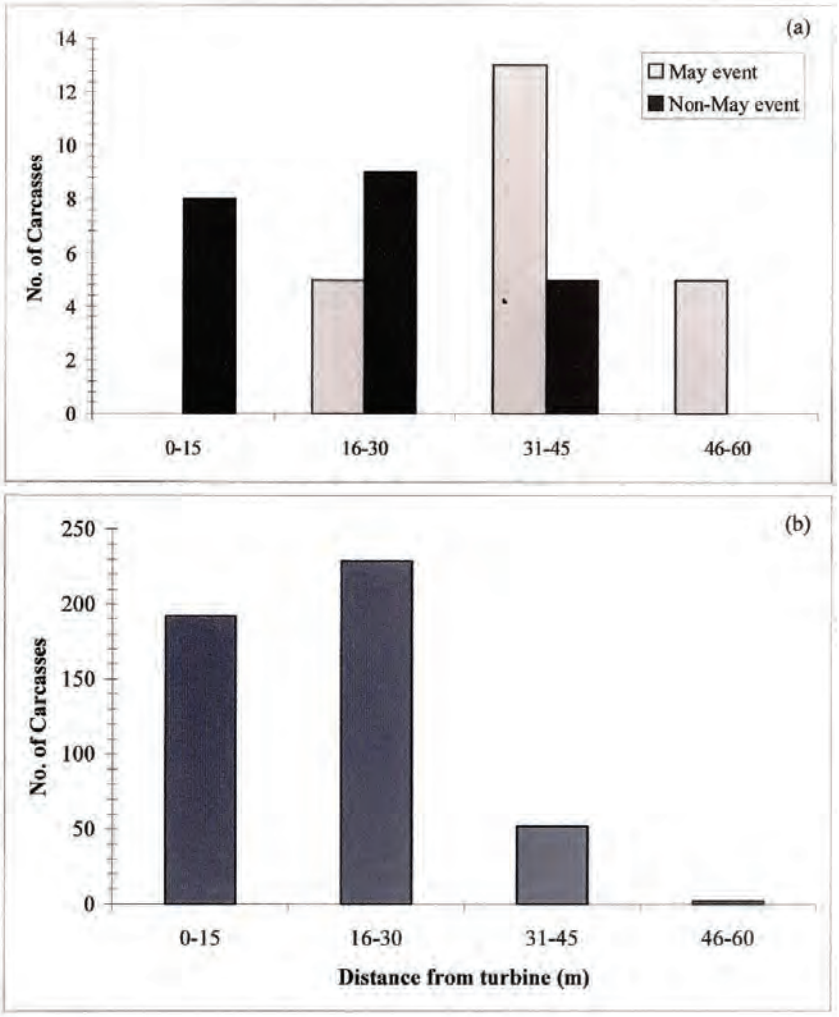
Figure 7. Distances of (a) nocturnal migrant songbirds and (b) bat carcasses from the turbine base (in meters).



Bat Fatalities.

Summary of Fatalities of Bats. A total 475 bat carcasses of 7 species were found during the 23 rounds of searches at the MWEC (Table 5). Red bats were most numerous, accounting for 42.1% of all carcasses found, with hoary (18.5%), eastern pipistrelle (18.3%), little brown (12.6%), silver-haired (5.9%), northern long-eared (1.3%), big brown (0.4%), and unidentified (0.8%) bats accounting for the remainder.

Curry & Kerlinger, LLC –2-14-04

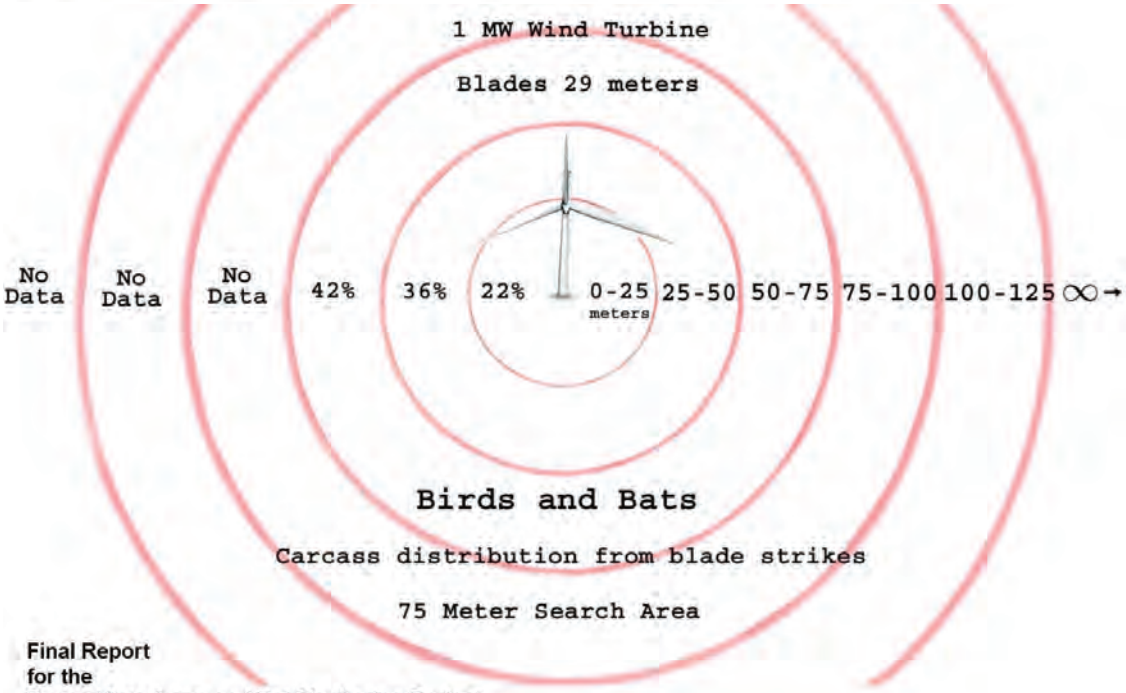
NEG Micon 1.5 MW wind turbine, 34 m rotor blades
Using undersized search areas in difficult search terrain

Below is carcass distribution data collected from Altamont turbines with approximately 9 meter blades and maximum heights of about 100 feet. Today's turbines are 400-500 feet tall and average carcass distribution is reported to be about 20-25 meters from around turbines with 50-60 meter blade lengths.

Table 2-5. Number and Percentage of Turbine-Related Avian Fatalities within and beyond 125 Meters from Turbines

Bird Year	Within 125 Meters	Beyond 125 Meters	Total
2005	545 (99.6%)	2 (<1%)	547
2006	1,185 (99.5%)	6 (<1%)	1,191
2007	1,338 (98.7%)	18 (2%)	1,356
2008	924 (99.1%)	8 (<1%)	932
2009	815 (99.5%)	4 (<1%)	819
Total	**4,807 (99.3%)**	**38 (<1%)**	**4,845**

ICF International. 2011. Altamont Pass Wind Resource Area Bird Fatality Study, Bird Years 2005–2009. September. (ICF 00904.08.) Sacramento, CA. Prepared for Alameda County Community Development Agency, Hayward, CA.



**Final Report
for the
Buena Vista Avian and Bat Monitoring Project
February 2008 to January 2011**

Insignia Environmental (Insignia) on behalf of the Contra Costa County Department of Conservation and Development

" Turbine and tower characteristics are as follows: 80-meter (m; 262.5 feet [ft]) hub height, 41-m (134.6 ft) blade length, 5,281-square meter (m^2; 56,844 square feet [ft^2]) rotor swept area, and 14.4-rotations per minute (rpm) rotor speed. The rotor swept area extends from 39 m (127.1 ft) above ground level (agl) to 121 m (396.1 ft) agl. "

Table 9. Number of bird carcasses found at each range of distances from the turbine during the 2010 mortality surveys at the Cedar Ridge Wind Farm.

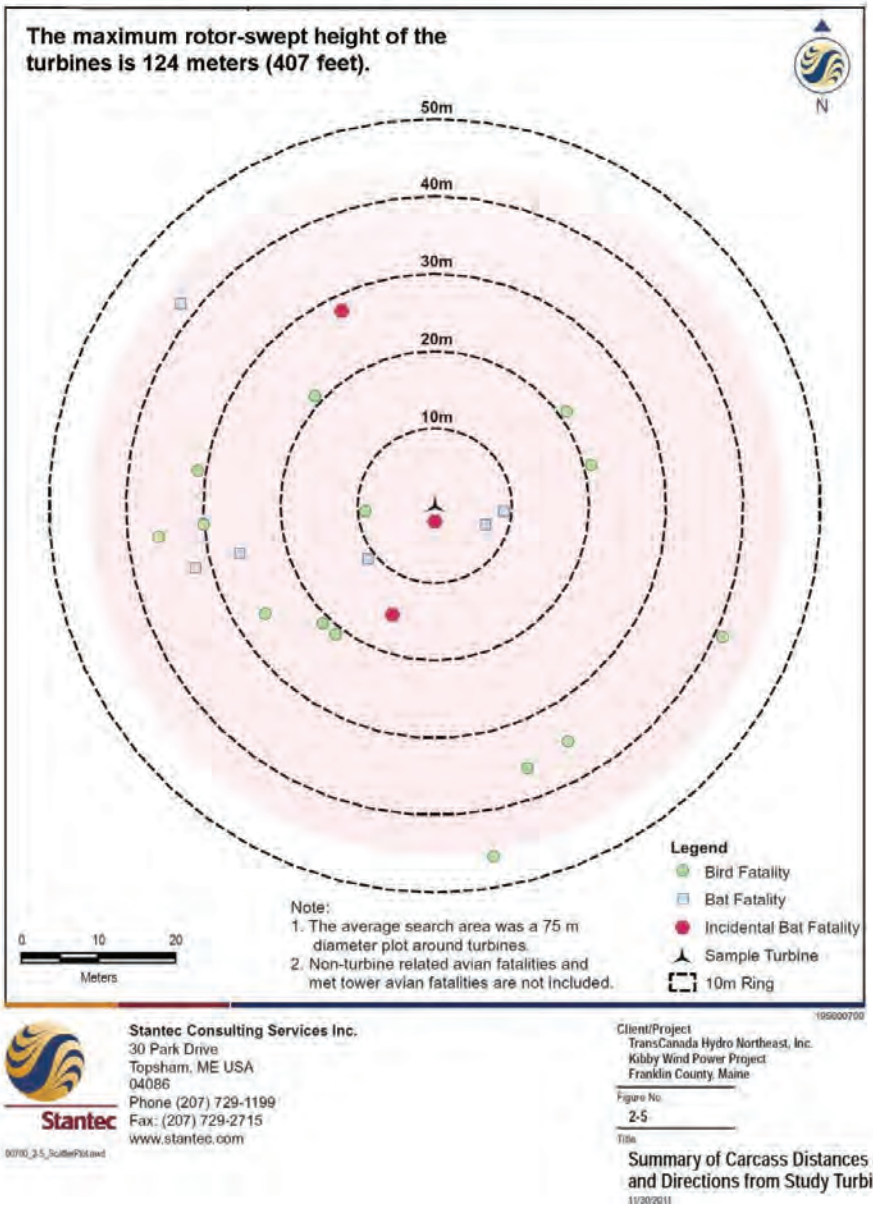
Distance to Turbine (m)	Number of Bird Carcasses	Proportion of Bird Carcasses (percent)
0 to 9	0	0.0
10 to 19	0	0.0
20 to 29	3	12.5
30 to 39	2	8.3
40 to 49	3	12.5
50 to 59	4	16.7
60 to 69	1	4.2
70 to 79	5	20.8
80 to 89	4	16.7
90 to 99	1	4.2
100 to 109	1	4.2

Estimated carcasses beyond 41 meter blade length **79%**

Final Report
Prepared for:
Wisconsin Power and Light
4902 North Biltmore Lane
Madison, Wisconsin 53718-2148

Now look at a few results from Stantec research

One carcass was reported beyond 44 meter blades



As the turbines have grown in size, the blade impact points are reach further out from turbine bases. Industry blades that were once 5-9 meters long are now 50-60 meters long. These new turbines are also 4-5 times taller. **Stantec's mortality research data does not account for bird or bat impact points that are now 50-60 meters out from turbine bases**. In fact, of the hundreds and hundreds of carcasses reported by Stantec, about 99% are reported at distance locations from towers less than the length of

the turbine blades. Instead of reporting 50-80% of carcasses being found at distances beyond the blade lengths, they report the opposite with an average distance of about 1/2 a turbine's blade length.

Mortality Data - Detailed Results Birds

Date	# checks/ week	Turbine #	GPS Location Zone Easting Northing	Observer	Species	Guild	Condition/Estimated Time Since Death	Injuries Sustained	Distance (m)	Direction (°)	Direction (compass)	Ground Cover
01-Feb-10		46	0389918 4890696	CF	Bird Sp.	bird	old - at least 3 days		13	62	E	Soil
08-Feb-10		81	0389704 4894002	WS	Red-tailed Hawk	bird	frozen - less than 5 days	bent wing	23	253	W	Soil
09-Feb-10		30	0384145 4890364	WS	Bird Sp.	bird	complete - >30 days		44	40	N	Soil
16-Feb-10		69	0384733 4886852	WS	Bird Sp.	bird	Bodyless, Wing - >30 days		12	18	N	Soil
22-Feb-10		72	0385840 4892986	CF	European Starling	bird	Fresh, partially scavenged - 1-2 days	Wing	16	166	S	Gravel
04-Mar-10		55	0387550 4889924	JL	Bird Sp.	bird	Fresh, 1-2 days		40	270	W	Soil / Veg
10-Mar-10		65	0384733 4886852	WS	Bird Sp.	bird	Skeleton w/ Feathers, >30 days		43	110	E	Swamp
11-Mar-10		61	0390023 4894173	CF	European Starling	bird	Fresh, 1-2 days	Neck	15	194	S	Soil
23-Mar-10		43	0390564 4891503	JL	Killdeer	bird	Fresh, 1-2 days	Wing / Neck	34	350	N	Gravel
29-Mar-10		1	0381112 4890726	CF	Starling	bird	Fresh, 1-3 days	Neck	12	270	W	Soil
31-Mar-10		29	0384748 4886878	JL	Blue Jay	bird	Old, 3-4 days		14	210	SW	Soil / Veg
31-Mar-10		41	0387552 4886656	CF	Starling	bird	Fresh, 1-2 days	Neck	44	44	NE	Soil / Soybean Veg
05-Apr-10		72	0387700 4892945	WS	Horned Lark	bird	Fresh, < 3 days	Trauma, left side	31	215	S	Soil
06-Apr-10		30	0385820 4892985	WS	Killdeer	bird	Fresh, 3-5 days	Chest trauma	15	319	N	Grass
08-Apr-10		18	0381634 4888714	JL	Grackle	bird	Fresh, 1-2 days	Neck (?)	19	110	E	Mud/Veg
09-Apr-10		81	0384123 4890372	JL	Red-tailed Hawk	bird	Fresh, < 2 days	Neck / Leg	31	105	E	Veg / Soil
12-Apr-10		38	0387277 4888061	JL	Horned Lark	bird	Fresh, 1-2 days	Head	9	90	E	Gravel
13-Apr-10		9	0380923 4890046	JL	Wilson's Snipe	bird	Fresh, 1-2 days	Beak / Body	19	270	W	Gravel
14-Apr-10		29	0384729 4886854	WS	Red-tailed Hawk	bird	Fresh, < 3 days	Decapitated	26	110	E	Soil
14-Apr-10		30	0384732 4886839	WS	Wilson's Snipe	bird	Old, > 5 days		6	160	SE	Grass
15-Apr-10		27	0382244 4891308	JL	Red-tailed Hawk	bird	Fresh, <1 day	Neck (?)	8	330	N	Soil / Rock
16-Apr-10		64	0386550 4893697	JL	Red-tailed Hawk	bird	Fresh, 1-2 days	Wing / Neck	40	330	N	Hay / Mud
21-Apr-10		49	0387565 4886688	CF	Wilson's Snipe	bird	Fresh, 1-2 days	Neck	1	158	S	Gravel
22-Apr-10		9	0380924 4890065	WS	Wilson's Snipe	bird	Decaying, >3 days		28	260	W	Grass
23-Apr-10		56	0385846 4890236	JL	Mallard ♀	bird	Fresh, < 1 day	Neck / Head	10	235	SW	Soil
23-Apr-10		79	0384852 4889368	JL	Wilson's Snipe	bird	Fresh, 2-3 days	Neck	10	50	NE	Soil / Veg
26-Apr-10		2	0382125 4891651	WS	Double-crested Cormorant	bird	Fresh, 3-5 days	Headless	31	320	N	Swamp
26-Apr-10		1	0380953 4891108	WS	Mallard ♀	bird	Fresh, < 3 days	Footless	35	320	N	Grass
26-Apr-10		65	0381077 4890730	WS	Ring-billed Gull	bird	Unknown	Bodyless, wings only	31	60	N	Grass
26-Apr-10		28	0382110 4891660	WS	Wilson's Snipe	bird	Fresh, < 3 days	Broken neck	0	40	N	Tower base
28-Apr-10		63	0388780 4893376	JL	Tree Swallow	bird	Old, 2-3 days		40	350	N	Soil / Veg
29-Apr-10		73	0387728 4892954	WS	Bird Sp.	bird	Fresh, < 3 days	Broken neck	22	100	E	Soil
29-Apr-10		24	0382773 4890019	JL	Ring-billed Gull	bird	Fresh, 1 day	Split in half	49	300	NW	Veg / Soil
03-May-10	2	43	0390538 4891543	JL	Osprey	bird	Really Fresh, < 12 hours	Head	15	135	SE	Soil
04-May-10	2	71	0384293 4893473	WS	Ring-billed Gull	bird	Unknown		40	110		Mud
05-May-10	1	31	0384867 4886113	CF	Mallard ♂	bird	Fresh, 1-3 days	Neck	27	62	E	Soil
05-May-10	1	72	0385678 4892975	CF	Upland Sandpiper	bird	Fresh, 1-2 days	Wing	44	262	W	Vegetation
06-May-10	2	34	0384070 4887239	WS	Black & White Warbler	bird	Fresh, < 3 days	Nothing visible	38	220		Rock
06-May-10	2	34	0384008 4893473	WS	Savannah Sparrow	bird	Fresh, 3-5 days		27	86		Soil
07-May-10	2	71	0386358 4894067	JL	Nashville warbler	bird	Fresh, 1-2 days	Neck?	31	315	NW	Soil
11-May-10	1	4	0380294 4890715	CF	Chimney Swift	bird	Fresh, 1-2 days	Neck?	40	238	W	Vegetation
12-May-10	1	72	0385868 4892992	CF	Yellow Warbler	bird	Fresh, 1-2 days	Neck	36	244	W	Soil / Veg
13-May-10	2	46	0383933 4893057	WS	Northern Harrier	bird	Fresh, 3-5 days	Broken neck	40	150	S	Gravel
17-May-10	2	85	0381871 4892264	CF	Baltimore oriole	bird	Fresh, 1-2 days	Neck?	21	104	E	Soil

Mortality Data - Detailed Results Birds

Date	# checks/ week	Turbine #	GPS Location Zone Easting Northing	Observer	Species	Guild	Condition/Estimated Time Since Death	Injuries Sustained	Distance (m)	Direction (°)	Direction (compass)	Ground Cover
17-May-10	2	33	0384514 4887219	JL	Magnolia warbler	bird	Fresh, 1-2 days	Wing/Neck	40	315	NW	Soil
17-May-10	2	78	0385183 4890985	CF	Red-tailed Hawk	bird	Fresh, 1-2 days	Neck	31	78	E	Vegetation
18-May-10	2	25	0382723 4890484	CF	Philadelphia Vireo	bird	Fresh, 1-2 days	Abdomen	9	40	NE	Vegetation
20-May-10	2	23	0382112 4890206	JL	Horned Lark	bird	Old, > 7 days		41	180	S	Soil / Veg
21-May-10	2	64	0388499 4893739	JL	Red-winged Blackbird	bird	Fresh, 1-2 days	Neck?	29	130	SE	Gravel
24-May-10	2	65	0382179 4892621	WS	Upland Sandpiper	bird	Fresh, < 5 days	Entirely	39	180		Soil
27-May-10	2	46	0389906 4890719	WS	Mourning Dove	bird	3-5 days	Mangled	37	172		Weeds
31-May-10	2	35	0384235 4887843	JL	Ring-billed Gull	bird	Fresh, 2-3 days	Neck	20	95	E	Soil / Veg
31-May-10	2	24	0389903 4890711	WS	Ring-billed Gull	bird	Old, > 5 days	Entirely	34	220		Grass
08-Jun-10	2	68	0386462 4891880	WS	Bobolink	bird	Old, 2-5 days	Entirely	38	234		Cornfield
10-Jun-10	1	75	0384512 4892590	CF	Red-tailed Hawk	bird	Fresh, 1-2 days	Neck	18	22	N	Soil / Veg
10-Jun-10	2	24	0382751 4890005	JL	Ring-billed Gull	bird	Fresh, 1-2 days	Wing / Neck	35	345	N	Soil / Veg
11-Jun-10	2	38	0387304 4887585	WS	Ring-billed Gull	bird	Unknown, feathers only, body has been scavenged		17	234		Soil
16-Jun-10	1	56	0385778 4890243	CF	Ring-necked Pheasant	bird	Fresh, 1-2 days	Neck?	1	194	S	Soil / Veg
16-Jun-10	2	20	0381832 4889279	WS	Killdeer	bird	Feathers only	? Scavenged	40	249		Grass
21-Jun-10	2	42	0386325 4889071	JL	Tree swallow	bird	Fresh, 1-2 days	Wing / Neck	23	320	NW	Veg / Soil
22-Jun-10	1	9	0380911 4890059	JL	Common Grackle	bird	Old, 3-4 days		16	255	W	Gravel
22-Jun-10	2	67	0386811 4891257	WS	Mourning Dove	bird	Fresh, < 3 days		1	200		Soil
23-Jun-10	1	31	0384874 4886158	WS	Wood Thrush	bird	Old, > 3 days	Entirely	29	185		Gravel
24-Jun-10	2	46	0389914 4890729	CF	Tree swallow	bird	Fresh, 1-2 days	Wing?	30	172	S	Gravel
25-Jun-10	2	42	0386302 4889048	CF	Wilson's Snipe	bird	Completely (maggots) 3-4 d	Neck	32	78	E	Gravel

Mortality Data - Detailed Results Birds

Date	# checks/ week	Turbine #	GPS Location Zone Easting Northing	Observer	Species	Guild	Condition/Estimated Time Since Death	Injuries Sustained	Distance (m)	Direction (°)	Direction (compass)	Ground Cover
01-Feb-10		46	0389918 4890696	CF	Bird Sp.	bird	old - at least 3 days		13	62	E	Soil
08-Feb-10		81	0389704 4894002	WS	Red-tailed Hawk	bird	frozen - less than 5 days	bent wing	23	253	W	Soil
09-Feb-10		30	0384145 4890364	WS	Bird Sp.	bird	complete - >30 days		44	40	N	Soil
16-Feb-10		69	0384733 4886852	WS	Bird Sp.	bird	Bodyless, Wing - >30 days		12	18	N	Soil
22-Feb-10		72	0385840 4892986	CF	European Starling	bird	Fresh, partially scavenged - 1-2 days	Wing	16	166	S	Gravel
04-Mar-10		55	0387550 4889924	JL	Bird Sp.	bird	Fresh, 1-2 days		40	270	W	Soil / Veg
10-Mar-10		65	0384733 4886852	WS	Bird Sp.	bird	Skeleton w/ Feathers, >30 days		43	110	E	Swamp
11-Mar-10		61	0390023 4894173	CF	European Starling	bird	Fresh, 1-2 days	Neck	15	194	S	Soil
23-Mar-10		43	0390564 4891503	JL	Killdeer	bird	Fresh, 1-2 days	Wing / Neck	34	350	N	Gravel
29-Mar-10		1	0381112 4890726	CF	Starling	bird	Fresh, 1-3 days	Neck	12	270	W	Soil
31-Mar-10		29	0384748 4886878	JL	Blue Jay	bird	Old, 3-4 days		14	210	SW	Soil / Veg
31-Mar-10		41	0387552 4886656	CF	Starling	bird	Fresh, 1-2 days	Neck	44	44	NE	Soil / Soybean Veg
05-Apr-10		72	0387700 4892945	WS	Horned Lark	bird	Fresh, < 3 days	Trauma, left side	31	215	S	Soil
06-Apr-10		30	0385820 4892985	WS	Killdeer	bird	Fresh, 3-5 days	Chest trauma	15	319	N	Grass
08-Apr-10		18	0381634 4888714	JL	Grackle	bird	Fresh, 1-2 days	Neck (?)	19	110	E	Mud/Veg
09-Apr-10		81	0384123 4890372	JL	Red-tailed Hawk	bird	Fresh, < 2 days	Neck / Leg	31	105	E	Veg / Soil
12-Apr-10		38	0387277 4888061	JL	Horned Lark	bird	Fresh, 1-2 days	Head	9	90	E	Gravel
13-Apr-10		9	0380923 4890046	JL	Wilson's Snipe	bird	Fresh, 1-2 days	Beak / Body	19	270	W	Gravel
14-Apr-10		29	0384729 4886854	WS	Red-tailed Hawk	bird	Fresh, < 3 days	Decapitated	26	110	E	Soil
14-Apr-10		30	0384732 4886839	WS	Wilson's Snipe	bird	Old, > 5 days		6	160	SE	Grass
15-Apr-10		27	0382244 4891308	JL	Red-tailed Hawk	bird	Fresh, <1 day	Neck (?)	8	330	N	Soil / Rock
16-Apr-10		64	0386550 4893697	JL	Red-tailed Hawk	bird	Fresh, 1-2 days	Wing / Neck	40	330	N	Hay / Mud
21-Apr-10		49	0387565 4886688	CF	Wilson's Snipe	bird	Fresh, 1-2 days	Neck	1	158	S	Gravel
22-Apr-10		9	0380924 4890065	WS	Wilson's Snipe	bird	Decaying, >3 days		28	260	W	Grass
23-Apr-10		58	0385846 4890236	JL	Mallard ♀	bird	Fresh, < 1 day	Neck / Head	10	235	SW	Soil
23-Apr-10		79	0384852 4889368	JL	Wilson's Snipe	bird	Fresh, 2-3 days	Neck	10	50	NE	Soil / Veg
26-Apr-10		2	0382125 4891651	WS	Double-crested Cormorant	bird	Fresh, 3-5 days	Headless	31	320	N	Swamp
26-Apr-10		1	0380953 4891108	WS	Mallard ♀	bird	Fresh, < 3 days	Footless	35	320	N	Grass
26-Apr-10		65	0381077 4890730	WS	Ring-billed Gull	bird	Unknown	Bodyless, wings only	31	60	N	Grass
26-Apr-10		26	0382110 4891660	WS	Wilson's Snipe	bird	Fresh, < 3 days	Broken neck	0	40	N	Tower base
28-Apr-10		63	0386780 4893376	JL	Tree Swallow	bird	Old, 2-3 days		40	350	N	Soil / Veg
29-Apr-10		73	0387728 4892954	WS	Bird Sp.	bird	Fresh, < 3 days	Broken neck	22	100	E	Soil
29-Apr-10		24	0382773 4890019	JL	Ring-billed Gull	bird	Fresh, 1 day	Split in half	49	300	NW	Veg / Soil
03-May-10	2	43	0390538 4891543	JL	Osprey	bird	Really Fresh, < 12 hours	Head	15	135	SE	Soil
04-May-10	2	71	0384293 4893473	WS	Ring-billed Gull	bird	Unknown		40	110		Mud
05-May-10	1	31	0384867 4886113	CF	Mallard ♂	bird	Fresh, 1-3 days	Neck	27	62	E	Soil
05-May-10	1	72	0385878 4892975	CF	Upland Sandpiper	bird	Fresh, 1-2 days	Wing	44	262	W	Vegetation
06-May-10	2	34	0384070 4887239	WS	Black & White Warbler	bird	Fresh, < 3 days	Nothing visible	38	220		Rock
06-May-10	2	34	0384008 4893473	WS	Savannah Sparrow	bird	Fresh, 3-5 days		27	86		Soil
07-May-10	2	71	0386358 4894067	JL	Nashville warbler	bird	Fresh, 1-2 days	Neck?	31	315	NW	Soil
11-May-10	1	4	0380294 4890715	CF	Chimney Swift	bird	Fresh, 1-2 days	Neck?	40	238	W	Vegetation
12-May-10	1	72	0385868 4892992	CF	Yellow Warbler	bird	Fresh, 1-2 days	Neck	36	244	W	Soil / Veg
13-May-10	2	46	0383933 4893057	WS	Northern Harrier	bird	Fresh, 3-5 days	Broken neck	40	150	S	Gravel
17-May-10	2	85	0381871 4892264	CF	Baltimore oriole	bird	Fresh, 1-2 days	Neck?	21	104	E	Soil

Stantec

W:\active\609049\Reports\Monitoring Report #3 2010 Jan-June\Appendices\Appendix F - Mortality Monitoring Results\Appendix F_Mortality Data_FINAL_Detailed Results BIRDS and BATS (acc only.XLS

1 of 3

The Wolfe Island studies conducted by Stantec reported hundreds of carcasses with just several reported beyond 50 meters. I believe the furthest carcasses distance reported was 59 meters. For 400 ft tall turbines this is not reality and it is simply not possible. **What is possible is that 50-80% of the carcasses were not reported and this was never disclosed.** The wind industry's own data proves that any carcass hit by a turbine blade has a much better than 50/50 odds or 1 of 2 chance of this carcass

landing at a distance beyond a turbines blade length.

Below is carcass distribution data collected from Altamont turbines with approximately 9 meter blades and maximum heights of about 100 feet. Today's turbines are 400-500 feet tall and average carcass distribution is reported to be about 20-25 meters from around turbines with 50-60 meter blade lengths.

Table 2-5. Number and Percentage of Turbine-Related Avian Fatalities within and beyond 125 Meters from Turbines

Bird Year	Within 125 Meters	Beyond 125 Meters	Total
2005	545 (99.6%)	2 (<1%)	547
2006	1,185 (99.5%)	6 (<1%)	1,191
2007	1,338 (98.7%)	18 (2%)	1,356
2008	924 (99.1%)	8 (<1%)	932
2009	815 (99.5%)	4 (<1%)	819
Total	**4,807 (99.3%)**	**38 (<1%)**	**4,845**

ICF International. 2011. Altamont Pass Wind Resource Area Bird Fatality Study, Bird Years 2005–2009. September. (ICF 00904.08.) Sacramento, CA. Prepared for Alameda County Community Development Agency, Hayward, CA.

According to Altamont research around their 100kW turbines, a fraction of the size of those in Stantec studies, wind turbine carcasses travel much further in California. St Lawrence county can expect similar Post Operational studies from Stantec with their impossible nonscientific results.

I have yet to read a single wind industry related study or survey conducted by Stantec, that I consider credible. The results and opinions derived these planned bird and bat surveys, should never be accepted by St. Lawrence County or anyone else in New York.

Letter P116

From: Kathy Willett

Sent: Thursday, February 14, 2019 6:35 AM

To: Lio Salazar

Subject: Fountain Wind Project

Please consider this as a formal response to your comment opportunity on this project. Before I begin my response, I have a question that needs to be addressed. Exactly why is this project being called the "Fountain Wind" project? In my mind, any mention of Fountain takes me and many of the population of this area back to the days of the Fountain Fire and all the environmental and personal tragedy involved with that horrific occurrence. As I think of this fire, it is a constant reminder of the fire dangers that are still at risk in the area you are proposing for all of your blasting, digging, power excavation, road building and all of the other environmental interruptions that you anticipate in your preliminary report. I should not have to repeat the findings and dangers in that report.

With fire in mind as an environmental hazard, I will address this subject first. The area that is planned for turbines and roads is located directly adjoining my property on and around Terry Mill Rd, Round Mountain and Montgomery Creek. I own Assessment numbers029-310-011-000, 029-640-006-000 and 029-200-007-000. It appears from the ambiguous map I have seen that the property line for the project is right on my property line. This area is heavily wooded with new growth from the Fountain Fire and great care and expense have been taken to keep that area as protected as possible from future fires by controlling the amount of new growth and limiting access for any reason including our own personal use as one spark, just one, could cause a devastating fire to erupt. The Carr fire of 2018 is a giant reminder of what one spark can do. I do not allow any trespassing on my private property which includes Terry Mill Rd above the paved portion to the large gate where I assume they are planning to work. The company, their vehicles and their equipment will not be allowed. Additionally, along with the Carr Fire, a fire started near our own property at the same time as the Carr fire. Below is a photo taken from Terry Mill Rd within 2 miles of your intended turbines and disturbances. Because of fire threat, many insurance companies are limiting coverage to this area and once they hear of turbines and the work involving them, I imagine property insurance will be less available than it is now.

This is what I fear will happen with any project at all in the area as all the fires that have occurred have been caused by just an errant

spark. For your further information on the relation of turbines to fires, I would suggest the following articles:

https://www.telegraph.co.uk/news/earth/energy/windpower/10971762/Wind-turbine-fires-ten-times-more-common-than-thought-experts-warn.html

https://www.cbc.ca/news/canada/parry-sound-wildfire-wind-farm-1.4930354

https://fox13now.com/2017/09/10/cowboy-fire-sparked-by-wind-turbine-burning-on-1592-acres-near-evanston/

https://phys.org/news/2014-07-major-farm-failure.html

https://sandiegofreepress.org/2012/08/cal-fire-wind-turbine-generator-caused-wildland-fire-that-charred-367-acres/

Please read these articles which will give valuable insight into my very heightened concern that this project will highly increase the chance of fire damaging property, lives, wildlife, endangered foliage and Native American lands. Turbine fires are under reported as they are not required to report them however by reading the articles, you can see that even with precautionary methods while constructing the turbines, the fires broke out anyway. Can you imagine how a small fire could spread so swiftly upon the whole ridge and beyond with even just a few turbines running?

My second area of concern is to the natural spring water that has been constantly flowing to my property and for the use of people and wildlife further down the mountain for the last 100 years or so without interruption. At least one of the turbines appears to be planned right on top of these springs. As my family has owned this property for the past 90 years, we have learned through the past generations (6 generations on this land) not to tamper in any way with it's natural flow as it might disturb it's ability to flow to us and to the residents and farm animals below. Tampering with these springs in any way may cause cessation to provide the water this mountain and it's inhabitants and wildlife need to survive here. It would also take away the water used to fight any fires that might occur.

Another concern is the wildlife of this area. There are a multitude of animals, birds, snakes and insects on this mountain and any disturbance to our now peaceful wilderness will have a negative affect on all of these. Insects and birds will be killed and exterminated which will change the ecosystem of the forests and the wild animals of which there are many will be forced from their habitats, most likely downhill which will cause harm to them and to human life. It will destroy the food chain as it now exists.

My next concern is the physical location of these turbines. Your report says approximately "10 miles from Burney", (as the crow flies) completely avoiding any mention of the two towns directly below the proposed area which are Round Mountain and Montgomery Creek. Both are within 3 miles of one another, both have post offices and share many services such as a health clinic, public school, store, restaurant and several private businesses. There are no other communities for at least 20 miles in each direction on 299E however the population of those towns are spread up both sides of the highway, right up to the beginning of the turbines. Is this really an appropriate and safe place to be placing turbines? There are many other areas of Shasta County which are more suited and remote, void of age old populations, for a project such as this. My ancestors, the Coffelt and Buffington family and extended relatives have shaped this county including the cities of Redding and Millville, Montgomery Creek and Round Mountain into what it is today and have served in many civic capacities and to chase all of these old families of settlers out is shameful.

As I mentioned above, my family has lived on this property for approx. 90 years and there are many other families with the same history. We have protected and valued this area for all of these years as we appreciate one of the most beautifully landscaped areas of the state and county; it's solitude, it's numerous species of plants and wildlife and overall peace. This will all be destroyed by the project, we may be forced to leave the area if consequences due to any tampering with the land doesn't result in what this company is trying to convince you of and the value of our property will dramatically go down if all of the effects of these turbines come to pass. Not only us newcomers of 100 years but the Native Americans who have resided in this area for 100s of years.

I am asking you as the representatives of this county, as the representatives of we, it's taxpayers and long time residents to protect our lands from this company and the devastation that can be caused by their interference with our land and our lives. Any good that will come to this county by them will not override the destruction that will be forever done to this exceptional part of our county. It is for this environment that we, it's inhabitants have worked all of our lives to preserve, given our lives to protect and our money to support this historic community. Please consider another location to place those turbines, one that doesn't involve such a vast population of people who have placed these communities as the center of their lives.

Thank you for your consideration,

Kathleen Buffington Willett

kbwillett@gmail.com

31078 Terry Mill Rd

Round Mountain, CA. 96084

Mailing address:

14740 Blue Skye Ct

Draper, UT. 84020

Sent from my iPad

2/4/19

We purchased property at Moose Camp to get away from the highway noise and for the solitude and quiet of the whole area. We want to be able to hear the birds and see the animals that habitat there. We want to see the stars at night and not red lights on windmills or hear the noise from them. We don't want to see windmills or power lines. Our lots are approx. 200 feet from the existing road now.

We both have allergy problems and at our property there isn't much dust problem. Major traffic will stir up the dust and it would be very hard for us to enjoy being outdoors on our property or to attend functions at the hall.

There are many outside functions at the "Moose Hall that the dust and wind windmills would distract from.

We cook and eat out doors morning and night and don't want dust in our food and lungs The dust settles in the whole valley from any construction work or road travel from the prevailing south west winds t all summer.

Hatchet Creek is used for fishing and swimming by camp members and surrounding neighbors. Water does not need to be drawn out of it for road maintenance or any other maintenance. A water truck will not keep the dust down when building the project or for the travel years after.

We hope you don't plan on using the county road through camp for ANY construction at any time.

Marvin and Linda Williams

Ralph Williams
20389 Marquette St.
Burney, CA 96013

Fred Tower
21426 Sleepy Creek Road
Montgomery Creek, CA 96065

February 12, 2019

TO WHOM IT CONCERN:

This letter's intent is to expressly state our and other's concerns regarding additional windmills proposed to be erected within Shasta County. In retrospect the "other's" include, but are not limited to, other sovereign nations and counties within the United States of America, willing to honestly prioritize the long-range environmental impacts over short-term economic advantages to corporate special interests.

Such concerns are as follows:

1. Disruption to the natural and indigenous topography/terrain, permanently altering established water-shed areas and resultant flow patterns of rivers and streams. Such irreversible alterations will be the direct consequence of the construction of power transmission towers and the clear-cut "shadows" carved upon the terrain and vegetation underlying the overhead power lines and the rights-of-way easements necessary for access and maintenance.

2. In addition to the global impact upon the environment, there are the local factors of established homes, homesteads and residences, directly dependent upon existing collection ponds and surrounding small and large lakes predictably and adversely affected directly or indirectly as mere "collateral-damage" to the [their] "greater-good" in advancement of "energy-independence" derived by additional windmills. The commercial benefits derived from Lake Shasta clearly rest within this water shed area.

3. Permanently-decreased property values are universally documented in windmill farm areas. Shasta County stands in first position to financially benefit from additional windmills, yet such revenues may constitute "unjust enrichment" at the expense of the affected land owners for which there appears NO official provisions to mitigate their reasonable losses.

4. The existing windmills are visible from Redding (50 miles) and additional 600 foot towers will no less scar both the day and nighttime silhouetted mountain-ridge horizon. A string of these windmill towers necessarily creates a physical obstacle to effective ariel "fire-bomber" disbursed fire suppression retardants. Northern California needs NO FURTHER reminders than the Carr and Camp Fires of the devastation of any

impediments to effective wildfire prevention and suppression. Yet publically undisclosed, there appears to be some direct correlation to wildfires and the presence of windmill farms. Though the fan blades and towers are "grounded", as certainly is the earth, static electrical discharges do occur to "ground" as evidenced by lightening strikes.

5. Wildlife are driven away from the electrical and ionizing effect of low-frequency sound wave harmonics created by windmill fan-blade rotations. Such unseen effects are in addition to the visible fatal damage to all flying creatures passing and/or migrating (birds, bees, bats etc.) in attempting to navigate through a lengthy string of windmills. Regardless of the pandering by those in-line to profit from additional windmills, there will be a cascade of adverse effects upon all living and biological systems. To imagine there would be NO permanent alteration to hunting and fishing upon surrounding properties is delusional. Nature is not mocked by the manipulations of man's desire to profit from Her---there are NO FREE LUNCHES, and the People are the only tax producers–the rest are tax consumers!

6. Keep in mind these alleged environmentally-safe "projects" are all subsidized by government, which only "has" what it has already taken from its taxpayers. The People, as living sentient beings, will pay and bear the burden, as both governments and corporations are "Fictions", no more than mental constructs, derived from the "commandments of man" (law) with the intent to control and profit from others.

7. Accountability and responsibility are evasive and, at best, effectively non-existent, when purported "authority" is disbursed through various channels creating "plausible-deniablity". Who will be held responsible for the accuracy of :
    a. Stated size of acreage involved,
    b. The beneficiary of any surplus of energy produced,
    c. Any alleged justification that Shasta County demonstrated a projected electrical power deficit or experienced a shortage,
    d. Initial cost and long-term maintenance comparisons to solar and hydroelectric power production,
    e. Cost effectiveness of utilizing prior physical windmill farm locations that are NOW defunct, inoperative and unsubsidized,
    f. Who was it during the "campaign" waged against trusting naive Burney residents that promised that the "windmill towers would not be visible from town"? So quickly we forget that "campaign" credibility is utterly meaningless!
    g. Who will attest to the plausibility and preservation of traffic patterns and safety related to congestion, caused by movement of heavy equipment, supplies and construction personnel necessary for additional windmills?
8. Native American Indian Tribe burial sites are reported to be within the geographic borders impacted by the additional windmills.

Mindful deliberation NECESSARY!

Wintu Audubon Society

Birding in Northern California

PO Box 994533
Redding, CA 96099-4533
wintuaudubon.org

February 14, 2019

Lio Salazar, Senior Planner
Shasta County Department of Resource Management
1855 Placer St., Suite 103
Redding, CA 96001

Subject: Notice of Preparation for Use Permit Application 16-007 (Fountain Wind Project)

Dear Mr. Salazar:

Wintu Audubon is pleased to provide the following comments on the Notice of Preparation for the Fountain Wind Project. The Fountain Wind Project proposes to construct and operate up to 100 wind turbines of various heights on approximately 37,000 acres located east of Round Mountain in Shasta County. We have reviewed the IS and the Applicant's Use Permit 16-007 Application and make the following comments on the scope and content we believe must be included in the Draft EIR.

Wintu Audubon has approximately 450 members in Shasta County. Wintu Audubon has an active Board of Directors and Conservation Committee engaged in the conservation and restoration of natural ecosystems, focusing on birds, other wildlife, and their habitats. Wintu Audubon also promotes the enjoyment of the natural environment through education and interactive programs. Wintu Audubon offers its services as a local conservation organization with special knowledge of and concern for wildlife potentially impacted by the project. We are concerned about the bird, bat and other wildlife impacts that may result from this major wind development project.

The CALIFORNIA GUIDELINES FOR REDUCING IMPACTS TO BIRDS AND BATS FROM WIND ENERGY DEVELOPMENT (henceforth "CEC Guidelines", CEC and CDFW, September, 2007) make special mention of the role that should be played by conservation organizations such as Wintu Audubon in wind power development projects in California. The CEC Guidelines strongly recommend (at pages 27-29) that project applicants and designers consult with appropriate conservation organizations to design surveys

appropriate to the landscapes and habitats affected prior to public release of draft CEQA documents. Preparing studies and surveys without input from such conservation organizations risks project delays

and results in pressure to accept as adequate studies released with the Draft EIR that may not adequately or optimally capture actual avian and bat use within a wind power site. Exactly one year ago, we cautioned the County in writing (Wintu Audubon letter dated February 14, 2018, copy enclosed) that we had not yet been consulted by the County nor the Applicant to assist with survey designs and protocols. In the year now passed, we have not been consulted by the Applicant nor the County. You have further advised that we cannot receive information on the survey designs and protocols until the data in them has been released to the public in the Draft EIR. This effectively prevents Wintu Audubon from providing input on the design protocols for avian surveys as provided in the CEC Guidelines. Our review of the Initial Study (IS) and the Use Permit 16-007 Application indicates that most of the issues raised by us in our previous letter have not been resolved or responded to.

As stated in our letter of one year ago, we are concerned that the Applicant's bird point count surveys which are presumably now completed do not adequately estimate all avian species that use the project area, nor adequately estimate avian densities. For densely forested habitats of this type and complexity the CEC Guidelines clearly recommend bird use counts be made at 2-week intervals for at least one year (more years if warranted). Although point counts have been apparently underway in 2017 and 2018, they have been done at far lower frequency (effectively once per month at each point) than recommended by the CEC Guidelines, and have only covered Spring and Fall periods of either year. Additionally, to conform to the CEC Guidelines the count points should be every 250 meters (820 feet) within a turbine array. Most of the proposed project's turbine arrays have only one avian count point each, with count point spacings of 1-2 miles. We recommend that the scope and content of the Draft EIR include completed Avian Use Point Count Surveys consistent with CEC Guidelines recommendations. If the Draft EIR is circulated with survey results from inadequately designed surveys, this may delay certification of a Final EIR and may result in a requirement for recirculation pursuant to Section 15086 of the CEQA Guidelines (14 Calif. Code of Regulations §15086).

The EIR should fully examine the potential for mortality to or displacement of special status bird and bat species, that inhabit, nest in, pass or migrate through or forage within this area (including but not limited to greater Sandhill crane, bald eagle, willow flycatcher, yellow warbler, Northern goshawk, Northern spotted owl and great grey owl). The Draft EIR should fully examine the potential for injury or mortality to birds and bats from turbine strikes and power line collisions. The EIR should fully examine the potential for impacts due to disturbance to nest sites and foraging habitats, impacts from increased human intrusion from traffic, noise, road widening and other road improvements, ancillary structures and turbine pads. The Draft EIR should fully examine the potential for habitat losses due to fragmentation of habitats and edge effects of roads, turbines and turbine pads, new powerlines and ancillary structures. Due to the widespread nature of the project with roads and turbine placements in disparate locations, the potential for habitat losses due to fragmentation and edge effects is greater than might be for a project with a more concentrated development pattern.

The IS states that no avian surveys of nighttime migration will be conducted, because most nighttime migration is above turbine rotor elevation in Spring and Fall. It also asserts that radar surveys have been discredited as unreliable. The reasons for this conclusion are inadequately explained in the application. In our letter of one year ago we pointed out that nighttime Sandhill crane migration may descend into turbine rotor range during storm events in Winter. Sandhill crane are known to migrate over the region

in massive quantity in Winter. The CEC Guidelines state: "For nocturnal migratory birds, conduct additional studies as needed if a project potentially poses a risk of collision to migrating songbirds and other species." The use of acoustical or near-infrared survey methods is not discussed. The Draft EIR

must contain a full analysis of the possibility of low-level Sandhill crane migration during storm events, based on data from appropriately designed surveys. We recommend that multiple survey methods (radar, acoustical and near-infrared) be employed to complete nighttime migration surveys in Winter. These surveys could be commenced in Winter 2019 and completed in time for inclusion in the Draft EIR in 2019.

As noted in our letter of one year ago, we are concerned that the widespread configuration of the project including widely disparate turbine sites and many improved access roads, and the attendant construction and operation effects including noise and traffic, will tend to increase impacts on wildlife by fracturing habitats and intensifying edge effects. The Alternatives Analysis of the EIR (per 14 CCR §15126.6) should include alternatives to the proposed configuration which concentrate turbines, roads and other facilities over a more compact project area. Additionally, by utilizing the Site Plan's "Alternate" turbine sites, turbine arrays could be grouped more compactly, reducing road, traffic and noise impacts. These alternative configurations should be analyzed for their ability to decrease impacts to birds and bats, including habitat fragmentation and edge effects.

We concur with the applicant's intention indicated in the IS to design and construct the permanent MET towers without employing guy wires. If MET towers must be guy wired, effective bird deterrents must be installed as recommended by CEC Guidelines. The DEIR should analyze the potential for risk of injury or mortality to birds and bats by MET towers, whether guy wires are required or not.

Figure 17, "Environmental Survey Corridors" of the Use Permit Application is not explained in the text of the application. It apparently attempts to illustrate where environmental surveys will take place, however, it does not specify which surveys or what species are targeted. The survey corridors follow all roads and turbine pads, however, the survey area dimensions are not shown or explained. In many cases, including surveys for avian species, surveys should not be limited to the corridors illustrated. For example, preconstruction nest surveys may require a radius of a mile or more depending on the species. We recommend the Draft EIR include a full discussion of all survey designs with clear description of survey design protocols. Also, the corridors illustrated in Figure 17 do not extend into private in-holdings within the project area, even though the facilities proposed may do so.

As an active conservation organization with special expertise about and concern for the preservation of avian wildlife and its habitat, Wintu Audubon stands ready to continue its assistance to Shasta County during CEQA review, project construction and operation. During implementation of the Hatchet Ridge Windfarm Project, Wintu Audubon participated in the Bird and Bat Technical Advisory Committee (TAC), a very successful mitigation monitoring and adaptive management effort with membership from the windfarm developer, the California Department of Fish and Wildlife, the US Fish and Wildlife Service, and Shasta County. We stand ready to assist with formation and implementation of a bird and bat Technical Advisory Committee for this project, to advise the County on meeting the needs for proper design and implementation of monitoring efforts, mitigation measure implementation and adaptive management. The scope and content of the Draft EIR should include an analysis of how such a TAC could function as part of a mitigation plan for impacts to avian and bat species resulting from the project.

Should you have any questions about the issues raised in this letter or the role that Wintu Audubon is prepared to play during CEQA review and beyond please feel free to contact us.

Sincerely,

Bruce Webb, phone (530)515-5324 and Janet Wall, phone (530)547-1189
Co-Chairs, Conservation
Wintu Audubon Society

Cc: Wintu Audubon Board of Directors
California Audubon

Wintu Audubon Society

Birding in Northern California

PO Box 994533
Redding, CA 96099-4533
wintuaudubon.org

February 14, 2018

Bill Walker, Senior Planner
Shasta County Department of Resource Management
1855 Placer St., Suite 103
Redding, CA 96001

Subject: Use Permit Application 16-007 (Fountain Wind), Informal Consultation per CCR 15063(g)

Dear Mr. Walker:

Wintu Audubon welcomes the opportunity to respond to your request for comments pursuant to CCR 15063(g). Wintu Audubon has approximately 450 members in Shasta County. Wintu Audubon is prepared and pleased to offer its services as a local conservation organization with special knowledge of wildlife potentially impacted by the project. We are concerned about the bird, bat and other wildlife impacts that may result from this major wind development project, and wish to be certain that appropriate studies and surveys are conducted in advance of the preparation of California Environmental Quality Act (CEQA) documents, so that appropriate measures to minimize impacts (including but not limited to turbine and road siting and layout redesign) and appropriate mitigation for impacts which cannot be adequately reduced are fully examined and disclosed during the CEQA process rather than after it.

Due to the potential for mortality to or displacement of special status bird and bat species, that inhabit or migrate through this area (eg. greater Sandhill crane, bald eagle, willow flycatcher, yellow warbler, great grey owl), and potential for fragmentation of their habitats, Wintu Audubon believes an Environmental Impact Report (EIR) must be required for this project. We caution that the results of mortality surveys at the nearby Hatchet Ridge site, although a part of the information sources that are available, must not be used as predominant evidence that bird mortalities will be similar at the site in question. Many habitat features of this site are quite different from the Hatchet Ridge site, including but not limited to variability of terrain and landforms, variability and age classes of conifer species, post-Fountain Fire vegetation characteristics, water features present including seasonal and perennial ponds, lakes and wetlands, and presence of fish-bearing streams. In addition, unlike the Hatchet Ridge wind

farm, the proposed (and alternate) turbine sites are much more widespread across the project area.

We note from a review of the applicant's timelines for CEQA document preparation and wildlife (including bird and bat) surveys, that the applicant may anticipate preparation of draft CEQA documents prior to full completion and report preparation for those surveys. This would be counter to the intent of CEQA to fully disclose the likelihood of impacts prior to circulation of CEQA documents rather than after it, and counter to California Energy Commission's CALIFORNIA GUIDELINES FOR REDUCING IMPACTS TO BIRDS AND BATS FROM WIND ENERGY DEVELOPMENT (2007). We submit that all bird and bat use surveys should be completed and incorporated by reference in advance of the release of the draft EIR, so that their conclusions may fully advise the impact, avoidance and mitigation analyses of the EIR.

It is difficult to comment on the adequacy of the design of bird surveys which are currently underway, and perhaps in major portion nearly completed. Point count locations are not displayed with sufficient detail relative to the landforms and habitats in the project area to allow any determination of their adequacy, both in number and location. Moreover, a full analysis of bird habitat types in the project area should be performed to provide the basis for the design of the surveys. We do not have adequate information to determine to what extent and how this was done. We are concerned that bird surveys have been and may continue to be carried out only during spring and fall periods. The area's use by certain bird species such as raptors may vary seasonally by habitat type, so surveys only conducted in spring and fall may not disclose summer foraging ranges by raptors, for example.

For small birds including passerines, the application states 2 years of surveys will be conducted during vernal and autumnal migration windows beginning April, 2017. It further states "completion of this effort will result in data for inclusion in a draft Biological Survey Report, which will be available by first quarter 2018." As noted above, these milestone dates are inconsistent and appear not to comport with the applicant's CEQA review expectations.

The applicant states that no surveys of nighttime migration will be conducted, because most nighttime migration is above turbine rotor elevation. There are, however, anecdotal records that the area has experienced massive low-level migration of Sandhill crane during storm events. The above referenced CEC Guidelines state: "For nocturnal migratory birds, conduct additional studies as needed if a project potentially poses a risk of collision to migrating songbirds and other species." The study cited in the Use Permit application is not fully instructive as to this possibility for this site. The applicant also states that radar surveys have been discredited as unreliable, but the use of acoustical or near-infrared methods is not discussed. The possibility of low level Sandhill crane migration during storm events should be fully examined, and studies designed to further address this if feasible.

We are concerned about the configuration of the project including widely disparate turbine sites and many improved access roads, and the attendant construction and operation effects that will tend to fracture wildlife habitats. We suggest that consideration of alternate configurations that will concentrate facilities and roads and thus lessen the effects of habitat fragmentation should be considered.

The site plan indicates that 4 or more MET towers will be maintained beyond the construction phase and indefinitely during normal operations. Due to the risk of mortality to birds from MET tower guy

wires, the above referenced CEC Guidelines recommend that permanent MET towers should not be guyed at turbine sites, or if guy wires are necessary, then effective bird deterrents installed.

The application presents a number of milestone dates for surveys and related reports. Wintu Audubon would appreciate knowing the approximate revised schedule status for these milestones.

The above referenced CEC Guidelines call for the identification and consultation with conservation groups (such as Wintu Audubon) in advance of design and implementation of bird and bat studies and surveys. We have not been contacted on this project in the past. Although we appreciate the opportunity to consult at this current "early" stage, we have insufficient information on the design protocols for any of the studies underway on this project to determine their adequacy. We trust that studies can be amended or augmented should the need be identified.

The CEC Guidelines also call for identifying conservation orgs such as Audubon to consult with the developer throughout project planning and CEQA review. Wintu Audubon stands ready to perform this role. We can be available by phone or in person for further consultation as necessary to clarify our position on any of these planned studies and reports, and throughout project planning.

Sincerely,

Bruce Webb, phone (530)515-5324 and Janet Wall, phone (530)547-1189
Co-Chairs, Conservation
Wintu Audubon Society

Cc: Wintu Audubon Board of Directors
California Audubon

From: Anne Woodward <a.woodwardmd@gmail.com>
Sent: Sunday, January 20, 2019 7:44 PM
To: Lio Salazar
Subject: Wind Turbines on Buffum Homestead and surrounding acres

Dear Mr. Salazar:

I am a land owner on the Buffum Homestead. Our Quarter Section is adjacent to the land being evaluated for the placement of up to 100 wind turbines.

I am the great great granddaughter of the original deed owner from 1899. Our families have farmed, planted fruit trees, developed water systems, built structures and have had our yearly family reunions there since 1899 (except the one year that there were not enough gas rations to drive cars there during WWII.)

Our Buffum Homestead is a place where we come from New York, Colorado, Oregon, California and Hawaii to gather as a family. It is a place of recreation, reconnection and spiritual renewal. Having the existing 30+ wind turbines already mars the beauty of the land. Currently we can put our backs to the turbines that clutter the ridge and still have some unobstructed views of nature. Adding up to 100 other wind turbines will destroy the existing beauty of the land. It is our history, family and the beauty of the land that draws us from all parts of the United States.

After owning the land for 120 years, building structures, a water system and planting over 1,000 trees, it would be disheartening to see that destroyed by the wind turbines. Imagine trying to camp, talk and relax with those giant turbines in our backyard. There would be no peace and quiet.

In addition, it has already been established that wind turbines kill birds. We have a wide variety of birds on our property, including a nest of Ospreys. I would hate to see them killed or relocated because of the turbines.

Highway 299 is a beautiful scenic highway that would no longer be scenic with additional turbines.

Finally, our land is a vibrant Quarter Section from the Homesteading Act.

1. There are official historical sites on our Homestead certified after the Fountain Fire in 1992.

2. Hunters and fisherman use our land.

3. Our family members come throughout the year to work on the land and enjoy its beauty. It is not simply a place for annual reunions.

4. Our wildlife cameras have spotted bobcats, bear, deer and smaller animals.

I implore you to consider our history, the value of how our land affects our family, visitors, birds, and animals. We would like to leave a wonderful legacy for future generations.

Respectfully,

Anne Marie Woodward M.D.

Tribes

From: james anguiano

Sent: Thursday, February 14, 2019 4:06 PM

To: Lio Salazar

To whom it may concern:

My name is Jaime Anguiano and I am the council representative for the Atsuge band of the Pit River Tribe. The Atsuge band opposes this project as we feel it will ruin the scenery of this beautiful land. We also understand that owners can do what they want with their own land so if the project does continue forth, we would like to know how this will benefit the Atsuge band as this will run into our ancestral territory? Will this project have any significant damage to any bodies of water? If this project does continue would your company be willing to donate to our tribal scholarship program or help fund a gymnasium for tribal youth?

Thank you for your time, I look forward to your reply,

Jaime Anguiano

Atsuge Council Representative

Comments regarding the Fountain Wind Project – Use Permit 16-007

Shasta County Department of Resource Management Planning Division
Shasta County Board of Supervisors
1855 Placer Street, Suite 103
Redding, California 96001

From Radley Davis
P.O. Box 907
Bella Vista, CA. 96008

Re: FOUNTAIN WIND PROJECT EIR Scoping Comments

I take this personal time to comment to you and your energy developing partners on the scoping of the Environmental Impact Report (EIR) for the Fountain Wind Project (FWP). At the January 24, 2018 Public Scoping Meeting held at Montgomery Creek Elementary School the people were not allowed the full 30 days to comment on the scope of the EIR because of the late notification by mailer and to when the public meeting was to be held. And further, even if notified within the timeframe allowed its unrealistic to expect that each and every person, family and household will respond with analyzing science and ecological tack- it's unfortunately not in our best interest. So, not providing us with the adequate time to respond in the beginning put many of us at a disadvantage and a cause to question the process and to not trust the system.

I am a member of this community and have many family and friends who reside here as well. I care about all the people and have respect for all people. I care about the land, the animals, the elements and all the other ecosystems and habitats that sustain us all. I do not support the Fountain Windmill Project.

As a Pit River Tribal Citizen and member of the Illmawi Band, I will iterate here about the Fountain Wind Project (FWP) similar as to what I said about the Hatchet Wind Energy Project as nothing has changed other than destruction that we see now on Hatchet Mountain and Bunchgrass Mountain and all the other mountains and ridges.

The FWP would have negative impacts on sacred sites and traditional plants. Hatchet Mountain is used for cultural practices and these traditional values need to be protected, especially at sacred sites. This visual impact of the high wind towers on the ridges will destroy the integrity of the natural setting of this sacred area. Birds traditionally important to the Pit River culture, such as eagles, osprey, ducks, and geese cross the ridge and can be entangles in the blades. Migration routes of deer who cross the ridge will be disrupted. The sound quality issues would also affect the serenity and isolation of the ridges, perhaps disrupting bird and animal patterns, as well as disrupt

the human experiences in the area. Bunchgrass Mountain and all its surrounding habitat will continue to degrade in its slow desecration from the Hatchet Wind Project and may feel more degradation from the FWP. Most importantly, an old trail along the top of the ridge tops, connecting the Pit River to Goose Valley to the Lassen area was used to reach remote areas during vision quests- such vision quest continue among some young men and women today. The ridge also serves as a Band boundary between the Itsatawi, Madesi and Atsugewi Bands- hense the project evokes concern from all tribal areas. Much of this trail appears on old General Land Office Maps.

AETHETICS:

These massive wind mills are incongruent, and negatively impact the aesthetics of this natural environment as evidenced by the existing Hatchet Wind farm which has disrupted the pristine viewshed and visual resources of the land they are placed as well as the viewshed for vast distances in all directions. They are placed in Shasta County and can be seen from surrounding counties. The Fountain Wind Project proposes even larger windmills.

Although the EIS acknowledges that this area could potentially be significantly impacted it does not clearly define the criteria for determining significance. The EIS goes on to state that “the change in visual character is not anticipated to be significant.” This is almost a nonsensical statement given the size and number of wind turbines to be installed. The EIS goes on to state that a visual analysis should be done to one or more wind turbines, implying that only a small number, perhaps one, need be analyzed; this too is nonsensical. The photographs of views from various locations near the project area are inadequate to determine the true extent of the scenic degradation to this area. The Visual Resources Technical Report should include analysis of views from all the nearby homes with modified photographs depicting all of the proposed Industrial Wind Towers (IWTs) installed for daytime and nighttime. The views should also be collected from other surrounding areas including, Bella Vista and parts of Redding, Fall River Mills, Lassen Volcanic National Park and Big Valley Point. A significant number of the existing Hatchet Ridge project wind turbines can be viewed from as far away as Cottonwood on Highway 5, Summit north of Adin in Modoc County coming from Alturas and the top of Little Mount Hoffman Summit 3 miles outside Medicine Lake in Siskiyou County and these will be closer for some and much larger and much taller. The analysis should also include the various private homes of local residences in the area as was discussed as the scoping meeting. Some areas such as Moose Camp could have 600 foot tall Industrial Wind Turbines less than 2000 feet away from their homes. The permanently cleared areas or minimally re-vegetated areas, including those for the underground and above ground transmission lines should also be considered. The visual analysis should include nighttime views as well, with models of all of the Industrial Wind Turbines installed and all of the anticipated lighting, especially those required by the FAA. These towers will likely have medium to high intensity red and white strobe lights that can be seen for 50 to 75 miles. Some local residence already complain of being

able to see the current Hatchet Wind Project FAA lights from their home in Pittsville, nearly 40 miles away. The array of blinking and flashing lights in our night sky is not why we live in this area and should be examined as part of the EIR. Additionally, there was no mention of the factors used for establishing significance when assessing impacts to the scenic vistas. The economic and social impacts, while not directly an environmental impact by definition, can and should be used as a factor to establish significance. According to the CEQA Section 15131 ECONOMIC AND SOCIAL EFFECTS subsection (a) "An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project…" (b) Economic or social effects of a project may be used to determine the significance of physical changes caused by the project. Impacts to existing scenic vistas will have a detrimental effect on property values in the areas surrounding the proposed project. The loss in property value should also cause a reassessment of property values for tax purposes and therefor cause a corresponding loss in tax revenues as compared to current conditions. The changes to the scenic vistas may affect property values for places as far away as Bella Vista and the outskirts of Redding. It is likely that the loss in value will be larger the closer the property is to the Wind Turbines. Loss in property values has been documented in other areas where large scale wind projects have been constructed. The reduced scenic value would also likely have an effect on tourism as well and may affect some local business. These economic factors do not appear to be considered in the initial studies but should be addressed in the EIR.

A "No Project" alternative would mitigate these impacts and many others. Shasta County already provides a tremendous amount of clean energy through its hydroelectric generating facilities, perhaps more could be added or existing ones could be improved thus producing the net additional power desired cleanly without the visual and other environmental impacts the Fountain Wind Project will have.

I agree with my neighbors who say the statement in the EIS that a thorough analysis should be done for the views along Hwy 299. Although it is not officially a scenic Highway it is none the less a beautiful drive between Redding and the Hatchet Summit area and is considered a gateway to our community and a place characterized by its natural surroundings; this would all change with the construction and installation of the Fountain Project's Industrial Wind Turbines. This area could never be designated as a scenic byway and will instead be dominated by the visual characteristics of the Industrial Wind Turbines. The area is just now fully recovering from the Fountain Fire burn scar with the return of the trees, to adversely affect the local landscape now is just imposing further injury to an area that has already suffered greatly in the past. Several thousand acres will be cleared for the construction phase and nearly 1000 acres will be permanently deforested. This disturbance needs to be modeled in the visual impact assessment. Local comments from residents is that there is a historic property with a cabin built in the 1800s that would have to be demolished; this issue should be further investigated as well.

As identified in the EIS the flashing red aviation lights required by the FAA for structures taller than 200 feet, cannot be avoided and would cause a significant impact to the regions visual character. The visual analysis should cover a large area and distance from the project site at night to assess the impacts of these lights just as it should for the other visual concerns. Also, the shadow flicker due to the rotating blades should be thoroughly analyzed for various rates of rotation and at different times of the day and from various sites, especially home owner sites near the Industrial Wind Turbines.

The existing Hatchet Wind Project uses red blinking lights that can be seen from significant distances, and this type of technology is used to chase away animals in such products as “Nite Guard Solar-Powered Night Animal Predator Light”. This company claims that scientic studies by animal behavior experts concluded that a red flashing light appears as an eye to animals, and therefore presents as the threat of being watched. This activity is threatening to animals, further studies by this company also conclude that this product works on all night animals and they react the same way to the red flashes. They claim to successfully deter and frighten owls, coyotes, opossum, raccoons, foxes, bobcats, muskrats, bears, cougars, wild boar, mink and weasels. Based on this information having these flashing red lights in this natural area will disrupt the normal and natural balance of the ecosystems.

AGRICULTURE AND FORESTRY RESOURCES:

I concur with my neighbors in saying that the temporary deforestation of over 2000 acres during the construction phase and nearly 1000 acres of permanent deforestation in this beautifully forested environment is a significant impact. While the Timber Production zoning allows construction of utilities sites under special use permits, most generating facilities do not permanently deforest 1.5 square miles of land. The significance of this impact area is especially important due to the growing scarcity of productive forest lands and the devastating impacts of recent forest fires. Shasta County and nearby areas has suffered tremendous devastation of their forested landscape recently due to forest fires which have destroyed over 981,574 acres in 2018 alone. Our forest lands are not limitless and the analysis of the impacts of any action that converts them to non-timber producing lands should be done in light of the cumulative impacts of recent fire events. Much of Shasta County relies on a few industries: logging, tourism and recreational hunting and fishing. This project will affect those industries and should be thoroughly analyzed.

AIR QUALITY:

The construction phase of the Fountain Wind Project is conservatively estimated to be 18-24 months and will likely have a significant effect on local air quality. There is projected to be as many as 400 workers who will be driving to/from the construction

site on a daily bases. There will be a large number of construction vehicles, including timber harvesting operations for the over 2000 acres to be cleared during the construction phase. It is estimated that as many as 15 separate loads per Industrial Wind Turbine would have to be made to deliver its various components with as many as 9 of those as Extra Wide or Supper Loads; that's 1500 loads for the Wind Turbines alone with as many as 900 of them being Extra Wide or Super Loads. These deliveries will originate from various parts of the country outside of the general area and will contribute to air pollution by consuming significant amounts of fuels. The traffic control requirements with single lane traffic controls will waste fuel and contribute to air pollution, as the many vehicles sit in traffic waiting to continue driving on Hwy299. In addition to the 1500 deliveries for the IWTs there are the many deliveries required for the large construction equipment, transmission lines, transformers, other gravel and cement, building materials etc. A significant amount of fossil fuels are consumed in the manufacture, transportation, installation and decommissioning of these IWTs that needs to be fully addressed and accounted for in the EIR. The fuels consumed, exhausts and dust generated during the two year construction phase need to be thoroughly analyzed in the EIR since they will affect the local community for likely a minimum of two years.

AIR QUALITY AND GREENHOUSE GAS EMISSIONS:

I agree with my neighbors in saying that significant amounts of greenhouse gases are produced as a result of the manufacture, transportation, installation and operation of the IWTs of the FWP. The analysis should account for the significant amounts of greenhouse gases used in the creation of the building materials used for the FWP including the significant amounts of concrete and steel as well as many other materials. The fuels consumed in the manufacture, transportation and installation of the transmission cabling and installations and that of the idling traffic during super load transportation and traffic control should all be accounted for. An additional net effect on greenhouse gasses that needs to be accounted for is the reduction of other green sources of energy production such as our local hydroelectric capacity that would have to be throttled back during the operation of the proposed IWTs. Essentially, there is No Benefit to the reduction in greenhouse gasses if the increased electrical generation by IWTs is offset by the decreased generation of electricity by existing hydroelectric sources. If plans do not include throttling back the hydroelectric generation then other backup fossil fuel based electrical generation capabilities must be put in place to accommodate the intermittent nature of the electricity generated by the IWTs. The greenhouse gas emissions of the fossil fuel consumed to make up for the other 60-80% of the time the IWTs are not operating needs to be included in the analysis. If fossil fuel generation is the plan for backup generation then the decreased efficiencies of their being operated at different capacities need to also be factored in to the analysis. The cost to decommission and remove or replace the IWTs after their 20-25 life span should also be accounted for in the analysis.

Also, in addition to the fossil fuels possibly consumed for backup generation capability or the reduction of existing green hydroelectric generation there is the reduction in greenhouse gas sequestration capacity by the temporary and permanent removal of thousands of acres of forest. A recent Cornell University study estimated that a single acre of forest would consume approximately 30,000 pounds of carbon dioxide per acre which equates to 72,000,000 pounds of carbon dioxide sequestration capacity loss per year during the construction phase of the FWP and slightly lesser amounts over the years during some regrowth. Nearly 30,000,000 pounds per year of carbon dioxide sequestration capacity would be loss permanently, even after forest regrowth. That's equivalent to the sequestering of over 6500 cars per year during the construction phase and over 3000 cars per year permanently bases on the Environmental Protection Agency's estimate of nearly 11,000 pounds of carbon produced by the average US automobile in 2012. According to a recent USDA article entitled "Nature's Benefits: Carbon Sequestration" this capacity to sequester carbon dioxide emissions is especially important in light of the tremendous amount of forest acreage which has been destroyed by forest fires in the past several years and the large number of trees killed by beetle infestation and drought. These factors should be accounted for and considered in the EIR.

BIOLOGICAL RESOURCES:

Various studies are referred to in the EIS but are not available on the County's Fountain Wind Project website for review and comment. It would be helpful in providing scoping comments to know the extent of these studies. During the Public Scoping meeting on 24 January it appeared that some data from biological surveys was presented. It was not clear from the data presented, for instance for the Bald Eagle, as to whether the sites noted were known nesting sites or areas where they were observed. However, when in fact the proximity of two known nesting sites (within 1 mile and 1.75 miles respectively) imply that take is probable. Similarly, other potential take of species and disruption of native habitat were enumerated in the California Department of Fish and Game response to the Hatchet Wind Project, including impacts to the northern spotted owl, sandhill cranes, Ferruginous Hawks, Great Grey Owls, bats and other birds as well.

The United States Fish & Wildlife Service regulations under the Bald and Golden Eagle Protection Act (Eagle Act), incorporates consideration into section 106 National Historic Preservation Act responsibilities. "…regulations authorizing non-purposeful take under the Eagle Act, the Fish and Wildlife Service has officially recognized that some tribes and tribal members may consider eagle nests and other areas where eagles are present to be sacred sites provided for in the American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996). Such sites may also be considered Properties of Traditional Religious and Cultural Importance (PRCI under NHPA) to an Indian Tribe (also commonly referred to as Traditional Cultural Properties or TCP's), and as potential historic properties of religious and cultural importance under the NHPA. Such sites are not limited to currently recognized Indian lands, and they occur across the entire aboriginal

settlement area. TCP's may be areas where eagles nest and have nested within living memory. Thus, a landform or landscape know for eagle habitation-a ridgeline, canyon, lakeshore, river valley, mesa, mountain, etc.-may be considered by tribes as suitable for TCP designation. Because an eagle or eagle nest can be considered a contributing feature or element or a TCP or sacred site, issuance of the proposed permits for eagles would constitute an undertaking requiring compliance with Section 106 of the NHPA, and may also require government-to-government consultation with tribes." These federal policy statements are acknowledging the relationships between species and sacred sites and religious practices in respect to cultural places.

Also, it appears from the response provided by the local Audubon society that they too have not had an opportunity to review any proposed study for the sufficiency of the methodology used for the studies regarding avian impacts. The local Audubon society suggested that bird surveys be conducted over a year long period to fully capture the different migratory species as they traverse the area. The current schedule for the completion of the EIR by the middle of 2019 would not allow enough time to sufficiently evaluate the various species that may be affected per their recommendation. It is a well-documented fact that IWTs kill a large number of avian species with some estimates being as high as over 500,000 birds killed per year with as many as 80,000 of those being birds of prey.

An extensive Canadian study conducted in 2013 estimated that 8.2 birds were killed per IWT per year. That would result in nearly 20,500 birds killed due to the FWP and nearly 29,315 when combined with the nearby Hatchet Wind Project over the typical 25 year lifespan of IWTs. The blade tips for the IWTs can turn at well over 100 Miles per hour. The taller the IWT the greater the avian mortality.

A 2013 study produced an estimate that wind turbines killed more than 600,000 bats in the U.S. the previous year, with the greatest mortality occurring in the Appalachian Mountains. Some earlier studies had produced estimates of between 33,000 and 888,000 bat deaths per year.[108] According to some studies it is also known that the effects on the air pressure in the vicinity of the IWTs blade tips can burst the capillaries in the lungs of bats that fly near them [74].

The FWP would be located along the important Pacific Flyway and we regularly see numerous species such as Canadian and Snow Geese, Swans, Pelicans, various herons, ducks, and cormorant on our property just a couple of miles to the west. Coincidentally the pair of Ospreys we so enjoyed in the past have not been seen since the Hatchet Ridge Wind project has been installed. The northern spotted owl and other sensitive species need to be thoroughly addressed by company independent experts. In addition to the birds killed directly by the IWTs there is the permanent and temporarily reduction in habitat of several thousand acres which should also be considered in light of the devastating fires of the last several years in the general region. The accuracy of data

from any similar sites used in the analysis should be suspect if it is based on self-monitoring and reporting.

The EIR should also examine the latest scientific evidence on the effects of IWTs on other biological lifeforms within their surrounding environment, in particular those effects caused by infrasound but should also include other possible causes of impacts including changes in electric field and pressure effects. Studies have sighted a measurable effect on the growth rate of some animals near IWTs, possibly due to infrasound effects [14].

Infrasound and other IWT effects have been implicated in behavioral changes of earthworms and other species near them (which may affect soil fertility and revegetation) [2]. Many species of insects and animals use infrasound (low frequency vibrations) to communicate and may be sensitive to those produced by the IWTs. The low frequency vibrations produced by the IWTs can be detected 10 km away or perhaps further depending on local ground characteristics. Low frequency sound/vibrations can travel great distances because they are not easily attenuated by ground or water [2]. As previously mentioned under the Agricultural and Forestry Resource Section above, a tremendous amount of acreage available to native and migratory species of birds and other animals has been significantly altered due to the devastating forest fires and any further disruption in the environment and the potential impacts should be evaluated in light of these significant changes. The wildlife surveys should concentrate on all species that are considered rare or of special concern, especially for this area; badger, martins, wolverines, frogs, salamanders, etc.

Further, the FWP would threaten the integrity of Montgomery Creek and aquatic species dependent on the constant flow, clarity, chemistry and temperature of the natural water flow coming out of the mountains. Protection of water quality insures protection of this premier biological resource. FWP is home to distinctive wildlife and plant species that thrive in its old forests.

There are several areas in the Highlands that support terrestrial management indicator species as well as state and federal sensitive, threatened or endangered species. Examples of such wildlife include: great gray owl, Cooper's hawk, sage grouse, bald eagle, osprey, northern goshawk, northern spotted owl, pileated and hairy woodpeckers, numerous bats, American marten, black bear.

I believe that the proposed FWP would violate the National Forest Management Act (NFMA) for the protection and preservation of old-growth dependent species. And further, it is against the law to murder EAGLES, as they are protected along with other endangered species of the area.

I agree that the naturally occurring flora and fauna, including any wetland areas are an important source of filtration for waters that enter our local streams and waterways.

Many of the homes in the area rely of creek and spring water vice wells or municipalities for their domestic water supplies. Our fisheries are also dependent on the water quality afforded by the existing eco system that will be disrupted by the construction activities of the FWP. The hydrology of the FWP area and all surrounding area especially those at lower elevations would be impacted significantly by the widening of the 87 miles of existing roads, the additional 56 miles of cable trenching with its associated 30 feet wide area of cleared vegetation over these cable ways, the additional 16 miles of overhead transmission lines with their 100 feet of cleared vegetation along their pathways, the temporary clearing of over several thousand acres and permanent clearing on nearly a 1000 acres, the excavation and digging of large concrete foundations up to 80-100 feet in diameter and 8-10 feet thick at depths of 15-16 feet. The hundreds of thousands of tons of concrete, gravel and compacted earth, will likely affect hydrological flows and water tables. The compaction and disturbance of local geology will likely affect lower elevation hydrological dependent ecosystems. A thorough analysis of all hydrological source and interconnected systems should be conducted in addition to wetlands and there impacts to water quality, fisheries and the local community.

Cultural and Tribal Cultural Resources:

Indigenous History negatively impacted by the Fountain Wind Project:
Hatchet Mountain, Bunchgrass Mountain and the surrounding other specific mountains and ridges are of great spiritual significance to the Pit River Tribe, especially the Itsatawi, Madesi and Atsugewi Bands. Tribal elders consider this area sacred and continue to use numerous important spiritual and cultural sites within the region. There is a finding of sacred areas that was established in the Hatchet Wind Project as it was discussed in the "Hatchet Ridge Wind Project", Pacific Legacy, Inc. July 2007. Appendix C. Confidential Information- Native American Heritage Commission Sacred Lands Inventory.

The ACHP has identified nine articles that intersect with the mission and work of the ACHP and with the Section 106 review process. They are Articles 8, 11, 12, 15, 16, 18, 25, 31, and 38. This guidance addresses the relationship between Article 18 and the tribal and Native Hawaiian Organization (NHO) consultation requirements in the Section 106 process.

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of undertakings they carry out, assist, fund, or permit (undertakings) on historic properties and to afford the ACHP a reasonable opportunity to comment on such undertakings. Federal agencies meet these requirements by completing the Section 106 process set forth in the implementing regulations, "Protection of Historic Properties," 36 C.F.R. part 800. The goal of the process is to identify and to consider historic properties that might be affected by an undertaking and to attempt to resolve any adverse effects through consultation.

Both the NHPA and the Section 106 regulations require that federal agencies, in carrying out their Section 106 responsibilities, consult with any Indian tribe that attaches traditional religious and cultural significance to historic properties that may be affected by the undertaking. The regulations provide both general directions regarding consultation at Section 800.2(c)(2) as well as very special steps to be taken throughout the process.

United Nations Declaration on the Rights of Indigenous Peoples is a comprehensive statement about the rights of indigenous to maintain and strengthen their own institutions, cultures, and traditions and to pursue their development in keeping with their own needs and aspirations. There are 46 articles in the Declaration that address a wide range of issues facing indigenous peoples. The article which is the focus of this particular comment is Article 18:

"Indigenous peoples have the right to participate in decision-making in matters which would affect their rights, through representatives chosen by themselves in accordance with their own procedures, as well as to maintain and develop their own indigenous decision-making institutions."

Article 18 and the Section 106 Process. The Declaration, while not having the force of law, expresses ideals. Article 18 of the Declaration addresses the right of indigenous peoples to participate in decision making when our rights would be affected. The scope of this article is very broad, covering all rights to which indigenous peoples are entitled. However, Section 106 and its implementing regulations do have the force of law. The scope is narrower in that it addresses only the consideration of impacts of undertakings on historic properties, but broader in the sense that it applies regardless of who holds "rights" to such properties. So, Section 106 is consistent with the thrust of Article 18 of the Declaration in various aspects.

For example, Section 101(d)(6)(B) of the NHPA and the Section 106 regulations require federal agencies to invite Indian tribes and NHO's to participate in Section 106 consultation when an undertaking may affect historic properties of traditional religious and cultural importance to them. These consultation requirements are intended to ensure that Indian tribes and NHO's have the opportunity not only to identify those places of religious and cultural importance to them (sometimes referred to as sacred sites) but also to influence federal decision making in order to protect those places. While other federal directives and statutes may require that federal agencies seek information from Indian tribes and NHO's, the NHPA requires federal agencies to invite them to participate in the consultation process to identify, evaluate, and resolve effects to historic properties of religious and cultural importance to them. Moreover, this obligation to consult is triggered regardless of whether the tribe of NHO holds a "right" over the property at issue. All that matters is that the historic property is of traditional and cultural importance to the tribe or NHO.

In order for consultation to be meaningful and effective, it must begin as early as possible in project planning to fully afford all, including Indian tribes and NHO's, an opportunity to express the full range of their interests and concerns. The Section 106 regulations at 36 C.F.R. 800.2(c)(2) state that:

"The agency official shall ensure that consultation in the Section 106 process provides the Indian tribe or Native Hawaiian organization a reasonable opportunity to identify its concerns about historic properties, advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance, articulate its views on the undertaking's effects on such properties, and participate in the resolution of adverse effects. It is the responsibility of the agency official to make a reasonable and good faith effort to identify Indian tribes and Native Hawaiian organizations that shall be consulted in the Section 106 process."

Comments: As mentioned by several speakers during the public scoping meeting held 21 January there are numerous historical sites that are part of the regions Native American heritage. These areas should be protected and preserved. The criteria for specifying the significance of these known sites should be determined by the local tribal community. The FWP should not be allowed to destroy and/or desecrate any sites that are sacred to the local Native Community whose ancestry and heritage is from this area. The sites should be preserved and protected for their cultural and historic significance. Local graveyards would not be dug up for the sake of installing unnecessary IWTs those of our Native American neighbors should not be disturbed either.

CULTURAL RESOURCES:

The proposed FWP area is highly significant to the cultural and religious ways of the Pit River Tribal peoples as a whole as there are spiritual ties of refuge, ceremony, healing, prayer, fasting and other sacred uses. Besides impacting the Indigenous peoples, there are negative impacts to the habitat of animals, migration routes, trees, plants and the visual and air quality of this area.

GEOLOGY AND SOILS:

Soil health may be affected by the biological effects of IWTs which should be thoroughly reviewed as sited under Biological Impacts. No further comments at this time.

HAZARDS AND HAZARDOUS MATERIALS:

I agree with my neighbors in the initial findings of the EIS for this section it speaks of "Nonhazardous batteries being stored in the substation." What are nonhazardous

batteries? Currently all commercially available batteries contain environmentally hazardous substances and hazardous material such as heavy metals, and other chemicals. Lead Acid batteries typically used by the renewable energy industry for wind and solar power generation systems contain dangerous toxic chemicals that can damage the environment if not properly transported, maintained and disposed of. They can also be of significant concern for firefighting personnel should they be subjected to fire as is a real possibility for the FWP. These batteries will likely have a very limited life due to the often used simultaneous charging and discharging of them as a means to regulate inconsistent power generation. [Electrical Batteries for Renewable Energy, by Kyle Slinger]. A better explanation regarding the batteries and how they are used and how the environmental risk associated with them will be dealt with should be provided as part of the EIR analysis.

Also, there appeared to be no consideration for the transformers that are planned to be used by the FWP. There are typically grounding, as well as step-up transformers used at commercial wind farms. The FWP calls for transformers as part of their proposed architecture. The grounding transformers may be used at each IWT with step-up transformers at the substation. Large electrical transformers used by the Wind industry may contain toxic chemicals and flammable oils. Transformer explosions and fires are a large risks at wind farm substations and IWTs depending on the type of insulating substance used. A clear understanding of the construction of the transformers proposed to be used and how they would be used, maintained, and what steps would be taken to insure they do not contaminate the environment needs to be fully addressed in the EIR analysis.

The EIS states that there is no currently adopted emergency response plan for the project area and that it would not interfere with an emergency response plan or an evacuation plan for neighboring populated areas (e.g. Burney, Montgomery Creek, Moose Camp). It also goes on to state that this project does not conflict with goals of the Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan, to reduce the possibility of damage to property or life including in this area. These statements make no sense in light of earlier Environmental Impact areas discussed in the EIS and identified as potentially significant. The fact that many studies and further analysis have yet to be completed should have prevented these statements from even being made. This project will definitely increase the risk to property and life due to the increase risk of fire in the area, as compared to a “No Project” or “Alternate-Site” alternative. As stated earlier this project will definitely interfere with aerial firefighting efforts and other emergency response efforts in the near the FWP. Existing emergency response plans and/or emergency evacuation plans for this area should be thoroughly reviewed in light of the impacts to ingress/egress especially during the construction phase and the firefighting limitations for the local communities and the project area itself. If the IWTs physically limit the ability to fight fire near them and they are less than a mile away from some communities, then they are definitely not reducing risks in

this area. This area is considered to in a Very High Fire Severity Zone per Cal Fire's Fire Severity Zone Map. The very winds that attracted the wind developer to this area also

causes this local region to be subject to catastrophic fire damage, as happened during the Fountain Fire in August of 1992. There are few roads for ingress and egress of this area, should a fire start at the proposed FWP, which extends across both sides of Hwy 299, evacuations or emergency response vehicles access could be severely limited. Also, emergency firefighting aircraft are restricted from flying near the IWTs or dropping fire retardant them. These factors restrict the ability of emergency response aircraft from fighting fires in the immediate areas of the IWTs. The steep terrain, as much as 25%, within the FWP area require aircraft fire suppression tactics to effectively fight fires in the area. These factors should be addressed in the EIR.

In light of recent catastrophic wildfires and the changing environmental conditions, including drought and tree mortality, the California Governor's Office of Planning and Research (OPR) has published a revision to the CEQA document dated 28 December 2018. The revised document now contains a new separate Environmental Impact area called "Wildfire." Scoping comments to the above question will be made to that section later in this document.

HYDROLOGY AND WATER QUALITY:

The hydrological impacts for this area are potentially significant as the EIS suggests. The naturally occurring flora and fauna, including any wetland areas are an important source of filtration for waters that enter our local streams and waterways. Many of the homes in the area rely of creek and spring water vice wells or municipalities for their domestic water supplies. Our fisheries are also dependent on the water quality afforded by the existing eco system that will be disrupted by the construction activities of the FWP. The hydrology of the FWP area and all surrounding areas especially those at lower elevations would be impacted significantly; by the widening of the 87 miles of existing roads, the additional 56 miles of cable trenching (with its associated 30 feet wide area of cleared vegetation over these cable ways), the additional 16 miles of overhead transmission lines (with their 100 feet of cleared vegetation along their pathways), the temporary clearing of over several thousand acres and permanent clearing on nearly a 1000 acres, will cause significant disturbances to the local hydrology and increase sediment flows and contamination of local streams and other water ways. The excavation and digging of large concrete foundations of up to 80-100 feet in diameter and 8-10 feet thick at depths of 15-16 feet should be considered in the analysis of impacts. The compaction of soils, especially at the installation site in preparation for IWT installation, including the compaction due to the hundreds of tons of concrete of the massive foundations and the sheer weight of the IWTs will likely affect hydrological flows and water tables and should be fully accounted for in the impact analysis. A thorough analysis of all hydrological source and interconnected systems should be conducted in addition to wetlands and there impacts to water quality, fisheries and the local community.

LAND USE AND PLANNING:

The EIS gives a “less than significant” impact rating to this EIR question but the response fails to identify the further guidance given in SCC Section 17.92.025 (G) which defines the criteria for establishing High Voltage Electrical Transmission and Distribution Projects in the unincorporated area of the County. The FWP does not meet 3 of the 4 criteria of this County Planning Code. As stated earlier in these comments, the FWP does not meet the criteria of: (2) There is no demonstrable need for this project. (3) The project is not justified when compared to alternatives. And (4) the project will be detrimental to the health, safety, peace, morals, comfort, and general welfare of persons residing or working in the neighborhood of the project and it will be injurious to property in the neighborhood and to the general welfare of the County. Also, the applicant has not and cannot demonstrate that the project is necessary to promote the health, safety, welfare and convenience of the public and in fact does quite the opposite as evidenced by the environmental impacts to this region. The impact for this area should be noted as significant not less than significant.

NOISE:

IWTs generate infrasound, low frequency sound generally below 20Hz. Infrasound is not audible to humans but may be perceived through vibrations or pressure waves. They may have significant effects on people's health and feelings of general wellbeing near IWTs. It may also effect animal behavior and general wellbeing as well (see comments on Biological Impacts earlier in these comments). When improperly sited, data from the monitoring of two groups of growing geese revealed substantially lower body weights and higher concentrations of a stress hormone in the blood of the first group of geese who were situated 50 meters away compared to a second group which was at a distance of 500 meters from the turbine.[14]
A scientist working at Sydney University's Auditory Neuroscience Laboratory reports growing evidence that infrasound may affect some people's nervous system by stimulating the vestibular system, and this has shown in animal models an effect similar to sea sickness. [36]

In research conducted in 2006 focusing on the impact of sound emissions from wind turbines on the nearby population, perceived infrasound has been associated to effects such as annoyance or fatigue, depending on its intensity, with little evidence supporting physiological effects of infrasound below the human perception threshold.[37] Later studies, however, have linked inaudible infrasound to effects such as fullness, pressure or tinnitus, and acknowledged the possibility that it could disturb sleep.[38] Other studies have also suggested associations between noise levels in turbines and self-reported sleep disturbances in the nearby population, while adding that the contribution of infrasound to this effect is still not fully understood.[39][40]
In a study at Ibaraki University in Japan, researchers said EEG tests showed that the infrasound produced by IWTs was "considered to be an annoyance to the technicians who work close to a modern large-scale wind turbine." [41][42][43]
The EIR should review the latest scientific literature for effects of infrasound noise on people and wildlife and be included as part of the EIR.

POPULATION AND HOUSING:

We lost our home owner insurance due to fire risk – primarily due to the devastating CARR and CAMP fire. The FWP will cause high fire risk.

PUBLIC SERVICES:

As discussed earlier the IWTs would hamper air support during firefighting operations in the immediate area of the FWP. Effects on emergency communications in the project area should also be analyzed for potential impacts. Because of the high winds in this area even what would normally be considered a quick response time by local firefighting personnel may be too long given the extremely high fire hazard rating for this area. Also, as mentioned in an earlier section the limited ingress and egress to the area could severely hamper emergency vehicle response times and evacuations. Any

proposed projects that increase the local fire risks should not be allowed. Even a small increased risk is la large risk in this area.

TRANSPORTATION/TRAFFIC:

The construction phase of the Fountain Wind Project is conservatively estimated to be 18-24 months and will have a significant effect on local traffic flow. There is projected to be as many as 400 workers who will be driving to/from the construction site on a daily bases. There will be a large number of construction vehicles, including timber harvesting operations for the over 2000 acres to be cleared during the construction phase. It is estimated by the developer that as many as 15 separate loads per IWT installed would have to be made to deliver its various components with as many as 9 of those as Extra Wide or Supper Loads; that's 1500 loads for the Wind Turbines alone with as many as 900 of them being Extra Wide or Super Loads. In addition to the 1500 deliveries for the IWTs there would be many deliveries required for the large construction equipment, transmission lines, transformers, other gravel and cement, building materials etc. The traffic control requirements with single lane traffic controls will contribute to traffic congestion in both directions of Hwy299 and hamper access of emergency vehicles and/or evacuations. Emergency aircraft would be hampered in the immediate vicinity of the IWTs.

[4] Eric Jay Toll, "California pays APS to Take Surplus Solar Power" Phoenix Business Journal, October 5, 2016, https://www.bizjournals.com/phoenix/news/2016/10/05/california-pays-aps-to-take-surplus-solar-power.html

Based on the 2018 California Energy Commission Renewable Energy 2018 report California's evolving electricity market has been shifting largely due to the increase in self-generation and rise of Community Choice Aggregators (CCAs). CCA's are local public agencies, typically created by joint powers agreements or city or county ordinance that can directly develop and buy electricity on behalf of their customers. The CPUC's report titled, *California Customer Choice, An Evaluation of Regulatory Framework Options for and Evolving Energy Market* reports that by the end of 2018, as much as 25% of IOU retail electric load will be served by a combination of rooftop solar, CCA's and direct access providers. The CPUC staff paper further predicted that this number could grow to 85% in the next decade. This potential widespread growth of CCAs presents opportunities and challenges for renewable development, as well as raising broader considerations of reliability, load uncertainty, and cost allocation. 1
As indicated in previous communications with the Transmission Agency of Northern California previous interconnection studies have indicated that the injection of power from these projects could have a detrimental impact on the amount of power that could be imported into California from the Pacific Northwest. With the CPUCs already raising concerns of reliability and load uncertainty this will only be exacerbated by the

additional transmission lines proposed by the Fountain Wind Project. According to the CPUCs 2018 report solar power has dropped in price and is on the rise, especially since the mandate of all new homes beginning in 2020 must have solar power, and large businesses along with military bases are moving to renewable energy. The CPUC is taking action **now** to evaluate how they will address the issues and gaps outlined in the Gap Analysis from the Choice Paper. Some of these issues will require updates to regulations and some will include legislative action to determine the future of renewable energy and how it will be sourced.

i.e., (Issue: Contracting for Reliability Resource Requirements) Will there be continued support of the resource procurement necessary for long term supply, renewable resources and BTM technology penetration to meet statewide goals for reliability, decarbonization and affordability?

[1]
https://www.energy.ca.gov/renewables/tracking_progress/documents/renewable.pdf
The California Public Utility Commission (CPUC) released a report in May warning that the emergence of CCAs could potentially destabilize California's energy grid. The CPUC's primary concern if that CCAs have fractured regulatory decision-making around reliability, affordability, and safety – decisions that have traditionally been handled by the CPUC. 2

[2] Alexander Stevens, "Deregulation Shouldn't be Blamed for California's Grid Problems" Institute for Energy Blog, June 4, 2018,
https://www.instituteforenergyresearch.org/the-grid/deregulation-shouldnt-blamed-californias-grid-problems/

Due to the emergence of CCAs, Direct Access electricity service providers (ESPs) and behind the meter technologies the CPUC embarked on the Customer Choice Project to examine the rapid changes in California's electric sector due to an evolving and increasingly disaggregated electric market. The CPUC published the *California Customer Choice: An Evaluation of Regulatory Framework Options for an Evolving Electricity Marke*t (Choice Paper). This paper looked at critical policy issues associated with increased disaggregation of load and supply and conducted an internal analysis to identify the regulatory gaps that exist and the necessary actions to ensure the core

principles are met. The *Choice Action plan and Gap Analysis* indicates the CPUC "lacks a comprehensive regulatory framework to address burgeoning customer choice options, increasing disaggregated load, and sector fragmentation, which is also creating adverse consequence, that is not addressed, may likely lead to a crisis. The Gap analysis identified the major issues under the core principles of reliability, affordability, and consumer protection. The Choice Action Plan offers a roadmap to anticipate and ameliorate the adverse and unintended consequences of customer choice and disaggregated electricity procurement." 3

[3] Diane I. Fellman, Choice Project Team Lead, California Customer Choice Project, Choice Actin Plan and Gap Analysis, December 2018, http://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/Final%20Gap%20Analysis_Choice%20Action%20Plan%2012-31-18%20Final.pdf

a) *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

Comments: Yes, in addition to the information listed above regarding the CPUC's effort to determine how to move forward with regard to the Choice Project Gap Analysis it also conflicts with the already established hydro electrical efforts from the Pit River and Shasta Dam efforts.

According to the 2018 CPUC report California is ahead of its current renewable energy goal targets. The report shows the goals have been set and achieved with 33% for 2020 and it shows we are at 34% in 2018.
Energy Efficiency – we are currently The CPUC's 2018 "Choice Action Plan and Gap Analysis" final report from December 2018 will need to be reviewed further and the state and local plan gaps should be addressed. With the recent PG&E bankruptcy and the state's role in determining how to move forward this appears to be an area of 'Potential Significant Risk' since many of these areas have not yet been explored.

WILDFIRE: – *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*
a) *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

Comments: Shasta County needs to review and update the existing emergency evacuation plan in relation to the recent devastation wildfires that have plagued the area. Per the documentation available on the FWP county web site only local officials were notified to address any emergency evaluation concerns. Considering the recent Northern California fire activity this item should be listed as 'Potentially Significant Impact' with the County providing emergency evacuation plan updates. Also, due to no and/or limited cell phone coverage many resident in the FWP area would not be able to be placed on an emergency 911 evaluation notice should an evaluation be needed. Due to recent massive and destructive wildfires, in the immediate and surrounding areas, thel community emergency evaluation plan needs to be, evaluated, addressed and updated before the project developer can indicate if this area has been addressed and how effective any plans would be. Small communities affected by this area have very few exit routes from the project area which has been shown in the recent Carr, Delta, and Camp fires to have life threatening and devastating circumstances.

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Comments: The project terrain is steep and inhibits firefighting efforts. Due to steep terrain air craft would need to be used, which would be limited or non-existent, due to project tower height. One of the reason the developer choose this site is the prevailing winds which also cause the most risk. In the recent fires that plagued Northern California the wind has proven to be a substantial factor in moving the wildfires at an unprecedented pace causing numerous deaths to residents of the affected areas. Wind turbines have been documented to explode and catch fire spewing turbine blades, engulfed in flame over larger areas that have been shown to be safe by wind developers. Several communities have restricted any type of wind farm turbines especially in timber and forested areas due to additional fire risk or exacerbated fire risk from exploding turbines, transmission lines, and limited resources in firefighting efforts. On-site fuel to maintain FWP operations and maintenance impose an additional risk factor to an area that has already been identified as "Very High Risk" as indicated by the Cal Fire maps. Wind Turbine fires are under reported by an estimated of 10 times. According to the California Public Utility Commission Report 2018 no issue received more attention than the efforts to deal with increased wildfire threats. Due to the devastating wildfire threat the CPUC, the Governor, Legislature, a host of state agencies and local governments are making safety a primary focus. The wind-driven wildfires that plagued the California North state in 2018 where ravenous and lightning fast in which California has not seen before. The deadly wildfires drive home the reality the state is facing challenges of keeping people, property and the environment safe. California's fire season is longer and more severe and those challenges are expected to get even worse

with prolonged drought and various other factors. In 2018 the Safety and Enforcement Division (SED) organized a wildfire safety hearing. The hearing underscored wildfire safety as a top priority for the Commission which will led to refined policies and new state laws. Part of these efforts to implement wildfire safety the CPUC will examine PG&E's current corporate governance, management and structure to determine the best path forward for Northern Californians to receive safe energy service. The Commission is also preparing to initiate safety culture proceedings for the other utilities it regulates. Turbines often catch fire, and when they do they often send flaming shards into fields and forests. Much has been said about the short-term jobs created in preparing turbine sites, but almost nothing about job losses from turbine-caused fires in our paper mills, sawmills and other forest-dependent industries.

Fearing more forest fires, an Australian province enacted a law banning placements of wind towers near wooded areas. Clyde MacDonald, "Forest Fires and Wind Turbines: The Danger No One is Talking About", June 29, 2011, Bangor News, https://bangordailynews.com/2011/06/29/opinion/forest-fires-and-wind-turbines-the-danger-no-one-is-talking-about/

Ontario's Ministry of Natural Resources and Forestry is investigating whether construction crews building a major wind-turbine project on the eastern shores of Georgian Bay amidst tinder-dry conditions caused a forest fire that is now devouring more than 5,600 hectares of land.

Despite "extreme fire hazard" conditions and a region-wide fire ban, a number of workers say crews continued to blast rock and use heavy machinery that had set off several small fires earlier last week. The workers asked CBC News to withhold their names out of fear of losing their jobs. Dave Seglins, "Investigation Underway Into Blaze Devouring French River Park, Which Stared on Henvey Inlet First Nation, July 24, 2018, CBC News, https://www.cbc.ca/news/canada/ontario-forest-fire-wind-farm-construction-1.4758864

According to CPUC Fire-Threat Map of January, 19, 2018 the proposed project development area is completed surrounded by areas of elevated risk Tier 2, and in some areas extreme risk Tier 3, (including likelihood and potential impacts on people and property) from utility associated wildfires. Tier 2 fire-threat areas depict areas where there is an elevated risk (including likelihood and potential impacts on people and property) from utility associated wildfires. Tier 3 fire-threat areas depict areas where there is an extreme risk (including likelihood and potential impacts on people and property) from utility associated wildfires.

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Comments: Use some verbiage listed above. High voltage Transmission Lines. 600 foot wind turbines. Concrete base. Blasting efforts to set the concrete bases.
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Comments: XXXX
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2/14/19

Greetings,

My name is Gregory Feather Wolfin, Illmawi Band Representative and Citizen of the Pit River Nation. First and foremost, I support the No Action Plan for the Fountain WInd Project. While being from the inter-mountain area, through my observations, the existing Hatchet Ridge Wind Project has negatively impacted the aesthetics of the natural landscape and will prove to have a detrimental impact to the environment and will foresee the Fountain Ridge to have the same impact as well. A concern that I have is the potential impact to the water quality; streams, creeks, peats, bogs and meadows. Will these be protected? Members of the Pit River Tribe continue to maintain a historical and metaphysical relationship with the geological satellites within the area and possess deep cultural ties with the lands. I and other members are certain that there will be adverse effects caused by the proximity of this project and will negatively impact the viewshed and our peaceful enjoyment of this most sacred place of great significance. I also have concern to the migratory pathways of the raptors, avians, and fuana that frequent the area; is this a concern of the Shasta County Board of Supervisors and the owner of the company?

Public Comment Card

Short List

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Tony Yamkis, Enrolled Member (Pit River Tribe Cultural Resources Rep. Illmawi Band.

Comment: My Concern for Potential IMPACTS WP.
No vote for Protect. WP. Protect is another for Profit Enterprise that desecrates our Pit River ancestral territory (or a percentage of it). 1840s Government Awarded tracts of land to White Farmers/Ranchers without a treaty but with Pit River Leaders. Farmers/Ranchers built fences & Redirected the Natural Watershed IMPACTING All Mammal & Bird Migration Routes and Hunting & fishing LifeWays Early 1900's Govt sold/leased our Indigenous River & Streams to P.G&E & Federal Hydraulic Agencies who built dams & diversions effectively cutting off Salmon & other fish species ability to reach their upriver spawning sites further damaging P.R. Indigenous subsistence & Cultural LifeWays. 1930's to 2019 Forest Forests Permitted to Grow ~~Factory~~ farms Polluting Waterways & Sunlight for Native Plant & Animal Species & Propagation. Early 2000's Watched Mtn Wind turbine-Company somehow was awarded building access inside Pit River Time Immemorial tribal ~~Board~~ boundaries desecrating the Cultural landscape & 100 Mile square. Following - a few examples... and Polluting water with cattle feces & urine.

Privacy notice: Please provide contact information inside the dotted line. The contents of this box *only* will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address: P.O. Box 2125, Shasta CA 96087

Email Address: dazygolden@Yahoo.com

Opt-in to mailing list (must provide valid address): ☐ Yes, mail Project updates ☐ No, do not send mail

Opt-in to email list (must provide valid email address): ☑ Yes, email Project updates ☐ No, do not send email

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Tony Ygnacio Enrolled member Cultural Resources Rep Pit River Tribe (Pit River Tribe)

Comment: 2016-2019 County of Shasta Fountain Wind Project & Applicant Avangrid Renewables, B.W.D, LLC. Propose to further desecrate Pit River Indigenous tribal ~~boundaries~~ territory with up to 100 wind turbines + 597 ft tall! Myself & other concerned PR tribal members are currently Pre-Planning / gathering ideas on how to have the Hatchett Ridge current wind turbines cancelled and Removed - Less alone allowing a Second, Larger wind turbine Project to be constructed! Eight-thirteen wind turbines are visible to the Burney community and make us visibly ill to look at day after day, etc, affecting the emotional health of the community. Burney/to Redding Other Impacts: EMF, water erosion + mudslides, Increased Wildfire threat, etc. to Montgomery Creek community + surrounding area.

Mitigation

Relocate (1) Project to a Low or no Population Community (2.) Research Potential Solar Farm (3) Use less electronic energy so no new electrical generators needed

Privacy notice: Please provide contact information inside the dotted line. The contents of this box *only* will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address: P O Box 2125, Shasta, Ca 96087

Email Address: dazygolden@yahoo.com

Opt-in to mailing list (must provide valid address): ☐ Yes, mail Project updates ☐ No, do not send mail
Opt-in to email list (must provide valid email address): ☑ Yes, email Project updates ☐ No, do not send email

DATE: February 14, 2019

TO: Shasta County, Department of Resource Management Planning Division representatives and Shasta County Board of Supervisors

SUBJECT: Madesi Band of the Pit River Nation Comments and Opposition to the Fountain Wind Project (Use Permit 16-007)

The Pit River Tribe is a federally recognized Tribe composed of eleven autonomous bands located in Northeastern California since time immemorial, in which the Madesi Band is included. It is clear that the Madesi Band's Ancestral area lies within this proposed Fountain Wind Project (Use Permit 16-007).

The Madesi Band as part of the Pit River Nation has inherent sovereign governmental powers to protect and promote the health, safety, and/or general welfare of the original peoples of the Pit River. This duty includes maintaining the health and integrity of the Natural World for future generations. These natural and cultural resources which are indistinguishable from the Pit River Peoples are a central element of our spirituality, traditional ceremonial practices, religious expressions, history, and identity. Given these facts this project would significantly disrupt the harmony between the Madesi Band and the Pit River world.

Therefore the Madesi Band is in opposition of the Fountain Wind Project due to numerous negative impacts and environmental concerns that this massive project of nearly 40,000 acres presents to our Citizens, known Cultural Resources, watershed, plants, animals, and overall ecosystem which include but is not limited to:

- **Indigenous History** - The topography of the Land in question is central to our identity, oral traditions and history, changing it in such a drastic fashion would be unthinkable. And be interpreted as an attempt to erase our people from history.
- **Habitat** - The proposed Fountain Wind project will have devastating impacts on the habitats of animals, migration routes, trees, plants, and air quality of this area.
- **Freedom of Religion** - This project would have irreversible negative impacts on the freedom of religion and the cultural practices of the Pit River Tribe and other Indian Tribal Nations in the region for whom this Ancestral area is of great spiritual, cultural and religious significance.
- **Continued Use/We are still here/We still exist** - The project area is highly significant to the cultural and religious ways of the Tribe as a whole. The PIT RIVER TRIBE and its NATION has deep ties to this place of refuge, ceremony, healing, prayer, fasting and other sacred traditional uses.
- **Misrepresentation** - The Fountain Wind Project developers have not acted in good faith, representing themselves as an American company located in Oregon, but are actually owned by an organization out of Spain. These out of country interests have demonstrated a lack of concern for our local culture, environments, and overall ecosystem as evidenced by the current Hatchet Wind project in this area.

- **Exploitation** - This community and general area is already being overstretched and exploited with power generating activities such as the existing Hatchet Wind Farm, power lines, dams, PG&E hydroelectric activities that are contributing to fish species extinction, and other harmful conditions such as cyanobacteria/toxic algae which put all communities members at risk. Our rural community is carrying too much of the burden for the benefit of others and to the detriment of our health and safety.
- **Inefficient** - There is a significant loss of power when energy is transmitted over long distances proving this project to be inefficient and wasteful, and therefore lacking integrity.
- **Oppression** - These types of projects/companies, comparable to the nearby Hatchet Wind farm have demonstrated a pattern of behavior of targeting socio-economically suppressed areas, and exploiting them for personal gain. Further suppressing these communities by lowering property values in and around the surrounding project areas and from extremely long distances in from which they can be seen day and night.
- **Local Economy** - Our community relies heavily on recreation and tourism in our economy which will be negatively impacted by these monstrosities.
- **Aesthetics/Viewshed** - These massive wind mills are incongruent, and negatively impact the aesthetics of this natural environment as evidenced by the existing Hatchet Wind farm which has disrupted the pristine viewshed and visual resources of the land they are placed as well as the viewshed for vast distances in all directions. They are placed in Shasta County and can be seen from surrounding counties. The Fountain Wind Project proposes even larger windmills.
- **Red Flashing Lights** - The existing wind farm uses red blinking lights that can be seen from significant distances, and this type of technology is used to chase away animals in such products as "Nite Guard Solar-Powered Night Animal Predator Light". This company claims that scientific studies by animal behavior experts concluded that a red flashing light appears as an eye to animals, and therefore presents as the threat of being watched, this is threatening to animals, further studies by this company concluded that this product works on all night animals and they react the same way to the red flash. They claim to successfully deter and frighten owls, coyotes, opossum, raccoons, fox, bobcats, muskrats, bears, cougar, wild boar, mink and weasels. Based on this information having these flashing red lights in this natural area will disrupt the normal, natural balance of the ecosystem.
- **Watershed -** The proposed project area is an integral part of the biological and watershed resources of this community. It will take a significant amount of water to construct this massive project, which diversion of water resources of the area will negatively impact the biodiversity of the area as well as be a potential cause of erosion and habitat destruction, which can result in adverse effects to the health and safety of community members.
- **Lassen National Park -** Our sacred Mountain Yet-Tey-Cha-Na, Lassen Peak, lies in Lassen National Park in which the PIT RIVER TRIBE maintains deep cultural ties will be adversely affected by the proximity of this project and will negatively impact the viewshed and our peaceful enjoyment of this most sacred place of great significance to ours as well as surrounding Tribes, recreationalists, and National Park visitors.
- **Hunting and Gathering -** This project will disrupt long standing traditional hunting and gathering practices.

- **Illegal "Take" -** The current Hatchet Windmill project kills culturally and environmentally critical birds and other avian species. The USFW does not currently monitor this illegal activity, and is currently unaware of any applications from the existing wind farm for incidental take permits, which is required to continue murdering protected species such as Golden and Bald Eagles. Current protection processes, monitoring, and enforcement with these types of projects are lacking.
- **Traffic/Infrastructure** - Highway 299 is not currently equip to handle additional traffic, and is prone to commercial accidents on a regular basis putting the community at risk of increased travel related danger.
- **Scenic Area of National importance** - Highway 299 is a historic byway and the gateway to what President Theodore Roosevelt named "The eighth wonder of the world", Burney Falls.
- **Emergency communications** - This project could cause emergency communication interference, which can include television and cell reception.
- **Abandonment**- Other projects of this type in California have been left abandoned leaving a land scar of nonoperational outdated windmills. The equivalent to a junk yard.
- **Ignores real issue** - The Fountain wind project does not address the real energy generation issue, which is the need for efficient delivery and storage of excess power already generated in California. This proposed project only serves to mask and compound this serious infrastructure deficiency.

Therefore the Madesi Band upholds its opposition to the Fountain Wind Project (Use Permit 16-007) as its scope of development is harmful and incompatible with existing long-standing spiritual and cultural uses of the area and its natural resources, and the human rights of Pit River and other Tribes. Thus, the Madesi Band must act to support the protection of these interconnected earth, air, water, and overall ecosystem which are irreplaceable resources within its defined ancestral lands.

Further the Madesi Band rejects the Fountain Wind Project and directs the Shasta County Board of Supervisors to deny use permit 16-007 and move forward with a "No Project Alternative" which includes No use permit, No commercial scale energy project on the proposed site.

Respectfully,
Brandy McDaniels, Pit River Nation Madesi Band Cultural Representative

Letter T5

From: Brandy McD
Sent: Friday, February 22, 2019 2:50 PM
To: Zalynn Baker; odanzuka@pitrivertribe.org; Lio Salazar
Subject: Fw: Fountain Wind Project Info/Forestry/Wildfire/Office of Emergency Services issues
Attachments: FOUNTAIN WIND PROJECT EIR Scoping Comments Final 2-13-19.pdf; FWP Use Permit 16-007 opposition resolution - Pit River Tribal _20190214_161927.pdf; Madesi Band Cultural Rep FWP opposition - comment letter 2-14-19.pdf

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Zalynn and Orvie,
I'm not sure how much you many know about the current proposed Fountain Wind Project that is proposed to take almost 40,000 acres in the Ancestral territories of Madesi, Itsatawi, and Atsugewi Bands. The Pit River Tribe is in opposition of this project, see attached opposition resolution. Also the Madesi Band is in opposition of this project, see attached Madesi Band Cultural Rep comments submitted to Shasta County.
Also, see the attached 36 page comments submitted by local non-native community members who live about 5 miles down Big Bend road. Their comments detail, and site sources, of why this proposed Fountain Wind Project should not be approved by Shasta County = "No project alternative" or "Alternate site alternative" should be selected by the Shasta County Board of Supervisors. As there is no way to mitigate the impacts, health, and safety issues that accompany this project. One of the major emergency/catastrophic events that these projects are prone to cause are wildfire. As these windmills act as lightning rods and are known to spontaneously combust, and fire fighters are restricted from flying in the vicinity of these windmills to drop retardants, which puts our community in extreme danger, as we well know from the recent fires in our immediate surrounding areas such as the Delta, Carr, Hertz, and Camp fires.
Sorry for the late notice on this issue as the comment period to the County is 5pm today, but I am still learning about all the adverse impacts of this proposed project and just got more info regarding the wildfire portion last night. See more on those specifics in the 36 page document attached, you can scroll down to that section.
Here is how to submit comments:
https://www.co.shasta.ca.us/index/drm_index/planning_index/eirs/fountain-wind-project
https://www.co.shasta.ca.us/docs/libraries/resource-management-docs/eir/fountain-wind-project/other-ways.pdf?sfvrsn=e708fa89_2

You can email directly to Lio Salazar:
lsalazar@co.shasta.ca.us

Fountain Wind Project - co.shasta.ca.us

Letter T5

Welcome to the Shasta County Department of Resource Management's website for the California Environmental Quality Act (CEQA) review of the Fountain Wind Project proposed by Pacific Wind Development, LLC.

www.co.shasta.ca.us

FOUNTAIN WIND PROJECT (UP 16-007) EIR Scoping Comments

From: Joseph & Margaret Osa
21437 Sleepy Creek Rd.
Montgomery Creek, CA

Dear Mr. Salazar,

Thank you for the opportunity to comment on the scoping of the Environmental Impact Report (EIR) for the Fountain Wind Project (FWP) and for the public meeting held at the Montgomery Creek Elementary School on 24 January. We were not allowed the full 30 days to comment on the scope of the EIR because of the late notification by mailer and when the public meeting was held. It is hoped that by signing up for the email notification system via the County's website, we will be allowed the full allocated time to comment on the draft EIR when published.

Our following comments are based on information provided by you and others at the scoping meeting and online, including the Environmental Initial Study (EIS), Pacific Wind Development LLC, dated 28 June 2018 and the California Environmental Quality Act (CEQA) Document. The guiding statues of the CEQA should be strongly considered when evaluating this proposed project, in particular in Section 21001 ADDITIONAL LEGISLATIVE INTENT which states "The Legislature further finds and declares that it is the policy of the state to: (a) Develop and Maintain a high-quality environment now and in the future, and take all action *necessary to protect, rehabilitate, and enhance the environmental quality of the state*. (b) Take all action necessary to provide the people of this state with clean air and water, *enjoyment of aesthetic, natural, scenic, and historic environmental qualities, and freedom from excessive noise.* The EIR should clearly identify how this project **does not** support the Legislative intent of the CEQA because of the Significant Environmental Impacts.

Additionally, according to the Shasta County Code SCC Subsection 17.92.025- Use permits for high voltage electrical transmission and distribution projects.

G. The purpose of this subsection is to establish criteria for High Voltage Electrical Transmission and Distribution Projects in the unincorporated area of the County, and shall apply to all such projects, including, but not limited to, projects submitted by municipal utility districts pursuant to Public Utilities Code Section 12808.5. High Voltage Electrical Transmission and Distribution Projects may only be approved or conditionally approved if **all of the following** findings are made based on substantial evidence in the record:

1. The proposed project is consistent with the General Plan and any applicable specific plan(s);
2. There is a demonstrated need for the proposed project;

3. The project, including route and facilities location and equipment appearance and design, is justified when compared with alternatives, and there are no feasible alternatives that would substantially reduce the adverse effects of the project as proposed; and
4. The proposed project will not, under the circumstances of the particular project, be detrimental to the health, safety, peace, morals, comfort, and general welfare of persons residing or working in the neighborhood of the proposed use or be detrimental or injurious to property and improvements in the neighborhood or to the general welfare of the County; provided, if the proposed project is necessary for the public health, safety, or general welfare, the findings shall so state.

For purposes of this subsection, the term "demonstrated need" means that the applicant has shown that the project is necessary to promote the public health, safety, welfare, and convenience; the term "feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.

As shown later in this document the FWP does not meet the criteria of SCC 17.92.025G. (2) There is **no demonstrable need** for this project. (3) The project **is not justified** when compared to alternatives. And (4) the project **will be detrimental** to the health, safety, peace, morals, comfort, and general welfare of persons residing or working in the neighborhood of the project and it will be injurious to property in the neighborhood and to the general welfare of the County. Also, the applicant has not and cannot demonstrate that the project is necessary to promote the health, safety, welfare and convenience of the public and in fact does quite the opposite as evidenced by the environmental impacts to this region.

Several Countries throughout the world and several states, such as Oklahoma and several counties in California, have restricted or banned further Industrial Wind Turbine (IWT) installations because of health and significant environmental impacts. IWTs are a significant fire risk, acting as lightning rods and at such a height that fires can't easily be extinguished. Several Counties within California such as Los Angeles, San Diego and San Bernadine have either banned or restricted further IWT installations and these are the counties with the greatest populations and need for the electrical energy. Shasta County already produces more power than it uses, why should the local residents sacrifice their wellbeing when even in the high power usage areas those residents are not willing to do the same. We strongly recommend that a **"No Project"** or **"Alternate-Site"** alternative, discussed further in this document, be adopted due to the significant environmental impacts of this project.

PROJECT ALTERNATIVES:

According to the California Environmental Quality Act (CEQA) guidelines Section **15126.6. CONSIDERATION AND DISCUSSION OF ALTERNATIVES TO THE PROPOSED PROJECT,** an EIR should consider reasonable alternatives to the project as a whole and not just for some impacted areas. In Subsection (c) "The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects." This

CEQA guidance does not limit the alternatives to those available in Shasta County alone so those outside the immediate area, as will be suggested later in this document, should also be considered. It is assumed that one of the primary objectives is to produce electrical energy from wind in order to reduce so called green-house gasses and other environmental impacts of fossil fuel energy development. Additionally, in Subsection (e) a ***"No Project"*** alternative should also be evaluated. The "***No Project***" alternative should discuss "*what would be reasonably expected to occur in the foreseeable future if the project were not approved."* This would obviously mean avoidance of those environmental impacts that are so disturbing to the local residences and should trouble others throughout Shasta County; especially the resulting increased Fire Risk with its very real possibility of devastating the area and causing the loss of life, and the significant impacts to the Scenic Value of the existing environment. The **"No Project"** alternative should be identified as "Environmentally Superior" according to CEQA guidance.
Also, the guiding statue for consideration of alternative or mitigation measures, including alternate sites as defined by the CEQA guidelines Section **21002. APPROVAL OF PROJECTS; FEASIBLE ALTERNATIVE OR MITIGATION MEASURES** state: *The Legislature finds and declares that it is the policy of the state that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required by this division are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects. The Legislature further finds and declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof.* The **"Alternate-Site"** alternative discussed in more detail later in this document meets the legislative intent for alternatives per the CEQA guidelines. It also fulfills the objective regarding clean renewable energy production and should also be identified as "Environmentally Superior" to approval of the FWP. The financial considerations used in determining feasibility should not include premature contractual obligations such as leasing of land or future power generation/distribution contracts that the developer may have prematurely entered into prior to public review and approval of the proposed project.

PROJECT DESCRIPTION:

As was pointed out by a local resident at the 24 January Scoping Meeting there is a significant problem with the inconsistencies in the stated acreage of the project, which leads one to wonder if there are other inaccuracies in the project description or what exactly is being evaluated in the EIR. The acreage is listed as 43,743 acres (lot size) in the Planning Permit Master Application and as 39,196 in the attachment to the same application. It is described as approximately 38,000 acres in Appendix C of the Environmental Initial Study and 30,532 in the "Project Description"

section of the same document. Are the project boundaries accurate? What is the true extent of this project including if any future expansion plans? How can an accurate EIR be conducted given the up to 43% area discrepancies?

Another disturbing fact mentioned by the developer, that should not have a bearing on the approval of this project, is that the developer has already entered into a long term lease contract with the land owner, Shasta Cascade Timberlands LLC, **prior to approval** of this project. Local citizens of Shasta County, especially those located near the project area, should not have to endure the impacts of this project just because of the developer's premature business deals. Also, the fact that the FWP would be near a preexisting windfarm project (Hatchet Ridge Project) should not be used to justify approval of the FWP. A lot has changed since the EIR/approval of the Hatchet Ridge Project and many would argue that it should not have been approved even then. The increased realization of the nature of the extreme fire hazard for this area, as demonstrated by the many massively devastating fires throughout this region in the last several years, should cause the reduction of the fire hazard and the protection of life and property in this region, to be the primary guiding principles regarding the approval or disapproval of the FWP.

Also, the description of the project is somewhat misleading with regard to the total generating capacity. The approximately 347 MW and the corresponding hundreds of thousands of homes that would be powered is not accurate. The 347 MW would only occur at peak operating performance (i.e. all wind turbines turning at maximum allowable rotational rate). This condition would not occur very often, if ever. Most wind farms operate at 20-25% of peak capacity, 40% is likely the maximum achievable. Also, because of the intermittent nature of wind power the energy produced could never be solely relied upon without backup generation, usually provided by fossil fuel generators.

ISSUES AND IMPACTS: The following Issues and Impacts are included and listed in accordance with the EIS for easier application of relevancy of each comment and proposed mitigation**.**

I. <u>AETHETICS:</u>

a. ***a)*** *Have a substantial adverse effect on a scenic vista?*

Comments: Although the EIS acknowledges that this area could potentially be significantly impacted it does not clearly define the criteria for determining significance. The EIS goes on to state that "the change in visual character is not anticipated to be significant." This is almost a nonsensical statement given the size and number of wind turbines to be installed. The EIS goes on to state that a visual

analysis should be done to one or more wind turbines, implying that only a small number, maybe as small as one, need be analyzed; this too is nonsensical. The photographs of views from various locations near the project area are inadequate to determine the true extent of the scenic degradation to this area. The Visual Resources Technical Report, referenced in the EIS, should include analysis of views from all nearby homes with modified photographs depicting all of the proposed IWTs installed for both daytime and nighttime. The views should be also be collected from other surrounding areas including, Bella Vista and parts of Redding that can see the eastern ridgeline where the IWTs would be installed. A significant number of the existing Hatchet Ridge project wind turbines can be viewed from as far away as Cottonwood on Highway 5 and these will be closer and almost half again as tall. The analysis should also include the various private homes of local residences in the area as was discussed as the scoping meeting. Some areas such as Moose Camp could have 600 foot tall Industrial Wind Turbines less than 2000 feet away. The permanently cleared areas or minimally revegetated areas, including those for the underground and above ground transmission lines should also be considered when conducting the visual analysis. The visual analysis should include nighttime views as well, with models of all of the Industrial Wind Turbines installed and all of the anticipated lighting, especially those required by the FAA. These towers will likely have medium to high intensity red and white strobe lights that can be seen for miles. Some local residence complain of being able to see the current Hatchet Wind Project FAA lights from their home in Pittsville, nearly 40 miles away. The array of blinking and flashing lights in our night sky is not why we live in this area and should be examined as part of the EIR. Additionally, there was no mention of the factors used for establishing significance when assessing impacts to the scenic vistas. The economic and social impacts, while not directly an environmental impact by definition, can and **should be used** as a factor to establish significance of the visual impacts. According to the CEQA Section 15131 ECONOMIC AND SOCIAL EFFECTS subsection (a) “An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the project.” (b) Economic or social effects of a project may be used to determine the significance of physical changes caused by the project. Impacts to existing scenic vistas will have a detrimental effect on property values in the areas surrounding the proposed project. The loss in property value should also cause a reassessment of property values for tax purposes and therefor cause a corresponding loss in tax revenues as compared to current conditions. The changes to the scenic vistas may affect property values for places as far away as Bella Vista and the outskirts of Redding. It is likely that the loss in value will be larger the closer the property is to the Wind Turbines. Loss in property values has been documented in other areas where large scale wind projects have been

constructed. The reduced scenic value would also likely have an effect on tourism as well and may affect some local business. These economic factors do not appear to be considered in the initial studies but should be addressed in the EIR.

i. **Mitigation**: A "**No Project**" alternative would mitigate these impacts and many others. Even with the **"No Project**" alternative, the objective to produce non-fossil fuel based electrical energy, may be accomplished by increasing hydroelectric generating capacity here in Shasta County. The FWP contribution to clean energy is already less significant that it would appear because it requires that the existing clean hydroelectric generation nearby to be idled back while the IWTs are producing power so, it's a zero sum gain for clean energy simply based on total energy generated in this area. Shasta County already provides a tremendous amount of clean energy through its hydroelectric generating facilities, perhaps more could be added or existing ones could be improved thus producing the net additional power desired, cleanly, without the visual and other environmental impacts the Fountain Wind Project will have.

Another possible mitigation scheme that would still allow for the generation of electrical power from wind energy, would be an **"Alternate-Site"** alternative. Shasta County is not required to limit its examination of alternate sites to those within Shasta County alone. While this was suggested in a recent court ruling it was not a requirement imposed by law or regulatory statue. It is not incumbent upon Shasta County citizens or government to be a producer of Wind energy. There are other locations within the state that are much more advantageous to the state's citizens. In the **"Alternate-Site"** alternative underutilized wind farms located in various parts of the country would be revamped. Many wind farms have wind turbines that have fallen into disrepair and are no longer functioning but are frequently still standing such as those in Tehachapi, Altamont Pass, San Gorgonio Pass near Palm Springs, and elsewhere. Portions of existing windfarms have been abandoned or are poorly maintained, often once the government subsidies runout, which is typically 10-15 years. It has taken decades to clean up derelict wind turbines in San Gorgonio Pass with thousands being removed and still hundreds remaining. Reuse existing sites in those or similar areas. The area of San Gorgonio Pass; has abandoned sites, is one of the windiest places in California, has the infrastructure already in place, has desert shrub like vegetation which already does little for Carbon Gas sequestration

and oxygen production unlike our conifer and deciduous forests do, and has already overcome the environmental hurdles, unlike the proposed Fountain Wind Project. The winds haven't stopped blowing there, the money just ran out. The proposer, Avangrid Renewables, has various wind farms such as – Dillon, Tule Wind, Phoenix Wind, Manzana Wind, Mountain View III, and Shiloh, all of which are in non-forested regions of the country. The Developer should be required to document, and provide evidence to Shasta Country, whether they have any sites that could be retrofitted, refurbished or further developed within their existing Wind Farms. All of their current sites are in non-forested and less wildfire prone regions.

Before considering any approval of this project, then as has been done in several areas throughout this country and in Europe, the County should require a "guarantee of compensation against property loss" from the builder for any reasons related to the development of the FWP. Property values could be appraised prior to the commencement of the project and then again upon completion. Loss of any unrealized appreciation during the construction phase could also be factored into the total compensation.

b. ***b)*** *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

Comments: We agree with the statement in the EIS that a thorough analysis should be done for the views along Hwy 299. Although it is not officially a scenic Highway it is none the less a beautiful drive between Redding and the Hatchet Summit area and is considered a gateway to our community and a place characterized by its natural surroundings; this would all change with the construction and installation of the FWP's Industrial Wind Turbines. This area could never be designated as a scenic byway and will instead be dominated by the visual characteristics of the Industrial Wind Turbines. The area is just now fully recovering from the Fountain Fire burn scar with the return of the trees, to adversely affect the local landscape now is just imposing further injury to an area that has already suffered greatly in the past. Several thousand acres will be cleared for the construction phase and nearly 1000 acres will be permanently deforested. This disturbance needs to be modeled in the visual impact assessment. Local comments from residents is that there is a historic property with a cabin built in the 1800s that would have to be demolished; this issue should be further investigated as well.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

c. ***c)*** *Substantially degrade the existing visual character or quality of the site and its surroundings?*

Comments: See above comments for Aesthetics (a, b).

d. ***d)*** *Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?*

Comments: As identified in the EIS the flashing red aviation lights required by the FAA for structures taller than 200 feet, cannot be avoided and would cause a significant impact to the regions visual character. The visual analysis should cover a large area and distance from the project site at night to assess the impacts of these lights just as it should for the other visual concerns. Also, the shadow flicker due to the rotating blades should be thoroughly analyzed for various rates of rotation and at different times of the day and from various sites, especially home owner sites near the Industrial Wind Turbines. Shadow flicker from the nearby Hatchet Wind Project can be seen sweeping across parts of Hwy 299 as the sun drops lower in the western sky which can be disturbing/startling while driving if you don't know where the large moving shadow is coming from.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

II. **AGRICULTURE AND FORESTRY RESOURCES:**

a. ***(a,b,c,d,e)***

Comments: The temporary deforestation of over 2000 acres during the construction phase and nearly 1000 acres of permanent deforestation in this beautifully forested environment is a significant impact. While the Timber Production zoning allows construction of utilities sites under special use permits, most generating facilities do not permanently deforest 1.5 square miles of land. The significance of this impact area is especially important due to the growing scarcity of productive forest lands and the devastating impacts of recent forest fires. Shasta County and nearby areas has suffered tremendous devastation of their forested landscape recently due to forest fires which have destroyed over

981,574 acres in 2018 alone. Our forest lands are not limitless and the analysis of the impacts of any action that converts them to non-timber producing lands should be done in light of the cumulative impacts of recent fire events. Much of Shasta County relies on a few industries: logging, tourism and recreational hunting and fishing. This project will affect those industries and should be thoroughly analyzed.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

III. **AIR QUALITY:**

a. ***b)*** *Violate any air quality standard or contribute substantially to an existing or projected air quality violation?* ***c)*** *Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?* ***d)*** *Expose sensitive receptors to substantial pollutant concentrations?* ***e)*** *Create objectionable odors affecting a substantial number of people?*

Comments: The construction phase of the Fountain Wind Project is conservatively estimated to be 18-24 months and will likely have a significant effect on local air quality. There is projected to be as many as 400 workers who will be driving to/from the construction site on a daily bases. There will be a large number of construction vehicles, including timber harvesting operations for the over 2000 acres to be cleared during the construction phase. It is estimated that as many as 15 separate loads per Industrial Wind Turbine would have to be made to deliver its various components with as many as 9 of those as Extra Wide or Supper Loads; that's 1500 loads for the Wind Turbines alone with as many as 900 of them being Extra Wide or Super Loads. These deliveries will originate from various parts of the country outside of the general area and will contribute to air pollution by consuming significant amounts of fuels. The traffic control requirements with single lane traffic controls will waste fuel and contribute to air pollution, as the many vehicles sit in traffic waiting to continue driving on Hwy299. In addition to the 1500 deliveries for the IWTs there are the many deliveries required for the large construction equipment, transmission lines, transformers, other gravel and cement, building materials etc. A significant amount of fossil fuels are consumed in the manufacture, transportation, installation and decommissioning of these IWTs that needs to be fully addressed and accounted for in the EIR. The fuels consumed, exhausts and dust generated

during the two year construction phase need to be thoroughly analyzed in the EIR since they will affect the local community for likely a minimum of two years.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

IV. **BIOLOGICAL RESOURCES:**

a. ***a)*** *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?* ***b)*** *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?*

Comments: Various studies are referred to in the EIS but are not available on the County's Fountain Wind Project website for review and comment. It would be helpful in providing scoping comments to know the extent of these studies. During the Public Scoping meeting on 24 January it appeared that some data from biological surveys was presented. It was not clear from the data presented, for instance for the Bald Eagle, as to whether the sites noted were known nesting sites or areas where they were observed. We are located within a couple of miles of several proposed IWTs and have regularly observed Bald Eagles, Ospreys and other birds of prey on or around our property which has a large pond on it, yet we did not see any sightings listed for what is essentially the area just a couple of miles west of the IWTs. Also, it appears from the response provided by the local Audubon society that they too have not had an opportunity to review any proposed study for the sufficiency of the methodology used for the studies regarding avian impacts. The local Audubon society suggested that bird surveys be conducted over a year long period to fully capture the different migratory species as they traverse the area. The current schedule for the completion of the EIR by the middle of 2019 would not allow enough time to sufficiently evaluate the various species that may be affected per their recommendation. It is a well-documented fact that IWTs kill a large number of avian species with some estimates being as high as over 500,000 birds killed per year with as many as 80,000 of those being birds of prey.

An extensive Canadian study conducted in 2013 estimated that 8.2 birds were killed per IWT per year. That would result in nearly 20,500 birds killed due to the

FWP and nearly 29,315 when combined with the nearby Hatchet Wind Project over the typical 25 year lifespan of IWTs. The blade tips for the IWTs can turn at well over 100 Miles per hour during maximum operating rotations. The taller the IWT the greater the avian mortality.

A 2013 study produced an estimate that wind turbines killed more than 600,000 bats in the U.S. the previous year, with the greatest mortality occurring in the Appalachian Mountains. Some earlier studies had produced estimates of between 33,000 and 888,000 bat deaths per year.[1] According to some studies it is also known that the effects on the air pressure in the vicinity of the IWTs blade tips can burst the capillaries in the lungs of bats that fly near them [2].

The FWP would be located along the important Pacific Flyway and we regularly see numerous species such as Canadian and Snow Geese, Swans, Pelicans, various herons, ducks, and cormorant on our property just a couple of miles to the west. Coincidentally the pair of Ospreys we so enjoyed in the past have not been seen since the Hatchet Ridge Wind project has been installed. The northern spotted owl and other sensitive species need to be thoroughly addressed by company independent experts. In addition to the birds killed directly by the IWTs there is the permanent and temporarily reduction in habitat of several thousand acres which should also be considered in light of the devastating fires of the last several years in the general region. The accuracy of data from any similar sites used in the analysis should be suspect if it is based on self-monitoring and reporting.

The EIR should also examine the latest scientific evidence on the effects of IWTs on other biological lifeforms within their surrounding environment, in particular those effects caused by infrasound but should also include other possible causes of impacts including changes in electric field and pressure effects. Studies have sighted a measurable effect on the growth rate of some animals near IWTs, possibly due to infrasound effects [3].

Infrasound and other IWT effects have been implicated in behavioral changes of earthworms and other species near them (which may affect soil fertility and revegetation) [4]. Many species of insects and animals use infrasound (low frequency vibrations) to communicate and may be sensitive to those produced by the IWTs. The low frequency vibrations produced by the IWTs can be detected 10 km away or perhaps further depending on local ground characteristics. Low frequency sound/vibrations can travel great distances because they are not easily attenuated by ground or water [4].

As previously mentioned under the Agricultural and Forestry Resource Section above, a tremendous amount of acreage available to native and migratory species of birds and other animals has been significantly altered due to the devastating forest fires and any further disruption in the environment and the potential impacts should be evaluated in light of these significant changes. The wildlife surveys should concentrate on all species that are considered rare or of special concern, especially for this area; badger, martins, wolverines, frogs, salamanders, etc.

Some have tried to minimize the effect of IWTs on the environment, including the impacts to wildlife by comparing it to theoretical effects of fossil fuel generation on the environment due to global warming and other possible effects of consuming fossil fuels. This should not be a bases for attempting to minimize the significance of impacts in the EIR due to the FWP. Just because it may not be as bad as other bad alternatives does not make its impacts insignificant. The project impacts should be compared to the **"No Project"** and **"Alternate-Site"** alternative we recommend for the FWP.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

b. ***c)*** *Have a substantial adverse effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal wetlands, etc.), through direct removal, filling, hydrological interruption or other means?*

Comments: The naturally occurring flora and fauna, including any wetland areas are an important source of filtration for waters that enter our local streams and waterways. Many of the homes in the area rely of creek and spring water vice wells or municipalities for their domestic water supplies. Our fisheries are also dependent on the water quality afforded by the existing eco system that will be disrupted by the construction activities of the FWP. The hydrology of the FWP area and all surrounding area especially those at lower elevations would be impacted significantly by the widening of the 87 miles of existing roads, the additional 56 miles of cable trenching with its associated 30 feet wide area of cleared vegetation over these cable ways, the additional 16 miles of overhead transmission lines with their 100 feet of cleared vegetation along their pathways, the temporary clearing of over several thousand acres and permanent clearing on nearly a 1000 acres, the excavation and digging of large concrete foundations up

to 80-100 feet in diameter and 8-10 feet thick at depths of 15-16 feet. The hundreds of thousands of tons of concrete, gravel and compacted earth, will likely affect hydrological flows and water tables. The compaction and disturbance of local geology will likely affect lower elevation hydrological dependent ecosystems. A thorough analysis of all hydrological source and interconnected systems should be conducted in addition to wetlands and there impacts to water quality, fisheries and the local community.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

V. **CULTURAL RESOURCES:**

a. (***a,b,c,d)***

Comments: As mentioned by several speakers during the public scoping meeting held 24 January there are numerous historical sites that are part of the regions Native American heritage. These areas should be protected and preserved. The criteria for specifying the significance of these known sites should be determined by the local tribal community. The FWP should not be allowed to destroy and/or desecrate any sites that are sacred to the local Native Community whose ancestry and heritage is from this area. The sites should be preserved and protected for their cultural and historic significance. Local graveyards would not be dug up for the sake of installing unnecessary IWTs those of our Native American neighbors should not be disturbed either.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

VI. **GEOLOGY AND SOILS:**

Comments: Soil health may be affected by the biological effects of IWTs which should be thoroughly reviewed as sited under Biological Impacts. No further comments at this time.

i. **Mitigation:** The **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail] would eliminate any environmental impacts to this area.

VII. **GREENHOUSE GAS EMISSIONS:**

a. ***a)*** *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?* ***(b)*** *Conflict with an applicable*

plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Comments: Significant amounts of greenhouse gases are produced as a result of the manufacture, transportation, installation and operation of the IWTs of the FWP. The analysis should account for the significant amounts of greenhouse gases used in the creation of the building materials used for the FWP including the significant amounts of concrete and steel as well as many other materials. The fuels consumed in the manufacture, transportation and installation of the transmission cabling and installations and that of the idling traffic during super load transportation and traffic control should all be accounted for. An additional net effect on greenhouse gasses that needs to be accounted for is the reduction of other green sources of energy production such as our local hydroelectric capacity that would have to be throttled back during the operation of the proposed IWTs. Essentially, there is **No Benefit** to the reduction in greenhouse gasses if the increased electrical generation by IWTs is offset by the decreased generation of electricity by existing hydroelectric sources. If plans do not include throttling back the hydroelectric generation then other backup fossil fuel based electrical generation capabilities must be put in place to accommodate the intermittent nature of the electricity generated by the IWTs. The greenhouse gas emissions of the fossil fuel consumed to make up for the other 60-80% of the time the IWTs are not operating needs to be included in the analysis. If fossil fuel generation is the plan for backup generation then the decreased efficiencies of their being operated at different capacities need to also be factored in to the analysis. The cost to decommission and remove or replace the IWTs after their 20-25 life span should also be accounted for in the analysis.

Also, in addition to the fossil fuels possibly consumed for backup generation capability or the reduction of existing green hydroelectric generation there is the reduction in greenhouse gas sequestration capacity by the temporary and permanent removal of thousands of acres of forest. A recent Cornell University study estimated that a single acre of forest would consume approximately 30,000 pounds of carbon dioxide per acre which equates to 72,000,000 pounds of carbon dioxide sequestration capacity loss per year during the construction phase of the FWP and slightly lesser amounts over the years during some regrowth. Nearly 30,000,000 pounds per year of carbon dioxide sequestration capacity would be loss permanently, even after forest regrowth. That's equivalent to the sequestering of over 6500 cars per year during the construction phase and over 3000 cars per year permanently bases on the Environmental Protection Agency's estimate of nearly 11,000 pounds of carbon produced by the average US

automobile in 2012. According to a recent USDA article entitled "Nature's Benefits: Carbon Sequestration" this capacity to sequester carbon dioxide emissions is especially important in light of the tremendous amount of forest acreage which has been destroyed by forest fires in the past several years and the large number of trees killed by beetle infestation and drought. These factors should be accounted for and considered in the EIR.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

VIII. **HAZARDS AND HAZARDOUS MATERIALS:**

a. ***a)*** *Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?* ***b)*** *Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Comments: In the initial findings of the EIS for this section it speaks of "Nonhazardous batteries being stored in the substation." What are nonhazardous batteries? Currently all commercially available batteries contain environmentally hazardous substances and hazardous material such as heavy metals, and other chemicals. Lead Acid batteries typically used by the renewable energy industry for wind and solar power generation systems contain dangerous toxic chemicals that can damage the environment if not properly transported, maintained and disposed of. They can also be of significant concern for firefighting personnel should they be subjected to fire as is a real possibility for the FWP. These batteries will likely have a very limited life due to the often used simultaneous charging and discharging of them as a means to regulate inconsistent power generation. [Electrical Batteries for Renewable Energy, by Kyle Slinger]. A better explanation regarding the batteries and how they are used and how the environmental risk associated with them will be dealt with should be provided as part of the EIR analysis.

Also, there appeared to be no consideration for the transformers that are planned to be used by the FWP. There are typically grounding, as well as step-up transformers used at commercial wind farms. The FWP calls for transformers as part of their proposed architecture. The grounding transformers may be used at each IWT with step-up transformers at the substation. Large electrical transformers used by the Wind industry may contain toxic chemicals and flammable oils. Transformer explosions and fires are a large risks at wind farm

substations and IWTs depending on the type of insulating substance used. A clear understanding of the construction of the transformers proposed to be used and how they would be used, maintained, and what steps would be taken to insure they do not contaminate the environment needs to be fully addressed in the EIR analysis.

i. **Mitigation:** There is no reasonable way to mitigate this impact given the high fire risk for this area, other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

b. *g) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?*

Comments: The EIS states that there is no currently adopted emergency response plan for the project area and that the FWP would not physically interfere with an emergency response plan or an evacuation plan for neighboring populated areas (e.g. Burney, Montgomery Creek, and Moose Camp). It also goes on to state that this project does not conflict with the goals of the Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan, particularly to reduce the possibility of damage to property or life including in this area. These statements make no sense in light of Environmental Issues already identified in the EIS and further discussed in this document as "Potentially Significant." The fact that the EIS identifies many studies and further analysis that have yet to be completed should have prevented these statements from even being made at this time. This project will **definitely increase the risk** to property and life due to the increased risk of fire in the area alone. As stated earlier in these comments, this project will interfere with aerial firefighting efforts and other emergency response efforts in the vicinity of the FWP. Emergency firefighting aircraft are restricted from flying near the IWTs or dropping fire retardant on them. These factors restrict the ability of emergency response aircraft from fighting fires in the immediate areas of the IWTs. The steep terrain, as much as 25% grade within the FWP area, require aircraft fire suppression tactics to effectively fight fires in the project and nearby areas. If the IWTs physically limit the ability to fight fire near them and they are less than a mile away from some communities, then they are definitely not reducing the fire risks in this area. This area is considered a Very High Fire Severity Zone per Cal Fire's Fire Severity Zone Map. The very winds that attracted the wind developer to this area also causes this local region to be subject to catastrophic fire damage, as happened during the Fountain Fire in August of 1992.

Existing emergency response plans and/or emergency evacuation plans for this area should be thoroughly reviewed in light of the impacts to ingress/egress, especially during the construction phase, and the limitations to firefighting efforts for the local communities and the project area itself. There are few roads for ingress and egress of this area, should a fire start at the proposed FWP, which extends across both sides of Hwy 299, evacuations and/or emergency response vehicles access, could be severely limited. Many residence are remotely located along numerous small private roads through thickly forested areas; the few County and State roadways connected to these private roads are the local residence's only way out in case of fire or other emergency. Any activity that inhibits their movement and/or increases fire risk in this remotely populated area is putting their lives at risk. These factors should be addressed in the EIR.

i. **Mitigation:** There is no reasonable way to mitigate this impact especially given the very high fire risk for this area, other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

c. *h) Would the Project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?*

Comments: In light of recent catastrophic wildfires and the changing environmental conditions, including drought and tree mortality, the California Governor's Office of Planning and Research (OPR) has published a revision to the CEQA document dated 28 December 2018. The revised document now contains a new separate Environmental Impact area called "Wildfire." Scoping comments to the above question will be made to that section later in this document.

IX. **HYDROLOGY AND WATER QUALITY:**

a. ***a)*** *Violate (Violate any water quality standards or waste discharge requirements?* ***f)*** *Otherwise substantially degrade water quality? Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of preexisting nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?* ***c)*** *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?* ***d)*** *Substantially alter the existing drainage pattern of the*

site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? ***e)*** *Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?*

Comments: The hydrological impacts for this area are potentially significant as the EIS suggests. The naturally occurring flora and fauna, including any wetland areas are an important source of filtration for waters that enter our local streams and waterways. Many of the homes in the area rely of creek and spring water vice wells or municipalities for their domestic water supplies. Our fisheries are also dependent on the water quality afforded by the existing eco system that will be disrupted by the construction activities of the FWP. The hydrology of the FWP area and all surrounding areas especially those at lower elevations would be impacted significantly; by the widening of the 87 miles of existing roads, the additional 56 miles of cable trenching (with its associated 30 feet wide area of cleared vegetation over these cable ways), the additional 16 miles of overhead transmission lines (with their 100 feet of cleared vegetation along their pathways), the temporary clearing of over several thousand acres and permanent clearing on nearly a 1000 acres, will cause significant disturbances to the local hydrology and increase sediment flows and contamination of local streams and other water ways. The excavation and digging of large concrete foundations of up to 80-100 feet in diameter and 8-10 feet thick at depths of 15-16 feet should be considered in the analysis of impacts. The compaction of soils, especially at the installation site in preparation for IWT installation, including the compaction due to the hundreds of tons of concrete of the massive foundations and the sheer weight of the IWTs will likely affect hydrological flows and water tables and should be fully accounted for in the impact analysis. A thorough analysis of all hydrological source and interconnected systems should be conducted in addition to wetlands and there impacts to water quality, fisheries and the local community.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

X. **LAND USE AND PLANNING:**

a. b) *Would the Project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

Comments: The EIS gives a "less than significant" impact rating to this EIR question but the response fails to identify the further guidance given in SCC Section 17.92.025 (G) which defines the criteria for establishing High Voltage Electrical Transmission and Distribution Projects in the unincorporated area of the County. The FWP does not meet 3 of the 4 criteria of this County Planning Code. As stated earlier in these comments, the FWP does not meet the criteria of: (2) There is **no demonstrable need** for this project. (3) The project **is not justified** when compared to alternatives. And (4) the project **will be detrimental** to the health, safety, peace, morals, comfort, and general welfare of persons residing or working in the neighborhood of the project and it will be injurious to property in the neighborhood and to the general welfare of the County. Also, the applicant has not and **cannot demonstrate that the project is necessary** to promote the health, safety, welfare and convenience of the public and in fact does quite the opposite as evidenced by the environmental impacts to this region. The impact for this area should be noted as significant not less than significant.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

XI. **MINERAL RESOURCES:**

a. No Comment

XII. **NOISE:**

a. ***a)*** *Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or of applicable standards of other agencies?* ***b)*** *Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?* ***c)*** *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?* ***d)*** *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

Comments: IWTs generate infrasound. Infrasound is generally considered low frequency sound below 20Hz. Infrasound is not audible to humans but may be perceived through vibrations or pressure waves. They may have significant effects on people's health and feelings of general wellbeing near IWTs. It may also effect animal behavior and their general wellbeing (see comments on Biological Impacts earlier in these comments). When improperly sited, data from the monitoring of two groups of growing geese revealed substantially lower body weights and higher concentrations of a stress hormone in the blood of the first group of geese who were

situated 50 meters away compared to a second group which was at a distance of 500 meters from the turbine.[3]

A scientist working at Sydney University's Auditory Neuroscience Laboratory reports growing evidence that infrasound may affect some people's nervous system by stimulating the vestibular system, and this has been shown in animal models to produce an effect similar to sea sickness. [5]

In research conducted in 2006 focusing on the impact of sound emissions from wind turbines on the nearby population, perceived infrasound has been associated to effects such as annoyance or fatigue, depending on its intensity, with little evidence supporting physiological effects of infrasound below the human perception threshold.[6] Later studies, however, have linked inaudible infrasound to effects such as fullness, pressure or tinnitus, and acknowledged the possibility that it could disturb sleep.[7] Other studies have also suggested associations between noise levels in turbines and self-reported sleep disturbances in the nearby population, while adding that the contribution of infrasound to this effect is still not fully understood.[8][9]

In a study at Ibaraki University in Japan, researchers said EEG tests showed that the infrasound produced by IWTs was "considered to be an annoyance to the technicians who work close to a modern large-scale wind turbine." [10][11][12]

The EIR should review the latest scientific literature for effects of infrasound noise on people and wildlife and be included as part of the EIR.

i. **Mitigation:** Infrasound is an unavoidable characteristic of IWTs and cannot be mitigated thus the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

XIII. **POPULATION AND HOUSING:**

a. No Comment

XIV. **PUBLIC SERVICES:**

a. a) Fire Protection?

Comments: As discussed earlier the IWTs would hamper air support during firefighting operations in the immediate area of the FWP. Effects on emergency communications in the project area should also be analyzed for potential impacts. Because of the high winds in this area, even what would normally be considered a quick response time by local firefighting personnel, may be too long given the extremely high fire hazard rating for this area. Also, as mentioned in an earlier

section the limited ingress and egress to the area could severely hamper emergency vehicle response times and evacuations, particularly during the construction phase. Any proposed projects that increase the local fire risks should not be allowed. Even a small increased risk is large risk for this area.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

XV. **RECREATION:**

a. No Comment

XVI. **TRANSPORTATION/TRAFFIC:**

a. *a,b,b,d,e)*

Comments: The construction phase of the Fountain Wind Project is conservatively estimated to be 18-24 months and will have a significant effect on local traffic flow. There is projected to be as many as 400 workers who will be driving to/from the construction site on a daily bases. There will be a large number of construction vehicles, including timber harvesting operations for the over 2000 acres to be cleared during the construction phase. It is estimated by the developer that as many as 15 separate loads per IWT installed would have to be made to deliver its various components with as many as 9 of those as Extra Wide or Supper Loads; that's 1500 loads for the Wind Turbines alone with as many as 900 of them being Extra Wide or Super Loads. In addition to the 1500 deliveries for the IWTs there would be many deliveries required for the large construction equipment, transmission lines, transformers, other gravel and cement, building materials etc. The traffic control requirements with single lane traffic controls will contribute to traffic congestion in both directions of Hwy299 and hamper access of emergency vehicles and/or evacuations. Emergency aircraft would be hampered in the immediate vicinity of the IWTs.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

XVII. **TRIBAL CULTURAL RESOURCES:**

a. a,b)

Comments: As mentioned by several speakers during the public scoping meeting held 21 January there are numerous historical sites that are part of the regions Native

American heritage. These areas should be protected and preserved. The criteria for specifying the significance of these known sites should be determined by the local tribal community. The FWP should not be allowed to destroy and/or desecrate any sites that are sacred to the local Native Community whose ancestry and heritage is from this area. The sites should be preserved and protected for their cultural and historic significance. Local graveyards would not be dug up for the sake of installing unnecessary IWTs those of our Native American neighbors should not be disturbed either.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

XVIII. **UTILITIES AND SERVICE SYSTEMS:**

a. No Comment

XIX. **MANDATORY FINDINGS OF SIGNIFICANCE:**

a. *b,c*) ***b)*** *Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Comments: ***b)*** As mentioned in the EIS the cumulative effects of being closing located to the Hatchet Ridge project should be considered for all applicable areas of the EIR such as the cumulative effects on bats, various avian species (especially migratory birds and raptors [including our very limited Bald Eagle population]) and other species of wildlife in the area.

The restriction of aerial firefighting efforts in a rugged and fire prone region will be compounded by the closely located Hatchet Ridge IWTs.

Also, there have been studies indicating that the wind turbulence of IWTs, especially those located along ridge lines, can impact local weather by disrupting normal air flow over ridge tops. This turbulence from spinning wind turbine rotors increases vertical mixing of heat and water vapor that affects the meteorological conditions downwind, including rainfall [13] so, the miles of ridge top IWTs of the FWP should be analyzed together with those of the nearby Hatchet Wind Project for possible impacts regarding this phenomena on the local environment.

The cumulative effects of increased fire risk due to the additional sources of potential fire and fuels from the additional IWTs and associated transformers and

other equipment of the Hatchet Ridge project should also all be addressed in the EIR.

i. **Mitigation:** There is no reasonable way to mitigate these impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

b. ***c)*** *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Comments: It's not clear how the EIS could give this particular category a "No Impact" assessment given all of the areas already identified as potentially significant within the EIS itself. The increased fire threat alone has the potential for significant loss of life. Other identified areas should be examined for potential health effects including: infrasound, shadow flicker and wind turbine syndrome. These IWT effects have been a source of thousands of complaints of negative health impacts throughout the world and have led to various regulations in attempts to minimize their impacts. This area should be assessed as "potentially significant" and evaluated considering all of the available scientific evidence for already identified areas of significant impacts.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

DEMBER 2018 AMENDMENTS TO THE 2018 CEQA: The following environmental area discussed are based on the latest amendment to the CEQA document. Two new categories were added that have significant bearing on the FWP.

ENERGY. *Would the project:*

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Comments: Yes, this would result in a significant environmental impact due to wasteful, inefficient or unnecessary consumption of energy resources, during construction and operation. As indicated in earlier sections of this document the only option is the "No Project or Alternate Site". The significant impacts to the environment, including wildlife, and forest lands and other impacts can be mitigated by "No Project" or "Alternate-Site" alternatives identified earlier in this document. There are several alternative sites within the state of California, with much less wildfire risks, with infrastructure already in place, from aging or abandoned IWTs, that can be retro fitted or replaced to generate the clean energy proposed by the FWP. Even though previous wind studies indicate this location may generate the

wind power needed for the FWP, it introduces additional wildfire risks that are not acceptable.

In addition, some of the latest reports and Gap Analysis (from the California Public Utility Commission [CPUC]), indicate the way forward regarding: California's evolving energy market, PG&E's recent bankruptcy filing, grid transmission reliability and safety, renewable energy storage limitations, and the paying of surrounding states to take excess power, all of which need to be resolved and incorporated into the EIR before any further consideration of permit approval for the FWP can take place. These Energy related issue are further discussed below:

According to the CPUC 2018 Report, solar continues to represent the largest portion of renewable energy serving the California load. The report also indicated that with the rapid growth in renewables, particular solar generation, it has dramatically changed California's generation profile, and California's grid operators have had to adapt to these changes. With solar generation, the increase in the morning, when the sun rises, and decrease in the evening requires other resources to balance the generation and load on the electrical system and maintain system reliability. [24] Due to the inability to store enough renewable energy for later use, and the need to balance the electrical grid, California has **paid** Arizona Public Service (APS) Co, to take our excess solar power. "According to APS President of Energy Resource Management, Tammy LcLeod, the Arizona utility will save rate payers up to $18 million with the new system." "The California Independent System Operator (CISO) had too much power coming into the grid from renewable sources and not enough demand to use it up. California was looking for utilities to use the surplus power. Sweetening the pot, the CISO was paying APS to take the power for higher demand Phoenix." [14] Adding another intermittent energy source such as the FWP would exacerbate the problem at this time.

California is part of the four-utility Western Regional Energy Imbalance Market, as such they look for ways to import/export power in the system in an attempt to balance the electrical grid, even **paying other states to take excess power off the grid.** Because of the current renewable storage limitations, and the transmissions system reliability and safety constraints, California's ability to both export excess generation and import generation to meet load demands is limited. Clearly the additional power generated by the FWP will just add to the problems currently being addressed by the CPUC. To approve the FWP will only add to this problem and does not address the wasteful energy, safety, and financial inefficiencies, which do not benefit the California consumers.

Based on the December 2018 California Energy Commission Renewable Energy Report, California's evolving electricity market has been shifting largely due to the increase in self-generation and Community Choice Aggregators (CCAs). CCA's are local public agencies,

typically created by joint powers agreements or city or county ordinance that can directly develop and buy electricity on behalf of their customers. The CPUC's report titled, *California Customer Choice, An Evaluation of Regulatory Framework Options for and Evolving Energy Market* reports that by the end of 2018, as much as 25% of Investor Owned Utilities (IOUs) retail electric load will be served by a combination of rooftop solar, CCA's and direct access providers. The CPUC staff paper further predicted that this number could grow to 85% in the next decade. This potential widespread growth of CCAs presents opportunities and challenges for renewable development, as well as raising broader considerations of reliability, load uncertainty, and cost allocation. [15]

Transmission Agency of Northern California (TANC), in earlier communications with Shasta County regarding the nearby Hatchet Ridge Project and associated transmission system reliability indicated that, "previous interconnection studies have indicated that the injection of power from these projects could have a detrimental impact on the amount of power that could be imported into California from the Pacific Northwest."[16] TANC also indicated "In the absence of specific studies qualifying the impacts or associated mitigation costs of the Project, on the existing 500-kV grid, please be aware that this and similar projects will likely increase the cost of rebuilding or re-conducting existing 230-kV line to maintain appropriate levels and related performance objectives for potentially affected public facilities."[16] Due to the fact that PG&E has filed bankruptcy it seems unlikely that they will take any action for re-conducting or upgrading transmission lines in the FWP area to help stabilize the transmission grid for safety or reliability. With the already identified concerns of reliability and load uncertainty, not to mention the increased costs, and lack of specific studies or analysis, the FWP would only exacerbated the problem by adding additional transmission lines and intermittent power.

According to the CPUCs 2018 report, solar power has dropped in price and installations are on the rise. Additionally, with the mandate that all new homes, beginning in 2020, must have solar power, and the fact that many large businesses and military bases are installing renewable energy systems, the electric grid system safety and reliability is being challenged. The CPUC is taking action **now** to evaluate how they will address the issues and gaps outlined in the Gap Analysis from the Choice Paper [18]. Some of these issues will require updates to regulations and some will include legislative action to determine the future of renewable energy. With all the work in progress by the CPUC it cannot been determined that the FWP, at this requested location, shows any benefit to California's green energy efforts. i.e., (Issue: Contracting for Reliability Resource Requirements) Will there be continued support of the resource procurement necessary for long term supply, renewable resources and Behind The Meter (BTM) technology penetration to meet statewide goals for reliability, de-carbonization and affordability?

The CPUC released a report in May 2018 warning that the emergence of CCAs could potentially destabilize California's energy grid. The CPUC's primary concern is that CCAs have fractured regulatory decision-making regarding reliability, affordability, and safety – decisions that have traditionally been handled by the CPUC. [17]

Due to the emergence of CCAs, Direct Access electricity service providers (ESPs) and BTM technologies, the CPUC embarked on the Customer Choice Project to examine the rapid changes in California's electric sector due to an evolving and increasingly disaggregated electric market. The CPUC published the *California Customer Choice: An Evaluation of Regulatory Framework Options for an Evolving Electricity Marke*t (Choice Paper). This paper looked at critical policy issues associated with increased disaggregation of load and supply and conducted an internal analysis to identify the regulatory gaps that exist and the necessary actions to ensure the core principles are met. The *Choice Action Plan and Gap Analysis* indicates the CPUC "lacks a comprehensive regulatory framework to address burgeoning customer choice options, increasing disaggregated load, and sector fragmentation, which is also creating adverse consequence, that if not addressed, may likely lead to a crisis. The Gap analysis identified the major issues under the core principles of reliability, affordability, and consumer protection. The Choice Action Plan offers a roadmap to anticipate and ameliorate the adverse and unintended consequences of customer choice and disaggregated electricity procurement." [18] This is just further evidence that now is not the time to move forward with the FWP given all of the system challenges and electric grid issues.

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail] at this time.

b) *Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?*

Comments: Yes, the conflict is outlined in the information listed under question (a) for Energy above. Conflicts arise, and needs to be addressed adequately, as identified in the final Choice Action Plan and Gap Analysis Report from the Choice Project, as to how the State will address Distribution Grid Services and Resource Adequacy issues. Some of the current energy inefficiencies have already been mentioned, and I am sure there are many more, that can no longer be ignored. The cost of moving forward, despite some of the issues, especially the transmission grid safety and reliability areas, have cost California billions of dollars and hundreds of lives, none of which can be replaced by accelerating clean energy goals without **addressing the safety and reliability concerns first**.

Additionally, according to the 2018 CPUC Report, California is ahead of its current renewable energy goal targets. The report shows the goal of 33% of electrical demand

supplied by renewable energy for 2020, we are at 34% in 2018. Having already exceeded the current goals, California officials need to pause to address the safety, and threat of life issues now. These issues need to be resolved before any further development takes places. Allowing the FWP to introduce an additional 16 miles of transmission lines proposed in the project and another intermittent power source, will only exacerbate the safety risk and degradation of service issues currently being dealt with and studied by the CPUC.

Additionally, research indicates that wind energy is less efficient than previous thought so the EIR should compare other renewable energy source, to this project, as a means to generate the same clean power (i.e. solar farms [placed in valley location], or additional or increased capacity hydro-electric generation). Because of the many significant environmental impacts of the FWP and the inefficiencies as compared to other renewable sources, the FWP should not be approved and other renewable solar or hydroelectric projects should be considered instead. The study below discusses some of the energy density issues of IWT generated renewable energy

> The new study, published in *Environmental Research Letters,* shows yet again that wind energy's Achilles heel is its paltry power density. "We found that the average power density—meaning the rate of energy generation divided by the encompassing area of the wind plant—was up to 100 times lower than estimates by some leading energy experts," said lead author Lee Miller, a postdoctoral fellow who coauthored the report with Harvard physics professor David Keith. The problem is that most estimates of wind energy's potential ignore "wind shadow," an effect that occurs when turbines are placed too closely together: the upwind turbines rob wind speed from others placed downwind.
>
> The study looks at 2016 energy-production data from 1,150 solar projects and 411 onshore wind projects. The combined capacity of the wind projects totaled 43,000 megawatts, or roughly half of all U.S. wind capacity that year. Miller and Keith concluded that **solar panels produce about 10 times more energy per unit of land as wind turbines**—a significant finding—but their work demands attention for two other reasons: first**, it uses real-world data, not models**, to reach its conclusions, and second, **it shows that wind energy's power density is far lower than the Department of Energy, the IPCC, and numerous academics have claimed**.
>
> Further: "While improved wind turbine design and siting have increased capacity factors (and greatly reduced costs), they have not altered power densities." In other words, though Big Wind has increased the size and efficiency of turbines—the latest models stand more than 700 feet tall—it hasn't been able to wring more energy out of the wind. Due to the wind-shadow effect, those taller turbines must be placed farther and farther apart, which means that the giant turbines cover more land. As turbines get taller and sprawl across the landscape, more people see them.

> **In California, which just boosted its renewable-electricity mandate to 60 percent by 2030, wind turbines are so unpopular that the industry has effectively given up trying to site new projects there**.
>
> Big Wind has attempted to intimidate some of its rural opponents by filing lawsuits against them. Last year, NextEra sued the town of Hinton in federal and state court after the town passed an ordinance restricting wind-energy development. The wind-energy giant also sued local governments in Michigan, Indiana, and Missouri, all of which had passed measures restricting wind-energy development.
>
> Why the hardball tactics? Simple: rural residents stand between Big Wind and tens of billions of dollars in subsidies available through the Production Tax Credit. In September, Lisa Linowes, cofounder and executive director of the Industrial Wind Action Group, a New Hampshire-based nonprofit that tracks the wind industry, published an article on MasterResource.org. "The US Treasury estimates the PTC will cost taxpayers $40.12 billion in the period from 2018 to 2027," Linowes wrote, "making it, by far, the most expensive energy subsidy under current tax law." The punchline here is obvious: wind energy has been sold as a great source of "clean" energy. The reality is that wind energy's expansion has been driven by federal subsidies and state-level mandates. Wind energy, cannot, and will not, meet a significant portion of our future energy needs because it requires too much land. [19]

Shasta country already has clean energy projects that support California's goal for clean and renewable energy generation such as the Hatchet Ridge Wind Project and various Hydroelectric Facilities. The Hatchet Ridge Wind Project has 44 turbines generating up to 102 MW of electricity located near Burney. A nearby Hydroelectric Facilities operated by PG&E spans 38 miles of the Pit River, Pit, 3, 4, and 5 near Burney and Big Bend. It has four dams, four reservoirs, three powerhouses, associated tunnels, surge chambers, and penstocks. The nine generating units from the powerhouses have a combined generation capacity of 325 MW.

One of the biggest concerns that must be addressed is the bankruptcy of PG&E. PG&E filed bankruptcy as the "only viable option" to escape potentially $30 billion worth of liabilities for sparking major wildfires in 2017 and 2018. State investigators found the utility sparked a dozen major fires in 2017 through poorly maintained powerlines and equipment. Pacific Gas and Electric (PG&E) may shed more than $40 billion worth of power purchase agreements after the California utility was driven into bankruptcy by liabilities for sparking deadly wildfires, The Wall Street Journal reports.[20]

PG&E wants the U.S. Bankruptcy Court in San Francisco to rule whether the company must honor $42 billion worth of contracts with about 350 different energy suppliers, mostly solar

and wind plants. The goals set by government officials were optimistic before PG&E filed for bankruptcy. **California's grid operator has paid surrounding states on several occasions to take excess power off California's grid caused by overproducing solar and wind farms**. [20] As noted in a recent Bloomberg news article the wildfire crisis and the resulting PG&E bankruptcy, could impact the state's ability to meet its clean energy and climate goals. [21]

Since the installation of the Hatchet Ridge IWTs the environmental safety concerns have escalated tremendously, as witnessed by the recent destructive and devastating wildfires, likely due faulty grid transmission lines (having been poorly maintained), and unpredictable wind patterns (Firenato). With the documented increased safety concerns, and the risk of life threatening wildfires, we do not believe the Hatchet Wind Project should be used as a precedent for determining the approval of the FWP. Many of the same unresolved environmental, safety, economic, and electrical transmission grid impacts from the Hatchet Ridge Project, still exist, some having actually increased in their impact (such as wildfires). The proposed FWP would create cumulative impacts that need to be addressed and resolved, via independent studies, in conjunction with the documented transmission grid safety, reliability, and degradation issues as a whole for the state.

Even though it has been documented that wind generation at the proposed project site is sufficient for a wind generation facility, Shasta County should not approve the permit based on the reduced community safety issues alone and the further ongoing electric generation and transmission issues within the State.

i. **Mitigation:** There is no reasonable way to mitigate this impact especially given the ongoing electric grid issues, other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

WILDFIRE: – *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:*

a) *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

Comments: Shasta County needs to review and update the existing emergency evacuation plan in relation to the recent devastating wildfires that have plagued the area. Per the documentation available on the FWP county web site, only local officials were notified to address any emergency evacuation concerns, others agencies at the State and/or Federal level should also be consulted regarding emergency response considerations. Considering the

recent Northern California fire activity this item should be listed as 'Potentially Significant Impact' with the County providing emergency evacuation plan updates. Due to recent massive and destructive wildfires, in the immediate and surrounding areas, the community emergency evacuation plan needs to be, evaluated, addressed and updated **before** the project developer can indicate if this area has been addressed and how effected any plans would be. The various communities affected by the FWP have very few exit routes near the project area. This limitation has been shown, in the recent Carr, Delta, and Camp fires, to have life threatening and devastating consequences.

The EIS states that there is no currently adopted emergency response plan for the project area and that the FWP would not physically interfere with an emergency response plan or an evacuation plan for neighboring populated areas (e.g. Burney, Montgomery Creek, and Moose Camp). It also goes on to state that this project does not conflict with the goals of the Shasta County and City of Anderson Multi-Jurisdictional Hazard Mitigation Plan, particularly to reduce the possibility of damage to property or life including this area. These statements make no sense in light of Environmental Issues already identified in the EIS and further discussed in this document as "Potentially Significant." The fact that the EIS identifies many studies and further analysis that have yet to be completed should have prevented these statements from even being made at this time. This project will **definitely increase the risk** to property and life due to the increased risk of fire in the area. As stated earlier in these comments, this project will interfere with aerial firefighting efforts and other emergency response efforts in the vicinity of the FWP. Emergency firefighting aircraft are restricted from flying near the IWTs or dropping fire retardant on them. These factors restrict the ability of emergency response aircraft from fighting fires in the immediate areas of the IWTs. The steep terrain, as much as 25% grade within the FWP area, require aircraft fire suppression tactics to effectively fight fires in the project and nearby areas. If the IWTs physically limit the ability to fight fire near them and they are less than a mile away from some communities, then they are definitely not reducing the fire risks in this area. This area is considered a Very High Fire Severity Zone per Cal Fire's Fire Severity Zone Map. The very winds that attracted the wind developer to this area also causes this local region to be subject to catastrophic fire damage, as happened during the Fountain Fire in August of 1992.

Existing emergency response plans and/or emergency evacuation plans for this area should be thoroughly reviewed in light of the impacts to ingress/egress, especially during the construction phase, and the limitations to firefighting efforts for the local communities and the project area itself. There are few roads for ingress and egress of this area, should a fire start at the proposed FWP, which extends across both sides of Hwy 299, evacuations and/or emergency response vehicles access, could be severely limited. Many residence are remotely located along numerous small private roads through thickly forested areas; the few County and State roadways connected to these private roads are the local residence's only

way out in case of fire or other emergency. Any activity that inhibits their movement and/or increases fire risk in this remotely populated area is putting their lives at risk. These factors should be addressed in the EIR.

ii. **Mitigation:** There is no reasonable way to mitigate this impact especially given the very high fire risk for this area, other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Comments: The FWP terrain is steep, as much as 25% grade, and inhibits firefighting efforts. Due to the steep terrain firefighting air craft would need to be used, which would be limited in their ability to respond because of the height and wind turbulence of the IWTs. One of the reason the developer choose this site is the prevailing winds which substantially increase the risk of fires starting from downed transmission lines or IWTs and also increases the probability of a fire's rapid and uncontrollable spread, as was experienced during the local Fountain Fire of '92 and the very tragic Camp and Carr fires where nearly 100 persons died just last year. In many of the recent fires that plagued Northern California the wind has proven to be a substantial factor in the spread of the wildfires at an unprecedented rate. The fact that IWTs do catch fire and that it is an ongoing concern for the Wind Industry, is well documented. It is thought that the number of fires which have occurred is grossly under reported for various reasons by the Wind Industry. [22]

The IWT nacelles typically contain a large amount of flammable materials including: lubricants for the gears, fiberglass covering of the nacelle, resins, plastics etc. Once the IWTs catch fire, typically within the nacelle, there is little that can be done by fire responders other than to let them burn and try to mitigate the spread of fires on the ground as the IWT spews fiery debris over a large area. There is also the danger to fire fighters of being struck from some of this fiery debris, including the large IWT blades which often fly apart during IWT fires. Several communities in this country and throughout the world have restricted any new wind farm developments in timber and forested areas due to increased fire risk caused by IWT fires, transmission lines, and often because of the remote locations and turbine height, limits resources of firefighting efforts. Fearing more forest fires, an Australian province enacted a law banning placements of wind towers near wooded areas after tens of thousands of acres of forested land were destroyed. [23]

On-site fuel to maintain FWP operations and maintenance, including the transformer oils and other flammable materials impose an additional risk factor to an area that has already been identified as "Very High Risk" as indicated by the Cal Fire maps. Any increased risk even if only slightly should not be allowed and is akin to smoking while pumping gas, it should not be allowed to occur in this area.

According to the CPUC 2018 no issue received more attention than the CPUC's efforts to deal with the increased threat of wildfires throughout the state. Due to the devastating wildfire threat the CPUC, the Governor, Legislature, a host of state agencies and local governments are making fire safety a primary focus. The wind-driven wildfires that plagued the California North state in 2018 were ravenous and lightning fast as seldom seen in California before. The deadly wildfires drive home the reality that the state is facing challenges of keeping people, property and the environment safe. California's fire season is longer and more severe and those challenges are expected to get even worse with prolonged drought, increased tree mortality and various other factors. In 2018 the Safety and Enforcement Division (SED) organized a wildfire safety hearing. The hearing underscored wildfire safety as a top priority for the CPUC which will lead to refined policies and new state laws. As part of these efforts to implement wildfire safety the CPUC will examine PG&E's current corporate governance, management and structure to determine the best path forward for Northern Californians to receive safe energy service. The Commission is also preparing to initiate safety culture proceedings for the other utilities it regulates.

According to CPUC Fire-Threat Map of January, 19, 2018 the proposed project development area is completely surrounded by areas of elevated fire risk Tier 2, and in some areas extreme risk Tier 3, (including likelihood and potential impacts on people and property) from utility associated wildfires. Tier 2 fire-threat areas depict areas where there is an elevated risk (including likelihood and potential impacts on people and property) from utility associated wildfires. Tier 3 fire-threat areas depict areas where there is an extreme risk (including likelihood and potential impacts on people and property) from utility associated wildfires. Many residents in the nearby project development area are already being denied homeowner insurance, or renewals, because we are now considered to be in a 'Very High Risk' area as identified by Cal Fire Hazard Severity maps. The only homeowner insurance options we have been able to obtain are the California Fair Plan, which is considered to be the last resort for homeowner's insurance. The FWP would further exacerbates an already highly volatile environment with high winds, forested mountain terrains subject to lightning strikes (compounded by the turbines themselves) and steep terrain making firefighting efforts more difficult (some areas only available by air support alone) as previously stated. Given the already extremely high fire rating for this area and the additional risk imposed by the FWP, the turbine manufacture(s), developer, project land lease owner, Shasta County, and the State of California could be held liable for furthering any developments of this type.

A report generated by Lawrence Berkeley National Laboratory, Greenware Technologies and Envision Geo for the California's Fourth Climate Change Assessment, titled ASSESSING THE IMPACT OF WILDFIRES ON THE CALIFORNIA ELECTRICITY GRID show that for our region the threat of wildfires is doubled by the years 2040-2049 the same time the IWTs are reaching the end of their serviceable life and more prone to failure and fire which would just compound an already volatile situation.

Because of these newly initiated and ongoing efforts by our state regulatory agencies and governance regarding power generation and distribution no further action should be taken to approve the FWP until clearer guidance is provided by the CPUC for regions such as ours, especially since there is no "Demonstrable Need" for the FWP at this time. .

i. **Mitigation:** There is no reasonable way to mitigate this impact other than the **"No Project"** or **"Alternate-Site"** alternatives [See Subsection I Aesthetics (a) above for further detail].

c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Comments: Addressed above and in previous comments.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Comments: Needs to be examined in EIR.

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Sincerely,
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ELEVEN AUTONOMOUS BANDS
36970 Park Ave. Burney CA. 96013 Phone (530) 335-5421 Fax: (530) 335-5069

RESOLUTION NO: 02-02-19

DATE: February 14, 2019

SUBJECT: Pit River Tribe Opposition to the Fountain Wind Project (Use Permit 16-007)

WHEREAS: The Pit River Tribe is a federally recognized Tribe composed of eleven (11) autonomous bands: Ajumawi, Atsugewi, Atwamsini, Illmawi, Astariwi, Hammawi, Hewisedawi, Itsatawi, Aporige, Kosealekte and Madesi, that since time immemorial have resided in the area known as the 100 mile square, located in parts of Shasta, Siskiyou, Modoc, and Lassen Counties in the State of California, prior to the issuance of Papal Bull Inter Caetera (1493) and the Treaty of Guadalupe Hidalgo (1848), AND;

WHEREAS: The Pit River Tribe is governed by the Pit River Tribal Council, the body duly Constituted and elected under the Constitution of the Pit River Tribe adopted August 15, 1987 and approved by the Assistant Secretary of the Interior for Indian Affairs on December 3, 1987, AND;

WHEREAS: The Pit River Tribal Council is empowered by Article VII of the Constitution to enact all ordinances and resolutions which shall be necessary and proper for carrying into effect the Council's powers and responsibilities, contract with federal, state, and Tribal government, private enterprises, individuals and organizations, AND;

WHEREAS: The Pit River Tribe has the authority to charter and regulate independent organizations, subordinate organizations, committee and boards of officials of the Tribe and delegate powers, AND;

WHEREAS: The Pit River Tribe has inherent sovereign governmental powers to protect and promote the health, safety, and/or general welfare of the people of the Pit River Tribe, AND;

WHEREAS: Natural and Cultural resources as well as the Pit River people are indistinguishable within the harmony of the Pit River world, AND;

WHEREAS: The proposed Fountain Wind project lays within the Pit River Tribe ancestral band areas of the Madesi, Itsatawi and Atsugewi bands, which hold deep ties to this great place of refuge, ceremony, healing, prayer, fasting, hunting, gathering, and other sacred traditional uses, and as doing so The PIT RIVER TRIBE and its NATION as a WHOLE holds the proposed project area, ancestral area of great significance, culturally and spiritually, AND;

WHEREAS: This proposed project infringes on the freedom of religion and the cultural practices of the Pit River Tribe and other Indian Tribal Nations in the region for whom this Ancestral area is of great spiritual, cultural and religious significance, AND;

WHEREAS: The sacred responsibility to maintain the health and integrity of the Natural World for future generations is also a central element of Pit River Peoples' spirituality, traditional ceremonial practices, religious expressions and identity, which is tied to the oral history and topography of the land, AND;

ATWAMSINI ASTARIWI ATSUGEWI APORIGE AJUMAWI

HEWISEDAWI ILLMAWI ITSATAWI KOSEALEKTE HAMMAWI

MADESI

Resolution No: 02-02-19
Date: February 14, 2019
Subject: Pit River Tribe Opposition to the Fountain Wind Project (Use Permit 16-007)

ATWAMSINI

WHEREAS: The proposed project area is an integral part of the biological and watershed resources of the Pit River Tribal community. It will take a significant amount of water to construct this massive project, which diversion of water resources of the area will negatively impact the biodiversity of the area as well as be a potential cause of erosion and habitat destruction, which can result in adverse effects to the health and safety of the Pit River Tribal community, AND;

HEWISEDAWI

WHEREAS: Our sacred Mountain Yet-Tey-Cha-Na, Lassen Peak, lies in Lassen National Park in which the PIT RIVER TRIBE maintains deep cultural ties will be adversely affected by the proximity of this project and will negatively impact the viewshed and our peaceful enjoyment of this most sacred place of great significance to ours as well as surrounding Tribes, recreationalists, and National Park visitors, AND;

ASTARIWI

WHEREAS: The PIT RIVER TRIBE invokes the United States Government's Trust Responsibility to the Indian Peoples of this land. Government-to-government consultation with Federal, State, and County governments is established and assured by laws, regulations, policies, and executive orders such as; the National Environmental Policy Act, the National Historic Preservation Act, the Native American Graves Protection and Repatriation Act, the American Indian Religious Freedom Act, the National Register Bulletin 38 on Traditional Cultural Properties, Executive Order 13007 on Indian Sacred Sites, Executive Order 13175, Executive Order 12898 on Environmental Justice, California Environmental Quality Act, Senate Bill 18, etc. prior to the implementation of activities within Pit River Ancestral lands and the repeated promises of good will by the United States Government, AND;

ILLMAWI

ATSUGEWI

WHEREAS: The PIT RIVER TRIBE unanimously adopted a resolution on March 29th, 2012 affirming the United Nations Declaration on the Rights of Indigenous Peoples adopted by the UN General Assembly in 2007 and also endorsed by the United States on December 16th, 2010, AND;

ITSATAWI

WHEREAS: The United Nations Declaration on the Rights of Indigenous Peoples is the minimum standard for the dignity, survival and well-being of Indigenous Peoples and recognizes the rights of Indigenous Peoples pertaining to cultural practices, (Article 11), access to and protection of sacred sites (Article 12), spiritual relationship with traditional lands and waters (Article 25), environmental protection (Article 29) and Free Prior and Informed Consent regarding development projects (Article 32) among a number of other relevant provisions, AND;

APORIGE

WHEREAS: Internationally, the PIT RIVER TRIBE further invokes the legally binding international Covenants and Conventions, to which the United States is obligated including the International Covenant on Civil and Political Rights, and the International Convention on the Elimination of All Forms of Racial Discrimination, which also call upon State Parties to respect the cultural and religious rights as well as other relevant rights of Indigenous Peoples, AND;

KOSEALEKTE

NOW THEREFORE BE IT RESOLVED that the PIT RIVER TRIBE invoke these statutes, Declarations, Resolutions, decrees and Conventions and affirms its **Opposition** to the Fountain Wind Project (Use Permit 16-007) as its scope of development is harmful and incompatible with existing long-standing spiritual and cultural uses of the area and its natural resources, and the human rights of Pit River and other Tribes. Therefore, the Pit River Tribe must act to support the protection of these interconnected earth, air, water, and overall ecosystem which are irreplaceable resources within its defined ancestral lands.

AJUMAWI

BE IT FURTHER RESOLVED that the PIT RIVER TRIBE **Rejects** the Fountain Wind Project and directs the Shasta County Board of Supervisors to deny use permit 16-007 and move forward with a "No Project Alternative" which includes No Use Permit, No commercial scale energy project on the proposed site.

HAMMAWI

Resolution No: 02-02-19
Date: February 14, 2019
Subject: Pit River Tribe Opposition to the Fountain Wind Project (Use Permit 16-007)

C-E-R-T-I-F-I-C-A-T-I-O-N

I, the under-signed Tribal Chairperson, Agnes Gonzalez of the Pit River Tribe, do hereby certify the Pit River Tribal Council is composed of eleven autonomous bands of which ___ were present, constituting a quorum at a regular scheduled, noticed, convened and held meeting this 14 day of February 2019, and the resolution was adopted by a vote of 6 yes 0 no 0 abstaining, and that said resolution has not been rescinded in any way.

ATWAMSINI

Agnes Gonzalez — 2/14/19
Tribal Chairperson, Agnes Gonzalez — Date

Tracy Eleck — 2/14/19
Tribal Secretary, Tracy Eleck — Date

HEWISEDAWI

ASTARIWI

Tribal Council Member Signatures:

Ronnuelo M. Darias — 02/14/2019 — Date

02/14/2019 — Date

ILLMAWI

ATSUGEWI

Barry Ward — 2-14-2019 — Date

2-14-2019 — Date

ITSATAWI

2-14-19 — Date

Randy Quinn — 2.14.19 — Date

APORIGE

Date

Date

KOSEALEKTE

Date

AJUMAWI

Date

Date

HAMMAWI

MADESI

Comments regarding Fountain Wind Project (Use Permit 16-007)

DATE: February 14, 2019

TO: Shasta County, Department of Resource Management Planning Division representatives and Shasta County Board of Supervisors

SUBJECT: Madesi Band of the Pit River Nation Comments and Opposition to the Fountain Wind Project (Use Permit 16-007)

The Pit River Tribe is a federally recognized Tribe composed of eleven autonomous bands located in Northeastern California since time immemorial, in which the Madesi Band is included. It is clear that the Madesi Band's Ancestral area lies within this proposed Fountain Wind Project (Use Permit 16-007).

The Madesi Band as part of the Pit River Nation has inherent sovereign governmental powers to protect and promote the health, safety, and/or general welfare of the original peoples of the Pit River. This duty includes maintaining the health and integrity of the Natural World for future generations. These natural and cultural resources which are indistinguishable from the Pit River Peoples are a central element of our spirituality, traditional ceremonial practices, religious expressions, history, and identity. Given these facts this project would significantly disrupt the harmony between the Madesi Band and the Pit River world.

Therefore the Madesi Band is in opposition of the Fountain Wind Project due to numerous negative impacts and environmental concerns that this massive project of nearly 40,000 acres presents to our Citizens, known Cultural Resources, watershed, plants, animals, and overall ecosystem which include but is not limited to:

- **Indigenous History** - The topography of the Land in question is central to our identity, oral traditions and history, changing it in such a drastic fashion would be unthinkable. And be interpreted as an attempt to erase our people from history.
- **Habitat** - The proposed Fountain Wind project will have devastating impacts on the habitats of animals, migration routes, trees, plants, and air quality of this area.
- **Freedom of Religion** - This project would have irreversible negative impacts on the freedom of religion and the cultural practices of the Pit River Tribe and other Indian Tribal Nations in the region for whom this Ancestral area is of great spiritual, cultural and religious significance.
- **Continued Use/We are still here/We still exist** - The project area is highly significant to the cultural and religious ways of the Tribe as a whole. The PIT RIVER TRIBE and its NATION has deep ties to this place of refuge, ceremony, healing, prayer, fasting and other sacred traditional uses.
- **Misrepresentation** - The Fountain Wind Project developers have not acted in good faith, representing themselves as an American company located in Oregon, but are actually owned by an organization out of Spain. These out of country interests have demonstrated a lack of concern for our local culture, environments, and overall ecosystem as evidenced by the current Hatchet Wind project in this area.

Comments regarding Fountain Wind Project (Use Permit 16-007)

- **Exploitation** - This community and general area is already being overstretched and exploited with power generating activities such as the existing Hatchet Wind Farm, power lines, dams, PG&E hydroelectric activities that are contributing to fish species extinction, and other harmful conditions such as cyanobacteria/toxic algae which put all communities members at risk. Our rural community is carrying too much of the burden for the benefit of others and to the detriment of our health and safety.
- **Inefficient** - There is a significant loss of power when energy is transmitted over long distances proving this project to be inefficient and wasteful, and therefore lacking integrity.
- **Oppression** - These types of projects/companies, comparable to the nearby Hatchet Wind farm have demonstrated a pattern of behavior of targeting socio-economically suppressed areas, and exploiting them for personal gain. Further suppressing these communities by lowering property values in and around the surrounding project areas and from extremely long distances in from which they can be seen day and night.
- **Local Economy** - Our community relies heavily on recreation and tourism in our economy which will be negatively impacted by these monstrosities.
- **Aesthetics/Viewshed** - These massive wind mills are incongruent, and negatively impact the aesthetics of this natural environment as evidenced by the existing Hatchet Wind farm which has disrupted the pristine viewshed and visual resources of the land they are placed as well as the viewshed for vast distances in all directions. They are placed in Shasta County and can be seen from surrounding counties. The Fountain Wind Project proposes even larger windmills.
- **Red Flashing Lights** - The existing wind farm uses red blinking lights that can be seen from significant distances, and this type of technology is used to chase away animals in such products as "Nite Guard Solar-Powered Night Animal Predator Light". This company claims that scientific studies by animal behavior experts concluded that a red flashing light appears as an eye to animals, and therefore presents as the threat of being watched, this is threatening to animals, further studies by this company concluded that this product works on all night animals and they react the same way to the red flash. They claim to successfully deter and frighten owls, coyotes, opossum, raccoons, fox, bobcats, muskrats, bears, cougar, wild boar, mink and weasels. Based on this information having these flashing red lights in this natural area will disrupt the normal, natural balance of the ecosystem.
- **Watershed -** The proposed project area is an integral part of the biological and watershed resources of this community. It will take a significant amount of water to construct this massive project, which diversion of water resources of the area will negatively impact the biodiversity of the area as well as be a potential cause of erosion and habitat destruction, which can result in adverse effects to the health and safety of community members.
- **Lassen National Park -** Our sacred Mountain Yet-Tey-Cha-Na, Lassen Peak, lies in Lassen National Park in which the PIT RIVER TRIBE maintains deep cultural ties will be adversely affected by the proximity of this project and will negatively impact the viewshed and our peaceful enjoyment of this most sacred place of great significance to ours as well as surrounding Tribes, recreationalists, and National Park visitors.
- **Hunting and Gathering -** This project will disrupt long standing traditional hunting and gathering practices.

Comments regarding Fountain Wind Project (Use Permit 16-007)

- **Illegal "Take" -** The current Hatchet Windmill project kills culturally and environmentally critical birds and other avian species. The USFW does not currently monitor this illegal activity, and is currently unaware of any applications from the existing wind farm for incidental take permits, which is required to continue murdering protected species such as Golden and Bald Eagles. Current protection processes, monitoring, and enforcement with these types of projects are lacking.
- **Traffic/Infrastructure** - Highway 299 is not currently equip to handle additional traffic, and is prone to commercial accidents on a regular basis putting the community at risk of increased travel related danger.
- **Scenic Area of National importance** - Highway 299 is a historic byway and the gateway to what President Theodore Roosevelt named "The eighth wonder of the world", Burney Falls.
- **Emergency communications** - This project could cause emergency communication interference, which can include television and cell reception.
- **Abandonment**- Other projects of this type in California have been left abandoned leaving a land scar of nonoperational outdated windmills. The equivalent to a junk yard.
- **Ignores real issue** - The Fountain wind project does not address the real energy generation issue, which is the need for efficient delivery and storage of excess power already generated in California. This proposed project only serves to mask and compound this serious infrastructure deficiency.

Therefore the Madesi Band upholds its opposition to the Fountain Wind Project (Use Permit 16-007) as its scope of development is harmful and incompatible with existing long-standing spiritual and cultural uses of the area and its natural resources, and the human rights of Pit River and other Tribes. Thus, the Madesi Band must act to support the protection of these interconnected earth, air, water, and overall ecosystem which are irreplaceable resources within its defined ancestral lands.

Further the Madesi Band rejects the Fountain Wind Project and directs the Shasta County Board of Supervisors to deny use permit 16-007 and move forward with a "No Project Alternative" which includes No use permit, No commercial scale energy project on the proposed site.

Respectfully,
Brandy McDaniels, Pit River Nation Madesi Band Cultural Representative

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Raquel Walters Indig

Comment: You people are going to do what you please, I am commenting (a day late and dollar too short!) in the "hope", that when you move on after this project, you would read the comments of the indigenous people where you move onto next.

My grandpa told me, many, many moons ago, about this project. I was a child about my grandchildren's age. I thought he was crazy! It's like being raped and pillaged all over again!!. We do not go into your churches and tear and dig them up. Because we do not have a building to "worship in" does not mean we do not "pray and worship" as you people do. Probably why we "laughed at" you people "for building" homesteads. We knew you can not control "mother nature!" We moved our homes - summer, spring, fall and winter, accordingly. You have already did aforementioned to Hesse, don't discriminate against Indesi!

Privacy notice: Please provide contact information inside the dotted line. The contents of this box *only* will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address: 42277 Wilcox Rd Hot Creek CA 96040.

Email Address: ~~babeelvin@yahoo.com~~ babeelvin@yahoo.com

Opt-in to mailing list (must provide valid address): ☐ Yes, mail Project updates ☑ No, do not send mail

Opt-in to email list (must provide valid email address): ☑ Yes, email Project updates ☐ No, do not send email

Instructions:

You may submit your comment regarding the Fountain Wind Project in writing using the form on the other side of this sheet. Please fold and staple this form and mail it to the address below by February 14, 2019. You may also submit comments on the following website: http://comment-tracker.esassoc.com/tracker/fountainwindeir/ by emailing lsalazar@co.shasta.ca.us or by calling (530) 225-5532 by February 14, 2019.

Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

Public Comment Card

Fountain Wind Project
Comment Period: January 15, 2019- February 14, 2019

Commenter Name/Affiliation: Donna Cawker Pit River

Comment: I am a native to this land, I see what was once beautiful land now with Poles when I look towards the Mountain's I can't Imagine what is going on with our Wild life, used to see lot's of bird's no Eagles - Why - because they are getting killed by Wind project -

Our people are buryed Just under that wind Project - the Tom family - Bamford family other Elder's -

now with all fires we are loseing all our Wild life - what happen's if and when Mt Lassen does blow.

Privacy notice: Please provide contact information inside the dotted line. The contents of this box *only* will be redacted prior to public reproduction of this comment. Please note that your contact information will remain on file in the Project record.

Address: 36970 Park Ave - Burney Cal - Tribal Office

Email Address:

Opt-in to mailing list (must provide valid address): ☐ Yes, mail Project updates ☐ No, do not send mail

Opt-in to email list (must provide valid email address): ☐ Yes, email Project updates ☐ No, do not send email

Instructions:

You may submit your comment regarding the Fountain Wind Project in writing using the form on the other side of this sheet. Please fold and staple this form and mail it to the address below by February 14, 2019. You may also submit comments on the following website: http://comment-tracker.esassoc.com/tracker/fountainwindeir/ by emailing lsalazar@co.shasta.ca.us or by calling (530) 225-5532 by February 14, 2019.

PIT RIVER TRIBE
36970 PARK AVE.
BURNEY, CA 96013

SACRAMENTO
CA 952
28 JAN '19
PM 7 L

NEOPOST
01/26/2019
US POSTAGE $00.50

FIRST-CLASS MAIL

Place stamp here

ZIP 96013
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RECEIVED
SHASTA COUNTY
JAN 30 2019
DEPT OF RESOURCE MGMT
BUILDING DIVISION

Lio Salazar, AICP, Senior Planner
Shasta County, Department of Resource Management
Planning Division
1855 Placer Street, Suite 103
Redding, CA 96001

96001-175928

From: Natalie Forrest-Perez [mailto:thpo@ itrivertribe.org]
Sent: Thursday, February 14, 2019 4:39 PM
To: Lio Salazar <lsalazar@co.shasta.ca.us>
Subject: Pit River Tribe Opposition to the Fountain Wind Project (Use Permit 16-007)

Mr. Salazar,

Attach is a resolution signed by the Pit River Tribal Council, which is supported by Pit River Tribal Cultural Representatives and Elders that are elected by Pit River Tribal members. We
oppose Use Permit 16-007, Fountain Wind Project.

Natalie Forrest-Perez
Tribal Historic Preservation Officer

PIT RIVER TRIBE

Pit River Tribe
36970 Park Ave
Burney,CA.96013
Phone:(530)
335-5421Ext.1205
Fax:(530)335-3140

Agnes Gonzalez
Tribal Chairman

Mickey Gemmill Jr.
Vice-Chairman

Tracy Eleck
Tribal Secretary

Jolee George
Recording Secretary

Brandy McDaniels
Tribal Treasurer

Lawrence Cantrell
Sargent At Arms

ELEVEN AUTONOMOUS BANDS

36970 Park Ave. Burney CA. 96013 Phone (530) 335-5421 Fax: (530) 335-5069

ATWAMSINI ASTARIWI ATSUGEWI APORIGE AJUMAWI

HEWISEDAWI ILLMAWI ITSATAWI KOSEALEKTE HAMMAWI

RESOLUTION NO: 02-02-19

DATE: February 14, 2019

SUBJECT: Pit River Tribe Opposition to the Fountain Wind Project (Use Permit 16-007)

WHEREAS: The Pit River Tribe is a federally recognized Tribe composed of eleven (11) autonomous bands: Ajumawi, Atsugewi, Atwamsini, Illmawi, Astariwi, Hammawi, Hewisedawi, Itsatawi, Aporige, Kosealekte and Madesi, that since time immemorial have resided in the area known as the 100 mile square, located in parts of Shasta, Siskiyou, Modoc, and Lassen Counties in the State of California, prior to the issuance of Papal Bull Inter Caetera (1493) and the Treaty of Guadalupe Hidalgo (1848), AND;

WHEREAS: The Pit River Tribe is governed by the Pit River Tribal Council, the body duly Constituted and elected under the Constitution of the Pit River Tribe adopted August 15, 1987 and approved by the Assistant Secretary of the Interior for Indian Affairs on December 3, 1987, AND;

WHEREAS: The Pit River Tribal Council is empowered by Article VII of the Constitution to enact all ordinances and resolutions which shall be necessary and proper for carrying into effect the Council's powers and responsibilities, contract with federal, state, and Tribal government, private enterprises, individuals and organizations, AND;

WHEREAS: The Pit River Tribe has the authority to charter and regulate independent organizations, subordinate organizations, committee and boards of officials of the Tribe and delegate powers, AND;

WHEREAS: The Pit River Tribe has inherent sovereign governmental powers to protect and promote the health, safety, and/or general welfare of the people of the Pit River Tribe, AND;

WHEREAS: Natural and Cultural resources as well as the Pit River people are indistinguishable within the harmony of the Pit River world, AND;

WHEREAS: The proposed Fountain Wind project lays within the Pit River Tribe ancestral band areas of the Madesi, Itsatawi and Atsugewi bands, which hold deep ties to this great place of refuge, ceremony, healing, prayer, fasting, hunting, gathering, and other sacred traditional uses, and as doing so The PIT RIVER TRIBE and its NATION as a WHOLE holds the proposed project area, ancestral area of great significance, culturally and spiritually, AND;

WHEREAS: This proposed project infringes on the freedom of religion and the cultural practices of the Pit River Tribe and other Indian Tribal Nations in the region for whom this Ancestral area is of great spiritual, cultural and religious significance, AND;

WHEREAS: The sacred responsibility to maintain the health and integrity of the Natural World for future generations is also a central element of Pit River Peoples' spirituality, traditional ceremonial practices, religious expressions and identity, which is tied to the oral history and topography of the land, AND;

Resolution No: 02-02-19
Date: February 14, 2019
Subject: Pit River Tribe Opposition to the Fountain Wind Project (Use Permit 16-007)

ATWAMSINI

WHEREAS: The proposed project area is an integral part of the biological and watershed resources of the Pit River Tribal community. It will take a significant amount of water to construct this massive project, which diversion of water resources of the area will negatively impact the biodiversity of the area as well as be a potential cause of erosion and habitat destruction, which can result in adverse effects to the health and safety of the Pit River Tribal community, AND;

HEWISEDAWI

WHEREAS: Our sacred Mountain Yet-Tey-Cha-Na, Lassen Peak, lies in Lassen National Park in which the PIT RIVER TRIBE maintains deep cultural ties will be adversely affected by the proximity of this project and will negatively impact the viewshed and our peaceful enjoyment of this most sacred place of great significance to ours as well as surrounding Tribes, recreationalists, and National Park visitors, AND;

ASTARIWI

WHEREAS: The PIT RIVER TRIBE invokes the United States Government's Trust Responsibility to the Indian Peoples of this land. Government-to-government consultation with Federal, State, and County governments is established and assured by laws, regulations, policies, and executive orders such as; the National Environmental Policy Act, the National Historic Preservation Act, the Native American Graves Protection and Repatriation Act, the American Indian Religious Freedom Act, the National Register Bulletin 38 on Traditional Cultural Properties, Executive Order 13007 on Indian Sacred Sites, Executive Order 13175, Executive Order 12898 on Environmental Justice, California Environmental Quality Act, Senate Bill 18, etc. prior to the implementation of activities within Pit River Ancestral lands and the repeated promises of good will by the United States Government, AND;

ILLMAWI

ATSUGEWI

WHEREAS: The PIT RIVER TRIBE unanimously adopted a resolution on March 29th, 2012 affirming the United Nations Declaration on the Rights of Indigenous Peoples adopted by the UN General Assembly in 2007 and also endorsed by the United States on December 16th, 2010, AND;

ITSATAWI

WHEREAS: The United Nations Declaration on the Rights of Indigenous Peoples is the minimum standard for the dignity, survival and well-being of Indigenous Peoples and recognizes the rights of Indigenous Peoples pertaining to cultural practices, (Article 11), access to and protection of sacred sites (Article 12), spiritual relationship with traditional lands and waters (Article 25), environmental protection (Article 29) and Free Prior and Informed Consent regarding development projects (Article 32) among a number of other relevant provisions, AND;

APORIGE

WHEREAS: Internationally, the PIT RIVER TRIBE further invokes the legally binding international Covenants and Conventions, to which the United States is obligated including the International Covenant on Civil and Political Rights, and the International Convention on the Elimination of All Forms of Racial Discrimination, which also call upon State Parties to respect the cultural and religious rights as well as other relevant rights of Indigenous Peoples, AND;

KOSEALEKTE

NOW THEREFORE BE IT RESOLVED that the PIT RIVER TRIBE invoke these statutes, Declarations, Resolutions, decrees and Conventions and affirms its **Opposition** to the Fountain Wind Project (Use Permit 16-007) as its scope of development is harmful and incompatible with existing long-standing spiritual and cultural uses of the area and its natural resources, and the human rights of Pit River and other Tribes. Therefore, the Pit River Tribe must act to support the protection of these interconnected earth, air, water, and overall ecosystem which are irreplaceable resources within its defined ancestral lands.

AJUMAWI

HAMMAWI

BE IT FURTHER RESOLVED that the PIT RIVER TRIBE **Rejects** the Fountain Wind Project and directs the Shasta County Board of Supervisors to deny use permit 16-007 and move forward with a "No Project Alternative" which includes No Use Permit, No commercial scale energy project on the proposed site.

Resolution No: 02-02-19
Date: February 14, 2019
Subject: Pit River Tribe Opposition to the Fountain Wind Project (Use Permit 16-007)

C-E-R-T-I-F-I-C-A-T-I-O-N

I, the under-signed Tribal Chairperson, Agnes Gonzalez of the Pit River Tribe, do hereby certify the Pit River Tribal Council is composed of eleven autonomous bands of which ___ were present, constituting a quorum at a regular scheduled, noticed, convened and held meeting this 14 day of February 2019, and the resolution was adopted by a vote of 6 yes 0 no 0 abstaining, and that said resolution has not been rescinded in any way.

ATWAMSINI

Agnes Gonzalez — 2/14/19
Tribal Chairperson, Agnes Gonzalez — Date

Tracy Eleck — 2/14/19
Tribal Secretary, Tracy Eleck — Date

HEWISEDAWI

ASTARIWI

Tribal Council Member Signatures:

Ronnie M. Arias — 02/14/2019 — Date

[signature] — 02/14/2019 — Date

Buzz Ward — 2-14-2019 — Date

ATSUGEWI

[signature] — 2-14-2019 — Date

[signature] — 2-14-19 — Date

Randy Quinn — 2.14.19 — Date

ILLMAWI

ITSATAWI

APORIGE

KOSEALEKTE

AJUMAWI

HAMMAWI

Page 3 of 3

MADESI

Letter T9

From: PATRICIA RIGGINS

Sent: Thursday, February 14, 2019 4:39 PM

To: Lio Salazar

Subject: Fountain Wind Project

Good evening, as a community member, a Pit River Tribal member and a Earth Warrior OPPOSE of the Fountain Wind Project! The Fountain Wind project will have devastating impacts on the habitats of animals, migration routes, trees, plants, and on the visual and air quality of this area . Also the project area is highly significant to my cultural and religious ways that help me and others in ceremony, healing, prayer, fasting and other sacred traditional uses. I oppose because I have great concern that this project will do more damage than good.

--

Patricia Riggins*- *Keep Moving Forward!

2/14/19

Good Afternoon,

I am the Tribal Historic Preservation Officer (THPO) for the Susanville Indian Rancheria (SIR). SIR is a federally recognized Tribe comprised of 4 distinct Tribes: Mountain Maidu, Northern Paiute, Pit River and Washoe. I was emailed a message this morning about the Fountain Wind Project. I had not heard of the project until this morning. Is it too late to request Consultation under AB 52? I perused the planned project a bit. I have noticed that a portion of the wind mills will be in the foothills of Lassen Peak or Kohm Yamani as we refer to Snow Mountain in Mountain Maidu language. This mountain and area is sacred to the Tribe and opposes the placement of the mills in this area. For this reason it's opposed to certain areas that are also sacred to our neighboring Tribe, The Pit River Nation.

Respectfully yours,
Melany L Johnson THPO/NAGPRA Coordinator