

**JIM HATLEY  
V.  
UMATILLA COUNTY**

LUBA NO. 2012-017 and 2012-018

Local File Number  
Land Use Decision #T-10-139

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**CONSOLIDATED RECORD**

**Jim Hatley  
vs.  
Umatilla County**

**LUBA Nos. 2012-017 and 2012-018  
Local File Number #T-10-139**

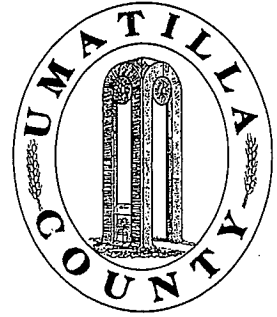
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# Umatilla County

Department of Land Use Planning



Director  
Tamra Mabbott

LAND USE  
PLANNING  
541-278-6252

CODE ENFORCEMENT  
541-278-6300

\*\*\*  
Emergency  
Management  
Division:

EMERGENCY  
MANAGEMENT  
541-966-3700

CHEMICAL  
STOCKPILE EMERGENCY  
PREPAREDNESS  
PROGRAM  
(CSEPP)  
541-567-2084  
541-966-3700  
1-877-367-2737

## AFFIDAVIT OF MAILING

FEBRUARY 29, 2012

BOARD OF COMMISSIONERS ACTION ON LUBA REMAND  
COSNER vs. UMATILLA COUNTY  
LUBA Nos. 2011-070, 2011-071 and 2011-072

### PUBLIC NOTICE

I hereby certified that the accompanying list of property owners, local, state and federal officials, utility company representatives, news media, and interested parties, were mailed notice of decision for the land use request noted above, via first class mail on 2-29-12.

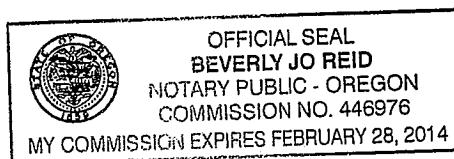
Dated this 29 day of February, 2012.

Connie Hendrickson  
Designated Mailing Officer

STATE OF OREGON            ) ss  
COUNTY OF UMATILLA    )

Signed and personally appeared before me this 2nd day of

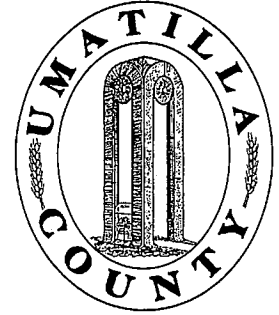
April, 2012, by Connie Hendrickson



Beverly Reid  
Notary Public for Oregon

# Umatilla County

Department of Land Use Planning



Director  
Tamra Mabbott

Land Use  
Planning  
Division:  
541-278-6252

CODE  
ENFORCEMENT  
541-278-6300

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541-966-3700

CHEMICAL  
STOCKPILE  
EMERGENCY  
PREPAREDNESS  
PROGRAM  
(EPP)  
541-966-3700  
1-877-367-2737

February 29, 2012

To Whom It May Concern:

Re: Board of Commissioners Action on LUBA Remand  
Cosner vs. Umatilla County  
LUBA Nos. 2011-070, 2011-071 and 2011-072

On February 28, 2012, the Board of County Commissioners held a hearing to reconsider the items remanded by the Land Use Board of Appeals for the amendment to the Umatilla County Development Code, #T-010-039, Conditional Use Section 152.616 (HHH) Commercial Wind Energy Facility Siting Standards.

The Board reconsidered portions of Ordinances No. 2011-05, 2011-06 and 2011-07. The Board addressed the remand order by adopting the following:

ORDINANCE No. 2012-04 In the Matter of Amending Development Code for Wind Power Generation Facility for Deletion of Setback Waiver Provisions as Required by LUBA Decision.

ORDINANCE No. 2012-05 INCLUDING FINDINGS In the Matter of Amending Development Code for Wind power Generation Facility Walla Walla Watershed Standards.

Order No. BCC2012-020 In the Matter of Initiating Amendment to Wind Power Generation Facility Siting Standards Allowing for Adjustment Criteria for Rural Residence Setbacks.

Order No. BCC 2012-021 In the Matter of Adoption of Additional Findings on Remand in support of Ordinance Nos. 2011-05, 2011-06 and 2011-07 for Wind Power Generation Facilities Siting Requirements.

A statutory 21-day appeal period commenced the day the Ordinances were signed by the Board of Commissioners, February 28, 2012. If you wish to appeal the county decision to the Land Use Board of Appeals (LUBA) you must file the appeal by March 20, 2012. You can contact LUBA at 550 Capitol Street NE, suite 235, Salem, OR 97310; phone (503) 373-1265.



The Ordinances and Orders are posted on the county website at [www.umatillacounty.net/planning](http://www.umatillacounty.net/planning).

If you have any questions, please feel free to contact me.

Cordially,



Tamra J. Mabbott,  
Planning Director

This notice provided to persons who participated in the hearing and/or submitted written testimony to the Board of Commissioners after the Remand was issued.

RECEIVED

FEB 28 2012 THE BOARD OF COMMISSIONERS OF UMATILLA COUNTY

UMATILLA COUNTY  
RECORDS

STATE OF OREGON

In the Matter of Amending                   )  
Development Code for Wind                   )     ORDINANCE NO. 2012-04  
Power Generation Facility                   )  
for Deletion of Setback                   )  
Waiver Provisions as Required            )  
by LUBA Decision                            )

WHEREAS on May 20, 2003, the Board of Commissioners adopted Ordinance No. 2002-02, establishing requirements for the siting of wind power generation facilities, codified at Section 152.616 (HHH) of the Umatilla County Code of Ordinances;

WHEREAS the Planning Commission and Planning Department staff have drafted updates to the siting standards for wind power generation facilities;

WHEREAS the Umatilla County Planning Commission held work sessions and discussions on the matter a number of times, including December 17, 2009, and January 13, 2011, and held a public hearing regarding the proposed amendments on November 18, 2010 and February 24, 2011, and forwarded the proposed amendment to the Board of Commissioners with a recommendation for adoption;

WHEREAS the Board of Commissioners held a public hearing on March 17, 2011, continued to May 12, 2011, June 14, 2011 and June 28, 2011, to consider the proposed amendments, and voted 3-0 to adopt Ordinance No. 2011-05, and 2 in favor and 1 against to adopt Ordinance No. 2011-06;

WHEREAS Ordinance Nos. 2011-05 and 2011-06 were appealed to the Land Use Board of Appeals, under LUBA Nos. 2011-070, 2011-071, and 2011-072;

WHEREAS the Land Use Board of Appeals issued a decision on January 12, 2012, finding, *inter alia*, that the waiver of the setback requirements impermissibly delegated authority, and that the waiver provisions in Ordinance Nos. 2011-05 and 2011-06 were unconstitutional;

WHEREAS the Board of Commissioners held a public hearing on February 28, 2012, to consider the issues remanded to Umatilla County by the Land Use Board of Appeals, and to implement the decision.

NOW, THEREFORE the Board of Commissioners of Umatilla County ordains the adoption of the following amendment to the County Land Development Ordinance, codified in Chapter 152 of the Umatilla County Code of Ordinances, to comply with the decision of the Land Use Board of Appeals (Strikethrough text is deleted; Underlined/Italicized text is added):

**§152.616 STANDARDS FOR REVIEW OF  
CONDITIONAL USES AND LAND USE  
DECISIONS.**

(HHH) Commercial Wind Power Generation Facility.

(6) *Standards/Criteria of Approval* The following requirements and restrictions apply to the siting of a Wind Power Generation Facility:

Setbacks. The minimum setback shall be a distance of not less than the following:

(1) From a turbine tower to a city urban growth boundary (UGB) shall be two miles; ~~unless a city council action authorizes a lesser setback.~~ The measurement of the setback is from the centerline of a turbine tower to the edge of the UGB that was adopted by the city as of the date the application was deemed complete.

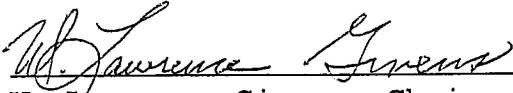
(2) From turbine tower to land zoned Unincorporated Community (UC) shall be 1 mile; ~~unless the landowner of the land zoned UC authorizes by written waiver a lesser setback and the waiver is recorded with the county deed records.~~

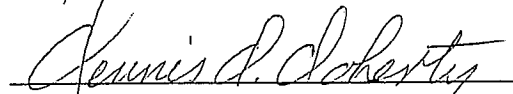
(3) From a turbine tower to a rural residence shall be 2 miles; ~~unless the landowner of the rural residence authorizes by written waiver of a lesser setback and the waiver is recorded with the county deed records.~~ For purposes of this section, a "rural residence" is defined as a legal, conforming dwelling existing on the parcel at the time an application is deemed complete. The measurement of the setback is from the centerline of the turbine tower to the centerpoint of the residence.


FURTHER by unanimous vote of those present, the Board of Commissioners deems this Ordinance necessary for the immediate preservation of public peace, health, and safety; therefore, it is adjudged and decreed that an emergency does exist in the case of this Ordinance and it shall be in full force and effect from and after its adoption.

DATED this 28th day of February, 2012.

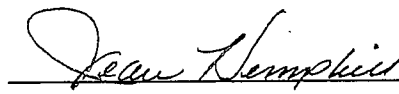
UMATILLA COUNTY BOARD OF COMMISSIONERS

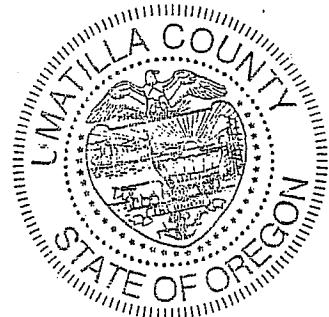
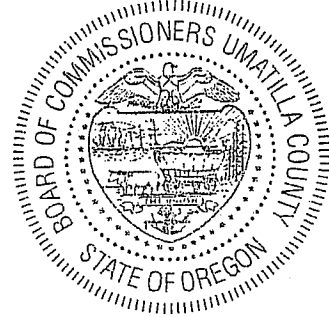
  
W. Lawrence Givens, Chair

  
Dennis D. Doherty, Commissioner

  
William S. Hansell, Commissioner

ATTEST:  
OFFICE OF COUNTY RECORDS

  
Records Officer



RECEIVED

FEB 28 2012

UMATILLA COUNTY  
RECORDS

THE BOARD OF COMMISSIONERS OF UMATILLA COUNTY

STATE OF OREGON

In the Matter of Amending                    )  
Development Code for Wind                    )     ORDINANCE NO. 2012-05  
Power Generation Facility                    )     INCLUDING FINDINGS  
Walla Walla Watershed                        )  
Standards                                     )  
  )

WHEREAS on May 20, 2003, the Board of Commissioners adopted Ordinance No. 2002-02, establishing requirements for the siting of wind power generation facilities, codified at Section 152.616 (HHH) of the Umatilla County Code of Ordinances;

WHEREAS the Planning Commission and Planning Department staff have drafted updates to the siting standards for wind power generation facilities;

WHEREAS the Umatilla County Planning Commission held work sessions and discussions on the matter a number of times, including December 17, 2009, and January 13, 2011, and held a public hearing regarding the proposed amendments on November 18, 2010 and February 24, 2011, and forwarded the proposed amendment to the Board of Commissioners with a recommendation for adoption;

WHEREAS the Board of Commissioners held a public hearing on March 17, 2011, continued to May 12, 2011, June 14, 2011 and June 28, 2011, to consider the proposed amendments, and voted 3-0 to adopt Ordinance No. 2011-07 for standards within the Walla Walla Watershed;

WHEREAS Ordinance No. 2011-07 was appealed to the Land Use Board of Appeals, under LUBA Nos. 2011-070, 2011-071, and 2011-072;

WHEREAS the Land Use Board of Appeals issued a decision on January 12, 2012, finding, *inter alia*, that the county decision did not include a Goal 5 ESEE analysis or findings explaining the additional standard limitations for the area;

WHEREAS the Board of Commissioners held a public hearing on February 28, 2012, to consider the issues remanded to Umatilla County by the Land Use Board of Appeals, and to implement the decision;

WHEREAS the additional standards for the watershed area will also provide protection of treaty rights of the Confederated Tribes of the Umatilla Indian Reservation.

NOW, THEREFORE the Board of Commissioners of Umatilla County finds, and adopts these findings to support Ordinance No. 2012-05:

1. The Land Use Board of Appeals ("LUBA") remanded Ordinance 2011-07 because the ordinance "[adjusted] the balance the county initially struck in its initial ESEE analysis and its program to achieve the goal". Slip op. 16. Ordinance 2011-07 amended Umatilla County Development Code ("UCDC") 152.616(HHH) (11) ("Section 11") by adding subsections (B) and (D) which included additional Goal 5 protections and thus "adjusted the balance" of the Goal 5 program. LUBA found that the adjustment required the County to address at least some of the ESEE analysis set out in OAR 660-023-0040(2) through (5) (the administrative rule implementing Goal 5). Because the County did not conduct the ESEE analysis nor adopt any findings based on an ESEE analysis, LUBA remanded the County's decision in order for the County to conduct the ESEE analysis and adopt findings.

2. On remand, the County finds that it is not required to adjust the ESEE analysis adopted in its original Goal 5 program. As LUBA noted in its decision, because the County allows wind facilities as a conditional use in resource zones, the County's existing Goal 5 program limits, but does not prohibit, conflicting uses such as wind facilities. *Id.*

3. The County is not required to readopt Section 11 in its entirety on remand.

4. The County now finds that it does not wish to amend its Goal 5 program and will adopt Section 11 on remand by striking subsections (B) and (D) in their entirety. By doing so, the County has not adjusted the Goal 5 program and the administrative rule at issue in this assignment of error is no longer relevant to this issue.

5. The County finds that with the adoption of amended Section (11) consistent with the existing and acknowledged Goal 5 program, it has appropriately addressed this sub-assignment of error on remand.

NOW, THEREFORE the Board of Commissioners of Umatilla County ordains the adoption of the following amendment to the County Land Development Ordinance, codified in Chapter 152 of the Umatilla County Code of Ordinances, to comply with the decision of the Land Use Board of Appeals (Strikethrough text is deleted; Underlined/Italicized text is added):

**§152.616 STANDARDS FOR REVIEW OF  
CONDITIONAL USES AND LAND USE  
DECISIONS.**

(HHH) Commercial Wind Power Generation Facility.

(11) Walla Walla Watershed.

Lands located within the Walla Walla Sub-basin East of Highway 11 shall be subject to additional standards. The purpose of these criteria is to prevent impacts to the following: ~~inventoried Goal 5 resources~~, highly erodible soils (as defined by the Oregon Department of Agriculture), and federally listed threatened and endangered species, ~~and the Critical Winter Range~~. The standards are also designed to protect sensitive streams and to be consistent with the Clean Water Act.

(A) There shall be no construction of project components, including wind turbines, transmission lines and access roads on soils identified as highly erodible. The highly erodible soils are those soils identified by the Oregon Department of Agriculture as highly erodible.

FURTHER by unanimous vote of those present, the Board of Commissioners deems this Ordinance necessary for the immediate preservation of public peace, health, and safety; therefore, it is adjudged and decreed that an emergency does exist in the case of this Ordinance and it shall be in full force and effect from and after its adoption.

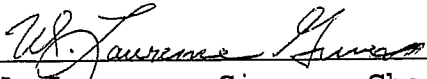
~~(B) The application shall demonstrate that the Wind Power Generation Facility and its components, wind turbines, transmission lines, and roads, will not conflict with existing significant Goal 5 Resources within the Walla Walla Sub-basin.~~

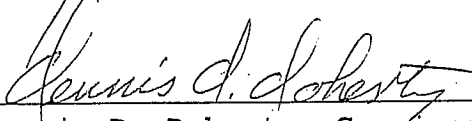
~~(C) The application shall demonstrate that the Wind Power Generation Facility and its components will be setback a minimum of two miles from streams and tributaries that contain Federally listed threatened and endangered species, and, that the project will generate no runoff or siltation into the streams.~~

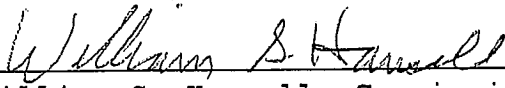
~~(D) The application shall demonstrate that the Wind Power Generation Facility and its components will not be located within the Critical Winter Range.~~

DATED this 28th day of February, 2012.


UMATILLA COUNTY BOARD OF COMMISSIONERS

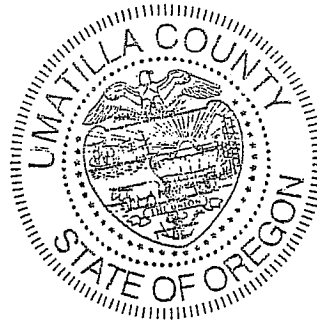
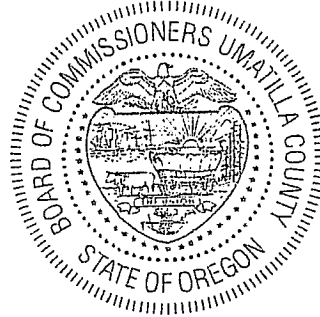
  
W. Lawrence Givens, Chair

  
Dennis D. Doherty, Commissioner

  
William S. Hansell, Commissioner

ATTEST:  
OFFICE OF COUNTY RECORDS

  
Records Officer





**UMATILLA COUNTY BOARD OF COMMISSIONERS**

**Meeting of Tuesday, February 28, 2012**

**9:00 a.m., Umatilla County Justice Center,**

\*\*\*\*\*

**COMMISSIONERS PRESENT:** Dennis Doherty, Larry Givens, Bill Hansell.

**ABSENT:** None.

**COUNTY COUNSEL:** Doug Olsen.

**STAFF:** Connie Hendrickson, Tamra Mabbott, Gina Miller.

\*\*\*\*\*

**NOTE: THE FOLLOWING IS A SUMMARY OF THE MEETING. HOWEVER, A  
RECORDING OF THE MEETING IS AVAILABLE AT THE PLANNING  
DEPARTMENT OFFICE.**

**CALL TO ORDER:**

Chairman, Commissioner Larry Givens called the meeting to order at 9:06 a.m.

**NEW HEARING:**

The hearing is regarding the remand from LUBA on the appeals to the amendment to the Umatilla County Development Code (UCDC) # T-10-039, Conditional Use Section 152.616 of the HHH Wind Energy Facility Siting Standards. Portions of Ordinance #2011-05, #2011-06, and #2011-07 will be reconsidered to address items remanded to the County by the Land Use Board of Appeals (LUBA).

Commissioner Givens explained that testimony would be taken; however, it should only pertain to the remand issues.

The issues being heard include:

- The First Assignment of Error pertaining to setbacks.
- The Second Assignment of Error pertaining to Goal 5 in the Walla Walla Watershed
- The Sixth Assignment of Error pertaining to compliance with Comprehensive Plans

The Board will proceed with each Assignment of Error separately and will take testimony separately.

**Staff Report:** County Counsel Doug Olsen presented the staff report. Mr. Olsen explained that the first issue would be the Sixth Assignment of Error relating to the LUBA finding that the County had failed to document and find that the three ordinances were in compliance with five Comprehensive Plan policies. What is before the Board is to document that the County did consider these Plan policies and that the ordinances are in compliance with those policies.

Planning Director Tamra Mabbott reviewed the policies and proposed findings for the Board's consideration. The five Plan policies that the petitioners thought were relevant and not addressed include:

- Policy 42 - Specifically requires that the County encourage development of alternative sources of energy. The County allows for the siting of commercial wind energy facilities and other renewable energy facilities in the natural resource zone and by State Statute counties are not required to. This is an ORS 215.283 (2) use, so counties have the option to allow or not, and the fact that the County does allow commercial wind energy facilities does, in and of itself, support this Comprehensive Plan policy.

Further, the Conditional Use Permit standards apply to all zones in which commercial wind projects are allowed. The conditions are clear and objective and therefore make the process more attainable for the landowner and developer.

In addition to the siting standards, the County has made other information, such as mapping and literature, as well as a checklist, available to the public. Notice is provided to affected agencies as part of the Conditional Use process, further enhancing the review process.

The County also allows, but does not require that a wind energy facility be included on the Comprehensive Plan Goal 5 Inventory.

- Policy 37 – Requires the County to ensure compatible interim uses provided through development permit standards and, where applicable, consider agriculturally designated land as open space for appropriate and eventual resource or energy facility use. The County finds that this policy is met where commercial wind energy facilities are allowed on all resource zones. The Exclusive Farm Use and Grazing Farm zones have the affect of preserving areas for future development of energy facilities.
- Policy 1 (Chapter 16 of the Comprehensive Plan) – Requires the encouragement of rehabilitation and weatherization of older structures and utilization of locally feasible renewable energy resources through the use of tax and permit incentives. The County finds that the wind siting standards in this section are consistent with this policy, where clear and objective standards provide incentive and assurance for a developer seeking permits. Clear and objective standards provide regulatory assurance to a land owner and developer and for financing purposes.
- Policy 1 (Chapter 12 of the Comprehensive Plan) – Requires encouragement of diversification within existing and potential resource based industries. The County finds that by allowing commercial wind energy development as a conditional use in resource zones, and by adopting clear and objective standards, that the wind siting standard encourage the development of wind energy in the

resource zones, and thus, enhance opportunities to diversify resource based industries.

- Policy 7 (Chapter 12 of the Comprehensive Plan) – Requires cooperation with development oriented entities in promoting advantageous aspects of the area. The County finds that by allowing commercial wind energy development as a conditional uses in resource zones, and by adopting clear and objective standards, the County is cooperating with developers of commercial wind energy and promoting the development of energy resources.

Mr. Olsen noted that what is before the Board is Order #BCC2012-021, which is basically the findings in support of the three ordinances that were adopted previously. It is not a new ordinance, but findings in support of the previous ordinances.

Commissioner Dennis Doherty and Mr. Olsen discussed the LUBA's remand and what would be accomplished with the new findings. The conclusion was that the new findings would address the lack of documentation in the record that the five policies raised in error were considered or addressed. Mrs. Mabbott added that LUBA's footnotes did recognize that it may have been the counties intent, but there was no written record of it.

Commissioner Bill Hansell noted the concern of being in "limbo", where the Ordinance has been adopted, but has been appealed and remanded. He asked what currently governs development during the transition period. His understanding is that, by adopting the proposed order, it takes us out of limbo and what was approved in July becomes the governing document again. Mr. Olsen agreed, with the exception of the Walla Walla Watershed centers, which will be addressed next, and the waiver to setbacks.

Commissioner Givens asked about items he received before the meeting that needed to be entered into the record: Exhibit #1 – Letter from Minnick Hayner, on behalf of Ted Reid and Mona Geidl; Exhibit #2 – Packet from Clinton Reeder.

Motion: Commissioner Hansell moved to accept into the record the letter from Minnick Hayner as Exhibit #1 and the complete 52 page packet from Clinton Reeder as Exhibit #2. Commissioner Doherty seconded. Motion carried unanimously.

Commissioner Doherty commented on Exhibit #1, noting it is a good letter, but it basically asks the Board to reconsider the two mile setback. Since LUBA did not reverse or remand that setback it is not before the Board today.

Commissioner Givens called for testimony related to the Sixth Assignment of Error.

Proponent Testimony: Dave Price, 80488 Zerba Road, Athena, Oregon. Mr. Price noted that he was speaking on behalf of the Blue Mountain Alliance (BMA).

Commissioner Givens noted that Mr. Price's letter covered all three Assignments of Error, but requested that Mr. Price speak only on the Sixth Assignment of Error at this

time to prevent confusion. He would be allowed to testify on the other Assignments as they were heard by the Board. Mr. Price agreed.

Mr. Price testified that BMA feels that Section III of the proposed changes regarding compliance with Comprehensive Plan Policies is well written and adequately addresses the issues involved. BMA feels it meets the requirements of the LUBA remand. Their recommendation is that it be accepted as written, and approved.

Motion: Commissioner Givens named the letter from Mr. Price on behalf of BMA Exhibit #3 for the record. Commissioner Doherty made the motion to accept. Commissioner Hansell seconded. Motion carried unanimously.

**Opponent Testimony:** Bruce White, PO Box 1298, Bend, Oregon, 97709. Mr. White was present as attorney for Jim Hatley, a land owner in the Walla Walla River Basin. He provided written materials to be entered into the record.

Motion: Commissioner Doherty moved to enter the materials from Bruce White into the record as Exhibit #4. Commissioner Hansell seconded. Motion carried unanimously

Mr. White noted maps attached to his letter, of the Hatley property, which the Board may want to refer to. He then explained that he had previously worked as Assistant County Counsel in Deschutes County dealing with land use matters, so he could appreciate the role of the Board in this matter. His client is concerned about the proposed ordinances and the effect they may have on his property, and he is motivated to appeal decisions that are not consistent with the law.

Mr. White noted that his testimony relative to the Sixth Assignment is detailed on pages 6-11 of his letter. He feels this Assignment of Error actually addresses all of the ordinances globally, as the concept of encouraging wind energy development goes through all aspects of the ordinance. For example, if there are issues related to setbacks or protection of Goal 5 resources that do not encourage wind energy development, then those issues are relevant to this Assignment of Error. It may appear to be a checklist item, but it is perhaps the most important item before the Board because it is a matter of interpreting the County's policy, and applying it to the package in total. So it is not just a matter of making findings to jump through hoops. It is an exercise in applying County policy, which in this case is to encourage development of alternative wind energy sources.

This requires the County to take a look at the setbacks, setback exceptions, and the kind of protection being given to Goal 5 and other natural resources. All of those issues are relative to determining whether the proposed package "encourages the development of alternative energy". Mr. White noted that they would be providing testimony on the other Assignments of Error that the setbacks are overly restrictive and the solution to give flexibility is not adequate should it be appealed to LUBA.

With respect to the Goal 5 resources, they believe that, although staff has attempted to excise protection in order to bypass analyzing the ordinances for compliance with Goal 5, it hasn't done so completely, therefore Goal 5 still must be applied.

Mr. White continued that they feel the most important of the policies is Policy 42A, which he addressed on page 6 of his letter. They do not believe the ordinances provide any incentives for development of wind energy, and the record makes it clear that the whole purpose of the ordinances is to restrict wind energy development. The findings indicate that wind energy is encouraged by these ordinances by the fact that they are nominally allowed in various zones, and there are clear and objective standards for wind energy facilities to be measured against. The problem is that, if the standards are so onerous, whether they are clear and objective or not does not encourage wind energy development. It tells developers to go somewhere else. There is no other county in the state with a two mile setback.

Mr. White noted that his client is not a wind energy developer, but he owns 1,900 acres on Weston Mountain that is well suited for development of wind energy and he has an existing lease with EBP Renewables, formerly Horizon Wind Energy. They believe the ordinances are not consistent with the requirement that wind energy is to be encouraged.

The next aspect Mr. White addressed was Policy 42D, which states that the County has the obligation to complete the Goal 5 analysis process for alternative energy resources. The County has no option but to go through a Goal 5 process for the development of wind energy. The County has the experience and knowledge from siting multiple wind energy facilities. There are numerous MET facilities that have been approved and are operating in Umatilla County, and a plethora of information available to the County to document this Goal 5 process.

Mr. White felt it important to recognize that the information doesn't have to be perfect information to conduct the Goal 5 process, just adequate information, and it doesn't have to be on each and every potential site. A process can be conducted whereby those parties interested in developing wind energy come forward and provide information they have on their sites, similar to the process for mineral and aggregate resources, where the County relies on the producers to come forward with their information as they conduct the Goal 5 process. They believe it should be the same for wind. This is a self imposed policy that is just as applicable today as it was 30 years ago when the County implemented it. LUBA simply didn't get to reviewing it because it hadn't been yet addressed by the Board.

Mr. White felt that, taken as a whole, the package precludes wind energy development in the County and therefore does not comply with the County's own Comprehensive Plan policies. He suggested that the Board deliberate on all the issues together, instead of separately, given they are tied together in some respect.

Commissioner Doherty noted that staff feels that Oregon law does not require Umatilla County to allow any wind energy development. Mr. White replied that the State does

have a policy of requiring a certain percentage of the energy portfolio in the state to come from renewables. It could be argued that that alone precludes any particular county from opting out. He also noted the State Energy Facility Siting Council (EFSC) that exercises authority under state law, and EFSC can apply the Goals and overrule the County in deciding that it wishes to approve wind energy development. There is also Goal 13 to consider.

Commissioner Doherty stated that a developer could make an election to seek a permit from EFSC rather than the County. Mr. White agreed, but noted that the laws of the County would have to be applied, although they have the option to make their own determination on whether they are consistent with the Goals or not.

Commissioner Doherty commented that his understanding is that EFSC is not bound to use the County rules. The bottom line is that a developer can go through the EFSC process and not go through the County. So how can it be said that the County is driving wind development away? If they make the choice to go through County standards, shouldn't they be assumed to have made the choice to have their application judged by our local standards? Mr. White replied that the fact that EFSC must first consider the local standards means they do play some role. If the County makes it difficult through its standards it may have the result of driving applicants away to counties that have more relaxed standards.

Mr. White again pointed out that the policy the Board is charged with looking at in this hearing is that the County is to encourage wind energy development. Commissioner Doherty asked if Mr. White knew how many counties in the state currently have wind projects, and if he knew of any in western or coastal Oregon counties. Mr. White named four to his knowledge, although there may be additional, but there were none on the west side that he was aware of. Commissioner Doherty thought it fair to say then that all of the wind development in the state is concentrated between Wasco and Umatilla County and slightly south. Mr. White replied that there may be isolated projects that don't fall within that area.

Commissioner Doherty noted the cost of hydro power versus wind energy, pointing out that the State is essentially forcing the purchase of more expensive wind energy. This all comes many years after the County's Comprehensive Plan was adopted in the early 80s. He asked Mr. White if there were any wind energy developments anywhere in the state at that time. Mr. White replied that there were probably only isolated instances for pumping and irrigation purposes. There was no renewable energy portfolio until sometime in the last ten years.

Commissioner Doherty asked Mr. White what he thought the County might have had in mind at the time Policy 42A was adopted in the early 80's, and what types of renewable energy were available then. Mr. White replied that the County's Technical Paper did contemplate commercial wind energy production, although there wasn't any in the County at the time.

Commissioner Doherty noted that the Policy reads "Encourage development of alternative sources of energy." He asked if Mr. White thought that "encourage" meant we have to allow it. Mr. White replied that he did to some degree because the word "encourage" means to support. The proposed ordinance is preclusive and in no way encourages wind energy development.

Commissioner Doherty commented that reasonable application of the Comprehensive Plan has to be balanced with a lot of other interests like protection of areas of erodible soils, protection of the interests of homeowners, and visual esthetics. All of these are mentioned in the Comprehensive Plan too. Should wind power be given a preference over those other values? Mr. White replied that they have to be balanced in a way that doesn't result in a ban on wind energy facilities, but speaks to mitigation. In this case, it is apparent that the County wants to proceed without considering mitigation on a site specific basis, but with a broad brush approach. Commissioner Doherty asked if the County should or can disregard the interest of rural residential homeowners who are impacted. Mr. White replied that they certainly have a voice in the proceedings, but homeowners often oppose changes in the landscape, so there needs to be some amount of reasonableness. In this case, the primary impact is noise. There are objective ways of determining noise limits under state law, so there is a way of addressing those concerns, short of a two mile setback. Their concern is that the County has adopted an overly broad set of prescriptions without looking at the relevant performance standards, such as noise standards, best management practices, or addressing erosion of highly erodible soils.

Commissioner Doherty stated that the Board recognizes that when striking a balance you generally have to meet in the middle on the protections people want. So the Board adopted a waiver to the setback, which was knocked out by those it was meant to benefit. Mr. White explained that Mr. Hatley has 11 neighbors within two miles and it's not realistic to be able make a deal with all of them. So the waiver really is the loser, particularly when the people he might have to get a waiver from may live well outside the area where the noise impact might exceed state law. Commissioner Doherty pointed out that if Mr. Hatley has 11 neighbors within two miles, maybe he shouldn't be developing wind there. That's what this issue is all about. Mr. White replied that the impacts should be reviewed on a site specific basis.

Commissioner Doherty pointed out that, based on Mr. White's line of reasoning, he would have to assume the County would have to accept the principal that we cannot disallow development in the Walla Walla Watershed area because we would have to encourage alternative energy sources there too. Mr. White agreed that the County should at least review applications on a site specific basis. He noted that he had given information in his testimony about the fact that some highly erodible soils on the Hatley property don't mean that the site is unsuitable for wind energy sources because the location of proposed development would be located in an area of his property where there are no highly erodible soils. If in reviewing the individual merits of an application it can be found that appropriate mitigation can be undertaken, that's the way to address the issues.

Mr. White acknowledged to Commissioner Doherty that the word "encourage" does not mean the County has to allow development in all cases or places, and there may be limits and constraints. Commissioner Doherty pointed out that Mr. White is really just asking that the Board re-weigh the values expressed by the people who are affected and perhaps provide a preference to development over the residents who live nearby. Mr. White replied that the ordinances before them are what they are measuring against the "encourage" standard and they do not meet that standard because they are so overly inclusive and protective. Commissioner Doherty asked that he articulate the standard. Mr. White replied that the Board has some authority to interpret it, but they haven't so far. Given the nature of the prohibitions, setbacks, and prescriptions, the likely result is large areas of the county being off limits.

Commissioner Hansell pointed out that Mr. White had not answered Commissioner Doherty's question about what definition of the standard Mr. White was proposing. Mr. White replied that the concept of mitigation needs to be allowed, and where you can find that impacts can be mitigated, the standard does then weigh in the favor of wind energy resources.

Commissioner Doherty referred to Exhibit #1, the letter from the Minnick Hayner firm, in which the author states that "The cumulative effect of the two mile setback would prohibit wind facilities within a 65,000 acre area within Umatilla County." Commissioner Doherty assumed this included areas not within the Walla Walla Watershed. Mr. White referred to a map submitted by Mr. Levy of Cunningham Sheep at a previous hearing, which showed the 65,000 acre area with two mile circles around all the residences. This demonstrates the preclusive effect they believe does not meet the standard of "encouraging wind energy development". Commissioner Doherty argued that 65,000 acres is rather de minimis when referenced against the size of the entire county. Perhaps what we need to be focusing on is the land that is left. Mr. White replied that the 65,000 acres was just part of a test area, and the County has not produced any data that would show that the ordinances would not have a preclusive affect. It is also relevant that there are certain areas of the county that are better than others for wind energy development. He referred to a map he submitted in Exhibit #3 showing where the leases are and they are rather concentrated. So while there may be large areas of the county that are less populated, they may not be as well suited.

Commissioner Doherty commented on burdens of proof and burdens of persuasion, noting that he is a lot more receptive to an argument that persuades rather than being based on the idea that "you have to do this". He pointed out that staff does not believe that we do have to do some of these things, and Mr. White had acknowledged that the County has some latitude and a duty to balance these things. Commissioner Doherty stated that you can't just pick out one policy, in this case Policy 42A, which doesn't even reference wind energy, but rather "alternative energy sources", and use that as the foundation for an argument that says that the Board has to lose the two mile setback standard, especially since whatever limits are set will be argued over because what his client wants is the ability to build a wind project in the middle of those 11 homes. Mr.



White noted that his client was aware he would have to meet the noise standard, but that is a narrowly tailored standard to address a particular kind of impact.

Mrs. Mabbott noted Mr. White's previous statement about Oregon's 25% Renewable Portfolio standard and asked if he knew that the standard does not require that the energy consumed in Oregon is also produced in Oregon. He did not. She asked Mr. White if he was implying that an energy facility sited and permitted in Oregon has to sell that energy in Oregon and if he was suggesting whether or not that should be a standard to meet its Renewable Portfolio standard. Mr. White replied that he was simply suggesting that as a consideration because helping the State meet its Renewable Energy Portfolio standards is consistent with State policy.

Mrs. Mabbott referred to the issue of Goal 5, where Policy 42 requires that the County complete the Goal 5 analysis. In light of Commissioner Doherty's questioning, how would Mr. White reconcile the difference between a legislative act and a quasi-judicial act when the information required to make a Goal 5 application would be so site specific that it would have the result of being a quasi-judicial act? And how would the County make out the application for individual property owners? She was not sure it was possible, especially because when the Plan was acknowledged in 1986 Division 16 rules were in place, and subsequent to that the State has adopted Division 23 rules, which allow for a different process under Goal 5. Specifically, Division 23 rules specific to Goal 5 energy say that a county shall amend its Comprehensive Plan when a site certificate from EFSC is issued, and at no other time is a county obligated to update its Goal 5 inventory for energy resources. Mrs. Mabbott noted this is part of the background on why staff has stated the County does comply with the policy in terms of the Goal 5 amendment. Mr. White replied that, when he first went to work for Deschutes County they were in the middle of trying to gain acknowledgement under Goal 5 for their mineral and aggregate, and had been appealed. They handled it legislatively, by allowing the information to come from the property owners, but if there were properties with a resource but the information was inadequate, they were listed as 1B sites. But there were plenty of properties with adequate information and they proceeded with the legislative process. Umatilla County's Plan Policy 42D contemplates that kind of process. He is familiar with Division 16 and 23, but the County still has its own Comprehensive Plan Policy on the books and it is still binding to the County. Goal 5 itself may give the County an out, but this is a standard that the County imposed upon itself and has not sought to amend it.

Mrs. Mabbott noted that the only information the County has about the quality of the wind resource is a couple dozen permits for MET towers. That alone is not enough to proceed with the level of analysis required in the Goal 5 process, and wind developers have made it clear that they consider their wind information proprietary and will not share. On balance, the standards that were crafted respected the proprietary nature of that information. Staff is aware that there are large portions of the Plan that need to be updated, but we do what we can with our staffing resources. As an analogy, the Goal 5 aggregate still says the County shall inventory aggregate resources, but we wait for individual Post Acknowledgement Plan Applications (PAPA) to come in with the

adequate information to comply with Division 23 rules. Mr. White's client also has submitted an application for a Goal 5 aggregate resource. So as an analogy, this isn't different and we are consistent with the implementation of those, where we recognize the updated Administrative Rule and our Policy. Mrs. Mabbott stated that she still felt the County is encouraging the development based on the information that has been presented. Mr. White said they disagree. The County has policies on the books and can't ignore them. It may choose to update or change them, but until they are changed they are operative statements of law.

Sara Parsons, Iberdrola Renewables, 1125 NW Couch, Suite 700, Portland, Oregon, 97209. Ms. Parsons introduced her colleague, Jeffrey Durocher, In-House Counsel with Iberdrola Renewables, at the same address as Ms. Parsons. Ms. Parsons noted that, throughout the process, they have not supported the two mile setback, but have advocated the EFSC standards. But they appreciate that the Board is trying to balance interests. On this particular item, they agree that a two mile setback with no adjustment provision does discourage development in Umatilla County, and many developers have testified to this in the past and are trying to decide if they will try to develop in Umatilla County if they implement 2 mile setback. The millions of dollars it takes to install turbines in an area of two mile setbacks with no adjustment is preclusive and does push their investment towards other counties and states.

Mr. Durocher added that, what that means in terms of the findings for the Sixth Assignment of Error is, without an appropriate waiver provision, the Findings with respect to encouraging renewable energy, could be found in conflict. They have suggested in their letter some minor modifications to Staff's proposal that would ensure a reasonable waiver. Another aspect of the Findings is that they state that the standards are clear and objective, which is generally correct, but there are a couple of changes that they suggest that would make them clearer and more objective, and in that way, consistent between the Findings and the Staff Proposal for the Sixth Assignment of Error.

Commissioner Hansell asked if they had language to submit for the Sixth Assignment of Error. Mr. Durocher replied that they do not, but they feel that with some minor adjustments the Findings would be accurate. The adjustments they suggest are for the First Assignment of Error, but those changes would correct the Findings for the Sixth. Ms. Parsons handed out papers.

Motion: Commissioner Hansell moved to enter into the record as Exhibit #5, the letter from Iberdrola Renewables. Commissioner Doherty seconded. Motion carried unanimously.

Commissioner Givens closed the hearing on the Sixth Assignment of Error.

**Deliberation and Decision:** Mr. Olson noted that Staff would like to add some language regarding Policy 42 to conform what was in the record previously and address what LUBA does not specifically, so the document is very clear that the County does not have the information available to conduct the Goal 5 analysis at this point and we will continue

to do it on a case by case basis. Mr. Olsen explained that the Board could sign the amended Order later today, after he drafted the changes.

Commissioner Hansell stated that he supports the Order as presented with the amendments proposed by Staff. It is important to remove the limbo of the proceedings and establish the Findings that were adopted in July 2011.

Commissioner Givens also stated support of the Order as drafted, with Staff's amendments, as he had heard no compelling argument or discussion that would convince him otherwise. Most had to do with issues with the setbacks, which will be dealt with when the Board gets to the First Assignment of Error.

Commissioner Doherty felt the modifications suggested by Iberdrola Renewables should be reviewed, and Mr. White's comments deserve some lengthy discussion. The County is in the position of defending our latitude and the integrity of our process, and our ability to balance these conflicting needs and interests against the inference that we just have to accept the fact that the State wants a lot of energy production done here so it can meet its standards here rather than spreading that burden around the state. Underlying everything that's been done in the past year; this has been the basic issue.

Commissioner Doherty's opinion is that it's the Board's job to interpret and apply the Comprehensive Plan along with the State Goals and our Development Code, and what we have done is adequate and the Findings Staff has offered are satisfactory, although he did maintain that we need to have a way to look at the suggestions that have been brought forth today. Mr. Olsen explained that they pertain to the First Assignment of Error and that Iberdrola Renewables wants to put the setback waiver back in place, but LUBA made it clear that this was unconstitutional, so we really can't make that a condition. Based on that information, Commissioner Doherty was inclined to support the proposed Order.

Motion: Commissioner Hansell moved in the matter of adoption of additional findings on remand in support of the Ordinance #2011-05, #2011-06, and #2011-07 for wind power generation facility siting requirements, with the addition that Staff has recommended to be put in the final order, approval of Order #BCC2012-021. Commissioner Doherty seconded. Motion carried unanimously.

Commissioner Givens called for a brief recess.

#### **NEW HEARING:**

The hearing is regarding the remand from LUBA on the appeals to the amendment to the Umatilla County Development Code (UCDC) # T-10-039, Conditional Use Section 152.616 of the HHH Wind Energy Facility Siting Standards. Portions of Ordinance #2011-05, #2011-06, and #2011-07 will be reconsidered to address items remanded to the County by the Land Use Board of Appeals (LUBA).

The meeting was re-opened with the hearing of the Second Assignment of Error. Commissioner Givens noted that testimony must be specific to this Assignment.

**Staff Report:** Mr. Olsen presented the staff report, advising that staff, with the assistance of outside counsel, has prepared Ordinance #2012-05, which amends Order #2011-07 for the development standards in the Walla Walla Watershed area. LUBA remanded this issue to the Board for further consideration of the Findings on the Goal 5 analysis. Because there was a Goal 5 mention in the original ordinance, it was raised on appeal that there was not an adequate analysis done or Findings for the Goal 5 resources. The proposal will confirm that the different standards in the Walla Walla Watershed area are to protect erodible soils and endangered species, without any reference to Goal 5 resources. It will also acknowledge that the additional standards in the Watershed area will protect the acknowledged treaty rights of the Confederated Tribes. Commissioner Hansell asked if the clean water regulations are included. Mrs. Mabbott and Mr. Olsen confirmed that, as identified in the original Ordinance, "...the protection of federally listed threatened and endangered species and protection of sensitive streams be consistent with the Clean Water Act."

Commissioner Doherty noted the Tribes raised this issue and he wondered how deletion of the Goal 5 reference would affect them. Mrs. Mabbott explained that she and Mr. Olsen had spoken with Tribal Staff, who raised the issue of whether it would dilute the protection that are allowed in the Walla Walla Watershed, particularly the Treaty rights. She and Mr. Olsen had explained that they didn't think it would; that was not the intent. But they also made an amendment to the proposed ordinance so it is explicit that part of the purpose is to also provide protection to the Treaty rights, which are not Goal 5 resources.

Commissioner Givens noted that, due to the immense schedules of both Planning Staff and County Counsel, they have had assistance from Attorney Mike Robinson with the drafting of these amendments.

**Proponent Testimony:** Dave Price, 80488 Zerba Rd, Athena, Oregon. Mr. Price explained that his testimony would be directed at the second remand involving the Walla Walla Watershed. In order to address the issues, you have to revisit the original intent of this special resource allocation to understand why this area is different than other areas of the county. The Watershed has unique resource considerations that are primarily water quality and quantity based. The area requires additional standards to adjust resource considerations and management for the area.

With the Walla Walla Watershed, one has to consider resource impacts and weight the pros and cons of proposed projects. We cannot ignore these issues specifically to encourage energy development. Responsible resource management must be the guide, and requires recognition of all the resource issues and concerns, which are not the same throughout the county. There are areas where the resource tradeoffs may be too high, and Mr. Price suggested this area may be one of them. Umatilla County has invested a lot of

time in trying to recognize and weigh the resource issues and tradeoffs in making decisions relative to energy development.

The proposal identifies the resources requiring special standards, as listed in subsections A through D. The County chose to remove subsections B and D in their entirety to address issues pertaining to Goal 5 and Critical Winter Range, finding that these changes would satisfy the remand and appropriately satisfy the sub-assignment of error. The new subsection added in section 11 addresses threatened and endangered species, and fish habitat related streams and tributaries. The County's reasoning for these changes provided in the Proposal and Memorandum under the Findings addressing the First and Second Assignments of Error. Blue Mountain Alliance feels that these reasons are valid, and are fully supportive of these changes.

**Opponent Testimony:** Bruce White, PO Box 1298, Bend, Oregon. Mr. White represents Jim Hatley. Mr. White explained that they do not believe that the County's proposal is consistent with Goal 5. When LUBA was petitioned, it was not just relative to Goal 5 issues in the Walla Walla Basin. Objections were aimed at aspects of Ordinance #2011-005 as well, and this new proposal does not address that ordinance. The new ordinance proposes to simply take out the Goal 5 resources so the County doesn't have to address Goal 5. However, there is a provision in 152.616(6)(C) that deal with natural resources, which are in fact Goal 5 resources, and therefore a Goal 5 analysis would need to be done to confirm or extend additional protection to those natural resources.

Also, the new proposed subsection B of section 11 addresses its setback from stream and tributaries that contain federally listed threatened and endangered species. The existing Comprehensive Plan shows habitat for threatened and endangered species in the Technical Memorandum, and habitat for fish species is clearly a Goal 5 resource. Therefore, the County must address Goal 5 to include these kinds of protections.

The proposal also says generically "the contained federally listed threatened and endangered species." If there are additional such species listed in the future, it would constitute an unconstitutional delegation of authority because the county hasn't specified what species are being protected.

Mr. White continued that, although it probably pertains more to the Sixth Assignment of Error, it is implicated that there is no basis for setting the two mile limit. It is an arbitrary limitation and doesn't recognize topographical and vegetative differences that might affect stream habitat. There was testimony relative to the setback from residences, but nothing in the case of the Walla Walla Watershed. For those reasons, they do not believe this proposal is consistent with LUBA's direction on the remand.

Commissioner Doherty asked for staff's response. Mr. Olsen stated this only applied to Ordinance #2011-07 under the remand. As was pointed out to LUBA, the purpose of this ordinance was not just to protect Goal 5 resources. It was much broader than what would be necessary to protect any type of inventoried resources. Instead it was for the two

purposes mentioned in subsections A and C, for the endangered species and erodible soils. The changes proposed basically clarify that, yes, it does protect these two resources, which are not Goal 5 resources and do not require Goal 5 analysis, and by doing that we are not basing the ordinance on protection of Goal 5 resources. It is only for the other two protections, and with the deletion it would not require the analysis required by Goal 5.

Commissioner Doherty asked what Ordinance #2011-07 did. Mr. Olsen explained that the original ordinance was relative to setbacks for erodible soils and demonstration that the facility does not conflict with existing Goal 5 resources and would not be located within a Critical Winter Range. But Critical Winter Range is an inventoried Goal 5 resource. Mrs. Mabbott added that the federally listed threatened and endangered species are not on the Counties Goal 5 inventory, so they are still listed in the ordinance, although they may eventually be added through the legislative review process.

Mr. White stated that it was counter intuitive to provide more protection to a resource that could be inventoried by avoiding Goal 5 rather than by applying Goal 5. Mr. Olsen replied that Goal 5 only applies to inventoried resources, so Goal 5 is not affecting. Mrs. Mabbott added that there is nothing that precludes the County from, in the future, undertaking a comprehensive Goal 5 review of any resource in any region of the county. That is not the explicit purpose of this ordinance, which is to protect the watershed, primarily for water quality and quantity attributes that it has for the mountain and all of the users, including the irrigators in the Walla Walla Watershed.

Commissioner Givens closed the hearing on the Second Assignment of Error.

**Deliberation and Decision:** Commissioner Doherty stated that he understood staff to be saying that the Goal 5 analysis process is not required, so we're simplifying things by not doing it. We know that we want to protect the Walla Walla Watershed and he understood staff. What he understood Mr. White to say is that he thinks it is required, at least indirectly, and even if it isn't required, we really should do it.

Commissioner Doherty stated that we shouldn't bite off more than we can chew at this time, and he doesn't want anything that complicates the decisions to be made or invites argument over things we don't have to argue over. He supports the amended ordinance.

Commissioner Hansell was also in support of Staffs' recommendation. Commissioner Givens entertained a motion.

**Motion:** In the matter of amending the Development Code for wind power generation facilities, Walla Walla Watershed standards, Commissioner Doherty moved adoption of Ordinance #2012-05, including the findings. Commissioner Hansell seconded. Motion carried unanimously.

**NEW HEARING:**

The hearing is regarding the remand from LUBA on the appeals to the amendment to the Umatilla County Development Code (UCDC) # T-10-039, Conditional Use Section 152.616 of the HHH Wind Energy Facility Siting Standards. Portions of Ordinance #2011-05, #2011-06, and #2011-07 will be reconsidered to address items remanded to the County by the Land Use Board of Appeals (LUBA).

Commissioner Givens opened the hearing of the First Assignment of Error, noting that testimony must be relative to this Assignment.

**Staff Report:** Mr. Olsen presented that staff report. He explained that there are basically two components to this Assignment of Error. LUBA found that when the County included a waiver provision in its setback requirements, it was an unconstitutional delegation of authority. The waiver provisions as originally put in the ordinances are basically void. As a result, what is before the Board is Ordinance #2012-04, which would delete the provisions that were found unconstitutional by LUBA. The language allowing for a city council or a landowner to waive the two mile setbacks will be stricken.

The second proposal by staff is a replacement for a waiver, called adjustment criteria. This language was prepared by Mike Robinson and is under Order #BCC2012-020. It is to consider the adjustment process, but remand it back to the Planning Commission for their review and consideration, and for a potential hearing at that level. Mr. Olsen affirmed that the two mile setbacks were not found in error by LUBA, just the waiver.

Commissioner Doherty clarified that testimony should be directed only to the waiver process, not the two mile setback. Mr. Olsen added that the Board is not in a position today to adopt any type of adjustment standard. If the Board wants more time to keep the issue rather than remanding back to the Planning Commission, it can be done at a future date.

Commissioner Givens noted that changes to the two mile setback would come under the same process of a variance until a final decision is made on a waiver. Mr. Olsen agreed, explaining that the two mile setback is now in effect and if there was a request for any kind of adjustment to the setback the only criteria available would be through the variance process. Mrs. Mabbott clarified that the existing variance standard could be invoked if a variance were requested by a developers and landowners to vary from the two mile setback, if the Board follows the recommendation to refer the specific adjustment standard back to Planning Commission. This avoids the interim limbo status Commissioner Hansell had previously referred to. So there is a tool for developers to apply for a variance to the setback standard. The existing variance standards are very general and an applicant would only need to meet one of them. The recommendation of Staff and Mike Robinson was to make those adjustments very clear, recommended referring that piece back to the Planning Commission.

Commissioner Doherty brought up the recommendations in Exhibit #4 from Iberdrola Renewables, and there was discussion about using them and when the Board can make an adoption. Mr. Olsen pointed out that adoption of changes cannot be done today because there is a 35 day waiting period, but some of Iberdrola's suggestions could be considered at a future time by the Board or Planning Commission.

Commissioner Hansell pointed out that Exhibit #2 from Clinton Reeder also recommends that this decision go back to the Planning Commission, and with Mr. Reeder being an active member of the Planning Commission himself, it would appear that they're willing to take it back if the Board recommends it. Commissioner Doherty commented that, if the Board makes it clear that they want to replace the waiver with some sort of flexibility, the real question is whether to do that by remanding to the Planning Commission or do something more expedited. Mrs. Mabbott noted that we are sensitive to the time issue for the developer, and she suggested that it might be helpful if the Board agreed on the record that Staff's interpretation of the existing variance process is a tool available for a setback to the wind turbines. It just might not be as clear and objective as what the Planning Commission had intended with the original language.

**Proponent Testimony:** Dave Price, 80488 Zerba Rd, Athena, Oregon. Mr. Price again spoke on behalf of Blue Mountain Alliance (BMA). The waiver is important to them. There has been a tremendous amount of time spent on it, and it is important to revisit the original intent of this waiver. The intent was to provide a balance of property rights, and a tool to achieve a level of flexibility and compromise to the process. It doesn't matter if there is one affected landowner or many. That intent needs to be the guiding principal. The waiver process is an essential element in order for the wind energy program to move forward in Umatilla County. Fortunately, when LUBA put forth the opinion, they offered ways to achieve a waiver process that can meet the legal test and requirements. BMA offers their full support for Section 6 of the proposal as it is written and recommends approval.

Mr. Price noted that the letter he had provided to staff earlier was from Ed Chestnut on behalf of the City of Milton-Freewater.

**Motion:** Commissioner Hansell moved to add the letter from the City of Milton-Freewater to the record as Exhibit #6. Commissioner Doherty seconded. Motion carried unanimously.

Commissioner Doherty asked for clarification of what Section 6 Mr. Price was referring to. Mr. Price and Mr. Olsen explained that it is proposed language for adjustments, located on page 2 of Order #BCC2012-020.

**Proponent Testimony:** Sara Parsons, Iberdrola Renewables, 1125 NW Couch, Suite 700, Portland, Oregon, 97209 and Jeffrey Durocher at the same address. Ms. Parsons stated as she had earlier, that Iberdrola does not support the two mile setback, and they have continually advocated for the EFSC standards for consistency across the state. However, they appreciate that the Board and Planning Commission are trying to balance



interests and trying to encourage renewable energy development while also understanding public comments received from the community. They commended the County for coming up with a proposed solution that the County feels balances everyone's interests. They are in support of Staff's proposal, Option 1, but have some clarifications to that.

First, the language makes it sound as though there are two application processes occurring. They suggest a strikeout of "rural residence landowner" and replacing it with "applicant".

Second, under Option 2, it states that the application would contain proof of the rural residence owner's consent. County Counsel had mentioned there might be a problem with that, and if the Planning Commission and/or Board decide to eliminate that due to LUBA concerns, developers could get that consent anyway and show that to the County in order for the County to grant the approval. Of course the authority to grant the variance is with the County.

Third, they suggest removing the language about livability because the definition is very subjective. They suggest replacing it with compliance with the NOI standards, which are very strict in the State of Oregon and ensure that there is a minimum setback maintained under all circumstances. It would also ensure that the landowner is involved in a waiver or noise easement for a setback to allow the noise to be increased to more than 10 decibels.

Mr. Durocher reiterated that the intent of their suggested modifications is to make the standards clear and objective. For instance, noise has a number associated so there is no subjectivity. That aligns with the findings approved earlier in the meeting and also with the LUBA remand, which said that the standards should be based on facts and circumstances.

Mr. Durocher noted that it seems clear that the Board didn't intend to prohibit wind energy in the County when the original ordinance was adopted, but because the two mile setback is so stringent, the inclusion of a waiver provision is essential.

Commissioner Hansell asked if Iberdrola Renewable would be prepared to enter into the discussion if the Board does send it back to the Planning Commission. Ms. Parsons replied that they would.

Commissioner Givens asked which agency enforces the noise standards and how. Ms. Parsons explained that the DEQ is responsible for the law itself, but the agency that gives the permit to build the facility enforces. So if you go through EFSC, that body is responsible for enforcing the law and requiring the certificate to comply with the law. If a conditional use permit is issued by the County, the County can charge a fee for the developer to do a noise study or require the developer to demonstrate compliance if there is a complaint. So there is a way for the County to enforce it as well.

Commissioner Givens asked if there were any examples of any turbine projects shut down because of noise. Mrs. Mabbott replied that there were none in Umatilla County and none statewide that she was aware of. Ms. Parsons added that there have been no complaints to EFSC about any of the operating facilities in Umatilla County. There have been complaints in other counties, and they are wrestling with that issue. One solution to prevent that from occurring in Umatilla County is for the County to charge a fee for the developer to demonstrate compliance.

Commissioner Doherty asked Mr. Durocher about the mention in Iberdrola's Exhibit #5 of a delay if the issue is remanded by the Board to the Planning Commission. How is it relative and what is the impact of concern? Mr. Durocher replied that they are not particularly concerned in a delay, and in fact, they support the recommendation to remand it to the Planning Commission for input.

Commissioner Doherty noted that Mr. Durocher stated previously that they want to see objective standards as much as possible, rather than subjective, but pointed out that if you get too objective it makes it difficult to adjust considerations to site specific matters. He asked how he would resolve that. Mr. Durocher responded that the checklist items that are required in order to qualify should have more of a balancing provision allowing those items to be considered rather than required. It would provide flexibility while still using objective standards.

**Proponent Testimony:** Clinton Reeder, 47647 Reeder Rd, Pendleton, Oregon. Mr. Reeder noted that he is a member of Umatilla County Planning Commission and has been working with this issue a long time. With the material he had provided, he has tried to provide background on the issue. He noted the volumes of materials he had previously submitted for the record, and there is no step been taken by the Planning Commission regarding wind energy that hasn't been very well addressed, and it has been investigated in great detail. There is plenty of information to support that the two mile setback is essential. Anything less than two miles must be very well justified or it shouldn't occur.

It was discussed at the Planning Commission meeting the week prior and the Commission unanimously agreed that a letter be addressed to the Board requesting that the issue be remanded back to the Planning Commission because the Planning Commission feels the setback issue is not yet finished. There is more to be done and part of what needs to be done is different than anticipated because the original intent in the waiver provision was that the waiver element would be negotiated by a landowner, being empowered by the two mile setback to address property value, health related issues, and any other issues that were pertinent. Internationally, wind power development leaves a chain of people who have not been able to defend their interests adequately. Mr. Reeder believes the County can make the setback work efficiently and productively for everyone. It has a purpose justified by the literature and is increasingly justified by the research relative to health issues.

Mr. Reeder noted that that packet of materials he provided for the record includes several statements referencing the remand and parties of interest, including homeowners who are

neighbors of the project, wind turbine site owners, local citizenry, people looking for employment, and local cities and taxing districts. He stressed that the two mile setback will only work if it has the potential to stop a wind project because if it doesn't, there is no leverage. Wind power developers and investors have a problem internationally with the neighbors to projects and they need to address it in a way that takes the pressure off wind power, reduces the resistance to wind power, and makes sure that wind power projects don't have community repercussions. Another item in Mr. Reeder's packet is a statement from him summarizing the purpose of the two mile setback, which he noted Mr. Price had done a good job of indicating.

His ninth item states that a major change is necessary in local community dynamics if wind power development is to remain. If we want wind power to be a viable energy source we've got to make it more compatible with the income and expense obligation of our county and state budgets, and the surrounding communities, and it has to be productive in terms of the future.

Another issue Mr. Reeder discussed was management. In his opinion, state agencies have grossly misled everyone relative to the noise standard in Oregon. We have one of the most appropriate standards in the world, but over the past year DEQ and Department of Energy went public in writing that they will not enforce it because they do not have adequate staff or funding for that purpose. This leaves everyone else at risk relative to the cost of enforcement. We need alternative energy, but not at the cost of homeowner rights, health, and finances. His packet included several international mitigation strategies, and there are many others that we can come up with.

Mr. Reeder discussed a paper released in December relative to information in a book by Nina Pierpont. The Pierpont book makes a hypothesis that has been attacked by the wind industry and others, but he had not met anyone who opposed the book who had actually read it. The hypotheses Ms. Pierpont puts forward is that wind power infrasound, which you can't hear, and low frequency sound, which you may hear, might affect the human condition. The December study takes a look at that issue and follows up on it, and demonstrates that the Pierpont book is more than a warning flag. A health effect can in fact be demonstrated. Mr. Reeder stressed the importance of reading this paper, as well as several others he mentions in his packet.

Alternative energy is a disaster in the making if we don't pay attention. He pleaded with the Board to refer the issue to the Planning Commission so they can finish the job and get together a mitigation process at the control of the homeowner, allowing them to come together with the developers in some way that allows us to still have wind power in appropriate places. We will all be better off for it, and if it takes time, there is a variance process that can be pursued in the mean time.

**Opponent Testimony:** Bruce White, PO Box 1298, Bend, Oregon, 97709. Mr. White explained that he and his client believe that the two mile setback is excessive and therefore includes too many people within that area to negotiate with. They also believe that the process described still relies on landowner consent. There is no standard to judge

how far the setbacks should be varied. It should just up to the landowner within the two miles to consent to how far.

Commissioner Hansell asked if Mr. White and his client would be opposed to referring the process back to the Planning Commission. Mr. White replied that they would not and he had advised in his letter to form a work group to get all the parties together.

Commissioner Givens closed the hearing on the First Assignment of Error.

**Deliberation and Decision:** Commissioner Doherty asked staff about Mr. Reeder's reference to a letter from the Planning Commission requesting the issue be remanded back to them. Mrs. Mabbott explained that the Planning Commission had discussed it at their meeting last week, but it wasn't a formal motion. She did not recall a specific direction to draft a letter. Mr. Reeder agreed that it was the unanimous consensus of the Planning Commission that they would like to have the issue back, and to have Staff pass on the request to the Board, but not necessarily in a formal letter.

Mr. Olsen explained that there are two parts to the decision. The first is an ordinance striking the waiver provisions in compliance with the LUBA decision, and second is an order referring the adjustment matter back to the Planning Commission. Commissioner Doherty and Staff reiterated that during the time the Planning Commission would be considering, there would be no variance procedure other than what is in the County's general ordinance presently.

Mr. Olsen again stated that Ordinance #2012-04 strikes the waiver provisions, and Order #BCC2012-020 refers the adjustment process back to the Planning Commission.

Commissioner Hansell stated that LUBA has declared part of the County's ordinance unconstitutional and this is only way for the County to proceed, other than to appeal to the Oregon Supreme Court, which he did not feel we should do. He was in support of Ordinance #2012-04, which would bring it into compliance with the LUBA decision. He was also supportive of referring the adjustment provision back to the Planning Commission for further consideration.

Commissioner Doherty noted that no one had objected to the Planning Commission's request to take the issue back. It has a lot of merit and provides a forum for public input, and will hopefully be done expeditiously. He supports both ordinances.

**Motion:** Commissioner Hansell moved in the matter of amending the Development Code for Wind Power Generation Facilities for deletion of setback waiver provisions as required by LUBA decision, approval of Ordinance #2012-04. Commissioner Doherty seconded. Motion carried unanimously.

**Motion:** Commissioner Hansell moved in the matter of initiating amendment to Wind Power Generation Facility siting standards allowing for adjustment criteria for rural residence setbacks, approval of Order #BCC2012-020, which refers it back to the

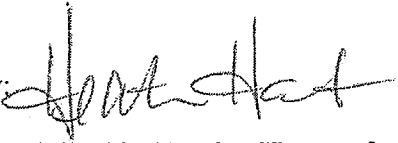
Umatilla County Board of Commissioners  
February 28, 2012

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Umatilla County Planning Commission. Commissioner Doherty seconded. Motion carried unanimously.

**ADJOURNMENT:**

Commissioner Givens adjourned the meeting at 12:15 p.m.

By: 

Transcribed by Heather Haueter from the audio recording of the February 28, 2012 Board of Commissioners meeting.

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# PRESENTATION TO UMATILLA COUNTY BOARD OF COMMISSIONERS

Clinton B. Reeder

Member, Umatilla County Planning Commission

February 28, 2012

The attached material is intended to encourage the Board of Commissioners to take steps to assure the county responds sincerely, respectfully and with appropriate attention to the interests of all citizens of the county, as the officials collectively deal with the LUBA remand concerns relative to the more recent amendments to the county wind power development ordinance. Toward that end, certain attachments are provided for your review and consideration.

1. Letter dated February 22, 2012 addressed to the Umatilla County Board of Commissioners – concerning (a) Part I. A recommendation to refer the initial task of establishing criteria, standards and mitigation strategies concerning the 2-mile setback from rural homes to wind turbine towers to the county Planning Commission (proposal discussed with the Planning Commission February 23, 2012); and (b) Part II. A recommended list of stakeholders having an interest in the process and its outcome. The list of stakeholders is provided to encourage a truly “community based” discussion and resolution of issues and concerns.
2. Statement by Clinton B. Reeder, dated February 15, 2012, concerning the intent of the 2-mile setback from rural homes to wind turbine towers, encouraging all parties to wind power development to seriously consider the potential impact upon neighbors to these projects, and to consider potential mitigation strategies that might, under negotiated conditions and circumstances, allow turbines inside the 2-mile setback (allow the 2-mile setback to be waived, to some degree, in compliance with established county criteria and standards).
3. Statement by Clinton B. Reeder, dated February 7, 2012 dealing with the major issue of enforcement of the Oregon noise standard for wind power development projects. Both the Oregon Dept of Environmental Quality and the Dept of Energy have in 2011 publicly stated in writing that they will not, and cannot due to budgetary limitations, enforce the noise standard. This has left the local citizens and counties struggling with how best to assure the public the noise standard truly has meaning, which can only be true if determination of who and how it will be enforced is adequately addressed.
4. A Research Paper, titled “The Bruce McPherson Infrasound and Low Frequency Noise Study: Adverse Health Effects Produced by Large Industrial Wind Turbines Confirmed”. December 14, 2011. Department of Otolaryngology, Washington University School of Medicine, St. Louis, MO. This is a highly technical paper, which supports and confirms in large part, the hypothesis that low frequency noise and infrasound (below the range of human hearing) generated by wind turbines causes adverse health effects

by vibrating the vestibular organs of the human ear, an allegation first materially addressed in the Nina Pierpont (MD, PhD) book ("Wind Turbine Syndrome...").

5. A Pendleton East Oregonian article, February 12, 2012 titled "Unplanned 9/11 Analysis Links Noise [and] Whale Stress". This article is of importance because it reports that during the shutdown of much of the world's aerial and water-borne noise sources following the 9/11 World Trade Center disaster, which significantly reduced global noise generation, two significant noise studies were in progress that physiologically identified the stress caused in whales by the low frequency sounds beneath the sea. Physiological stress is identified in multiple species, including humans, as a major cause of adverse health effects.
6. A Wall Street Journal article, January 13, 2012 titled "Wind Giant Vestas Cuts Back". This article outlines the response of this wind power equipment manufacturing company to the increasingly difficult task of justifying additional wind power projects, in large part due to the public opposition to subsidizing such projects; and due to increasing competition from Chinese manufacturers which are marketing such equipment at lower cost.

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CLINTON B. REEDER

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February 22, 2012

To: Umatilla County Board of Commissioners

Cc: Tamra Mabbott, Director, Planning Department  
Umatilla County Planning Commission

PART - I -

Subject: Status of the 2-mile setback, rural homes to wind turbines, for wind power development projects. RECOMMENDATION – REFER TO PLANNING COMMISSION

If I understand the LUBA remand correctly, the following must be accomplished to satisfy the terms of the remand order:

1. PRIMARILY – Umatilla County must develop criteria and standards by which waivers can be authorized for rural homeowners to permit constructing wind turbines within the 2-mile setback distance from their homes.
2. SECONDARILY – In order to provide some reasonable uniformity among homeowners agreeing to such waivers, it will likely be helpful to develop a short list of mitigation strategies that appropriately acknowledge and satisfy the criteria and standards for authorizing such waivers.
3. TO THE EXTENT REASONABLE, it will likely be productive for all parties concerned to minimize the ongoing administrative costs associated with authorizing and managing these waivers.
4. WHEREAS, (a) the available information suggests that protection from significant adverse impacts on property values begins at about the 2-mile distance from rural homes; and (b) reasonably appropriate protection from adverse health effects begins at a distance no closer than 1-mile from rural homes, both these factors should likely be considered in arriving at most appropriate criteria and standards, and identifying mitigation strategies.
5. WHEREAS, there is a more recent noise study available (released in December 2011, copy attached hereto) which investigates the health effect of wind turbine noise in greater detail than in most similar published materials; and which draws some better defined technical explanations for how the human body responds to the low frequency noise generated by wind turbines; this study should likely at least be reviewed as part of the discussion concerning potential criteria, standards and mitigation strategies.
6. WHEREAS, (a) since the 2-mile setback and associated mitigation strategies will likely have significant potential impact on future wind power development, including the flow of impact mitigation funds from such



developments; and (b) since protection of rural values and lifestyle has long been a high priority of the Oregon Land Use Planning Program; it will likely (c) be appropriate for the Umatilla County Planning Commission to address the issues of... **If, How and To What Extent** the county wind power ordinance language should protect rural homes near to wind power projects as long term future rural living sites... as compared to simply letting the rural housing markets, in conjunction with the ongoing dynamics of wind power development determine whether or not such homes are protected as longer term rural living sites, demolished, left abandoned or as likely discounted rural living sites (rented and/or lived in by owners).

7. THEREFORE, I RECOMMEND that the remand issues addressed in this letter be referred back to the Umatilla County Planning Commission for further consideration, not as to the existence of the 2-mile setback which LUBA supported, but rather to identify and determine the criteria and standards for authorizing waivers of the 2-mile setback, plus consideration of a variety of possible mitigation strategies that might allow such waivers to reasonably assure the intended property value and adverse human health effects protections, in compliance with the LUBA remand order.
8. THE PLANNING COMMISSION'S ACTION would be a recommendation to be acted upon by the county Board of Commissioners at a later date.
9. SCHEDULING: Since this matter is of great concern to all parties involved in wind power project design, finance and construction, including local property owners and county government, this matter should likely be addressed as soon as reasonably possible (see PART II of this memo) . While the matter needs reasonably immediate attention, the most appropriate outcome/s likely mandate that adequate time be provided for appropriate public participation, sufficient for all pertinent considerations to be voiced and understood; followed by a sincere Planning Commission deliberation towards a generally acceptable outcome for the communities and parties most directly affected by such developments, especially those who may be living most closely to such projects and hence, face most directly the greatest risk of financial and personal damages, inconvenience and loss.
10. A COMMUNITY FOCUS: The goal of this recommendation is to (a) assure the protections provided rural homeowners by the 2-mile setback standard, while (b) also considering the interests of all parties to a wind power project development process, with the primary intent of (c) assuring that those most directly impacted by such projects are empowered to significantly protect their personal interests and risks of damages, inconvenience and loss, including potential adverse health effects for those susceptible to such outcomes.

Stated in other terms, the intent is to alter the focus from short term financial gains to a longer term consideration of what is truly best for the community, "all things considered"; that is, assuring a longer term, more sustainable community-centered overall outcome that does not unreasonably create inappropriately mitigated victims of those persons and families most directly and adversely impacted by such developments.

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PART - II -

Subject: Wind Power Stakeholders, to consider in developing criteria, standards and mitigation strategies concerning the 2-mile setback standard

Because the 2-mile setback standard so materially impacts wind power development in the county, I think it is important to consider the full range of affected parties when considering appropriate and meaningful mitigation strategies that might allow rural homeowners to sign waivers that would allow construction of wind turbine towers within the 2-mile setback area. There are multiple potential mitigation strategies that might individually and/or collectively broaden development opportunities while still assuring the intended protections.

The list of parties affected by the setback standard include the following:

1. **DIRECTLY IMPACTED NEIGHBORING HOME OWNERS.** The property owners who generally have little, if any, choice as to whether or not they must live near the wind turbines (that is, the neighbors to potential wind turbine sites).
2. **POTENTIAL WIND TURBINE SITE OWNERS.** The property owners on whose property wind turbines and/or associated wind power facilities, such as transmission lines, transformer sites, etc. may be constructed.
3. **LOCAL CITIZENS.** Persons who live in and/or own property in the overall community in which a wind power project might be constructed.
4. **INCOME EARNERS.** Local persons looking for work and/or local businesses looking for contract work related to the wind power development (gravel pit operators, concrete providers, skilled mechanics, road building crews, etc.).
5. **LOCAL CITIES AND TAXING DISTRICTS.** One or more local urban areas are often impacted by the wind power developments, and seek impact mitigation payments to facilitate upgrading and maintenance of roads, water systems and other infrastructure facilities; school districts, recreational districts, fire districts, ambulance providers, etc. which provide local services often used by the wind projects also seek mitigation impact payments.
6. **COUNTY GOVERNMENT.** The local county government is impacted rather directly by most any economic development projects, including the wind power projects which require a considerable investment in application processing and monitoring conditional land use permits and compliance with permit conditions, including resolution of potential conflicts among affected parties.
7. **WIND POWER DEVELOPERS AND INVESTORS.** Those parties who initiate and manage wind power development projects, plus those who provide the funding for such developments, including the general public who subsidize such projects in the name of public interest, have an interest in sustaining the development potential for wind power as one of several alternative energy sources.

**A COMMUNITY DECISION.** It is increasing clear to me that in order for any wind power project to achieve a generally accepted project status in a community, all the above affected parties must be directly and meaningfully involved in the process of project development, including the process of assuring reasonable, fair and equitable

mitigation and/or compensation for adverse impacts upon properties, jobs, families and community relationships. Therefore, adequate public involvement must be provided to assure that all parties have opportunity to not only voice their personal concerns, but to also have at least a sincerely heard voice in resolving any conflicts that arise relative to the projects.

I think it is very important for all these parties to acknowledge that each and all of them have both an interest in the outcome of such debate, as well as a legitimate concern for the general effects the project will have on the overall community, both in the short term and the long term. In my opinion, sustainable communities have an obligation to fairly, reasonably and equitably share the costs, burdens and benefits of such changes and impacts upon any local community as well as the "greater community".

**ASSURANCE OF DUE PROCESS.** Referring the 2-mile setback to the Planning Commission to consider appropriate criteria and standards for authorizing waivers to the 2-mile setback can provide the necessary assurance of due process in such deliberations, resulting in a well reasoned recommendation to the Board of Commissioners for the BOC's final action to accept or reject, in whole or in part. While the established "variance" process might be used to authorize the waivers, it appears to me that a process more specific to wind power development might be more effective and potentially less costly to administer in the longer term.

**CONSTITUTIONAL MITIGATION OBLIGATION.** Both the national and state constitutions "strongly suggest" that, at least philosophically, there is a community obligation to fairly, adequately and appropriately compensate property owners when value is taken from them in the name of public interest. This community obligation is often not adequately addressed, especially in circumstances where there are a relatively small number of adversely affected parties without adequate means to protect their personal interests and preferences.

**LUBA CONFIRMED THE SETBACK STANDARD.** The LUBA opinion clearly indicates the 2-mile setback is an acceptable and adequately justified standard for wind power development in the county; a standard which appropriately protects the interests and concerns of those persons most directly affected by the projects -- that is, the neighbors to the wind turbine sites who generally reap little or no personal benefit from the development, but are faced with substantial potential adverse consequences, such as declining property value and/or adverse health effects.

It is therefore expressly NOT the intent of this suggestion to in any way diminish the potential protection/s provided by the 2-mile setback standard. LUBA did not suggest any reconsideration of the 2-mile setback standard, except for appropriately establishing means of appropriately implementing the waivers provided by the adopted county ordinance.

**SAFETY FACTOR CONCERNING POTENTIAL ADVERSE HEALTH EFFECTS.** The adverse health effects apparently depend upon each individual's degree of susceptibility to adverse health effects, a condition that is generally unidentified at the time such projects are developed. The literature increasingly indicates that the potential adverse health effects are not simply based on an inability or unwillingness to

simply "adapt" to the adverse impacts, but rather are due to a very real adverse human response to the low frequency and infrasound noise generated by wind turbines.

Such noise, much of which is beneath the range of hearing for the average person, apparently quite literally "rattles" the vestibular organs of the human ear, causing very unsettling and disturbing health responses, much like severe seasickness... that is, noticeable severe physical distress that literally drives some people to abandon properties and can cause performance of school children to severely decline. The Internet literature suggests a teacher's note to parents concerning a decline in student performance at school is often a first indicator the family does indeed include at least one person susceptible to adverse health effects from wind turbine noise.

A recent wind turbine noise study finds that the vestibular impact can apparently be worse inside homes than outside, due to the harmonic vibratory effect on the home structure itself when measurements are made inside (see "*The Bruce McPherson Infrasound and Low Frequency Noise Study: Adverse Health Effects Produced by Large Industrial Wind Turbines Confirmed*". December 14, 2011. Dept. of Otolaryngology, Washington University School of Medicine, St. Louis, MO 63110, USA).

This recent study appears to support the allegations made in the Pierpont book, which hypothesizes this very pathway of adverse physiological human response to low frequency noise and infrasound ("*Wind Turbine Syndrome: A Report on a Natural Experiment*". Nina Pierpont, MD, PhD. K-Selected Books, Santa Fe, NM. 2009).

Recommendations from multiple international sources generally support the 2-mile setback adopted in Umatilla County in 2011, in part for protection relative to adverse health effects and/or to protect against associated adverse declines in property values. Because there is not yet sufficient pertinent international research available to draw widely supported conclusions concerning the health effects issue, it appears wise for Umatilla County to take some reasonably conservative precautions as criteria and standards are considered, and mitigation strategies are developed.... That is, make sure adequate "safety factor" is built into criteria, standards and mitigation strategies.

**IN CONCLUSION.** I believe the Planning Commission can adequately and appropriately address the essential elements of developing waiver criteria, standards and mitigation strategies that fairly and sincerely consider the interests and concerns of the whole community, while protecting especially those persons and families most directly and adversely impacted by wind power projects.

If the matter is judged to be sufficiently urgent, and I think it is, I support using the county's established Variance procedures until more specific wind power setback waiver arrangements can be developed and formally adopted. The earlier the matter is resolved with LUBA, I assume the earlier the new county setback standards will be applicable to new applications for wind power projects.

Respectfully submitted,

Attachments:

1. Paper: *"The Bruce McPherson Infrasound and Low Frequency Noise Study: Adverse Health Effects Produced by Large Industrial Wind Turbines Confirmed"*. December 14, 2011. Dept. of Otolaryngology, Washington University School of Medicine, St. Louis, MO 63110, USA
2. Paper: *"The Umatilla County 2-Mile Setback From Rural Homes to Wind Turbine Towers: Making Wind Energy Development Less Disruptive and More Productive for Local Communities and Developers"*. February 15, 2012. Clinton B. Reeder, PhD (Economics and Business).
3. Paper: *"Enforcing the Oregon Noise Standard for Wind Turbines: A Political and Ethical Dilemma of Great Significance to Local Communities"*. February 7, 2012. Clinton B. Reeder, PhD (Economics and Business).
4. *"Unplanned 9/11 analysis links noise, whale stress"*. Pendleton East Oregonian newspaper, Sunday, February 12, 2012.
5. *"Wind Giant Vestas Cuts Back"*. Wall Street Journal. Friday January 13, 2012.

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February 15, 2012

## The Umatilla County 2-Mile Setback From Rural Homes to Wind Turbine Towers:

Making Wind Energy Development

Less Disruptive and More Productive for Local Communities and Developers

**INTRODUCTION.** Noise created on one property then moving from that property across other nearby properties is a trespass. Any property owner has wide latitude in what they do with their owned property; however, those rights are limited by what the adverse impacts of such freedom of action in the exercise of those rights might impose upon neighbors... reflected in numerous noise and/or nuisance ordinances in many communities. The State of Oregon has a noise standard which specifically applies to wind power development projects.

There are two primary impacts of global interest in the development of wind power: (1) the adverse impact on the market value of neighboring properties; and (2) the possible adverse health effects imposed on the neighbors to wind power facility sites, especially the wind turbine sites, which generate the primary noise originating from wind power facilities. Failure of the wind Developers to adequately address the adverse impact of wind power facilities upon their neighbors is an international issue of significant concern documented by numerous Internet websites and wind power related organizations with concerns about the adverse consequences of such unmitigated and/or considerably under-mitigated development impacts.

To a lesser extent (greater, in the minds of some people) is (3) the trespass of wind turbines into the view from a neighboring property. This impact is considered related, but yet separate and apart from the noise impact, all of which adversely impact property values. However, as long as such intrusion into the view from a property lessens the value of such a property, the view trespass issue will remain a major component of the adverse impacts of wind power development, and hence, a public policy issue of concern to any community.

Some wind developers make reference to one or more studies that specifically research property values within a ten mile circle around a wind project, and conclude that since the average property value in that circle has not been adversely impacted by the wind power project, a community can ignore such allegations of lost value. That is absolute nonsense! If land value over a ten mile circle of rural land surrounding a 1,500 acre wind turbine site continues to increase in value at maybe 2-3 percent (more or less) each year outside the noise standard boundary surrounding the wind project, but the value of property near the wind turbines falls by 50 percent, any calculation of change in average land value over the entire circle will likely be positive, not negative – but only because with such a research design, the 50% decline in the land values near the wind power project simply fades away to nothing in

averaging the change in land values for the whole circle. Try telling those who live near the turbines they can just ignore the threat of declining land values, as their life savings invested in the home fade away!

There are two primary issues with the trespass of wind facilities into the view from a neighboring property: (1) the day-time blocking of view by the turbine towers and transmission lines, and to some extent, also by the transformer stations and other wind power related facilities; and (2) the night-time intrusion of the blinking red airline warning lights on the turbine towers at night, which for many people are a major intrusion across the night-time horizon. This night-time blinking light intrusion is for some people far more of a negative factor than the noise, in large part because the night lights are in view for far greater distances than the noise can be heard or "experienced" (part of the noise issue is sound below the level of human hearing, but which does have an increasingly documented adverse human health effect via vibratory impact on the vestibular organ/s of the human ear (See the attached recently released research paper: *"The Bruce McPherson Infrasound and Low Frequency Noise Study: Adverse Health Effects Produced by Large Industrial Wind Turbines Confirmed"*. Stephen Ambrose and Robert Rand. December 14, 2011. Dept. of Otolaryngology, Washington University School of Medicine, St. Louis, MO); and the attached newspaper article discussing the adverse impact of [low frequency] ship noise on whale behaviors (*"Unplanned 9/11 Analysis Links Noise, Whale Stress"*. Page 11A. East Oregonian newspaper, Pendleton, OR. Sunday, February 12, 2012).

Other printed material has for several years questioned whether the low frequency noise, including sonar signals, generated by submarines as well as propeller and other noise from surface ships might interfere with the migratory habits and general behavior and "communications" among whales and other ocean species. This newspaper article references publicly funded research studies documenting specific physiological stress impacts upon whales. Human health research has long identified and verified multiple human health effects related to stress, including night-time sleep disturbance common to wind power developments.

The following material is intended to clarify the intended consequences of the 2-mile setback from wind turbine towers to rural homes recently established in Umatilla County, Oregon in order to provide reasonable protection of neighboring property owners from the potential adverse impacts of wind power development projects, with special reference to adverse effects on property values and the potential for adverse health effects associated with the noise from wind turbines.

### EXECUTIVE SUMMARY

*The following general material was initially drafted prior to the county receiving the remand materials from the Oregon Land Use Board of Appeals (LUBA) relative to the 2-mile setback described herein. The appeal upheld the 2-mile setback standard, but LUBA indicated that in order for homeowners to waive the setback, the county must provide appropriate criteria and standards which must be satisfied by such waivers. In other words, the county could not legally "assign" such waiver authority to other parties (homeowners) without providing criteria and standards such waivers must satisfy for reasonable uniformity and conformance with the adopted public ordinance.*

- I. **NOT INTENDED TO LIMIT TURBINE NUMBERS.** The two mile setback from rural residences to wind turbine towers established in Umatilla County, Oregon in 2011 was adopted by the Umatilla County Board of Commissioners following unanimous recommendation of the Umatilla County Planning Commission. This ordinance provision was never intended to limit the number of wind towers in any wind power development project, or completely stop wind energy projects. However, if the 2-mile setback standard did not have that potential consequence, it would not function effectively as an incentive for Developers to focus positive attention on negotiating meaningful mitigation strategies to compensate for the potentially significant adverse social and economic impacts, including potential adverse health effects for some susceptible persons forced to live near the wind projects.
- II. **INTENDED TO EMPOWER THE NEIGHBORS.** This 2-mile setback was established as an "Empowerment Buffer" to enable the neighbors to wind power development projects to fairly and reasonably protect their property value and family health interests in the face of a development process that has for years, apparently world-wide, literally disregarded the interests of such neighbors (at least in terms of adequate, fair and equitable mitigation provisions). The economic development process itself, not just for wind power, all too often assumes negative impacts upon neighbors to the development projects as "just another cost of economic development and job creation projects". Neighbors to development projects are all too often just told to "adjust", "adapt" or "move elsewhere" – at their own cost, with little or no mitigation for lost property value and other costs and burdens. For wind power development in Umatilla County, this development model has now been significantly modified by county wind power development ordinance provisions to purposefully protect the neighbors to wind power development projects against imposed costs and other unwanted burdens and inconvenience.
- III. **INTENDED TO ASSURE THAT MITIGATION FUNDING INCLUDES THE MOST DIRECTLY IMPACTED MEMBERS OF THE LOCAL COMMUNITY.** Current wind project mitigation regulations do not direct that primary attention be given to mitigating the adverse effects on the nearby neighbors of wind energy projects. Hence, the project mitigation funding generally goes "To the Local Community", a strategy that buys considerable support from the local community, but not from those project neighbors who are most directly impacted. How do new streets in the village or a new boiler for the school mitigate for lost property values, adverse health effects, loss of view and other negative effects experienced directly by the nearby neighbors?
- IV. **INTENDED TO FORCE A MEANINGFUL SHARING OF THE PROJECT BENEFITS (AND COSTS).** Like "Waters of the State", wind is a "public resource". Yes, the site across which the wind blows (or waters flow) is generally private property; hence the rents paid to property owners who provide wind facility sites is effectively a "Wind Access Fee", for the wind itself does not belong to the property owner. The reality is that wind site rents are a windfall gain to such facility site owners. The site owners have seldom made any investment in creating or "protecting" the wind or its pattern of flow across their land. Owning the land across which wind blows is little different from owning the land across which water flows – access is the key to the resource value. Hence, sharing the overall economic benefits of wind projects with the impacted nearby home owners, to mitigate their imposed costs and impact burdens associated with project development, including potential adverse health effects, is a logical and appropriate outcome. The argument today is loud and clear, from many persons and interest groups – "Let Markets Work". That is the essential intent of the 2-mile setback, to encourage the market for wind energy facility siting access to include land under nearby



home sites. Noise and blocked view, turbine blade flicker, etc. are all “trespasses” upon nearby property. Therefore, sharing the economic value associated with the projects is not only ethically and morally an issue, but a very real social and economic concern pertinent to the longer term conditions and circumstances impacting the local community. Available international information suggests very strongly that the 2-mile setback distance is the minimum setback necessary to assure appropriate, fair and equitable economic incentive to drive mitigation for rural homeowners near the wind energy projects.

- V. **INTENDED TO PROTECT PROPERTY VALUES AND/OR ASSURE EQUITABLE AND APPROPRIATE COMPENSATION (MITIGATION/S).** Property values for neighbors’ land and homes has suffered as a result of having little or no choice but to live in close proximity to the wind turbines. This setback requirement provides the rural home owner the opportunity to significantly protect their own property values and associated interests, by (1) “Just saying NO”, or (2) negotiating a mutually acceptable development agreement with the Developer. The intent is to reasonably assure no unmitigated costs or unwanted burden will be imposed on the rural homeowner, especially not loss of property values (often a family’s life savings) and/or imposed adverse health effects. The international information networks identify abandoned homes, with little or no compensation near wind turbines as a significant community cost in multiple nations. On the other hand, related information also provides insight into a number of mitigation strategies that might be implemented to at least ease the economic loss and associated burdens associated with being forced to abandon a home site (*this will be the topic of a follow-up paper by this author*).
- VI. **INTENDED TO PROTECT GENERAL HEALTH (BROADLY DEFINED), AVOID SLEEP DISTURBANCE, AND PROTECT LEARNING and GENERAL LIFESTYLE BENEFITS FOR ADULTS AND CHILDREN.** For those citizens who are susceptible to adverse health effects of wind turbine noise, including the multitude of adverse effects from interrupted sleep, unwanted exposure to wind power noise adds to the tragedy of neighbors without recourse, without any rational means to protect their property and family’s health from the adverse impact of wind power development. Some persons are apparently more susceptible to adverse health effects caused by wind turbine noise, including the adverse effects from interrupted sleep. A major problem is that most people have no idea how they might respond to wind turbine noise at the time they are first approached by a Developer and asked to sign a noise easement (waiver of protection from the turbine noise) that would permit the wind turbines to be built close to their rural homes. It is well documented by credible research, including from the military for whom such knowledge is critical, that sleep disturbances can and does adversely impact concentration, memory, mood, patience, irritability (and hence both adult’s and children’s learning ability) and other behaviors. This 2-mile setback now provides each family in Umatilla County the ability to protect family health in relation to wind power development, in all respects. Furthermore, it appears increasingly obvious the 2-mile setback is indeed having the intended effect on wind energy development in the county. The adverse health effects is of particular concern because there is ample evidence to support the allegation that at least part of the troubling noise is below the human threshold of hearing, allowing Developers to claim the wind turbines are too quiet to cause significant concern. However, low frequency noise from turbines that rattles the house windows could surely rattle the vestibular organs in the human ear. This 2-mile setback now provides each family the ability to protect their family’s health in relation to wind power development, in all respects, if they so choose. Otherwise, they may under the terms of the county ordinance

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bargain away part or all of the provided protections in exchange for one or more mitigation measures negotiated with the wind power developer. *[This privilege may be modified somewhat as the county develops the necessary criteria and standards for the waivers.]*

VII. **INTENDED TO PROTECT THE RURAL VALUES GUARANTEED BY OREGON'S LAND USE**

**PLANNING PROGRAM.** For those neighbors who simply do not appreciate having their rural home site invaded by the increasingly large industrial wind turbines and prefer the unmitigated quiet pastoral-agricultural-forestry rural environment protected by Oregon's land-use planning program, the 2-mile setback is a very meaningful tool.

Should such a tool be made available, considering the nation's great need for alternative energy sources? The author thinks YES – otherwise, such alternative energy projects will increasingly leave behind a trail of unmitigated tears for those persons adverse impacted by such energy development projects. This 2-mile setback is intended to serve as a major incentive to Developers to give much needed additional attention to mitigation strategies concerning the close neighbors to energy development projects. At a minimum, part of the windfall income benefit to owners of wind facility site rents might be shared with the neighbors in the form of appropriate and reasonable mitigation strategies... which would most likely significantly diminish the hostility that tends to arise in local communities relative to such projects.

The 2-mile setback provides a buffer that will reasonably protect both property values and family health, while assuring with the same high priority the rural non-industrial protections traditionally provided by the EFU/GF rural land use zones in Oregon.

VIII. **INTENDED TO GIVE FULL VALUE TO "JUST SAYING NO".** Just saying NO to wind turbine placement now has real meaning in Umatilla County – but upon mutual agreement between the neighbor and the Developer any part of that 2-mile setback can be bargained away in exchange for whatever form or amount of compensation can be bargained between the neighbor and the Developer, *consistent with yet to be developed criteria and standards.* With this setback standard, every rural homeowner now can meaningfully negotiate all aspects of wind project siting near their home site. If such negotiation does not take place within the 2-mile setback and/or negotiations do not result in signed waivers and related contracts, it will become very clear to the public, public officials and certain regulatory agencies that the long-standing claim of Developers that these wind projects have no adverse social, economic or health impacts on people and property values is likely a false claim.

IX. **THE NEIGHBORS ARE NOW ENABLED TO NEGOTIATE PROTECTIVE TURBINE SITING**

**DECISIONS.** Only the neighboring property owner can limit wind turbine placement, within that 2-mile protective setback from rural homes.

- a. Only the prospective turbine tower neighbor can bargain away any part of that 2-mile setback, *in accordance with county criteria and standards.*
- b. The neighbor can now elect, at their sole discretion, to have turbine towers literally back of the barn but not in the view from their front (or any other) window.
- c. Only the neighbor can now elect to have wind turbines within one mile (or closer, or more distant but within 2-miles of their home, on the prevailing downwind side of their home only.
- d. Only the neighbor can now allow as many wind turbines as the Developer wants to construct within this 2-mile setback, with placement mutually determined by the Developer and the neighbor, with financial compensation and/or other possible

mitigation measures also mutually determined, *in compliance with county criteria and standards.*

- e. Only the neighbor can now demand and receive a fair and reasonable Property Value Guarantee from the Developer, based on pre-turbine property appraisals from independent appraiser/s, providing the neighbor time to see whether they can tolerate the towers close by, or choose to be fully compensated by the Developer, within a mutually agreed upon time period, for the costs and other burdens (including emotional and other "intangible" costs and "inconveniences"), associated with living close to wind turbines.

Such Property Value Guarantees might be written so the Developer actually buys the neighbor's property at the guarantee price; or the neighbor might put their property on the market for a given number of months, and if it sells the Developer makes up any difference between the guarantee price and the price actually received in the sale... or be paid a certain sum for a predetermined time, including the lifetime of the project.

- f. Other potential mitigation strategies are as numerous as the human imagination, *but will need to satisfy the criteria and standards established by the amended county ordinance.*

- X. **ELIMINATING THE CONFIDENTIALITY PROVISIONS RE ADVERSE HEALTH EFFECTS WOULD BETTER PROTECTS THE PUBLIC HEALTH AND INFORMATION INTERESTS.** Mitigation agreements might be negotiated without any confidentiality provisions limiting the neighbor from sharing their experience with others. This would provide much needed property value and family health impact information to the public, which would be helpful in managing the siting of future wind power (and possibly other alternative energy) projects.
- XI. **NEIGHBORS CAN NOW PROTECT THEIR RIGHT TO FREE SPEECH CONCERNING WIND POWER DEVELOPMENT.** The neighbor with a 2-mile setback can protect their right to speak openly about what it is like to live near the wind turbines; they need no longer be pushed into signing confidentiality agreements with the Developer in order to gain any personal financial benefit from the wind power projects. In all respects, so long as they can reach agreement with the Developer, the neighbor can now determine within the setback their own destiny. Ultimately, with the 2-mile setback, the neighbor determines the number of turbines to be built within the setback, which is intended to allow the neighbor to keep their home and rural property reasonably free from the industrial wind power development impact, or fully participate, in whatever way they might imagine, in cooperation with the Developer... and talk about it, now and whenever they choose.
- XII. **THE SETBACK ENERGIZES AND MAKES A FULL PLAYER OF THE NEIGHBOR.** The 2-mile setback turns the neighbor into a full player in the wind power development game; provides the neighbor a very personal opportunity to benefit financially and any other way he can imagine from the wind power development. So long as the neighbor can reach a written contractual agreement with the Developer, any otherwise legal development pattern imaginable can likely take place within that setback area. The setback assures that the neighbor is now a full participant with the authorities, the potential wind power facility site owners (site rent recipients), the Developers and other potential beneficiaries of wind power development, regardless of where they might live... *so long as the setback waiver-mitigation agreement complies with county criteria and standards for such agreements.*

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- XIII. **THE SETBACK PROVIDES AN EARLY WARNING NOTICE TO THE NEIGHBORS.** The 2-mile setback, because it makes a full player of the neighbors within 2-miles of proposed wind power projects provides a significant incentive for the Developer to make early contact with the neighbors and reach early fair and reasonable agreements with them, in order to maximize the earning potential for the wind project. Without the 2-mile setback, the first many neighbors often know about the proposed projects is a public notice concerning a development permit soon to be issued... which severely disrupts the neighborhood, as the potentially impacted neighbors discover their potential plight and nonparticipation status.
- XIV. **NEIGHBORS MIGHT NOW ACT COLLECTIVELY, WITH TIMELY SIGNIFICANT IMPACT.** Furthermore, the 2-mile setback enables the neighbors, if they so choose, to act collectively, with (or without) a professional representative, to bargain for any financial payments and/or other mitigation measures, for any period chosen, for as long as the wind power project exists near them. No longer need the neighbors feel like 2<sup>nd</sup> class citizens in their own community – the setback assures them full power to protect their own interests, and prevents them from simply being made a victim of wind power development; protected from having to help finance the projects by their lost and uncompensated property values and potential adverse health effects, including the health and associated negative impacts from sleep disturbances (including the adverse behavioral, learning, and mood effects of sleep disturbance, with special interest in the effects on children's learning environment).
- XV. **THE 2-MILE SETBACK FORCES THE WIND DEVELOPER TO "THINK COMMUNITY" IN ALL RESPECTS.** The Developer (and others potentially benefitting from wind power development) can no longer in Umatilla County just count on the zoning and other official permits issued by public authorities to disregard the neighbors to wind power projects. The Developer (and other interested parties) must now literally bargain their way into fair, reasonable and equitable participation with all members of any community in which they want to invest. This makes the development process far less likely to serve as a long term divisive element in our rural communities, with far less ability to drive a wedge between neighbors with turbines and/or other wind power facilities on their property (thus receiving site rental fees) and those close by neighbors who do not – who generally experience the adverse impacts without compensation commensurate with the costs and burdens imposed upon them without their approval and general acceptance. The 2-mile setback is thus truly Community Development focused, for all community members, assuring a fair and equitable sharing of imposed costs and burdens as well as income! Thus, this strategy will minimize the number of persons who generally experience the adverse impacts of wind power development without compensation commensurate with the costs and burdens imposed upon them without their approval and general acceptance.
- XVI. **PROTECTS THE CITIZENSHIP BENEFITS FOR ALL MEMBERS OF THE COMMUNITY.** The 2-mile setback turns neighbors from feeling like 2<sup>nd</sup> class citizens; victims, without much effective voice in the development process, into full participants, able to significantly impact the wind power development process, and thus assure much greater community-wide long term benefits.
- XVII. **ASSURES THAT THE FULL RANGE OF LAND USE PLANNING GOALS IS REASONABLY CONSIDERED AND IMPLEMENTED.** The 2-mile setback provides that all the Oregon Land Use Planning Goals can be reasonably well met in the approval and development process relating to wind power projects. The impact of wind development projects in Umatilla County can no longer ignore the socio-economic impact of wind development on project neighbors.

XVIII. **PROVIDES A PRODUCTIVE OPPORTUNITY TO DEVELOPERS.** By assuring that the full range of Oregon's Land Use Planning Program Goals are sincerely considered and documented, and empowering the neighbors to such developments to become full players in the process, the 2-mile setback provides a potential solution to a major problem experienced by wind power developers globally – the problem being that those who have in the past been forced against their will to live close to wind turbines now constitute a large and growing global body of persons opposed to wind power development. The opportunity provided the Developers is in the form of a legal requirement to now enter into long term meaningful and effective contractual agreements with the wind project neighbors, the current 2<sup>nd</sup> class neighbor "citizen-victims" around the world who have in the past, and who continue being forced against their will to live close to wind turbines. Is this significant? In a very short time a small group of Umatilla County citizens managed to provide the County Board of Commissioners 3,400 petition signatures supporting this 2-mile setback provision. The author suggests this relatively informal petition drive outcome cannot be ignored. It would be wise to deal positively with this concern in the short term to avoid longer term much more severe formal limitations on energy development projects. The Developers will most likely benefit considerably by reducing the numbers of such persons who increasingly constitute a large and growing body of persons opposed to wind power development that does not provide fair and equitable treatment of all members of any affected community

XIX. **A MAJOR CHANGE IS NECESSARY IN LOCAL COMMUNITY DYNAMICS IF WIND POWER DEVELOPMENT IS TO CONTINUE.** The author of this paper recognizes the 2-mile setback poses a significant change in the development process for wind power, but also recognizes that the current wind power development process is leaving a trail of human wreckage that need not, and must not be continued if longer term successful alternative energy development technology and projects are to be implemented. Very similar neighborhood experiences are now seen in publications and TV presentations where "fracking" ('hydraulic fracturing' with water under very high pressure) is used to push fossil fuel energy products to the surface where shale deposits are being developed.

Hopefully, this 2-mile setback program will encourage other local jurisdictions, in Oregon and other states, and across the U.S. as a whole to develop and implement far more effective long term wind and other alternative energy development commitments. Any such policy MUST consider the people, the average resident literally everywhere, and search for alternatives that do not pose too great a shorter or longer term burden on a select few who have currently no significant effective way to protect their personal interests in the overall alternative energy development process.

Ultimately, no society or community is any better than how it treats their victims, those who against their will are forced to bear the primary adverse consequences of economic development and job creation projects, whether they are wind related or other energy, industrial, commercial or residential alternatives.

Respectfully, Clinton B. Reeder



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ENFORCING THE OREGON NOISE STANDARD FOR WIND TURBINES:  
A POLITICAL AND ETHICAL DILEMMA  
OF GREAT SIGNIFICANCE TO LOCAL COMMUNITIES

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Member, Umatilla County Planning Commission  
February 7, 2012

INITIAL DRAFT  
For Review and Comment Only

**EXECUTIVE SUMMARY**

Over the past few months, I have paid particular attention to the attitude of persons faced with living near wind turbines. They significantly resent not being protected, as to both property value declines and/or potential adverse health effects. They resent being treated like unmitigated, uncompensated 2<sup>nd</sup> class victimized citizens, without any reasonable ability to protect their personal interests and the life savings invested in their homes.

As new hearing technology develops, the health issues are taking on a new turn. I recently visited with two persons knowledgeable about cochlear ear transplants; both people have significant fears that the persons with the implants will experience problems due to the low frequency noise and infrasound from wind turbines.

**Local Land Owners Should Not Be Responsible for Compliance**

**Enforcement.** The primary focus of such conversations is this: who ever issues development permits, especially local Conditional Use Permits must be held accountable for making sure the Developer complies with any and all permit conditions. Any assumption that the local land owners should be held accountable for the cost and inconvenience of coping with compliance enforcement via civil legal action is absolutely unacceptable!

The same can be said for state issued wind energy development permits. If a state agency issues a development permit, then that agency must be held accountable for enforcement of compliance, especially with the noise standards, which are the focus of intense concern over wind turbines.

It is unacceptable to assume that wind turbines do not pose adverse conditions and circumstances upon local property owners. One major noise study often referenced by wind Developers as "proof" that wind farms do not reduce property values is simply faulty, from a statistical perspective (the Hoen report).

This study assumes a zone of 10 mile radius, with a small wind project in the center of that circle. If there is any normal increase in land values within the circle but outside the boundary of the wind project (maybe 2-3 percent per year), with even a 50% decline in land values inside the wind project noise standard boundaries, any diminished land values near the wind farm simple evaporate as part of the overall land value statistics for the overall study area. This research flaw is very easily illustrated! And contributes nothing meaningful to the idea wind farms do not diminish land values near to wind turbines.

From an ethical perspective, and as a professional economist, it is unacceptable to use this study as "evidence" – it is clearly misleading in terms of the real cost and burdens imposed on neighbors to wind projects... unless society (community, local officials and neighbors receiving site rent fees from Developers) wish to use such studies to make a "greater net public benefit" argument in support of the project as justification to be severely abusive to the disadvantaged neighbors of the project. Any project worth building is worth diverting a reasonable amount of the net cash flow from the project to fairly and equitably treat those adversely affected by the project.

**Ethics Defy Agencies Issuing Development Permits Which Impose Costly Burdens on Local Citizens.** The ethics of an agency of government having the authority to issue development permits subject to noise standards but not being held accountable for enforcement of those standards is generally and understandably unacceptable to the public, and harmful to maintaining the support of the general public for government activity in general.

**Ethics Defy Agencies Imposing Huge Financial Burdens and Impossible Legal Challenges on Local Families.** Any expectation that local citizens can successfully cope with the high cost of compliance testing and any lengthy legal confrontation with an international multi-billion dollar wind power developer is seen as being an unacceptable way of dealing with a very troubling public concern.

**Where Public Benefits Justify the Development, Local Individuals Should Not Carry a Primary Imposed Burden.** The Conditional Use Permits issued by public agencies use public benefit as a major justification for issuing development permits. There is a constitutional philosophy that mandates appropriate, fair and equitable compensation and/or mitigation for such "takings" of private value in the name of public benefit. Imposing such burdens on local individual families is an unethical, questionably legal action of government, whether a local jurisdiction or the state itself. Due Process calls for a more meaningful process. No society can

hope to maintain the confidence and support of the public if they engage in such unethical, unfair and inappropriate unmitigated actions. A more appropriate Due Process in such situations is long overdue!

**The Choice Seems Obvious:** (1) either reasonably enforce the Oregon noise standard for wind power development, without undue cost and inconvenience to local citizens neighboring the projects; or (2) cease issuing wind power development permits, either by state or county authorities.

**Fair, Reasonable and Equitable Mitigation Strategies are Available.** There are multiple ways of potentially mitigating for lost property values and/or adverse health effects. It is way past time to incorporate them into each and every wind power development permit.

The 2-mile setback recently adopted in Umatilla County, Oregon – between rural homes and wind turbines empowers the local citizens forced to live near the wind turbines a substantial opportunity to protect their personal property values and family health, without necessarily limiting wind turbine numbers.

If wind power Developers wish to install more wind turbines, they are encouraged to enter into meaningful early negotiations not only with property owners on whose property wind facilities might be installed (and site rents paid), but also with the neighbors to such developments that must cope with the wind turbines and related facilities against their preferences and with often inappropriate mitigation and/or compensation measures.

Furthermore, state and/or county officials might, as one alternative, effectively contribute to an improved mitigation process by dedicating (at least) the first major proportion of any S.I.P. (impact) agreement to mitigating adverse impacts on the neighbors to such projects.

The past few months have been a major challenge to me. Why? Because, for me, the Oregon noise standard for wind turbine development and operations has become not just an economic development issue, but more importantly an ethical-political issue of great short and long term significance for economic development and job creation in general. Furthermore, I believe it has, and will continue to evolve into a major national, indeed quite likely, an international issue of significance as the world struggles to develop a meaningful and politically sustainable long term energy policy.

Similar complaints are being alleged for oil sands and shale development, with emphasis on adverse water quality concerns rather than the noise concerns



associated with wind power development. Society cannot simply tolerate accepting as "unavoidable collateral damage" the adverse financial and health impacts of energy development on neighbors to energy projects... and the environment!

Energy is at the center of life itself. Nothing else under-lays life and living like the very concept of energy in all things living and not living. Food is energy. When I plant a crop, human energy drives the tractor, loads the seed into the planting equipment, drives the truck to and from the seed dealer... and scratches the soil to make sure the seed is planted at just the right depth, assessing by feel and soil probe the depth and quality of soil moisture and condition of the soil, including the soil temperature in relation to the evolving season toward colder growing conditions.

Fossil fuel energy fuels my tractor and the trucks as the work progresses. Electrical energy heated the stove for preparation of my breakfast prior to starting the workday.

The burning of coal and natural gas generated part of the electricity that heats my shop, my home, my office. Hydro-power generates the bulk of my electricity, while an increasing number of wind turbines provide a flow of supplemental electrical current into the regional and national power grid, and severely complicate the overall management of electrical power grids due to the unreliable timing of electrical flow from wind turbines.

Endangered Species (Salmon) protection issues are a concern on the rivers as water flows are managed to incorporate the ebb and flow of wind energy through the wind turbine generators to the electrical grid which must somehow at a significant cost balance the alternative sources of electrical energy, particularly wind and solar with hydro and/or fuel energy (coal and natural gas) fired electrical generation plants.

The newspapers and magazines and TV and radio bring news of new domestic oil deposits to enhance our energy independence from foreign energy sources, the owners of which increasingly hold reserves of our U.S. dollars in payment – effectively an energy tax on each and every U.S. (global) citizen. Some of those fossil fuel dollars held by foreign investors and governments are then invested in U.S. bonds to provide financing for the functioning of our nation – further meaning that the energy issues are of universal concern and major drivers of trade and global conflict. Many Sovereign Funds (huge financial reserves) held by a limited number of global corporations and nations are largely energy related,

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making rather obvious the debilitating connection between energy costs and the financial problems associated with excessive reliance on international debt.

And so the energy web complicates and controls our current and future prospects, IN EVERY RESPECT. Fundamentally, there is no escape from the role energy plays in life and living; in economic life, production and trade of all kinds. Nothing escapes the dilemma of energy, and energy policy, and energy conservation... or lack thereof.

Consider your normal day: if you eliminated all activity that was somehow energy dependent, how would your daily pattern of life and living change? For one, you would go without eating! And you would convert back to animal skins for clothing, unless you decided that interfered with the output of the energy of the sun and the interaction of non-human life forms – which would leave you naked! And without shelter! And without Heat! And without a lasting food supply.

Practically, theoretically, all life and living involves a constant sequence of decisions that are fundamentally energy dependent! All life and living involves a constant generally uninformed utilization of various forms and sources of energy; that is, a constant sequence of decisions involving how we will spend our personal energy and financial reserves among various energy related activities and consumption patterns.

Ultimately, my crops will not feed anyone, human or animals, unless the sun shines and energizes the plants in my fields. And even the sun is not enough, for if it fails to rain and provide the energy embodied in water, there may be no crops – as anyone who has experienced drought can testify. A volcanic eruption can and has generated a cloud over the earth so dense that the sunshine cannot reach the food and feed crops, leading to famine and all that accompanies such outcomes.

In the past year, my region of the world has experienced on many farms one of the greatest single year leaps in food production productivity in all of history. Never before in my life have I drained over two inches of water from my rain gauge every month of the winter and spring. And this combination of energy from wind, rain and sunshine generated a crop from 20 to 50 percent greater than the long term average... requiring greater investment of human energy for the harvest and increased fossil fuel energy for hauling and harvest and more electrical energy to operate the granary scales and distribution equipment, and hydraulic energy to unload the trucks.

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Today the weather is cold; the drizzling rainfall is freezing on everything; life and living has largely been put on hold, due to a growing layer of ice over every square foot of the local universe, and much of the region. The rain and cold and ice and the water embodied therein are all part of our energy world, with as yet unforeseen future consequences. Will part of the winter rains be salvaged (stored) for recharge projects to restore irrigation water supplies to produce increased tonnage of food and fiber products in the dry season? Will the state and nation authorize the supplemental investment necessary to convert part of the crop energy into bio-fuels to energize our vehicles and industry and trade? How much of the fuel energy will be diminished by technology designed to prevent additional auto, train, truck and airplane emissions into the atmosphere? At what point will the cost of controlling emissions become such a burden on the community that the production of food and fiber and energy input materials have a net negative impact upon life and living, if ever?

We can name most any issue of concern, and discover that energy is at the heart and soul of the issue – that every outcome we might desire or prefer or covet has at the core one or more energy related elements. And yet we have few, very few longer term effective integrated energy policy statements around the world, except maybe those held by people and nations that use energy reserves to extract value from those who are dependent on such energy sources... and by nations such as China that are so greatly dependent upon imported energy sources, and imported raw manufacturing materials, and exported low wage labor... all constituting significant incentive to develop the capacity to defend trade routes and access to foreign energy and natural resource sources.

Since such a significant source of oil is the long narrow sea route to Iran and nearby nations, the current tensions over Iranian nuclear development and at-sea confrontations concerning the Strait of Hormuz, a narrow bottleneck in that waterway that could likely be blocked by simply sinking a small number of obsolete freighters... or ramming tankers with explosive laden smaller boats in suicide missions (grossly underestimated during WWII when Japan was relying heavily upon Kamikaze pilots and planes that could work further from home, because they never expected to return home from such suicide missions).

How much of future warfare will rise and fall on the basis of conflict over energy sources and uses? Where are the world's pipeline routes, both now and in the future? Is the future of Turkey, Afghanistan, Pakistan, and India dependent

upon current and future pipeline routes? Very likely! If oil from Iraq were to be moved to Europe, what might be the most easily defended pipeline and shipping routes across the Mediterranean and/or various alternative land routes?

Is the ability of certain nations to convert to more open, free and democratic societies limited by historic pipeline route? Yes! Is the economics of all of Europe dependent upon only a small number of highly critical pipeline routes? Yes! Are longer term trade and development goals truly sustainable as energy prices ebb ever-upward with the pressure of global economic development and population pressures... and the politics of semi-monopoly supply of such energy sources?

Can the human species continue to keep technological insight, creativity and innovation one step ahead of such concerns so that the average international standard of living can continue its upward trend? Or will energy, and debt related thereto, bring all economies to their knees?

Will we just let time slide by, hoping that the future will take care of itself, and be satisfied with whatever happens; or will we as persons, communities, counties, states and nations somehow take responsibility and be accountable for the nature of life and living in the future, relative to the fundamental energy concerns? It can and should start here, now, with our ongoing wind power development in Umatilla County.

Who among us will fall under the wheels of progress, like the neighbors to wind turbines, as "just collateral damage" essential for longer term socio-economic development and "progress", relative to energy concerns? Or will we as communities take responsibility to cope with energy issues in a more humane and mutually supportive manner?

The current status of the noise regulation relative to electrical energy generation via wind turbines brings this issue home to our local communities here in Oregon. Having over 30 years of direct and indirect involvement with the planning and development activity in Oregon and my local county, including intense involvement with wind energy development since its entry into our county in the late 1990's, I conclude that we are not yet being adequately and ethically committed to making sure such concerns take into account the adverse human and community consequences of such development. We are yet too ready to let a

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few others suffer so we and our greater communities can reap the wind-fall benefits of site rents for wind turbines and related facilities.

There is similar collateral damage involved in most socio-economic development; and for me, the current status of enforcement (and lack thereof) of Oregon's wind turbine noise regulations has become a proxy for the major collateral damage aspect of all future development of alternative energy sources. It is a very practical concern, indeed a major ethical issue in the politics of past, current and future energy development. I think the noise issue is not unlike the food price issue, relative to conversion of corn to ethanol for energy consumption.

And very much akin to the concern rural people have for the adverse side effects of using water pressure to force fossil fuels up from shale rock formations, potentially contaminating dairy watering ponds and pastures, and crop land, and ground water and residential and irrigation wells, in the process (magazine articles document this threat is very real, with interviews that provide names, dates and locations), including a TV special showing rural tap water bursting into flame when lit by a cigarette lighter. We must take more care to make sure that in our haste to develop alternative energy sources we do not create too many unforeseen costs and burdens on neighbors to such projects... and the environment, which ultimately sustains us all.

**THE FUNDAMENTAL ISSUE:** what is the constitutional, legal and ethical standard by which we should treat those property owners and citizens forced to live near to energy development sites which threaten property values and health of citizens without the financial resources to protect themselves from such adverse consequences?

How should, how might society in general respond to those persons who become collateral damage relative to economic development projects, where ever and how ever they might arise and be imposed upon individuals and/or local communities?

How might society best mitigate the "taking" of personal values of various kinds from such neighbors without their concurrence?

My current experience provides ample evidence that the common approach is to treat such persons as fundamentally just "barriers to progress", as "a price that must be paid" for such development; treating neighbors as people who could much more easily adapt, if they just would; as people with so little relative

influence that they can simply be bypassed; kept in the dark until it is too late for them to take meaningful action to defend their interests; kept powerless and without recourse relative to loss of property value and other values associated with their property and lifestyle and health.

Those who might in earlier days have simply "Suffered in Silence" now have access to the international Internet. That gives them the potential to organize internationally without ever leaving home. This prospect should be a sobering thought for all those interested in future energy development!

Energy development and marketing is a general, universal human, and local as well as a global technical and political concern. In fact, it would not surprise me at all for the first truly meaningful international energy development policy to arise from the hearts, minds and souls of a covey of committed citizens around the world who simply decide, collectively, that the time is ripe for such to be created (and debated)... via You-Tube, Face-Book, Internet face-to-face conventions, etc.

A Fundamental Ethical Question: Can any local, state or federal jurisdiction ethically accept applications for development of alternative energy resources without simultaneously accepting and making a public commitment to enforce any regulations designed to protect the rights and preferences of property owners who are often unmitigated victims of such development?

To be more precise, can any county (or state) planning and decision making authority ethically justify issuing a permit to develop new wind energy projects without requiring that the developer, and any subsequent owner of the project, does voluntarily agree in writing to comply in all respects with the pertinent noise standards, whether adopted at the local or state level, where ever and when ever violations occur?

Will such authorities make it the legal responsibility of individual property owners to pursue any remedies, or will the permit issuing authority be held accountable for disciplining the Developer and/or their financial investors when any permit condition and/or standard is violated?

Recent petition signature gathering efforts in Umatilla County (over 3,400 signatures in about two weeks work by a small group of concerned citizens) suggests very strongly that the general public, given an opportunity to comment on the acceptability of imposing of such costs and burdens on the neighbors to such projects will generally find the process to be unacceptable.

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Personally, as a member of a local county Planning Commission, I do not want to be a party to issuing any further energy development permits unless the entity which issues the permit also takes considerable responsibility to make sure the projects perform in accordance with any and all standards that apply to the project, without imposing the enforcement burden upon the property owner, who in many, if not the majority of cases cannot reasonably bear the financial burden of such imposed obligation. Nor do I favor the cost falling upon the local county budget!

Therefore, in future wind power development permit circumstances, I will insist that the wind power Developer take considerably greater responsibility, at their own expense, of assuring no violation of state noise standards. If the issuing authority cannot assure compliance by the developer, then the issuing authority should NOT issue the development permit... and in the event of noncompliance, I will strongly encourage that the issuing authority withdraw the operating permit until the issue is resolved. The threat of losing their operating permit while the case is being contested should provide sufficient incentive for the Developer to quickly develop a fair and reasonable resolution... and it is highly probable that the investors will insist upon such assurances.

I recognize that such a threat poses complications for financing such projects – but that is a cost now being forced upon the local neighbors to the projects and the local community, which I find to be an unethical and unacceptable operating procedure.

Noise is a trespass. Wind Power Project review and public hearings have until recently generally given the public significant assurance there is indeed a state noise standard that must be met, and that the standard will be enforced. The conditional permits under which local development permits are issued require that all pertinent regulator standards will/must be met by the developer.

It is not a violation of someone's property rights to require that before they erect a wind turbine on their property they adequately and appropriately address the potential collateral damage to neighbors via the intrusion of the wind turbine noise and on the neighbors physical health and wellbeing, including the adverse effect on their enjoyment of the "neighborhood"; including also the relationships among neighbors. The wind-fall increase in income to some and the associated loss of property value to others, coupled with the threats associated with industrializing the rural environment without adequate or appropriate community

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involvement in the overall process will most likely increasingly threaten wind power, unless the enforcement process is rather immediately made more practical and effective, at considerably less cost to the typical local property owner.

Failure to do so should result in shut-down of the development until compliance is assured, at the expense of the developer, not the complainant (unless the facts verify [not just "suggest"] the complaint is unwarranted). The compliance cost burden should remain a contingent liability of the developer, for the duration of the development project. Anything less, including reasonable, adequate and appropriate mitigation costs for potential damage to the neighbors should remain a liability of the project.

So, what happens if the developer files for bankruptcy and literally "disappears" from the scene, in all respects? In our county, a performance bond is required relative to removal of non-operating (abandoned) wind turbines. After considerable investigation, the county will not accept normal "financial assurance" that the turbines will be removed (such "assurances" can disappear with the bankruptcy as well). Umatilla County requires pre-paid bonded performance assurance that the capacity to remove turbines will be available to the permit issuing authority and/or the land owner on whose property the turbines stand, even if the developer disappears via bankruptcy.

I think it is rational to now require a performance bond from wind energy developers to assure that any noncompliance issues relative to noise will be resolved at the expense of the developer (with reasonable assurance/s that non-supportable complaints will not be filed by the neighbors).

Taking the easy way out, in the short term, may allow continued disregard for the neighbors. On the other hand, such disregard and disrespect is having obvious negative impact on communities that is sure to have longer term consequences, one major concern being the distrust and hostility toward local state and national governments who seem to think there is no ethical, constitutional or legal necessity to address this issue.

After investing a couple months on the Internet the winter of 2010-2011, I am reasonably convinced the problem is global, that energy development follows a generally universal pattern that disregards especially negative consequences (collateral damage) to the neighbors of all kinds of energy development, some

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more than others, with wind turbine noise being a major issue of concern in my local community at this time.

### **ADEQUACY OF TECHNICAL UNDERSTANDING OF NOISE RELATED ADVERSE**

**CONSEQUENCES OF WIND TURBINE NOISE.** In more recent years an interesting terminology has arisen relative to wind turbine noise: "Wind Turbine Syndrome". My suspicion is that this term arose initially because the health related noise threat from wind turbines had not yet become adequately focused on adverse effects of wind turbine noise. More recent technology has changed the wind tower and wind turbine configurations to reduce noise. Unfortunately, for many people, the size of the towers has dramatically changed as well, to put the hub height higher off the ground so the higher level wind patterns will drive the turbines more hours of the day and more days of the year. Such "industrialization" of the Oregon rural environment is not, in my opinion, consistent with the traditional protections provided our EFU/GF zones.

Newer turbines now face the wind, meaning the wind hits the turbine blades before the tower, rather than the wind turbulence hitting the turbine blades after having hit the tower itself. This major change has apparently reduced wind turbine noise materially. In addition, wind turbine generators now use better bearings and hydraulic systems; blade design has changed as towers rose higher into the sky, generally resulting in reduced noise from the turbines and towers.

On the other hand, people familiar with bearing noise changes associated with aging turbines claim that deterioration in functional efficiency can still be detected in the noise from the turbines.

On the other hand, wind power noise continues to rely upon measurement of noise via dBA meters rather than dBC metering, which better identify the low frequency noises that are the alleged cause of primary adverse health effects. A teenager's car, with open windows, and a radio or stereo playing intense base noise literally vibrates the human bodies in nearby vehicles. Low frequency noise and infrasound apparently vibrates windows in homes. So, why would it not be expected that such noise might also cause significant vibration in the vestibular organs of the human ear? And this is the alleged cause of what is now called Wind Turbine Syndrome.

Of considerable concern to some people is the allegation that there are indeed adverse health effects associated with wind turbine noise. Furthermore, an

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Internet search reveals similar allegations relating to air conditioner noise in large office buildings, hotels and such. And airports are evaluating the noise impacts from planes on life and living on properties near to airports. Reference is made to "sick buildings" where people claim to experience adverse noise related effects from the air conditioning systems. The common element of such complaints is "fan blades"—on wind turbines, in large scale air conditioning (cooling and/or heating) systems, and in jet plane engines. Some air conditioner systems operate 24/7 and there is no escape from the effects for people who live and/or work in such spaces. And some people are quite literally "trapped" in the vicinity of such noise (nursing home residents, school pupils and staff, hospitals, Etc.).

Apparently, the percent of the population that is susceptible to the adverse health effects of such noise is small – except that there is a possibility that such noise effects are at times misdiagnosed, even referred to as "emotional problems", "inability (and/or unwillingness) to adapt to change", hostile attitudes toward change, "annoyance", etc. Annoyance, a term used in some European studies, is more significant concern than implied by the mild impression given by this term. "Significant Annoyance" is a significant stress factor, and there is a lot of good peer reviewed studies of the relationship between human and animal stress and health.

If half the effort were dedicated to further testing of the alleged connection between the human vestibular organs of the ear and low frequency noise (including infrasound, which is below the human hearing threshold), using EEG machines and brain function imaging (MRI, for example) and brain response mapping, we would have far greater technical insight into the connection between wind turbine (and similar noise sources) and human health effects, including concentration and learning, and human productivity in places where intense concentration is essential to results.

I strongly encourage Oregon to purposefully invest in such research if they expect to continue development of alternative energy sources that generate noise and cause sleep disturbances, which can lead to a multitude of adverse health effects, including impaired learning and concentration for school children and adults.

Respectfully submitted,

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**The Bruce McPherson Infrasound and Low Frequency Noise Study**  
*Adverse Health Effects Produced By Large Industrial Wind Turbines Confirmed*

December 14, 2011

Stephen E. Ambrose, INCE (Brd. Cert.)  
Robert W. Rand, INCE Member

*"The idea that infrasound doesn't or can't affect the ear is just flat-out wrong."*

— Dr. Alec Salt  
Department of Otolaryngology  
Washington University School of Medicine  
St. Louis, Missouri, 63110, USA

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## Executive Summary

This study was commissioned through a private philanthropic grant created to determine why there were so many strong complaints about the loss of well-being and hardships experienced by people living near large industrial wind turbines operating in Falmouth, Massachusetts. The purpose of this study was to investigate and confirm or deny the presence of infrasonic and low frequency noise emissions (ILFN) from the "WIND 1", a municipally-owned Vestas V82 industrial wind turbine. In March of 2011, after many months of vigorous neighborhood complaints and strong appeals to the town, selectmen voluntarily decided to curtail WIND 1 operations when hub height wind speed exceeded 10 m/s. This required that this study focus on noise emissions from the nearby "NOTUS" wind turbine, an identical make and model.

### Acoustics

This study was conducted at a representative neighbor's home in Falmouth and confirmed that there are dynamically modulated low frequency acoustic amplitudes and tones produced by the nearby wind turbine. Dynamic amplitude modulations occurred at 1.4 second intervals that were consistent with the blades rotating past the wind turbine tower (the blade pass rate). Dynamic amplitude modulations below 10 Hz were stronger indoors than outdoors. Modulations measured indoors were 0.2 Pascal peak to peak consisting mostly of energy below 20 Hz. Two tones were detected from both the NOTUS and the WIND 1 turbines, at 22.9 Hz and 129 Hz, and are considered signatures of the wind turbines' acoustic profile. Outdoors, the A-weighted sound level decreased at a predictable rate of 6 dB per doubling of distance from the nearest turbine. The linear unweighted sound level decreased according to cylindrical spreading at 3 dB per doubling of distance and was controlled by acoustic energy below 20 Hertz. A-weighting does not reveal this low-frequency information. Sound-level averaging with Leq for any time length hides the low-frequency dynamic amplitude modulations.

### Health effects

The investigators were surprised to experience the same adverse health symptoms described by neighbors living at this house and near other large industrial wind turbine sites. The onset of adverse health effects was swift, within twenty minutes, and persisted for some time after leaving the study area. The dBA and dBC levels and modulations did not correlate to the health effects

experienced. However, the strength and modulation of the un-weighted and dBG-weighted levels increased indoors consistent with worsened health effects experienced indoors. The dBG-weighted level appeared to be controlled by in-flow turbulence and exceeded physiological thresholds for response to low-frequency and infrasonic acoustic energy as theorized by Salt. The wind turbine tone at 22.9 Hz was not audible yet the modulated amplitudes regularly exceeded vestibular detection thresholds. The 22.9 Hz tone lies in the brain's "high Beta" wave range (associated with alert state, anxiety, and "fight or flight" stress reactions). The brain's frequency following response (FFR) could be involved in maintaining an alert state during sleeping hours, which could lead to health effects. Sleep was disturbed during the study when the wind turbine operated with hub height wind speeds above 10 m/s. It took about a week to recover from the adverse health effects experienced during the study, with lingering recurring nausea and vertigo for almost seven weeks for one of the investigators.

#### **Further epidemiological and laboratory research needed**

The research is more than just suggestive. Our experiencing of the adverse health effects reported by others confirms that industrial wind turbines can produce real discomfort and adverse health impacts. Further research could confirm that these ill effects are caused by pressure pulsations exceeding vestibular thresholds, unrelated to the audible frequency spectrum but are instead related to the response of the vestibular system to the low frequency noise emissions. The vestibular system appears to be stimulated by responding to these pressure pulsations rather than by motion or disease, especially at low ambient sound levels.

Dysfunctions in the vestibular system can cause disequilibrium, nausea, vertigo, anxiety, and panic attacks, which have been reported near a number of industrial wind turbine facilities. The study emphasizes the need for epidemiological and laboratory research conducted by medical health professionals and acousticians working together who are concerned with public health and well-being. This study underscores the need for more effective and precautionary setback distances for industrial wind turbines. It is especially important to include a margin of safety sufficient to prevent inaudible low-frequency wind turbine noise from being detected by the human vestibular system.

## Acknowledgements

This study was initiated by the concerns of a private citizen, Bruce McPherson who enjoyed the many quality of life benefits of living on Cape Cod. He was disappointed that there were no efforts being made by developers or government agencies, to determine the real cause for the many complaints from Falmouth residents living near three new industrial wind turbines. He knew that neighbors were constantly complaining to town officials about receiving excessive noise, adverse health effects and the loss of well-being. Thanks are given by so many for the generosity of Mr. McPherson, who initiated and funded this independent investigation.

To the residents of Falmouth who welcomed us into their homes and lives, extended us their hospitality, told us their stories, and gave us their time and assistance, our deepest appreciation.

Sincere appreciation is given to Dr. Alec Salt, Dr. Timothy Hullar, Mr. Richard James, and Mr. Charles Ebbing for their insightful correspondence, professional reviews and comments.



## Prologue

Falmouth is one of many communities having learned the unfortunate outcome for locating industrial wind turbines too close to residences in a quiet rural environment. The responses to wind turbines by neighbors close by are very similar to those experienced in other communities that have wind turbines improperly sited too close to homes; complaints that are vigorous and very vocal. Wind turbine complaints can be divided into two distinct categories; excessive noise and physiological symptoms. This study was launched with the mission of identifying for the presence or lack of low-frequency and infrasonic sound. Due to the direct exposure to adverse health symptoms experienced during the field measurements, this study was inspired to investigate further for the potential causes for these physiological symptoms. This involved looking for significant changes in the low and very low frequencies related to acoustic and atmospheric pressure fluctuations produced by wind turbines. It was not the intent of this study to determine the direct cause of the physiological symptoms. Yet there were strong correlations established.

### Authors Comments:

*This study is written in a format to assist the average reader. We need to understand why so many neighbors are having such a hard time living near industrial wind turbines located in quiet areas. We would like to start this report by sharing our experiences, which we ourselves did not fully acknowledge or even understand until the morning of the second day of our investigation.*

*Our study began with our arrival at a nearby home. These neighbors had experienced and reported their many months of adverse health symptoms. Shortly after our first meeting and polite conversation, the homeowners invited us to use their home as the base of operations for our acoustical investigation. We respectfully accepted and were allowed to use their dining room for our field office.*

*As is our custom on field surveys, we were enthusiastic and ready to begin our work. It was a beautiful spring afternoon, warm with a strong westerly wind aloft at the wind turbine blade height. We observed that there was a soft southeasterly*

*wind extending from ground level to tree top (about 60 feet). Within twenty minutes of being inside their house, while setting up our instruments, each of us started to lose our initial enthusiasm and actually started to feel less well. As time went on, we got progressively worse. We each experienced unpleasant symptoms of motion sickness, including ear pressure, headache, nausea, dizziness, vertigo, especially when moving about. We had a sense that the room was moving or slightly displaced from where it appeared. We experienced a loss of appetite, cloudy thinking, fatigue, some anxiety and an inexplicable desire to get outside; similar to motion sickness we have experienced on a boat or plane. We felt slightly better when we did go outside.*

According to the conflict hypothesis (Brandt, 2003) motion sickness is the consequence of discordant (not in agreement or harmony) inputs to the brain information about the position and motion of the body from the vestibular and the visual systems, and from other sensory sources [1].

*On the morning of the second day we left the house to go out for breakfast. About 30 minutes later and a few miles away we shared a light conversation about the night before... We talked about the difficulties we had staying motivated and the challenges we encountered performing our usual work. As time went we started to feel better, and then by the contrast in our state of mind, it hit us. We realized and understood the true extent of the debilitating symptoms expressed by neighbors; we had experienced many of them the previous evening.*

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<sup>1</sup> BRANDT T. (2003) Vertigo: its multisensory syndromes. London, New York: Springer, 2003.

# 1 INTRODUCTION

This study was commissioned through a private philanthropic grant created out of concern for strong complaints of hardships experienced at residences near large industrial wind turbines operating in Falmouth, Massachusetts. Our investigation grew in scope as we were performing our analysis. One lead led to another, and we found ourselves immersed in technical research bridging acoustics, otolaryngology, and neuroscience. Our ears do more than just listen; they play an integral part in sensing environmental conditions. The ear performs many interrelated functions that condition and inform our personal state of well-being.

## 1.1 Background

Low frequency sound may play an important part in the cause for adverse community reaction to large industrial wind turbines installed close to residences in quiet areas. However, this has been proven to be very difficult to determine based on only A-weighted sound level measurements, which is often the only quantifier used for compliance by local and state regulations. The A-weighting filter severely attenuates low frequency signals (the primary frequency range of most community noise complaints) and essentially eliminates acoustic signals below 20 Hertz where "infrasound" is located in the acoustic frequency spectrum. Wind turbine noise standards and most regulations require A-weighting which suppresses the amplitude of low frequency noise predictions in modeling and application submittals.

Research (detailed in Section 4) has established that infrasonic thresholds for human hearing are well below those previously assumed from traditional sinusoidal hearing tests.

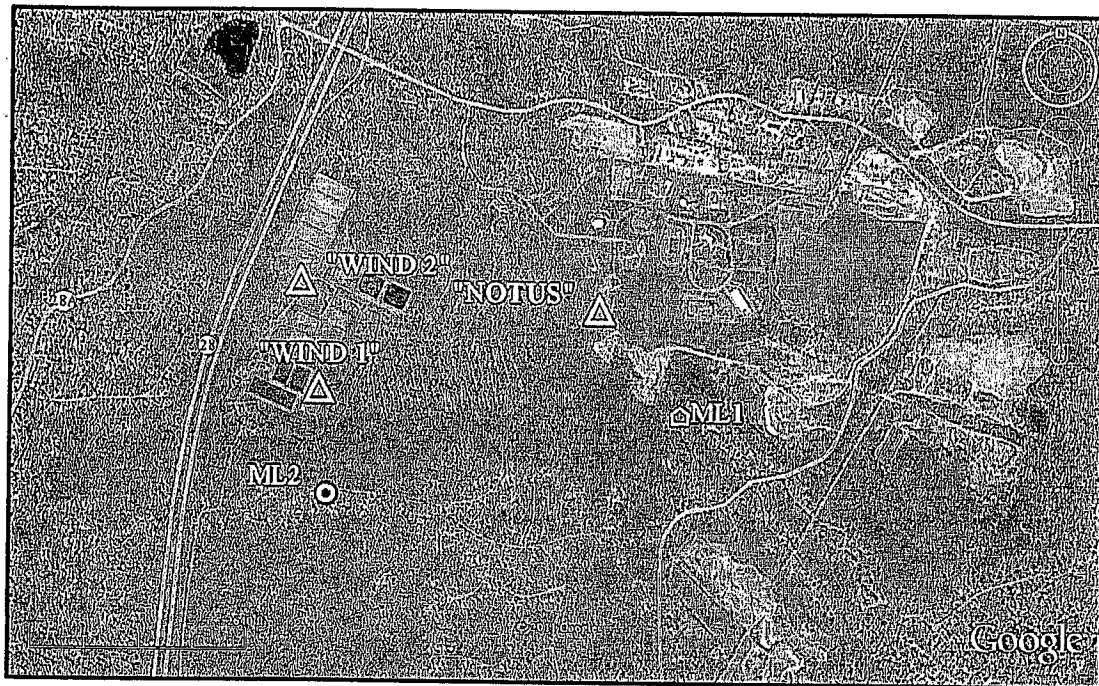
It has been noted that other noise sources can generate infrasonic energy, such as surf and thunderstorms. However wind turbine low frequency energy presents a recurring and/or unpredictable pressure signature, with audibility or detectability occurring over a much longer period of time than other environmental sources of low frequency energy. When an audible or detectable acoustic or pressure signature is found, this is very valuable for subsequent monitoring system design and correlating with complaints.

## 1.2 Falmouth Wind Turbines

Over months of town meetings in 2009 and 2010, Falmouth approved the installation of two municipal wind turbines and one privately owned. These approvals required the town to receive sufficient information from the wind turbine applicants to make their decisions. We understand that during numerous presentations, town officials and neighbors were assured by the applicants, environmental engineers and scientists, that the proposed wind turbines would not cause an adverse public reaction or generate excessive noise impacts. Acoustic professionals concluded that any changes in the acoustic environment would not be sufficient to be found either objectionable or disruptive. These statements were based on assessments of the A-weighted sound level predicted for the wind turbines. (We have not seen community reaction assessments or discussions of low-frequency or sound quality comparisons to the existing environment.)

Strong appeals to stop the noise and complaints of health problems were voiced by neighbors after the municipal and privately-owned wind turbines started operating.

There are currently three industrial wind turbines (Vestas, Model V82, 1.65 MW each) installed in Falmouth with two, municipally-owned and operated, near the wastewater treatment facility. Figure 1 shows the locations for the two municipal wind turbines; WIND 1, WIND 2, and further east, the private NOTUS wind turbine owned by Daniel H. Webb and operated by NOTUS Clean Energy LLC, in the Falmouth Technology Park. All of the turbines are located east of Route 28, north of Blacksmith Shop Road and south of Thomas B Landers Road as shown on Figure 1. Commercial operation of the Town of Falmouth's Wind 1 turbine began on March 23, 2010, while WIND 2 is still waiting for start-up. The NOTUS turbine also started operation in 2010. For reference, the study measurement locations were at two residential homes, shown as ML1 (indoors and outdoors) and ML2 (outdoors).

**Figure 1 - Wind turbine and measurement locations**

### 1.3 Noise Complaints

We understand that shortly after WIND 1 became operational in 2010 several neighbors began to complain about excessive noise produced by the new wind turbine. The same reactions surfaced for homeowners living near the new NOTUS wind turbine when it started operating in 2010. Neighbors continued to complain for many months and they just could not adjust their lives to this new sound. The noise was reported to be constantly fluctuating with "swishing" or "thumping" sounds. Neighbors found this noise to be very annoying, intrusive and disruptive. During moderate wind speeds the noise was clearly audible outdoors and for some even indoors. At times the noise had an audible low-frequency tone that came and went. Neighbors commented that it was more annoying indoors and that it interfered with relaxation and sleep.

*We believe that these complaints could have been predicted by using the results of studies funded by the United States Environmental Protection Administration (USEPA). These studies have a long history having been used as standard*

*practice to predict the public response to a new noise source. At the beginning of an environmental noise assessment, it is appropriate to first develop a noise level design criteria to avoid producing an adverse community response. The documented community response to wind turbine noise expressed by nearby neighbors in Falmouth varies from "highly annoyed" to "strong pleas to stop the noise". This community reaction typically indicates at least a 10 to 20 dB increase over the background ambient sound level (without wind turbine).*

*Unfortunately, Falmouth officials were not made aware of these studies and the wind turbine project teams chose not include this information in their presentations.*

Fortunately, the Town did respond to the numerous public complaints by requiring post-operational noise surveys. Noise measurements were also performed for and by adversely affected neighbors. Most measurements were performed by qualified acousticians near the impacted neighbors. The primary acoustical descriptor measured was the A-weighted sound level (dBA). The sound levels generally ranged from the mid-30s to mid-40s dBA. Some noise level variations were due to differences for time of day, wind speed and wind direction (upwind or downwind). The measured sound levels were fairly consistent from survey to survey. However, the interpretations of the measured noise levels were different for assessing neighbors' complaints. We understand that while complaints were logged by the Town, the complaints were not correlated by distance or noise level and the health complaints remained unaddressed.

*Similar adverse health symptoms have been associated with noise complaints such as "sick building syndrome", correlated by field study to low-frequency pulsations emanating from ventilation systems [2,3]. That is, adverse health effects from low frequency noise exposure in buildings have been studied and confirmed by the acoustics profession. However: As of the date of this report we have not observed any substantive effort by the wind turbine industry and their acoustical consultants to acknowledge and investigate the mechanisms including*

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<sup>2</sup> Burt, T., Sick Building Syndrome: Acoustical Aspects, Indoor and Built Environment January 1996 vol. 5 no. 1 44-59. "Symptoms resulting from exposure to infrasound can include fatigue, headache, nausea, concentration difficulties, disorientation, seasickness, digestive disorders, cough, vision problems and dizziness."

<sup>3</sup> Shwartz, S., Linking Noise and Vibration to Sick Building Syndrome in Office Buildings, EM Magazine, awma.org, March 2008.

*possible low frequency noise underlying the numerous documented complaints of similar adverse physiological symptoms by people living near large industrial wind turbines. We have not yet observed wind facilities designed with noise criteria selected by the wind acoustic consultant to prevent adverse health effects and complaints. With respect to the adverse impacts to indoors locations in homes near wind turbines, we have not yet observed the wind industry following the best practices of the HVAC industry as published in the ASHRAE journals. We have seen suggestions, from wind facility developers to learned acoustical scholars to state commissioners of health, to the effect that it is a "psychological" issue and that wind turbines do not emit excessive low frequency noise. Having experienced adverse physical health effects ourselves directly as a result of being indoors in a home near a large industrial wind turbine, as presented in this report, with dramatically increased low-frequency and infrasonic sound levels that exceed vestibular thresholds for detection and processing by the inner ear, we must emphatically reject any such dismissive notions.*

#### **1.4 Physiological Complaints**

We understand that Falmouth neighbors reported having difficulties living in their home for a variety of unpleasant health-related experiences. They were no longer able to feel comfortable, at peace while at home, unable to relax; felt tense for unknown reasons, and had a strong desire to go outside or leave the area entirely. They were unable to concentrate or stay focused on normal, at-home activities.

Some complained about headaches, ear pressure, dizziness, nausea, apprehension, confusion, mental fatigue, lassitude (inability to concentrate, lethargy). These feelings occurred when WIND 1 and/or NOTUS were operating during moderate to strong winds.

Some neighbors experienced extreme discomfort. They moved their bedrooms into the basement in an attempt to get a good night's sleep. Others left home altogether to sleep farther away with family or friends.

These complaints are clearly indicative of a serious adverse public health impact and the personal loss of well-being for those affected.

*We understand that as of the date of this report, there been no substantive health investigations, medical evaluations, or epidemiological studies by public health officials of the health effects experienced by folks living near the wind turbines in Falmouth, Massachusetts[4]. In October 2011 the Falmouth Board of Health conditionally supported the intent of an article "to ease negative health effects" apparently only after repeated, strong pleas to stop the noise, while noting "wind turbines have to be studied before the causes can be known for sure"[5]. In November 2011, the Town decided to shut down WIND 1 for a period of six months, and start up WIND 2 with a complaint monitoring process.*

## 2 STUDY OBJECTIVES

We understood prior to the study's launch that people were complaining more about discomfort indoors than outdoors. Typically, indoors the A-weighted sound level is *lower* than outdoors when human activity is at a minimum. This strongly suggested that the A-weighted sound level might not correlate very well the wind turbine complaints. This may be indicative of another cause such as low- or very-low-frequency energy being involved.

*The attenuation and band-pass filters used for dBA and dBC weighting exclude the very low frequency energy below 20 Hz even when the background is quiet.*

The purpose of this study therefore was to investigate for the presence of infrasonic pressure pulsations (acoustic amplitudes lower in frequency than 20 Hz) and low-frequency sound emissions (20-200 Hz) from the large industrial wind turbines; and, assess if they 1) are greater than or uniquely distinguishable from the ambient background levels, and 2) exceed human detection thresholds.

*To date, wind turbine noise studies have focused on the A-weighted sound level and are set by international standards (IEC 61400) to use A-weighting for overall and octave and one-third octave band data. We have noticed that infrasonic emissions by wind turbines have been dismissed by the wind industry and their acoustical consultants as too weak to be of any consequence. Simultaneously,*

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<sup>4</sup> Todd Drummey, Falmouth, MA; personal communications, 2011.

<sup>5</sup> The Enterprise, Cape News, 18 October 2011.



*many wind industry acousticians, by saying that it is everywhere in the natural environment, may have overstated the presence of naturally occurring infrasonic energy and missed the fact that wind turbine acoustic signatures are both tonal and regularly modulated. We have not seen evidence that naturally occurring infrasound is comparable to the strong dynamic amplitude modulations created by industrial wind turbines operating in quiet environments.*

The scope of this study was conducted at one home that is representative of the many neighbors that have complained about noise and adverse health effects. We assessed differences between the outdoors and the indoors environment, where neighbors have said the wind turbines bother them the most and the discomfort is worst.

### 3 METHODOLOGY

Acoustic measurements were made with precision sound measurement instruments and dual-channel computer-based signal analyzer software. These instruments were capable of measuring very low frequency energy, as low as 1 Hz. Frequency response was flat (within 1 dB) to 2 Hz and 6 Hz for the two primary measurement channels. During computer analysis, response was compensated flat between 1 and 6 Hz using manufacturer specifications for microphones and preamplifiers and dual-channel end-to-end system response checks.

Outdoor measurements were conducted consistent with ANSI 12.9 [6] and ANSI 12.18 [7]. Simultaneous measurements were made using two microphones, one outdoors and one indoors, to determine the outside-to-inside level reduction (OILR) for the exterior walls and roof. The OILR measurements were performed in accordance with ASTM E966-02. The indoor microphone was fitted with a 4-inch windscreen and mounted on a microphone stand in the master bedroom at a location where the reported adverse symptoms were more pronounced. The outdoor microphone was fitted with a 4-inch windscreen and placed inside a RODE Blimp for improved wind and shock mount protection. The entire system was mounted on a tripod, positioned 5 feet above the ground, and located away from house and trees. Wind speeds were light at the outdoor microphone position.

#### 3.1 Instrumentation

Instrumentation configurations are itemized in Table 1.

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<sup>6</sup> ANSI/ASA S12.9-1993/Part 3 (R2008) - American National Standard Quantities and Procedures for Description and Measurement of Environmental Sound, Part 3: Short-Term Measurements with an Observer Present.

<sup>7</sup> ANSI S12.18-1994 (R2004) American National Standard Procedures for Outdoor Measurement of Sound Pressure Level.

Table 1 - Instrumentation List.

Description	Manufacturer	Model	Serial No.
Microphone	Bruel & Kjaer	4165	844497
Preamplifier	Larson Davis	2221	0107
Microphone	GRAS	40AN	27538
Preamplifier	Larson Davis	902	0235
Sound Meter	Larson Davis	824	0914
Calibrator	Bruel & Kjaer	4230	1103065
Audio Interface	Sound Devices	USBPre2	HB0411005004
Recorder	M-Audio	Microtrack II	139ADC8107245
Microphone	Svantek	SV22	4012682
Preamplifier	Svantek	SV12L	5552
Sound Meter	Svantek	949	6028
Calibrator	Larson Davis	CAL200	2425
Audio Interface	ROGA	DAQ2	06pnd0097
Recorder	TEAC	DR100	0030486

Each sound level measurement system was independently field-calibrated (end-to-end) prior to and verified after the survey measurements. Each system had its own acoustic sound level calibrator (Brüel and Kjær Type 4230 or Larson Davis CAL200), generating a 1-kHz tone of 1 Pa [94 dB sound pressure level (SPL) re 20  $\mu$ Pa root mean square (RMS)]. Sound level meters and acoustic calibrators had current laboratory calibration certificates traceable to NIST.

It is worth noting that Type 1 instrumentation's ANSI filter characteristics have a long impulse response time at low frequencies. At 1 Hz, the ANSI 1/3 octave band impulse response is close to 5 seconds! Thus, unfortunately, **ANSI filters do not capture the fast peak pressure changes occurring in the low and infrasonic frequencies** [8]. The RMS levels reported in this study are understating the true range and modulation of the levels obtained compared to *the time response of the human ear*. The octave-band and FFT results in this study should be considered suggestive of the possible range of pressure changes and detectability for the human ear, thereby prompting the need for more extensive field and laboratory research.

We were able to improve our ability to perform fast signal analysis by using an external digital filter in series with the digital recording playback output, and then analyzing the digital data with

<sup>8</sup> Bray, W., James, R., Dynamic measurements of wind turbine acoustic signals, employing sound quality engineering methods considering the time and frequency sensitivities of human perception, Noise-Con 2011.

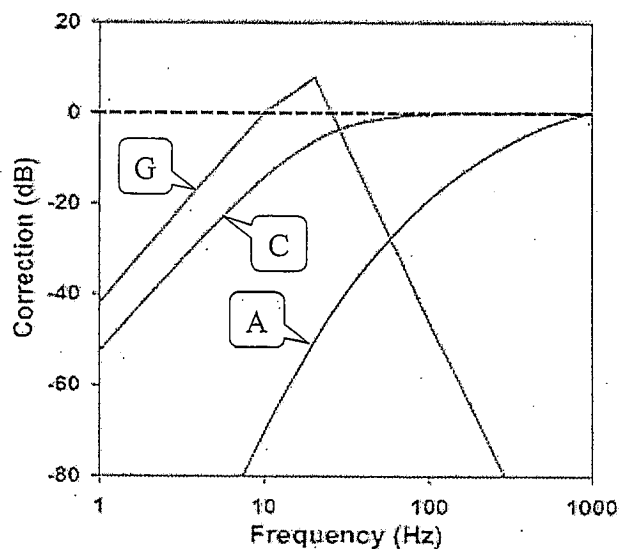
a faster response signal analyzer to observe the time history. This method revealed large modulations for the wind turbine tone at 22.9 Hz (see section 4.1.3).

The A- and C-weighting as well as octave band and FFT analysis were performed with Spectraplus software in real-time and recording mode on site. Later the recorded data was analyzed off-site using the post-processing features. G-weighted sound levels were computed using fast FFT settings for octave band analysis of the G-filtered 4, 8, 16 and 31.5 Hz octave bands using the following constants [9] which are the average value for the one-third octave bands comprising each octave band. While coarse in approach, the method was determined to be a usable trade-off between analysis time, accuracy, and computational requirements.

Octave Band, Hz:	4	8	16	31.5
dBG correction, dB:	-16	-4	7.7	-4

The A-, C-, G-weighting and un-weighted (dashed) functions are shown in Figure 2 below [10].

Figure 2 – Weighting functions



The A-weighting filter cuts out most low frequency sound and gives the lowest reading. C-weighting includes more low frequency sound contributions and gives a higher reading than A-weighting. G-weighting measures infrasound frequencies centered in the 10-20 Hz range.

<sup>9</sup> ISO 7196:1995, Acoustics – Frequency weighting characteristic for infrasound measurements.

<sup>10</sup> Adapted from figure at <http://oto2.wustl.edu/cochlea/wt4.html>.

Un-weighted (dBL) measures include the entire sound signal and give the highest peak readings.

### 3.2 Weather Conditions

Outdoor measurements were made when weather conditions were favorable for measurements (ground level winds  $\leq 9$  mph and no precipitation). Publicly accessible long-term weather observation data was obtained from the nearest met tower at the Otis Air National Guard Base located a few miles away, as shown in Appendix A, B, and C.

The survey period commenced in the late afternoon of April 17, 2011 and concluded during the morning of April 19, 2011. The weather generally showed an early summer pattern with wind speeds at the hub of 20 to 25 m/s by midmorning. Low-level surface winds at the home were light and *southeasterly*, contrary to upper level *westerly* winds. At night, hub-height wind speed was light, with ground wind speed about zero. Wind speeds continuously exceeded 18 m/s during the evening of April 17 and the daytime hours of April 18. Wind gusts exceeded 30 m/s (66 miles per hour) on April 17, meaning that the NOTUS wind turbine was operating in "gale force" wind speeds at hub height, while ground level winds were generally light. This indicates "high wind shear", which is present in most of New England including the Falmouth area of Cape Cod. The conditions are summarized as follows:

*Day 1: Changeable with wind speeds 25 to 30 meters per second at the hub, gusting to more than 35 meters/ second. Wind direction west-southwest.*

*Barometer "low" and variable. Sunny and partly cloudy. Temperature 45 to 50 degrees Fahrenheit*

*Day 2: Sunny with wind speeds 15 to 20 meters per second at the hub, gusting to 25 to 30 meters/second. Wind direction west-southwest. Barometer "low" and rising during the day. Temperature 45 to 50 degrees Fahrenheit*

*Day 3: Winds stopped in morning and the field study concluded.*

### 3.3 Wind Turbine Operations

WIND 1 and NOTUS turbines were installed with nearest two residences having separation distances as close as 1300 feet and 1700 feet, respectively. In the spring of 2011, Falmouth imposed a maximum wind speed restriction on the WIND 1 turbine in an effort to reduce the

noise levels and mitigate the adverse responses from neighbors. Wind 1's operational control software was modified to stop power generation whenever the hub-height wind speeds exceeded 10 m/s (22 miles per hour).

There was no noise reduction requirement imposed on the Webb-owned NOTUS wind turbine, even though NOTUS is as close to homes as WIND 1. The manufacturer's operational program includes a trip setting for a maximum hub-height wind speed at 32 m/s (70 miles per hour).

Thus when winds exceed 10 m/s at wind turbine hub height for any length of time, WIND 1 is shut down and NOTUS can continue to operate.

During this survey, the authors noted that the NOTUS wind turbine was clearly audible outdoors at ML1 and audible indoors at ML1 during the stronger winds. WIND 1 was not operating for most of the survey period. However, during the last day with very light wind conditions, NOTUS was seen as not turning, and WIND 1 blades were visibly rotating. This was a good opportunity for obtaining digital recordings at ML1 with only WIND 1 operating.

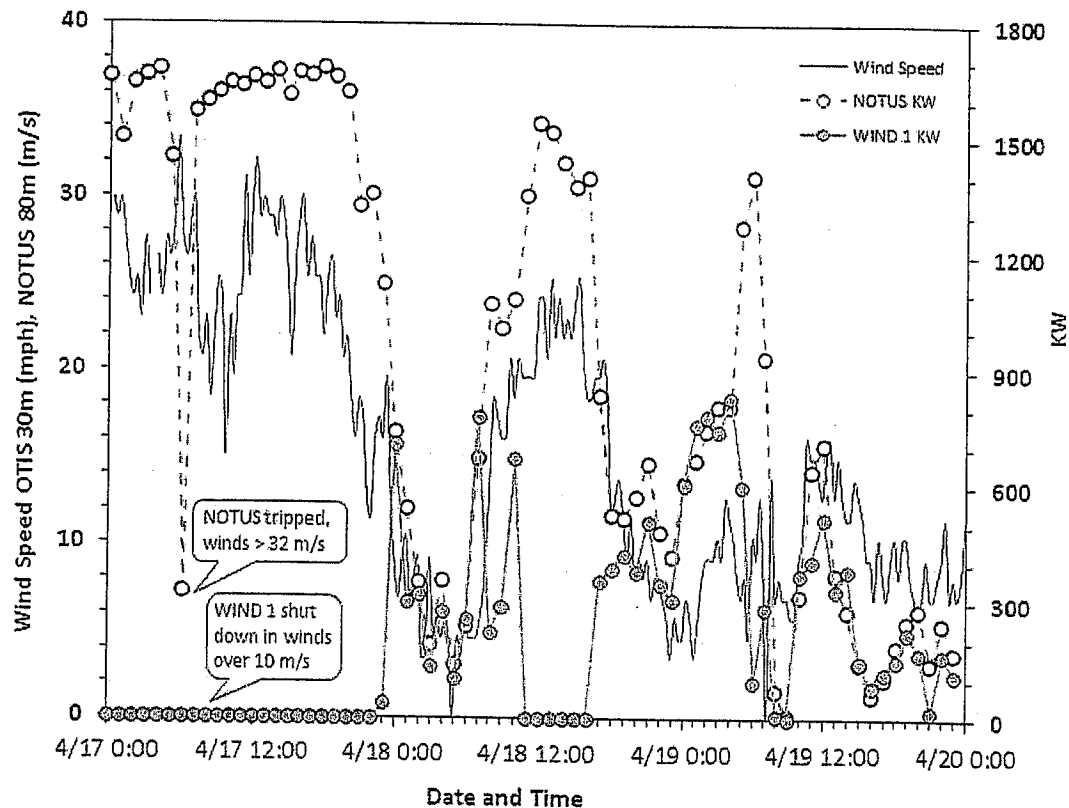
Wind turbine power outputs were obtained from the WIND 1 and NOTUS websites. Wind speed data was obtained from the nearest weather station tower at the Otis Air National Guard Base a few miles away. This data was then graphed by date showing the wind speed and correlating power output, as shown on **Figure 3**.

The wind turbines rotated at a nominal blade pass rate of 0.7 Hz or 1.4 seconds between blades passing by the turbine mast.

The NOTUS wind turbine dominated the acoustic environment the first and second day while operating. The third day, in the morning, with winds too light for NOTUS to turn, audible sounds included intermittent loading operations in a nearby sandpit, very distant traffic, and occasional cars passing by on the neighborhood roads several hundred feet distant.

Figure 3 - Wind Turbine Operations

(Showing dates, power output and wind speed)



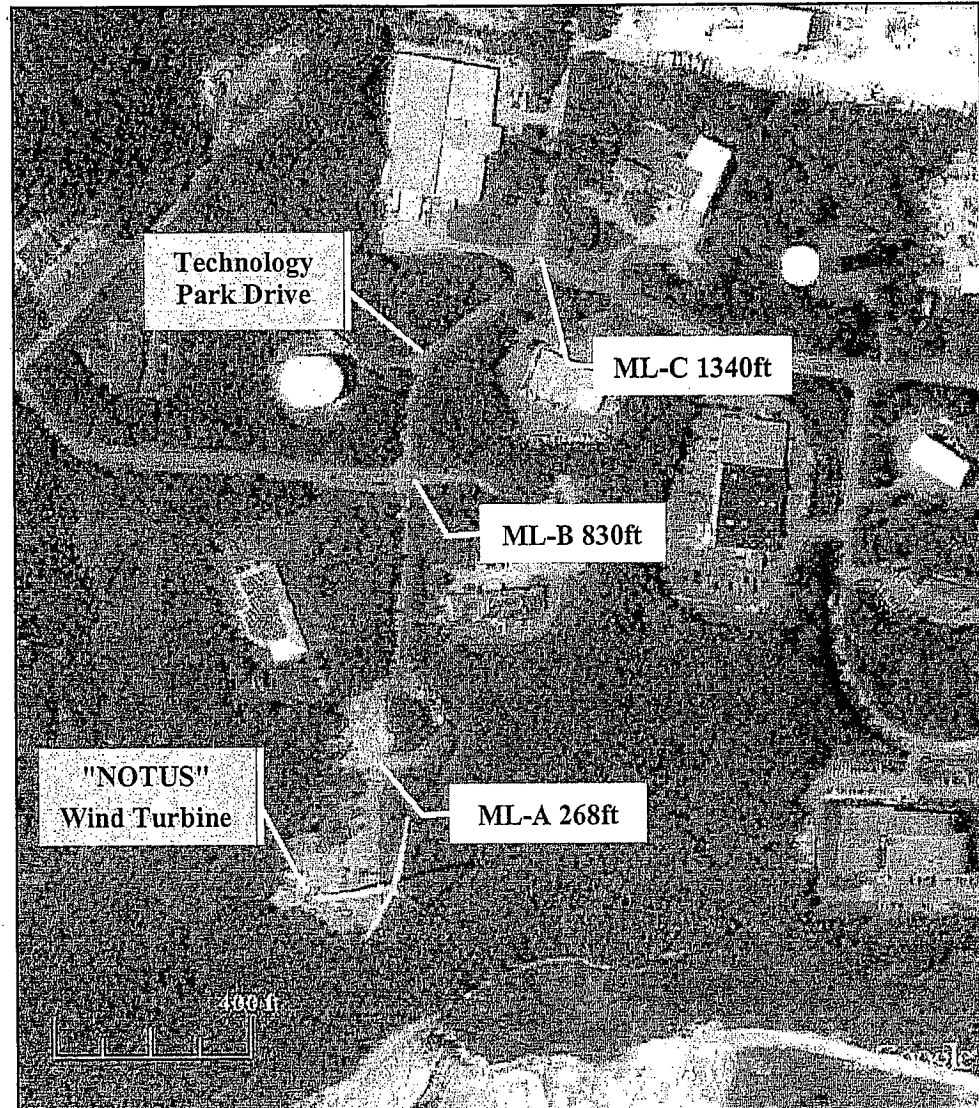
### 3.4 Sound Level versus Distance

Sound level measurements were made at different distances from the noise source to depict the noise level decrease with distance. This is a very useful method to use especially in quiet environments where the noise source under investigation is prominent at great distance. This measurement technique is referred to as; “level versus distance”, “walk-away”, or “stepped distance”.

“Stepped distance” measurements were made at four locations; three in the Falmouth Technology Park (at 260, 830, 1340 feet) and one at 1700 feet at the residence under investigation (ML1) as shown in **Figure 4**. Distances from the wind turbine for the three closest locations were obtained with a laser range finder aimed at the tower base. A Google Earth satellite image was used to determine the separation distance between the wind turbine and

residence (ML1). It is worth noting that noise from the wind turbine was always dominant at all measurement locations.

**Figure 4 – Stepped Distance Measurement Locations**





## 4 ANALYSIS AND RESULTS

### 4.1 Operations and adverse health effects felt

The survey took place over a three day period. We experienced adverse health symptoms within twenty minutes of starting the survey. Our health symptoms were tabulated with the measured data for wind speed, NOTUS output, locations, dBA, dBG & dBL levels as shown on Table 1.

**Table 1 - NOTUS data and adverse health effects  
(ML1 at 1700 feet away from NOTUS)**

Hub wind speed, m/s	NOTUS output, kw	Study	dBA	dBG	dBL	Symptoms Experienced
<i>Day 1:</i> 25 with gusts to 35	1600-1700	Indoors	n/a	n/a	n/a	Nausea, dizziness, irritability, headache, loss of appetite, inability to concentrate, need to leave, anxiety.
		Outdoors	n/a	n/a	n/a	Felt miserable, performed tasks at a reduced pace.
<i>Night 1:</i> 0-9	150-350	Indoors	18-20	n/a	n/a	<i>Slept with little difficulty</i>
<i>Day 2:</i> 20 with gusts to 30	1350-1500	Indoors	18-24	51-64 pulsations	62-74 pulsations	Dizzy, no appetite, headache, felt miserable; performed tasks at a reduced pace. Desire to leave.
		Outdoors	41-46	54-65 pulsations	60-69 pulsations	Dizzy, headache, no appetite. Slow. Preferred being outdoors or away.
<i>Night 2:</i> 4-12	150-350	Indoors	18-20	n/a	n/a	<i>Slept fitfully, woke up</i>
<i>Day 3:</i> 6 calm	OFF	Indoors	18-20	39-44 random	50-61 random	Improvement in health. Fatigue and desire to leave.
		Outdoors	32-38	49-54 random	57-61 random	Improvement in health. Fatigue and desire to leave.

During the start of the survey, we were attempting to perform normal activities associated with our investigation; setting up instruments, observing measurements, concentrating, using computers, leaving the house for late night, stepped-distance measurements and, returning to retire for the night. Within twenty minutes, we found ourselves having difficulties performing our ordinary tasks. For example, we had difficulty determining which wires to use and what components to connect together in what sequence. We were unsure about our calibrations, and checked them repeatedly. Within an hour, we were debilitated and had to work much harder mentally. As hours passed, the severity of the symptoms increased. We were unable to acquire meaningful data at ML1 during the first evening when winds were strongest. However, we believe that the levels not acquired on April 17 were probably similar to or several dB higher than those acquired on April 18.

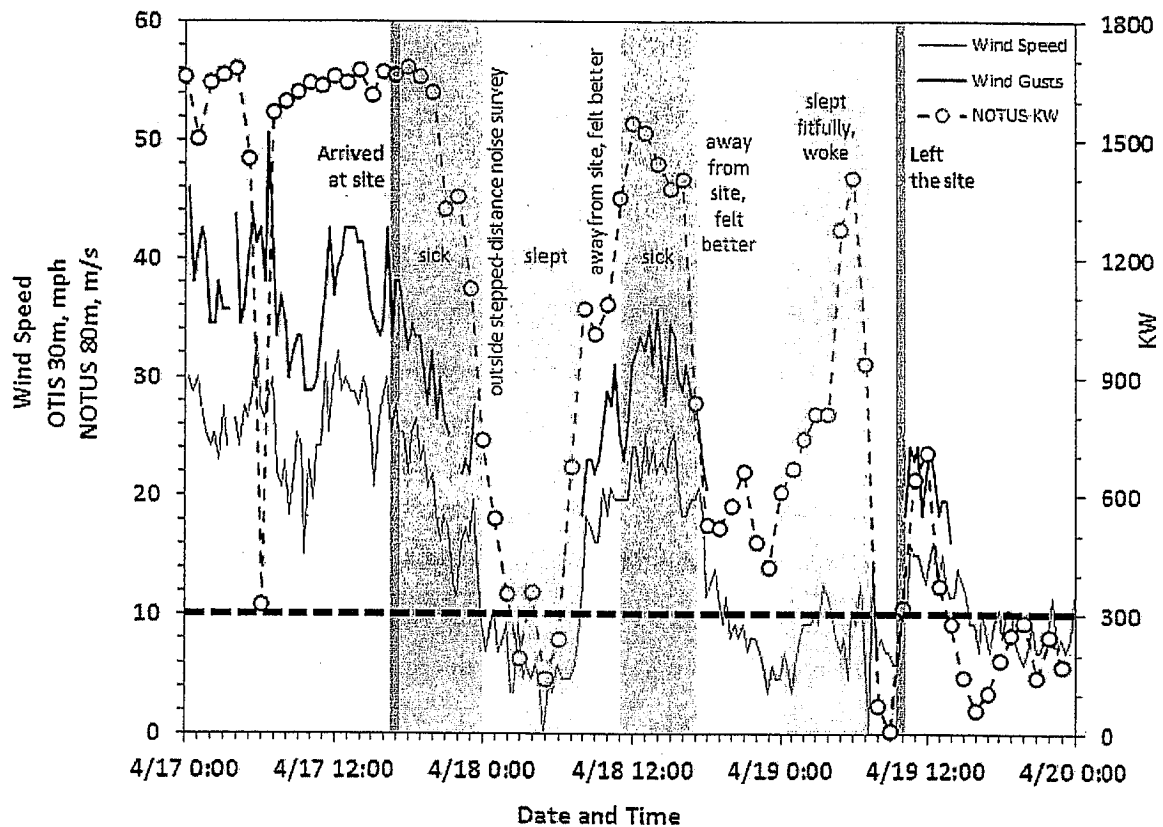
Later that night after 11 PM, the winds dropped below 10 m/s. We were able to confirm calibration on our instruments and collect outdoor data after midnight at the NOTUS stepped-distance locations before it started to rain. We then retired for the night in the home under study; the winds remained under 10 m/s.

However, the adverse health symptoms at the house continued through the second day with wind speeds over 10 m/s, especially when indoors. We obtained partial relief when working outdoors.

We felt improvement in health on the morning of the third day when NOTUS was OFF and felt better over time when we left the area influenced by wind turbines. It took a week to recover, with recurring symptoms of nausea and vertigo over the next seven weeks for one of us.

We annotated Figure 2 data (NOTUS power output) with the physiological-symptoms and activities listed in Table 2, with the combined information presented on **Figure 5**.

**Figure 5 - Survey Operations at ML1**  
(Average and gusty wind speeds)



We found that there is an *unexpected* correlation between our symptoms occurrences with the hub-height wind speed. It is worth noting that Falmouth had elected to set an operational cap on the WIND 1 at 10 m/s, shown for reference as a horizontal dashed line in Figure 5. We were noticeably affected when the wind speeds were over 10 m/s at hub height for NOTUS, 1700 feet from our study location.

We found a strong correlation between the symptoms experienced by us with versus the wind speed and the NOTUS power output. The graph in Figure 5 shows that the most severe symptoms (labeled as "sick") occurred when the winds were the strongest (well above 10 m/s), as confirmed by power output. To our best knowledge, there have been no such physiological complaints made by neighbors in Falmouth *prior* to the installation of NOTUS (and WIND 1).

Further, the graph in Figure 5 shows when we were not severely affected. When the wind speeds dropped below 10 m/s the first night, we recovered enough to be able to go out and measure the stepped distance data. We also did not complain about sleeping difficulties during the first night with winds remaining below 10 m/s. However, we *both* experienced difficulty

sleeping during the *second* night when the average hub-height wind speeds *increased to above 10 m/s several times* during the early morning hours.

#### 4.1.1 Physiological Symptoms

During moderate to high wind speeds, we experienced adverse physiological symptoms very similar to those described by neighbors. We arrived fresh and ready to work, without the ill effects of missing a good night's sleep. We had no personal attachment to place, no concerns about shadow flicker or diminished real estate value. Instead we found ourselves encountering a very *visceral* discomfort (proceeding from instinct, not intellect), unexpected in this peaceful rural environment. The severity was directly related to the strength of the dBG-weighted and the un-weighted amplitude-modulated infrasonic acoustic pressure level that was proportional to wind speed.

*We found that individuals prone to motion sickness (as both researchers are) can experience unpleasant physiological symptoms, especially indoors near a wind turbine. We also acknowledge the large body of medical evidence of vestibular medical conditions that can cause problems with balance and orientation, nausea, dizziness, anxiety, and other health effects, that that can be worsened by adverse environmental conditions.*

#### 4.1.2 Current Research

From our experience in April, we know now that understanding the adverse health effects reported by neighbors living near large industrial wind turbines requires coordinated research involving several branches of science, including neuroscience, otolaryngology, and acoustics. We will not attempt here to present the vast areas of knowledge represented by the disciplines just listed. We will cover a very small portion in order to lay the basic framework for presentation of Dr. Salt's work on the response of the ear to infrasound.

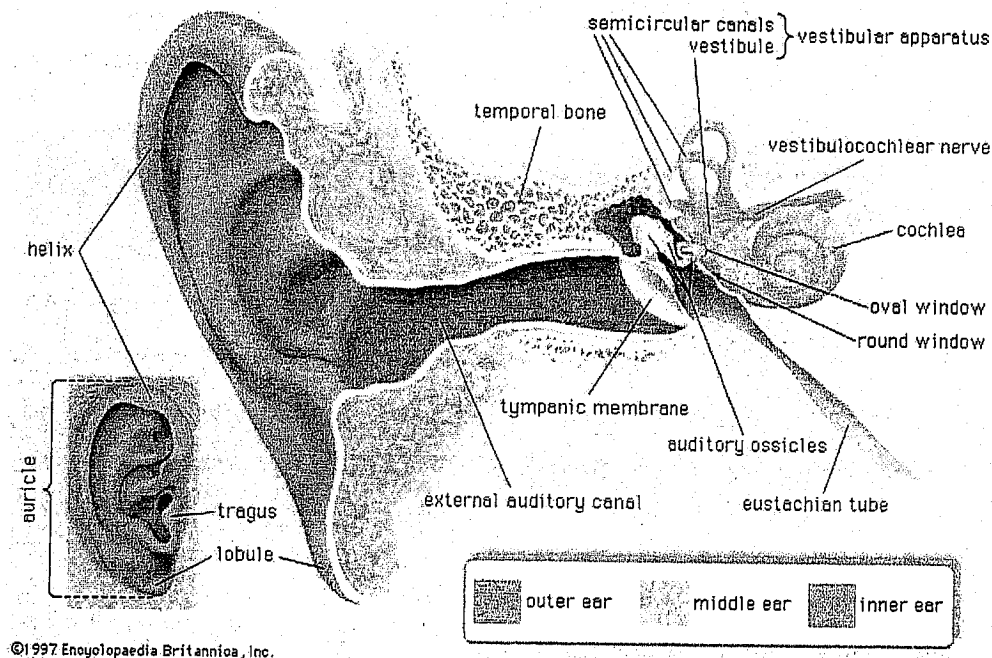
Sound pressure is the small alternating deviation above and below atmospheric pressure due to the propagated wave of compression and rarefaction. The unit for sound pressure is the Pascal (symbol: Pa). Sound pressure level (SPL) or sound level is a logarithmic measure of the effective sound pressure of a sound relative to a reference value. It is measured in decibels (dB) above a standard reference level. The commonly used "zero" reference sound pressure in air is

20  $\mu$ Pa RMS, which is usually considered the median threshold of human hearing (at 1 kHz). Some 16 percent of the population is about 6 dB more sensitive than the median. Frequency is measured by the number of waves per second or Hertz (Hz). The average range of hearing is 20-20,000 Hz with the greatest sensitivity in 1000-4000 Hz. At the most sensitive frequency around 4 kHz, the amplitude of motion of the eardrum is about  $10^{-9}$  cm, which is only about 1/10 the diameter of a hydrogen atom. Thus, the ear is very sensitive, detecting signals in the range of atomic motion.

The term "infrasound", which refers to acoustic energy at frequencies below 20 Hz, is misleading for most, not being "sound" at all as we know it but either felt or inaudible. However as determined by Dr. Salt, the ear detects and responds to infrasound.

We present for reference a diagram of the ear in **Figure 6**. Note that the inner ear's vestibule and semicircular balance canals are as close to the eardrum as the cochlea which processes sound.

**Figure 6 – Diagram of the ear**



The vestibular system in the brain does more than just allow us to stand upright, maintain balance and move through space [11]. It coordinates information from the vestibular organs in the inner ear, the eyes, muscles and joints, fingertips and palms of the hands, pressors on the soles of the feet, jaw, and gravity receptors on the skin and adjusts heart rate and blood pressure, muscle tone, limb position, immune responses, arousal and balance. The auditory system is also highly involved in vestibular functions. The vestibular and auditory nerves join in the auditory canal and become the eighth cranial nerve of the brain. Anything that disrupts auditory information can also affect vestibular functioning.

*Our symptoms (ear pressure, dizziness, vertigo, anxiety) suggested that there was atmospherically transmitted energy that directly affected our vestibular systems. Yet we were puzzled by the fact that we were most severely affected when sitting relatively still indoors, not moving about. What were our vestibular systems responding to? Were the vestibular canals being moved? Were the otolithic crystals being displaced [12]? Was the endolymphatic fluid volume being affected? Was a vestibulosympathetic reflex involved? Was the ear triggering fight or flight reactions in response to low frequency sound?*

Dr. Alec Salt [13] has conducted extensive research into vestibular response to sound pressure pulsations. His research shows that *the ear responds to sound we cannot hear*.

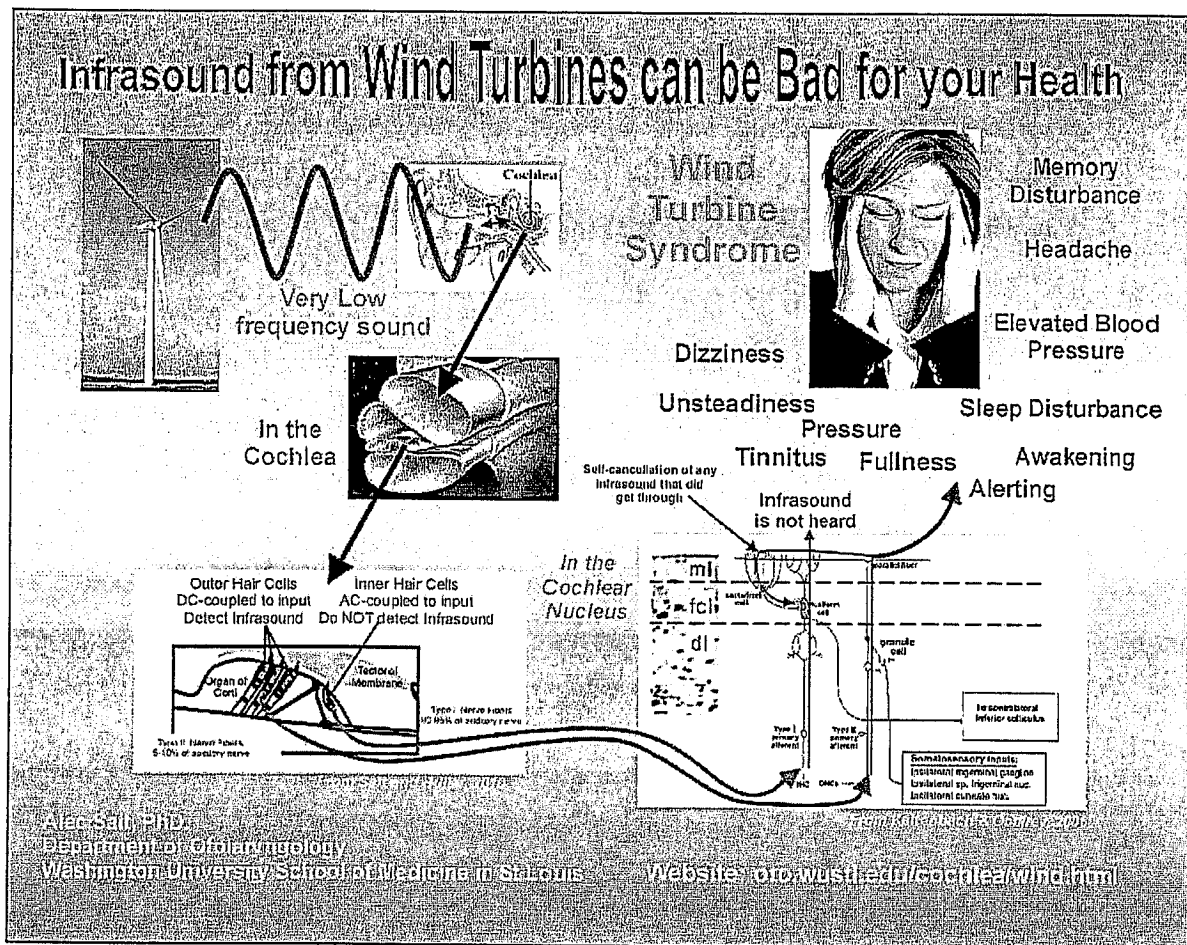
There are two types of hair cells in the cochlea, the inner hair cells (IHCs) and the outer hair cells (OHCs). The IHCs are fluid-connected and *velocity*-sensitive, responding to minute changes in the acoustic pressure variations based on frequency, with sensitivity decreasing at a rate of -6 dB per downward octave. *IHCs detect audible sounds and they are insensitive to low frequency and infrasonic acoustic energy*. In contrast, the OHCs are motor as well as sensory cells. OHCs are found only in mammals. OHCs are mechanically connected, responding to small changes in *displacement*, with a more uniform sensitivity across the acoustic frequency spectrum. *OHCs respond to and contract with infrasonic stimulus* and then act to reduce vibration stimulus at the IHCs. Thus there are actually *two* specialized receptors, or transducers, in each ear, as outlined in Dr. Salt's slide in **Figure 7**.

<sup>11</sup> <http://www.braintraining.com/vestibular.htm>.

<sup>12</sup> "...small crystals of calcium carbonate (also referred to as "otoliths" or "canaliths") that are normally attached to the otolithic membrane in the utricle of the inner ear.", <http://www.vestibular.org>.

<sup>13</sup> Department of Otolaryngology, Washington University School of Medicine, St. Louis, Missouri, USA.

Figure 7 – Ear response to very low frequency sound



Dr. Salt's research reported the following [14]:

- The ear is sensitive and responds to low frequency and infrasonic pressure modulations at levels that are not heard (sub-audible).
- Low frequency pressure modulations produce a *biological* amplitude modulation of nerve fiber responses to higher frequency stimuli. This biological amplitude modulation cannot currently be detected by even the most sophisticated sound level meter.

<sup>14</sup> Salt, A., "Responses of the Inner Ear to Infrasound" - presentation to the Wind Turbine Noise Conference, Rome, April 11-14, 2011.

- The outer hair cells of the ear are directly attached (DC-coupled) to movements of the sensory structure and respond to infrasound stimuli at moderate levels.
- Low frequency stimulation of the outer hair cells (OHC) may be used in the brain to eliminate infrasound from hearing (improving and optimizing the signal to noise ratio of the audible-range ear mechanism in most acoustic environments, except the very quiet.) Low frequency stimulation of the OHCs is also linked to the attention state and arousal, so stimulation could disturb sleep.
- Outer hair cell responses to infrasound are the most sensitive when ambient sound levels are low.

In summary, Dr. Salt indicates very simply,

*"The idea that infrasound doesn't or can't affect the ear is just flat-out wrong." [15]*

Our field experience in Falmouth in April 2011 is consistent with Dr. Salt's research findings. As detailed in the following sections, we experienced the most adverse health symptoms indoors where the acoustic energy was 0.2 Pascal peak-to-peak, modulated at 0.7 Hz, with portions of the low-frequency energy modulated above the OHC threshold, while occurring in a very low background sound level of around 20 dBA. Our symptoms lessened somewhat outdoors, where the pressure pulsations at 0.7 Hz were slightly lower than indoors, and the background level was in the low 40s dBA.

We understand that some families living near wind turbines and experiencing similar effects indoors, yet not ready to abandon their homes, have resorted to sleeping outside in tents. This lessening of effects outdoors (compared to indoors) is consistent with findings of low-frequency noise effects documented in [2].

Dr. Salt formally identified in 2011 a number of areas requiring more research:

*Stimulation of vestibular hair cells (saccule, utricle).*

*Vestibular hair cells are "tuned" to infrasonic frequencies.*

*No-one has ever measured sensitivity to acoustic infrasound.*

*Symptoms: unsteadiness, queasiness*

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<sup>15</sup> Salt, A., <http://oto2.wustl.edu/cochlea/wt7.html>.



*Disturbance of inner ear fluids (e.g. endolymph volume).*

*Low-frequency sound at non-damaging levels induces endolymphatic hydrops (a swelling of one of the fluid spaces).*

*Infrasound does affect endolymph volume – it is the basis of a treatment for hydrops (Meniere's disease).*

*No one has ever measured what level of infrasound causes hydrops.*

*Symptoms: ear fullness, unsteadiness, tinnitus*

*Infrasound – affected structures and long-term exposure effects, ranked by sensitivity:*

*Outer hair cells — “Overworked, tired, irritated” OHC, type II fiber stimulation*

*Inner ear fluid homeostasis — Volume disturbance, endolymphatic hydrops*

*Saccular hair cells — Stimulation*

*Other, non-ear, receptors — Stimulation*

*Inner hair cells/hearing — None*

*Sensitivity and sensations remain to be quantified: ear pressure or fullness, discomfort, arousal from sleep; ear fullness, tinnitus, unsteadiness; unsteadiness; stress, anxiety.*

#### **4.1.3 OHC & IHC Sensitivity Analysis**

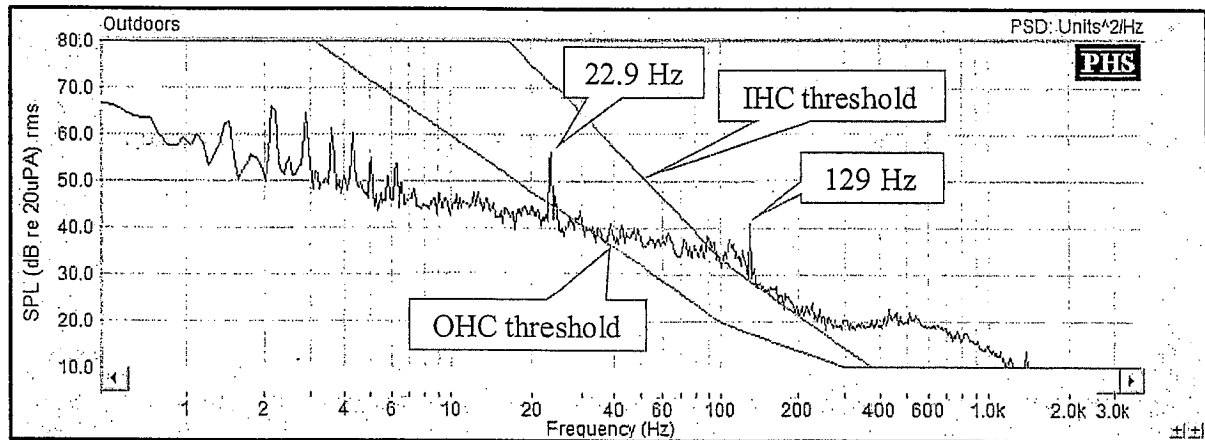
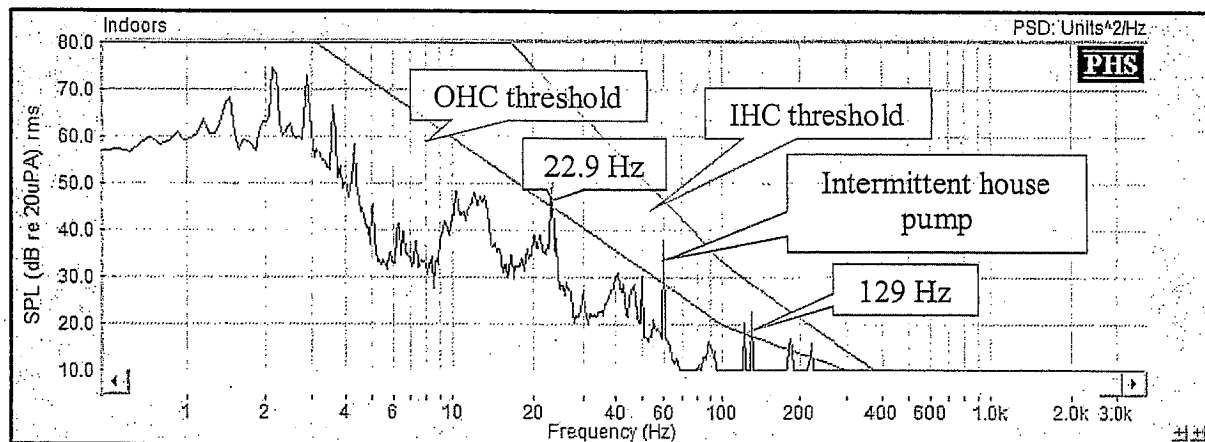
A representative average (not peak) wind turbine noise spectrum, obtained during the second day (April 18, hub-height winds 20 m/s and gusting) when the researchers were experiencing moderate-to-severe adverse health effects, was compared with Dr. Salt's OHC and IHC threshold data [16]. When the wind turbine noise was dominating, the sound level was in the low 40s dBA outdoors and about 20 dBA indoors.

The outdoor RMS spectrum presented in **Figure 8a** shows that both the 22.9 & 129 Hz wind turbine tones exceed the OHC threshold levels along with all frequencies above 30 Hz. The 22.9 Hz tone was not audible outdoors. However, the 129 Hz tone was clearly audible outdoors since it exceeded the IHC audibility threshold.

The indoor RMS spectrum presented in **Figure 8b** shows that both the 22.9 & 129 Hz wind turbine tones exceed the OHC threshold levels. Again, the 22.9 Hz tone was inaudible indoors and the 129 Hz tone was frequently audible, more so than reflected in the averaged RMS level.

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<sup>16</sup> Curves furnished by Dr. Salt via private communication, 2011.

**Figure 8 – OHC & IHC Thresholds vs. RMS Wind Turbine Spectrum (4/18/2011)****8a – Outdoors (RMS)****8b – Indoors (RMS)**

We were drawn to evaluating the potential significance of the 22.9 Hz tone. The amplitude modulation of the 22.9 Hz tone was evaluated using an external 10th-order digital bandpass filter (20 to 24 Hz) applied to the digital recording output and then analyzed with SpectraPlus software at 23 millisecond intervals using Hamming weighting. The time history presented in **Figure 9** shows that the indoors 22.9 Hertz tone modulates significantly above and below the OHC threshold of 45 dB SPL at 22.9 Hz.

Figure 9 – 22.9 Hz tone and its OHC threshold

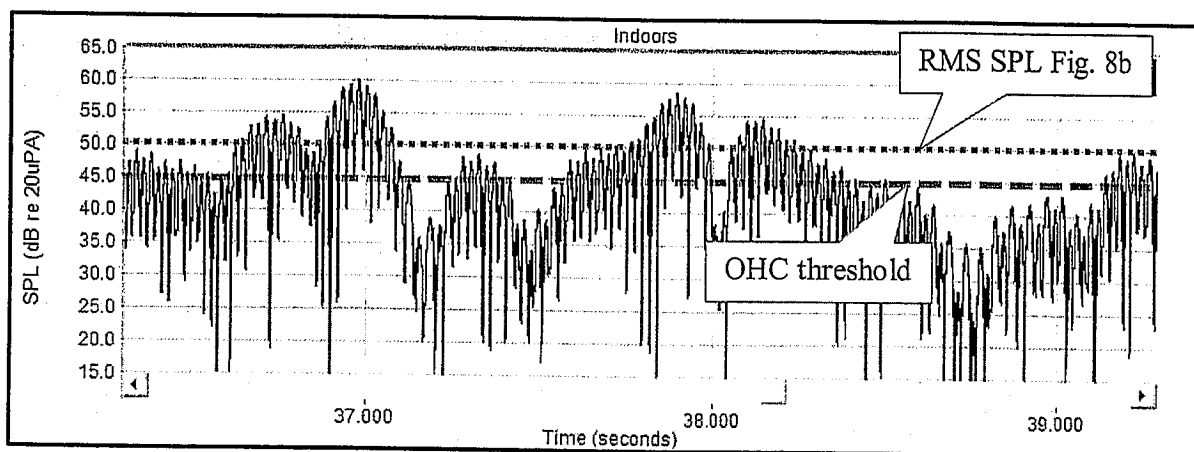


Figure 9 reveals a remarkable range of modulation in the 22.9 Hz tone, which peaks in this example time record as high as 60 dB SPL, 10 dB higher than the 50 dB SPL mean established by the FFT averaging. Nulls between peaks drop down several tens of decibels below the OHC threshold. The figure suggests that the inner ear OHC circuitry is receiving individual low-frequency pressure events 43 milliseconds apart at the 22.9 Hz driving frequency. The tone does not reach the IHC threshold (about 72 dB SPL at 22.9 Hz) and in fact we did not find the 22.9 Hz tone to be distinctly audible. Based on Dr. Salt's research, these 22.9 Hz pressure events are undetected by the IHC circuitry, yet strong enough to trigger the OHC circuitry which then drops gain on the IHC circuitry.

Example dBG-weighted time histories for the second day (4/18/2011) can be reviewed in **Figures 10a & 10b** with the 60 dBG guideline shown as a dashed line.

Figure 10a – dBG levels, indoors

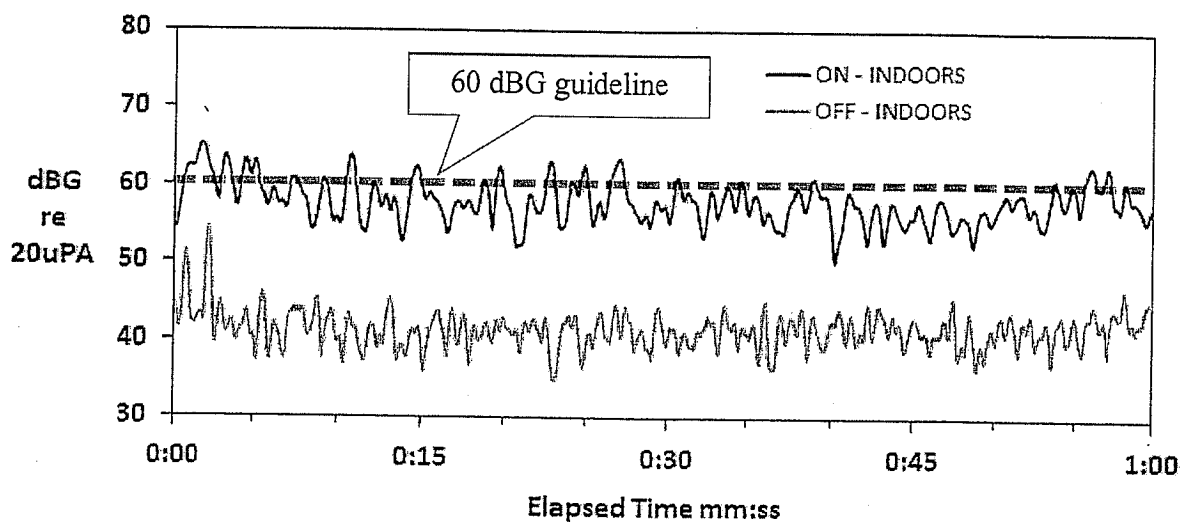
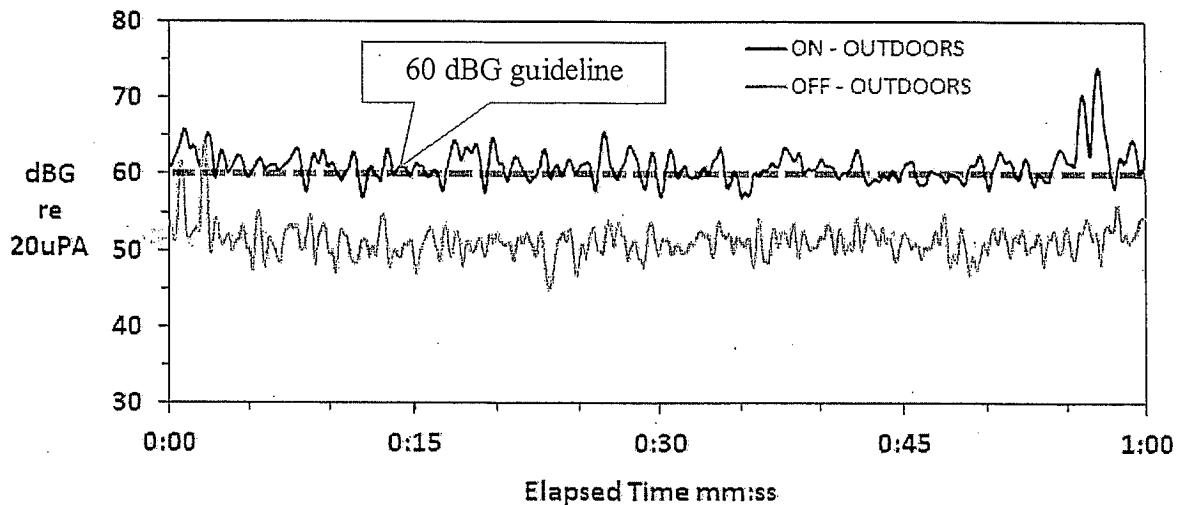


Figure 10b – dBG levels, outdoors



These figures (10a & 10b) clearly show the dBG-weighted levels exceeding Dr. Salt's 60 dBG guideline when the NOTUS wind turbine is operating. Again, based on Dr. Salt's research, these low-frequency pressure events are undetected by the IHC circuitry, yet strong enough to trigger the OHC circuitry which then drops gain on the IHC circuitry.

Indoors, the dBG level was modulated above 60 dBG with turbine ON and was down in the high 30s to low 40s (dBG) with turbine OFF. Indoors, we observed a 20 dB increase in dBG due to the wind turbine operation.

Outdoors, the dBG level was modulated above 60 dBG with NOTUS ON and was down in the low 50s (dBG) with NOTUS OFF. There we observed a 10 dB increase in dBG due to the wind turbine operation.

As a point of reference, relief started to set in for us when NOTUS was off with resulting dBG levels generally not exceeding 55 dBG outdoors and below 45 dBG indoors.

#### 4.1.4 Discussion: Effects on Sleep and Wake States

##### Sleep Disturbance

We found that sleep was disturbed during the second night with hub-height winds above 10 m/s. However the background sound levels were low indoors, around 20 dBA. What could have been disturbing our sleep? This experience demands further study. We offer here a possible link.

*From our direct experience that night, we hypothesize that sleep was disturbed when the wind turbine's principal modulation frequencies including the 0.7 Hz*

*blade pass modulated in-flow turbulence pressure pulsations and 22.9 Hz tone became sufficiently detectable to the ear's vestibular system to engage the brain centers through the auditory frequency following response, or FFR [17,18]), and may have created conflict with the brain's sleep operations which would have its own sequences and frequency states during the night.*

In sleep the brain is normally in Theta (4-7 Hz) or Delta (up to 4 Hz) states, as seen in **Figure 11**.

**Figure 11 – Brain Waves**

Type	Frequency (Hz)	Behavior
Delta	up to 4	• Slow wave sleep in adults, and some continuous attention tasks.
Theta	4 – 7 Hz	• Drowsiness or arousal in older children and adults, idling.
Alpha	8 – 12 Hz	• Relaxed/reflecting, closing the eyes.
Beta	12 – 30 Hz	• Alert/working, active, busy or anxious thinking, active concentration.
Gamma	30 – 100 +	• Perception which combines two different senses, such as sound and sight and short term memory matching of recognized objects, sounds, or tactile sensations.

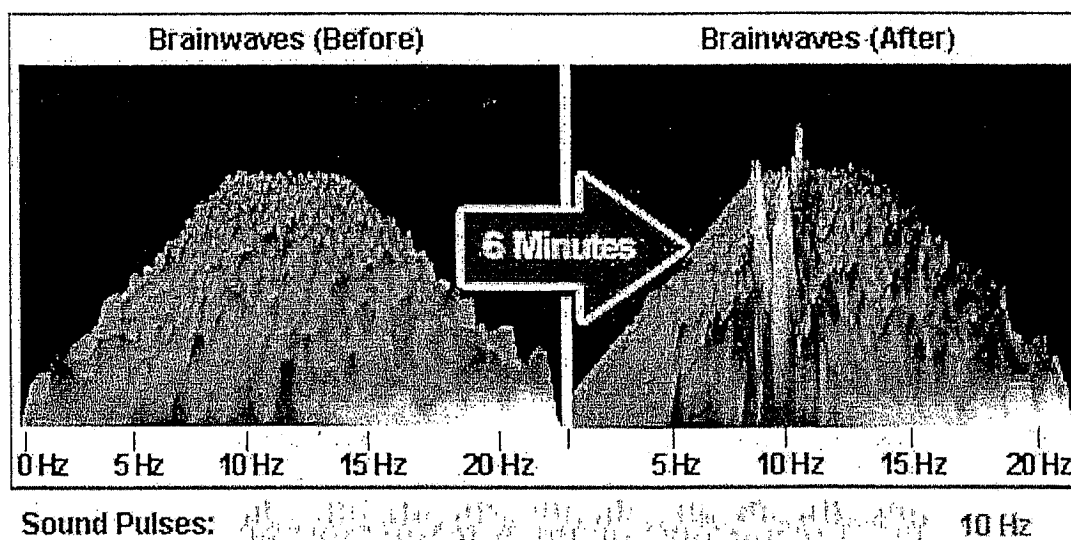
The wind turbine's 22.9 Hz tone lies in the "high Beta" range of brain wave frequencies (understood to be 23-30 Hz). Beta brain wave activity is understood to be associated with alert brain state, anxiety, and stress. Conversely, the wind turbine's blade pass frequency of 0.7 Hz, with which the wind turbine turbulence and tonal energy is amplitude-modulated, lies in the deep Delta brain wave range. We understand that medical researchers have established that entrainment to an external frequency when the brain would normally be operating at its own frequency requirements may result in brain activity conflict. That is certainly what we

<sup>17</sup> Frequency-following responses (FFRs), sustained evoked potentials based on precisely phase-locked responses of neuron populations to low-to-middle-frequency periodical acoustical stimuli.

<sup>18</sup> Du, Y. et al, Auditory frequency-following response: a neurophysiological measure for studying the "cocktail-party problem". *Neurosci Biobehav Rev.* 2011 Nov;35(10):2046-57. Epub 2011 May 27.

experienced. The brain entrains through FFR to external acoustic stimulus [19], example shown in Figure 12.

Figure 12 – Brain Response to 10 Hz Entrainment



This line of reasoning suggests that we may have experienced FFR with wind turbine acoustic emissions. We were unprepared to acquire brain wave (EEG) states during the field work to confirm FFR. If the medical protocols can be established, would EEG field testing be useful? It appears so.

### Wake State

We experienced cloudy thinking, lethargy and difficulty with activities especially indoors during the daytime hours when wind speeds were strong at hub height. The wind turbine's 22.9 Hz tone increased in strength with increasing hub-height wind speed. Again, the 22.9 Hz tone is in the "High Beta" frequency band. There is clinical evidence that "synchronizing cortical activity in the beta frequency band slows voluntary movement" [20]. Other researchers [21,22] have investigated the abnormally high amounts of beta wave oscillatory brain activity in Parkinson's Disease. Their research "demonstrated abnormally synchronized oscillatory activity at multiple levels of the basal ganglia-cortical loop. This excessive synchronization correlates with motor deficit".

<sup>19</sup> Original source reference being sought.

<sup>20</sup> Pogosyan A, Gaynor LD, Eusebio A, Brown P., Boosting Cortical Activity at Beta-Band Frequencies Slows Movement in Humans. *Curr Biol*. 2009 Oct 13;19(19):1637-41. Epub 2009 Oct 1.

<sup>21</sup> Hammond, C., et al, Pathological synchronization in Parkinson's disease: networks, models and treatments. *Trends Neurosci*. 2007 Jul;30(7):357-64. Epub 2007 May 25.

<sup>22</sup> Eusebio, A., Brown, P., Synchronisation in the beta frequency-band — The bad boy of parkinsonism or an innocent bystander? *Exp Neurol*. 2009 May; 217(1): 1-3. doi: 10.1016/j.expneurol.2009.02.003.

We understand a number of people worldwide have experienced cardiovascular upset near wind turbines; pains in chest, heart racing, palpitations. Were our cardiovascular systems being influenced through entrainment during the Falmouth study?

*According to the principle of entrainment [23], two systems will entrain or align their rhythms if exposed to each other for a sufficient length of time. At 42 modulations per minute, the 0.7 Hz blade pass frequency falls in the range of resting heart rates for athletes. Our heart rates are normally closer to 65-70 bpm. Could our heart rates have slowed? Could entrainment have spurred adaptive vestibular attention to signals from vascular baroreceptors for confirmation of the incoming pressure pulsations? We do not know. We were unprepared to monitor heart rate variability or cardiovascular condition during the study.*

**What do these lines of thinking suggest?**

First, they suggest that brain oscillations may synchronize to the wind turbine. Our experience told us that our mental functions shifted dramatically within a short period of exposure to the wind turbine noise. The effect may be more pronounced or occur more quickly when winds are strong, and from our own experience, can affect sleep and waking states. Anxiety could have emerged for the very reason that the incoming energy processed and reported by the vestibular system was inaudible.

Second, they suggest that a complex of physiological conditions may be triggered by the vestibular processing of the incoming low-frequency energy that is inaudible yet exceeds the vestibular threshold. These human responses strongly suggest that this is in fact *a medical problem*. Medical doctors and researchers should evaluate the health effects reported by neighbors living near wind turbines in Falmouth through epidemiological and laboratory work.

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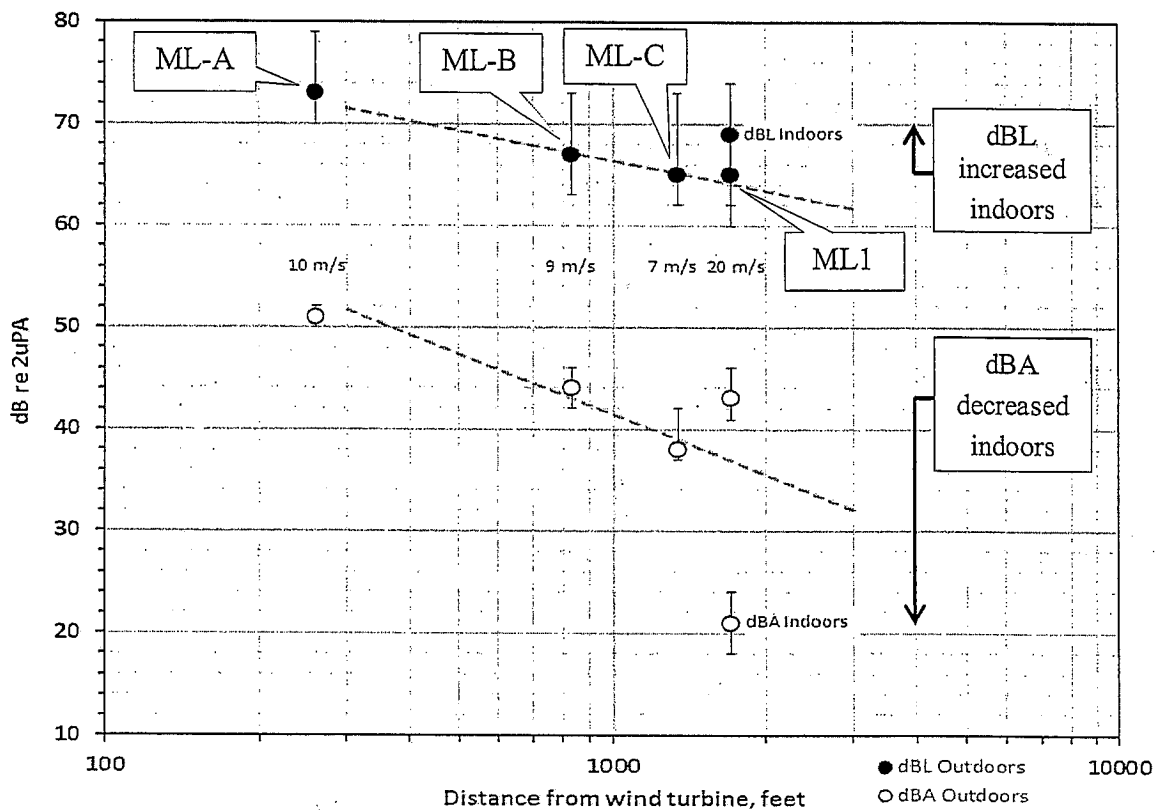
<sup>23</sup> "a synchronization of two or more rhythmic cycles," a scientific phenomenon discovered by Dutch scientist Christian Huygens in 1665. Following the law of the conservation of energy, when two closely related rhythmic cycles interact they synchronize with each other.

## 4.2 Sound Level versus Distance

Outdoor dBA sound levels decrease at 6 dB per doubling of distance (6 dB/dd) as depicted by the inverse square law for acoustic frequencies. Sound level versus distance measurements were plotted *using a semi-log scale for distance*. This graphing method typically shows the drop of sound level as a straight line as the distance increases.

The “stepped distance” data combined with the data at ML1 clearly show that the NOTUS noise level decreases with distance uniformly, as shown on **Figure 13**.

**Figure 13 - NOTUS RMS Sound Level vs. Distance**  
(Showing wind speeds, and average noise levels with max-min ranges)



There are two trend lines; the lower dashed one showing the dBA decreasing at a predictable 6 dB/dd. The dBA trend line is faired through a wind speed of 8 m/s which is the wind turbine specification wind speed. The upper line is for the unweighted sound level, which is controlled



in these measurements by energy at frequencies less than 20 Hz. The data indicate a decrease with distance consistent with cylindrical spreading; about 3 dB/dd.

*Outdoor sound wave propagation generally occurs in one of three ways; spherical or hemispherical, represented by a decrease of 6 dB per doubling of distance, or cylindrical, with a decrease of 3 dB per doubling of distance.*

Measurements at the house were measured indoors and outdoors. The dBA measurements show that the indoor levels were more than 20 dB quieter than outdoors, depicting a well-built house with good noise reduction. A closer look reveals an important bit of information. The un-weighted linear (dBL) levels *indoors* were actually several dB *higher* than those *outdoors*. This indicates that the house is reinforcing and amplifying the very low frequency energy.

Analysis of the WIND 1 digitally recorded data using signal analyzer software shows that there are series of repetitive low-level infrasonic pulses with energy in the range of 0.7 to 6 Hz at multiples of the blade pass rate of 0.7 Hz. These are unique to the wind turbine, and we have not located similar data for environmental sources. They are presented in the sections 4.3 to 4.5.

### 4.3 House Noise Reduction

Field testing was conducted general accordance with the applicable ANSI Standards; ANSI Standards S12.18-1994 (Procedures for Outdoor Measurement of Sound Pressure Level, Method 1) and S12.9-1993/Part 3 (Procedures for Short-Term Measurements with an Observer Present) and ASTM E996-02 [24]. Measurements were made with the NOTUS wind turbine operating with hub height wind speeds averaging about 20 m/s. A simultaneous dual-channel analysis was performed using two precision condenser microphones; one located inside (master bedroom) and another outside (lawn well clear of house and trees). The one-minute time-averaged transfer function analyses are shown on **Figures 14a and 14b**, FFT and octave band, respectively.

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<sup>24</sup> "Standard Guide for Field Measurements of Airborne Sound Insulation of Building Facades and Facade Elements", ASTM Designation: E 966 – 02. Definition: outdoor-indoor level reduction, OILR—in a specified frequency band, the difference between the time-averaged exterior sound pressure and the space-time average sound pressure in a room of a building.

Figure 14a - Outside-to-Inside Level Reduction (OILR), FFT

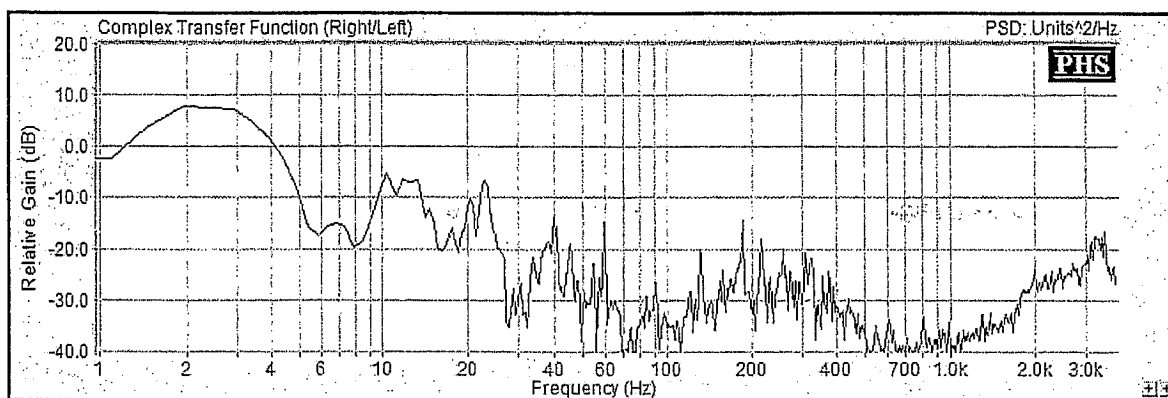
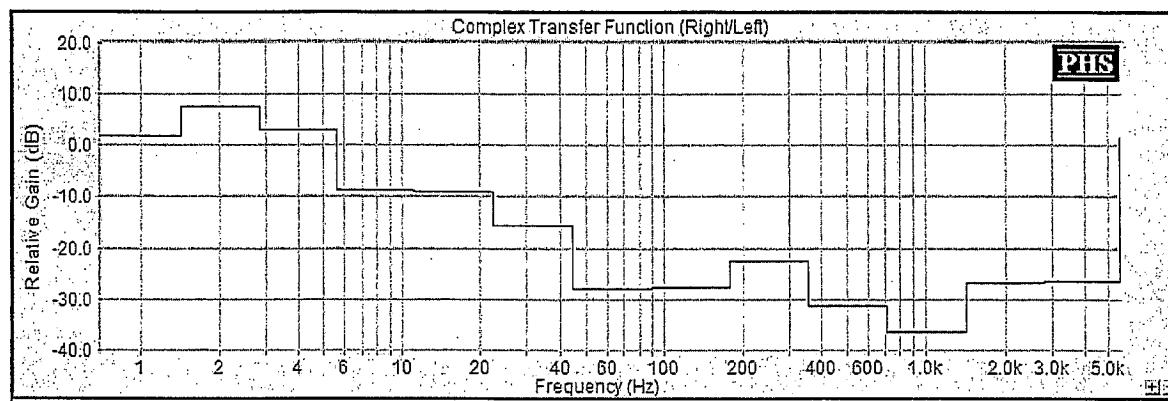


Figure 14b - Outside-to-Inside Level Reduction (OILR), Octave Band



The graphs in Figures 14a & 14b present a preliminary assessment of the outside-to-inside-level-reduction (OILR), or "noise reduction" (NR) provided by the house exterior walls and roof.

Negative values indicate attenuation or NR, while positive values indicate amplification. There is on average more than 20 dB of NR for frequencies greater than 31.5 Hz, and about 15 dB in the 31.5 Hz band. From 16 to 8 Hz the NR is reduced to 10 dB. However, below 8 Hz there is no NR, but rather there appears to be amplification for the very lowest frequencies. This is evident in a review of the octave-band sound pressure in Pascal shown in **Figures 15a & 15b**.

Figure 15 – Sound pressure, NOTUS ON (4/18/11)

Figure 15a - Outdoors

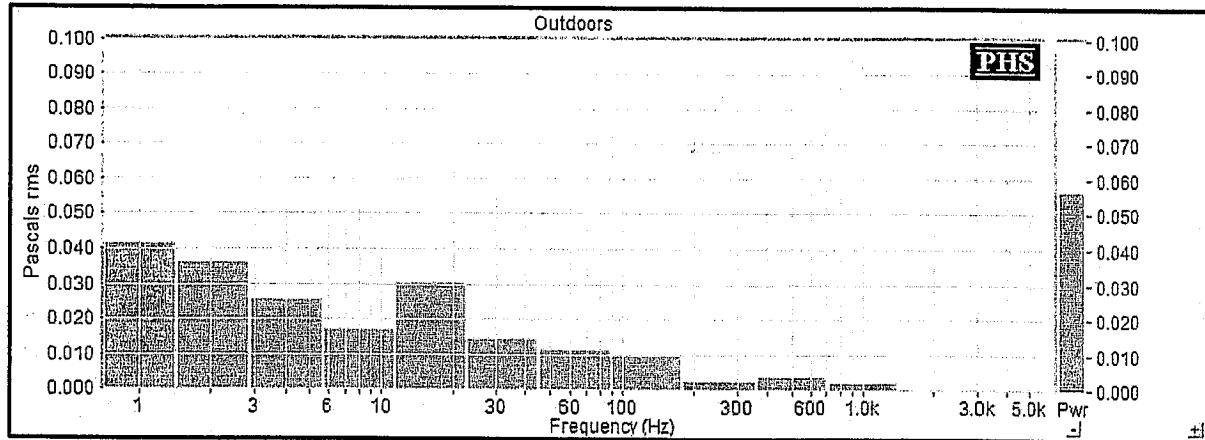
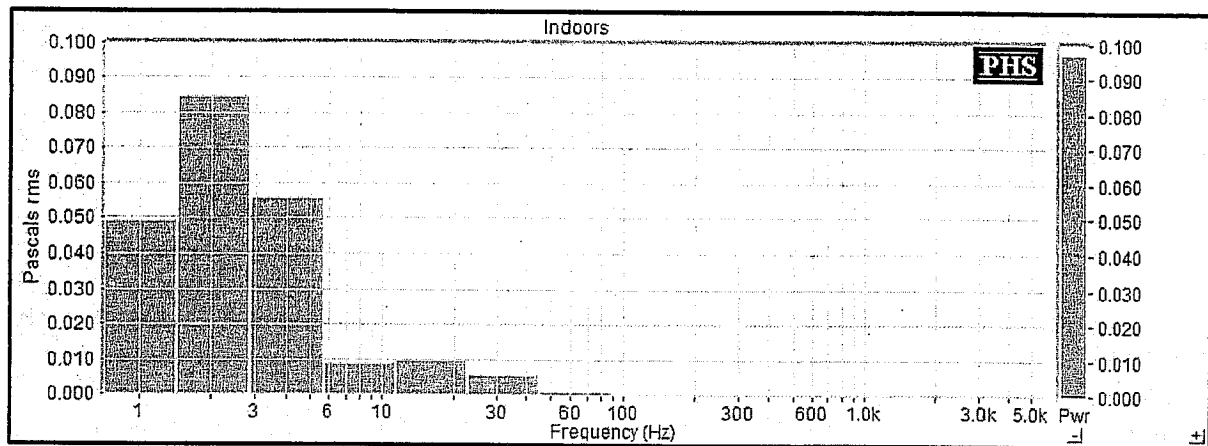


Figure 15b - Indoors



#### 4.4 Acoustic Coupling to Home Interior

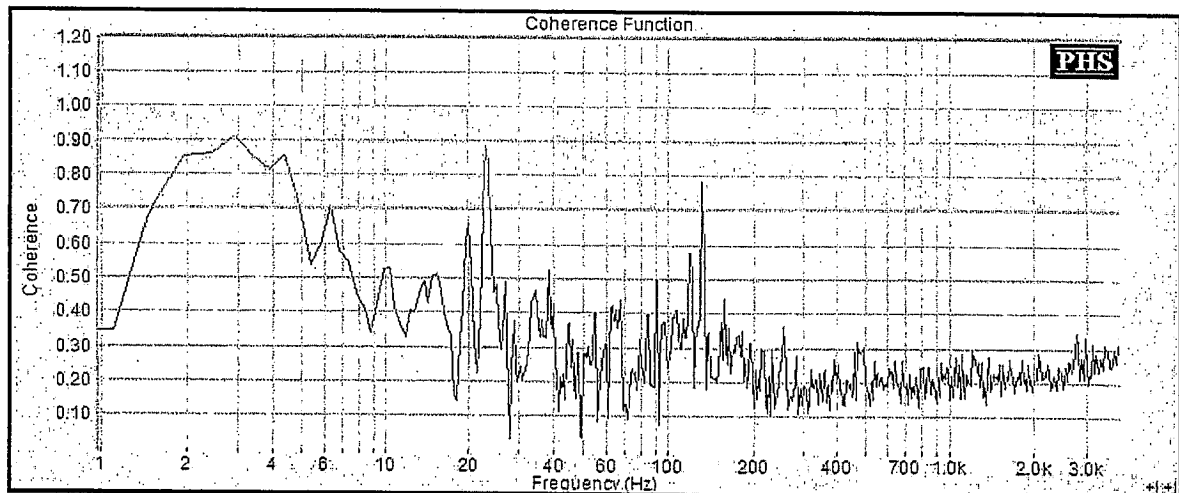
"It's like living inside a drum".

This comment has surfaced several times during wind turbine facility investigations. Is the wind turbine acoustic signature acting like a drum stick striking on the house-as-drum? Is the acoustic energy outside coupled into the interior space? To evaluate what acoustic energy emitted by the wind turbine was coupled into the house interior, a coherence analysis was conducted from a series of averaged frequency-amplitude measurements of the outdoor and indoor microphone

signals (**Figure 16**). Coherence is the ratio of the squared magnitude of the cross-spectrum and the product of the auto-spectrum of both channels. It measures the *degree of linearity* between the channels and is analogous to the squared correlation coefficient used in statistics. Two perfectly coherent signals have a coherence value of 1.0. A coherence value of 0.7 or more (highlighted below) was considered for this analysis as indicative of strong acoustic coupling, the acoustic energy *indoors* highly correlated to the acoustic energy *outdoors*.

**Figure 16- Coherence, Outdoors to Indoors**

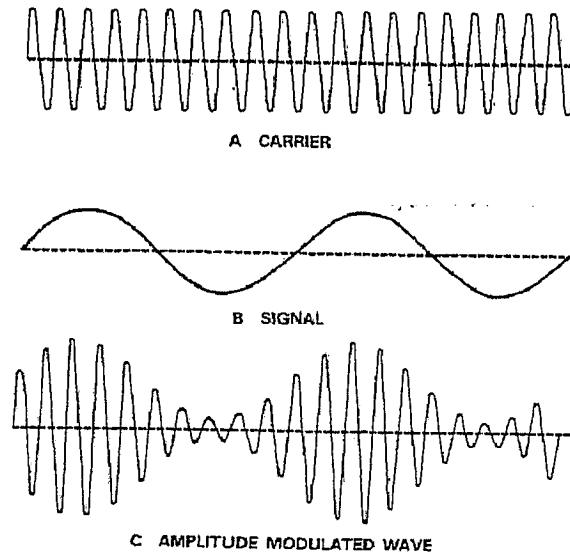
(April 18, 2011, 3:22 pm)



The coherence values indicate that the very-low-frequency energy found below 10 Hz was very-strongly coupled into the house interior, consistent with the indoors pressure amplification noted in section 4.3. This suggests a "whole-house" *cavity response* of the interior house volume. The 22.9 Hz and 129 Hz tones were also strongly coupled outdoors to indoors.

#### 4.5 Dynamic Amplitude Modulation

Wind turbine noise presents a characteristic that distinguishes it from ambient noise; dynamic amplitude modulation. The process of amplitude modulation is familiar to those who understand the fundamentals of AM radio broadcasts. In amplitude modulation (AM), a carrier wave's amplitude is modulated by a lower-frequency signal (**Figure 17**). The frequency of the carrier wave remains unaltered but its amplitude is caused to vary by an amount proportional to the amplitude of low frequency signal and at the rate proportional to the frequency of the signal and the modulated wave obtained.

**Figure 17 - AM modulation**

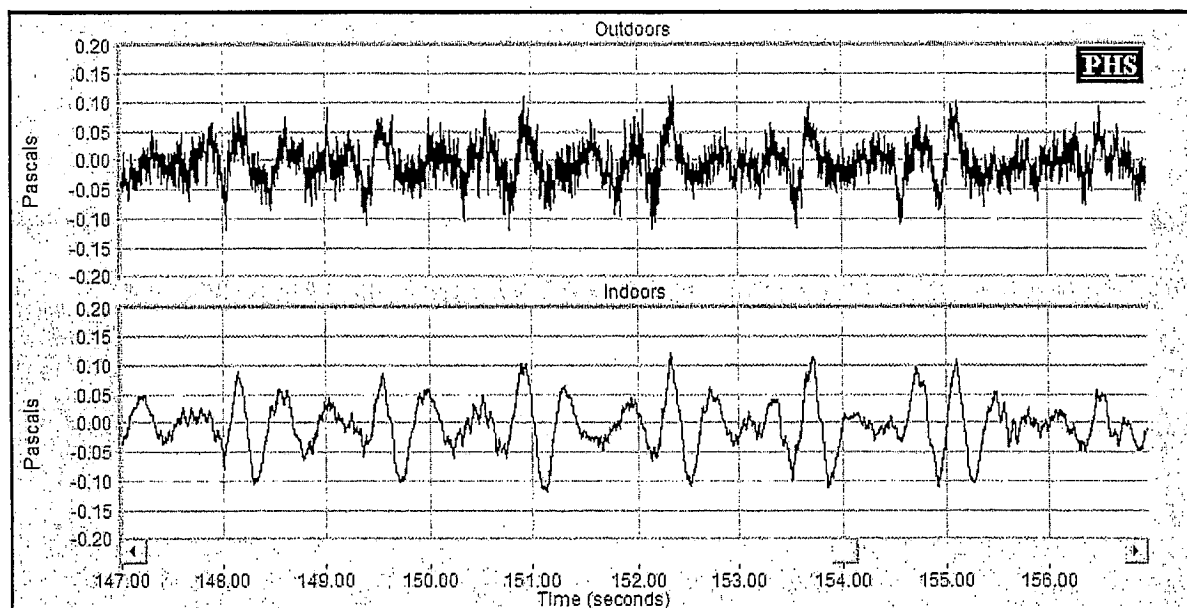
In AM radio, we do not hear the modulated broadcast carrier. For example, a medium-wave AM radio transmission uses a carrier frequency in the 520-1610 kHz radio frequency band which is beyond the range of human hearing. In contrast, the carrier signal for wind turbines is for the most part audible; and complex, consisting of the collective modal and aerodynamic acoustic emissions radiated by the wind turbine; *some in the infrasonic range, some in the audible acoustic range*. The "signal" consists of the dynamic sound pressure modulations recurring at the blade pass rate.

There are several acoustic components experiencing dynamic modulation at the blade pass rate; among these, very-low-frequency blade bending and twisting modes interacting with turbulence; vortex shedding off the end of the blades (interrupted or slapping against the wind turbine mast); dynamic stall along the blades (influenced by cyclical and abrupt variations of wind vectors along the blades); the in-flow turbulence (below 20 Hz for the large units- peak frequency dependent on blade length, affected by blade position during rotation through turbulent layers); gear and generator tones rising and falling with wind load and radiated by the mast and blades.

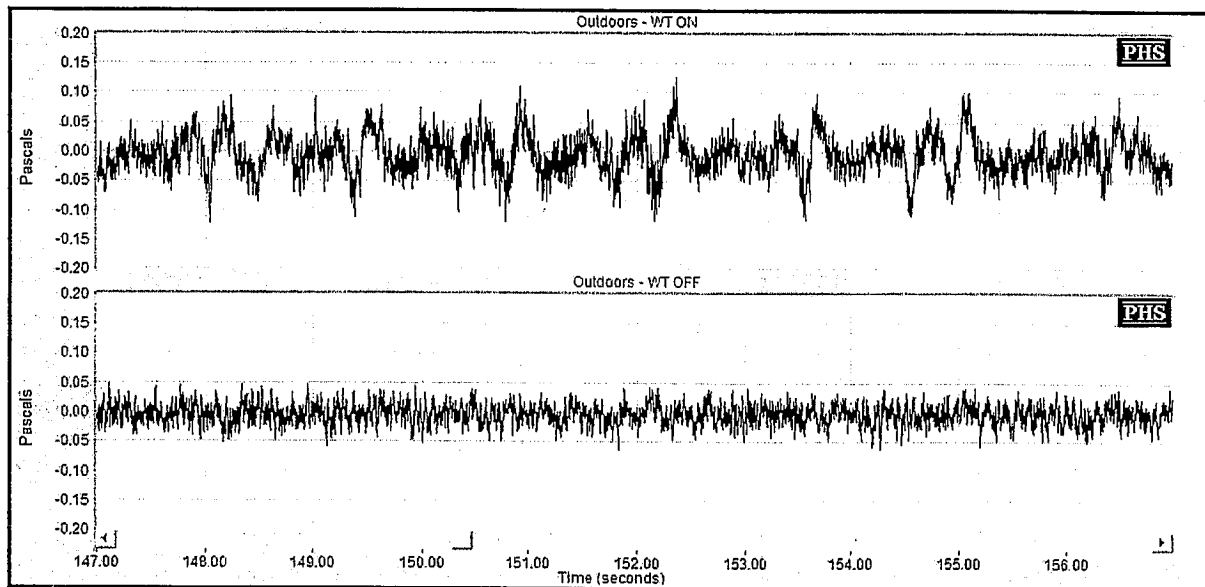
A sample time history "strip chart" in **Figure 18** shows the primary dynamic modulation at the blade pass frequency is clearly visible every 1.4 seconds. The modulation repeats but is not sinusoidal. Peaks and dips occur suddenly with rise and fall times exceeding 10 dB per second. The "Outdoors" graph shows the higher frequency details associated with the wind turbine's

characteristic "swish" sounds. The "Indoors" graph shows the house-envelope-filtered-and-amplified very-low frequency content of the wind turbine sound. What is apparent is that the negative pressure swings (vacuum) are more pronounced indoors compared to outdoors.

Figure 18 -Acoustic pressure fluctuation time-history  
(Outdoors and indoors; April 18, 2011, 3:22 pm)



Despite the apparent increase in energy indoors, the wind turbine was almost inaudible indoors. The house envelope blocked most of the frequency content above 10 Hz, and amplified the remaining low frequency pulsations, *much like a drum*. The acoustic pressure swung from positive (compressed) to negative (rarified) 0.2 Pa peak-to-peak. As shown in the composite dual time history in **Figure 19**, the infrasonic AM signature was absent when the NOTUS was OFF.

**Figure 19 – Outdoors, linear sound pressure, NOTUS ON (4/18/11) and OFF (4/19/11)**

The infrasonic and low-frequency pulsations are *hidden* by the A-weighting filtering normally used by noise consultants to assess noise *levels*; yet, these pulsations are clearly visible in the linear, un-weighted time history in Pascal (Figures 18, 19). Pressure pulsations are even more evident in the *indoors* record in Figure 10, which is almost entirely composed of the "signal" dynamic amplitude modulation of the "carrier" wind turbine acoustic emissions below 10 Hz. A-weighting, then, serves to hide a large portion of the wind turbine acoustic emissions; the dynamically modulated sound pressures below 100 Hz.

Our instrumentation reported the Crest Factor at 11-12 dB outdoors and indoors. This suggests that **the RMS measurements reported on our graphs are well below the peak levels detectable by the human ear.**

The C- and A-weighted levels were compared to the un-weighted linear (dBL) sound level and shown in **Figure 20** below. Occasionally in this record, we heard the audible modulation of the upper-frequency "swish" sounds, which show up in the dBA record. However those were relatively small compared to the repetitive amplitude modulations in the linear sound pressure record which occur below 20 Hz. While the dBA and even the dBC filtered levels reveal little of the underlying "signal" from the NOTUS wind turbine, the linear sound level (dBL) contains the entire sound pressure signature, and clearly shows the extent of the variations in sound pressure. This is even more evident indoors, as shown in **Figure 21** below.

Figure 20 –Outdoors sound levels, NOTUS ON (4/18/11)

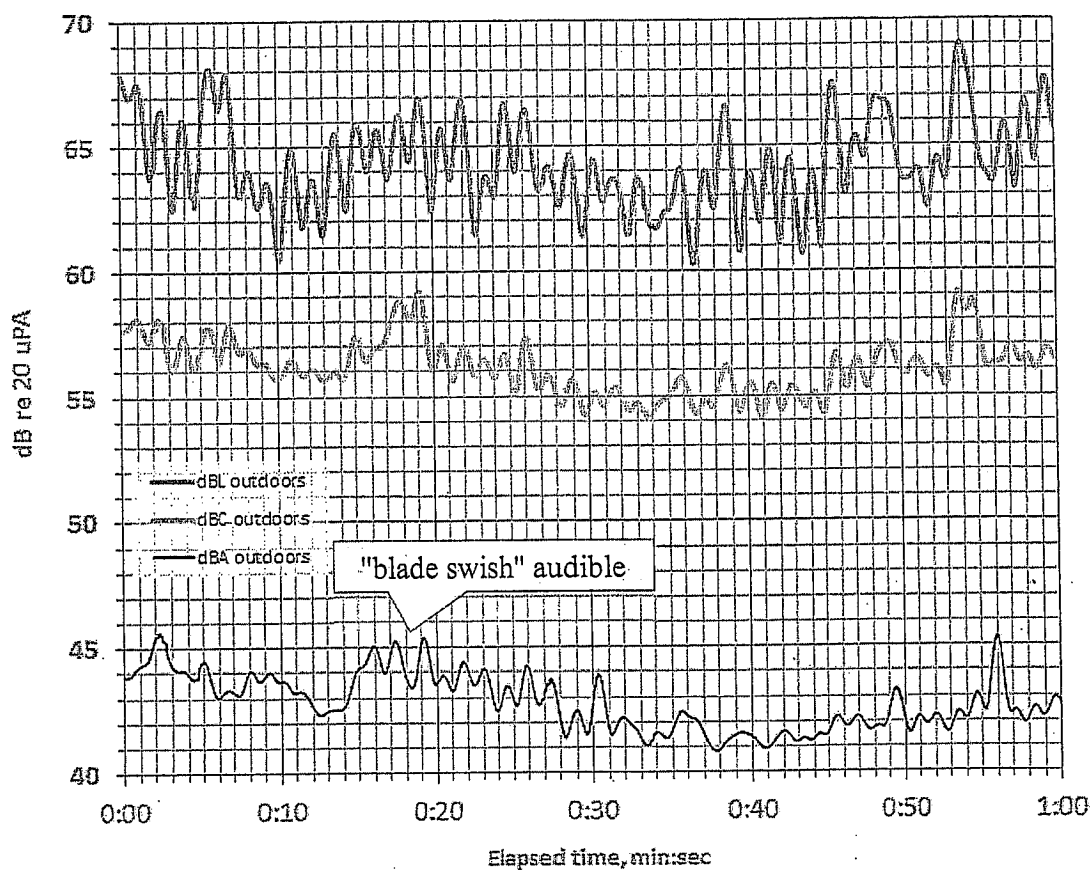
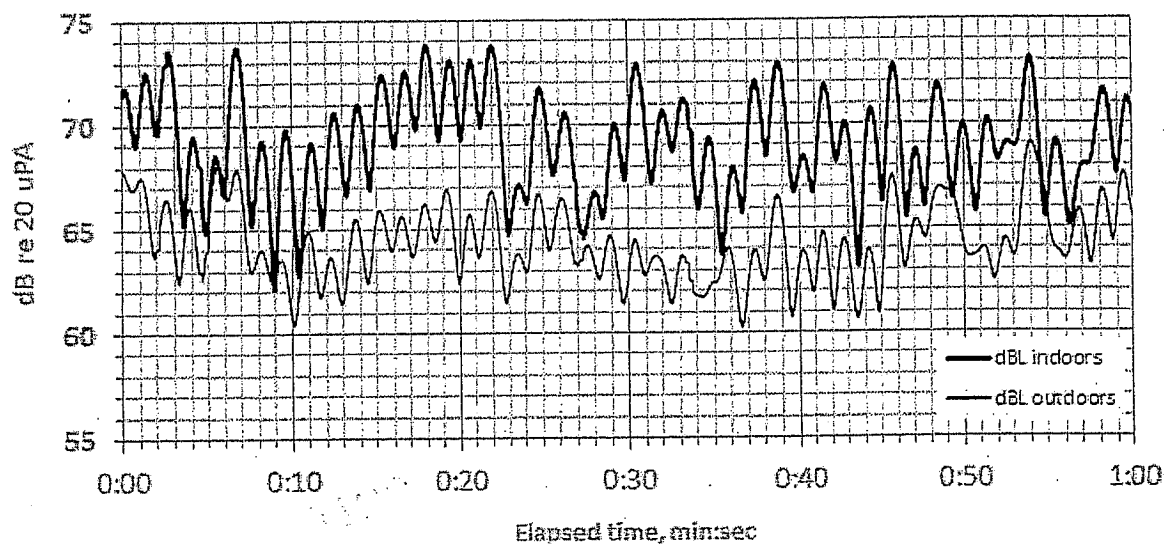


Figure 21 - Acoustic pressure fluctuation time-history

(Indoors versus outdoors; April 18, 2011, 3:22 pm)





The house amplification (the inaudible yet pervasive sound pressure "drum-beat") is clearly evident again in Figure 13, with increases of 2 to 6 dB, outdoors to indoors.

#### 4.6 Pressure Pulsation Exposure and Dose-Response

It is generally accepted that human response and cumulative effects increase with the quantity and the peak level of intrusive noises. Peak noise events are additive. The relative impact of noise level and number on human reactions is measured by the decibel equivalent number effect (k) expressed as the number of decibels which have an effect equivalent to that of a tenfold increase in number of events [25];  $10\log(n)$ , where n is the number of events.

We experienced onset of adverse health effects shortly after starting our work indoors. Over the first fifteen minutes at 1.4 seconds blade pass rate, we estimate that we were subjected to a repetitive exposure of 642 peak pressure events. Over each hour we were exposed to an estimated 2571 pressure events. Over a period of five hours on the first day during the highest winds when we were most severely affected, we estimate that we were exposed to over 12,800 blade pass peak pressure events. Of those pressure pulsations, we estimate that well over fifty percent exceeded the 60 dBG threshold (from Salt).

The occurrence of pressure events at 22.9 Hz is much greater. Over a five-hour period, some 412,200 pressure events would have occurred 43 milliseconds apart, and we estimate that 1/2, or some 200,000 of those would have entered the ear (inaudibly to the IHC circuitry), then they would have been detected and processed by the OHC circuitry, repeatedly and rapidly changing gain on the IHC circuitry.

We would not automatically assign a conventional dose-response relationship to these low frequency inaudible pressure events compared with the health effects from nuisance and annoyance as commonly associated with *audible* sound events. However, we experienced vestibular impact or conflict which ramped up over time (within twenty minutes) and took time to dissipate (hours to days or more). The time to onset and recovery suggest that dose-response is involved with these pressure events.

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<sup>25</sup> Fields, J., The effect of numbers of noise events on people's reactions to noise: An analysis of existing survey data. J. Acoust. Soc. Am. Volume 75, Issue 2, pp. 447-467 (1984).

## 5 CONCLUSIONS

### 5.1 Noise and Pressure Pulsations

The acoustic energy from the wind turbine was found to be:

- 1) Greater than or uniquely distinguishable from the ambient background levels, and
- 2) Capable of exceeding human detection thresholds.

This research revealed dynamically modulated low frequency and infrasonic energy from the nearby wind turbine occurring at the blade pass rate; energy which was found to be amplified indoors below 10 Hz. These dynamic infrasonic modulations were absent when the wind turbine was off. The wind turbine has tonal energy at 22.9 and 129 Hz. The wind turbine acoustic emissions were strongly coupled to the indoor environment at very low infrasonic pulsations and at the 22.9 and 129 Hz tones.

The dBA levels were inversely correlated to adverse health effects experienced; effects were more severe indoors where dBA levels were much lower (around 20 dBA). However the dBL (un-weighted) and dBG (infrasonic-weighting) levels were more strongly modulated indoors. This increase in modulation indoors was consistent with the stronger adverse health effects indoors. The increase in total sound pressure indoors appears related to a "whole-house" cavity response; the outside pressure pulsations exciting the interior acoustic pressure much like a stick hitting a drum. Especially, the degree of negative pressure increased significantly indoors compared to outdoors.

### 5.2 Adverse Health Effects

This research revealed that persons without a pre-existing sleep deprivation condition, not tied to the location nor invested in the property, can experience within a few minutes the same debilitating health effects described and testified to by neighbors living near the wind turbines.

The debilitating health effects were judged to be visceral (proceeding from instinct, not intellect) and related to as yet unidentified discordant physical inputs or stimulation to the vestibular system.

The dBG levels indoors were dynamically modulated at the blade pass rate and tonal frequencies and exceeded the vestibular physiological threshold guideline of 60 dBG provided by Dr. Salt.

Health effects moderated when dBG levels fell well below the 60 dBG guideline when the wind turbine was OFF.

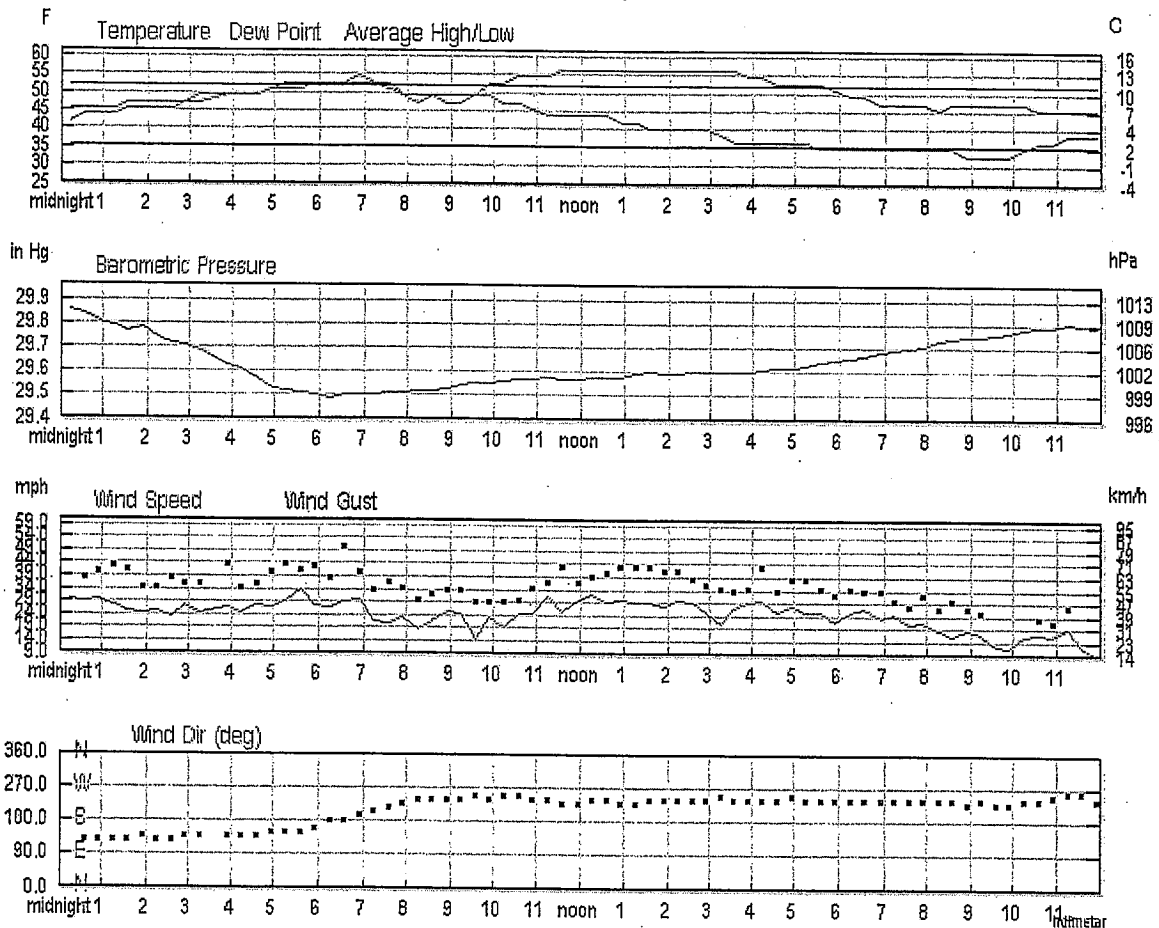
Wind turbine tonal energy at 22.9 Hz lies in the brain's "Beta" range which is associated with alert mental activity and anxiety; antithetical to sleep. The dynamic 0.7 Hz modulations of in-flow turbulence and tonal energy lie in the deep Delta range associated with deep sleep. Clinical evidence of frequency following response (FFR) in the brain suggests that entrainment with wind turbine modulations, pulsations and tones may pose conflict for the brain's natural rhythms, leading to stress when the conflicting signals (the wind turbine) cannot be turned off. Other physiological mechanisms may be in play. Medical epidemiological field and laboratory investigation is needed.

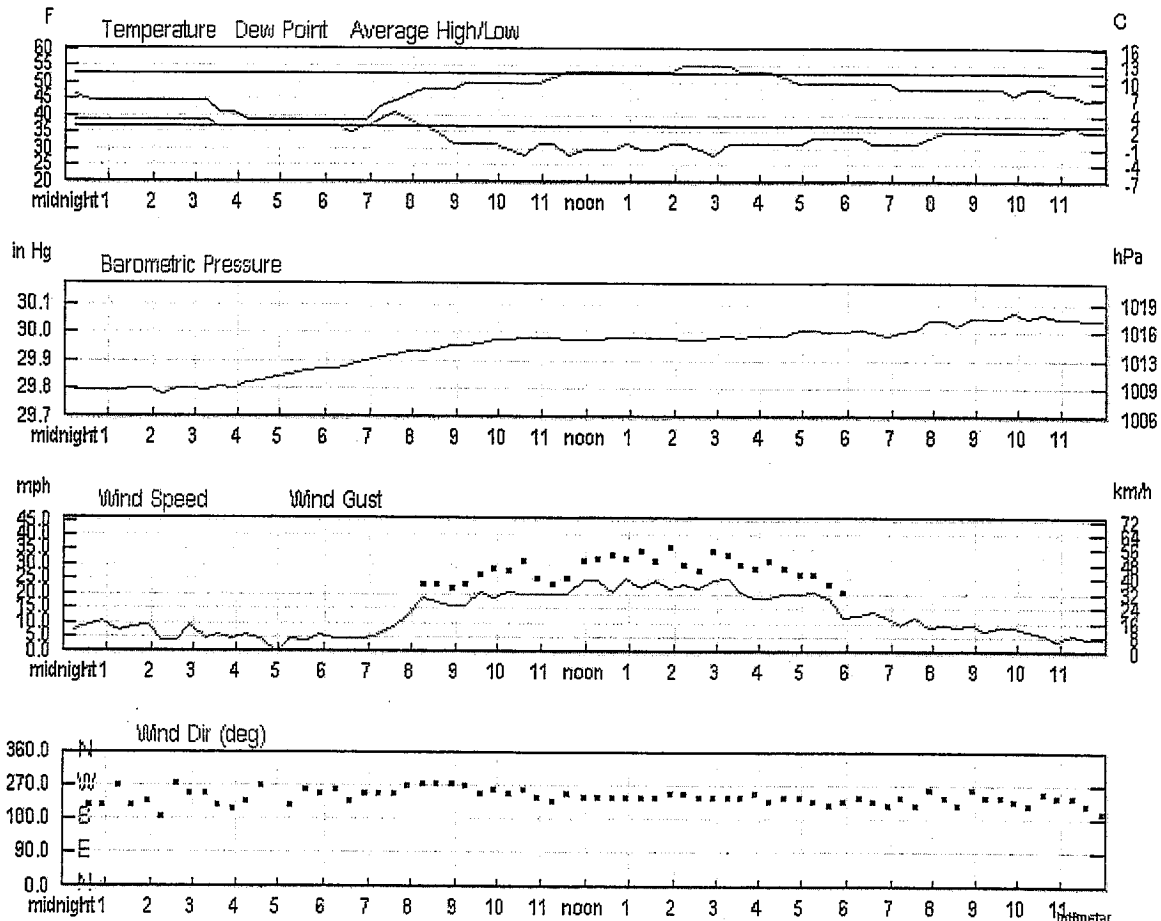
The study confirms that large industrial wind turbines can produce real and adverse health impacts and suggests that this is due to acoustic pressure pulsations, not related to the audible frequency spectrum, by affecting the vestibular system especially at low ambient sound levels. The study results emphasize the need for epidemiological and laboratory research by medical health professionals and acousticians concerned with public health and well-being. This study underscores the need for more effective and precautionary setback distances for industrial wind turbines. It is especially important to include a margin of safety sufficient to prevent inaudible low-frequency wind turbine noise from being detected by the human vestibular system.

## Attachment A

## Weather Conditions

April 17, 2011

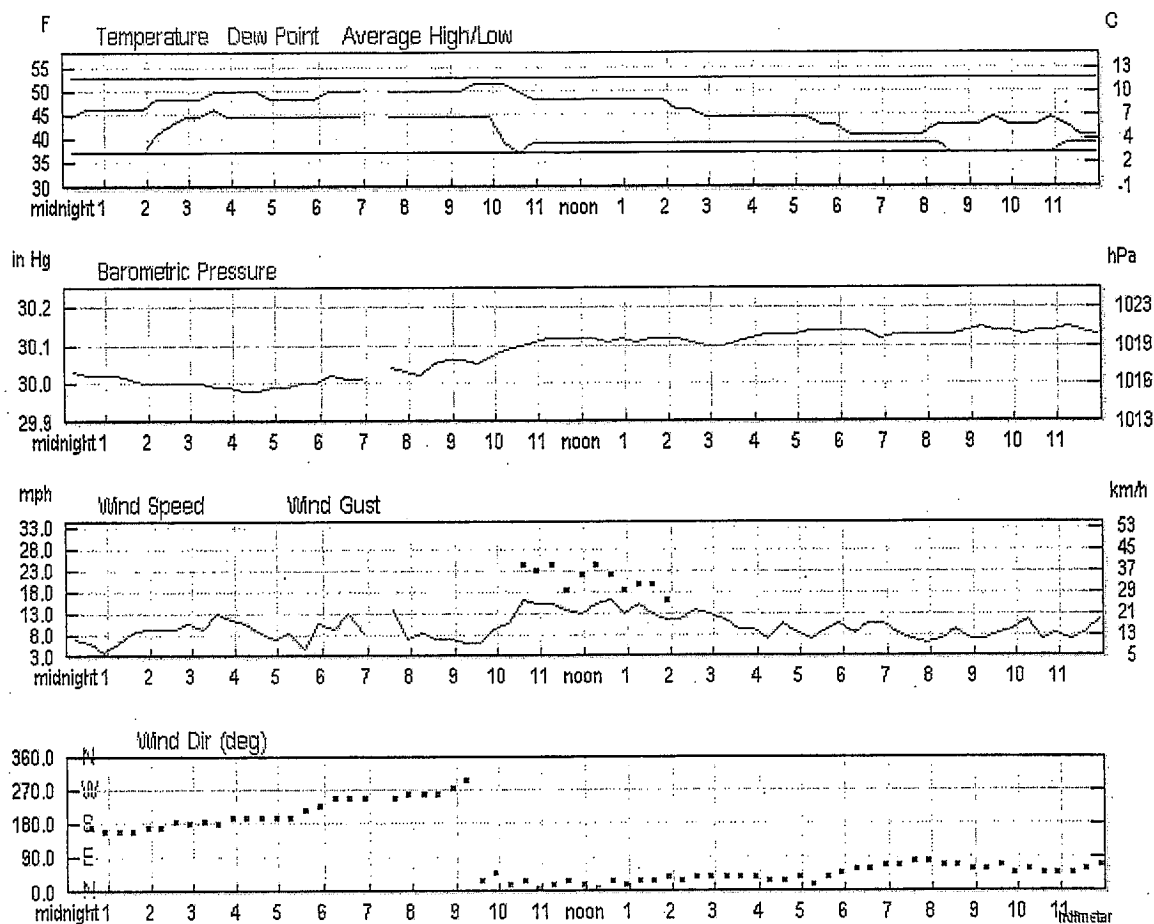
Otis Air National Guard Base  
Falmouth, Massachusetts

**Attachment B****Weather Conditions****April 18, 2011****Otis Air National Guard Base****Falmouth, Massachusetts**

## Attachment C

## Weather Conditions

April 19, 2011

Otis Air National Guard Base  
Falmouth, Massachusetts

00112

Christmas, rival supermarkets such as J Sainsbury PLC and Wal-Mart Stores Inc.'s Asda

Ms. Berg said Tesco has failed to give British consumers a good reason to buy food products

Easy stores in California, Nevada and Arizona, citing poor economic conditions locally.

# Wind Giant Vestas Cuts Back

By Flemming Emil Hansen  
And James Herron

COPENHAGEN—Vestas Wind Systems A/S said Thursday it will shed more than 2,300 jobs, or 10% of its work force, close one of its 26 factories and re-shuffle management in a cost-cutting plan as it grapples with industry overcapacity.

The world's largest wind-turbine manufacturer also warned that if U.S. lawmakers fail to extend a renewable-energy subsidy known as the production tax credit, which expires by the end of 2012, it could lead to the lay-off of an additional 1,600 workers in the U.S. Vestas will start preparing for a possible scale-down of U.S. operations later this year, it said.

Vestas is grappling with a deteriorating market for wind turbines as extra supply and looming competition from Chinese makers have put downward pressure on prices, while pressure on government finances has put wind-energy subsidies at risk in Europe and the U.S.

"The whole [renewable energy] industry is going to struggle for a few years because of overcapacity," said Tom Murley, head of the renewable energy team at HG Capital.

During the first half of the last decade, Germany, Spain and the U.S. were responsible for the majority of the increase in wind power capacity, according to the International Energy Agency. Now, "the center of gravity for wind energy markets has begun to shift to Asia, namely to China," the IEA said in a November report. In 2010, half of all new wind-power capacity was installed in China, it said.

The rise of China has also meant the rise of Chinese renew-

able companies—both wind and solar-power firms—and more potential competitors for incumbents. A recent report by Bernstein Research cited recent contract wins by Chinese wind-turbine makers in Ireland, Greece and the U.S. The tough environment "will continue to depress mature market turbine pricing," Bernstein said.

Vestas Chief Executive Ditlev Engel said Chinese wind suppliers weren't yet a major factor in Europe. "Until now we haven't seen the Chinese producers yet, but that can change in coming years," he said.

Renewable energy remains a strong political priority throughout Europe. France, Germany and the U.K., among others, have unveiled significant targets to boost renewable energy, espe-

cially in the offshore wind sector. Also, turbine makers are seen as more insulated than solar-panel makers from new competition due to the logistical and regulatory complexities involved in installing the massive windmills.

Altogether, the IEA forecasts the amount of electricity generated from wind will grow more than fourfold between 2009 and 2020 to 1,282 terawatt hours. Energy produced from solar photovoltaic panels is forecast to grow more than tenfold to 230 terawatt hours.

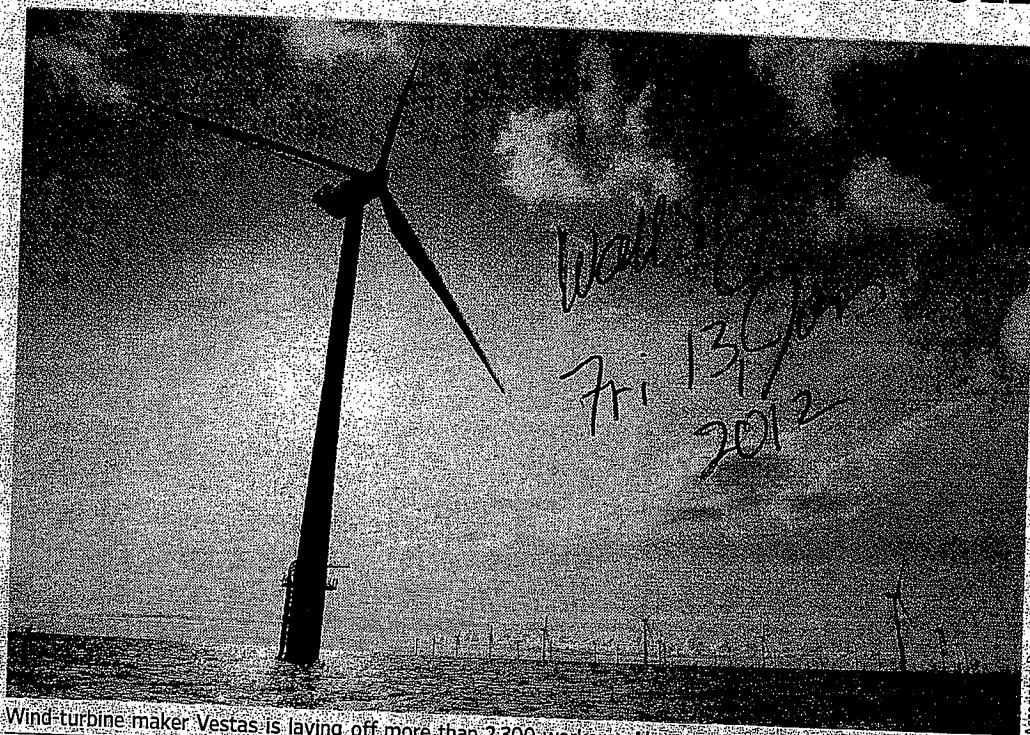
In its update Thursday Vestas reiterated a target of €150 million in cost savings by the end of 2012 and said it has started to lay off an expected 2,335 employees, mainly administrative staff, from its global work force of 22,362.

The company's management

shake-up includes the departure of its head of research and development and the reassignment of its chief financial officer after cost overruns in the fourth quarter contributed to two profit warnings in less than three months.

"The challenges we have faced in the fourth quarter of 2011 have given us a credibility problem," Vestas's Mr. Engel said. "It is not undeserved. We have to work our way out of this situation and the only way we can do that is by proving that we will come out stronger after the elimination race which is currently taking place within the renewable energy sector."

◆ Heard on the Street: The wind has come out of wind-turbine maker Vestas's sails. C10



Wind-turbine maker Vestas is laying off more than 2,300 workers. Above, a wind farm off Denmark's coast.



## Unplanned 9/11 analysis links noise, whale stress

By JAY LINDSAY

The Associated Press

BOSTON — An ocean experiment that was accidentally conducted amid the shipping silence after Sept. 11 has shown the first link between underwater noise and stress in whales, researchers reported Wednesday.

The analysis indicated that a drop in a stress-related hormone found in the right whales was tied to a dip in ocean noise that followed a near-standstill in ship traffic due to security concerns following the attacks.

The work indicates whales and other sea life that use sound to communicate and travel can be harmed by the noise. That could prompt more research and eventually influence future ocean traffic and development, said New England Aquarium scientist Rosalind Rolland, the report's lead author.

"This is definitely a very important piece in the puzzle that lends credence to the idea that, yes, we potentially have a problem out there and we need to learn a lot more about it," Rolland said.

The report combined data from two unrelated experiments in Canada's Bay of Fundy that happened to be occurring simultaneously. One involved acoustic recordings of right whales, the other the collection of whale feces samples, which contained stress-indicating hormones.

It wasn't until 2009 that Rolland realized the information existed for the analysis, published Wednesday in the British journal Proceedings of The Royal Society B.

"Here is the first solid piece of evidence that says there's a link between noise level and stress," said Christopher Clark, director of the bioacoustics research program at the Cornell Lab of Ornithology, who was not a paper co-author. Clark noted stress has long been tied to longevity, reproduction, disease and other key health indicators in whales.

There's no international standard for what ocean noise levels should be, and it's been tough to get at what kinds of problems it causes, Rolland said.

*East Oregonian*  
Page 11A 2-12-12

# CLINTON B. REEDER

MEMBER, UMATILLA COUNTY PLANNING COMMISSION

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February 21, 2012

To: Umatilla County Board of Commissioners

Cc: Tamra Mabbott, Director, Planning Department  
Umatilla County Planning Commission

Subject: Status of the 2-mile setback, rural homes to wind turbines, for wind power development projects

If I understand the LUBA remand correctly, the following must be accomplished to satisfy the terms of the remand order:

1. PRIMARILY – Umatilla County must develop criteria and standards by which waivers can be authorized for rural homeowners to permit constructing wind turbines within the 2-mile setback distance from their homes.
2. SECONDARILY – In order to provide some reasonable uniformity among homeowners agreeing to such waivers, it will likely be helpful to develop a short list of mitigation strategies that appropriately acknowledge and satisfy the criteria and standards for authorizing such waivers.
3. TO THE EXTENT REASONABLE, it will likely be productive for all parties concerned to minimize the ongoing administrative costs associated with authorizing and managing these waivers.
4. WHEREAS, (a) the available information suggests that protection from significant adverse impacts on property values begins at about the 2-mile distance from rural homes; and (b) reasonably appropriate protection from adverse health effects begins at a distance no closer than 1-mile from rural homes, both these factors should likely be considered in arriving at most appropriate criteria and standards, and identifying mitigation strategies.
5. WHEREAS, there is a more recent noise study available (released in December 2011, copy attached hereto) which investigates the health effect of wind turbine noise in greater detail than in most similar published materials; and which draws some better defined technical explanations for how the human body responds to the low frequency noise generated by wind turbines; this study should likely at least be reviewed as part of the discussion concerning potential criteria, standards and mitigation strategies.
6. WHEREAS, (a) since the 2-mile setback and associated mitigation strategies will likely have significant potential impact on future wind power development, including the flow of impact mitigation funds from such developments; and (b) since protection of rural values and lifestyle has long been a high priority of the Oregon Land Use Planning Program; it will likely

(c) be appropriate for the Umatilla County Planning Commission to address the issues of... **If, How and To What Extent** the county wind power ordinance language should protect rural homes near to wind power projects as long term future rural living sites... as compared to simply letting the rural housing markets, in conjunction with the ongoing dynamics of wind power development determine whether or not such homes are protected as longer term rural living sites, demolished, left abandoned or as likely discounted rural living sites (rented and/or lived in by owners).

7. THEREFORE, I RECOMMEND that the remand issues addressed in this letter be referred back to the Umatilla County Planning Commission for further consideration, not as to the existence of the 2-mile setback which LUBA supported, but rather to identify and determine the criteria and standards for authorizing waivers of the 2-mile setback, plus consideration of a variety of possible mitigation strategies that might allow such waivers to reasonably assure the intended property value and adverse human health effects protections, in compliance with the LUBA remand order.
8. THE PLANNING COMMISSION'S ACTION would be a recommendation to be acted upon by the county Board of Commissioners at a later date.
9. SCHEDULING: Since this matter is of great concern to all parties involved in wind power project design, finance and construction, including local property owners and county government, this matter should likely be addressed as soon as reasonably possible. While the matter needs reasonably immediate attention, the most appropriate outcome/s likely mandate that adequate time be provided for appropriate public participation, sufficient for all pertinent considerations to be voiced and understood; followed by a sincere Planning Commission deliberation towards a generally acceptable outcome for the communities and parties most directly affected by such developments, especially those who may be living most closely to such projects and hence, face most directly the greatest risk of financial and personal damages, inconvenience and loss.
10. A COMMUNITY FOCUS: The goal of this recommendation is to (a) assure the protections provided rural homeowners by the 2-mile setback standard, while (b) also considering the interests of all parties to a wind power project development process, with the primary intent of (c) assuring that those most directly impacted by such projects are empowered to significantly protect their personal interests and risks of damages, inconvenience and loss, including potential adverse health effects for those susceptible to such outcomes.

Stated in other terms, the intent is to alter the focus from short term financial gains to a longer term consideration of what is truly best for the community, "all things considered"; that is, assuring a longer term, more sustainable community-centered overall outcome that does not unreasonably create inappropriately mitigated victims of those persons and families most directly and adversely impacted by such developments.

Respectfully submitted,

February 28, 2012

Board of Commissioners  
Umatilla County  
Pendleton, Oregon

Re: Appeal – Cosner vs. Umatilla County  
LUBA Remand on Ordinances 2011-05,-06,-07

Purpose: Testimony from Blue Mountain Alliance (BMA) for the above  
noted Appeal and LUBA Remand

**Introduction:**

The Board of Commissioners, Planning Commission and the people of Umatilla County have spent countless hours and many hearings in an effort to resolve issues pertaining to the Wind Project Application Process. A monumental effort has been required to get us to where we are today. We are now at the point of bringing this long and arduous process to a conclusion.

There are several documents that need to be referenced: the BMA letter to BOC of January 26, 2012, the Memo from Doug Olsen and Tamra Mabbot to the BOC, dated January 30, 2012, **the Memorandum** Regarding LUBA Remand on Ordinances 2011-05, -06, -07, and the Proposal for consideration by the BOC for the Remand LUBA Appeal for Ordinances 2011-05-06-07.

While **all four remands are very important** in achieving the objectives of the whole process, **two require special attention.**

**First, is the critical setback waiver issue.** While we recognize that the two-mile setback is resolved and no longer an issue and not worthy of further discussion today, the waiver issue remains to be resolved.

One must step back and revisit the original objective of a waiver process. **The intent was to provide a balance of Property Rights** and to provide a tool to achieve a level of flexibility and compromise for this process. A waiver process is an essential element in order for the **Wind Energy Program** to move forward. Fortunately, LUBA put forth ways to achieve a waiver process that would meet the legal test and requirements. The proposal sets forth the language on Page 1, Section 6, "Standard/Criteria of Approval". There, the Standard/Criteria are listed in detail. **BMA offers our full support for Section 6 as written and recommends it be accepted and approved.**

The Second Remand that is very important involves the Walla Walla Watershed – Ordinance 2011-07, Section II of the proposal. Again, we must revisit the original intent and objectives of this special resource allocation to understand why this area is different than other areas in Umatilla County.

The Walla Walla Watershed has unique resource considerations which are water quality and quantity based. The area requires additional standards to adjust the resource considerations and management required for the area.

The Proposal, Page 2-Section 11 “Walla Walla Watershed” identifies the resources requiring special standards listed in Subsections A, B, C & D. As is outlined in Section II, page 2 of the Proposal, the county elected to remove Subsections B and D. in their entirety to address issues pertaining to Goal 5 Subsection B, and the Critical Winter Range, Subsection D. The County finds the changes listed above, **producing an amended Section 11, would satisfy the Remand and therefore, has appropriately addressed this Sub-assignment of Error.**

After this change, Section 11 – Subsections 1 and 2 will remain as is and a new Subsection B was added. This Subsection addresses **a setback requirement of two miles from streams and tributaries** that contain Federally Listed Threatened and Endangered Species, and demonstrates that the Project will generate no **runoff or silt into the streams.**

The rationale given for removal of two Subsections is given in the “Proposal” Section II on page 2, and pages 2 and 3 of the “Memorandum” under “Findings Addressing First Sub-Assignment of Error in Second Assignment of Error”. **BMA feels that these reasons are valid and justified. We fully support Section II as proposed and recommend its’ approval.**

**Section III “Compliance with Comprehensive Plan Policies”.** BMA finds Section III to be well written and adequately addresses the issues involved and feel it **meets the requirements of the LUBA Remand. Therefore, it should be accepted as written and approved.**

Page 3  
Testimony by BMA to BOC  
February 28, 2012

**Conclusion:**

The "Memorandum" in conjunction with the "Proposal" and the resulting subsequent changes **identified by LUBA have been met.**

It has been a very long and intense process that was necessary. **This process must be completed and approved without delay.**

**Blue Mountain Alliance fully supports and requests that the proposal as presented be approved today.**

Respectfully,

Dave Price  
Blue Mountain Alliance

00120

BRUCE W. WHITE, ATTORNEY, LLC

February 28, 2012

Hand Delivered

Board of County Commissioners for Umatilla County  
Umatilla County Courthouse  
216 SE 4<sup>th</sup> St.  
Pendleton, OR 97801

Re: Wind Energy Ordinances

Dear Commissioners:

This office represents James and Evelyn Hatley with respect to the Board of County Commissioners' consideration of the County's proposed wind energy ordinances on remand of those ordinances from the Land Use Board of Appeals in the *Cosner v. Umatilla County* case (LUBA No. 2011-70/71/72). These comments are addressed to the County's proposed response to the remand in that case. Please enter these comments into the hearing record.

**I. The Hatley Stake in these Proceedings**

The Hatleys own land that is subject to a wind energy lease with EDP Renewables (formerly Horizon Wind Energy). The subject tract is a 1926-acre tract of land off Highway 204 on Weston Mountain, located in what has been referred to in these proceedings as the upper Walla Walla River watershed. (See Exhibit 1.) The tax lots that make up the tract are shown in Exhibit 2 and include the following: 4N35000007600, 4N35000007700, 4N35000013300, 4N35350000100, 4N36C00001300 and 4N36C00003100.

The property is zoned EFU and is undeveloped. It abuts Oregon Highway 204 along its northeastern edge, giving direct access to the property from an improved state highway. The property includes a series of ridges that stand about 200 feet in elevation above Highway 204, which are accessed from an existing access road that gradually ascends the grade from the Highway along the eastern side of the ridge. The portion of the property on top of the ridge was formerly planted with wheat, but has been enrolled in the NRCS conservation reserve program since at least 1999, when the Hatleys bought the property. Pine Creek wraps around the western and southern boundaries of the site, just outside the subject tract and drains the southern and western portions of the property. The north central portion of the property is drained by the Hay Creek and Little Dry Creek sub-drainages. The sloped portions of the property are comprised of what are classified as "highly erodible soils" in the Oregon Department of Agriculture's soils database; the flatter benches are not classified as highly erodible. There are 11 rural residences within two miles of possible wind energy facilities on the property.

The property is well positioned for wind energy development. It is located in an area where there are numerous wind leases and where there has been in-depth investigation of wind resources. (See Exhibit 3.) Reports from EDP Renewables met station on Linton Mountain indicate the area has abundant wind. The property has a series of relatively flat ridges upon which wind turbines and associated wind energy facilities could be located. The site has good access to a major state highway, and that access is high upon on the ridge structure so that additional road building to access the ridge tops would be minimized. There is a pre-existing road that accesses the ridge top.

## **II. Effect of County's Proposed Ordinances**

The combined effect of the 2-mile setbacks of turbines from residences and any project component from streams bearing federally listed endangered or threatened species and the outright prohibition of siting any portion of a wind energy development on highly erodible soils will be to in essence preclude further wind energy development in Umatilla County. In the upper Walla Walla Basin, the setback from the Walla Walla River and Couse Creek and their tributaries will preclude wind energy development on large swaths of land in the northern two-thirds of the basin. (See map at page 386 of the LUBA Record.) The prohibition against siting any portion of such development, including access roads and transmission lines, on highly erodible soils, places off limits the rest of the areas within the Walla Walla Basin. (See map at page 387 of the LUBA record.) Outside the Walla Walla Basin, the distribution of rural homesites in the County would likely place most wind energy developments within 2 miles of rural residential homesites. A test of the effect of the two-mile setbacks in a 65,000 acre area north of Pendleton showed that there were no areas in the test area not located within a homesite setback area. (See LUBA record 3574 and 3787.) Therefore most wind development would at a minimum have to receive the consent of neighboring property owners, a gauntlet that is fraught with uncertainty for wind energy developers.

In the case of the Hatley property, development would be precluded by the need to locate some portions of any wind energy development on highly erodible soils and would be affected by the two-mile residential setbacks, as there are 11 residences within two miles of the Hatley property.

## **III. Alternative Approach**

As an alternative to the current course of action, which could result in further appeals, we believe the County should consider forming a working group with the various stake holders that would develop ordinances that are more narrowly tailored to address the actual impacts that these ordinances nominally seek to address. If the County insists on adopting excessive setbacks, such as those proposed, it should at a minimum consider having the setbacks sunset after a time period, such as 18 months, to be replaced by mitigation measures more narrowly tailored to address impacts such as noise and surface water run-off.

If the County is truly concerned about an onslaught of wind energy facility application and its capacity to address such applications, there are other ways in which the County can augment its



capacity to address wind energy facilities without resorting to simplistic, overly restrictive ordinance provisions. Those strategies could include the following:

- (1) The County can require wind energy applicants to pay for independent technical experts to give County staff and the hearings body independent technical advice on wind energy generation applications. I represented neighbors in a recent update by the City of Redmond of its cell tower ordinances. That ordinance update included a provision that required the cell tower applicants to pay for an independent expert in the field of cell tower technology who could serve as an independent technical advisor to the City.
- (2) The County can set such applications up for review by a hearings officer selected by the County, with the wind energy developers paying the actual cost of hearing officer review

The County should take note of recent developments that affects the outlook for proceeding with alternative energy sources. An article in newspapers in recent days indicates that with the expiration of energy tax credits favoring wind energy development and uncertainties related to transmission capacity for wind energy development, the outlook for wind development may have cooled. (See Exhibit 4.) It would appear, then, there may be no need for the County through the proposed ordinances to try to get out ahead of what may have appeared at the outset to be an onslaught of such development.

#### **IV. Response to County's Proposals on Remand**

##### **A. Setback Adjustment**

LUBA remanded Ordinances 2011-05 and 2011-06 on the issue of the proposed waiver of 2-mile setbacks from City UGBs and from rural residences, finding that the County's proposal to allow City's and residential landowners within the proposed 2-mile setback from a proposed wind energy facility constituted an impermissible delegation of the County's legislative authority. The setbacks are found in a proposed amendment to Section 152.616(HHH)(6) of the County Code. The February 21, 2012 Staff report indicates that Staff's proposal eliminates the ability of City Council to approve waivers (but apparently would leave intact the 2-mile setback from UGBs), and would subject the 2-mile setback from rural residences to an adjustment process.

The Hatleys object to the proposed 2-mile setback of wind energy facilities from rural residences. Such a setback is not supported by an adequate factual basis (under Goal 2), exceeds the County's authority and is inconsistent with the County's comprehensive plan. In particular, the setback does not correlate to the primary measure of wind energy development impacts, noise levels established under state law at OAR 660-033-0130(37).

Combined with the overbroad setbacks proposed, the proposed setback adjustment still gives a nearby residential land owner absolute veto power over location of any wind energy facility regardless of whether DEQ noise levels would be exceeded at the site or whether the facility would even be visible from a neighbor's property. In the Hatleys case the 2-mile setback places 11 rural residences within two miles of the location of potential wind energy facilities.

Negotiating an adjustment with 11 separate owners would be overly burdensome for wind energy development companies. In addition, it is unrealistic to expect that there would not be at least one hold-out from amongst the neighbors, unwilling to grant an adjustment under any circumstances, or attempting to extort from a wind energy development company concessions that would not be reasonable. The only neighbors a wind energy developer should be required to negotiate with are those neighbors where noise levels under OAR 660-033-0130(37) cannot be met.

Finally, even as amended, by still requiring the consent of the adjacent landowners for relief from the setback standard, the proposal still constitutes an impermissible delegation of Umatilla County legislative authority to neighboring property owners. The only way to permissibly provide for the setback flexibility the Commissioners apparently seek is to narrowly tailor the setback to the standards at issue: the DEQ noise standards.

#### **B. Goal 5 Issues under Ordinances 2011-05 and 2011-07**

At LUBA, the opponents challenged the County's failure to address the requirements of Goal 5 in extending additional protection to natural resources. The opponents' challenge was not limited to the protections extended to Goal 5 resources in the Walla Walla basin, but also addressed protection of Goal 5 resources under Ordinance 2011-05. (See Exhibit 5, pp. 27-28.) LUBA's review focused on Ordinance 2011-07's protections for the Walla Walla watershed and remanded Ordinance 2011-07 on the grounds that the County failed to address the requirements of Statewide Planning Goal 5 in granting additional protection to inventoried Goal 5 resources in the upper Walla Walla River watershed east of Oregon Highway 11. In response, rather than address the requirements of Goal 5, as LUBA directed in *Cosner*, staff proposes to eliminate what it believes to be all references to Goal 5 resources in Section 11, in subsections 11 (B) and (D).

1. The proposal still includes protection of Goal 5 resources without addressing the requirements of Goal 5, as required by LUBA.

While LUBA's decision regarding Goal 5 resources focused on Ordinance 2011-07, its reasoning also applies to the protection granted to natural resources in amended Section HHH 152.616(6)(C), which confirms and extends protection to numerous resources covered by Goal 5, including wildlife, wildlife habitat, fish, avian resources and historical, cultural and archaeological sites. The latest draft ordinance continues to required "reasonable efforts" to protect and presserve without subjecting the protection to an analysis under Goal 5. Unless a Goal 5 process is engaged in with respect to such resources, the proposed protection for natural resources is invalid and would be vulnerable to attack in any appeal.

With regard to the protections retained in the staff proposal for resources in the Walla Walla basin under proposed subsection (11), the current proposal retains protection of endangered and threatened fish species without applying Goal 5. Amongst the natural resources subject to Goal 5 are riparian corridors, including water and riparian areas and fish habitat. OAR 660-015-0000(5). While the amended Staff proposal eliminates Critical Winter Range (presumably

inventoried under Goal 5) and the general reference to Goal 5 resources in the Walla Walla River sub-basin, it retained a 2-mile setback from streams and tributaries that contain federally listed and endangered species. Goal 5 protects fish and wildlife through protection of habitat that harbors fish and wildlife. There can be no doubt that a 2-mile setback from streams containing federally listed threatened and endangered species is aimed at the protection of the riparian and river areas that constitute fish habitat. Accordingly, such a two-mile setback from areas connected to the habitat for Federally listed threatened and endangered species this provision can only be included if it is subject to the Goal 5 analysis required by LUBA under *Cosner*. The staff proposal's failure to engage in a Goal 5 analysis for these resources leaves this aspect of the ordinance vulnerable to attack in any appeal.

It is patently apparent that this 2-mile setback is based upon the same simplistic, over-broad approach as is present with the 2-mile setback from residences. For example, there can be no conceivable basis for a 2-mile setback from a stream containing Federally listed threatened or endangered if a proposed wind site, although within two miles as the crow flies of a stream bearing Federally listed fish does not drain into the sub-watershed of the stream that contains the listed fish species. Second, there has been no demonstration in this record that the one-size-fits-all two-mile streamside setback bears any relationship to actual impacts to fish habitat. Presumably the 2-mile buffer is to protect against storm-water run-off from wind energy sites into watersheds with federally listed fish. There are so many variables that affect run-off, relating to topography, vegetation and soils that it cannot reasonably be said that a fixed setback is reasonably calculated to address actual potential impacts on fish habitat and fish populations.

A Goal 5 analysis establishing an impact area for fish habitat necessary for protection of the Federally listed fish species and analyzing conflicts between that habitat area and conflicting uses under the process set forth in OAR 660-023-040 is necessary in order for there to be an adequate factual and legal basis under both Goals 2 and Goal 5 for the proposed two-mile stream setback.

2. The proposal suffers from an unconstitutional delegation of authority.

The provision does not specify what the subject fish species are, nor at what point in time such a determination is to be made nor does it list which stream reaches are implicated. By failing to specify that it is only those federally listed species that are so listed at the date of ordinance adoption, the ordinance leaves open the possibility of future federal listings expanding the list of stream segments to which the setback applies. Such an open-ended reference would allow federal agencies to in effect legislate the contours of the 2-mile setback by listing additional fish species as threatened or endangered.

3. The proposed 2-mile setback does not have an adequate factual basis under Goal 2.

As set forth under argument (1) above, the proposed 2-mile setback from does not have an adequate factual basis.

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### C. Compliance with Comprehensive Plan Policies

The third issue on which LUBA remanded the County's ordinances was the County's failure to address various Comprehensive Plan policies contained in the un-amended County Comprehensive Plan. ORS 197.175(2) requires that ordinances be consistent with a County's acknowledged comprehensive plan. See also *NWDA v. City of Portland*, 198 Or App 286, 108 P3d 589 (2005).

The LUBA appellants identified five comprehensive plan policies that were applicable to the proposed ordinances that the County failed to address in its first consideration of the proposed ordinances. On remand, the Staff report sets forth recommended findings in response to those identified Comprehensive Plan policies. For the reasons set forth below, the Hatleys believes that the proposed wind ordinances are inconsistent with the plan policies.

#### 1. Open Space/ Natural Resource Plan Policy No. 42.

Amongst the policies expressed in this plan policy are policies (a) and (d), as set forth below:

##### (a) Policy 42(a)

With respect to Policy 42(a), nothing about the proposed ordinances is intended to "encourage" development of alternative sources of energy in any way. To the contrary, the entire record in this case indicates a desire to further restrict development of the alternative energy source of wind energy in Umatilla County. As noted above, the practical effect of expansive setbacks and siting proscriptions of the proposed ordinances is to erect an outright ban on development of wind energy sources in Umatilla County.

Staff's proposed findings indicate that because the wind energy facilities are allowed in all zones that allow for such facilities under state law and because the subject ordinances propose "clear and objective" standards, i.e., the fixed setbacks, the proposed ordinances are consistent with this policy. However, the mere fact that regulations may be clear and objective does nothing to encourage development of alternative energy sources if in practice those regulations are so onerous that they cannot be met or could be met only with great difficulty.

The Comprehensive Plan does not define the term "encourage". In the absence of a definition included in the enactment, such non-technical words are given their ordinary plain meaning. It is common in such cases to refer to standard dictionary definitions. The relevant definitions of the word "encourage" in Webster's Third International Dictionary are as follows: "2: to spur on: STIMULATE, INCITE; 3: to give help or patronage to: FOSTER <government grants designed to ~ conservation>." *Webster's Third International Dictionary*, p. 747.

The effect of the proposed ordinances is exactly the opposite of encouraging wind energy development: the ordinance will operate to discourage the development of wind power development by adopting highly restrictive setbacks that do not correlate with relevant impact standards or analysis of actual site-specific impacts.

One measure of whether the regulations can be said to "encourage" development of wind energy as an alternative energy source is to compare the restrictions to other applicable regulatory schemes. In this case, those other regulatory schemes include the siting standards employed by the Energy Facility Siting Council related to impacts of noise and storm-water run-off. In both cases, EFSC utilizes an analysis focused on site-specific impacts of the proposed development. The noise regulations are keyed into actual impacts under applicable DEQ noise regulations. The control of storm water is related to the specific site through application of DEQ's 1200-C stormwater permitting process. A copy of DEQ's general storm water permit is included in Exhibit 6 and requires applicants to have an Erosion and Sediment Control Plan. Such permits are required of any wind energy project that would seek approval in the County and have been required for such existing projects as the Helix project.

A related measure of whether proposed regulations can be said to "encourage" a regulated activity is whether there is a close fit between the impact and the regulation aimed at addressing those impacts. Again, as it relates to the impact of noise, there is no basis for a blanket, 2-mile restriction. Even the most favorable evidence in the record toward an expanded setback based upon noise impacts demonstrates that such a setback is not uniform and does not require a separation of 2 miles between wind turbines and nearby residences in all instances. (See LUBA Record, p. 3558.) In addition, the over-stated setback complicates the approval process by requiring the wind energy developer to obtain the consent of persons who are in all likelihood outside the area where noise impacts would need to be mitigated. As it relates to protection of water quality, it appears from the maps presented to the Board of County Commissioners (see LUBA Record 386) that the presence of Pine Creek on Oregon's 303(d) list of water quality limited segments has been used as a basis for prohibiting siting of any portion of wind energy facilities on highly erodible soils in the south portion of the Walla Walla basin (which is beyond 2 miles from any stream segment containing federally listed threatened or endangered species). Such use of the 303(d) list is, again, an oversimplification of a complex problem. The fact is that there are many factors that contribute to water quality problems in the Walla Walla basin as is demonstrated in the Walla Walla Agricultural Water Quality Management Plan. (See Exhibit 7.) The 303(d) list does not list Pine Creek as water quality limited for sedimentation (See Exhibit 8). The water quality problems in the Walla Walla basin pre-date the development of wind power in the Walla Walla basin and stem from reasons much more complex than development and road building on highly erodible soils.

A general ban on wind energy development on highly erodible soils in the upper Walla Walla Basin, as proposed in Section 11, does not account for individual site-specific circumstances that can limit the potential for storm-water run-off. The Hatley property is a case in point. The highly erodible soils map shows that the benches upon which the wind turbines would presumably be located are fairly wide and flat and not composed of highly erodible soils. The highly erodible soils on the property appear to be located primarily in locations where roads and transmission lines would be needed to access these benches. However, the location of Oregon Highway 204 adjacent to the Hatley's property at an elevation only 200 feet below the top of the nearest ridge limits the length and steepness of the access road required and allows the road to be built on a gradual incline along the east edge of that ridge, where an existing road is already in place. (See

Exhibit 1.) There are certainly simple engineering solutions in terms of road design and storm water detention and diversion facilities that can address any run-off problem presented by the site, and it is likely that development of the site for wind energy would *improve* the performance of the existing road in storm water events. In addition, there are well developed best management practices that address road building and maintenance activities that can be applied in instances such as this, such as the Oregon Department of Transportation BMPs that serve as a reference for the County's own road department. (See Exhibit 9 and 9A.) Moreover, as noted above DEQ's storm-water permitting process can address site specific storm water issues.

Another measure of whether the regulations can be said to "encourage" the development of alternative energy development is to look to see whether the County's regulations and practices treat the proposed activity better or worse than other activities that might be viewed as having similar impacts. In this case, it is instructive to look at the County's own road management and maintenance activities in the Walla Walla River basin east of Highway 11.

A review of a map of this area shows numerous County roads that run either alongside waterways that host Federally listed endangered or threatened species or higher up in the watershed along the ridges. (See Exhibit 10.) With respect to the Walla Walla River (which hosts steelhead and bullhead trout), there are County-maintained roads that run along the stream (Walla Walla River Road; North Fork Walla Walla River Road; South Fork Walla Walla River Road). (See Exhibit 11.) In addition, there are County maintained roads that run higher up above the valley floor toward the ridge tops, such as Linton Mountain Road. According to the County's road atlas, the latter is maintained as only a gravel road. (See Exhibit 11-1 and 11-2.) With regard to Couse Creek (which hosts steelhead), County-maintained roads include Couse Creek Road (along the creek itself) and on the ridge above and along Basket Mountain Road. According to the County's Road Atlas the ridge top road is an unpaved, gravel road. (See Exhibit 12.) Finally, with regard to Pine Creek (on DEQ's 303(d) list for water quality limited stream segments), Pine Creek Road runs along the creek out of Weston and then on the hillsides above the creek as the road travels south and east. The road is unpaved in its outlying segments. (See Exhibit 12.) It would appear that many of these road segments are located on highly erodible soils. To the extent the County addresses water quality issues related to the presence and maintenance of its roads, it applies the best management practices adopted by ODOT. (See Exhibit 9 and 9A.) The County's unwillingness to consider the same kind of best management practices in controlling storm water from sites with highly erodible soils as those referenced by its own road department to address storm water issues certainly is not consistent with a policy of "encouraging" the development of wind energy facilities in the County, particularly in instances, such as with the Hatleys where existing roadways could be used to access wind energy facilities.

In light of the absence of any similar restrictions on land uses in the County based upon the presence of highly erodible soils, adoption of such a prohibition in this case be inconsistent with Plan Policy 42(a).

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(b) Policy 42(d)

This policy mandates that when adequate information on wind power becomes available for alternative energy sources, including wind energy, the County must complete the Goal 5 analysis for such energy sources. It has been almost 30 years since the adoption of that policy with the adoption of the County's initial comprehensive plan. Since that time, there has been much information generated about wind power in the County, including siting of at least 10 wind energy facilities. (See Exhibits 13 and 14.) In addition, there have been numerous "met" towers erected in recent years testing meteorological data for possible wind energy development in areas all around the County. Numerous large tracts have been leased by wind energy companies for possible wind energy development. (See Exhibit 3.) The location of these leased sites shows a clear pattern of concentration, an overall indication of which areas are deemed to be desirable for wind energy development and which areas are not. Clearly, as compared to the time this policy was adopted, there is enough interest and information for the County to proceed with the Goal 5 process mandated by this policy. The County need not have information on all potential sites in the County for it to proceed; it can rely on information from wind energy companies in much the same manner as it may rely on information from mineral and aggregate companies for completing the Goal 5 process for mineral and aggregate resources.

While LUBA indicated in *Cosner* that Goal 5 did not require that the County undertake the Goal 5 process for identifying and evaluating sites for wind energy development, because the County did not address Open Space Policy 42(d) in the case that was under review, LUBA did not consider the County's self-imposed mandate to proceed under Goal 5. Under these circumstances, the County may not proceed to limit and preclude future development of wind energy in the County until it has completed the Goal 5 process required by its own comprehensive plan.

Despite LUBA's directive that the County address relevant comprehensive plan policies on remand, the County's findings addressing Open Space Plan Policy 42 fail to address this particular policy. The County's continued disregard of this policy would likely cause its ordinances to be vulnerable in any further appeal to LUBA.

2. Open Space/ Natural Resource Plan Policy No. 37.

~~This policy contemplates that there will be some degree of development of the County's agricultural resource lands for energy development in the future. Otherwise, there would be no call for interim uses on agricultural lands compatible with future development of such lands for energy production. By in effect precluding further wind energy development on the County's agricultural lands, and agricultural lands in the Walla Walla Basin in particular, the proposed ordinances are in conflict with this policy. Again, the proposed findings references the fact that the county's agricultural zones list wind energy facilities as an allowed use, but fail to address the fact that the restriction on siting such uses make such listings as conditional uses in the zone illusory.~~

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3. Energy Conservation Plan Policy 1.

This policy requires the encouragement of utilization of locally feasible energy resources through tax and permit incentives. The applicable County "permit" in this case would be a conditional use permit for wind energy facilities in the agricultural zone. The proposed ordinances propose to amend those permit approval standards in ways that will make development of wind energy sources in Umatilla County virtually impossible. For the reasons set forth above, the proposed ordinances in no way constitute permit incentives that would "encourage" wind development in Umatilla County. Again, clear and objective standards are meaningless as permit incentives if they form an impossible bar to resource development.

4. Economy of the County Plan Policy No. 12.

Policy 12 requires that the County encourage diversification within existing and potential resource-based industries. Clearly, wind energy is a resource-based industry and based upon natural wind conditions /is one for which the County is well suited. As set forth above, the County's proposed regulation of wind energy production facilities does not encourage the continued development of a wind energy industry in the County.

**V. Preemption**

In earlier submittals made before the Board of County Commissioners, attorneys for landowners Cunningham Sheep Company (LUBA Record 3802-3804) and Terjeson Ranches (LUBA Record, 427. 429-430) have argued that the proposed ordinances conflict with state energy policy and are therefore preempted by superior conflicting state authority. The Hatleys renew those arguments (incorporated herein by reference) here in regards to the proposed revised amendments. The relatively minor changes to the ordinance do not change the analysis previously offered by those previous comments. The proposed ordinances still amount to a ban on wind power development in Umatilla County in contravention to state policy.

For the reasons set forth above, the Hatleys would urge the Board not to adopt the ordinances as proposed.

Thank you for this opportunity to comment.

Sincerely,



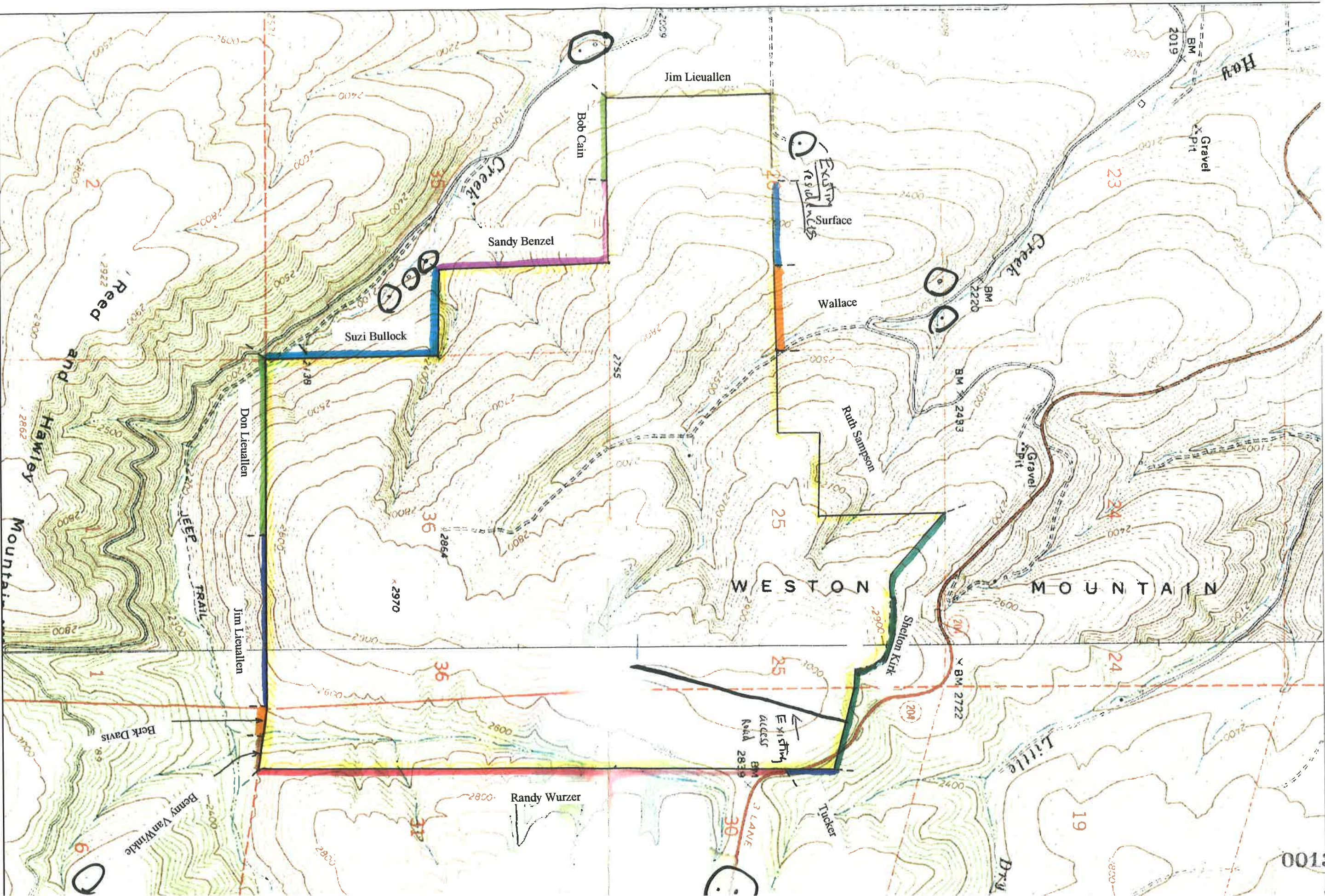
Bruce W. White



Exhibits

1. Map of Hatley Property
2. Tax Maps of Hatley Property
3. Map of wind leases in Umatilla County
4. Newspaper Article from February 26, 2012 Bend Bulletin
5. Cosner LUBA Brief
6. General Stormwater 1200-C Permit
7. Walla Walla Agricultural Water Quality Management Area Plan
8. 2010 303(d) listing for Pine Creek
9. Email from Umatilla County Public Works Director Tom Fellows
- 9A. Description of ODOT road maintenance BMPs
10. Road Map of Roads in the Walla Walla Basin
11. County Road Atlas Maps and Listings for Walla Walla River Road (S. and N. Fork) and Linton Mountain Road
12. County Road Atlas Maps and Listings for Couse Creek Road and Basket Mountain Road
13. List of approved wind energy facilities
14. Map of approved wind energy facilities
15. List of "met" towers approved since 2006





Name: ATHENA  
Date: 9/9/2002  
Scale: 1 inch equals 1333 feet

Location: 045° 47' 33.8" N 118° 23' 10.8" W  
Caption: Jim Hatley  
Weston Mountain

Exhibit 1



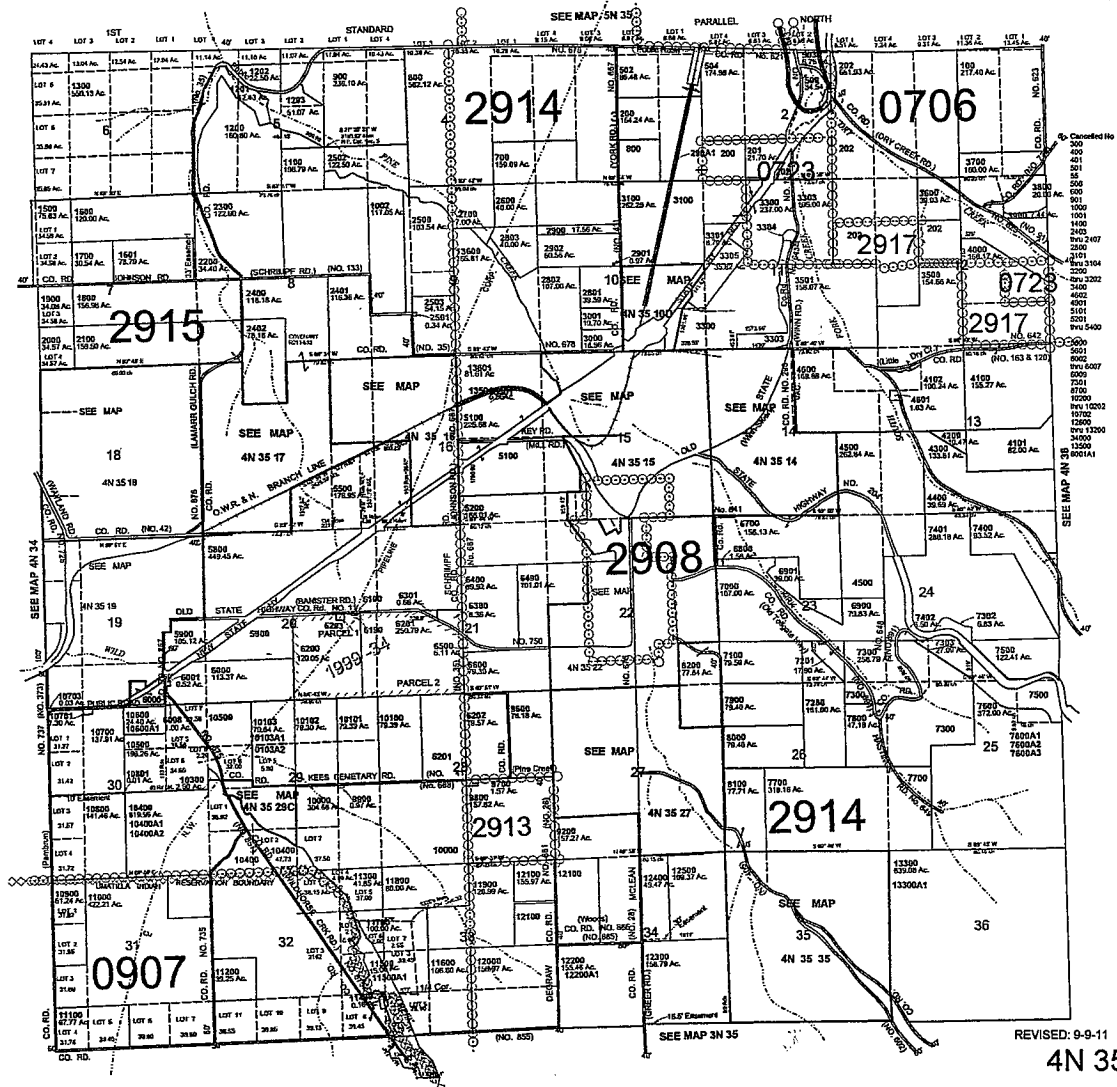
This map was prepared for Assessment & Taxation purposes only and was NOT prepared nor is it suitable for legal, engineering or surveying purposes.



T4N R35E WM  
UMATILLA COUNTY

SCALE 1"=2000'

4N 35  
AERIAL PHOTO NO. NZ-5P-61-65  
95-99  
138-142



REVISED: 9-9-11

4N 35



This map was prepared  
for assessment purposes

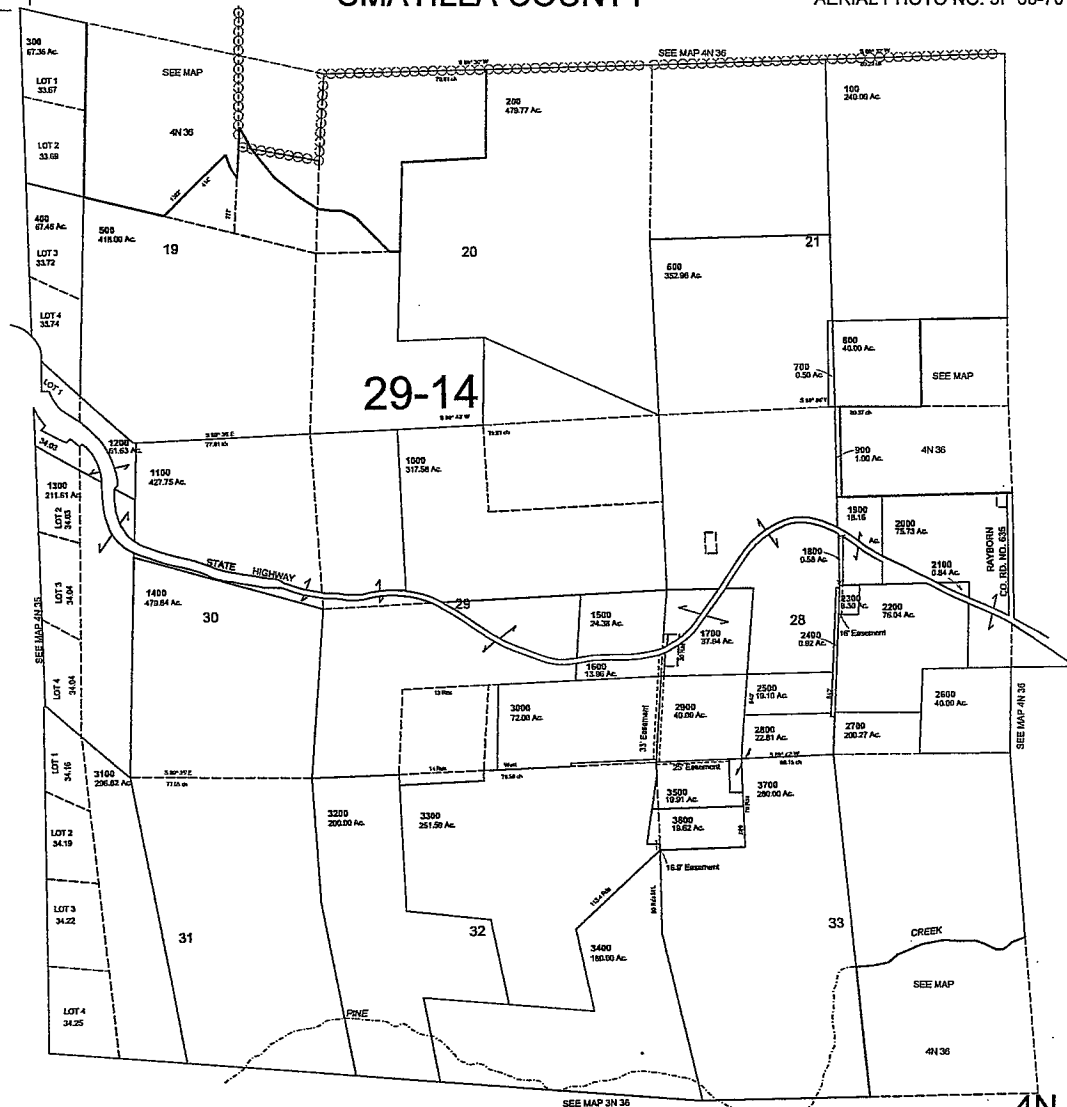
1"=1000'

SW1/4 T4N R36E WM  
UMATILLA COUNTY

1/27/05

4N 36C

AERIAL PHOTO NO. 5P 68-70 & 90-94



4N 36C

00138

# **BPA finishes new power line along Columbia River early**

By The Associated Press

Published: February 26, 2012 4:00AM PST

YAKIMA, Wash. — The Bonneville Power Administration is celebrating the completion of a new transmission line Friday to better incorporate wind energy into the Northwest power grid.

The line runs 79 miles along the Columbia River from McNary Dam to John Day Dam. It's one of several planned in Washington and Oregon to get power from wind turbines east of the Cascades to urban centers on the west side.

BPA administrator Steve Wright says construction crews finished the project early and at a savings of nearly \$140 million. The original budget was about \$340 million.

Some are questioning the future of wind development in the region, after Congress failed to extend a production tax credit on wind energy. BPA and wind producers also are in a dispute over how to handle power oversupplies.

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1           **I. STANDING**

2           The standing requirements in the challenge of a post acknowledgement plan amendment  
3 ("PAPA") are found in ORS 197.830(9) and ORS 197.620. First, the timely notice of intent to  
4 appeal a PAPA under ORS 197.830(9) must be filed not later than 21 days after notice of the  
5 decision sought to be reviewed is mailed or otherwise submitted to the parties entitled to notice  
6 under ORS 197.615. *Ettro v. City of Warrenton*, 52 Or LUBA 567, 573 (2006). Second, under  
7 ORS 197.830(2) a petitioner must have "participated" in the proceedings that lead to a PAPA.  
8 *Id.* The "participation" standard that must be met to appeal a PAPA is a higher hurdle to clear  
9 than the "appearance" standard that applies to other kinds of land use decisions. *Id.*

10           The challenged ordinances were adopted on June 28, 2011 and notice of the decision was  
11 mailed under ORS 197.615 on July 6, 2011. Petitioners' notice of intent to appeal was filed on  
12 July 22, 2011 within 21 days of mailing the final decision. Petitioners appeared in writing and  
13 participated during the local proceeding before the Umatilla County Board of Commissioners  
14 (hereinafter "County" or "Respondent"). Rec. pp. 704 and 1836. In addition, Intervenor  
15 Richard Stewart, Ted Reid, Jo Lynn and Tom Buell, Ken and Ida Schiewe, and Jim Hatley  
16 appeared orally during public hearings and in writing during the local proceeding.<sup>1</sup> Rec. pp. 379-  
17 381, 696-697, 2441, 3344-3346, 3571-3573, 3791-3792, 4224, 4322, 4323 and elsewhere.  
18 Petitioners and Intervenor Richard Stewart, Tom and Jo Lynn Buell, Ken and Ida Schiewe,  
19 Greg and Doris Tsiatsos, and Jim Hatley participated in the proceedings as affected property  
20 owners because they each have recorded leases to enable wind facility development on their  
21 farmland. Rec. pp. 697, 2441, and Affidavit of Cheryl Cosner attached hereto. All of this  
22 testimony regarded the merits of particular provisions considered by the Respondent in its  
23 adoption of the subject ordinances. Therefore, Petitioners participation was more than just  
24 appearance because their testimony included active involvement in raising concerns about the  
25 adoption of the subject ordinances. Thus, Petitioners have standing.

26  
1           Petitioners and the above group of Intervenor will be referred to hereinafter, collectively as Petitioners.



1           **II. STATEMENT OF THE CASE**

2           **A. Nature of the Decision and Relief Sought.**

3           The challenged decisions, Umatilla Board of Commissioners Ordinance Nos. 2011-05,  
4           2011-06, and 2011-07 (the "challenged ordinances"), amend Umatilla County Code Sections  
5           152.615 and 152.616 HHH. Petitioners seek reversal or remand of the Respondent's decision.

6           **B. Summary of Argument.**

7           The Respondent's adoption of Ordinances Nos. 2011-05 and 2011-06 contain waiver  
8           provisions that unlawfully delegate legislative authority to surrounding cities and rural  
9           residential landowners. This grant of waiver to neighboring cities and individual property  
10          owners, to allow relief from applicable setback requirements regarding wind facility components  
11          in certain areas, violates Article I, Section 21 of the Oregon Constitution as an unlawful  
12          delegation of the Respondent's authority. In addition, that delegation of authority violates the  
13          due process clause of the Fourteenth Amendment of the U.S. Constitution.

14          The challenged ordinances effectively adopt a program to add protections to certain Goal  
15          5 resources. However, Respondent did not comply with Goal 5 in amending regulations that  
16          affect these resources because no analysis of that Goal and its implementing rules occurred nor is  
17          provided in the record. Moreover, Goal 5 contains an obligation to the County to protect wind  
18          energy resources and the challenged ordinances contradict that obligation. Further, the Goal 5  
19          inventory is out of compliance with LCDC's acknowledgement order and must be updated  
20          before the challenged ordinances can be adopted.

21          In failing to apply Goal 5, the Respondent necessarily erred in adopting a decision that  
22          lacks an adequate factual basis under the Goal. In particular, the Respondent's failure to provide  
23          a conflicting use review and an ESEE analysis resulted in adoption of the challenged ordinances  
24          without providing an adequate factual basis in violation of Goal 2.

25          The Respondent's decision imposing a two-mile setback from rural residences and UGBs  
26          lacks an adequate factual base in violation of Goal 2, and is not supported by substantial reason.

1. In legislative decision making, there must be enough in the way of findings or substantial  
2. evidence to show the criteria were applied and required considerations were analyzed. The  
3. Respondent's record contains no findings adequately analyzing the two-mile setback against the  
4. criteria of the Goals.

5. The two-mile setback from rural residences and UGB's also violates ORS 215.283(2) and  
6. 215.296. The veto power granted to project neighbors in an exclusive farm use ("EFU") zone by  
7. the provision allowing them to waive without standards the setback over wind facilities reaches  
8. beyond the protections of farm and forest practices under ORS 215.283(2) and ORS 215.296(1).  
9. Further, the Respondent's decision to allow the potential waiver of the setback fails to meet the  
10. clear and objective requirements of ORS 215.296(2).

11. Respondent erred by making a decision that is inconsistent with the County's  
12. Comprehensive Plan in violation of Goal 2 and ORS 197.175(2). The challenged ordinances fail  
13. to address or follow Plan policies that encourage wind facility development within the County.

14. Finally, Goal 2 instructs that all elements of the Comprehensive Plan fit together as a  
15. consistent whole. The Respondent's decision to create particular standards for road construction  
16. connected to wind facility applications creates an inconsistency with the Comprehensive Plan's  
17. erosion control standards applied to roads connected to other uses allowed on farmland.

18. **C. Summary of Material Facts.**

19. The challenged ordinances are post-acknowledgement plan amendments (PAPA) under  
20. ORS 197.610 and OAR 660-023-0010(5) because they apply new land use regulations on  
21. farmland. These ordinances impose additional restrictions on Commercial Wind Power  
22. Generation Facilities (referred to hereinafter as "wind facilities") already subject to discretionary  
23. review standards. Although adopted as three separate ordinances, the challenged regulations all  
24. concern amendments to the same section of the Umatilla County Code of Ordinances ("Code")  
25. 152.616 HHH - the standards for review of conditional uses and land use decisions for wind  
26.

1 facilities.<sup>2</sup> The challenged ordinances impose a two-mile setback from all existing rural  
2 residences as well as from all urban growth boundaries. Rec. pp. 21, 27-28 (the setbacks are set  
3 forth in Section 6 of Ordinance No. 2011-05 and as amended by Ordinance No. 2011-06).  
4 However, both setback restrictions may be waived by the respective landowner or affected city.  
5 Rec. pp. 21 and 28. The ordinances do not identify when in the process the setbacks need to be  
6 determined, and it appears that, so long as construction complies with the setback agreement  
7 between the applicant and project neighbor or affected city, the ordinance requirements will be  
8 satisfied. Further, the ordinances do not define rural residence, nor does the County's Code.  
9 Therefore, rural residences must incorporate those dwellings built on County lands designated  
10 "Rural Residential" as well as farm use dwellings and non-farm related dwellings that could be  
11 built on land throughout the County. The Comprehensive Plan maps showing the extent of the  
12 UGBs, Rural Residential Designation and other farmland on which rural residences could be  
13 placed are shown in Appendix B.<sup>3</sup> App. B 1-7.

14 The Respondent provided three examples of how the two-mile setback from rural  
15 residences would work in its depictions of three township areas. Rec. pp. 2288-2289, 2291,  
16 2293, 2295. The orange circles on the maps show the two-mile setback distance from rural  
17 residences in that particular township. Rec. p. 2291, 2293, and 2295. In each instance, the  
18 setbacks cover much of the township land with the result that wind facility development will be  
19 severely restricted. Although these three examples show that a small portion of the township  
20 could be available for wind facility development, the two-mile setback from rural residences was  
21 shown by challengers to the ordinance to effectively result in no new wind turbines in a 65,000  
22 acre area of the County. Rec. p. 3574 and map at 3787. The record does not contain evidence  
23

24 <sup>2</sup> Ordinance No. 2011-05 also contains amendments to Code Section 152.615. Rec. p. 17-18. The notices  
25 required by ORS 197.610 and 197.615 make no mention of amendment to Code Section 152.615. Rec. pp. 4429 and  
26 15.

<sup>3</sup> Although the record does not contain copies of the Comprehensive Plan Map, the Court may take official  
notice of these documents. *Fort Vanmoy Irr. Dist. v. Water Resources Com'n.*, 345 Or 56, 188 P3d 277 (2008).

1 illustrating the effect of the two-mile setback from UGBs. Nonetheless, the four illustrations  
2 described above provide a sample of the effects of the two-mile setbacks and show that the area  
3 available for wind facility development within the County will be drastically reduced and could  
4 work to nullify existing leases for the construction of wind facilities or require the removal of  
5 existing towers that are within two-miles and lack a waiver.

6 In addition, the Respondent adopted special regulations for the Walla Walla Watershed  
7 providing: (1) the construction of any wind facility components may not occur on certain soils  
8 identified as highly erodible or within the Critical Winter Range; (2) regulations intended to  
9 prevent conflicts with existing significant Goal 5 Resources within the Walla Walla sub-basin,  
10 and (3) a two-mile setback from streams and tributaries that contain endangered species. Rec. p.  
11 31. Goal 5 protects thirteen categories of resources – riparian corridors, wetlands, wildlife  
12 habitat, federal wild and scenic rivers, scenic waterways, groundwater resources, approved  
13 Oregon recreation trails, natural areas, wilderness areas, mineral and aggregate resources, energy  
14 resources, historic resources and scenic views and sites. The Respondent identified that five out  
15 of the thirteen Goal 5 resource categories are found in the Walla Walla Watershed – significant  
16 wetlands, wildlife habitat, significant natural areas, outstanding scenic views, and historic  
17 resources. Rec. pp. 389-394. In addition, Goal 5 resources are also found beyond the borders of  
18 the Walla Walla Watershed. Appendix B contains excerpts from the County's Goal 5 inventory  
19 showing the locations of protected resources throughout the County. App. B pp. 8-37.<sup>4</sup> The  
20 County's Goal 5 inventory, found in the Technical Report, incorporated by reference in the  
21 Comprehensive Plan, includes protection for all categories of protected resources except for  
22  
23

24 <sup>4</sup> See note 3. Although the record does not contain copies of the Technical Report, the Court may take  
25 official notice of these documents. The County is operating from its acknowledged 1983 Comprehensive Plan that  
26 based its Goal 5 analysis on its Technical Report. Various sections of the Comprehensive Plan have been amended  
since 1983. The Technical Report adopted in 1982 provided the basis for the plan's Goal 5 policies and is  
incorporated into the plan by reference. The Technical Report was last updated in 1984.

1 wilderness areas, federal wild and scenic rivers, scenic waterways, recreational trails, and energy  
2 sites all of which were not inventoried in the County's Goal 5 program.

3 Beyond the Goal 5 protected resources, the Respondent also based these amendments on  
4 the protection of highly erodible soils. Rec. p. 387. The testimony regarding erosion in the  
5 record concerns the potential erosion associated with road construction as part of the  
6 development of wind facilities. Rec. pp. 170, 172, 681, 710, 1844, 2185, 3392, 4230, 4236, 4205,  
7 and 4218. The Respondent conditionally limits some uses on farmland including public or  
8 private parks or playgrounds or community centers owned and operated by a governmental  
9 agency or a non profit community organization, public or semi public uses, recreational resort  
10 facilities and utility facilities. The soil erosion controls for road development for these other  
11 ORS 215.283(2) authorized uses provides:

12 "Road construction be consistent with the intent and purposes set forth in the 208  
13 Water Quality Program to minimize soil disturbance and help maintain water  
14 quality"

15 152.616 QQ(4), SS(2), TT(4), CCC(9).<sup>5</sup> The 208 Water Quality Program requires an applicant  
16 to provide a program to avoid sedimentation under the Clean Water Act during project  
17 construction. The challenged ordinances adopt a new and different standard for limiting roads  
18 associated only with wind facilities in the Walla Walla Watershed under Ordinance 2011-07,  
19 Sections 11(A) and 11(C),

20 "(A) There shall be no construction of project components, including \* \* \* access  
21 roads on soils identified as highly erodible. \* \* \*"

22 (C) The application shall demonstrate that the Wind Power Generation Facility  
23 and its components will be setback a minimum of two miles from streams and  
24 tributaries that contain Federally listed threatened and endangered species, and,  
that the project will generate no runoff or siltation into streams."

25 Rec. p. 31.

26 <sup>5</sup> See note 3. Although the record does not contain copies of Code Sections 152.616 QQ, SS, TT, and CCC,  
the Court may take official notice of these documents.

1 The combined results of the added Goal 5 resource protections and the setbacks based on  
2 highly erodible soils create an absolute bar on wind facilities in the Walla Walla Watershed.  
3 Maps documenting the extent of Goal 5 resources and highly erodible soils within the Walla  
4 Walla Watershed show that the three new restrictions will not allow wind facilities anywhere in  
5 the watershed boundaries. Rec. pp. 385 – 387. Highly erodible soils occupy the entire south and  
6 southeast portions of the County leaving only the northwest portion available to accommodate  
7 towers. Rec. p. 387. In the northwest portion of the watershed, the two-mile setback from the  
8 protected streams shown on the Fish, Stream and Water Resources map severely restricts turbine  
9 development. Rec. p. 386. Therefore, in effect, wind facility development is precluded in the  
10 Walla Walla Watershed.

11 The County's acknowledgement process accomplished in the early 1980s provides  
12 relevant context to understanding the shortfalls of the challenged ordinances in failing to comply  
13 with the Statewide Planning Goals and the acknowledged Comprehensive Plan. DLCD's pre-  
14 acknowledgement comments related to Goal 5 and subsequently adopted by LCDC are attached  
15 hereto in Appendix B.<sup>6</sup> App. B pp. 38-145.

16 With respect to wind resources specifically, the County recognized such resources as  
17 protected by Goal 5, but did not identify any specific wind resource areas in its inventory.  
18 Instead, the County accepted a condition of acknowledgment that it would amend its plan to  
19 include a policy to protect wind energy resources under OAR 660-016-0000 when adequate  
20 information becomes available to properly inventory that resource. App. B p. 71. In response to  
21 the condition, the County adopted policy 43(d) in its Comprehensive Plan to complete its Goal 5  
22 analysis process for wind resources when information becomes available,  
23  
24  
25

26 <sup>6</sup> See note 3. Although the DLCD acknowledgement comments are not in the record, the Court may take official notice of these documents.

1 "43(d). With the availability and/or addition of adequate information on wind,  
2 solar and other alternate energy resources, the County shall complete the Goal 5  
analysis process for those resources (OAR 660-16-000)."<sup>7</sup>

3 App. B p. 81. The Respondent has yet to fulfill this condition.

4 By the approval of the subject ordinances the Respondent adopted a Goal 5 program  
5 concluding that wind energy resources must be restricted as they conflict with other identified  
6 Goal 5 resources. The ordinances were adopted without paying any heed to the Goal 5  
7 requirement to protect wind energy resources, or the Goal 5 process for those acknowledged  
8 resources affected by the challenged regulations. In neither the 45-day notice required by ORS  
9 197.610 nor notice of adoption of the amendments required by ORS 197.615 did Umatilla  
10 County refer to the Statewide Land Use Planning Goals. Rec. pp. 15 and 4429. Nevertheless,  
11 much of the testimony submitted during the proceeding noted inconsistent application of the  
12 Goals, particularly Goals 2 and 5. Rec. pp. 37, 43, 428-429, 433, 4106-4113. However, the  
13 Respondent's staff failed to respond. Further, only in its adoption of Ordinance No. 2011-07 did  
14 the Respondent adopt minimal findings in support of its adoption, but those findings make no  
15 reference to a Goals analysis. Rec. pp. 29-30. Moreover, the Respondent made no findings in  
16 support of adoption of Ordinance Nos. 2011-05 and 2011-06. Rec. pp. 17 and 27.

17 **D. Statement of Jurisdiction**

18 Respondent's final decisions involve approval of amendments to a land use regulation.  
19 Accordingly, the County decisions are land use decisions as that term is defined under ORS  
20 197.015(10).

21 **III. STANDARD OF REVIEW**

22 Under ORS 197.835(9)(a)(E), LUBA must reverse or remand the Respondent's decision  
23 if it is unconstitutional. As discussed below, the Respondent's decision is unconstitutional  
24 because it prospectively delegates decision making to nearby cities and private landowners  
25

26 <sup>7</sup> The current version of the Comprehensive Plan now has the policy listed as Policy 42(d). Petitioners use the revised numbering here.

1 within the County's boundary in contravention of the Oregon and federal constitutions.

2 Therefore, LUBA must reverse or remand the Respondent's decision.

3 Under ORS 197.835(9)(a)(C) and (D), LUBA must also reverse or remand the  
4 Respondent's decision if it improperly construed the law or made a decision that is unsupported  
5 by substantial evidence. The Respondent's decision amends its Code without complying with  
6 Goals 2 and 5. In addition, the challenged regulations fail to comply with the County's  
7 Comprehensive Plan. Moreover, adoption of a PAPA requires analysis under Goals 2 and 5, but  
8 the Respondent never considered the application of the Goals to the adoption of this legislation.  
9 Because the challenged decisions involve application of state law, LUBA is not required to give  
10 the Respondent's interpretation of the statutes, Goals or state administrative rules, or lack  
11 thereof, deference; instead LUBA must determine whether the Respondent correctly interpreted  
12 and applied the Goals and their implementing regulations. *Collins v. Klamath County*, 148 Or  
13 App 515, 520, 941 P2d 559 (1997) (citing *Marquam Farms Corp. v. Multnomah County*, 147 Or  
14 App 368, 380, 936 P2d 990 (1997)).

#### 15 IV. ASSIGNMENTS OF ERROR

16 **FIRST ASSIGNMENT OF ERROR - The Waiver Provisions Contained in**  
17 **Ordinance Nos. 2011-05 and 2011-06 Unlawfully Delegate Legislative Authority to**  
18 **Surrounding Cities and Rural Residential Landowners.**

19 **A. Ordinance No. 2011-05's Provision that Allows Cities to Waive Setbacks for**  
20 **Wind Facilities Unlawfully Delegates Legislative Authority to those Cities because the**  
21 **County Improperly Enables Cities to Make Standardless Decisions Concerning**  
22 **Applications in the Respondent's Jurisdiction.**

23 Article I, Section 21, of the Oregon Constitution provides,

24 "[n]or shall any law be passed, the taking effect of which shall be made to depend  
25 upon any authority, except as provided in this Constitution\* \* \*"



1 This constitutional provision has been construed to prohibit laws that delegate the power of  
2 amendment to another governmental entity. *Barnes v. City of Hillsboro*, 61 Or. LUBA 375, 392  
3 17 (2010), *aff'd on other grounds* 239 Or App 73, 243 P.3d 139 (2010); *Advocates for Effective*  
4 *Regulation v. City of Eugene*, 160 Or App 292, 311, 981 P2d 368 (1999). Both cases also make  
5 clear that the term "law" in Article I, Section 21 of the Oregon Constitution includes ordinances  
6 adopted by local governments. *Barnes v. City of Hillsboro*, 61 Or. LUBA at 392, and *Advocates*  
7 *for Effective Regulation v. City of Eugene*, 160 Or App at 312. Further, *Barnes*, 61 Or. LUBA at  
8 392, emphasized,

9 "Respondents have not cited any authority suggesting that zoning ordinance  
10 amendments are not 'laws' for purposes of Article I, Section 21."

11 Therefore, LUBA ruled that PAPAs are subject to analysis for improper delegation of authority  
12 under the state constitution. The purpose of the review for improper prospective delegation is to  
13 provide adequate safeguards to property owners affected by an administrative action. *Warren v.*  
14 *Marion County*, 222 Or 307, 314, 353 P2d 257 (1960). No safeguards are provided by  
15 Respondent regarding the waivers in the challenged ordinances.

16 In the challenged ordinances, the Respondent imposed a two-mile setback for wind  
17 facilities but also included waiver language that allows nearby cities to grant waivers of the  
18 setbacks without any reference to an urban growth management agreement that would govern the  
19 grant of waivers. The ordinance provided that,

20 "The minimum setback shall be a distance of not less than the following:

21 (1) From a turbine tower to a city's urban growth boundary (UGB) shall be two  
22 miles, unless a city council action authorizes a lesser setback. The measurement  
23 of the setback is from the centerline of a turbine tower to the edge of the UGB  
24 that was adopted by the city as of the date the application was deemed complete."  
25 (strikethroughs omitted) (emphasis added).  
26

1 Rec. p. 21. This provision is defective as it unconstitutionally delegates authority to other bodies  
2 and does not provide adequate safeguards to property owners affected by the regulation;  
3 therefore, the decision must be reversed.

4 In this case, affected stakeholders, including the subject and adjacent property owners,  
5 may be prejudiced by a nearby city making an arbitrary decision to waive the setback (or not)  
6 without standards or procedures to guide their review. Further, wind facility applicants would  
7 also be affected by the standardless grant of authority to nearby cities. In prospectively  
8 delegating the determination of setbacks for wind turbines from UGBs occurring within the  
9 Respondent to the affected cities, property owners and wind facility applicants are not provided  
10 any safeguards against improper actions by those cities in exercising discretion to change or not  
11 change setbacks without adopting relevant standards. Here, in addition to providing no standards  
12 governing the grant of a waiver, the ordinance does not provide for notice, hearing or appeal  
13 rights.

14 Moreover, in this conditional use approval context, the prohibition on delegation of  
15 authority is a protection against future discretionary acts of other governing bodies to vary  
16 application approval standards adopted by the County. In *Barnes v. City of Hillsboro*, 61 Or.  
17 LUBA at 392, LUBA reviewed an ordinance that required uses within a new overlay zone to  
18 satisfy environmental regulations. "hereafter in effect, as the same may be amended from time to  
19 time" to other governmental bodies that control amendment of environmental regulations in  
20 violation of Article I, Section 21 of the Oregon Constitution. In *Barnes*, 61 Or. LUBA at 394-  
21 395, LUBA explained,

22 "[t]he city has delegated to the Port not only the authority to effectively *amend* the  
23 city standards that govern land uses in the AU zone (prospective delegation), the  
24 city has actually delegated to the Port the authority to determine what uses are in  
25 fact allowed in the AU zone. . . In the words of Article I, Section 21, the city has  
26 made the 'taking effect' of HZO 135(E)(2) depend upon the authority of the Port"  
(emphasis in original).

1 Similar prospective delegation was granted to cities in the subject ordinances because the  
2 Respondent granted affected cities the future ability to vary setbacks for wind facility  
3 applications subject to the County's jurisdiction. Upon the grant of a waiver by an affected city,  
4 the approval of a wind facility will take effect based not on the decision of the Respondent that  
5 maintains jurisdiction over the application, but on the decision of another city in violation of  
6 Article I, Section 21 of the Oregon Constitution.

7 In another prospective delegation case *Advocates for Effective Regulation*, the Court of  
8 Appeals considered a Eugene initiative, the Right to Know Initiative. The Court examined  
9 whether the initiative's new charter provisions requiring businesses within the city to disclose  
10 their use of hazardous substances constituted an unconstitutional delegation of authority. The list  
11 of "hazardous substances" in the initiative included a variety of lists and noted specifically that  
12 the lists included "any substances added, subsequent to the effective date of this Act" to those  
13 lists. *Id.* at 296. Federal agencies maintained some of the qualifying lists. *Id.* The Court held  
14 that federal regulations defining "hazardous substances" not promulgated at the time the Eugene  
15 Right to Know Initiative was enacted, yet incorporated by reference in the initiative language,  
16 violated the rule against prospective delegation. *Id.* at 313.

17 Notwithstanding the clear direction in the *Advocates for Effective Regulation* case, the  
18 Respondent appears to have created a similar issue to the one faced by the City of Eugene in that  
19 case. In *Advocates*, the issue involved the prospective definition of "hazardous substances" to be  
20 defined in a law adopted by the federal government, including prospective changes. *Id.* In the  
21 case of Umatilla County's challenged ordinances it is impossible to know what standards or  
22 criteria these nearby city councils would apply to authorize a setback of less than two-miles for  
23 turbine towers in a particular wind facility application with no right to challenge such a decision.  
24 Such grant of discretionary, legislative authority to another government entity to waive a County  
25 land use requirement is exactly the kind of prospective delegation the Oregon Constitution  
26 prohibits.

1 This case is dissimilar from the one that the Court of Appeals faced in *Olson v. State*  
2 *Mortuary and Cemetery Board*, 230 Or App 376. In *Olson*, the Court of Appeals reviewed a  
3 state law that governed license violations in the funeral industry. In 1985, the state amended the  
4 statute to allow violations based on failure to comply with the "regulations adopted by the  
5 Federal Trade Commission regulating the funeral industry." *Id.* In order to avoid the potential  
6 constitutional problem of prospective delegation, the Court of Appeals interpreted the  
7 amendment to refer to the Federal Trade Commission Funeral Rule as it was then written, in  
8 1985. *Id.* at 388.

9 However, unlike the phrase "adopted" used in the state statute in *Olson*, the County's  
10 grant of authority to neighboring cities to decide setbacks for wind facility applications contains  
11 no limit or suggestion that any fixed standards or criteria be applied by the cities when  
12 considering a reduction in the setback. Instead, the challenged ordinances simply grant broad  
13 authority to cities to decide on an ad hoc basis whether to reduce the two-mile setback from the  
14 city's urban growth boundary. Such ad hoc decision making is inconsistent with Goal 5  
15 protection because a true planning program would apply across the board to protect inventoried  
16 resources instead of allowing cities to vary standards on an application-by-application basis.

17 Under its holding in *Barnes*, 61 Or. LUBA at 395-396, LUBA must reverse the  
18 Respondent's approval of the challenged ordinances because of this improper prospective  
19 delegation.

20 **B. Ordinance No. 2011-06 Unlawfully Delegates Authority to Project Neighbors.**

21 **1. The Delegation of Authority to Project Neighbors Violates the**  
22 **Fourteenth Amendment of the U.S. Constitution because it Grants Authority to Rural**  
23 **Residential Landowners to Decide Without Standards Whether to Reduce Setbacks from**  
24 **Wind Facilities.**

25 The Fourteenth Amendment's due process clause provides that, "[n]or shall any State  
26 deprive any person of life, liberty, or property, without due process of law\* \* \*." In *State of*

1 *Washington ex rel. Seattle Title Trust Co. v. Roberge*, 278 U.S. 116, 121 (1928), the U.S.  
2 Supreme Court interpreted the due process clause to prevent legislatures, under the guise of the  
3 police power, to impose restrictions that are unnecessary and unreasonable upon the use of  
4 private property or the pursuit of useful activities.

5 The Respondent's decision in Ordinance No. 2011-06 sets forth the setback requirements  
6 for a wind turbine tower from a rural residence,

7 "Setbacks. The minimum setback shall be a distance of not less than the following:

8 (3) From a turbine tower to a rural residence shall be 2 miles, unless the  
9 landowner of the rural residence authorizes by written waiver of a lesser setback  
10 and the waiver is recorded with the county deed records\* \* \* (strikethroughs  
omitted) (emphasis added).

11 Rec. pp. 27-28. The waiver provision grants authority to private rural residential landowners to  
12 decide whether to authorize a lesser setback for a wind turbine tower in violation of the  
13 Fourteenth Amendment's due process clause because it unnecessarily and unreasonably prohibits  
14 the use of private property.

15 The grant of authority to project neighbors in Umatilla County is similar to the grant of  
16 authority at issue in *Roberge*. In *Roberge*, the construction of a philanthropic home for children  
17 and the elderly was a permitted use subject to the applicant obtaining written consent from the  
18 owners of two-thirds of the property within four hundred feet of the proposed building. The  
19 applicant submitted an application for the philanthropic home without obtaining the necessary  
20 consent and was denied a permit solely on the lack of consent. *Id.* at 119. The applicant  
21 appealed on the grounds that, if the consent requirement could prevent the construction of the  
22 home, such requirement was repugnant to the due process clause of the federal constitution.

23 The Supreme Court reviewed the land use code to determine whether the construction of  
24 the philanthropic home was a legitimate use of property within the protection of the Constitution.  
25 Although the land use code in question purported to subject permission for such building to the  
26 consent of neighbors, the fact that the legislative body amended the code to allow the home in

1 the first place established it as a legitimate use of property protected by the Constitution. *Id.* at  
2 121. In the Umatilla County case, the grounds to find that wind facilities in exclusive farm use  
3 zones are a legitimate use of property is found both in County's Code Section 152.616 HHH  
4 standards for approval of these facilities and also by state law allowing wind facilities under  
5 ORS 215.283(2), subject only to clear and objective standards under ORS 215.296(2) discussed  
6 in the Fifth Assignment of Error. Therefore, the use of property for wind facilities is subject to  
7 the protection of the due process clause guaranteed by the U.S. Constitution because the Code  
8 and state law legitimize the use.

9 Turning to the grant of authority to project neighbors in Umatilla County, as in *Roberge*,  
10 the Respondent would be bound by the decision or inaction of project neighbors to reduce the  
11 setback. *Id.* at 122. In *Roberge* there was no provision for review of the neighbor's decision  
12 under the ordinance; their failure to give consent was final. Further, the Court found that the  
13 neighbors are not bound by any official duty, but are free to withhold consent for selfish reasons  
14 or may arbitrarily subject the applicant to their will or caprice and not necessarily for any  
15 planning-related reason. *Id.* Ultimately, the Court held that the unreviewable grant of authority  
16 delegated to project neighbors was repugnant to the due process clause of the Fourteenth  
17 Amendment because it gave project neighbors authority to prevent the applicant from building  
18 the philanthropic home. *Id.* at 123. The Supreme Court had adopted the same view in *Eubank v.*  
19 *City of Richmond*, 226 U.S. 137 (1912) in regards to a grant of authority to neighbors to decide  
20 the location of building setbacks from property lines. In *Eubank*, the Court determined that the  
21 grant of authority to one set of owners to determine not only the extent of use, but the kind of use  
22 which another set of owners may make of their property violated the due process clause. *Id.* at  
23 143.

24 Oregon courts have similarly reasoned that ordinances that grant discretionary project  
25 approval powers to project neighbors violate the due process clause. In *Roman Catholic*  
26 *Archbishop of Diocese of Oregon v. Baker*, 140 Or 600, 610, 15 P2d 391 (1932), the Court ruled

1 that the arbitrary power given to project neighbors, where the applicant had to obtain signatures  
2 of 50% of its neighbors to meet permit requirements for a parochial school, violated the due  
3 process clause because such signature gathering requirement subjected the applicant to the  
4 caprice of 50% of its neighbors.<sup>8</sup>

5 Here, the Respondent's grant of waiver is a grant of authority to project neighbors that  
6 violates the due process clause of the Fourteenth Amendment because it arbitrarily allows project  
7 neighbors to determine setback distances from home to turbine without any method of review.  
8 The waiver right granted to a rural residential landowner allows for a discretionary change in  
9 setbacks without any relevant standards for such landowner to grant a waiver. The problem with  
10 this grant of waiver authority is that it can be exercised without the Respondent maintaining any  
11 control over the manner in which setbacks for wind facilities will be established around rural  
12 residences. In effect, a single rural landowner is granted the right to change the regulations  
13 applicable to a wind facility applicant based on his or her whims. Therefore, under the  
14 Fourteenth Amendment such grant of waiver authority to project neighbors is a violation of the  
15 due process clause.

16 LUBA must reverse the adoption of the challenged ordinances because the waiver  
17 provision to allow project neighbors to arbitrarily decide the setback distance from rural  
18 residences violates the due process clause of the Fourteenth Amendment of the Constitution.

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24 <sup>8</sup> In *Anderson v. Peden*, 284 Or 313, 328-329, 587 P2d 59 (1978), the Oregon Supreme Court considered an  
25 applicant's claim that the county Planning Commission and Board of Commissioners improperly relied on the  
26 number of opposing neighbors at a hearing to make its decision. The Court disagreed, finding that neighborhood  
approval was not included in the governing ordinance or improperly considered in the decision making process. *Id.*  
at 330. Nonetheless, the opinion agreed that, if the county had provided discretionary approval authority to project  
neighbors, such grant of authority would violate the due process clause. *Id.* at 329.

2. The Delegation of Authority to Project Neighbors Unlawfully  
Delegates Authority under the Oregon Constitution because it Cedes County Authority to  
Project Neighbors.

Article I, Section 21, of the Oregon Constitution<sup>9</sup> prohibiting prospective delegation of authority is also implicated by the waiver provision in Ordinance No. 2011-06<sup>10</sup> allowing a rural residential landowner to decide whether to authorize a lesser setback for a wind turbine tower. Further, as identified in the previous section, Oregon courts have reasoned that ordinances that grant discretionary project approval powers to project neighbors violate the due process clause. *Roman Catholic Archbishop of Diocese of Oregon v. Baker*, 140 Or at 610.

The delegation of authority to private property owners was reviewed by the Oregon Supreme Court in *Schmidt v. City of Cornelius*, 211 Or 505, 316 P2d 511 (1957). In that case, the court reviewed a statute that provided that an owner of land within a city, if the land had a minimum acreage, could have the land de-annexed from the city solely by the owner and the courts. *Id.* at 509. The procedure called for the owner to file a complaint in the circuit court which, if it found the requirement fulfilled, must decree disconnection of the land. *Id.* The Court found that the statute empowered a private individual at his sole option to initiate a judicial proceeding that, upon proof of specified facts, would result in mandatory action of the court that would change the city boundaries as specified in the city charter. *Id.* at 525-526. The Court held the statute unconstitutional, finding that this delegation of legislative power was in effect an amendment to the charter of the city. The Court based its decision on the unlawful delegation of

<sup>9</sup> Article I, Section 21 of the Oregon Constitution was set forth in Section A of this Assignment of Error, and provides,

"[n]or shall any law be passed, the taking effect of which shall be made to depend upon any authority, except as provided in this Constitution\* \* \*"

<sup>10</sup> The waiver provision was set forth above in Section B.1 of this Assignment of Error and provides,

"Setbacks. The minimum setback shall be a distance of not less than the following:

(3) From a turbine tower to a rural residence shall be 2 miles, unless the landowner of the rural residence authorizes by written waiver of a lesser setback and the waiver is recorded with the county deed records\* \* \*" (emphasis added)



1 authority because the city's decision to allow an individual to exercise the de-annexation  
2 authority of the city was a violation of the Oregon constitutional mandate that no law shall be  
3 passed which depends upon any authority except as provided in the constitution. *Id.*

4 In *Schmidt* the Court's decision prevented a single landowner from exercising legislative  
5 discretion in deciding the boundaries of a city. In the present case, the same principle should  
6 drive the analysis of a rural residential landowner's right to waive a County setback requirement.  
7 The Respondent has the authority under its general land use authority to adopt setbacks that  
8 protect the health, safety and welfare of the community. Adoption of this setback provision  
9 violates the state's prohibition on the prospective delegation of authority because it allows for  
10 landowner discretion to change setbacks without any relevant standards, subjecting a wind  
11 applicant to the whims of a project neighbor. Such a grant of discretion to a rural residential  
12 landowner conflicts with Oregon Constitution Article I, Section 21, in that it allows legislative  
13 decision making outside of the authority granted to the County Board of Commissioners.

14 Further, the grant of discretion to vary setbacks deprives a person of a property right  
15 without due process because the Respondent does not maintain authority over a wind facility  
16 application. This grant of authority, like the arbitrary power given to project neighbors in *Roman*  
17 *Catholic Archbishop of Diocese of Oregon v. Baker*, 140 Or at 610, to withhold signatures to  
18 allow a parochial school, violates the due process clause because such authority granted to rural  
19 residential landowners will subject wind facility applicant's to the caprice of its neighbors. See  
20 also *Anderson v. Peden*, 284 Or at 329 (if the county had provided discretionary approval  
21 authority to project neighbors such grant of authority would violate the due process clause).  
22 Under Oregon constitutional analysis, due process is implicated and violated when an unlawful  
23 delegation of authority results in the deprivation of property.

24 Therefore, LUBA must reverse the Respondent's decision to adopt the challenged  
25 ordinances.  
26

1           **C.     The Analysis of Ex Post Facto and Takings Cases Offer Contexts and**  
2           **Support because these Cases Show that the Constitution Protects Wind Facility Applicants**  
3           **from Delegation of Authority that Results in Deliberate Actions by Third Parties to**  
4           **Prevent the Use of Property for Wind Facility Components.**

5           Two decisions involving the constitutionality of statutes governing where sex offenders  
6           may reside after release from prison provide additional authority explaining why the grant of  
7           authority in the challenged ordinances to allow waiver of some provisions violates constitutional  
8           protections of private property.

9           A Kentucky case, *Commonwealth v. Baker*, 295 S.W.3d 437, 440 (Ky. 2009) involved a  
10          challenge to amendments to existing sex offender restrictions governing where registered sex  
11          offenders ("RSO") could live, as those regulations were applied to Defendant who had an  
12          existing dwelling before the law was adopted.<sup>11</sup> Plaintiff claimed the legislation constituted *ex*  
13          *post-facto* punishment and violated the federal and state constitutions.

14          The Kentucky law prohibited residences of RSOs within 1,000 feet of a school,  
15          preschool, playground or daycare for those on parole, probation or supervised release. *Id.* Baker  
16          challenged the residential prohibitions claiming they were punitive so as to constitute an *ex post*  
17          *facto* legislation. The court cited the United States Supreme Court decision in *Smith v. Doe*, 538  
18          U.S. 84 (2003) to set out a two-part inquiry to apply in consideration of whether the challenged  
19          regulation was punitive or not, and, even if not so intended, whether the law was so punitive in  
20          effect to render it subject to *ex post facto* prohibitions. *Id.* at 442.

21          The court concluded that, although the Kentucky legislature did not intend the law to be  
22          punitive, the residency restrictions were so punitive in effect as to negate any intention to deem  
23          them civil. *Id.* at 447. One of the portions of the law leading to the conclusion of punitive effect.

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<sup>11</sup>       The Kentucky statute was a variation on "Megan's Law" under which sex offenders were required to be  
26       registered. *Id.* at 440. A copy of *Commonwealth v. Baker*, 295 S.W.3d 437 (Ky. 2009) is included in Appendix B.  
      App. B pp. 146-158.

1 was based on the court finding that a defendant could be displaced if a school, playground or  
2 daycare facility were subsequently located near his or her dwelling,

3 "While a sex offender may be permitted one day to live in a particular home, he  
4 may the next day find himself prohibited by the opening of a school, daycare  
5 facility, or playground. Perhaps even more troublesome is the fact that a city  
6 could easily designate an area a playground, and the statute provides no guidance  
7 as to what exactly qualifies as a 'playground.'"

8 *Id.* at 446-447. Therefore, the deliberate acts of a neighbor could require a RSO to relocate his  
9 or her residence.

10 In *Mann v. Georgia Dept. of Corrections*, 653 S.E.2d 740 (Ga. 2007), the Georgia  
11 Supreme Court considered a takings challenge to a similar statute.<sup>12</sup> The state statutes prohibited  
12 a convicted sex offender from living or working within 1,000 feet of places where minors could  
13 congregate. *Id.* at 741. Plaintiff's home and business met those requirements initially, but  
14 childcare facilities moved within 1,000 feet of both places and his parole officer directed him not  
15 to be present at either. *Id.* at 742.

16 The court analyzed the effects of the law and found that offenders face the possibility of  
17 being repeatedly uprooted and forced to abandon homes in order to comply with the restrictions.  
18 *Id.* Such abandonment could occur as a result of the whimsy of third parties that may readily  
19 learn the location of a RSO's residence. The court recognized the possibility that such third  
20 parties may deliberately establish a child care facility or any of the numerous other facilities  
21 designated in the regulations within 1,000 feet of a RSO's residence for the specific purpose of  
22 using the statutes to force the offender out of the community. *Id.* at 742- 743. The court ruled  
23 that the statutes resulted in a taking of plaintiff's home because the regulations were functionally  
24 equivalent to the classic taking in which government directly ousts the owner from his domain.  
25 *Id.* at 744.

26 <sup>12</sup> A copy of *Mann v. Georgia Dept. of Corrections*, 653 S.E.2d 740 (Ga. 2007) is included in Appendix B.  
App. B pp. 159-165.

1 Under Umatilla County's wind ordinances, the unlawful delegation of authority to cities  
2 and rural residential owners subjects a wind facility applicant and the owner of the property  
3 where such facility is proposed to the deliberate acts of neighboring property owners and cities  
4 who may refuse to grant a waiver of setbacks for the sole purpose of preventing the construction  
5 of a wind facility and may provide for a house to be built or UGB extended to block the facility  
6 regardless of its planning merits. This delegation of authority allowing project neighbors and  
7 cities to prevent wind energy development are the same types of activities encouraged by the  
8 RSO statutes in *Commonwealth v. Baker* and *Mann v. Georgia Dept. of Corrections* to  
9 strategically place playgrounds and child care facilities to prevent RSOs from living in a  
10 particular neighborhood because it grants veto authority to particular third parties for particular  
11 uses in rural areas of the County. In addition, like the warnings from the courts in the two RSO  
12 cases, the wind facility applicant could be targeted by a project neighbor who decides to build a  
13 rural residence while an application is pending. The delegation of authority to grant or not grant  
14 waiver under the challenged ordinances, combined with the very real possibility that more rural  
15 property owners will build more rural residences, will subject wind facility applicants to the  
16 possibility of having to constantly modify application plans for a use that is allowed under state  
17 law or the removal of an existing facility for no planning-related reason at all.<sup>13</sup> Therefore, based  
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19 <sup>13</sup> These grants of authority to rural residential landowners and cities lack any rational basis. As Justice  
20 Scalia in *Nollan v. California Coastal Commission*, 483 U.S. 825 (1987) explained, there must be a rational basis for  
21 deprivation of property rights. In *Nollan*, the Supreme Court reviewed the nexus between the applicants' desire to  
22 rebuild their house and the commission's requirement that the permit be conditioned on the applicants' grant of a  
23 public easement across their beachfront property. *Id.* at 827. In finding that the commission had not established the  
24 necessary nexus and that the requirement to grant the easement constituted a takings, the Court explained,

25 "When that essential nexus is eliminated, the situation becomes the same as if California law  
26 forbade shouting fire in a crowded theater, but granted dispensations to those willing to contribute  
\$100 to the state treasury. While a ban on shouting fire can be a core exercise of the State's police  
power to protect the public safety, and can thus meet even our stringent standards for regulation of  
speech, adding the unrelated condition alters the purpose to one which, while it may be legitimate,  
is inadequate to sustain the ban. Therefore, even though, in a sense, requiring a \$100 tax  
contribution in order to shout fire is a lesser restriction on speech than an outright ban, it would  
not pass constitutional muster."

1 on the reasoning in *Commonwealth v. Baker* and *Mann v. Georgia Dept. of Corrections*,  
2 subjecting wind facility applicants to the discretion of neighboring rural property owners and  
3 cities deprives Petitioners who have lease agreements executed for placement of facilities on  
4 their lands to a deprivation of property right without due process in violation of the Fourteenth  
5 Amendment.

6 **D. The Waiver Provisions Unlawfully Allow for a Discretionary Land Use**  
7 **Decision to be Made Without Use of the Procedural Requirements of ORS 215.402 to**  
8 **215.437 and ORS 197.763.**

9 The application and hearing procedures for the Respondent to follow when reviewing a  
10 wind facility permit application are set forth in ORS 215.402 – 215.437 and ORS 197.763.  
11 Under ORS 215.416(2) state law guarantees that all approvals needed for a wind facility will be  
12 considered in a single proceeding before the governing body,

13 “The governing body shall establish a consolidated procedure by which an  
14 applicant may apply at one time for all permits or zone changes needed for a  
15 development project. The consolidated procedure shall be subject to the time  
16 limitations set out in ORS 215.427\* \* \*.”

17 In addition, ORS 215.416(9) requires findings to explain how the criteria and standards are  
18 applied to a particular application,

19 “Approval or denial of a permit or expedited land division shall be based upon  
20 and accompanied by a brief statement that explains the criteria and standards  
21 considered relevant to the decision, states the facts relied upon in rendering the  
22 decision and explains the justification for the decision based on the criteria,  
23 standards and facts set forth.”

24 In consideration of permit applications, counties are not authorized to abridge notice requirement  
25 and other procedures which are required by state law in connection with land use decisions.

26 *Id.* at 837. Allowing rural residential landowners or neighboring cities to grant waivers of setbacks to wind facility  
applicants in the County under the challenged ordinances is tantamount to allowing them to cry “Fire” in a crowded  
theater in exchange for making the required \$100 payment because, merely based on their geographic location, these  
stakeholders are granted a veto right over the existence of a wind facility subject to the County’s jurisdiction in  
violation of the constitutional protection against delegation of authority.

1 *Doughton v. Douglas County*, 88 Or App 198, 202, 744 P2d 1299 (1987).

2 In addition to the requirements under ORS 215.402 – ORS 215.437, the raise it or waive  
3 it provision in ORS 197.763(1) requires public hearing participants to raise issues that may be  
4 the basis for appeal to LUBA,

5 “An issue which may be the basis for an appeal to the Land Use Board of Appeals  
6 shall be raised not later than the close of the record at or following the final  
7 evidentiary hearing on the proposal before the local government. Such issues shall  
8 be raised and accompanied by statements or evidence sufficient to afford the  
governing body, planning commission, hearings body or hearings officer, and the  
parties an adequate opportunity to respond to each issue.”

9 The Respondent’s grant of authority to project neighbors and affected cities to waive  
10 setback requirements allows for discretionary application of approval standards outside of the  
11 public hearing process. The provisions regarding the waiver of setbacks do not require the  
12 waiver to be granted prior to the Respondent’s issuance of a decision on a wind facility  
13 application. Rec. pp. 21 and 28. Therefore, the ultimate issue regarding the adequacy of a  
14 setback from a rural residential landowner or city will be decided outside of the hearings process  
15 in violation of ORS 215.416. As such, the setback provisions violate ORS 197.763 because a  
16 participant at the public hearing would not have enough information to raise the issue of whether  
17 the setback is adequate or meets the approval criteria.

18 These waiver provisions give rise to the same problem the Court of Appeals had with a  
19 mitigation plan approved by Deschutes County for a destination resort in *Gould v. Deschutes*  
20 *County*, 216 Or App 150, 157 171 P3d 1017 (2007). In *Gould*, the county conditioned approval  
21 of a destination resort on the future approval of a mitigation plan by the Oregon Department of  
22 Fish and Wildlife (ODFW) and the Bureau of Land Management (BLM) and committed the  
23 applicant to “work cooperatively with ODFW and BLM to determine the specific locations  
24 where the mitigation plan will be implemented.” *Id.* The Court ruled that this conditional  
25 approval was not supported by substantial evidence in the record, because particulars of the plan  
26

1 were to be based on future discussions among the developer, ODFW and BLM, rather than  
2 evidence submitted during public hearings. *Id.* at 160.

3 Similarly, the waiver provisions in the challenged ordinances at issue here enable the  
4 Respondent to consider and make a decision on wind facilities without the applicant and project  
5 neighbor, or affected city providing evidence regarding the setbacks for project components.  
6 These waiver provisions make it impossible for interested persons to raise issues during the  
7 public proceedings in accordance with ORS 197.763(1). Therefore, any decision by the  
8 Respondent under the challenged ordinances will violate the procedural requirements for permit  
9 approval and robs interested persons of the right to participate in the public review process  
10 guaranteed under ORS 215.402 *et seq.* and ORS 197.763.

11 The quasi-judicial procedures in connection with applications for permits established in  
12 ORS 215.402 *et seq.* and ORS 197.763 are state legislative mandates with which the Respondent  
13 is required to comply. *Department of Transportation v. City of Mosier*, 161 Or App 252, 258,  
14 984 P2d 351 (1999). In adopting regulations that abridge the rights of interested persons to  
15 meaningfully participate in public review of wind facility applications, the Respondent violated  
16 the state mandates to review the setbacks in the public record because the ordinances allow for  
17 arrangement of the setbacks by the applicant and third parties outside of the County's  
18 jurisdiction. Therefore, LUBA must remand the challenged ordinances to require the  
19 Respondent to adopt permit standards that will be reviewed in accordance with ORS 215.402 *et*  
20 *seq.* and ORS 197.763.

1           E.     **The Challenged Ordinances are Inconsistent with the Comprehensive Plan**  
2     **Provisions on Protection of Inventoried Natural Resources - Riparian Corridors, Wetlands,**  
3     **Wildlife Habitat, Groundwater Resources, Natural Areas, Mineral and Aggregate**  
4     **Resources, Historic Resources and Scenic Views and Sites - under ORS 197.175(2) because**  
5     **the Ordinances Provide, in part, for Granting Standardless Waivers without Any**  
6     **Reference to the Plan and without Any Opportunity to be Heard.**

7           Under ORS 197.175(2)(d), the challenged ordinances must be consistent with the  
8     County's acknowledged Comprehensive Plan. The Comprehensive Plan contains the County's  
9     acknowledged Goal 5 program protecting inventoried resources including riparian corridors,  
10    wetlands, wildlife habitat, groundwater resources, natural areas, mineral and aggregate resource,  
11    historic resources and scenic views. Notwithstanding the Plan's 49 policies adopted to protect  
12    these resources, the challenged ordinances leave the policies at the door when it comes to  
13    setbacks for wind facilities from rural residences and UGBs. App. B pp. 166-192. The waiver  
14    provisions in the challenged ordinances allow a rural residential landowner or affected city to  
15    choose a reduced setback for wind facility components without any regard to whether such  
16    waiver will adversely affect or conflict with the Comprehensive Plan's Goal 5 program to protect  
17    resources that may be co-located with the setback area.

18           For example, the Technical Report identified that road construction is in conflict with big  
19    game habitat protection. App. B p. 193. Certainly the location of the setback from rural  
20    residences or cities could govern the location of roads in connection with the wind facility.  
21    Consequently, big game habitat could be adversely affected by a decision to waive a setback that  
22    may encourage road development in habitat areas without the Respondent giving consideration  
23    to such impact during the public review process.

24           In authorizing a waiver of setbacks without standards, with no reference to the Plan's  
25    Goal 5 program and other policies, and as set forth in the previous sub-assignments of error,  
26    without any opportunity for interested parties to be heard, considerations other than planning,



1 such as paying off the landowner become paramount. Therefore, LUBA must remand the  
2 decision to require the Respondent to adopt setback standards that are consistent with the  
3 Comprehensive Plan and allow interested parties the opportunity to participate in meaningful  
4 review of a wind facility application.

5 **SECOND ASSIGNMENT OF ERROR - The Respondent's Decision Fails to Satisfy**  
6 **Goal 5, OAR 660-023-0000 et seq. and ORS 197.175(2) because it did not Apply Goal 5,**  
7 **Failed to Protect Wind Energy Sources and Used an Out of Date Resource Inventory.**

8 **A. The Challenged Ordinances Constitute Regulations that Protect Goal 5**  
9 **Resources and as such the Respondent was Required to Apply Goal 5.**

10 The challenged ordinances are PAPAs as defined by OAR 660-023-0010(5). The  
11 circumstances where a County must apply Goal 5 before adopting a PAPA are set forth in OAR  
12 660-023-0250(3). That rule provides, in part:

13 "Local governments are not required to apply Goal 5 in consideration of a PAPA  
14 unless the PAPA affects a Goal 5 resource. For purposes of this section, a PAPA  
15 would affect a Goal 5 resource only if:

16 (a) The PAPA creates or amends a resource list or a portion of an  
17 acknowledged plan or land use regulation adopted in order to protect a  
18 significant Goal 5 resource or to address specific requirements of Goal 5[.]"

19 LUBA reviewed this requirement in *Rest-Haven Memorial Park v. City of Eugene*, 39 Or  
20 LUBA 282, 297 (2001), *aff'd* by 175 Or App 419, 28 P3d 1229 (2001) and concluded that the  
21 rule is awkwardly written, but nonetheless requires that the local government must apply Goal 5  
22 where it adopts a new land use regulation to "protect a significant Goal 5 resource." Further,  
23 when a local government creates a Goal 5 program it must comply with the requirements in steps  
24 outlined in OAR 660-023-0040(1):

- 25 1) identification of conflicting uses;  
26 2) analysis of the ESEE consequences;  
3) determination of the impact area; and

1 4) development of a program to achieve Goal 5.<sup>14</sup>

2 Although the Respondent claims that the purpose of the challenged ordinances,  
3 particularly Ordinance 2011-07 is to provide greater protections for Goal 5 resources, the  
4 Respondent failed to undertake the required Goal 5 review before it adopted the ordinances.  
5 Rec. p. 31. Instead, the Respondent ignored Goal 5 and its implementing rules in OAR 660  
6 Ch. 23 as it increased protections for some inventoried resources while failing to protect other  
7 resources identified for protection in Goal 5's implementing regulations. Rec. pp 4429 and 15.  
8 The primary impact is that these added Goal 5 protections severely limit other Goal 5 resources  
9 without following the Goal 5 process. Rec. pp. 2288-2289, 2291, 2293, 2295, 3574, and 3787.

10 The Respondent's new land use regulations establish a Goal 5 program because the  
11 ordinances are intended to add protections to inventoried Goal 5 resources throughout the  
12 County. For example, in Ordinance No. 2011-05's Sections 5g and 5k Goal 5 resource  
13 protection is provided for as follows:

14 (g) A fish, wildlife and avian impact monitoring plan. The monitoring plan shall  
15 be designed and administered by the Wind Power Generation Facility  
16 owner/operator's wildlife professionals. \* \* \*

17 (k) Information pertaining to the impacts of the Wind Power Generation Facility  
18 on:

19 (1) Wetlands and streams, including intermittent streams and drainages;

20 (2) Fish, avian and wildlife (all species of concern, as well as threatened and  
21 endangered species);

22 (3) Fish, avian and wildlife habitat; \* \* \*

23 (5) Open space, scenic, historic, cultural and archaeological resources as  
24 identified and inventoried in the Comprehensive Plan. The applicant shall  
25 consult with the Confederated Tribes of the Umatilla Indian Reservation on  
26 developing an inventory of these resources." (strikethroughs omitted)

<sup>14</sup> See *Von Lubken v. Hood River County*, 22 Or LUBA 307 (1991) regarding the obligation to comply with the Goals in post-acknowledgment amendments. ORS 197.175(2)(d) requires the challenged ordinances to be consistent with both the Goals and the County's acknowledged comprehensive plan.

1 Rec. pp. 19-21. Further, the entirety of Ordinance No. 2011-07 is aimed at adding protections to  
2 the Goal 5 resources inventoried in the Walla Walla Watershed. As set forth in the findings,  
3 Respondent states:

4 "7. The acknowledged Umatilla County Comprehensive Plan and Technical  
5 Report contain inventories of Goal 5 resources and findings and policies that  
6 support appropriate standards for protection of resources in the Walla Walla  
Watershed."

7 Rec. p. 30. Thus, when it comes to Goal 5 resources, the ordinances "protect and preserve  
8 existing trees, vegetation, water resources, wildlife, wildlife habitat, fish, avian, [sic.] resources  
9 historical, cultural and archaeological site." Rec. p. 21-22 and Rec. pp. 385-388.

10 Further, in a document entitled "Summary of Applicable Comprehensive Plan and  
11 Technical Report references in support of proposed protection standards for the Walla Walla  
12 Watershed Sensitive Resource Area, section (11) of 152.616(HHH), the record explains the Goal  
13 5 protective function of the challenged ordinances:

14 "The proposed section (11) standards would apply to the geographic area  
15 identified on four maps entitled 'Walla Walla Watershed Sensitive Resource  
16 Area,' including the (1) 'Fish, Stream & Waters Resources Map;' (2) 'Highly  
17 Erodible Soils,' (3) 'Land Use Zones;' and (4) 'Comprehensive Plan Significant  
Goal 5 Resources.'"

18 Rec. p. 389. This explanatory document then continues to set forth the Goal 5 resources being  
19 protected, including significant wetlands, wildlife habitat, significant natural areas, outstanding  
20 scenic views, and historic resources. Rec. pp. 389-394. Therefore, the amendments to Section  
21 152.616 HHH constitute a land use regulation adopted in order to protect significant Goal 5  
22 resources and thus must, in turn, comply with Goal 5.

23 Further, the Respondent cannot adopt a PAPA that amends the program to protect  
24 significant Goal 5 resources without establishing that the amendment complies with Goal 5 and  
25 the Goal 5 implementing regulations, even if the purpose of the amendment is to increase the  
26 level of protection afforded inventoried Goal 5 resources. *Home Builders Assoc. v. City of*

1 *Eugene*, 41 Or LUBA 370, 432 (2002). As the Court determined in *Rest-Haven Memorial Park*  
2 *v. City of Eugene*, 175 Or App at 424,

3 "Nothing in OAR 660-023-0250(3) suggests that it excuses compliance with Goal  
4 5 for those local ordinances that have multiple purposes, only one of which is to  
5 protect significant Goal 5 resources. An ordinance may have more than one  
6 purpose, as this one apparently does. So long as one of the purposes of the  
7 ordinance was to protect Goal 5 resources and no other provision of the law  
8 permits the city's action without compliance with OAR 660-023-0250(3), the rule  
9 is applicable."

10 Because the challenged ordinances create a Goal 5 program to increase protection for inventoried  
11 resources, the Respondent was required to comply with the Goal 5 planning requirements of  
12 OAR 660-023-0040(1), to identify conflicting uses, analyze ESEE consequences, determine the  
13 impact area, and develop a program to achieve Goal 5. Although the Respondent never admits  
14 straightforwardly that it is implementing Goal 5, it cannot adopt these ordinances by pretending  
15 the Goal 5 requirements do not exist.

16 These requirements are fleshed out in subsequent regulations regarding the identification  
17 of conflicting uses and the ESEE analysis. With respect to the identification of conflicting uses  
18 OAR 660-023-0040(2)(b) requires the Respondent to determine the level of protection for each  
19 significant site. As to the ESEE analysis, under OAR 660-023-0040, its purpose is to prioritize  
20 conflicting uses. The ESEE analysis should provide a detailed analysis of the tradeoffs resulting  
21 from prioritizing one Goal 5 resource to the detriment of the other. Yet, the record is silent in  
22 addressing any of these planning requirements under Goal 5.

23 LUBA's decision in *Rest-Haven Memorial Park v. City of Eugene*, 39 Or LUBA at 298,  
24 is directly on point regarding how the Respondent should have applied the OAR 660-023-0040  
25 planning steps in the present case,

26 "OAR 660-023-0030 requires that the city complete an inventory process to  
determine the 'significance' of the Goal 5 resources. Once that is done, OAR  
660-023-0040 requires the city to analyze the \* \* \* ESEE \* \* \* consequences of  
allowing, prohibiting or limiting uses that might conflict with those other

1 significant Goal 5 resource sites before it adopts a program to achieve Goal 5. In  
2 other words, the regulatory programs that are required by the goal must be based  
3 on these prior planning exercises." (emphasis added).

4 See also *Coats v. Land Conservation and Development Commission*, 67 Or App 504, 510-511,  
5 672 P2d 898 (1984) (an ordinance that allowed development of lots adjacent to a mining  
6 operation without an ESEE analysis did not satisfy Goal 5). Here, the Respondent failed to  
7 identify and analyze conflicting uses resulting from increased environmental protections of  
8 watersheds and wildlife habitat.

9 In *League of Women Voters of Oregon v. Klamath County*, 16 Or LUBA 909, 923-924  
10 (1988), LUBA concluded that the early Goal 5 planning steps, including review of conflicting  
11 uses and performing an ESEE analysis, must be addressed prior to ordinance adoption when the  
12 ordinance involves Goal 5 resources.<sup>15</sup> In this case, by not completing the earlier Goal 5  
13 planning steps, including review of conflicting uses and performing an ESEE analysis, the  
14 Respondent has failed to establish the required basis for adopting the challenged ordinances as a  
15 means of achieving Goal 5.

16 Moreover, the Respondent completely ignored the existing Goal 5 program in the  
17 Comprehensive Plan that protects the inventoried resources found in its boundaries - riparian  
18 corridors, wetlands, wildlife habitat, groundwater resources, natural areas, wilderness areas,  
19 mineral and aggregate resources, historic resources and scenic views and sites. These  
20 inventoried resources are located throughout the County. App. B pp. 8-37. The Respondent's  
21 Goal 5 program is set forth in the findings and policies in the Open Space section of the Plan.  
22 App. B pp. 166-192. By adding the protections described above, the challenged ordinances are  
23 inconsistent with the Comprehensive Plan in that they:

24  
25 <sup>15</sup> Although this case applied OAR 660-016-0010, the requirement for adoption of a land use regulation based  
26 on the identification of conflicting uses and an ESEE analysis is similar to that provided in current OAR 660-023-  
0040(5).

- Adopt conditional use standards for wind facilities asserting that wind facilities are in fact a conflicting use with wildlife habitat when the Plan does not so recognize that assertion.

These standards contradict Policy 2(e),

“The County Development Ordinance shall include conditional use standards, overlay zones, and/or other provisions to limit or mitigate conflicting uses between rare, threatened and endangered species habitat areas and surrounding land uses.” App. B pp. 194-195

Because the standards are imposed on a use that has not been established as conflicting with threatened or endangered species through the Goal 5 process the Plan does not support subjecting them to conditional use standards. In fact, the Technical Report specifically concluded, “Very little energy consequences can be imagined because of protection of upland bird habitat since no general change of land use pattern is necessary.” App. B p. 196. This conclusion is not addressed at all in the ordinances.

- Adopt conditional use standards for wind facilities that are inconsistent with Policy 13(b),

“When conflicting uses are proposed for sites identified as having high potential as scientifically and ecologically significant natural areas, Umatilla County shall determine and evaluate the environmental, energy, economic and social consequences of allowing the conflicting use and of retaining the area in its existing state.” App. B pp. 197-198

The Respondent did not prepare an ESEE analysis and could not have complied with this policy.

Thus, the challenged ordinances adopt a Goal 5 program that is inconsistent with the Comprehensive Plan and must be remanded.

The Respondent misconstrued the law by failing to apply Goal 5 when it adopted these PAPAs as part of a program that affected protection of its Goal 5 resources. Further, the Respondent did not undertake the advanced Goal 5 planning steps of identifying conflicting uses

1 or preparing an ESEE analysis before adopting the ordinances. By ignoring the Goal 5 program,  
2 the Respondent adopted a decision that is inconsistent with the Comprehensive Plan in violation  
3 of ORS 197.175(2)(d). Thus, the Respondent's decision must be remanded so that it can comply  
4 with Goal 5.

5 **B. In Adopting a Two-mile Setback from Rural Residences, the Respondent**  
6 **Failed to Meet Its Mandatory Duty to Protect Wind Energy Sources under Goal 5 because**  
7 **Wind Energy Development is Severely Curtailed.**

8 Pursuant to OAR 660-023-0190(2), the protection of energy sources in Goal 5 is  
9 mandatory,

10 "In accordance with OAR 660-023-0250(5), local governments shall amend their  
11 acknowledged comprehensive plans to address energy sources using the standards  
12 and procedures in OAR 660-023-0030 through 660-023-0050." (emphasis added).

13 Goal 5 explicitly protects energy sources and OAR 660-023-0190(1)(a) defines an energy source  
14 to include naturally occurring locations of wind areas. Further, the Goal 5's energy specific  
15 regulations expressly define "protect" for energy sources,

16 "[m]eans to adopt plan and land use regulations for a significant energy source  
17 that limit new conflicting uses within the impact area of the site and authorize the  
18 present or future development or use of the energy source at the site." (emphasis  
added).

19 OAR 660-023-0190(1)(b). In contrast, the Goal 5 regulations make protection of open space,  
20 aesthetics, and scenic views optional. See OAR 660-023-0220 and OAR 660-023-0230,  
21 respectively. The challenged ordinances protect open space resources without regard to wind  
22 energy resources, thereby violating Goal 5.

23 Those who challenged the three subject ordinances below demonstrated that the two-mile  
24 setback from rural residences effectively resulted in no new wind turbines in a 65,000 acre area  
25 within the County. Rec. p. 3574 and map at p. 3787. Notwithstanding the effective end of  
26 development of wind facilities (Rec. p. 3787), the County completely ignored the conflicts of

1 these ordinances with Goal 5's requirement to protect wind energy sources. The approval of  
2 these ordinances is contrary to a condition of approval in the acknowledgment of the County's  
3 land use plan that wind energy resources are to be included in the Goal 5 inventory.

4 In *NWDA v. City of Portland*, 50 Or LUBA 310, 330 (2005), LUBA considered the  
5 converse situation of mandatory protection of energy resources, where particular Goal 5  
6 regulations applicable to historic preservation provided a blanket exemption from an ESEE  
7 update under OAR 660-023-0200(7). As a result, the specific historic resource Goal 5  
8 regulations applied, and the city was required to only protect historic resources as required under  
9 OAR 660-023-0200(1)(e) (where "Protect" means to require local government review of  
10 applications for demolition, removal, or major exterior alteration of a historic resource).<sup>16</sup>  
11 LUBA focused on the optional phrasing of the Goal 5 historic resource section in OAR 660-023-  
12 0200. *Id.* at 328. In contrast, the Respondent is subject to the Goal 5 regulations that require  
13 mandatory protection of energy resources, where the subject ordinances that implement Goal 5  
14 must protect energy sources, by authorizing present or future development or use of the energy  
15 source under OAR 660-023-0190(1)(b). The Respondent does not provide any discussion of the  
16 application of Goal 5 to wind resources, let alone protection of wind energy resources as required  
17 by Goal 5.

18 Further, even when resource specific provisions of Goal 5 such as the energy specific  
19 regulations in OAR 660-023-0190 apply, the definitions of "protect" in OAR 660-023-0010(7)  
20 still apply. *Id.* at 331. In consideration of the broad definition of protect under OAR 660-023-  
21 0010(7) that "When applied to a resource category, 'protect' means to develop a program  
22 consistent with this division," the County has not identified how wind energy is protected within  
23 the program adopted under the challenged ordinances. Therefore, the challenged ordinances  
24

25 <sup>16</sup> See also *Columbia Riverkeeper v. Clatsop County*, 238 Or App 439, 243 P3d 82 (2010) (Court affirmed  
26 LUBA's determination that the term "protect" for purposes of Goal 16 means causing no more than *de minimis*  
harm).



1 must be remanded and the Respondent instructed to protect wind energy resources through its  
2 Goal 5 program.

3       **C. Before the Respondent can Analyze Goal 5 Impacts it Must Update its Goal 5**  
4 **Inventory because the Respondent has Never Satisfied Its Condition of Acknowledgement**  
5 **to Include Energy Sources in the Inventory.**

6       Under ORS 197.013 implementation and enforcement of acknowledged comprehensive  
7 plans and land use regulations are matters of statewide concern. *Yamhill County v. LCDC*, 115  
8 Or App 468, 472, 839 P2d 238 (1992).<sup>17</sup> The County's acknowledged Comprehensive Plan  
9 contains a list of protected Goal 5 resources and the conflicting uses that may adversely affect  
10 resource protection. See generally App. B pp. 8-145, 166-192. Further, as to Goal 5 resource  
11 protection, LCDC required as part of acknowledgement that Umatilla County update its resource  
12 inventory when information about wind energy became available. App. B p. 71. At no time has  
13 the Respondent performed this update. Allowing the Respondent to effectively bar development  
14 of wind energy facilities in the County while simultaneously disregarding LCDC's condition of  
15 acknowledgement makes the acknowledgement process meaningless and the analysis of  
16 conflicting uses impossible.

17       The Respondent's situation is similar to the Goal 2 exception case in *Central Oregon*  
18 *Landwatch v. Deschutes County* ("*Landwatch*"), \_\_ Or LUBA \_\_ slip op. 3 (2010). In the  
19 *Landwatch* case, LUBA ruled that transportation need could not be based on information not  
20 contained in the county's acknowledged Transportation System Plan (TSP). *Id.* at 8. LUBA  
21 ruled in that case that the county could not rely on the City of Redmond's identification of need  
22 in its TSP to justify the county's decision. *Id.* In this case, the County's Goal 5 protections must  
23 be based on a Goal 5 inventory that, as demonstrated by LCDC's acknowledgment order, has not  
24 occurred. To the extent there is sufficient information about wind energy to bar its development,

25       <sup>17</sup> This case analyzed Goal 5 requirements in the context of periodic review which is not at issue in the current  
26 case.

1 the County must first be required to update its inventory to understand the implications and  
2 analyze the impacts on the Goal 5 resources. Rec. pp. 43 and 2289 (showing existing wind  
3 facilities in the County). The Respondent cannot be allowed to announce a new Goal 5 program  
4 in the guise of resource protection without an up to date Goal 5 inventory reflecting the  
5 requirement in LCDC's acknowledgement order that wind energy be included in the inventory.  
6 Only then will the Respondent have an inventory from which to evaluate conflicting uses and  
7 identify ESEE impacts.

8 Although the Respondent may claim that it is not required to update its Goal 5 inventory  
9 until periodic review under *Urquhart v. Lane Council of Governments*, 80 Or App 176,180, 721  
10 P2d 870 (1986), this case differs because LCDC's acknowledgement order for Umatilla County  
11 did not delay inclusion of wind energy sources to periodic review. Further, the record contains  
12 testimony that information is available to update the Comprehensive Plan to reflect wind energy  
13 resources. Rec. p. 43. Therefore, when and if the Respondent chooses to proceed in the  
14 adoption of these challenged ordinances in compliance with Goal 5, it must take into account  
15 LCDC's acknowledgement order to add wind energy sites to its inventory prior to analyzing  
16 conflicting uses and preparing the ESEE analysis.

17 Within the record, testimony regarding Goal 5 notes the need to update the energy section  
18 of the Goal 5 inventory, but then concludes, "Such a Goal 5 update would be a large  
19 undertaking." Rec. p. 394. Simply because significant effort would be required to update the  
20 County's Goal 5 inventory does not enable Respondent to avoid the correct application of the  
21 Goal to the challenged ordinances.

1           **THIRD ASSIGNMENT OF ERROR – The Respondent Erred in Adopting the**  
2           **Challenged Ordinances without an Adequate Factual Basis under Goal 2 and in a Manner**  
3           **Inconsistent with the Comprehensive Plan under ORS 197.175(2) because the Ordinances**  
4           **do not Comply with the County's Acknowledged Goal 5 Program.**

5           In *GMK Developments, LLC v. City of Madras*, 225 Or App 1, 199 P3d 882 (2008), the  
6           Court of Appeals explained that land use decisions must have an adequate factual base:

7           “Goal 2 provides, in part, that, ‘[t]o establish a land use planning process and  
8           policy framework as a basis for all decisions and actions related to use of land and  
9           to assure an adequate factual base for such decisions and actions,’ all land use  
10          plans must include inventories and other factual information for each applicable  
11          statewide planning goal.”

12          As LUBA indicated in *OCAPA v. City of Mosier*, 44 Or LUBA 452, 462 (2003), in alleging a  
13          Goal 2 factual base inadequacy, a petitioner must establish that some applicable statewide  
14          planning goal or other criterion imposes obligations that are of such a nature that a factual base is  
15          required to determine if the zoning ordinance amendment is consistent with the goal or other  
16          criteria. Further, ORS 197.175(2) requires that the challenged ordinances be consistent with the  
17          Comprehensive Plan. *Id.* at 461. As set forth above, under OAR 660-023-0040(1) the  
18          Respondent must analyze conflicting uses and prepare an ESEE analysis in order to comply with  
19          Goal 5 and the Comprehensive Plan. In failing to provide the inventory, conflicting use review  
20          and ESEE analysis required for achieving Goal 5, the Respondent adopted the challenged  
21          ordinances without providing an adequate factual basis in violation of Goal 2 and failed to enact  
22          land use regulations that are consistent with the Plan under ORS 197.175(2).

23          Similar to *OCAPA*, 44 Or LUBA at 467, where LUBA found that the record lacked any  
24          Goal 5 findings suggesting an adequate factual basis for ordinances that would prevent the  
25          operation of a quarry, the Respondent has not provided an adequate factual basis for approving  
26          the challenged ordinances as complying with Goal 5. The lack of adequate factual base is  
highlighted by the fact that the Respondent's record does not analyze how the challenged

ordinances will protect some Goal 5 resources without conflicting with other Goal 5 protected resources, or whether the ordinances permissibly reduce the ability to build wind facilities that ought to be protected in the County's Goal 5 inventory.

In its analysis of compliance with Goal 2 in the *Landwatch* case, \_\_\_ Or LUBA \_\_\_ slip op. 10, that involved the Deschutes County's attempt to widen a street, LUBA ruled that the TSP must be amended to allow the county to justify a Goal 2 exception and that in so making the amendments, an adequate factual basis would be required. LUBA's ruling requiring an adequate factual basis meant that Deschutes County would not be allowed to rely on what the petitioners contended were the county's attempts to identify transportation needs on a random basis that singly or collectively might justify an exception to extend the street in question. *Id.* at slip op. 9 and footnote 6. On remand, LUBA ought to provide the Respondent with the same admonition it gave Deschutes County in the *Landwatch* case, slip op. 10 – that it must supply an adequate factual base for finding the challenged ordinances protect all Goal 5 resources, including wind energy, which may include amending the County's Goal 5 inventory. It is not enough for the County to decide to protect some resources at the expense of others without providing an adequate factual basis with Goal 5.

**FOURTH ASSIGNMENT OF ERROR The Respondent's Decision Imposing a Two-Mile Setback from Rural Residences and UGBs Lacks an Adequate Factual Base in Violation of Goal 2, is Inconsistent with the Comprehensive Plan in Violation of ORS 197.175(2), and is not Supported by Substantial Reason because Respondent did not Justify Its Decision.**

In legislative decision making, there must be enough in the way of findings or substantial evidence to show the criteria were applied and required considerations were analyzed. *Citizens Against Irresponsible Growth v. Metro*, 179 Or App 12, 16 n6, 38 P3d 956 (2002), *Barnes*, 61 Or LUBA at 397, *Granada Land Co. v. City of Albany*, 56 Or LUBA 475, 492 (2008). In *1050 Drew v. PSRB*, 322 Or 491, 497-500, 909 P2d 1211 (1996), the Oregon Supreme Court

1 cautioned local governments to base decisions on substantial evidence. The Court emphasized  
2 one policy reason for the requirement of substantial evidence – namely to avoid a governmental  
3 entity from saying, “There’s enough evidence but, even if it doesn’t seem like enough to you-trust  
4 us. We have expertise beyond that of the average person in these cases, and we’re satisfied.” *Id.*

5 Accompanying its Notice of Proposed Amendment to DLCD, the Respondent attached a  
6 draft of the challenged ordinances that contained a one-half mile setback for wind turbines from  
7 existing residences and made no mention of a setback from a UGB. Rec. p. 4437. By the time  
8 the Planning Commission made a recommendation to the Board of Commissioners, the  
9 challenged ordinances contained setback standards from rural residences and UGBs measured as  
10 a two-mile setback or 20 times tower to blade tip, whichever was greater. Rec. p. 4180.

11 Thereafter, the Board of Commissioners considered another version of the ordinance at a May 3,  
12 2011 work session that contemplated 1) a lesser setback of only one-half or one mile depending  
13 on whether the rural residence was within the project area or outside the boundary of a proposed  
14 wind facility<sup>18</sup>; and 2) a setback from a city’s UGB if the city so requested. Rec. p. 1857.

15 Nothing in the record explains why the setback recommended by the Planning Commission was  
16 not presented to the Board at the May 3<sup>rd</sup> work session or why a shorter setback was being  
17 contemplated. In the absence of any findings or further analysis, the Respondent ultimately  
18 adopted a two-mile setback from rural residences in Ordinance 2011-06 and a two-mile setback  
19 from UGBs in Ordinance 2011-05. Rec. pp. 28, and 21. Further, the Respondent failed to  
20 provide an explanation or evidence about how the regulation implements the County’s goals and  
21 policies and instead took the “trust-us” approach in deciding on a two-mile setback and adopted  
22 ordinances that are inconsistent with the Comprehensive Plan under ORS 197.175(2) as set forth  
23 in the Second Assignment of Error.

24  
25 <sup>18</sup> The County’s draft ordinance did not define the boundary of a proposed wind facility. Assumedly, the  
26 boundary would be derived from the legal description of the property involved in the construction of the wind  
facility that was required to be submitted to the County under the draft ordinance. Rec. p. 1854.

1 In addition to the requirement that all decisions are supported by substantial evidence,  
2 LUBA must also review the decision for "substantial reason" to ensure that the Respondent  
3 articulates the reasoning that leads from the facts found to the conclusions drawn. *1000 Friends*  
4 *of Oregon v. LCDC* ("Woodburn"), 237 Or App 213, 224-225, 239 P3d 372 (2010) and *1000*  
5 *Friends of Oregon v. LCDC* ("McMinnville") 244 Or App 239, 271, \_\_ P3d \_\_ (2011); *see also*  
6 *1050 Drew v. PSRB*, 322 Or 491, *Salosha, Inc. v. Lane County*, 201 Or App 138, 143, 117 P3d  
7 1047 (2005) and *Dubray v. SAIF Corporation*, \_\_ Or App \_\_, \_\_ P3d \_\_ (2011) (A143368). In  
8 both the *Woodburn* and *McMinnville* decisions, LCDC's findings were determined to be  
9 inadequate because the findings did not provide enough evidence to address the standards of the  
10 Goals. Here, the Respondent made no findings relating the setbacks from rural residences and  
11 UGBs to any values or requirements contained in its Comprehensive Plan policies or the Goals.  
12 In fact, there is no reasoning at all that supports the imposition of a two mile setback or why the  
13 setback was appropriate against rural residences or UGBs when the entire thrust of the ordinance  
14 appears directed to the protection of natural resources. Therefore, these ordinances lack enough  
15 in the way of findings or substantial evidence to show the criteria were applied and required  
16 considerations were analyzed. *Citizens Against Irresponsible Growth v. Metro*, 179 Or App at  
17 16 n6. LUBA must remand because the Respondent's decision to adopt the challenged  
18 ordinances contain no substantial evidence or reason describing what led the Board of  
19 Commissioners to a two-mile setback.

20 **FIFTH ASSIGNMENT OF ERROR** The Respondent's Decision Imposing a Two-  
21 Mile Setback from Rural Residences Violates ORS 215.283(2) and ORS 215.296 in EFU  
22 Zones because these Standards Extends Beyond Farm and Forest Protection and Fail the  
23 Clear and Objective Test.

24 State law allows counties to approve particular uses on farmland in EFU zones and  
25 subject such uses to conditions under ORS 215.283(2). Under the direction of ORS 215.283(2),  
26 local governments may only condition ORS 215.283(2) uses based on the parameters established

1 in ORS 215.296. Pursuant to ORS 215.296(1) the local government can only impose conditions  
2 on ORS 215.283(2) to protect farm and forest practices.<sup>19</sup> This ordinance goes further.

3 These two-mile setbacks can operate as a veto power given to affected cities and rural  
4 residential landowners in the exclusive farm use zone (EFU) to prevent construction of wind  
5 facilities. This veto power is authorized for both bona fide farmers and other rural residential  
6 landowners. The adopted two-mile setback from UGBs and rural residences will affect a major  
7 part of the area within the County's boundaries both as to lands with dwellings in conjunction  
8 with farm use and to non-farm dwellings. App. B pp. 1-7. As shown on the County's  
9 Comprehensive Plan Map, the EFU zones are a major part of the area affected by the challenged  
10 ordinance, where the location of UGBs and construction of rural residences (in the land  
11 designated Rural Residential, as well as on EFU land for farm and non-farm related dwellings)  
12 could significantly reduce wind energy utilization in the County. However, by granting a veto  
13 power to cities and rural residential landowners to vary the setback from wind facilities with no  
14 standards, the challenged ordinances fail to protect farm or forest practices. Further, ORS  
15 215.283(2) and ORS 215.296 were not enacted to protect rural residences or nearby cities from  
16 the impacts of wind facilities. Thus, these standards lack an adequate factual base under Goal 2  
17 because the two-mile setback distance does not meet the parameters for conditions allowed under  
18 ORS 215.283(2) and ORS 215.296(1).

19 Even if the Respondent could argue that the two-mile setback provisions were somehow  
20 related to farm and forest practices, the standards would still fail under ORS 215.296(2)'s  
21 requirement that conditions on ORS 215.283(2) uses be clear and objective. The Respondent did  
22 not adopt a clear and objective standard, such as a two-mile setback from UGBs and rural

23 <sup>19</sup> ORS 215.296(1) states,

24 "(a) Force a significant change in accepted farm or forest practices on surrounding lands devoted  
25 to farm or forest use; or

26 (b) Significantly increase the cost of accepted farm or forest practices on surrounding lands  
devoted to farm or forest use."

1 residences. Rather it adopted a subjective standard that allows a property owner or city to waive  
2 the setback or not waive it with no explanation. This subjective standard violates ORS  
3 215.296(2), therefore, the Respondent cannot establish an adequate factual base for the setback  
4 provisions.

5 **SIXTH ASSIGNMENT OF ERROR The Respondent Erred by Making a Decision**  
6 **that is Inconsistent with the County's Comprehensive Plan in Violation of Goal 2 and ORS**  
7 **197.175(2), because the Decision does not Address Policies in the Plan Regarding Wind**  
8 **Energy.**

9 Under ORS 197.175(2)(d), the challenged ordinances must be consistent with the  
10 County's acknowledged Comprehensive Plan. In addition, the Court of Appeals has held that  
11 both ORS 197.175(2) and Goal 2 require that PAPAs be consistent with the comprehensive plan.  
12 *NWDA v. City of Portland*, 198 Or App 286, 291, 108 P3d 589 (2005).

13 The County's Comprehensive Plan contains the following policies<sup>20</sup>:

- 14 • Open Space Policy 42(a), "Encourage development of alternative sources of  
15 energy."
- 16 • Open Space Policy 37 "The County shall ensure compatible interim uses provided  
17 through Development Ordinance standards, and where applicable consider  
18 agriculturally designated land as open space for appropriate and eventual resource  
19 or energy facilities use."
- 20 • Energy Conservation Policy 1, "Encourage rehabilitation/weatherization of older  
21 structures and the utilization of locally feasibly renewable energy resources  
22 through use of tax and permit incentives."
- 23 • Economy of the County, Policy 1 "Encourage diversification within existing and  
24 potential resource-based industries."

25  
26 <sup>20</sup> See Note 3. Although these Comprehensive Plan policies are not in the record, the Court may take official notice of these documents.



- 1           • Economy of the County, Policy 7 "Cooperate with development oriented entities  
2           in promoting advantageous aspects of the area."

3       App. B pp. 199-203.

4           Although the challenged ordinances effectively preclude the development of wind energy  
5       resources within the County, the record in this matter did not contain any testimony or analysis  
6       related to the existing and unamended policies of the Comprehensive Plan listed above that relate  
7       to wind energy resources. For example, the challenged ordinances discourage development of  
8       alternative sources of energy and preclude diversification within the County's existing  
9       agriculturally based economy contrary to Economy of the County, Policies 1 and 7. Moreover,  
10      under ORS 215.110(5), the Planning Commission had the authority to enact land use regulations  
11      that "encourage and protect the installation and use of wind energy systems," but instead adopted  
12      regulations that accomplish the opposite.. Under ORS 215.110(2), the County Board of  
13      Commissioners had the final word to amend the recommended ordinances to reflect the public  
14      interest as defined in the Comprehensive Plan. Instead, the Respondent failed to address existing  
15      Comprehensive Plan policies that protect wind energy resources. Therefore, LUBA should  
16      remand the challenged ordinances for compliance with Goal 2 and ORS 197.175(2).

17           **SEVENTH ASSIGNMENT OF ERROR** The Respondent's Decision to Adopt  
18      Special Requirements for Roads Built in Connection with Wind Facility Applications  
19      Violates Goal 2 and ORS 197.175(2) because the Decision Creates Internal Inconsistency  
20      with the Comprehensive Plan.

21           Goal 2 requires that for comprehensive plans, "All of the elements should fit together and  
22      relate to one another to form a consistent whole at all times." ORS 197.175(2) requires that the  
23      challenged ordinances be consistent with the Comprehensive Plan. The Respondent's decision  
24      adopts special standards for roads built in connection with wind facilities,

25           "(5) From tower and project components, including \* \* \* access roads, to known  
26      archeological, historical or cultural sites shall be on a case by case basis, and for

1 any known archeological, historical or cultural site of the Confederated Tribes of  
2 the Umatilla Reservations the set back (*sic.*) shall be no less than 164 feet (50)  
3 meters," Rec. p. 21

4 "(2) Project Roads. Layout and design of the project roads shall use best  
5 management practices in consultation with the Soil Water Conservation District.  
6 The project road design shall be reviewed and certified by a civil engineer. Prior  
7 to road construction the applicant shall contact the State Department of  
8 Environmental Quality and if necessary, obtain a storm water permit (NPDES),"

Rec. p. 22

9 and for roads in the Walla Walla Watershed,

10 "(A) There shall be no construction of project components, including \* \* \* access  
11 roads, on soils identified as highly erodible\* \* \*,"

12 "The applicant shall demonstrate that the \* \* \* components will be setback a  
13 minimum of two miles from streams and tributaries that contain Federally listed  
14 threatened and endangered species, and, that the project will generate no runoff or  
15 siltation into the streams." Rec. p. 31.

16 In contrast, the Respondent has adopted standards for other ORS 215.283(2) uses for  
17 public or private parks or playgrounds or community centers owned and operated by a  
18 governmental agency or a non profit community organization, public or semi public uses,  
19 recreational resort facilities and utility facilities that contain mirror standards related to soil  
20 erosion controls for road development:

21 "Road construction be consistent with the intent and purposes set forth in the 208  
22 Water Quality Program to minimize soil disturbance and help maintain water  
23 quality"

24 152.616 QQ(4), SS(2), TT(4), CCC(9). The 208 Water Quality Program requires an applicant to  
25 provide a program to avoid sedimentation under the Clean Water Act during project  
26 construction.

The record contains no explanation of the Respondent's reason for adopting road  
standards for the allowed use of wind facilities on farmland that differ from other conditional  
uses allowed on farmland which may have similar or greater impacts. Further, the Respondent

1 failed to explain why roads leading to wind facilities would have any greater impact than roads  
2 associated with other ORS 215.283(2) uses allowed in the County subject only to the  
3 requirement of consistency with the 208 Water Quality Program. In violation of both Goal 2 and  
4 ORS 197.175(2), the road limitations and restrictions adopted for wind facilities create an  
5 inconsistency with the standards applied to roads associated with ORS 215.283(2) uses because  
6 no differentiation has been made between a road to a wind turbine as compared to a road to a  
7 recreational resort that would presumably be large and accommodate more traffic. As a result of  
8 this inconsistency within the County's Comprehensive Plan, the Respondent's decision should be  
9 remanded to adopt an internally consistent PAPA.

#### 10 V. CONCLUSION

11 The Respondent's decision includes impermissible delegations of authority to nearby  
12 cities and rural residential landowners in violation of the Oregon and federal constitutions. In  
13 addition, the Respondent completely ignored its obligation to comply with the Statewide  
14 Planning Goals in adopting the challenged ordinances, most particularly in violation of Goals 2  
15 and 5. Rather than deal with these known obligations, the Respondent chose to wait and see if  
16 anyone would take this matter up on appeal. The Respondent's bluff has been called and  
17 therefore, LUBA should reverse or remand the Respondent's decision.

18 Dated: October 27, 2011.

19 Respectfully submitted,

20 GARVEY SCHUBERT BARER

MINNICK-HAYNER

21 By: 

By: 

22 Edward L. Sullivan, OSB No. 691670  
23 Carrie A. Richter, OSB No. 003703  
24 Jennifer M. Bragar, OSB No. 091865  
25 *Of Attorneys for Petitioners Robert and*  
26 *Cheryl Cosner and Intervenors Richard*  
*Stewart, Jo Lynn and Tom Buell, Ken and*  
*Ida Schiewe, and Jim Hatley*

James Hayner, OSB No. 021970  
*Of Attorneys for Intervenor Ted Reid*

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**CERTIFICATE OF SERVICE**

I certify that on the date indicated below, I filed the original and four copies of this  
PETITIONERS' AND INTERVENORS' JOINT PETITION FOR REVIEW with the:

Land Use Board of Appeals  
Public Utilities Building  
550 Capitol Street, N.E., Suite 235  
Salem, Oregon 97301-2552

by first-class mail, postage prepaid. On the same date I served a true and correct copy of the  
same, by first-class mail, postage prepaid, on the following party:

The Confederated Tribes of the Umatilla  
Indian Reservation  
CTUIR Office of Legal Counsel  
Attn: Joe Pitt  
46411 Timine Way  
Pendleton, OR 97801

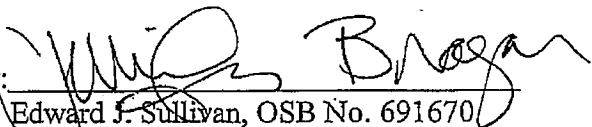
Douglas R. Olsen  
Umatilla County Counsel  
216 SE Fourth Street  
Pendleton, OR 97801

Jo Lynn Buell  
78441 Rayborn Road  
Weston, OR 97886

DATED this 12<sup>th</sup> day of October, 2011.

GARVEY SCHUBERT BARER

By:

  
Edward J. Sullivan, OSB No. 691670  
Carrie A. Richter, OSB No. 003703  
Jennifer M. Bragar, OSB No. 091865  
*Of Attorneys for Petitioners Robert and Cheryl  
Cosner and Intervenors Richard Stewart, Jo  
Lynn and Tom Buell, Ken and Ida Schiewe, and  
Jim Hatley*

PDX\_DOCS:472876.8

CERTIFICATE OF SERVICE, PETITION FOR REVIEW

GARVEY SCHUBERT BARER  
A PARTNERSHIP OF PROFESSIONAL CORPORATIONS  
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00186

**GENERAL PERMIT  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM  
STORMWATER DISCHARGE PERMIT**

Oregon Department of Environmental Quality  
811 SW Sixth Avenue, Portland OR 97204  
Telephone: (503) 229-5279 or 1-800-452-4011 (toll free in Oregon)

**Issued pursuant to ORS 468B.050 and Section 402 of the Federal Clean Water Act**

---

**REGISTERED TO:**

---

**SOURCES COVERED BY THIS PERMIT:**

- Construction activities including clearing, grading, excavation, materials or equipment staging and stockpiling that will disturb one or more acres and may discharge to surface waters or conveyance systems leading to surface waters of the state.
- Construction activities including clearing, grading, excavation, materials or equipment staging and stockpiling that will disturb less than one acre that are part of a common plan of development or sale if the larger common plan of development or sale will ultimately disturb one acre or more and may discharge to surface waters or conveyance systems leading to surface waters of the state.
- This permit also authorizes discharges from any other construction activity (including construction activity that disturbs less than one acre and is not part of a common plan of development or sale) designated by DEQ, where DEQ makes that designation based on the potential for contribution to an excursion of a water quality standard or for significant contribution of pollutants to waters of the state.

This permit does not authorize the following:

- In-water or riparian work, which is regulated by other programs and agencies including the Federal Clean Water Act Section 404 permit program, the Oregon Department of State Lands, the Oregon Department of Fish and Wildlife, the U.S. Fish and Wildlife Service, the U.S. Army Corp of Engineers, the National Marine Fisheries Service, and the Department of Environmental Quality Section 401 certification program.
- Post-construction stormwater discharges that originate from the site after completion of construction activities and final stabilization.
- Discharges to underground injection control (UIC) systems.

---

Neil Mullane, Administrator  
Water Quality Division

Effective: December 1, 2010  
Expiration Date: November 30, 2015

**PERMITTED ACTIVITIES**

Until this permit expires, is modified or revoked, the permit registrant is authorized to construct, install, modify, or operate erosion and sediment control measures and stormwater treatment and control facilities, and to discharge stormwater and certain specified non-stormwater discharges to surface waters of the state or conveyance systems leading to surface waters of the state in conformance with all the requirements, limitations, and conditions set forth in the permit including attached schedules as follows:

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**SCHEDULE A  
CONTROLS AND LIMITATIONS FOR STORMWATER DISCHARGES,  
AND EROSION AND SEDIMENT CONTROL PLAN**

**CONSTRUCTION ACTIVITIES REQUIRED TO REGISTER FOR PERMIT**

An owner or operator of construction activities must register for coverage under this permit with DEQ before any soil disturbance occurs, if they are not automatically covered as described in the 1200-CN permit.

**1. Registering New Construction Activities**

- a. Applicants seeking registration for coverage under this permit for construction activities that will disturb one or more acres must submit a complete application to DEQ or Agent at least 30 calendar days before the planned soil disturbance, unless otherwise approved by DEQ or Agent (see Schedule D for description of Agent). The application must include:
  - i. A DEQ-approved application form;
  - ii. One paper copy and one electronic copy (PDF) of an Erosion and Sediment Control Plan (ESCP);
  - iii. A Land Use Compatibility Statement (LUCS) indicating that the proposed activities are compatible with the local government's acknowledged comprehensive plan; and
  - iv. Applicable permit fees.
- b. Applicants seeking registration for coverage under this permit for construction activities that will disturb less than one acre that are part of a larger common plan of development or sale must, at least 30 calendar days before the planned soil disturbance, submit:
  - i. A DEQ-approved application form;
  - ii. One copy of an Erosion and Sediment Control Plan that covers the individual lot(s); and
  - iii. Applicable permit fees.
- c. Applicants seeking registration for coverage under this permit for construction activities that disturb or are likely to disturb five (5) or more acres over the life of the project, are subject to a 14-calendar day public review period before permit registration is granted. The public review period will not begin if the application form or ESCP are incomplete. These applicants must submit to DEQ or Agent an additional paper copy of an ESCP (total of two paper copies and one PDF copy).
- d. DEQ or Agent will notify the applicant in writing if registration is approved or denied. Permit coverage does not begin until the applicant receives written notice that the registration is approved. If registration is denied or the applicant does not wish to be regulated by this permit, the applicant may apply for an individual permit in accordance with OAR 340-045-0030.

**2. Renewal Application for Permit Coverage**

- a. An owner or operator of construction activities registered under the 1200-C permit that expires on November 30, 2010 must submit to DEQ or Agent a complete renewal application, using a DEQ-approved renewal application form by November 30, 2010 to ensure uninterrupted permit coverage for construction stormwater discharges.
- b. If registration is denied or the applicant does not wish to be regulated by this permit, the applicant may apply for an individual permit in accordance with OAR 340-045-0030.

**3. Transfer of Permit Registration**

- a. To transfer permit registration, the new owner or permit registrant must submit a DEQ-approved transfer form and applicable fees prior to permit expiration and within 30 calendar days of the planned transfer.
- b. If ownership changes (through sale, foreclosure or other means) and the previous owner cannot be found:
  - i. The new owner must register for coverage under the permit (Schedule A, Paragraph 1) if the site is not stabilized.

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- ii. The new owner must register for coverage under the permit (Schedule A, Paragraph 1) prior to any additional soil disturbance.
- iii. The new owner does not need to register for coverage under the permit if the site meets the conditions for termination (see Schedule B) and there is no ongoing or additional soil disturbance planned.
- iv. DEQ will attempt to contact the previous owner at the address on record. If there is no response, after 60 days DEQ may terminate the previous owner's permit coverage.

#### **4. Authorized Stormwater Discharges**

Subject to compliance with the terms and conditions of this permit, and provided that all necessary controls are implemented to minimize sediment transport, the following stormwater discharges from construction sites are authorized (unless otherwise prohibited by local ordinances):

- a. Stormwater associated with construction activity described in the "Sources Covered" section of the permit.
- b. Stormwater from support activities at the construction site (for example, concrete or asphalt operations, equipment staging yards, material storage areas, excavated material disposal areas and borrow areas) provided:
  - i. The support activity is directly related to the construction site covered by this NPDES permit;
  - ii. The support activity is not a commercial operation serving multiple unrelated construction projects by different permit registrants;
  - iii. The support activity does not operate beyond the completion of the construction activity at the last construction project it supports; and
  - iv. Appropriate control measures are used to ensure compliance with discharge and water quality requirements.

#### **5. Authorized Non-Stormwater Discharges**

Subject to compliance with the terms and conditions of this permit, and provided that all necessary controls are implemented to minimize sediment transport, the following non-stormwater discharges from construction sites are authorized (unless otherwise prohibited by local ordinances):

- a. Potable water including uncontaminated water line flushing (refer to DEQ guidance);
- b. Vehicle washing that does not use detergents or hot water;
- c. External building wash down that does not use detergents or hot water;
- d. Pavement wash waters where stockpiled material, spills or leaks of toxic or hazardous materials have not occurred (unless all stockpiled and spilled material has been removed) and where detergents or hot water are not used;
- e. Construction dewatering activities (including groundwater dewatering and well drilling discharge associated with the registered construction activity), provided that:
  - i. the water is land applied in a way that results in complete infiltration with no potential to discharge to a surface water of the state, or
  - ii. Best Management Practices (BMPs) or an approved treatment system is used to ensure compliance with discharge and water quality requirements;
- f. Foundation or footing drains where flows are not contaminated with process materials such as solvents; and
- g. Landscape irrigation.

For other non-stormwater discharges, a separate permit may be needed. The disposal of wastes to surface waters or on-site are not authorized by this permit. The permit registrant must submit a separate permit application for such discharges.



## 6. Limitations on Coverage

The following discharges are not authorized by this permit:

- a. Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;
- b. Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
- c. Soaps or solvents used in vehicle and equipment washing.

## 7. Control Measures

The following controls and practices are required, if appropriate for the site.

- a. Wet Weather BMPs.
  - i. Avoid or minimize excavation and bare ground activities during wet weather.
- b. Temporarily stabilize soils at the end of the shift before holidays and weekends, if needed. It is the owner/operator's responsibility to ensure that soils are stable during rain events at all times of the year. Erosion Prevention (Prevent or minimize the initial disturbance of sediment).
  - i. Clearing and Grading.

Phase clearing and grading to the maximum extent practical to prevent exposed inactive areas from becoming sources of erosion. Minimize erosion during and after soil disturbance using BMPs such as temporary seeding and planting, permanent seeding and planting, mulches, compost blankets, erosion control blankets and mats, and soil tackifiers.
  - ii. Wind Erosion/Dust Control. Water or use a soil-binding agent or other dust control technique as needed to avoid wind-blown soil.
  - iii. Vegetative Erosion Control.
    - (1) Preserve existing vegetation and re-vegetate open areas when practical.
    - (2) Do not remove temporary sediment control practices until permanent vegetation or other cover of exposed areas is established.
    - (3) Identify the type of seed mix (percentages of the various seeds of annuals, perennials and clover) and other plantings.
- c. Runoff Control (Divert, collect, convey or control flow; prevent or minimize scouring).

Use BMPs such as diversion of run-on; trench drains, slope drains, french drains and subsurface drains that discharge to the surface; temporary diversion dikes; earth dikes; grass-lined channels (such as turf reinforcement mats); drainage swales; energy dissipaters; rock outlet protection; drop inlets; and check dams. Note that any underground injection must comply with OAR Chapter 340, Division 44.
- d. Sediment Control (Retain and/or remove sediment through filtration and settling).
  - i. Control sediment along the site perimeter and at all operational internal storm drain inlets at all times during construction. Retain and remove sediment both internally and at the site boundary by using BMPs such as sediment fences, vegetative buffer strips, sediment traps, rock filters, compost berms/compost socks, fiber rolls/ loose non-compacted straw wattles, storm drain inlet protection, and temporary or permanent sedimentation basins.
  - ii. Sediment Tracking and Transport Control.
    - (1) Prevent tracking of sediment onto public or private roads using BMPs such as:
      - (a) Establish graveled (or paved) exits and parking areas prior to any land disturbing activities.
      - (b) Gravel all unpaved roads located onsite.
      - (c) Use an exit tire wash.
    - (2) Cover all sediment loads leaving the site.
    - (3) When trucking saturated soils from the site, either use water-tight trucks or drain loads on site.
- e. Pollution Prevention and Control.
  - i. Pollution Prevention.
    - (1) Use BMPs to prevent pollution of stormwater or to treat flow from dewatering operations, ponded water management, paving operation controls, and temporary equipment bridge use.
    - (2) Use BMPs to prevent or minimize stormwater from being exposed to pollutants from spills; vehicle and equipment fueling, maintenance, and storage; other cleaning and maintenance activities; and waste handling activities. These pollutants include fuel, hydraulic fluid, and

other oils from vehicles and machinery, as well as debris, leftover paints, solvents, and glues from construction operations.

- ii. **Stockpile Erosion and Sediment Control Practices.**
  - (1) Stockpiles located away from the construction activity but still under the control of the permit registrant must be protected to prevent significant amounts of sediment or turbid water from discharging to surface waters or conveyance systems leading to surface waters.
  - (2) At the end of each workday soil stockpiles must be stabilized or covered, or other BMPs must be implemented to prevent discharges to surface waters or conveyance systems leading to surface waters.
  - (3) In developing these practices, at a minimum the following must be considered: diversion of uncontaminated flows around stockpiles, use of cover over stockpiles, and installation of sediment fences (or other barriers that will prevent the discharge of sediment or turbidity) around stockpiles.
- iii. **Solid Waste and Hazardous Materials Management.**

Implement the following BMPs when applicable: written spill prevention and response procedures, employee training on spill prevention and proper disposal procedures, spill kits in all vehicles, regular maintenance schedule for vehicles and machinery, material delivery and storage controls, training and signage, and covered storage areas for waste and supplies.
- f. **Additional BMP Requirements During Inactive Periods.**
  - i. If all construction activities cease at the site for thirty (30) days or more, the entire site must be stabilized using temporary seeding, vegetation, a heavy mulch layer, or another method.
  - ii. On any significant portion of the site, if construction activities cease for fourteen (14) calendar days or more, install temporary covering with blown straw and a tackifier, loose straw, or an adequate covering of compost mulch.

## **8. Implementation of Control Measures**

- a. All permit registrants must implement the ESCP (Paragraph A.12). Failure to implement any of the control measures or practices described in the ESCP is a violation of the permit.
- b. All permit registrants must prevent the discharge of significant amounts of sediment to surface waters or conveyance systems leading to surface waters. The following conditions indicate that a significant amount of sediment has left or is likely to leave the site:
  - i. Earth slides or mud flows;
  - ii. Concentrated flows of stormwater such as rills, rivulets or channels that cause erosion when such flows are not filtered, settled or otherwise treated to remove sediment;
  - iii. Sediment laden or turbid flows of stormwater that are not filtered or settled to remove sediments and turbidity;
  - iv. Deposits of sediment at the construction site in areas that drain to unprotected stormwater inlets or to catch basins that discharge to surface waters. Inlets and catch basins with failing sediment controls due to lack of maintenance or inadequate design are considered unprotected;
  - v. Deposits of sediment from the construction site on any property (including public and private streets) outside of the construction activity covered by this permit.
- c. The permit registrant must ensure the control measures or practices described in the ESCP are implemented according to the following sequence:
  - i. **Before Construction.**
    - (1) Identify, mark, and protect (with construction fencing or other means) critical riparian areas and vegetation including important trees and associated rooting zones and vegetation areas to be preserved.
    - (2) Identify vegetative buffer zones between the site and sensitive areas (for example, wetlands), and other areas to be preserved, especially in perimeter areas.
    - (3) Hold a pre-construction meeting of project construction personnel that includes the inspector required by condition A.12.b.iii to discuss erosion and sediment control measures and construction limits.

- (4) Stabilize site entrances and access roads including, but not limited to construction entrances, roadways and equipment parking areas (for example, using geotextile fabric underlay).
- (5) Install perimeter sediment control, including storm drain inlet protection as well as all sediment basins, traps, and barriers.
- (6) Establish concrete truck and other concrete equipment washout areas before beginning concrete work.
- (7) Establish material and waste storage areas, and other non-stormwater controls.
- (8) Stabilize stream banks and construct the primary runoff control measures to protect areas from concentrated flows.
- ii. During Construction.
  - (1) Land Clearing, Grading and Roadways.
    - (a) Begin land clearing, excavation, trenching, cutting or grading only after installing applicable sediment and runoff control measures.
    - (b) Provide appropriate erosion and sediment control BMPs for all roadways including gravel roadways.
    - (c) Install additional control measures as work progresses as needed.
    - (d) Phase clearing and grading to the maximum extent practical to prevent exposed inactive areas from becoming a source of erosion.
  - (2) Surface Stabilization.

Apply temporary or permanent soil stabilization measures (for example, temporary and permanent seeding, or mulching) immediately on all disturbed areas as work is completed. Stabilization of disturbed areas must be initiated immediately whenever any earth disturbing activities have permanently ceased on any portion of the site.
  - (3) Construction and Paving.

Keep erosion and sediment control measures in place for the duration of construction, including protection for active storm drain inlets and appropriate non-stormwater pollution controls.
- iii. Final Stabilization and Landscaping.
  - (1) Provide permanent erosion prevention measures on all exposed areas.
  - (2) Remove and properly dispose of construction materials and waste, including sediment retained by temporary BMPs.
  - (3) Remove all temporary control measures as areas are stabilized, unless doing so conflicts with local requirements.

## 9. BMP Maintenance

- a. The permit registrant must establish and promptly implement procedures for maintenance and repair of erosion and sediment control measures.
- b. General Site Maintenance.
  - i. Significant amounts of sediment that leave the site must be cleaned up within 24 hours, placed back on the site and stabilized, or disposed of properly. In addition, the source(s) of the sediment must be controlled to prevent continued discharge within 24 hours. Any in-stream cleanup of sediment must be performed according to requirements and timelines set by the Oregon Department of State Lands.
  - ii. Sediment must not be intentionally washed into storm sewers or drainage ways. Vacuuming or dry sweeping and material pickup must be used to cleanup released sediments.
  - iii. If fertilizers are used to establish vegetation, the application rates must follow manufacturer's guidelines and the application must be done in such a way to minimize discharge of nutrients to surface waters.
- c. Maintenance of Erosion and Sediment Controls.
  - i. Sediment fence: remove trapped sediment before it reaches one third of the above ground fence height.
  - ii. Other sediment barriers (such as biobags): remove sediment before it reaches two inches depth above ground height.

- iii. Catch basins: clean before sediment retention capacity has been reduced by fifty percent.
- iv. Sediment basins: remove trapped sediments before design capacity has been reduced by fifty percent.
- d. Stormwater Treatment Systems.  
If a stormwater treatment system (for example, electro-coagulation, flocculation, filtration, etc.) for sediment or other pollutant removal is employed, submit an operation and maintenance plan (including system schematic, location of system, location of inlet, location of discharge, discharge dispersion device design, and a sampling plan and frequency) before operating the treatment system. The plan must be approved before operating the treatment system. The treatment system must be operated and maintained according to manufacturer's specifications.

#### **10. In-stream Water Quality Standards**

- a. The permit registrant must not cause or contribute to a violation of in-stream water quality standards.
- b. If the permit registrant develops, implements, and revises the control measures and practices described in the ESCP in compliance with Schedule A of this permit, DEQ assumes that the discharges authorized by this permit will not cause or contribute to a violation of water quality standards unless there is evidence to the contrary.

#### **11. Water Quality Requirements for TMDL and 303(d) Listed Waterbodies**

In addition to other applicable requirements of this permit, if a permit registrant's construction project has the potential to discharge to a portion of a waterbody that is listed for turbidity or sedimentation on the most recently EPA-approved Oregon 303(d) list or that have an established Total Maximum Daily Load (TMDL) for sedimentation or turbidity (available at [www.deq.state.or.us/WQ/assessment/assessment.htm](http://www.deq.state.or.us/WQ/assessment/assessment.htm)), the permit registrant must implement one or more of the BMPs listed below to control and treat sediment and turbidity. The selected BMP(s) must be identified in the ESCP as addressing this condition of the permit, and the rationale for choosing the selected BMP(s) must also be provided.

- a. Compost berms, compost blankets, or compost socks;
- b. Erosion control mats;
- c. Tackifiers used in combination with perimeter sediment control BMPs;
- d. Established vegetated buffers sized at 50 feet (horizontally) plus 25 feet (horizontally) per 5 degrees of slope;
- e. Water treatment by electro-coagulation, flocculation, or filtration; and/or
- f. Other substantially equivalent sediment or turbidity BMP approved by DEQ or Agent.

#### **12. Erosion and Sediment Control Plan (ESCP)**

- a. Preparation.
  - i. The permit registrant must ensure that an ESCP is prepared and revised as necessary for the construction activity regulated by this permit and submitted to DEQ or Agent as required by this permit.
  - ii. Qualifications to Prepare ESCP.
    - (1) For construction activities disturbing 20 or more acres, the ESCP must be prepared and stamped by an Oregon Registered Professional Engineer, Oregon Registered Landscape Architect, Oregon Certified Engineering Geologist, or Certified Professional in Erosion and Sediment Control (Soil and Water Conservation Society).
    - (2) If engineered facilities such as sedimentation basins or diversion structures for erosion and sediment control are required, the ESCP must be prepared and stamped by an Oregon Registered Professional Engineer.
- b. Required ESCP Elements
  - i. Name of the site.
  - ii. Local Government Requirements.  
Include any procedures necessary to meet applicable local government erosion and sediment control or stormwater management requirements.

iii. Erosion and Sediment Control Inspector.

- (1) Inspections must be conducted by a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact stormwater quality, is knowledgeable in the correct installation of the erosion and sediment controls, and is able to assess the effectiveness of any sediment and erosion control measures selected to control the quality of stormwater discharges from the construction activity.
- (2) Inspections must be conducted by a designated Erosion and Sediment Control Inspector.
- (3) Provide the following for all personnel that will conduct inspections:
  - (e) Name and title;
  - (f) Contact phone number and, if available, e-mail address; and
  - (g) Description of experience and training.

iv. Narrative Site Description.

- (1) Nature of the construction activity;
- (2) Proposed timetable indicating when each erosion and sediment control BMP is to be installed and the duration that it is to remain in place;
- (3) Estimates of the total area of the permitted site and the area of the site that is expected to undergo clearing, grading or excavation;
- (4) Nature of the fill material to be used, and of the insitu soils; and
- (5) Names of the receiving water(s) for stormwater runoff.

v. Site Map and Drawings.

- (1) The site map and drawings must be kept on site and must represent the actual BMP controls being used onsite, particularly those BMPs identified in the most recent ESCP;
- (2) The site map must show sufficient roads and features for DEQ or Agent to locate and access the site;
- (3) The site map and drawings must include (but is not limited to) the following features (as applicable):
  - (a) Total property boundary including surface area of the development;
  - (b) Areas of soil disturbance (including, but not limited to, showing cut and fill areas and pre- and post-development elevation contours);
  - (c) Drainage patterns before and after finish grading;
  - (d) Discharge points;
  - (e) Areas used for the storage of soils or wastes;
  - (f) Areas where vegetative practices are to be implemented;
  - (g) All erosion and sediment control measures or structures;
  - (h) Impervious structures after construction is completed (including buildings, roads, parking lots and outdoor storage areas);
  - (i) Springs, wetlands and other surface waters on site or adjacent to the site;
  - (j) Temporary and permanent stormwater conveyance systems;
  - (k) Onsite water disposal locations (for example, for dewatering);
  - (l) Storm drain catch basins depicting inlet protection, and a description of the type of catch basins used (for example, field inlet, curb inlet, grated drain and combination);
  - (m) Septic drain fields;
  - (n) Existing or proposed drywells or other UICs;
  - (o) Drinking water wells on site or adjacent to the site;
  - (p) Planters;
  - (q) Sediment and erosion controls including installation techniques; and
  - (r) Detention ponds, storm drain piping, inflow and outflow details.

- c. ESCP Revisions
  - i. ESCP revisions must:
    - (1) Clearly identify any changes (such as type or design) to the BMPs identified in the ESCP, their location, maintenance required, and any other revisions necessary to prevent and control erosion and sediment runoff.
    - (2) Include contact information and any applicable certification, training and experience for changes in Erosion and Sediment Control Inspector.
  - ii. Approval of the revisions by DEQ or Agent prior to implementation is not required.
  - iii. Submission of all ESCP revisions is not required. ESCP revisions must be submitted only if they are made for any of the following reasons:
    - (1) Part of a Corrective Action (A.13).
    - (2) Change (increase or decrease) in the size of the project.
    - (3) Change (increase or decrease) in the size or location of disturbed areas.
    - (4) Change to BMPs (for example, type, design or location).
    - (5) Change in erosion and sediment control inspector.
  - iv. If submission of ESCP revisions is required, submit two paper copies and one electronic PDF to DEQ or Agent within 10 days of the revision. These revisions should be submitted as revised pages of the ESCP or drawings only; it is not necessary to submit the entire ESCP. If the permit registrant does not receive a response to the revisions from DEQ or Agent within 10 days of receipt, the proposed revisions are deemed accepted.
  - v. DEQ or Agent may require the permit registrant to revise the ESCP at any time. The permit registrant must submit the revisions according to the timeframe specified by DEQ or Agent.

### 13. Corrective Actions

- a. Corrective actions are required if any of the following occur:
  - i. Significant amounts of sediment or turbidity (as described in A.8.b) are visibly detected in: 1) the discharge to a conveyance system leading to surface waters; 2) the discharge to surface waters 50 feet downstream; or 3) the discharge in surface waters at any location where more than one-half of the width of the receiving surface waters is affected.
  - ii. The construction activity causes or contributes to a violation of in-stream water quality standards (A.10.a).
  - iii. DEQ or the Agent requires the permit registrant to take corrective actions to prevent or control the discharge of significant amounts of sediment or turbidity to surface waters or to conveyance systems that discharge to surface waters.
- b. If corrective actions are required, the registrant must:
  - i. Immediately, but no later than 24 hours after initial detection, take corrective actions or implement additional effective BMPs until the significant amounts of sediment or turbidity are no longer visually detectable and to ensure that the requirements of Conditions A.8.b and A.10.a are met.
  - ii. Document in the inspection records the corrective actions taken.
  - iii. Evaluate the control measures and practices to determine the cause of the noncompliance. Submit a written report to DEQ or Agent within 10 days of identifying the need to take corrective action as required in condition 13.a above. This report must include:
    - (1) The site common name and DEQ file number.
    - (2) Identification of outfalls that were out of compliance.
    - (3) Names of personnel conducting inspections.
    - (4) A description of the noncompliance and its cause.
    - (5) The period of noncompliance.
    - (6) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance (such as specific BMPs that will be implemented or increased inspection frequency).
    - (7) ESCP revisions, if revisions were required to prevent and control erosion and sediment discharges.

**SCHEDULE B**  
**MINIMUM MONITORING AND RECORDKEEPING REQUIREMENTS**

**1. Inspections**

- a. The following must be inspected by a designated Erosion and Sediment Control Inspector:
- i. All areas of the site disturbed by construction activity to ensure that BMPs are in proper working order.
  - ii. Discharge point(s) identified in the ESCP for evidence of or the potential for the discharge of pollutants (including sediment and turbidity), and to ascertain whether erosion and sediment control measures are effective in preventing significant impacts to surface waters. Where discharge points are inaccessible, nearby downstream locations must be inspected to the extent that such inspections are practical.
  - iii. BMPs identified in the ESCP and any ESCP revisions to assess whether they are functioning properly.
  - iv. Locations where vehicles enter or exit the site for evidence of off-site sediment tracking.
  - v. Areas used for storage of materials that are exposed to precipitation for evidence of spillage or other potential to contaminate stormwater runoff.
- b. All ESCP controls and practices must be inspected visually according to the following schedule:

Site Condition	Minimum Frequency
1. Active period	Daily when stormwater runoff, including runoff from snow melt, is occurring.  At least once every two (2) weeks, regardless of whether stormwater runoff is occurring.
2. Prior to the site becoming inactive or in anticipation of site inaccessibility	Once to ensure that erosion and sediment control measure are in working order. Any necessary maintenance and repair must be made prior to leaving the site.
3. Inactive periods greater than fourteen (14) consecutive calendar days	Once every two (2) weeks.
4. Periods during which the site is inaccessible due to inclement weather	If practical, inspections must occur daily at a relevant and accessible discharge point or downstream location.

- c. Documentation of inspections.
- All inspections must be documented in writing as follows:
- i. Inspection date and inspector's name.
  - ii. Observations for each discharge location. If a discharge location is inaccessible due to inclement weather, record the inspections noted at a relevant discharge point or downstream location if practical.
    - (1) Where to make observations:
      - (a) At the discharge location if the discharge is to a conveyance system leading to surface waters;
      - (b) From the discharge point to 50 feet downstream if the discharge is to surface waters; and
      - (c) At any location where more than one-half of the width of the receiving surface water is affected.
    - (2) How to make observations:
      - (a) For turbidity and color, describe any apparent color and the clarity of the discharge, and any apparent difference in comparison with the surface waters.
      - (b) Describe any sheen or floating material, or record that it is absent. If present, it could indicate concern about a possible spill or leakage from vehicles or materials storage.

- iii. Location(s) of BMPs that need to be maintained, inspections of all BMPs, including erosion and sediment controls, chemical and waste controls, locations where vehicles enter and exit the site, status of areas that employ temporary or final stabilization control, soil stockpile area, and non-stormwater pollution (for example, paints, oils, fuels, or adhesives) controls.
- iv. Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location;
- v. Location(s) where additional BMPs are needed that did not exist at the time of inspection; and
- vi. Corrective action required and implementation dates.

## **2. Recordkeeping**

- a. ESCP and All Revisions Retained Onsite. A copy of the ESCP and all revisions must be retained on site and made available on request to DEQ, Agent, or the local municipality. During inactive periods of greater than seven (7) consecutive calendar days, the ESCP must be retained by the permit registrant but does not need to be at the construction site.
- b. Inspection Results.
  - i. All inspection records must be kept on site and maintained by the permit registrant.
  - ii. During inactive periods of greater than seven (7) consecutive calendar days, the inspection records must be retained by the permit registrant but do not need to be at the construction site.
  - iii. All inspection records must be made available to DEQ, Agent, or local municipality upon request; and must include:
    - (1) The construction site name as it appears on the registrant's permit and the file or site number.
    - (2) All revisions and documentation of reasons for changes or modifications to the ESCP and other corrective measures.
    - (3) Records must be delivered or made available to DEQ or Agent within three (3) working days of request.
  - iv. All inspection records must be retained by the permit registrant for at least three (3) years after project completion.



**SCHEDULE D  
SPECIAL CONDITIONS**

**1. Schedule Precedence**

In the event of any inconsistency between Schedules A through D and F, Schedules A through D will apply.

**2. Other Requirements**

Registration under this permit does not relieve the permit registrant from all other permitting and licensing requirements. Prior to beginning construction activities, the permit registrant must obtain all other necessary approvals.

**3. Termination of Permit Registration**

- a. If the project never started (there was no construction activity and no soil disturbance):
  - i. Complete and submit a Notice of Termination form to DEQ or Agent.
- b. For all construction activity, the following conditions must be met prior to termination:
  - i. All portions of the site for which you are responsible must meet final stabilization criteria (D.3.c.i – D.3.c.vi); and
  - ii. For a common plan of development or sale:
    - (1) All portions of the original common plan of development or sale that have been sold must either meet final stabilization criteria (D.3.c.i – D.3.c.vi) or be covered by the 1200-C or 1200-CN; and
    - (2) The owner/operator of the common plan must submit an update of the ESCP depicting new site boundaries (based on the sale of portions of the common plan).
- c. Final stabilization is determined by satisfying the following criteria:
  - i. There is no reasonable potential for discharge of a significant amount of construction related sediment or turbidity to surface waters.
  - ii. Construction materials and waste have been removed and disposed of properly. This includes any sediment that was being retained by the temporary erosion and sediment controls.
  - iii. All temporary erosion and sediment controls have been removed and disposed of properly, unless doing so conflicts with local requirements.
  - iv. All soil disturbance activities have stopped and all stormwater discharges from construction activities that are authorized by this permit have ceased.
  - v. All disturbed or exposed areas of the site are fully stabilized as defined in condition D.5.1.
  - vi. All outstanding compliance issues have been resolved.
- d. To terminate permit registration:
  - i. Submit photo-documentation that depicts site stabilization, unless the site has been inspected by DEQ or Agent; and
  - ii. Complete and submit a Notice of Termination form to DEQ or Agent.

**4. Local Public Agencies Acting as DEQ's Agent**

DEQ authorizes local public agencies to act as its Agent in implementing this permit if they entered into a Memorandum of Agreement (MOA). The Agent may be authorized to conduct the following activities, including but not limited to: application and ESCP review, inspections, monitoring data review, stormwater monitoring.

**5. Permit-specific Definitions**

- a. *Agent* means a governmental entity that has an agreement with DEQ to administer this general permit within their jurisdictional boundaries.
- b. *Best Management Practices or BMPs* means schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, erosion and sediment control, source

control, and operating procedures and practices to control site runoff, spillage or leaks, and waste disposal.

- c. *Borrow Area* means the area from which material is excavated to be used as fill material in another area.
- d. *Clean Water Act or CWA* means the Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, and 97-117; USC 1251 et seq.
- e. *Conveyance System* means a sewer, ditch, or swale that is designed to carry water; or any combination of such components.
- f. *DEQ* means the Oregon Department of Environmental Quality.
- g. *Detention* means the temporary storage of stormwater to improve quality or reduce the volumetric flow rate of discharge or both.
- h. *Dewatering* means the removal and disposal of surface water or groundwater during site construction.
- i. *Discharge Point* means the location where stormwater leaves the site. It includes the location where stormwater is discharged to surface water or a stormwater conveyance system.
- j. *Erosion* means the movement of soil particles or rock fragments by water or wind.
- k. *Erosion and Sediment Control BMPs* means BMPs that are intended to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and matting, plastic covering, sediment fences, and sediment traps and ponds. Erosion and sediment control BMPs are synonymous with stabilization and structural BMPs.
- l. *Fully Stabilized* means the completion of all soil disturbing activities at the site by the permit registrant, and the establishment of a permanent vegetative cover, or equivalent permanent stabilization measures (such as riprap, gabions or geotextiles) to prevent erosion.
- m. *Hazardous Materials* means the materials defined in 40 CFR part 302 Designation, Reportable Quantities, and Notification.
- n. *Local Government* means any county, city, town, or service district.
- o. *National Pollutant Discharge Elimination System or NPDES* means the national program under Section 402 of the Clean Water Act for regulation of point source discharges of pollutants to waters of the United States.
- p. *Non-Stormwater Pollution Controls* means general site and materials management measures that directly or indirectly aid in minimizing the discharge of sediment and other construction related pollutants from the construction site.
- q. *Owner or operator* means the owner or operator of any "facility or activity" subject to regulation under the NPDES program. Owners or operators may be individuals or other legal entities. Owners or operators of automatically covered construction activities are not permit registrants. Operator for the purpose of this permit and in the context of stormwater associated with construction activity, means any party associated with a construction project that meets either of the following two criteria:
  - (1) The party has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
  - (2) The party has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a ESCP for the site or other permit conditions (for example, they are authorized to direct workers at a site to carry out activities required by the ESCP or comply with other permit conditions).
- r. *Permanent Control Measures* means erosion prevention materials designed to provide long-term protection to underlying soils. This may include but not limited to buildings, paving, a uniform (evenly distributed, without large bare areas) perennial vegetative cover, riprap, gabions, or geotextiles.
- s. *Permit Registrant* means the owner or operator of the construction activity regulated by this permit who has submitted an application and received notice of registration under this general permit by DEQ or Agent. Owners or operators of automatically covered construction activities are not permit registrants.
- t. *Pollutant* as defined in 40 CFR §122.2 means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, domestic sewage sludge (biosolids), munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, soil, cellar dirt and industrial, municipal, and agricultural waste discharge into water. It does not mean sewage from vessels

within the meaning of section 312 of the FWPCA, nor does it include dredged or fill material discharged in accordance with a permit issued under section 404 of the FWPCA.

- u. *Pollution or Water Pollution* as defined by ORS 468B.005(3) means such alteration of the physical, chemical or biological properties of any waters of the state, including change in temperature, taste, color, turbidity, silt or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the state, which will or tends to, either by itself or in connection with any other substance, create a public nuisance or which will or tends to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational or other legitimate beneficial uses or to livestock, wildlife, fish or other aquatic life or the habitat thereof.
- v. *Runoff Controls* means BMPs that are designed to control the peak volume and flow rate or to prevent scour due to concentrated flows.
- w. *Sediment* means mineral or organic matter, typically deposited by water, air, or ice.
- x. *Site* means the area where the construction activity is physically located or conducted.
- y. *Stormwater Conveyance* means a sewer, ditch, or swale that is designed to carry stormwater; a stormwater conveyance may also be referred to as a storm drain or storm sewer.
- z. *Stormwater as defined by 40 CFR §122.26(b)(13)* means stormwater runoff, snow melt runoff, and surface runoff and drainage.
- aa. *Surface Runoff* means that portion of stormwater that does not infiltrate into the ground or evaporate, but instead flows onto adjacent land or watercourses or is routed to stormwater conveyance systems.
- bb. *Surface Water* means all water naturally open to the atmosphere (for example, rivers, lakes, reservoirs, ponds, streams, impoundments, oceans, estuaries, springs, etc.).
- cc. *Total Maximum Daily Load or TMDL* means a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet state water quality standards. It is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. Percentages of the TMDL are allocated by DEQ to the various pollutant sources.
- dd. *Turbidity* means the optical condition of waters caused by suspended or dissolved particles or colloids that scatter and absorb light rays instead of transmitting light in straight lines through the water column. Turbidity may be expressed as nephelometric turbidity units (NTUs) measured with a calibrated turbidity meter.
- ee. *Underground Injection Control* means any system, structure, or activity that is created to place fluid below the ground or sub-surface (for example, sumps, infiltration galleries, drywells, trench drains, drill holes, etc.)
- ff. *Water or Waters of the State as defined by ORS 468B.005(8)* means lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

**SCHEDULE F**  
**NPDES GENERAL CONDITIONS**

**SECTION A. STANDARD CONDITIONS**

**1. Duty to Comply**

The permit registrant must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468B.025, the Clean Water Act and 40 Code of Federal Regulations (CFR) §122.41(a), and is grounds for enforcement action; for permit termination, revocation and/or reissuance, or modification; or for denial of a permit renewal application.

**2. Penalties for Water Pollution and Permit Condition Violations**

ORS 468.140 allows the Director to impose civil penalties up to \$25,000 per day for violation of a term, condition, or requirement of a permit. ORS 468.943 creates the criminal offense of unlawful water pollution in the second degree, for the criminally negligent violation of ORS chapter 468B or any rule, standard, license, permit or order adopted or issued under ORS chapter 468B. Unlawful water pollution in the second degree is punishable by a fine of up to \$25,000 or imprisonment for not more than one year, or both. In addition, OAR 468.946, creates the offense of unlawful water pollution of the first degree, which is a Class B felony.

**3. Duty to Mitigate**

The permit registrant must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit. In addition, upon request of the department, the permit registrant must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge.

**4. Duty to Reapply**

If the permit registrant wishes to continue an activity regulated by this permit after the expiration date of this permit, the permit registrant must apply for and have the permit registration renewed. The application must be submitted at least 180 days before the expiration date of this permit. The department may grant written permission to submit an application less than 180 days in advance but no later than the permit expiration date.

**5. Permit Actions**

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

- a. Violation of any term, condition, or requirement of this permit, a rule, or a statute
- b. Failure to pay fees when they are due
- c. Obtaining this permit by misrepresentation or failure to disclose fully all material facts
- d. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge
- e. The permit registrant is identified as a Designated Management Agency or allocated a wasteload under a Total Maximum Daily Load (TMDL)
- f. New information or regulations
- g. Modification of compliance schedules
- h. Requirements of permit re-opener conditions
- i. Correction of technical mistakes made in determining permit conditions
- j. Determination that the permitted activity endangers human health or the environment
- k. Other causes as specified in 40 CFR §§122.62, 122.64, and 124.5

DEQ will give permit registrant notice of the right to a contested case hearing in the event DEQ issues a Notice of Revocation, Suspension or Refusal to Renew the permit.

The filing of a request by the permit registrant for a permit modification, revocation or reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permit registrant must comply with any applicable effluent standards or prohibitions established under Oregon Administrative Rules (OAR) 340-041-0033 for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, nor does it authorize any injury to persons or property or invasion of any other private rights, nor any infringement of federal, tribal, state, or local laws or regulations.

8. Permit References

Except for effluent standards or prohibitions established under Section 307(a) of the Clean Water Act and OAR 340-041-0033 for toxic pollutants, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

9. Permit Fees

The permit registrant must pay the fees required by OAR 340-045-0070 to 0075.

The permit registrant must pay annual compliance fees by the last day of the month prior to when the permit was issued. For example, if the permit was issued or last renewed in April, the due date will be March 31st. If the payment of annual fees is 30 days or more past due, the permit registrant must pay 9% interest per annum on the unpaid balance. Interest will accrue until the fees are paid in full. If DEQ does not receive payment of annual fees when they are due, DEQ will refer the account to the Department of Revenue or to a private collection agency for collection.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permit registrant must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permit registrant to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by a permit registrant only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permit registrant must, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It is not a defense for a permit registrant in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions

- i. "Bypass" means intentional diversion of waste streams from any portion of the treatment facility.

The term "bypass" does not apply if the diversion does not cause effluent limitations to be exceeded,

provided the diversion is to allow essential maintenance to assure efficient operation or the diversion is due to nonuse of nonessential treatment units or processes at the treatment facility.

- ii. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities or treatment processes that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.

i. Bypass is prohibited unless:

- (1) Bypass was necessary to prevent loss of life, personal injury, or severe property damage;
- (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventative maintenance; and
- (3) The permit registrant submitted notices and requests as required under General Condition B.3.c.

- ii. The department may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, when the department determines that it will meet the three conditions listed above in General Condition B.3.b.(1).

c. Notice and request for bypass.

- i. Anticipated bypass. If the permit registrant knows in advance of the need for a bypass, a written notice must be submitted to the department at least ten days before the date of the bypass.
- ii. Unanticipated bypass. The permit registrant must submit notice of an unanticipated bypass as required in General Condition D.5.

4. Upset

- a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permit registrant. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.
- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of General Condition B.4.c are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance is not final administrative action subject to judicial review.
- c. Conditions necessary for a demonstration of upset. A permit registrant who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - i. An upset occurred and that the permit registrant can identify the causes(s) of the upset;
  - ii. The permitted facility was at the time being properly operated;
  - iii. The permit registrant submitted notice of the upset as required in General Condition D.5, hereof (24-hour notice); and
  - iv. The permit registrant complied with any remedial measures required under General Condition A.3 hereof.
- d. Burden of proof. In any enforcement proceeding, the permit registrant seeking to establish the occurrence of an upset has the burden of proof.

5. Treatment of Single Operational Upset

For purposes of this permit, A Single Operational Upset that leads to simultaneous violations of more than one pollutant parameter will be treated as a single violation. A single operational upset is an exceptional incident that causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission),

temporary noncompliance with more than one Clean Water Act effluent discharge pollutant parameter. A single operational upset does not include Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational upset is a violation.

6. Overflows from Stormwater Conveyance Systems (privately owned)

a. Definitions

- i. "Overflow" means the diversion and discharge of waste streams from any portion of the wastewater conveyance system through a designed overflow device or structure, other than discharges to the wastewater treatment facility.
- ii. "Severe property damage" means substantial physical damage to property, damage to the conveyance system which causes it to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of an overflow.
- iii. "Uncontrolled overflow" means the diversion of waste streams other than through a designed overflow device or structure.

b. Prohibition of overflows. Overflows are prohibited unless:

- i. Overflows were unavoidable to prevent an uncontrolled overflow, loss of life, personal injury, or severe property damage;
- ii. There were no feasible alternatives to the overflows, such as the use of auxiliary conveyance systems, or maximization of conveyance system storage; and
- iii. The overflows are the result of an upset as defined in General Condition B.4 and meeting all requirements of this condition.

c. Uncontrolled overflows are prohibited where wastewater is likely to escape or be carried into the waters of the State by any means.

d. Reporting required. Unless otherwise specified in writing by the department, all overflows and uncontrolled overflows must be reported orally to the department within 24 hours from the time the permit registrant becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D.5.

7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs, upon request by the department, the permit registrant must take such steps as are necessary to alert the public about the extent and nature of the discharge. Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

8. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must be disposed of in such a manner as to prevent any pollutant from such materials from entering waters of the state, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein must be representative of the volume and nature of the monitored discharge. All samples must be taken at the monitoring points specified in this permit, and shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points may not be changed without notification to and the approval from the department.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices must be installed, calibrated and maintained to insure that the accuracy of the

measurements is consistent with the accepted capability of that type of device. Devices selected must be capable of measuring flows with a maximum deviation of less than  $\pm 10$  percent from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR part 136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit may, upon conviction, be punished by a fine of not more than \$10,000 per violation, imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both.

5. Reporting of Monitoring Results

Monitoring results must be summarized each month on a Discharge Monitoring Report form approved by the department. The reports must be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

6. Additional Monitoring by the Permit registrant

If the permit registrant monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 part CFR part 136 or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency must also be indicated. For a pollutant parameter that may be sampled more than once per day (e.g., Total Chlorine Residual), only the average daily value must be recorded unless otherwise specified in this permit.

7. Averaging of Measurements

Calculations for all limitations that require averaging of measurements must utilize an arithmetic mean, except for bacteria which shall be averaged as specified in this permit.

8. Retention of Records

The permit registrant must retain records of all monitoring information, including: all calibration, maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the department at any time.

9. Records Contents

Records of monitoring information must include:

- a. The date, exact place, time, and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.



10. Inspection and Entry

The permit registrant must allow the department or an authorized representative upon the presentation of credentials to:

- a. Enter upon the permit registrant's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permit registrant must comply with OAR chapter 340, division 52, "Review of Plans and Specifications" and 40 CFR §122.41(l)(1). Except where exempted under OAR chapter 340, division 52, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers may be commenced until the plans and specifications are submitted to and approved by the department. The permit registrant must give notice to the department as soon as possible of any planned physical alternations or additions to the permitted facility.

2. Anticipated Noncompliance

The permit registrant must give advance notice to the department of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

3. Transfers

This permit may be transferred to a new permit registrant provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit may be transferred to a third party without prior written approval from the department. The department may require modification, revocation, and reissuance of the permit to change the name of the permit registrant and incorporate such other requirements as may be necessary. The permit registrant must notify the department when a transfer of property interest takes place.

4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permit registrant must report any noncompliance that may endanger health or the environment. Any information must be provided orally (by telephone) within 24 hours, unless otherwise specified in this permit, from the time the permit registrant becomes aware of the circumstances. During normal business hours, the department's Regional office must be called. Outside of normal business hours, the department must be contacted at 1-800-452-0311 (Oregon Emergency Response System).

A written submission must also be provided within 5 days of the time the permit registrant becomes aware of the circumstances. Pursuant to ORS 468.959 (3) (a), if the permit registrant is establishing an affirmative defense of upset or bypass to any offense under ORS 468.922 to 468.946, delivered written notice must be made to the department or other agency with regulatory jurisdiction within 4 (four) calendar days of the time the permit registrant becomes aware of the circumstances. The written submission must contain:

- a. A description of the noncompliance and its cause;

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- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected;
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
- e. Public notification steps taken, pursuant to General Condition B.7.

The following must be included as information that must be reported within 24 hours under this paragraph:

- a. Any unanticipated bypass that exceeds any effluent limitation in this permit.
- b. Any upset that exceeds any effluent limitation in this permit.
- c. Violation of maximum daily discharge limitation for any of the pollutants listed by the department in this permit.
- d. Any noncompliance that may endanger human health or the environment.

The department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

6. Other Noncompliance

The permit registrant must report all instances of noncompliance not reported under General Condition D.4 or D.5, at the time monitoring reports are submitted. The reports must contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected; and
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

7. Duty to Provide Information

The permit registrant must furnish to the department within a reasonable time any information that the department may request to determine compliance with this permit. The permit registrant must also furnish to the department, upon request, copies of records required to be kept by this permit.

Other Information: When the permit registrant becomes aware that it has failed to submit any relevant facts or has submitted incorrect information in a permit application or any report to the department, it must promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the department must be signed and certified in accordance with 40 CFR §122.22.

9. Falsification of Information

Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed \$100,000 per violation and up to 5 years in prison. Additionally, according to 40 CFR §122.41(k)(2), any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a federal civil penalty not to exceed \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

10. Changes to Discharges of Toxic Pollutant

The permit registrant must notify the department as soon as it knows or have reason to believe of the following:

- a. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:

00208.

- i. One hundred micrograms per liter (100 µg/l);
  - ii. Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
  - iii. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
  - iv. The level established by the department in accordance with 40 CFR §122.44(f).
- b. That any activity has occurred or will occur that would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant that is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
- i. Five hundred micrograms per liter (500 µg/l);
  - ii. One milligram per liter (1 mg/l) for antimony;
  - iii. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
  - iv. The level established by the department in accordance with 40 CFR §122.44(f).

#### SECTION E. DEFINITIONS

1. Technology based permit effluent limitations means technology-based treatment requirements as defined in 40 CFR §125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-041.
2. mg/l means milligrams per liter.
3. Grab sample means an individual discrete sample collected over a period of time not to exceed 15 minutes.
4. Month means calendar month.
5. Week means a calendar week of Sunday through Saturday.



# **Walla Walla Agricultural Water Quality Management area plan**

## **Guidance Document and Administrative Rules**

Developed by  
The Walla Walla Local Agricultural Water  
Quality Advisory Committee

With assistance from  
The Oregon Department of Agriculture  
and  
The Umatilla County  
Soil and Water Conservation District

**Adopted April 17, 2002**  
**Revised February 2007**

### **Local Advisory Committee Members**

**Craig Buchanan  
Jim Burns  
Cheri Cosper  
Bob Lewis**

**Ed Leahy  
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## ACRONYMS

AgWQM	Agricultural Water Quality Management
CAFO	Confined Animal Feeding Operation
CCRP	Continuous Conservation Reserve Program
cfs	Cubic Feet Per Second
CREP	Conservation Reserve Enhancement Program
CRP	Conservation Reserve Program
CWA	Clean Water Act
DEQ	Oregon Department of Environmental Quality
EQIP	Environmental Quality Incentives Program
HEL	Highly Erodible Land
LAC	Local Advisory Committee
LMA	Local Management Agency
NRCS	Natural Resources Conservation Service
OACD	Oregon Association of Conservation Districts
OAR	Oregon Administrative Rules
OCA	Oregon Cattleman's Association
ODA	Oregon Department of Agriculture
ODFW	Oregon Department of Fish and Wildlife
ORS	Oregon Revised Statutes
OSU	Oregon State University
RUSLE	Revised Universal Soil Loss Equation
SB 1010	Senate Bill 1010
SWCD	Soil and Water Conservation District
TMDL	Total Maximum Daily Load
USDA	United States Department of Agriculture

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# **Walla Walla Agricultural Water Quality Management area plan**

## **I FOREWORD**

This agricultural water quality management (AgWQM) area plan provides guidance for addressing agricultural water quality issues in the Walla Walla AgWQM area. The purpose of this area plan is to identify strategies to reduce water pollution from agricultural lands through a combination of educational programs, suggested land treatments, management activities, and monitoring.

The provisions of this area plan do not establish legal requirements or prohibitions.

The Oregon Department of Agriculture (ODA) exercises its enforcement authority for the prevention and control of water pollution from agricultural activities under administrative rules for the Walla Walla subbasin (Oregon Administrative Rules 603-095-1700 through 603-095-1760) and statewide enforcement procedures provided in OAR 603-090-0060 through 603-090-0120.

This area plan is used by local management agencies for guiding implementation, outreach, and assistance efforts and by landowners to enhance their awareness and understanding of water quality issues.

## **II INTRODUCTION**

The Agricultural Water Quality Management Program in the ODA's Natural Resources Division is responsible for addressing water pollution associated with agricultural lands and activities.

In 1993, the Oregon Legislature passed Senate Bill 1010, which directed the ODA to be the lead state agency working with agriculture to address water pollution. The bill is codified at ORS 568.900 – 568.933 and is referred to as the Agricultural Water Quality Management Act. The ODA is authorized to develop and carry out a water quality management plan for agricultural or rural lands when state or federal law requires a water quality management plan. In 1995, the Oregon Legislature passed SB 502, now codified at ORS 561.191, that stipulates that ODA shall develop and implement any program or rules that directly regulate farming practices that are for the purpose of protecting water quality and that are applicable to areas of the state designated as exclusive farm use zones or other agricultural lands. Under these statutes, ODA is the agency responsible for regulating agricultural activities in Oregon as they affect water quality.

AgWQM area plans help identify and control water pollution caused by activities on agricultural and rural lands. These area plans recognize that the best way to prevent or control pollution from agricultural and rural land is to work to reduce the conditions on that land that cause pollution.

This area plan was first developed in 2002 by volunteer members of the Walla Walla AgWQM Local Advisory Committee (LAC) with assistance from the ODA and the Umatilla Soil and Water

Conservation District (SWCD). It represents the efforts of the LAC, the ODA and the SWCD, in consultation with members of the community, to address water quality as it may be affected by conditions on agricultural and rural land in the planning area. Members of the LAC at that time were:

Tom Darnell: Chairman; OSU Extension; M-F	Vern Rodighiero: M-F; orchard crops, WWBWC
Craig Buchanan: M-F; dryland & irrigated crops	Brent Stevenson: M-F; irrigation district
Jim Burns: M-F; WWBWC, forestry, fruit	Ray Williams: dairy, livestock, irrigated crops
Cheri Cosper: M-F; horses, SWCD	Jerry Weidert: Athena; dryland crops
Ed Leahy: M-F; dryland crops	Jerry Zahl: College Place, WA; ag. consultant
Jessica Pottenger: Weston; Smith Foods; environmental	Bob Lewis: Alternate; M-F; irrigated crops, consultant
Dennis Rea: M-F; dryland & irrigated crops, livestock	

This area plan and accompanying area rules were approved by the Oregon State Board of Agriculture in 2002. The first biennial review took place in 2004 with no revisions to either the area plan or area rules. The second biennial review occurred in 2007 with area plan revisions adopted to incorporate TMDL information.

The operational boundaries of this area plan include all private agricultural and rural land in Oregon that drains into the Walla Walla River and its tributaries. Federally managed land and those activities subject to the Oregon Forest Practices Act are exempted from this area plan but are subject to water quality management plans developed by the respective designated management agencies. This area plan applies to agricultural lands in current use and those lying idle or on which management has been deferred. This area plan also applies to rural lands not in agricultural use such as private roads and rural residential properties.

Area rules have been formally adopted to implement this area plan. Area rules define the planning area, provide prevention and control measures to protect water quality, provide exceptions to the prevention and control measures and describe a complaint resolution process. Area rules are presented in this area plan and indicated by bold type within a border.

#### **Administrative Rule**

**603-095-1700**

##### ***Purpose***

***(1) These rules have been developed to implement a water quality management area plan for the subbasin pursuant to authorities vested in the department through ORS 568.900-568.933, and ORS 561.191-561.191. The area plan is known as the Walla Walla AgWQM area plan.***

***(2) The purpose of these rules is to outline requirements for landowners in the Walla Walla AgWQM Area, for the prevention and control of water pollution from agricultural activities and soil erosion. Compliance with Division 95 rules is expected to aid in the achievement of applicable water quality standards in the Walla Walla AgWQM Area.***

### **III GEOGRAPHIC AREA AND PHYSICAL SETTING**

#### **Location**

The Walla Walla River Basin, located in southeast Washington and northeast Oregon, encompasses 1758 square miles (1,125,120 acres). The portion of the basin in Oregon is 27% or 480 square miles. The Oregon Walla Walla River subbasin is bounded by the Oregon-Washington State line (on the north), by the Blue Mountains (on the east and the south), and by Umatilla River Basin and the Columbia River (on the west). The Walla Walla River originates in the Blue Mountains and flows north-westerly, crossing into Washington State at river mile 40, and entering the Columbia River at Wallula, WA (RM 313). The Oregon portion of the subbasin has eight watersheds: mainstem Walla Walla River (including branches of the Little Walla Walla River), South Fork Walla Walla River, North Fork Walla Walla River, Pine Creek, Dry Creek, Birch Creek, Vansycle Canyon and Couse Creek. Two other watersheds, Cottonwood Creek and Mill Creek, lying partially in Oregon, are included in the plan area. This area plan applies only to the Oregon portion of the basin.

#### **Climate**

The climate in the basin is continental where winters are cold, but generally not severe, and summer days are hot, but nights are fairly cool. Average daytime high temperatures generally decrease with increasing elevation. Lower elevation area temperatures average 50 degrees to 55 degrees Fahrenheit with extreme temperatures of 115 degrees and -21 degrees Fahrenheit recorded in recent years. Precipitation ranges from less than 10 inches in a narrow band along the Columbia River to more than 40 inches at high elevations in the Blue Mountains. Most precipitation occurs between October and May with snow in the upper elevations.

#### **Geology**

Elevations in the Walla Walla River basin are about 270 feet at the Columbia River, about 3000 feet along the base of the Blue Mountains, and up to 6,000 feet at mountain crests. The elevation of Milton-Freewater is about 950 feet. Multiple lava flows exceeding 2,500 feet in thickness, known as the "Columbia River Basalt," underlie nearly the entire subbasin. The river basin is divided into two physiographic regions, the Deschutes-Umatilla Plateau and the Blue Mountains.

The Deschutes-Umatilla Plateau is a broad upland plain formed by flow upon flow of basalt, which dip gently northward from the Blue Mountains to the Columbia River. The Blue Mountain region includes the extreme northern extension of the Blue Mountains of Oregon. It was formed by uplifting, folding, faulting, and erosion of a variety of volcanic, sedimentary and metamorphic rock and is characterized by flat-topped ridges, steep-walled canyons, and forested mountain slopes.

The Walla Walla syncline (a broad U-shaped fold) forms the center of the Walla Walla subbasin and forms a deposition basin between the upland areas. These numerous sedimentary deposits include

both areas of clay and gravels deposited on top of the basalt. Younger sedimentary deposits overlie the clay and gravel units. (Umatilla Basin Report, 1988)

## Hydrology

The Walla Walla River and its tributaries drain about 480 square miles in Oregon. Water availability in the Walla Walla River basin is dependent on high-elevation snowpack in the Blue Mountains. Runoff occurs anytime during the precipitation period of October through May, with peaks occurring in April. Flows diminish rapidly after May, reaching their lowest levels in August and September. Streamflows increase in late fall and winter in response to storms migrating in from the Pacific Ocean.

## Soils

An extensive deposit of silty clay known as the Palouse Formation covers much of the uplands. Recent alluvium, consisting of clay, silt, sand, and gravel deposited by present-day rivers and streams is common in river valleys and flood plains. (Umatilla Basin Report, 1988)

A deep deposit of loess (windblown silt and fine sand) covers much of the subbasin that is used for agricultural purposes. Loess is highly erodible, yielding sediment, particularly in the middle and lower reaches of the main stem Walla Walla River. (Watershed Assessment, Upper Walla Walla River Subbasin, 1997).

See Attachment 2 for more detailed description of general soil types. The *Soil Survey of Umatilla County Area, Oregon, 1988*, provides more information about the characteristics of specific soil types found in the area.

## Vegetation

Currently, vegetation in the headwaters of the drainage is primarily evergreen forest, dominated in the higher elevations by Douglas fir and grand fir with an understory of shrubs, grasses, and forbs. In the lower elevation, there is a more open forest dominated by ponderosa pine.

Mid-elevation lands are characterized by stands of timber changing into brush and grass as the elevation declines. Past land management has eliminated much of the native sagebrush and bunchgrass; these have widely been replaced by noxious weeds and other undesirable grasses, shrubs, and broadleaf weeds. Large mid-lower elevation areas have been converted into dryland farming. This is a transition zone, where farmland is intermingled with range. Often, the north slopes will be farmed while the west and south slopes, with shallower soils, are used as range.

A riparian community dominated by cottonwood, alder, willow, and various shrubs occurs throughout the river basin. Cultivation, logging, domestic livestock grazing, residential and commercial development, and flood control activities have affected riparian vegetation throughout much of the mid-lower elevation reaches of the subbasin.

## **Land Ownership and Land Use**

According to the Umatilla Basin Report, 1988, the total acreage in the Oregon portion of the Walla Walla basin is 311,982 acres. Land in private ownership is 256,111 acres (81.7%), mostly in cropland or rangeland. The public owns 55,871 acres (17.8%). Of these public lands, 53,588 acres are managed by US Forest Service, 1942 acres are managed by the Bureau of Land Management, and 41 acres by the State. The US Forest Service has 136 acres of land in the Wenaha-Tucannon Wilderness Area that lie within the Walla Walla River basin.

Agriculture and related trades and industries are the economic base for the area. Production of a number of important food crops has led to the development of a large food-processing complex in the valley. Since farm-gate value is reported for Umatilla County as a whole (\$250 million), it is difficult to determine an exact economic value for agriculture in the Walla Walla River basin alone. 1999 statistics, from the Oregon State University (OSU) Extension Information Office, indicate the value of tree fruit crops and alfalfa seed, which are grown almost exclusively in the Walla Walla basin, at \$8.2 million.

There are about 133,000 acres of cropland in the Walla Walla River basin. Grains, predominantly wheat, account for about 50 percent of crops grown and are located primarily on the higher dryland areas. Green peas account for about 13% and are grown on the drylands where the rainfall is adequate, usually in rotation with wheat. Commercial vegetable and fruit production, concentrated north of Milton-Freewater account for about 9% of the acreage; pasture, alfalfa and other hay account for about 15%; and the remainder is idle or fallow. Approximately 20,000 acres are irrigated with water that is withdrawn from wells and from surface sources.

Livestock production is important in the valley. Most of the estimated 4,800 cow-calf pairs are raised on irrigated pastures with summer grazing on the slopes of the Blue Mountains. There are some small feedlots and dairies in the subbasin.

Forested land in the subbasin is about 88,200 acres. National forests comprise about 54%, private holdings about 43% and State and local government less than 3%. Most forestland has been logged at least once.

The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) have treaty rights and interests in their traditional homeland, which includes the entire Walla Walla Basin, including those relating to natural resources and water quality, such as fishing and subsistence activities.

## **Water Yield and Flow**

The hydrology of the Walla Walla drainage is complex due to its geology and extensive development. The Walla Walla River's flow in Oregon comes largely from two tributaries: the North and South Forks Walla Walla River. Both forks emerge from deep basaltic canyons and join to form the Walla Walla River mainstem about five miles southeast of Milton-Freewater.



Active gages are maintained on the North and South Forks of the Walla Walla River. The South Fork is the larger of the two streams. Average annual yield of the South Fork is more than three times that of the North Fork. Together, they yield about 198,000 acre feet per year.

The Walla Walla River has created an extensive alluvial fan from the gravels supplied by its forks and its channel. Once it flows out of the bedrock canyons of its headwaters, the Walla Walla dissipates a portion of its flow into the deposited gravels. Historically, the mainstem dispersed into multiple channels spreading across the valley floor. The multiple channels, including the Little Walla Walla River, are now used as natural irrigation ditches to carry water to the farms and orchards. (Umatilla Basin Report, 1988)

On an average year, prior to 2001, by June or early July, the Walla Walla River was dry near the state line because of irrigation withdrawals, seasonally low flows, channel bed water losses and evaporative losses. Irrigation and groundwater return flows yield live flow in the Washington section of the Walla Walla River. Increases noted in some wells that pump from the shallow gravel aquifer during the irrigation season are attributed to groundwater recharge from irrigation ditches.

## Water Use

The first irrigation was believed to have occurred in 1846. The earliest water rights of record date to the early 1860's. Some of these rights were established by court decree in the Walla Walla adjudication in 1933. In 1986, the Water Resources Commission withdrew the Walla Walla River and tributaries from further appropriation from the Little Walla Walla diversion to the state-line. Ground water development for irrigation dates back to the early 1900's.

A general provision of law, ORS 537.811, prohibits out-of-state diversions of water without consent of the Oregon Legislature. A 1936 U. S. Supreme Court decision allows Oregon users with senior water rights to divert the entire flow of the Walla Walla River before it enters Washington. Other judicial stipulations require water distribution on interstate tributaries as if the state line did not exist.

Approximately 70% of the surface irrigation water in the Oregon portion of the basin is delivered through two irrigation districts - the Walla Walla River Irrigation District (WWRID) and the Hudson Bay District Improvement Company (HBDIC). The combined water rights for the two districts is approximately 280 cubic feet per second (cfs) with the combined diversion rate peaking at about 150 cfs during June and drops to approximately 60 cfs in September.

The Walla Walla River Irrigation District was formed in 1995 by the consolidation of 5 existing irrigation companies. Almost 500 water rights with priority dates in the late 1800's make up the WWRID that allow for year around diversion. It delivers water to 3,600 acres with water rights from the Walla Walla River. It maintains four diversion sites and 10 canals and ditches totalling 30.4 miles. The irrigation season is from mid-March to mid October. Irrigation water is applied mostly by sprinklers. This application method is most efficient in the prevalent coarse soils. In general, water rights in the WWRID provide for a diversion of 16.8 gallons per minute per acre though modern application methods and current crops may require less water.

The Hudson Bay District Improvement Company was formed in 1952 and took over existing irrigation facilities. It delivers water to approximately 6,900 acres with Walla Walla River surface rights. The water is diverted at the Little Walla Walla diversion and redistributed at the "frog", a centralized distribution facility. The HBDIC maintains five canals and ditches with a combined length of 35.6 miles.

The Little Walla Walla River is a former braided stream section of the Walla Walla River and is used as a primary component of the district's water delivery system. It is considered by court order to be a natural stream even though the flows are regulated by headgates and fish screens that are present.

Water diverted by other basin users, above Milton-Freewater, is done by individual or small group diversions that do not have organized irrigation districts. These diversions account for about 30 cfs. Current projects are being implemented to improve the efficiency of these diversions including improved headgates and flow measuring devices, fish screens, removal or modification of gravel push-up dams, conversion to pump systems and conversion from flood to sprinkler systems. These projects are being carried out by local citizens, irrigation districts, the Walla Walla Basin Watershed Council, the Water Resources Department, Bonneville Power Administration, and the Confederated Tribes of the Umatilla Indian Reservation.

## **Groundwater**

Fractured basalt provides a major ground-water source throughout the river basin. The basalt aquifer is thought to contain ancient water with limited recharge occurring mainly in the Blue Mountains. A major alluvial or gravel aquifer underlies approximately 120,000 acres of the central river subbasin (the Milton-Freewater/Walla Walla area).

Gravels are the major water-conducting material overlying the basalts in the Walla Walla subbasin. Recharge to the gravels occurs from precipitation, infiltration from riverbeds, canals, ditches, and irrigation loss. The water moves down gradient, which is usually down slope along porous and permeable zones in the gravels. Approximately 50,000 acre feet of water moved through the gravels in an average year during the 1930's and 1940's (Umatilla Basin Report, 1988).

The gravel aquifer provides both domestic and irrigation water. Ground water levels vary from near land surface in the winter to as low as 50 feet below land surface in late summer. Annual fluctuations of 20 to 25 feet are common in some wells (Umatilla Basin Report, 1988).

Because the gravel aquifer is shallow and the soils are highly permeable, it is susceptible to degradation from fertilizers, pesticides, septic systems and urban runoff (Umatilla Basin Report, 1988). A groundwater quality study, conducted in April 1999 by the Oregon Department of Environmental Quality (DEQ) in the area north and west of Milton-Freewater, found no levels of contaminants at or above drinking water standards. However, occasional elevated levels of bacteria and nitrates do indicate a need for further study and awareness.

## Fish Resources

The Walla Walla River subbasin is home to several anadromous and resident fish species, of which steelhead and bull trout are listed as threatened under the federal Endangered Species Act. Channelization, low streamflow and high water temperature are factors limiting the production of fish in this subbasin. Measures are being taken by local irrigators, tribes, and agencies to develop a Bi-State Habitat Conservation Plan for protection of these wild fish. The Walla Walla Basin Watershed Council, irrigation districts and producers are actively promoting irrigation efficiency projects to reduce the amount of water diverted from the Walla Walla River. Yearly agreements are being negotiated between the irrigation districts and the US Fish and Wildlife Service to protect irrigation district patrons from liability and to leave adequate water instream to protect and improve fish habitat.

Most major migration barriers have been removed or altered, but passage at push-up dams is still a potential problem. Completion of the new Nursery Bridge Dam fish ladder, in 2001, removed the last permanent structural barrier in the Walla Walla River. All ditches and diversions in the mainstem are screened and diversion structures are being improved to make them more efficient and fish friendly.

Resident and anadromous fish habitat and water temperatures are good in the headwaters of the North and South Forks. Fish habitat quality decreases and water temperature increases as the river flows down through the valley. Water quality remains fairly high, but because of levees to protect property, fish habitat quality (stream complexity and large organic debris) decreases. Mainstem habitat is limited between Milton-Freewater and the state-line because of low flows, U.S. Army Corps of Engineers flood control levees, and diversions.

Steelhead are present with adult and juvenile migration coinciding with the higher streamflows of November through June. Annually, a nine-year average of 483 adult steelhead return to the upper Walla Walla River (Fisheries Management and Evaluation Plan, ODFW, March 2001). This suggests that the steelhead population is near the carrying capacity of 658 fish under current conditions. Most spawning occurs in March through May and smolt out-migration takes place during winter and spring.

Bull trout are found in the Upper Walla Walla River and Mill Creek. Adult bull trout move downstream from headwater tributaries after spawning in the fall, over-winter mostly in the mainstem, and return to the headwaters as waters warm in the spring. Based on spawning surveys, bull trout numbers are increasing with a population of 4,000 estimated in the entire Walla Walla River system.

Small numbers of Western Brook lampreys are present. Lampreys are anadromous and migrate as juveniles, returning to the headwaters to spawn.

Resident fish include redband trout, mountain whitefish and margined and paiute sculpin in the upper watershed and northern pikeminnows, chiselmouth, redbside shiners, largescale suckers and speckled dace in the lower basin.

Spring chinook were indigenous historically to the basin, but were extirpated by the 1920's. The Confederated Tribes of the Umatilla Indian Reservation reintroduced spring chinook salmon to the basin in September 2000 and August 2001. Smolts should migrate in the spring of 2002 and the adults should return in 2004 and 2005.

## **Geographic and Programmatic Scope**

The operational boundaries of this area plan include all agricultural and rural lands that drain to the Walla Walla River and its tributaries within Oregon, except federally managed land and activities subject to the Oregon Forest Practices Act. This plan also applies to agricultural lands in current use and those lying idle or on which management has been deferred. This area plan applies to rural lands not in agricultural use such as private roads, and addresses soil erosion on recreational areas and residential property. The operational boundaries of the plan area are defined in rule OAR 603-095-1720.

### **603-095-1720**

#### ***Geographic and Programmatic Scope***

- (1) The Walla Walla AgWQM Area includes the area in Oregon that drains into the Walla Walla River. The physical boundaries of the Walla Walla River Subbasin are indicated on the map included as Appendix 1 of these rules (Attachment 5 in the plan).***
- (2) Operational boundaries for the land base under the purview of these rules include all lands within the Walla Walla AgWQM Area in agricultural use and agricultural and rural lands which are lying idle or on which management has been deferred, with the exception of public lands managed by federal agencies and activities that are subject to the Oregon Forest Practices Act.***
- (3) The provisions of these rules apply to all agricultural land whether or not in current productive agricultural use.***
- (4) The provisions and requirements outlined in these rules may be adopted by reference by Designated Management Agencies with appropriate authority and responsibilities in other geographic areas of the Walla Walla River Subbasin.***
- (5) For lands in agricultural use within other Designated Management Agencies' or state agency jurisdictions, ODA and the appropriate Local Management Agency (LMA) shall work with these Designated Management Agencies to assure that provisions of these rules apply, and to assure that duplication of any services provided or fees assessed does not occur.***

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## **IV WATER QUALITY ISSUES**

The Federal Clean Water Act (CWA) requires that each state designate beneficial uses, decide which parameters to measure to determine whether beneficial uses are being met, and to set criteria for those parameters. Section 303(d) of the CWA directs states to develop a list of water quality limited streams, which are streams that violate water quality standards and do not support their beneficial uses. The CWA also directs states to develop Total Maximum Daily Loads (TMDL) for 303(d) listed streams. These TMDLs will result in allocations of pollutant loads, e.g. degrees of temperature or milligrams/liter of sediment, to different sources such as private agriculture, urban areas, and federal lands. The TMDL for the Oregon portion of the Walla Walla Basin was approved by EPA in 2005. The Walla Walla TMDL issued temperature targets and an improvement plan to address stream heating in the basin.

The strategies identified in this area plan for reducing pollution from agricultural and rural lands are consistent with goals for non-point source pollution reduction established in the Walla Walla Subbasin Basin TMDL. It is expected that adoption of management practices aligned with the Prevention and Control Measures will, over time, result in achievement of TMDL goals and meeting water quality standards.

### **Beneficial Uses**

Water quality in the Walla Walla Management Area is managed to protect recognized beneficial uses. Beneficial uses of water in the Walla Walla basin are: public and private water supply, industrial water supply, irrigation, livestock watering, anadromous fish passage, salmonid fish rearing and spawning, resident fish and aquatic life, wildlife and hunting, fishing, boating, water contact recreation and aesthetic quality (OAR 340-041-682, table 12). Beneficial uses that are adversely affected, according to current data, include: salmonid fish rearing and spawning, anadromous fish passage, resident fish and aquatic life, irrigation, and fishing.

### **Water Quality Parameters of Concern**

The Federal CWA requires each state to determine water quality by: 1) identifying beneficial uses for each water body; 2) designating parameters to monitor for each beneficial use; and 3) establishing a standard for each parameter. The state is also required to report findings to Congress every two years, and to correct water quality problems.

Section 303(d) of the CWA requires each state to develop a list of water bodies that do not meet the standards designed to protect the most sensitive beneficial use. Water bodies that do not meet standards are placed on the 303(d) water quality limited list.

Four river segments in the Walla Walla subbasin were declared “water quality limited,” under section 303(d) of the CWA when the DEQ last updated the listing in 1998. Water quality standards violations occur for temperature on all four segments and flow modification on the North Fork. Refer to Attachment 1 for complete list of 1998 listed streams or stream segments. In addition,

most assessments of the conditions of the Walla Walla subbasin indicate that sediment is a water quality concern affecting beneficial uses. Management that addresses the conditions described in the Prevention and Control Measures section of this area plan will aid in preventing future water quality listings.

The following discussion of water quality parameters of concern in the watershed addresses the CWA requirements for standards to be established for protection of the most sensitive beneficial uses.

### **Temperature**

Temperature is primarily a summer concern for rearing of anadromous fish species, resident trout and for bull trout. Water temperatures above 70°F can be immediately lethal to salmonids due to a breakdown in their respiration and circulation systems. Temperatures between the mid 60's° to 70°F are stressful to salmonids, and fish survival is reduced as the salmonids are more susceptible to a variety of other agents. The sub-lethal effects associated with higher than optimum temperatures are disease, reduced metabolic energy for feeding, and reduced growth or reproductive behavior due to avoidance of areas with high temperatures. High water temperatures can also create barriers to migration and prevent normal movement of both juvenile and adult fish.

The Oregon temperature standard is defined in OAR 340-041-0028. The applicable biologically based temperature thresholds (numeric criteria) in the subbasin are:

- Salmon and trout rearing and migration (18.0 °C (64.4 °F)) applicable at all times when not superseded by a cooler criterion below
- Core cold water habitat criterion (16 °C (60.8 °F)), applicable year round in waters draining to the mainstem while still in Oregon; except where cooler criteria apply simultaneously
- Salmon and steelhead spawning criterion (13 °C (55.4 °F)), applicable above the state border to the upstream part of the city of Milton-Freewater from January 1 through June 15
- Bull trout spawning and juvenile rearing criterion (12 °C (53.6 °F)), applicable above the state border during times of spawning and rearing

Where DEQ determines that the natural thermal potential of all or a portion of a water body exceeds the biologically-based criteria, the natural thermal potential temperatures supersede the biologically-based criteria, and are deemed to be the applicable temperature criteria for that water body.

Computer simulation of heating of the Walla Walla river indicates that these criteria are not attainable in much of the subbasin in the summer even at conditions approaching natural. In such situations, the temperature standard specifies that the target of the TMDL is "natural thermal potential temperatures" within 0.3 °C human use allowance. (*Walla Walla Subbasin TMDL, 2005*)

### **Flow Modification**

Water withdrawal reduces the amount of water available for aquatic habitat, especially in spawning and rearing areas. Fish migration patterns can also be affected. Reduced amounts of water in the stream channel can contribute to increased stream temperatures as well as increased concentrations of pollutants. Stream flow reduction may also affect riparian vegetation growth, which provides multiple contributions to improving and maintaining water quality. Streams are listed as violating this standard if all four of the following conditions are met: 1) beneficial uses are impaired (based on

aquatic community status or fishery data); 2) there are established or applied for Instream Water Rights; 3) documentation that flows are not frequently being met (based on actual flow measurements); 4) identification of human contribution to the reduction of instream flows below acceptable levels.

### **Sediment**

Sediment includes fine silt and organic particles suspended in the water column, settled particles, and larger gravel and boulders that move at high flows. Sediment movement and deposition is a natural occurrence but high levels of sediment can degrade fish habitat by filling pools, creating a wider and shallower channel and covering spawning gravels. Suspended sediment or turbidity in the water can cause physical damage to fish and other aquatic life, modify behavior and increase temperature by absorbing incoming sunlight. Sediment comes from erosion on range and croplands, erosion from streambanks and streambeds, and runoff from roads and developed areas. Nutrients, pesticides and toxic substances can also be attached to sediment particles.

Ongoing efforts are being carried out by land managers to reduce soil erosion and sediment delivery to streams. However, current U.S. Department of Agriculture (USDA) farm programs do not require soil erosion reduction on the majority of Walla Walla area soils because they are not classified as "highly erodible" and are capable of maintaining productivity while losing up to five tons per acre per year. To maintain adequate water quality for beneficial uses, this area plan addresses soil erosion and sediment by extending USDA farm program soil erosion control requirements to all soil types.

## **Sources of Impairment and Conditions Affecting Water Quality**

Both point and nonpoint sources contribute to water pollution. Point sources discharge pollutants into the water through a pipe or conveyance. In contrast, nonpoint source pollution is pollution emanating from landscape scale sources and typically cannot be tracked to a single point of discharge. Nonpoint sources of pollution in the area include runoff and erosion from agricultural and forest lands, leaching of pollutants to groundwater, eroding stream banks, and runoff from roads and urban areas. Pollutants from nonpoint sources can be carried to the surface water or groundwater through the actions of rainfall, snowmelt, irrigation, and leaching. Increased heat input due to vegetation removal, seasonal flow reduction, changes in channel shape, and floodplain alteration are major nonpoint sources of water quality impairment. Channelization and bank instability may alter gradient, width/depth ratio, and sinuosity, thereby causing undesirable changes in sediment transport regime, erosional and depositional characteristics, and elevated temperature.

The high stream temperatures and low summer streamflows are the main water quality problems in the Walla Walla River subbasin. Stream temperatures can increase from various types of land management activities and natural disturbances, that cause the removal of riparian vegetation or changes in channel morphology, from hydrological factors such as groundwater recharge and discharge and from other factors such as high sediment loads.



Protection of riparian and streamside areas for moderation of stream temperatures are addressed in area rules. Low summer streamflows often result from channel loss and water withdrawals for beneficial uses, primarily irrigation, along with normal seasonal reductions of streamflow. Water withdrawals are regulated by the Oregon Water Resources Department.

### **Total Maximum Daily Loads** *(excerpted from DEQ Fact Sheet-September 2005)*

DEQ developed the TMDL for temperature in partnership with the Walla Walla Basin Watershed Council and in collaboration with the various affected organizations and watershed managers. This effort advanced their understanding of the river.

The lower portions of the Walla Walla River and its tributaries are not cool enough in the summer to fully protect salmon and trout (salmonids) when they rear and spawn. The Walla Walla Basin salmonids that are most sensitive to this heating are: Chinook salmon, steelhead trout and bull trout, present in much of the Basin. During the summer and early fall, low stream flows and high solar input cause the water temperature to rise to levels that can be deadly to cold water species. At temperatures above 65-70 °F, these fish are inefficient at hunting, hiding and processing food. In addition, warmer water can also harm salmonids by increasing the incidence of disease, impairing their ability to spawn, reducing growth rates, and decreasing survival of eggs.

In the Walla Walla Basin, a substantial cause of stream heating results from the removal of trees and other shade-producing vegetation adjacent to the stream. This allows direct sunlight to heat the water. In addition, vegetation disturbance and stream straightening are common causes of bank erosion in the Basin, resulting in wider channels with more solar heating.

The TMDL addresses the problem in several ways:

1. *Provides an estimate of near-natural temperatures along the length of the Walla Walla River.* This allows managers to see where the greatest room for improvement is.
2. *Establishes numeric goals for on-the-ground conditions that would lead to more natural temperatures.* The TMDL identifies vegetation heights and stable channel widths that would provide for lessened, more natural, heating. Potential increased stream flow is also estimated, along with the resultant temperature profile. However, it is important to recognize that DEQ does not regulate flow, nor is the TMDL intended to diminish existing water rights.
3. *The TMDL is accompanied by a management plan designed to establish a cooling trend.* A TMDL Water Quality Management Plan (WQMP) provides a framework with placeholders for various authorities: Oregon Departments of Agriculture and Forestry, the US Forest Service and US Bureau of Land Management. These designated management agencies (DMAs) will provide TMDL water quality management planning and implementation for the area each administers.

## **V STRATEGIES FOR ACHIEVING PLAN GOALS AND OBJECTIVES**

### **Goal**

The goal of this area plan is to establish a framework to protect and maintain beneficial uses and to minimize agriculture's impact on water quality within the Walla Walla AgWQ Management Area. The area plan establishes procedures to identify and control factors that may contribute to pollution originating on agricultural and rural lands.

### **Objectives**

To maintain water quality, an effective strategy must increase awareness of the problems and the range of potential solutions, motivate appropriate voluntary action, and provide for technical and financial assistance to plan and implement effective water pollution prevention and control measures. The following objectives will be employed at the local level by Umatilla County SWCD and the Walla Walla Basin Watershed Council in cooperation with landowners, and other agencies and organizations.

1. Work to maintain and improve the quality of water in the Management Area through planning and implementation of technically sound and economically feasible management practices that contribute to meeting plan goals.
  - A. Control pollution that may be caused by agricultural activities, as close to the source as possible, by controlling soil erosion and sediment delivery to streams.
  - B. Demonstrate reduction in potential sources of pollution from agricultural and rural lands through scientifically valid monitoring and periodic surveys of stream reaches and associated lands, as funds are available.
  - C. Promote implementation of successful practices for: streambank stabilization; reduction in high summer water temperatures, where economically and biologically practical; restoration and enhancement of wetlands and riparian areas; and improved fish habitat.
  - D. Promote implementation of conservation practices to improve irrigation water use and conveyance efficiency to reduce the potential of polluted return flows.
  - E. Promote adaptive management, which encourages adjustments in management based on feedback or monitoring and changing environmental and economic conditions.
2. Create a high level of awareness and an understanding of water quality issues among the agricultural community and rural public in a manner that minimizes conflict and encourages cooperative efforts by providing education and technical assistance activities.
  - A. Incorporate implementation of the area plan as a priority element in the Umatilla County SWCD Annual Work Plan and Long Range Plan and the Walla Walla Basin Watershed Council Action Plan, with support from partner organizations.

- B. Showcase successful practices and systems and conduct annual tours for landowners and media.
  - C. Recognize successful projects and practices through appropriate media and newsletters.
  - D. Promote cooperative on-the-ground projects to solve critical problems identified by landowners and operators and in cooperation with partner organizations.
  - E. Conduct educational programs to promote public awareness of water quality.
  - F. Evaluate current research and scientifically valid monitoring results and conduct such monitoring as may be necessary to better quantify current conditions and objectives contained in this area plan in preparation for biannual plan reviews.
3. Encourage active participation by the agricultural community and rural public in the process of solving water quality problems.
- A. Provide assistance to landowners in development of individual water quality plans and the implementation of best management practices adopted in those plans.
  - B. Review research and development needs with agriculture assistance agencies and consultants to promote the continued development, evaluation, and adoption of practices and technologies that enhance water quality in an efficient, effective, and economic manner.
  - C. Annually identify water quality funding needs with agencies providing cost-share and technical assistance to agricultural operations and promote incentive and cost-share programs to assist implementation of plans and related practices.
4. Achieve plan goals and objectives by encouraging adequate funding and administration of the program to support systematic, long range planning and focusing of coordinated efforts on full-scale, watershed-based approaches, identifying needs, developing projects, actively seeking funding, and ensuring successful implementation of funded projects.

The ODA and the SWCD's primary strategies to reduce amounts of pollution from agricultural and rural lands lie in the reduction of runoff and erosion through a combination of educational programs, riparian area enhancement, implementation of sound land use and irrigation management practices, and monitoring of implementation effectiveness. This will be accomplished by the adoption and compliance with Prevention and Control Measures directly related to water quality.

## **Prevention and Control Measures**

A landowner or operator's responsibility under this area plan is to implement measures that prevent and control the sources of water pollution associated with agricultural activities and rural lands. The sections that follow describe more detailed information related to potential agricultural water quality concerns, provides definitions of commonly used terms, provides dates when landowner compliance should be achieved and provides some exemptions to the rules. Criteria will be applied with consideration of agronomic, horticultural and economic impacts.

**603-095-1740**

***Prevention and Control Measures***

***(1) Limitations:***

***(a) All landowners or operators conducting activities on agricultural lands are provided the following exemptions from the requirements of OAR 603-095-1740 (Prevention and Control Measures).***

***(A) A landowner or operator shall be responsible for only those conditions caused by activities conducted on land managed by the landowner or operator.***

***(B) A landowner or operator is not responsible for conditions resulting from unusual weather events or other uncontrollable circumstances.***

***(C) The Department will allow temporary exceptions when a specific integrated pest management plan is in place to deal with certain weed or pest problem.***

***(b) These rules may be modified as a result of the biennial review of the progress of implementation of the Walla Walla AgWQM area plan.***

## **Waste Management**

A landowner or operator's responsibility under this area plan is to prevent the introduction of waste materials into nearby bodies of water. These requirements are consistent with existing water quality regulations and are enforceable by designated management agencies.

***(2) Waste Management***

***Effective on rule adoption, no person subject to these rules shall violate any provision of ORS 468B.025 or 468B.050.***

Current Oregon Law, ORS 468B.025(1) states:

...no person shall:

(a) Cause pollution of any waters of the state or place or cause to be placed any wastes in a location where such wastes are likely to escape or be carried into the waters of the state by any means.

(b) Discharge any wastes into the waters of the state if the discharge reduces the quality of such waters below the water quality standards established by rule for such waters by the Environmental Quality Commission.

ORS 468B.050 identifies the conditions when a permit is required. A permit is required for certain livestock confinement areas, defined as animal feeding operations or concentrated animal feeding operations (AFO/CAFO), under rules currently being drafted, which are consistent with the federal definitions.

ORS 468B.005 provides the following definitions:

"Wastes," means sewage, industrial wastes, and all other liquid, gaseous, solid, radioactive or other substances, which will or may cause pollution or tend to cause pollution of any waters of the state.

Additionally, OAR 603-095-0010(53) includes but is not limited to commercial fertilizers, soil amendments, composts, animal wastes, vegetative materials or any other wastes.

"Pollution or water pollution" means such alteration of the physical, chemical or biological properties of any waters of the state, including change in temperature, taste, color, turbidity, silt or odor of the waters, or such discharge of any liquid, gaseous, solid, radioactive or other substance into any waters of the state, which will or tends to, either by itself or in connection with any other substance, create a public nuisance or which will or tends to render such waters harmful, detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational or other legitimate beneficial uses or to livestock, wildlife, fish or other aquatic life or the habitat thereof.

"Water or the waters of the state" include lakes, bays, ponds, impounding reservoirs, springs, wells, rivers, streams, creek, estuaries, marshes, inlets, canals, the Pacific Ocean within the territorial limits of the State of Oregon and all other bodies of surface or underground waters, natural or artificial, inland or coastal, fresh or salt, public or private (except those private waters which do not combine or effect a junction with natural surface or underground waters), which are wholly or partially within or bordering the state or within its jurisdiction.

## **Stream-Side and Riparian Area Management**

Areas near water bodies are especially important to water quality and sensitive to management activities because of the natural ecological functions performed there such as water infiltration, waste filtration, erosion control, water storage, and moderation of temperature. Good riparian management provides habitat for fish and may yield more water in the channel in the summer.

Summer water temperatures at sub-optimal levels for aquatic species survival are a concern in some reaches of the Walla Walla subbasin. Moderation of high summer water temperatures is an objective of this area plan. Water temperature can best be influenced by activities that encourage the development and protection of vegetation along streams to provide shade, narrowing and deepening of the channel, and water infiltration and storage within the streambanks. Increasing summer streamflows would also lead to reduced water temperatures. However, issues dealing directly with increasing streamflow are beyond the scope of this area plan.

### ***(3) Streamside and Riparian Area Management***

***(a) Except as provided in OAR 603-095-1740(3)(b), effective January 1, 2006, streamside area management must have allowed the establishment, growth and maintenance of riparian vegetation to promote habitat and protect water quality by filtering sediment, stabilizing streambanks, naturally storing water, and providing shade consistent with the vegetative capability of the site.***

***(b) OAR 603-095-1740(3)(a) does not apply to irrigation water conveyance systems, including, but not limited to, irrigation canals, ditches, laterals, and waterways, such as the Upper Little Walla Walla system, that in the normal course of operation have no return flow into perennial streams where coldwater fish species are present.***

The streamside area is defined as the area near the stream where management practices can most directly influence the conditions of the water. This area usually ranges from 10 feet to 100 feet from the water, depending on the slope, soil type, stream size and morphology.

The riparian area, as defined in OAR 141-110-0020(28), is a zone of transition from an aquatic to a terrestrial system, dependent upon surface or subsurface water, that reveals through the zone's existing or potential soil-vegetation complex the influence of such surface or subsurface water. A riparian area may be located adjacent to a lake, reservoir, estuary, pothole, spring, bog, wet meadow, muskeg, slough, or ephemeral, intermittent or perennial stream.

Water is the distinguishing characteristic of these areas but soil, vegetation and landform also exert strong influence on these systems. In a healthy riparian ecosystem, these four components interact to produce a wide variety of conditions.

Healthy riparian areas provide several important ecological functions. These include:

- Floodwater retention and ground water recharge
- Stabilization of streambanks through plant root mass
- Development of diverse channel characteristics providing pool depth, cover, and variations in water velocity necessary for fish production
- Support of biodiversity
- Moderation of solar heat input by shade
- Recruitment of large woody debris for aquatic habitat

Indicators to determine improvement of this condition include:

- Recruitment of desirable riparian plant species
- Maintenance of established beneficial vegetation
- Maintenance or recruitment of woody vegetation -- both trees and shrubs
- Streambank integrity capable of withstanding 25-year flood events

Factors available to evaluate improvement of the streamside area condition could include:

- Expansion of riparian area as evidenced by development of riparian vegetation and plant vigor
- Reduction in actively eroding streambank length beyond that expected of a dynamic stream system
- Plant community composition changes reflecting increases in grass-sedge-rush, shrubs, and litter and decreases in bare ground
- Plant community composition reflecting decreases in noxious plant species
- Stream channel characteristics showing a narrowing and deepening of the channel
- Shade patterns consistent with site capability
- Stubble height of herbaceous (grass) species and leader (new) growth of shrubs and trees

#### Characteristics of a healthy riparian area condition evaluation:

- Actively eroding streambank of no more than 20-25% of total streambank length
- Shade levels of 50-70% at midday on 4th order or less streams
- Stubble height measurements, dependent on species, of 4 to 6 inches of herbaceous species left prior to spring runoff
- Growth and recruitment of shrubs and trees - no more than 50% utilization of annual growth of shrubs and trees.

The LAC has determined that the irrigation canals and ditches in the area served by the Walla Walla River Irrigation District and the Hudson Bay District Improvement Company should be exempt from the riparian vegetation requirement. These waterways are maintained for the delivery of irrigation water to cropland within the boundaries of the Districts. There is minimal flow of water from these irrigation canals and ditches back into perennial streams and the ditches are screened to prevent the introduction of fish. Therefore, since there are no known impacts to fish spawning and rearing streams within the canal system, moderation of water temperature is not required. Water that does infiltrate into the gravel aquifer and recharges groundwater or re-emerges as streamflow usually is cooler than the receiving stream water. Maintenance of riparian vegetation along ditches and canals within the intense fruit growing areas would create a hazard by providing host vegetation for fruit pests and would result in increased use of pesticides.

All other irrigation diversions in the Walla Walla River basin must prevent overland return flows that may carry pollutants into the receiving streams.

### **Uplands Management and Soil Erosion**

A landowner or operator must implement measures that prevent and control water pollution from upland runoff and soil erosion. This includes agricultural and rural lands that may not be in close proximity to water bodies.

Soil erosion on uplands must be within acceptable limits. While soils lost through erosion may not necessarily enter waters of the state, due to distance from the stream or to practices such as terraces and filter strips, the reduction in such erosion will reduce the likelihood that soils will enter area streams.

**(4) Soil Erosion and Sediment Control**

**(a) Effective on January 1, 2006, landowners must control upland soil erosion using practical and available methods.**

**(b) Landowners must control active channel erosion to protect against sediment delivery to streams.**

**(c) On croplands, a landowner may demonstrate compliance with this rule by:**

**(A) operating consistent with a SWCD-approved conservation plan that meets Resource Management Systems(RMS) quality criteria for soil and water resources; or**

**(B) operating in accordance with an SWCD-approved plan for Highly Erodible Lands (HEL) developed for the purpose of complying with the current US Department of Agriculture (USDA) farm program legislation; and farming non-HEL cropland in a manner that meets the requirements of an approved USDA HEL compliance plan for similar cropland soils in the county; or**

**(C) farming such that the predicted sheet and rill erosion rate does not exceed 5 tons/acre/year, as estimated by the Revised Universal Soil Loss Equation (RUSLE);**

**(D) constructing and maintaining terraces, sediment basins, or other structures sufficient to keep eroding soil out of streams.**

**(d) On rangelands, a landowner may demonstrate compliance with this rule by:**

**(A) operating consistent with a Soil and Water Conservation District (SWCD)-approved conservation plan that meets Resource Management Systems (RMS) quality criteria for soil and water resources, or**

**(B) maintaining sufficient live vegetation cover and plant litter to capture precipitation or slow the movement of water, increase infiltration, and reduce excessive movement of soil off the site; or**

**(C) minimizing visible signs of erosion, such as pedestal or rill formation and areas of sediment accumulation.**



Upland areas are the rangelands, forests and croplands upslope from the riparian areas. These areas extend to the ridge tops of watersheds. Vegetation and soils are distinguishing characteristics of upland areas. With a protective cover of crops, grass (herbs), shrubs or trees, consistent with site capability, these areas will capture, store and safely release precipitation, thereby reducing the potential of excessive soil erosion or delivery of soil or pollutants to the receiving stream or other waters. Vegetation is dependent on physical characteristics including soil, geology, landform, water and other climate factors. Healthy uplands maintain productivity over time and are resilient to stresses caused by variations in physical and climatic conditions.

Healthy upland areas provide several important ecological functions. These include:

- Capture, storage, and safe release of precipitation
- Provide for plant health and diversity that support habitat (cover and forage) for wildlife and livestock
- Filtration of sediment
- Filtration of polluted runoff
- Provide for plant growth, particularly root mass that utilizes nutrients and stabilizes soil against erosion

Indicators of these conditions include:

- Recruitment of beneficial plant species
- Groundcover to limit runoff of nutrients and sediment
- Cropland cover that is sufficient to limit movement of nutrients and sediment
- Roads and related structures designed, constructed and maintained to limit sediment delivery to streams
- Noxious weed and insect pest populations contained - see state weed laws and county weed regulations to determine weed species that must be controlled

Factors to evaluate upland area condition may include:

- Vegetation utilization through stubble height measurements
- Plant species composition to measure plant health and diversity
- Ground cover (live plants, standing plant litter and ground litter) as a measure of potential erosion
- Evidence of overland flow (pattern and quantity)
- Site productivity (domestic livestock and wildlife carrying capacity)
- Soil erosion potential through prediction models available through NRCS

Cropland management systems must be designed to control sheet and rill erosion and gully erosion on all cropland, not just land designated as Highly Erodible Land (HEL). The RUSLE can estimate average annual sheet and rill erosion rates over a cropping rotation, with supporting data from the NRCS Field Office Technical Guide and similar data from other credible sources.

Rangeland and pasture management must allow vegetation sufficient to protect water quality by providing water infiltration, filtering of sediment and animal wastes, and controlling soil erosion within the capability of the site.

Private roads on rural lands or roads used for agricultural activities should be constructed and maintained to limit runoff of sediment into waters of the state. Roads used for activities subject to the Oregon Forest Practice Act are regulated by Forest Practice Act rules. Homesteads, farmsteads and other non-crop areas should be managed to control runoff of sediment and animal wastes into waters of the state.

For more information on effective management practices for prevention and control of runoff from upland areas, see Attachment 3.

## **Irrigation Management**

A landowner or operator must implement measures that prevent and control water pollution from irrigation activities. Diversion of water for irrigation and the return of water to the stream are activities that have potential for contributing to water quality problems by affecting channel stability and carrying pollutants to the stream through overland return flows.

**OAR 603-095-1740(2) is applicable to any pollution caused by irrigation practices which allow wastes to enter waters of the state through overland return flows.**

Diversion of water from a waterbody to be applied on land for the purpose of growing crops is a recognized beneficial use of water. Irrigation water use is regulated by the Oregon Water Resources Department in the form of water rights, which specify the rate and amount of water that can be applied to a particular parcel of land. Refer to Oregon Water Resources Department laws and rules (OAR Division 690 and ORS Chapters 536 through 543) for more details.

Irrigation in this basin is done primarily by sprinkler application though there is some flood, furrow and drip irrigation. Water usually is diverted from a surface source (stream or pond) but may also be from groundwater sources. Irrigation management in this basin recognizes there may be some positive benefits that occur from irrigation application - including flow augmentation as water returns back to the stream, cooling and filtering of water through underground percolation, and the recharge of shallow wells and springs due to the connectivity of surface water to ground water sources. Irrigation water may be used more than once as it returns to the stream or irrigation conveyance ditch and is available for instream uses or by other irrigators. Ultimately, streamflows will be enhanced by upland and riparian management practices promoting natural upstream storage and properly functioning floodplains that catch, store, and safely release precipitation for beneficial uses during summer months.

Characteristics of an irrigation system that has minimal effect on water quality include:

- Efficient application of water to the land within legal water rights
- Minimal overland return flows
- Return flow routing that provides for settling, filtering and infiltration

- Minimal effect on stability of streambanks and minimal soil erosion
- Appropriate scheduling of water application to the site considering soil conditions, crop needs, climate and topography
- Diversion structures that are installed and managed in a way that controls erosion and sediment delivery and protect the stability of streambanks. If funding becomes available, temporary diversions, which must be reinstalled every year, should be replaced with suitable permanent diversions (i.e. pumping stations, infiltration galleries, ponds, dams).
- Diversions that are adequately screened and provide fish passage. (Refer to ORS 498.268)

Refer to Attachment 3 for more information on effective management for protection of irrigation return flows.

## **Livestock Management**

A landowner or operator must implement measures as needed to prevent and control water pollution from livestock enterprises. Careful management of areas used for grazing, feeding and handling are critical to the success of livestock operations and have potential to affect water quality by the runoff of sediment and animal wastes containing bacteria, nutrients, and pathogens.

**OAR 603-095-1740(2) and (3) apply to runoff of animal waste and streamside or riparian vegetation conditions.**

Grazing of livestock can be done in a manner that limits soil erosion and minimizes the delivery of sediment and animal wastes to nearby streams. A grazing management system will promote and maintain adequate vegetative cover, for protection of water quality, by consideration of intensity, frequency, duration, and season of grazing.

Managed grazing near streams will prevent negative impacts to streambank stability, allow for recovery of plants, and leave adequate vegetative cover to ensure protection of riparian functions including shade and habitat. Offstream watering systems, upland water developments, feed, salt and mineral placement are effective ways to reduce impacts of livestock to streamside areas.

Livestock confinement areas need adequate measures to prevent and control runoff of sediment and animal waste. Certain confinement areas, as defined in ORS 468B.200 - 230, are required to have permits issued by ODA.

Factors used to evaluate effectiveness of management may include:

- Safe diversion or containment of runoff
- Protection of clean water sources
- Off stream watering systems
- Lot maintenance - smoothing, mounding, seeding
- Structural measures -i.e. filter strips, catch basins, berms
- Waste collection, storage and application methods

For more information on effective management practices for prevention and control of pollution from livestock operations refer to Attachment 3.

## **Implementation Strategies**

The following guidelines will apply for public participation in implementation and review of the area plan. The ODA and the SWCD intend to encourage participation in this water quality improvement program by:

- Providing educational programs to raise public awareness and understanding of water quality issues and solutions
- Providing incentives for the development and implementation of effective agricultural management practices for prevention and control of agricultural pollution
- Offering technical assistance for the development and implementation of Voluntary Water Quality Farm Plans
- Developing a monitoring program to identify current and potential water quality problems
- Following up on any water quality complaints and provide assistance in solving identified problems

## **Education Programs**

As resources allow, the SWCD, Watershed Council, and OSU Extension Service, in partnership with other agencies and local organizations, will develop educational programs to improve the awareness and understanding of water quality and quantity issues. They will strive to provide the most current information in a manner which avoids conflict and encourages cooperative efforts to solve problems. The following is a list of action items that will be considered in developing educational programs.

- Showcase successful practices and systems and conduct annual tours for landowners and media
- Recognize successful projects and practices through appropriate media and newsletters
- Promote cooperative on-the-ground projects to solve critical problems identified by landowners/operators and in cooperation with partner organizations
- Conduct educational programs to promote public awareness of water quality
- Evaluate current research and scientifically valid monitoring results and conduct such monitoring as may be necessary to better quantify current conditions and objectives contained in this area plan in preparation for biannual plan reviews

Implementation of this area plan is a priority element in the Umatilla County SWCD Annual Work Plan and Long Range Plan and the Walla Walla Basin Watershed Council Action Plan. Both organizations hold regular monthly public meetings, publish newsletters, and sponsor special events that will often focus on water issues. In cooperation with OSU Extension and the irrigation districts, community meetings will continue to be encouraged, as needed, to provide a forum for current water issues.

## **Water Quality Management Practices**

Effective water quality management practices for water pollution control are those management practices and structural measures that are determined to be the most effective, practical means of controlling and preventing pollution from agricultural activities.

Appropriate management practices for individual farms may vary with the specific cropping, topographical, environmental, and economic conditions existing at a given site. Due to these variables, it is difficult to recommend any uniform set of management practices to improve water quality relative to agricultural practices.

Management practices and land management changes are most effective when selected and installed as integral parts of a comprehensive resource management plan based on natural resource inventories and assessment of management practices. The result is a system using the management practices and land management changes that are designed to be complementary, and when used in combination are more technically sound than each practice separately.

A detailed listing of a number of specific practices and management measures that can be employed to control or reduce the risk of agricultural pollution are contained in other documents such as the Field Office Technical Guide, available for reference at the local NRCS office. While not exhaustive or all-inclusive, Attachment 3 contains a list of practices that may typically be used in the Walla Walla River basin for effective prevention and control of soil erosion, sediment delivery to streams, and water pollution from agricultural activities.

## **Voluntary Water Quality Farm Plans**

This area plan recognizes that planning for water quality is only part of a successful plan for overall management of agricultural and rural land, and that other personal and public objectives must also be considered in total farm or resource management planning.

Landowners and operators have flexibility in choosing management approaches and practices to address water quality issues on their lands. They may implement management systems on their own without a plan or may develop a plan that suits the needs of their operation. The LMA recommends that voluntary water quality plans be developed to assist the landowners and operators to assess the conditions on their lands, identify problems or potential problems on their land and to describe measures and resources needed to address those problems.

Voluntary water quality plans describe the management systems and schedule of conservation practices that the landowner will use to conserve soil, water, and related plant and animal resources on all or part of a farm or ranch unit. Voluntary water quality plans may be developed by landowners or operators, consultants, or technicians available through the SWCD or NRCS. An effective individual water quality plan will outline specific measures necessary to prevent or control water pollution and soil erosion from agricultural activities and to address the "Prevention and Control Measures" outlined in this AgWQM area plan.

## Technical & Financial Assistance

It is not the intent of this area plan to impose a financial hardship on any individual. It is the responsibility of the landowner or operator to request technical and/or financial assistance and to develop a reasonable timeframe for addressing potential water quality problems.

As resources allow, the SWCD, NRCS, and other natural resource agency staff are available to assist landowners in evaluating effective practices for reducing runoff and soil erosion on their farms, and incorporating these practices into voluntary individual water quality plans. Personnel in these offices can also design and assist with implementation of practices, and assist in identifying sources of cost-sharing or grant funds for the construction and use of some of these practices.

Technical and financial assistance for installation of certain management practices may be available through current USDA conservation programs such as the Environmental Quality Incentives Program (EQIP), Conservation Reserve Program (CRP), Conservation Reserve Enhancement Program (CREP), Continuous CRP (CCRP), Environmental Protection Agency's (EPA) non-point source implementation grants, or state programs such as the Oregon Watershed Enhancement Board grant program, the Riparian Tax Incentive Program, and the Wildlife Habitat Conservation and Management Program. The Walla Walla Basin Watershed Council and several other federal and state agencies are also available to provide technical assistance and/or financial assistance to private landowners.

Farm planning assistance is available from these and other sources:

- Technical Assistance
  - Natural Resources Conservation Service
  - Umatilla County SWCD - Technical Watershed Specialist
  - Walla Walla Basin Watershed Council
- Workbooks and publications
  - Voluntary Conservation On Your Land, NRCS/Oregon Association of Conservation Districts (OACD)
  - Oregon Small Acreages Conservation Toolbox, NRCS/OACD
  - WESt Program Workbook, Oregon Cattleman's Association/Extension
  - Ranch Water Quality Planning Workbook, Extension
  - The Oregon Plan Toolbox
- Programs
  - Farm\*A\*Syst Program, OSU Extension
  - Stream\*A\*Syst Program, OSU Extension
  - Home\*A\*Syst Program, OSU Extension

## Monitoring and Evaluation

The progress and success of implementation efforts will be assessed through determination of changes in land management systems and the measurement of water quality improvement over time.

Monitoring activities are integral components of area plans. When effectively used, monitoring activities can provide valuable information on how much effect a plan is having, how extensively it

is being implemented, and where more efforts are needed in a basin. For the purposes of area plans, four main types of monitoring are appropriate. These are:

1. Baseline condition monitoring

- Baseline condition monitoring provides a starting point for assessing water quality trends and for future evaluation of the effectiveness of water quality improvement efforts. Baseline condition monitoring typically includes identification and analysis of data previously and currently collected in the area according to accepted protocols.

2. Water quality trend monitoring

- Water quality trend monitoring can help to track how water quality (typically on a watershed or sub-watershed scale) is changing over time, including after implementation of an area plan. It is recommended that trend monitoring follow recommendations in the Oregon Plan Water Quality Monitoring Technical Guide. This guide book describes accepted procedures and protocols for most activities that would be used to conduct baseline condition and trend monitoring on a watershed scale, including development of quality assurance/quality control plans to assure quality of data and protocols for data collection.

3. Effectiveness monitoring

- Evaluate the effectiveness of specific management practices in reducing losses or loadings of components such as sediment or nutrients. The NRCS has a good amount of information about the effectiveness of various practices in protecting surface water and groundwater quality.
- Evaluate the net effect of the implementation of an area plan and watershed improvement activities on water quality trends.

4. Compliance monitoring

- Conducted as a part of a compliance investigation, this type of monitoring is specific to individual sites. Site-specific information and data are collected to characterize and quantify the physical setting and land management conditions that relate to a potential rule or standards violation. Photographic documentation of the suspected problem is typically also included in the assessment. Water samples may be taken for chemical or biological analysis.

When used effectively, monitoring activities can provide valuable information on how much effect a plan is having, how extensively it is being implemented, and where more efforts are needed in a basin.

Currently, the Walla Walla Basin Watershed Council, in cooperation with DEQ, the Confederated Tribes of the Umatilla Indian Reservation and other agencies, are conducting a comprehensive

monitoring program to gather water quality data to be used in development of the TMDL. This data will be available to establish baseline conditions for determining effectiveness of the area plan.

## **Biennial Review**

This area plan and the associated area rules are subject to a two-year review process. The ODA, with the cooperation and assistance of the SWCD, the LAC, and DEQ, will assess the progress of area plan implementation toward achievement of plan goals and objectives. These assessments will include:

1. An accounting of the numbers and acreage of operations with approved Voluntary Individual Water Quality Farm Plans and the calculated amount of soil erosion and pollution prevented.
2. Identification of additional sources of sediment, heat inputs, and other contributors to non-attainment of all applicable water quality standards.
3. An evaluation of available current water quality monitoring data.
4. An evaluation of outreach and education programs designed to provide public awareness and understanding of water quality issues.
5. A review of projects, demonstrations, and tours used to showcase successful management practices and systems.
6. An evaluation of the effectiveness of technical and financial assistance sources available to the agricultural community.
7. Review of load allocations as found in the Walla Walla subbasin TMDL and effectiveness of this area plan in meeting load allocations as described in the TMDL for the Walla Walla River basin.

Based on these assessments, the LAC, Umatilla County SWCD, and the ODA, in consultation with the State Board of Agriculture will consider making appropriate modifications to the area plan and the associated administrative rule.

## **Resolution of Complaints and Enforcement Action**

The ODA will investigate complaints against landowners and operators who are alleged to be out of compliance with the rules associated with this area plan. If the landowner is found to be out of compliance, ODA will consult with the landowner/operator and the SWCD. The Field Office Technical Guide will be the main tool to develop solutions and timelines. The authority and procedures for complaint investigation rests with the ODA under provisions of OAR 603-095-1760.

Landowners with chronic or egregious violations of area rules will be subject to enforcement action by ODA. Any enforcement action will be pursued only when reasonable attempts at voluntary solutions have failed. ODA will not enter onto private lands without first seeking landowner consent. Authority for any enforcement action rests with ODA under provisions in OAR 603-090-0060 through 603-090-0120.



**603-095-1760**

***Complaints and Investigations***

*(1) When the department receives notice of an alleged occurrence of agricultural pollution through a written complaint, its own observation, through notification by another agency, or by other means, the department may conduct an investigation. The department may, at its discretion, coordinate inspection activities with the appropriate LMA.*

*(2) Each notice of an alleged occurrence of agricultural pollution shall be evaluated in accordance with the criteria in ORS 568.900 through 568.933 or any rules adopted thereunder to determine whether an investigation is warranted.*

*(3) Any person allegedly being damaged or otherwise adversely affected by agricultural pollution or alleging any violation of ORS 568.900 through 568.933 or any rules adopted thereunder may file a complaint with the department.*

*(4) The department will evaluate or investigate a complaint filed by a person under section OAR 603-095-1760(3) if the complaint is in writing, signed and dated by the complainant and indicates the location and description of:*

*(a) The waters of the state allegedly being damaged or impacted; and*

*(b) The property allegedly being managed under conditions violating criteria described in ORS 568.900 through 568.933 or any rules adopted thereunder.*

*(5) As used in section OAR 603-095-1760(4), "person does not include any local, state or federal agency.*

*(6) Notwithstanding OAR 603-095-1760(4), the department may investigate at any time any complaint if the department determines that the violation alleged in the complaint may present an immediate threat to the public health or safety.*

*(7) If the department determines that a violation of ORS 568.900 through 568.933 or any rules adopted thereunder has occurred, the landowner may be subject to the enforcement procedures of the department outlined in OAR 603-090-0060 through 603-090-0120.*

## **VI ADMINISTRATIVE ROLES AND RESPONSIBILITIES**

### **Designated Management Agency**

The ODA is the Designated Management Agency for water pollution control activities on agricultural and rural lands in the Walla Walla Water Quality Management Area. The ODA is authorized to develop and carry out a water quality management plan for any agricultural or rural lands where state or federal law requires such a plan.

Umatilla County SWCD is the Local Management Agency (LMA) designated by ODA for development and implementation of the AgWQM area plan and projects in the Management Area. The Walla Walla Basin Watershed Council will assist the LMA in implementation and review of the area plan and related projects. Implementation priorities will be established on a periodic basis through annual work plans developed jointly by the SWCD and ODA with input from partner agencies.

The Director of the ODA, in consultation with the State Board of Agriculture, appointed a Local Advisory Committee (LAC) representing local agricultural producers, landowners, agencies, tribes, environmental organizations and the district, for the purpose of assisting with the development of this area plan and the associated area rule to implement core elements of the area plan.

The LMA and LAC will participate in biennial review of area plan implementation progress. Any future amendments to the administrative rules will be subject to the public participation process outlined in Oregon law.

### **Total Maximum Daily Loads**

The DEQ is required by federal law to establish formal "TMDLs" for pollutants in waters designated as "water quality limited." The TMDL will set maximum limits on the amount of pollutants allowed to enter in the area waters. This loading capacity is calculated to achieve water quality standards.

Each jurisdiction in the Walla Walla AgWQM Area will be allotted a portion of the TMDLs, representing the maximum amount of pollutant, that may be discharged daily, from the lands managed by the respective jurisdiction to the Walla Walla River system. This amount is the jurisdiction's "Load Allocation" (LA). The DEQ has requested appropriate Designated Management Agencies in the basin develop pollution control plans and programs designed to achieve the load allocations. OAR Chapter 340, Division 41, sections 026, 120 and 642 requires these AgWQM area plans and sets the water quality standards.

Consistent with this area plan and the memorandum of understanding between DEQ and ODA, an objective of this area plan will be to meet Walla Walla River load allocations. At the time of publication of this area plan, these loads are not available. The periodic two-year review for this area plan will enable modifications as needed to implement management that reduces pollution as indicated by the load allocations.

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# ATTACHMENTS

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**Attachment 1 - Water Quality Limited Reaches in the  
Walla Walla Subbasin**

<b>Name</b>	<b>Description</b>	<b>Parameter</b>
Mill Creek	Washington border to Tiger Creek	Temperature: Bull Trout (summer)
Walla Walla River	Mouth to confluence of North and South Forks	Temperature (summer)
North Fork, Walla Walla River	Mouth to Headwaters	Flow Modification Temperature: Bull Trout (summer)
South Fork, Walla Walla River	Mouth to Headwaters	Temperature (summer)

From the 1998, 303(d) list

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## Attachment 2 – Soils

**Alluvial** soils are on nearly level to gently sloping valley bottoms near the rivers and creeks, fanning northwest from Milton-Freewater. They vary from excessively to poorly drained. These soils are often irrigated and are adapted to a wide variety of crops. Several unconsolidated sedimentary layers have been deposited. A clay layer up to 500 feet thick was deposited on top of the basalts in the central portion of the subbasin. A thick (10-300 feet) composite alluvial fan was deposited directly on the basalts along the margins of the Walla Walla subbasin. Composed mainly of gravel, the fan material becomes finer toward the center of the basin where it interfingers with the clay unit. The gravel is composed mainly of well-rounded pebble, cobble, and boulder sized basaltic material. Compaction of the alluvial fan with a mixture of silt and sand make the gravels semi-consolidated. In places, calcareous cement also bonds the gravels.

**Athena-Palouse-Waha** association of soils occur east of Milton-Freewater on the lower slopes of the Blue Mountains. Most of the Athena and Palouse and a part of Waha are cultivated in annual cropping rotation of winter wheat and green peas or other legumes. The remainder of these soils are in range with a dominant native vegetation of Idaho Fescue and bluebunch wheatgrass. These soils are well adapted to irrigation except in areas of unfavorable topography.

**Ritzville-Starbuck** association of soils is developed from loess and found mostly on the northwestern end of the subbasin. Most of the Starbuck and some Ritzville are used for range. Ritzville soils are well adapted for irrigation.

**Sagemoor-Quincy-Taunton** association of soils is formed on the medium-textured glacial sediments and also located in the northwestern corner of the subbasin. Winter range for sheep is the principal use of these soils with the vegetation being bluebunch wheatgrass, annual grasses, and sagebrush. A small portion of Sagemoor is producing wheat successfully. These soils are reasonably well adapted to irrigation.

**Tolo-Klicker** association occurs in the eastern subbasin, in the high country of the Blue Mountains with nearly level to gently sloping uplands, which break off to very steeply sloping canyon walls. Most of these soils support forest or mixed-forest-grass type vegetation, which is used for summer grazing of livestock. Minor areas of all the deep soils are cultivated and produce small grains, legumes, grass, and berries. The shallow, stony soils are used for range.

**Waha-Snipe** association is found on the lower slopes of the Blue Mountains from nearly level to very steep slopes. These soils are used mostly for relatively high-producing range. The major vegetation is Idaho fescue, bluebunch wheatgrass, and shrubs.

The **Walla Walla** series of soils has four phases, each developed from loess. Two are present in the subbasin - Walla Walla and Walla Walla high rainfall - and are used for wheat production in both a wheat-fallow rotation and a wheat-green pea rotation. Both would be very well adapted for irrigation.



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## **Attachment 3 - Effective Water Quality Management Practices**

These practices and many others may be considered in development of a management system that is appropriate for prevention and control of pollution caused by agricultural activities on an individual parcel of land. Management practices and land management changes are most effective when selected and installed as integral parts of a comprehensive resource management plan based on natural resource inventories and assessment of management practices. The result is a system using management practices and land management changes which are designed to be complementary, and when used in combination, are more technically sound than each practice separately.

### **For soil erosion and sediment control**

- Conservation Tillage (Crop Residue Management)  
reduced tillage, minimum tillage, direct seeding, modified conventional tillage, reservoir tillage, sub-soiling, or deep chiselling.
- Cover Crops  
perennial, annual
- Contour Farming Practices  
strip cropping, divided slopes, terraces (level and gradient), contour tillage
- Crop Rotations
- Early or Double Seeding in Critical Areas
- Vegetative Buffer Strips  
filter strips, grassed waterways, field borders, contour buffer strips
- Irrigation Scheduling  
soil moisture monitoring  
application rate monitoring
- Prescribed Burning
- Weed Control
- Grazing Management Plans
- Range Plantings
- Livestock Distribution
- Road Design and Maintenance
- Sediment Retention Basins and Runoff Control Structures

### **For prevention and control of impacts to stream side areas:**

- Critical area planting
- Vegetative Buffer Strips  
Continuous CRP, CREP, riparian buffers, riparian forest buffers
- Livestock Management  
fencing - exclusion, temporary  
seasonal grazing
- Water Developments  
off stream watering, water gaps, spring development
- Conservation Tillage Practices

- Weed Control
- Nutrient and Chemical Application Scheduling
- Road, Culvert, Bridge, and Crossing Maintenance
- Wildlife Management

#### **For prevention and control of impacts from livestock**

- Grazing Management or Scheduling  
intensity, duration, frequency, season  
pasture rotations, rest/deferral
- Vegetation Management  
grass seeding, weed control, controlled burning
- Fencing  
temporary, cross, enclosure
- Watering Facilities  
spring development, water gaps, off-stream water, (may require water rights, refer to ORS 537.141)
- Salt and Mineral Distribution
- Waste Management Systems  
clean water diversions; waste collection, storage, and utilization; facilities operation and maintenance

#### **For prevention and control of impacts from irrigation**

- Irrigation Scheduling  
crop needs, soil type, climate, topography, infiltration rates
- Irrigation System Efficiency and Uniformity  
flood, sprinkler, drip, pivot
- Diversion Maintenance  
push-up dam management, screens
- Return Flow Management
- Backflow Devices
- Reservoir Tillage
- Cover Crops

#### **For nutrient and farm chemical application**

- Nutrient Budgeting  
soil testing, tissue testing, plant needs  
water testing
- Application Methods
- Application Timing
- Tail Water Management
- Hydraulic Connectivity
- Label Requirements

- Irrigation Scheduling
- Integrated Pest Management Practices

**For channel and drain management**

- Vegetation Management  
Burning, chemical, clipping
- Streambank Stabilization  
structural, bio-engineered
- Critical area planting
- Channel Management
- Obstruction Removal
- Wetland Development
- Outfall Protection
- Offstream or Headwater Storage

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## Water Quality

## Water Quality Assessment Database

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## Oregon's 2010 Integrated Report

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Lookup LASAR  
Station dataLink to LASAR  
Web

Basin Name	Water Body LLID	Pollutant	Season	Criteria	Beneficial Uses	Status	2010 Assessment Action	[Data Source] Supporting Data
Subbasin	River Miles							
4th Field	Segment Miles							
HUC	Beach Name							
Record ID	Beach ID							
Middle Columbia	Birch Creek 1183796459999	Flow Modification	Undefined	The creation of tastes or odors or toxic or other conditions that are deleterious to fish or other aquatic life or affect the potability of drinking water or the palatability of fish or shellfish may not be allowed.	Salmonid fish spawning; Resident fish and aquatic life; Salmonid fish rearing	Water quality limited not needing a TMDL	No 2010 action	Previous Status: Water quality limited not needing a TMDL Previous Action: Delisted - Water quality limited, not a pollutant Previous Assessment Year: 2002
Walla Walla 17070102	11							
5169								
Middle Columbia	Birch Creek 1183796459999	Habitat Modification	Undefined	The creation of tastes or odors or toxic or other conditions that are deleterious to fish or other aquatic life or affect the potability of drinking water or the palatability of fish or shellfish may not be allowed.	Resident fish and aquatic life; Salmonid fish rearing; Salmonid fish spawning	Water quality limited not needing a TMDL	No 2010 action	Previous Status: Water quality limited not needing a TMDL Previous Action: Delisted - Water quality limited, not a pollutant Previous Assessment Year: 2002
Walla Walla 17070102	11							
5244								
Middle Columbia	Birch Creek	Sedimentation	Undefined	The	Resident	Insufficient	No 2010	

00252

								2004
Middle Columbia	North Fork Walla Walla River	Temperature	Year Around (Non-spawning)	Bull trout spawning and juvenile rearing: 12.0 degrees Celsius 7- day-average maximum	Bull trout spawning and juvenile rearing	Cat 4A: Water quality limited, TMDL approved	No 2010 action	Previous Data: TMDL Approved: 9/29/2005 2004 Data: [BLM - Vale] LASAR 27798 River Mile 8.2: From 5/20/2001 to 9/9/2001, 79 days with 7-day- average maximum > 12 degrees Celsius. Previous Status: Cat 4A: Water quality limited, TMDL approved Previous Action: New Cat 4A: Water quality limited, TMDL approved Previous Assessment Year: 2004
Walla Walla 070102	1183076458986 0 to 18.7 18.7							
12592								
Middle Columbia	Pine Creek	Alkalinity	Year Around	Table 20 Toxic Substances	Aquatic life	Cat 3: Insufficient data	No 2010 action	Previous Data: [DEQ] LASAR 24167 River Mile 23.7: From 8/17/2000 to 8/17/2000, 0 out of 1 samples < 20 mg/L (Table 20 criterion). [DEQ] LASAR 23503 River Mile 5.2: From 8/16/2000 to 8/16/2000, 0 out of 1 samples < 20 mg/L (Table 20 criterion). [DEQ] LASAR 17150 River Mile 23.3: From 1/21/1998 to 1/21/1998, 0 out of 1 samples < 20 mg/L (Table 20 criterion). [DEQ] LASAR 17149 River Mile 23.4: From 1/21/1998 to 1/21/1998, 0 out of 1 samples < 20 mg/L (Table 20 criterion). [DEQ] LASAR 13013 River Mile 22.4: From 1/21/1998 to 1/21/1998, 0 out of 1 samples < 20 mg/L (Table 20 criterion). [DEQ] LASAR 13010 River Mile 23.4: From 1/21/1998 to 1/21/1998, 0 out of 1 samples < 20 mg/L (Table 20 criterion). [DEQ] LASAR 13012 River Mile 23.4: From 1/21/1998 to 1/21/1998, 0 out of 1 samples < 20 mg/L (Table 20 criterion). Previous Status: Cat 3: Insufficient data Previous Action: Added to database Previous Assessment Year: 2004
Walla Walla 17070102	1186528460280 0 to 37.9 37.9							
14081								
Middle Columbia	Pine Creek	Ammonia	Year Around	Table 20 Toxic Substances	Aquatic life	Cat 3B: Potential concern	No 2010 action	Previous Data: [DEQ] LASAR 13013 River Mile 22.4: From 9/18/1997 to 1/21/1998, 0 out of 2 samples > applicable Table 20 criterion. [DEQ] LASAR 17150 River Mile 23.3: From 1/21/1998 to 1/21/1998, 0 out of 1 samples > applicable Table 20 criterion. [DEQ] LASAR 23503 River Mile 5.2: From 8/16/2000 to 8/16/2000, 0 out of 1
Walla Walla 17070102	1186528460280 0 to 37.9 37.9							
14082								



samples > applicable Table 20 criterion.

[DEQ] LASAR 17149 River Mile 23.4: From 1/21/1998 to 1/21/1998, 1 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 13011 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 24167 River Mile 23.7: From 8/17/2000 to 8/17/2000, 0 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 13010 River Mile 23.4: From 9/18/1997 to 1/21/1998, 0 out of 2 samples > applicable Table 20 criterion.

[DEQ] LASAR 13009 River Mile 24.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 13012 River Mile 23.4: From 9/18/1997 to 1/21/1998, 0 out of 2 samples > applicable Table 20 criterion.

Previous Status: Cat 3B:

Potential concern

Previous Action: Added to database

Previous Assessment Year: 2004

Middle Columbia Walla Walla 17070102  14083	Pine Creek 1186528460280 0 to 37.9 37.9	Antimony	Year Around	Table 20 Toxic Substances	Human health	Cat 3: Insufficient data	No 2010 action
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Previous Data: [DEQ] LASAR 13012 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 17149 River Mile 23.4: From 1/21/1998 to 1/21/1998, 0 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 13011 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 13009 River Mile 24.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 13010 River Mile 23.4: From 9/18/1997 to 1/21/1998, 0 out of 2 samples > applicable Table 20 criterion.

Previous Status: Cat 3:

Insufficient data

Previous Action: Added to database

Previous Assessment Year: 2004

Middle Columbia Walla Walla 17070102  14084	Pine Creek 1186528460280 0 to 37.9 37.9	Arsenic (tri)	Year Around	Table 20 Toxic Substances	Aquatic life; Human health	Cat 3: Insufficient data	No 2010 action
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Previous Data: [DEQ] LASAR 13009 River Mile 24.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.

Middle Columbia	Pine Creek 1186528460280 0 to 37.9	Barium	Year Around	Table 20 Toxic Substances	Human health	Cat 3: Insufficient data	No 2010 action
Walla Walla 17070102	37.9						
14085							

[DEQ] LASAR 13012 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 17149 River Mile 23.4: From 1/21/1998 to 1/21/1998, 0 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 13011 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 13010 River Mile 23.4: From 9/18/1997 to 1/21/1998, 0 out of 2 samples > applicable Table 20 criterion.

Previous Status: Cat 3:  
Insufficient data  
Previous Action: Added to database  
Previous Assessment Year: 2004

Previous Data: [DEQ]  
LASAR 13010 River Mile 23.4: From 9/18/1997 to 1/21/1998, 0 out of 2 samples > applicable Table 20 criterion.

[DEQ] LASAR 13012 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 13009 River Mile 24.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 17149 River Mile 23.4: From 1/21/1998 to 1/21/1998, 0 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 13011 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.

Previous Status: Cat 3:  
Insufficient data  
Previous Action: Added to database  
Previous Assessment Year: 2004

Middle Columbia	Pine Creek 1186528460280 0 to 37.9	Beryllium	Year Around	Table 20 Toxic Substances	Human health	Cat 3B: Potential concern	No 2010 action
Walla Walla 17070102	37.9						
14086							

Previous Data: [DEQ]  
LASAR 13012 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 13011 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 17149 River Mile 23.4: From 1/21/1998 to 1/21/1998, 1 out of 1 samples > applicable Table 20 criterion.

[DEQ] LASAR 13010 River Mile 23.4: From 9/18/1997

Middle Columbia	Pine Creek 1186528460280 0 to 37.9	Cadmium	Year Around	Table 20 Toxic Substances	Aquatic life; Human health	Cat 3: Insufficient data	No 2010 action
Walla Walla 17070102	37.9						
14087							

to 1/21/1998, 1 out of 2 samples > applicable Table 20 criterion.  
[DEQ] LASAR 13009 River Mile 24.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
Previous Status: Cat 3B: Potential concern  
Previous Action: Added to database  
Previous Assessment Year: 2004

Previous Data: [DEQ] LASAR 13010 River Mile 23.4: From 9/18/1997 to 1/21/1998, 0 out of 2 samples > applicable Table 20 criterion.  
[DEQ] LASAR 17149 River Mile 23.4: From 1/21/1998 to 1/21/1998, 0 out of 1 samples > applicable Table 20 criterion.  
[DEQ] LASAR 13011 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
[DEQ] LASAR 13012 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
[DEQ] LASAR 13009 River Mile 24.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
Previous Status: Cat 3: Insufficient data  
Previous Action: Added to database  
Previous Assessment Year: 2004

Middle Columbia	Pine Creek 1186528460280 0 to 37.9	Chlorophyll a	Summer	Reservoir, river, estuary, non-thermally stratified lake: 0.015 mg/l	Water contact recreation; Aesthetics; Water supply; Fishing; Livestock watering	Cat 3: Insufficient data	No 2010 action
Walla Walla 17070102	37.9						
14088							

Previous Data: [DEQ] LASAR 23503 River Mile 5.2: From 8/16/2000 to 9/30/2000, average Chlorophyll a of 0.003 for 1 samples in 1 months.  
[DEQ] LASAR 24167 River Mile 23.7: From 8/17/2000 to 9/30/2000, average Chlorophyll a of 0.002 for 1 samples in 1 months.  
Previous Status: Cat 3: Insufficient data  
Previous Action: Added to database  
Previous Assessment Year: 2004

Middle Columbia	Pine Creek 1186528460280 (hex) 0 to 37.9	Chromium	Year Around	Table 20 Toxic Substances	Aquatic life; Human health	Cat 3: Insufficient data	No 2010 action
Walla Walla 17070102	37.9						
14089							

Previous Data: [DEQ] LASAR 13012 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
[DEQ] LASAR 13009 River Mile 24.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.

Middle Columbia	Pine Creek 1186528460280 0 to 37.9	Copper	Year Around	Table 20 Toxic Substances	Aquatic life	Cat 3: Insufficient data	No 2010 action
Walla Walla 17070102	37.9						
14090							

[DEQ] LASAR 13010 River Mile 23.4: From 9/18/1997 to 1/21/1998, 0 out of 2 samples > applicable Table 20 criterion.  
 [DEQ] LASAR 17149 River Mile 23.4: From 1/21/1998 to 1/21/1998, 0 out of 1 samples > applicable Table 20 criterion.  
 [DEQ] LASAR 13011 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
 Previous Status: Cat 3: Insufficient data  
 Previous Action: Added to database  
 Previous Assessment Year: 2004

Previous Data: [DEQ] LASAR 17149 River Mile 23.4: From 1/21/1998 to 1/21/1998, 0 out of 1 samples > applicable Table 20 criterion.  
 [DEQ] LASAR 13010 River Mile 23.4: From 9/18/1997 to 1/21/1998, 0 out of 2 samples > applicable Table 20 criterion.  
 [DEQ] LASAR 13011 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
 [DEQ] LASAR 13012 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
 [DEQ] LASAR 13009 River Mile 24.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
 Previous Status: Cat 3: Insufficient data  
 Previous Action: Added to database  
 Previous Assessment Year: 2004

Middle Columbia	Pine Creek 1186528460280 0 to 37.9	Dissolved Oxygen	January 1 - May 15	Spawning: Not less than trout 11.0 mg/L or spawning 95% of saturation	Resident spawning	Cat 3: Insufficient data	No 2010 action
Walla Walla 17070102	37.9						
20869							

Previous Data: [DEQ] LASAR 17149 River Mile 23.4: From 1/21/1998 to 1/21/1998, 1 out of 1 samples (100%) < 11 mg/l and applicable % saturation.  
 [DEQ] LASAR 13013 River Mile 22.4: From 1/21/1998 to 1/21/1998, 0 out of 1 samples (0%) < 11 mg/l and applicable % saturation.  
 [DEQ] LASAR 13012 River Mile 23.4: From 1/21/1998 to 1/21/1998, 0 out of 1 samples (0%) < 11 mg/l and applicable % saturation.  
 [DEQ] LASAR 17150 River Mile 23.3: From 1/21/1998 to 1/21/1998, 0 out of 1 samples (0%) < 11 mg/l

002517

Middle Columbia	Pine Creek 1186528460280	Dissolved Oxygen	Year Around (Non-spawning)	Cool water: Not less than 6.5 mg/l	Cool-water aquatic life	Cat 3: Insufficient data	No 2010 action
Walla Walla 17070102	32.9						
11823							

and applicable %  
saturation.  
[DEQ] LASAR 13010 River  
Mile 23.4: From 1/21/1998  
to 1/21/1998, 0 out of 1  
samples (0%) < 11 mg/l  
and applicable %  
saturation.  
Previous Status: Cat 3:  
Insufficient data  
Previous Action: Added to  
database  
Previous Assessment Year:  
2004

Previous Data: [DEQ]  
LASAR 13012 River Mile  
23.4: From 9/18/1997 to  
9/18/1997, 0 out of 1  
samples (0%) < 6.5 mg/l  
and applicable %  
saturation.  
[DEQ] LASAR 13009 River  
Mile 24.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples (0%) < 6.5 mg/l  
and applicable %  
saturation.  
[DEQ] LASAR 24167 River  
Mile 23.7: From 8/17/2000  
to 8/17/2000, 0 out of 1  
samples (0%) < 6.5 mg/l  
and applicable %  
saturation.  
[DEQ] LASAR 23503 River  
Mile 5.2: From 8/16/2000  
to 8/16/2000, 0 out of 1  
samples (0%) < 6.5 mg/l  
and applicable %  
saturation.  
[DEQ] LASAR 13011 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples (0%) < 6.5 mg/l  
and applicable %  
saturation.  
[DEQ] LASAR 13010 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples (0%) < 6.5 mg/l  
and applicable %  
saturation.  
[DEQ] LASAR 13013 River  
Mile 22.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples (0%) < 6.5 mg/l  
and applicable %  
saturation.  
Previous Status: Cat 3:  
Insufficient data  
Previous Action: Added to  
database  
Previous Assessment Year:  
2004

Middle Columbia	Pine Creek 1186528460280	E. Coli	FallWinterSpring	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	Water contact recreation	Cat 3: Insufficient data	No 2010 action
Walla Walla 17070102	37.9						
14091							

Previous Data: [DEQ]  
LASAR 13012 River Mile  
23.4: From 9/18/1997 to  
1/21/1998, 0 out of 1  
samples (0%) > 406  
organisms; maximum 30-  
day log mean of 0  
[DEQ] LASAR 17150 River  
Mile 23.3: From 1/21/1998  
to 1/21/1998, 0 out of 1  
samples (0%) > 406  
organisms; maximum 30-  
day log mean of 0

00258

Middle Columbia	Pine Creek 1186528460280	E. Coli 0 to 37.9	Summer	30-day log mean of 126 E. coli organisms per 100 ml; no single sample > 406 organisms per 100 ml	Water contact recreation	Cat 3: Insufficient data	No 2010 action
Walla Walla 17070102	37.9						
14092							

[DEQ] LASAR 13010 River  
Mile 23.4: From 9/18/1997  
to 1/21/1998, 0 out of 1  
samples (0%) > 406  
organisms; maximum 30-  
day log mean of 0  
[DEQ] LASAR 17149 River  
Mile 23.4: From 1/21/1998  
to 1/21/1998, 1 out of 1  
samples (100%) > 406  
organisms; maximum 30-  
day log mean of 0  
[DEQ] LASAR 13013 River  
Mile 22.4: From 9/18/1997  
to 1/21/1998, 0 out of 1  
samples (0%) > 406  
organisms; maximum 30-  
day log mean of 0  
Previous Status: Cat 3:  
Insufficient data  
Previous Action: Added to  
database  
Previous Assessment Year:  
2004

Previous Data: [DEQ]  
LASAR 13009 River Mile  
24.4: From 9/18/1997 to  
9/18/1997, 0 out of 1  
samples (0%) > 406  
organisms; maximum 30-  
day log mean of 0  
[DEQ] LASAR 13010 River  
Mile 23.4: From 9/18/1997  
to 1/21/1998, 0 out of 1  
samples (0%) > 406  
organisms; maximum 30-  
day log mean of 0  
[DEQ] LASAR 13011 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples (0%) > 406  
organisms; maximum 30-  
day log mean of 0  
[DEQ] LASAR 13012 River  
Mile 23.4: From 9/18/1997  
to 1/21/1998, 0 out of 1  
samples (0%) > 406  
organisms; maximum 30-  
day log mean of 0  
[DEQ] LASAR 13013 River  
Mile 22.4: From 9/18/1997  
to 1/21/1998, 1 out of 1  
samples (100%) > 406  
organisms; maximum 30-  
day log mean of 0  
[DEQ] LASAR 23503 River  
Mile 5.2: From 8/16/2000  
to 8/16/2000, 0 out of 1  
samples (0%) > 406  
organisms; maximum 30-  
day log mean of 0  
[DEQ] LASAR 24167 River  
Mile 23.7: From 8/17/2000  
to 8/17/2000, 1 out of 1  
samples (100%) > 406  
organisms; maximum 30-  
day log mean of 0  
Previous Status: Cat 3:  
Insufficient data  
Previous Action: Added to  
database  
Previous Assessment Year:  
2004

Middle Columbia	Pine Creek 1186528460280	Flow Modification 0 to 37.8	Undefined	The creation of tastes or odors or toxic or other	Salmonid fish spawning; Resident fish and	Water quality limited not needing a TMDL	No 2010 action
Walla Walla 17070102	37.8						

Previous Status: Water  
quality limited not needing  
a TMDL

5182

conditions that are deleterious to fish or other aquatic life or affect the potability of drinking water or the palatability of fish or shellfish may not be allowed.

aquatic life; Salmonid fish rearing

Previous Action: Delisted - Water quality limited, not a pollutant  
Previous Assessment Year: 2002

Middle Pine Creek Iron  
Columbia 1186528460280  
0 to 37.8  
Walla Walla 37.8  
17070102  
8373

Year Around

Table 20  
Toxic  
Substances

Drinking  
water;  
Human  
health;  
Fishing;  
Aquatic life

Cat 5:  
Water  
quality  
limited, 303  
(d) list,  
TMDL  
needed

No 2010 action

Previous Data: [DEQ]  
LASAR 13012 River Mile  
23.4: From 9/18/1997 to  
9/18/1997, 1 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13010 River  
Mile 23.4: From 9/18/1997  
to 1/21/1998, 2 out of 2  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13011 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 1 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13009 River  
Mile 24.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 17149 River  
Mile 23.4: From 1/21/1998  
to 1/21/1998, 1 out of 1  
samples > applicable Table  
20 criterion.

Previous Data:  
LASAR 13010 RM 23.4:  
2/2 samples  
Previous Assessment Year:  
2002  
Previous Status: Cat 5:  
Water quality limited, 303  
(d) list, TMDL needed  
Previous Action: No status  
change  
Previous Assessment Year:  
2004

Middle Pine Creek Lead  
Columbia 1186528460280  
0 to 37.9  
Walla Walla 37.9  
17070102  
14094

Year Around

Table 20  
Toxic  
Substances

Aquatic life;  
Human  
health

Cat 3:  
Insufficient  
data

No 2010 action

Previous Data: [DEQ]  
LASAR 13009 River Mile  
24.4: From 9/18/1997 to  
9/18/1997, 0 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13012 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13011 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13010 River  
Mile 23.4: From 9/18/1997  
to 1/21/1998, 0 out of 2  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 17149 River  
Mile 23.4: From 1/21/1998

00260

Middle Columbia	Pine Creek 1186528460280 0 to 37.9	Manganese	Year Around	Table 20 Toxic Substances	Human health	Cat 3B: Potential concern	No 2010 action
Walla Walla 17070102	37.9						
14095							

to 1/21/1998, 0 out of 1  
samples > applicable Table  
20 criterion.  
Previous Status: Cat 3:  
Insufficient data  
Previous Action: Added to  
database  
Previous Assessment Year:  
2004

Previous Data: [DEQ]  
LASAR 13010 River Mile  
23.4: From 9/18/1997 to  
1/21/1998, 1 out of 2  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13011 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 1 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13012 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 1 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13009 River  
Mile 24.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 17149 River  
Mile 23.4: From 1/21/1998  
to 1/21/1998, 0 out of 1  
samples > applicable Table  
20 criterion.  
Previous Status: Cat 3B:  
Potential concern  
Previous Action: Added to  
database  
Previous Assessment Year:  
2004

Middle Columbia	Pine Creek 1186528460280 0 to 37.9	Nickel	Year Around	Table 20 Toxic Substances	Aquatic life; Human health	Cat 3: Insufficient data	No 2010 action
Walla Walla 17070102	37.9						
14096							

Previous Data: [DEQ]  
LASAR 13012 River Mile  
23.4: From 9/18/1997 to  
9/18/1997, 0 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 17149 River  
Mile 23.4: From 1/21/1998  
to 1/21/1998, 0 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13009 River  
Mile 24.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13010 River  
Mile 23.4: From 9/18/1997  
to 1/21/1998, 0 out of 2  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13011 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples > applicable Table  
20 criterion.  
Previous Status: Cat 3:  
Insufficient data  
Previous Action: Added to  
database  
Previous Assessment Year:  
2004

Middle Columbia	Pine Creek 1186528460280 0 to 37.9	pH	FallWinterSpring pH 6.5 to 9.0	Water contact recreation;	Cat 3: Insufficient data	No 2010 action
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Previous Data: [DEQ]



Walla Walla 37.9  
17070102

14097

Resident  
fish and  
aquatic life

LASAR 13013 River Mile  
22.4: From 1/21/1998 to  
1/21/1998, 0 out of 1  
samples (0%) outside pH  
criteria range 6.5 to 9.  
[DEQ] LASAR 17149 River  
Mile 23.4: From 1/21/1998  
to 1/21/1998, 0 out of 1  
samples (0%) outside pH  
criteria range 6.5 to 9.  
[DEQ] LASAR 13012 River  
Mile 23.4: From 1/21/1998  
to 1/21/1998, 0 out of 1  
samples (0%) outside pH  
criteria range 6.5 to 9.  
[DEQ] LASAR 13010 River  
Mile 23.4: From 1/21/1998  
to 1/21/1998, 0 out of 1  
samples (0%) outside pH  
criteria range 6.5 to 9.  
[DEQ] LASAR 17150 River  
Mile 23.3: From 1/21/1998  
to 1/21/1998, 0 out of 1  
samples (0%) outside pH  
criteria range 6.5 to 9.  
Previous Status: Cat 3:  
Insufficient data  
Previous Action: Added to  
database  
Previous Assessment Year:  
2004

Middle Pine Creek pH  
Columbia 1186528460280  
0 to 37.9  
Walla Walla 37.9  
17070102

14098

Summer

pH 6.5 to 9.0

Resident  
fish and  
aquatic life;  
Water  
contact  
recreation

Cat 3:  
Insufficient  
data

No 2010  
action

Previous Data: [DEQ]  
LASAR 13009 River Mile  
24.4: From 9/18/1997 to  
9/18/1997, 0 out of 1  
samples (0%) outside pH  
criteria range 6.5 to 9.  
[DEQ] LASAR 13010 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples (0%) outside pH  
criteria range 6.5 to 9.  
[DEQ] LASAR 13011 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples (0%) outside pH  
criteria range 6.5 to 9.  
[DEQ] LASAR 13012 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples (0%) outside pH  
criteria range 6.5 to 9.  
[DEQ] LASAR 13013 River  
Mile 22.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples (0%) outside pH  
criteria range 6.5 to 9.  
[DEQ] LASAR 23503 River  
Mile 5.2: From 8/16/2000  
to 8/16/2000, 0 out of 1  
samples (0%) outside pH  
criteria range 6.5 to 9.  
[DEQ] LASAR 24167 River  
Mile 23.7: From 8/17/2000  
to 8/17/2000, 0 out of 1  
samples (0%) outside pH  
criteria range 6.5 to 9.  
Previous Status: Cat 3:  
Insufficient data  
Previous Action: Added to  
database  
Previous Assessment Year:  
2004

Middle Pine Creek Phosphate  
Columbia 1186528460280 Phosphorus  
0 to 37.9  
Walla Walla 37.9  
17070102

Summer

Total  
phosphates  
as  
phosphorus  
(P):

Aquatic life

Cat 3:  
Insufficient  
data

No 2010  
action

Previous Data: [DEQ]  
LASAR 13013 River Mile  
22.4: From 9/18/1997 to

00262

21218

Benchmark  
50 ug/L in  
streams to  
control  
excessive  
aquatic  
growths

9/18/1997, 1 out of 1  
samples > 50 ug/L  
benchmark criterion.  
[DEQ] LASAR 23503 River  
Mile 5.2: From 8/16/2000  
to 8/16/2000, 1 out of 1  
samples > 50 ug/L  
benchmark criterion.  
[DEQ] LASAR 13011 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 1 out of 1  
samples > 50 ug/L  
benchmark criterion.  
[DEQ] LASAR 13010 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 1 out of 1  
samples > 50 ug/L  
benchmark criterion.  
[DEQ] LASAR 13009 River  
Mile 24.4: From 9/18/1997  
to 9/18/1997, 1 out of 1  
samples > 50 ug/L  
benchmark criterion.  
[DEQ] LASAR 13012 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 1 out of 1  
samples > 50 ug/L  
benchmark criterion.  
[DEQ] LASAR 24167 River  
Mile 23.7: From 8/17/2000  
to 8/17/2000, 1 out of 1  
samples > 50 ug/L  
benchmark criterion.  
Previous Status: Cat 3:  
Insufficient data  
Previous Action: Added to  
database  
Previous Assessment Year:  
2004

Middle Pine Creek Sedimentation Undefined  
Columbia 1186528460280  
0 to 37.8  
Walla Walla 37.8  
17070102  
5218

The formation of  
appreciable  
bottom or  
sludge  
deposits or  
the  
formation of  
any organic  
or inorganic  
deposits  
deleterious  
to fish or  
other aquatic  
life or  
injurious to  
public  
health,  
recreation,  
or industry  
may not be  
allowed.

Salmonid  
fish  
spawning;  
Salmonid  
fish rearing;  
Resident  
fish and  
aquatic life

Insufficient  
data

No 2010  
action

Previous Status:  
Insufficient data  
Previous Action: Added to  
database  
Previous Assessment Year:  
1998

Middle Pine Creek Selenium Year Around  
Columbia 1186528460280  
0 to 37.9  
Walla Walla 37.9  
17070102  
14099

Table 20 Aquatic life; Cat 3:  
Toxic Human Insufficient  
Substances health data

No 2010  
action

Previous Data: [DEQ]  
LASAR 13012 River Mile  
23.4: From 9/18/1997 to  
9/18/1997, 0 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13009 River  
Mile 24.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 17149 River  
Mile 23.4: From 1/21/1998  
to 1/21/1998, 0 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13011 River

00263

Middle Columbia	Pine Creek 1186528460280 0 to 37.9	Silver	Year Around	Table 20 Toxic Substances	Aquatic life; Human health	Cat 3: Insufficient data	No 2010 action
Walla Walla 17070102	37.9						
14100							

Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
[DEQ] LASAR 13010 River Mile 23.4: From 9/18/1997 to 1/21/1998, 0 out of 2 samples > applicable Table 20 criterion.  
Previous Status: Cat 3: Insufficient data  
Previous Action: Added to database  
Previous Assessment Year: 2004

Previous Data: [DEQ] LASAR 17149 River Mile 23.4: From 1/21/1998 to 1/21/1998, 0 out of 1 samples > applicable Table 20 criterion.  
[DEQ] LASAR 13009 River Mile 24.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
[DEQ] LASAR 13012 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
[DEQ] LASAR 13010 River Mile 23.4: From 9/18/1997 to 1/21/1998, 0 out of 2 samples > applicable Table 20 criterion.  
[DEQ] LASAR 13011 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
Previous Status: Cat 3: Insufficient data  
Previous Action: Added to database  
Previous Assessment Year: 2004

Middle Columbia	Pine Creek 1186528460280 0 to 37.9	Thallium	Year Around	Table 20 Toxic Substances	Human health	Cat 3: Insufficient data	No 2010 action
Walla Walla 17070102	37.9						
14101							

Previous Data: [DEQ] LASAR 17149 River Mile 23.4: From 1/21/1998 to 1/21/1998, 0 out of 1 samples > applicable Table 20 criterion.  
[DEQ] LASAR 13012 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
[DEQ] LASAR 13011 River Mile 23.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
[DEQ] LASAR 13009 River Mile 24.4: From 9/18/1997 to 9/18/1997, 0 out of 1 samples > applicable Table 20 criterion.  
[DEQ] LASAR 13010 River Mile 23.4: From 9/18/1997 to 1/21/1998, 0 out of 2 samples > applicable Table 20 criterion.  
Previous Status: Cat 3: Insufficient data  
Previous Action: Added to

database  
Previous Assessment Year:  
2004

Middle Columbia Walla Walla 17070102	Pine Creek 1186528460280 0 to 37.9 37.9	Zinc	Year Around	Table 20 Toxic Substances	Aquatic life	Cat 3: Insufficient data	No 2010 action
14102							

Previous Data: [DEQ]  
LASAR 13009 River Mile  
24.4: From 9/18/1997 to  
9/18/1997, 0 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13010 River  
Mile 23.4: From 9/18/1997  
to 1/21/1998, 0 out of 2  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13011 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 17149 River  
Mile 23.4: From 1/21/1998  
to 1/21/1998, 0 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 13012 River  
Mile 23.4: From 9/18/1997  
to 9/18/1997, 0 out of 1  
samples > applicable Table  
20 criterion.  
Previous Status: Cat 3:  
Insufficient data  
Previous Action: Added to  
database  
Previous Assessment Year:  
2004

Middle Columbia Walla Walla 17070102	South Fork Walla Walla River 1183076458985 0 to 27.2 27.2	Alkalinity	Year Around	Table 20 Toxic Substances	Aquatic life	Cat 3: Insufficient data	No 2010 action
13945							

Previous Data: [DEQ]  
LASAR 24061 River Mile  
10.2: From 9/14/2000 to  
9/14/2000, 0 out of 1  
samples < 20 mg/L (Table  
20 criterion).  
[DEQ] LASAR 23487 River  
Mile 8.9: From 8/15/2000  
to 8/15/2000, 0 out of 1  
samples < 20 mg/L (Table  
20 criterion).  
[DEQ] LASAR 23488 River  
Mile 7.8: From 8/15/2000  
to 8/15/2000, 0 out of 1  
samples < 20 mg/L (Table  
20 criterion).  
[DEQ] LASAR 23489 River  
Mile 7.4: From 8/15/2000  
to 8/15/2000, 0 out of 1  
samples < 20 mg/L (Table  
20 criterion).  
[DEQ] LASAR 23490 River  
Mile 0.2: From 8/15/2000  
to 8/15/2000, 0 out of 1  
samples < 20 mg/L (Table  
20 criterion).  
Previous Status: Cat 3:  
Insufficient data  
Previous Action: Added to  
database  
Previous Assessment Year:  
2004

Middle Columbia Walla Walla 17070102	South Fork Walla Walla River 1183076458985 0 to 27.2 27.2	Ammonia	Year Around	Table 20 Toxic Substances	Aquatic life	Cat 3: Insufficient data	No 2010 action
13946							

Previous Data: [DEQ]  
LASAR 24061 River Mile  
10.2: From 9/14/2000 to  
9/14/2000, 0 out of 1  
samples > applicable Table  
20 criterion.  
[DEQ] LASAR 23490 River

00265



**RE: County Road BMPs**

Monday, February 27, 2012 3:09 PM

**From:** "Tom Fellows" <tfellows@co.umatilla.or.us>

**To:** "'bruce white'" <bwwlaw@yahoo.com>

Bruce

Hopefully I am sending you the link to the document that you were inquiring about. I hope this helps.  
[http://www.oregon.gov/ODOT/HWY/OOM/docs/blue\\_book.pdf?ga=t](http://www.oregon.gov/ODOT/HWY/OOM/docs/blue_book.pdf?ga=t)

Tom Fellows

---

**From:** bruce white [mailto:bwwlaw@yahoo.com]

**Sent:** Monday, February 27, 2012 1:59 PM

**To:** tfellows@umatillacounty.net

**Subject:** County Road BMPs

Tom:

To follow up on our phone call. If you find a site where I can find the BMPs that the County uses for road maintenance activities, I'd appreciate it.

Thanks,

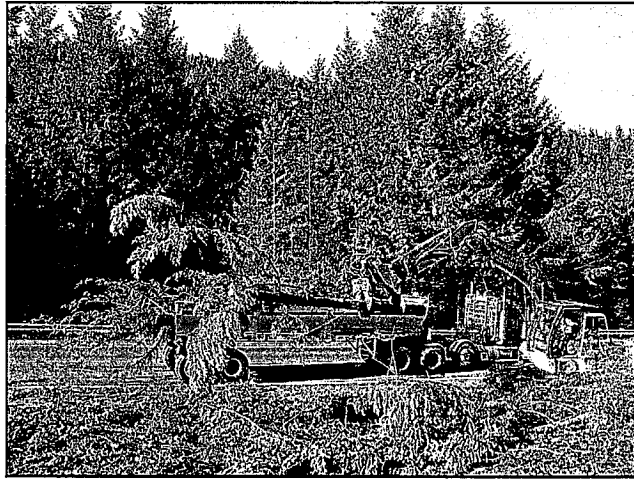
Bruce W. White  
Bruce W. White, Attorney, LLC  
PO Box 1298  
Bend , OR 97709  
(541)382-2085  
bwwlaw@yahoo.com

00266

## ODOT's Routine Road Maintenance Water Quality and Habitat Guide "Blue Book"

### What is it?

- *Programmatic exemption that includes valuable conservation measures for protected salmon and steelhead that applies to ODOT Maintenance Projects that do not have a federal nexus.*
- *The Blue Book is recognized by NOAA Fisheries in its federal 4(d) rules and provides direction, BMP (Best Management Practices), and technical guidance for routine road maintenance activities.*
- *The USFWS has not developed a program similar to NOAA Fisheries under Section 4(d) of the ESA. As a result, the ODOT Routine Road Maintenance Program (Blue Book) meets the needs of NOAA Fisheries for threatened species under its jurisdiction, but there is no similar understanding with the USFWS. ODOT coordinates as necessary with the USFWS during routine road maintenance activities.*



### Why is it important to ODOT?

- *By following the BMPs in the Blue Book, ODOT employees, contractors, and partners comply with Section 4(d) of the ESA by minimizing effects and take to NOAA Fisheries ESA-listed species and habitat.*
- *By following the BMPs in the Blue Book, ODOT maintenance employees comply with the ODOT National Pollutant Discharge Elimination System (NPDES) Municipal Separated Sewer System (MS4) permit, issues by DEQ under the Clean Water Act (CWA).*

### Dates to remember:

- *Appropriate In-Water Work Windows for your project. See ODFW Guidelines for Timing of In-Water Work.*
- *Work windows for bridge washing are:*
  - *November 15 to April 1 for the East Cascades*
  - *November 15 to March 15 West of the Cascades*
  - *See ODFW Guidelines for Bridge Washing in Appendix F of the Blue Book.*
- *The current Blue Book is effective through December 31, 2009. An updated version will be available when this version expires.*

### **How does it affect a project?**

- *If an ODOT Maintenance project does not have a federal nexus (e.g. permit from the Corps, funding from FHWA, require work on Federal property [USFS, BLM], etc.), the Blue Book may provide an option for addressing ESA issues on a project.*
- *The Blue Book addresses the following maintenance activities:*
  - *Accident Clean-up (Activity 149)*
  - *Anti-icing and De-icing (Activity 176)*
  - *Attenuator Maintenance (Activity 153)*
  - *Bridge Maintenance (Activity 160 or 163)*
  - *Bridge Repair (Activity 162)*
  - *Bridge Vegetation (Activity 160 or 133)*
  - *Channel Maintenance (Activity 124)*
  - *Culvert / Inlet Repair (Activity 123)*
  - *Culvert and Inlet Cleaning (Activity 121 or 129)*
  - *Ditch Shaping and Cleaning (Activity 120)*
  - *Dust Abatement*
  - *Emergency Maintenance (Activity 180)*
  - *Erosion Repair (Activity 122)*
  - *Extraordinary Maintenance (Activity 189)*
  - *Fish Habitat and Passage Improvement*
  - *Fish Habitat Passage Restoration*
  - *Guardrail Cleaning (Activity 154)*
  - *Guardrail Replacement (Activity 151)*
  - *Sanding and Pre-wetting (Activity 171)*
  - *Settlements and Slides (Activity 181)*
  - *Shoulder Blading and Repair (Activity 111)*
  - *Shoulder Rebuilding (Activity 112)*
  - *Sign Installation (Activity 142 or 143)*
  - *Snow and Ice Removal (Activity 170)*
  - *Spraying (Activity 131)*
  - *Stockpiling (Activity 081)*
  - *Stormwater Management*
  - *Striping (Activity 140 or 141)*
  - *Surface Work (Activity 100-110)*
  - *Sweeping / Flushing (Activity 116 or 117)*
  - *Vegetation Management (Activity 130, 132, 133, or 136)*
  - *Water Quality Facilities (Activity 125)*

### **How does ODOT comply? How do you address this topic?**

- *ODOT Biologists will often be consulted by the REC or maintenance staff as to whether the Blue Book applies to a proposed maintenance activity. Biologists must use their best professional*

*judgment to determine if the Blue Book applies to a proposed maintenance activity. It also may be necessary to consult with the NOAA Fisheries /ODOT and ODOT / ODFW liaisons to make this determination.*

- *Utilize the BMPs outlined in the Blue Book for different project scenarios.*
- *Consult with the NOAA Fisheries /ODOT and ODFW / ODOT liaisons to ensure compliance with the Blue Book.*
- *The ESA-protected species that are under the jurisdiction of the USFWS are not included in the Blue Book and do not have 4(d) coverage.*
- *Activities that require a permit from the Corps are not covered by the Blue Book.*
- *Use of herbicides is not covered in the Blue Book.*

**When do you consider this topic?**

- *When contacted by ODOT Maintenance staff*
- *During scoping*
- *During project construction*

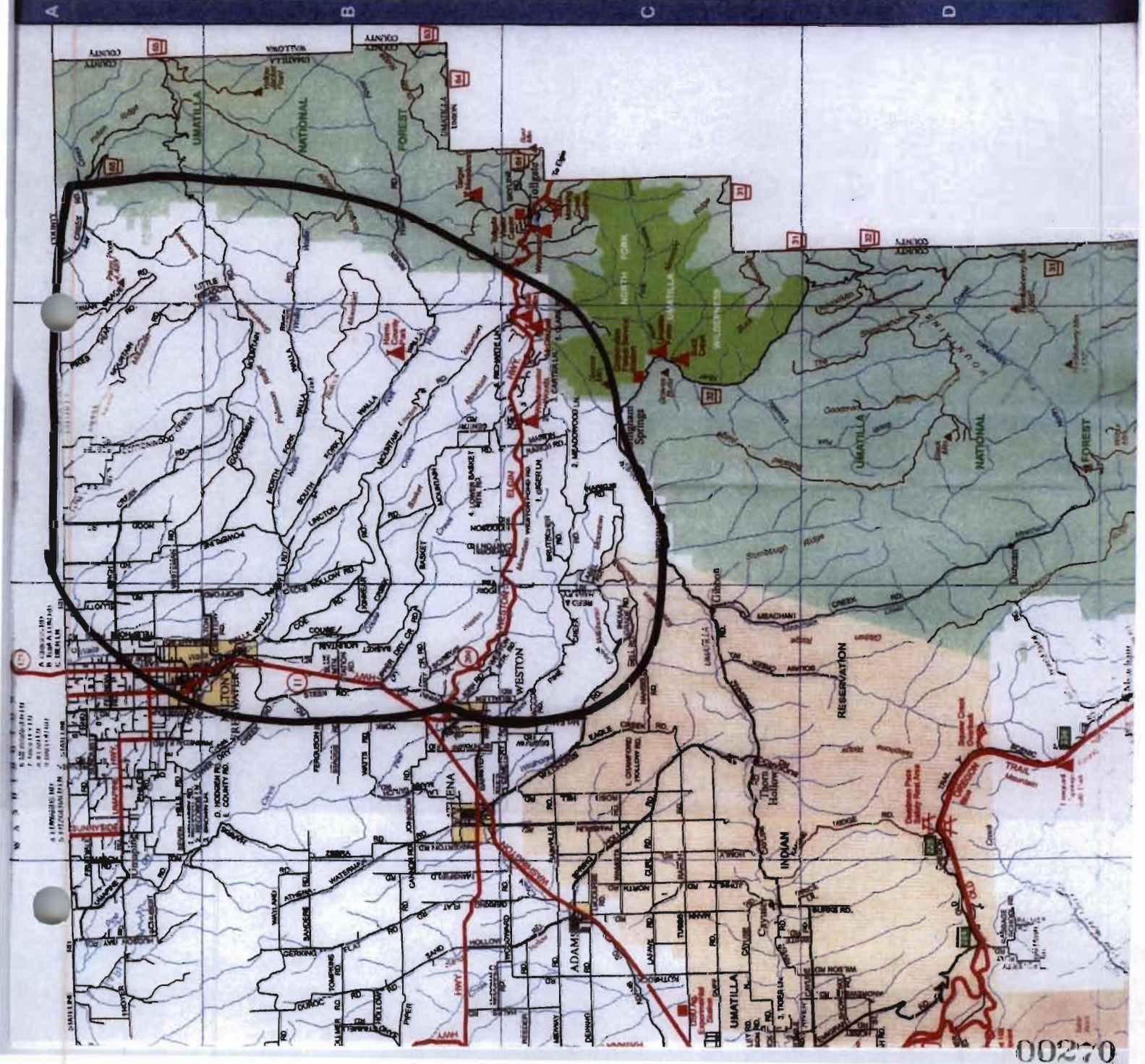
**Contacts:**

- *NOAA/ODOT and ODFW/ODOT Liaisons*
  - *Click on the 'Liaison Contacts' link on the following page:*  
<http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/biology.shtml>

**Helpful Links:**

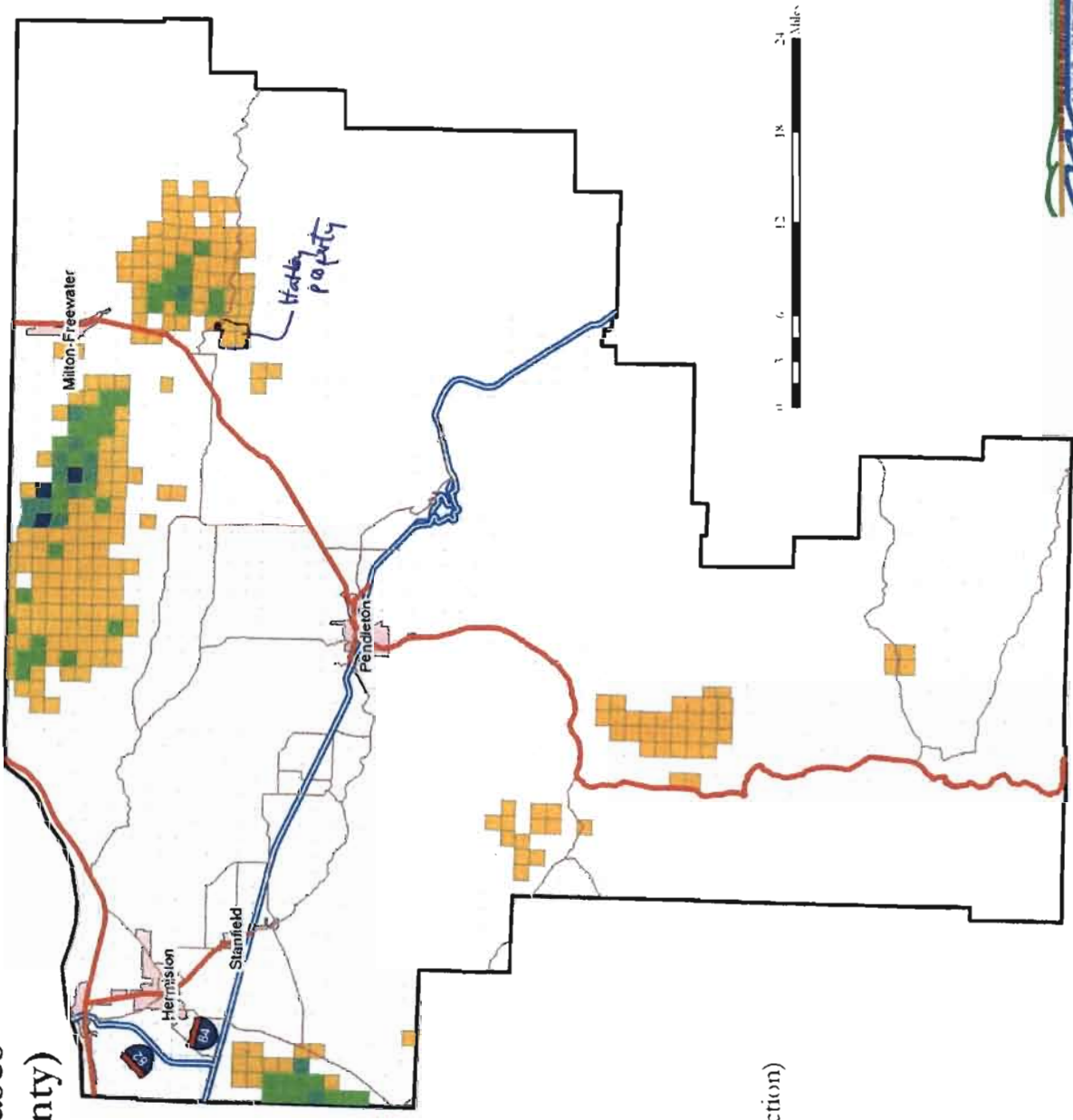
- *The Blue Book:*  
[http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/docs/research-roadside\\_maintenance\\_manual.pdf](http://www.oregon.gov/ODOT/HWY/GEOENVIRONMENTAL/docs/research-roadside_maintenance_manual.pdf)







# Wind Power Leases (Umatilla County)



**Legend**  
Wind Power Leases (per section)

- Leases
- 0
- 1 - 3
- 4 - 6
- 7 - 13
- 14 - 22
- Umatilla County City





Google earth

1  
miles  
1  
km

Google earth

00133





Google earth

© 2013 Google

Google earth

miles  
km

1

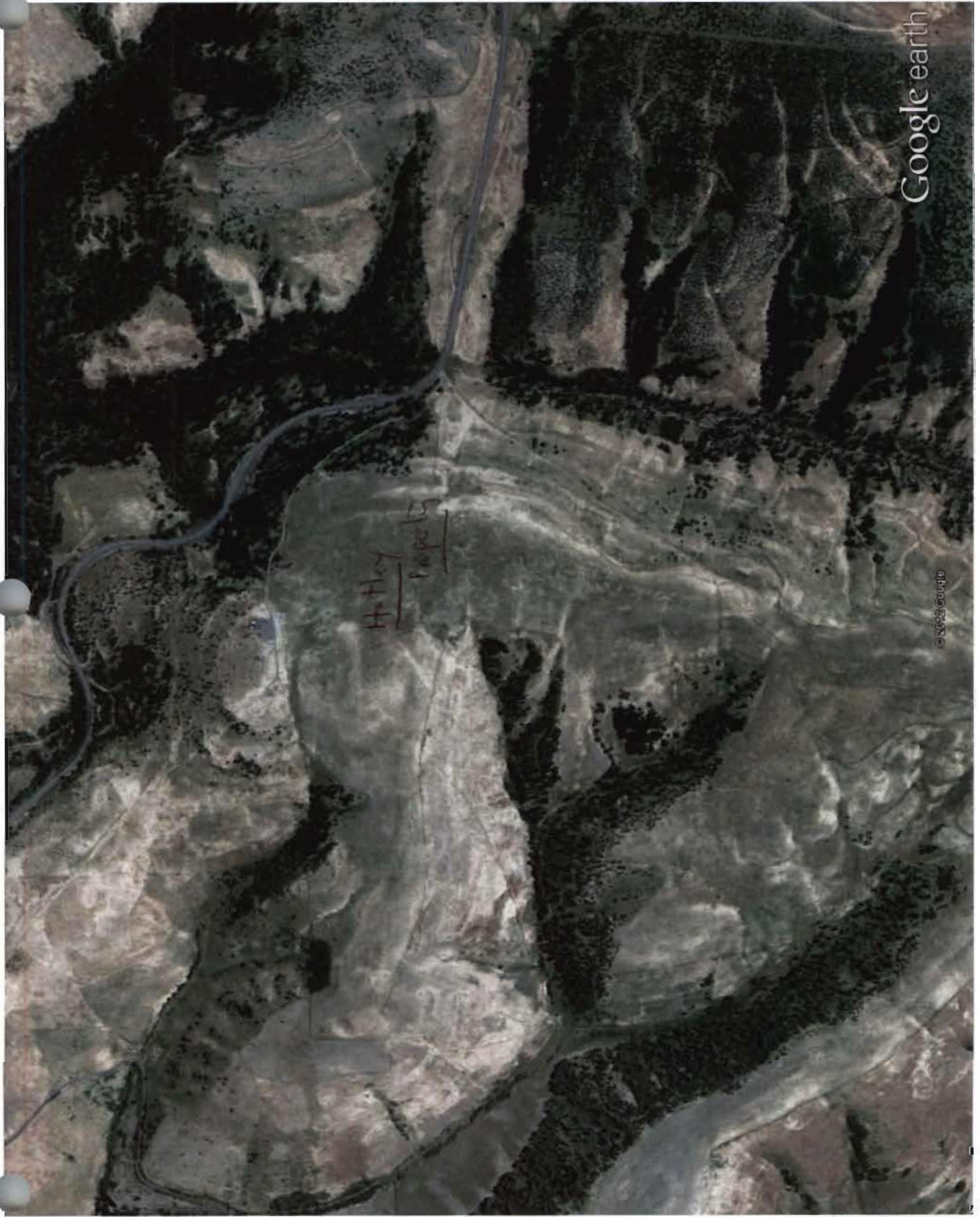
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00134



00135



Google earth

miles  
km

1  
1

Google earth

1

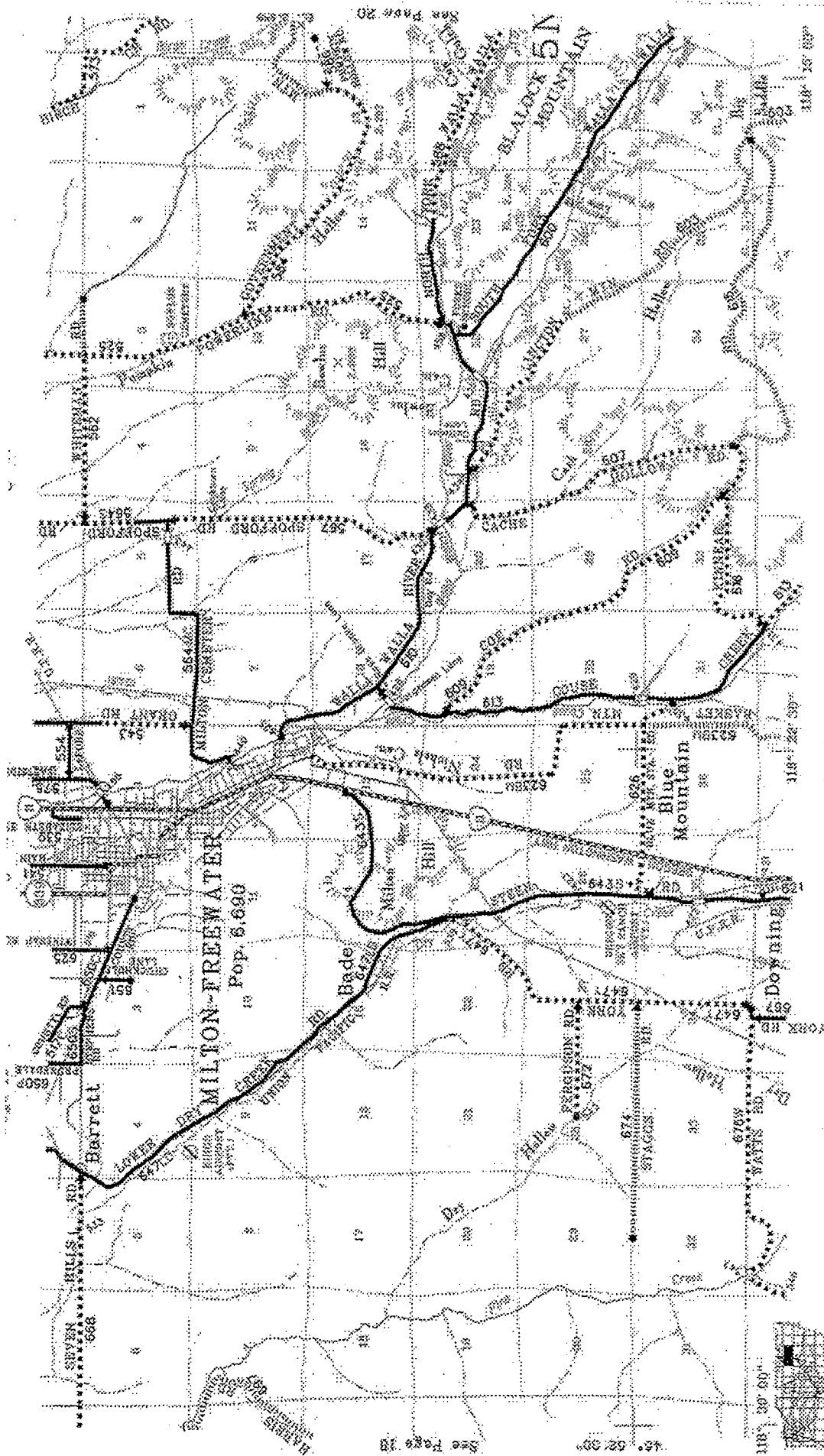
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miles  
km

Google earth

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5



See Page 33

00271

# LEGEND

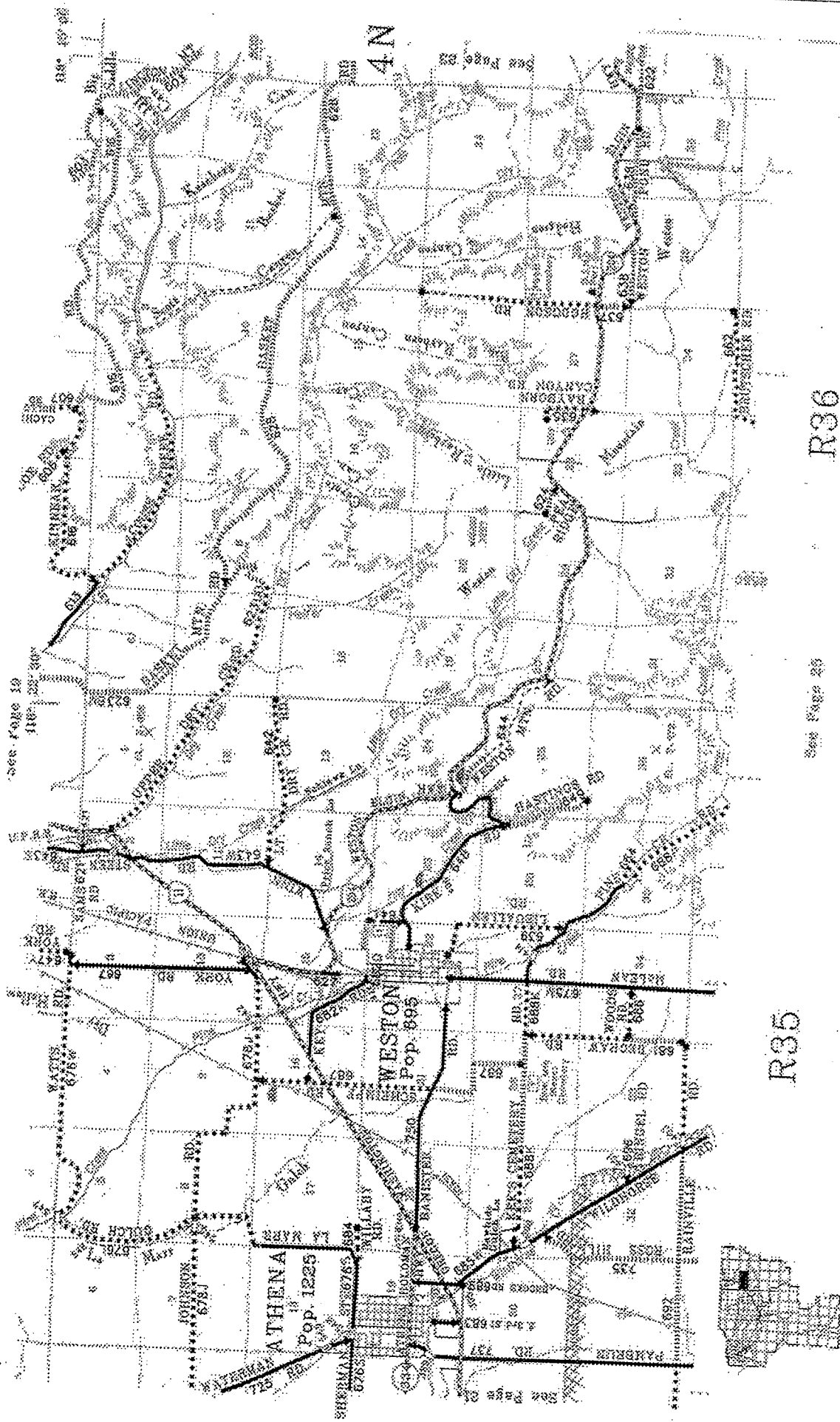
	PAVED COUNTY ROAD		INTERMITTENT LAKE OR POND		HOSPITAL
	GRAVEL COUNTY ROAD		IRRIGATION OR DRAINAGE DITCH		GRANGE, G-FIRE STATION, F
	DIRT COUNTY ROAD		RAILROAD		RECREATIONAL FACILITY
	PRIMITIVE COUNTY ROAD		RAILROAD LINE CLOSED		TANK-WATER-OIL-GAS
	STATE HIGHWAY		RAILROAD GRADE CROSSING-TUNNEL		GRAVEL PIT
	MULTIPLE LANE-DIVIDED ROAD		RAILROAD GRADE SEPARATION		STOCK LOADING PEN
	ONE WAY ROAD		MAJOR TRANSMISSION LINE		BOATING FACILITY
	CITY STREET, RURAL, & PRIVATE RD		MAJOR PIPELINE		SAFETY REST AREA
	NATIONAL FOREST ROAD		SECTION LINE		DIST. FOREST RANGER STATION-FOREST
	ORE. -US.- INTERSTATE ROUTE		BOUNDARY FOR COUNTY		SERVICE STATION
	MINOR STRUCTURE		BOUNDARY OF FEDERAL LANDS		STATE FORESTRY UNIT-DISTRICT
	BRIDGE		SUBSTATION		HEADQUARTERS
	GRADE SEPARATION		AIRPORT-AIRSTRIP		FISH HATCHERY
	CATTLE UNDERPASS		LOCALE		TRIANGULATION STATION
	TUNNEL		INCORPORATED CITY		LOOKOUT-TRIANGULATION LOOKOUT
	NATIONAL FOREST TRAILS		PUBLIC BUILDING		US FOREST SERVICE LOOKOUT
	PROMINENT MT., BUTTE, OR PEAK		SCHOOL		START OF ROAD
	MARSH		POST OFFICE		END OF ROAD
	INTERMITTENT STREAM		COURT HOUSE		ROAD NUMBER
	STREAM WITH FALLS		CITY HALL		BRIDGE NUMBER
	SPRING-WELL		ARMORY		COUNTY ROAD NAMES
	RIVER WITH RAPIDS		LIBRARY		RURAL ADDRESS NAMES
	LAKE, POND, OR RESERVOIR		GRAIN ELEVATOR		
	LAKE, POND, OR RESEVOIR /DAM		CEMETERY		

00272





[illegible]



00275

# LEGEND

	PAVED COUNTY ROAD		INTERMITTENT LAKE OR POND		HOSPITAL
	GRAVEL COUNTY ROAD		IRRIGATION OR DRAINAGE DITCH		GRANGE, G-FIRE STATION, F
	DIRT COUNTY ROAD		RAILROAD		RECREATIONAL FACILITY
	PRIMITIVE COUNTY ROAD		RAILROAD LINE CLOSED		TANK-WATER-OIL-GAS
	STATE HIGHWAY		RAILROAD GRADE CROSSING-TUNNEL		GRAVEL PIT
	MULTIPLE LANE-DIVIDED ROAD		RAILROAD GRADE SEPARATION		STOCK LOADING PEN
	ONE WAY ROAD		MAJOR TRANSMISSION LINE		BOATING FACILITY
	CITY STREET, RURAL, & PRIVATE RD		MAJOR PIPELINE		SAFETY REST AREA
	NATIONAL FOREST ROAD		SECTION LINE		DIST. FOREST RANGER STATION-FOREST
	ORE - US. - INTERSTATE ROUTE		BOUNDARY FOR COUNTY		SERVICE STATION
	MINOR STRUCTURE		BOUNDARY OF FEDERAL LANDS		STATE FORESTRY UNIT-DISTRICT
	BRIDGE		SUBSTATION		HEADQUARTERS
	GRADE SEPARATION		AIRPORT-AIRSTRIIP		FISH HATCHERY
	CATTLE UNDERPASS		LOCALE		TRIANGULATION STATION
	TUNNEL		INCORPORATED CITY		LOOKOUT-TRIANGULATION LOOKOUT
	NATIONAL FOREST TRAILS		PUBLIC BUILDING		US FOREST SERVICE LOOKOUT
	PROMINENT MT., BUTTE, OR PEAK		SCHOOL		START OF ROAD
	MARSH		POST OFFICE		END OF ROAD
	INTERMITTENT STREAM		COURT HOUSE		ROAD NUMBER
	STREAM WITH FALLS		CITY HALL		BRIDGE NUMBER
	SPRING-WELL		ARMORY		COUNTY ROAD NAMES
	RIVER WITH RAPIDS		LIBRARY		RURAL ADDRESS NAMES
	LAKE, POND, OR RESERVOIR		GRAIN ELEVATOR		
	LAKE, POND, OR RESEVOIR /DAM		CEMETERY		

[illegible]

00277



# WIND POWER GENERATION FACILITIES

Located in Umatilla County, Oregon [as of January 2012]

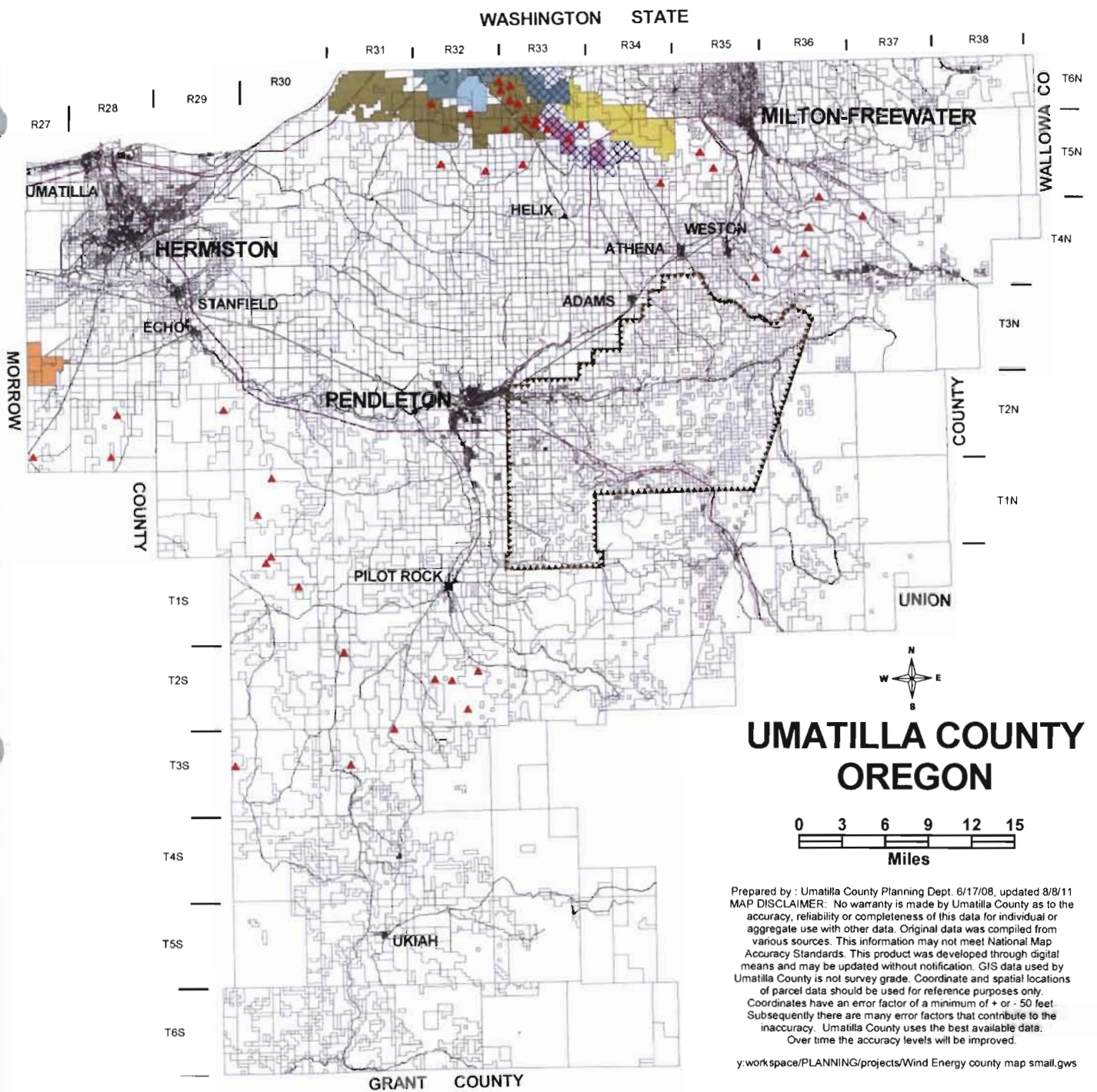
Project	Company	Permitting Agency	# of Towers & Size of Turbines	Total Project Size (MW)	Date Permitted	Status	Annual Reports Filed
Vansycle*	ESI Vansycle Partners FPL]	Umatilla County	38 Vestas 660 kW	24.9 MW	Sept. 8, 1997	Operational	2000 – 2004, 2007, 2008, 2009 in County file
Stateline 1	FPL Energy Vansycle LLC	Oregon EFSC	126 Vestas 660 kW	83.2 MW	Sept. 14, 2001	Operational	On File with EFSC
Stateline 2	FPL Energy Vansycle LLC	Oregon EFSC	60 Vestas 660 kW	39.6 MW	May 17, 2002	Operational	On File with EFSC
Stateline 3	FPL Energy Nextera	Oregon EFSC	43 Siemens 2.3 MW	98.9 MW	Mar. 27, 2009	Operational	On file With EFSC
Combine Hills Turbine Ranch Phase A	Eurus	Umatilla County	41 Mitsubishi 1 MW	41 MW	Nov. 25, 2002	Operational	2003 – 2008 County file
Combine Hills Turbine Ranch Phase B	Eurus	Umatilla County	63 Mitsubishi 1 MW	63 MW [104 total Phase A & B]	Nov. 28, 2008	Operational	Due for 2010
Echo Windfarm Madison/ Butter Creek**	Oregon Windfarms LLC	Umatilla County	19 Turbines in Um.Co., 1.65 MW	31.35 MW in Um. Co.	April 9, 2008	Operational	Due For 2009 & 2010

Project	Company	Permitting Agency	# of Towers & Size of Turbines	Total Project Size (MW)	Date Permitted	Status	Annual Reports Filed
American Wind Group	American Wind Group, LLC	Umatilla County	4 - 2.5 MW, or 5 - 2 MW	10 MW	Nov. 3, 2010	County Approved, pending satisfaction of conditions.	N/A
Helix Wind Power Facility	Iberdrola Renewables	Oregon EFSC	68 Vestas 1.5 MW, or 34 Vestas 3.0 MW	102 MW	July 31, 2009	Approved by EFSC, Pending county CUP	N/A
WKN Chopin Wind Project	WKN Chopin USA, Inc.	Umatilla County	33 Vestas 3.0 MW	99 MW	Dec. 13, 2011	County Approved, Pending satisfaction of conditions.	N/A
<b>Total Permitted and Operational</b>			<b>390</b>	<b>381.95</b>			
<b>Total Permitted/Not Constructed</b>			<b>461</b>	<b>592.95</b>			
<b>Total</b>			<b>461</b>	<b>592.95</b>			










\* Total number of wind turbines approved. An additional 303 turbines [State line Project] are located in Walla Walla County, Washington

\*\* Additional turbines located in Morrow County.





## APPROVED WIND ENERGY FACILITIES

	ESI Vansycle		Iberdrola Helix Wind Power
	FPL Stateline 1		Oregon Windfarms LLC
	FPL Stateline 2		Met towers (issued since 2006)
	FPL Stateline 3		Bonneville Power Admin. Easement
	Eurus Combine Hills		Reservation Boundary

**00281**

Printed: 8/8/11



## MET TOWER PERMITS ISSUED SINCE 2006

DATE ISSUED	APPLICANT	MAP TAXLOT	SEC	PERMIT #	RENEWAL	RENEW DATE
4/26/2006	OREGON WINDFARMS	2S32000001200	14	ZP-06-103	ZP-11-014	1/31/2011
4/26/2006	OREGON WINDFARMS	3S31000000100	12	ZP-06-104	ZP-11-015	1/31/2011
2/20/2008	PPM	6N33000002200	20	ZP-08-026		
2/20/2008	PPM	6N33000003501	33	ZP-08-027		
2/20/2008	PPM	5N33B00000700	5	ZP-08-028		
3/17/2008 ✓	HORIZON WIND ENERGY	4N37000000901	8	ZP-08-041	ZP-11-060	3/16/2011
6/25/2008	FPL	5N33A00000100	1	ZP-08-107		
6/25/2008 ✓	HORIZON WIND ENERGY	4N36000004900	22	ZP-08-108	ZP-11-147	6/24/2011
7/9/2008	FPL	5N33A00000200	11	ZP-08-116		
7/9/2008	FPL	5N33A00000400	3	ZP-08-117		
7/9/2008	AIR DYNAMICS	4N36000002700	10	ZP-08-118		
7/18/2008	IBERDROLA	6N32000001200	24	ZP-08-125		
7/18/2008	IBERDROLA	6N33000003560	30	ZP-08-124		
7/18/2008	IBERDROLA	6N33000003560	30	ZP-08-123		
7/30/2008	IBERDROLA	5N33B00000200	4	ZP-08-137		
7/30/2008	IBERDROLA	5N33B00000500	5	ZP-08-138		
8/20/2008	IBERDROLA	5N33C00000300	20	ZP-08-159		
8/20/2008	IBERDROLA	5N32000003700	23	ZP-08-160		
9/9/2008	ENXCO	2S32000001000	18	ZP-08-171		
9/9/2008	ENXCO	2S32000001000	17	ZP-08-172		
9/17/2008	ENXCO	2S32000001000	27	ZP-08-183		
9/21/2008	GAELECTRIC	5N36000006390	34	ZP-08-196		
11/12/2008	IBERDROLA	5N32000002600	20	ZP-08-225		
11/12/2008	IBERDROLA	5N33B00000800	6	ZP-08-226		
11/25/2008	IBERDROLA	6N32000001900	29	ZP-08-234		
11/25/2008	IBERDROLA	6N32000002500	34	ZP-08-235		
12/5/2008	GREENLINE RENEWABLES	1S30000000500	4	ZP-08-245		
12/5/2008	GREENLINE RENEWABLES	1S30000000500	4	ZP-08-245		
12/5/2008	GREENLINE RENEWABLES	1S30000001300	14	ZP-08-246		
12/12/2008	ATHENA-WESTON WIND	4N35000013300	36	ZP-08-249		
8/21/2009	DAVE FRANKOVICH	3S31000000503	17	ZP-09-211		
9/30/2009	ATHENA-WESTON WIND	4N36000001900	20	ZP-09-239		
10/15/2009	WKN CHOPIN LLC	5N35000003200	17	ZP-09-244		
10/15/2009	WKN CHOPIN LLC	5N35000001100	21	ZP-09-245		
5/12/2010	ELEMENT POWER	1N30000000500	19	ZP-10-090		
5/12/2010	ELEMENT POWER	1N30000000400	5	ZP-10-091		
5/12/2010	ELEMENT POWER	2N29000001000	11	ZP-10-092		
5/26/2010	RES NORTH AMERICA LEASING	3S30000000700	18	ZP-10-102		
10/14/2010	WHEATRIDGE WIND ENERGY	2N28000001900	15	ZP-10-209		
10/14/2010	WHEATRIDGE WIND ENERGY	2N28000001900	33	ZP-10-210		
1/19/2011	CHINOOK WIND (INFINITY WIND)	5N34D00002100	26	ZP-11-007		
3/7/2011	OREGON WINDFARMS	2N27000003000	34	ZP-11-045		
4/19/2011	OREGON POWER SOLUTIONS	2S31000001000	6	ZP-11-091		



# IBERDROLA RENEWABLES

February 27, 2012

VIA Hand Delivery

Umatilla County Board of Commissioners  
c/o Tamra Mabbott, Planning Director  
216 SE Fourth Street  
Pendleton, Oregon 97801

Re: Options for LUBA Remand of Cosner v. Umatilla County

Dear Ms. Mabott:

Iberdrola Renewables, Inc. (IRI) appreciates the Board of County Commissioner's attention to the balancing of interests surrounding the regulation of wind energy development in the County. County Staff should be commended for preparing a timely and thoughtful set of proposals for the Board's consideration regarding the two-mile setback in Ordinance 2011-05 and 2011-06.

IRI is the second largest operator in the U.S. with over 4,700 MW of capacity, 900 MW of which is in Oregon. IRI is the developer of the 201 MW Helix Wind Power Facility, a potential \$330 million investment in Umatilla County that was reviewed and approved by the Oregon Energy Facility Siting Council.

IRI respectfully submits the following comments for the County's consideration. IRI understands that the Board of Commissioners is considering four different options.<sup>1</sup> As discussed below, IRI recommends adoption of Option 1, with some slight modifications to clarify and improve its process. IRI also provides commentary regarding Options 2 through 4. IRI hopes that these comments will be helpful to the County's deliberations.

## The County Should Adopt Option 1 with Modifications

IRI recommends that the County adopt Option 1, as revised below, by providing standards for granting of an adjustment to the 2-mile setback, such adjustment being granted by the County. This approach is most consistent with the Board's original intent to provide some flexibility, it cures the impermissible delegation issue, and is consistent with the direction from the Oregon Land Use Board of Appeals (LUBA).<sup>2</sup> No problem exists with an ordinance that contains an adjustment, waiver or exception to the setback if the enacting body is the entity providing the adjustment, waiver or setback. Option 1 makes modest necessary changes while simultaneously meeting the County's goal of moving "deliberatively and without delay." Therefore, IRI recommends the County adopt the following setback provision (proposed changes are shown in underline and ~~strikethrough~~):

<sup>1</sup> Memorandum from Doug Olsen and Tamra Mabbott to the Board of Commissioners dated January 30, 2012 regarding LUBA Remand.

<sup>2</sup> Cosner v. Umatilla County, Land Use Board of Appeals Nos. 2011-070, 2011-071 and 2011-072 (Jan. 12, 2012).



## IBERDROLA RENEWABLES

(1) From a turbine tower to a rural residence, two (2) miles, unless the applicant rural residence landowner applies for and receives an adjustment allowing a lesser setback as provided below. For purposes of this section, 'rural residence' is defined as a legal, conforming dwelling existing on the unit of land at the time an application for a wind facility is deemed complete. The setback measurement is from the centerline of the turbine tower to the center point of the rural residence.

(2) The approval criteria for an adjustment to provide for a reduced distance between a turbine tower and a rural residences are shown below.

A. Proof of the rural residence owner consent to a lesser setback is included in the application record.

~~A. The proposal will not significantly detract from the livability of the rural residence; and~~

B. Compliance with Department of Environmental Quality noise standards

~~B. Any impacts to the livability of the rural residence resulting from the adjustment are mitigated to the extent practical; and~~

BC. If an adjustment affects a Goal 5 resource, the wind facility application must consider the effect of the adjustment on the Goal 5 resource; and

ED. All other requirements of the wind facility application remain satisfied.

(3) An adjustment under this section shall be processed as a part of the wind facility application.

Procedurally, the County's current language could be interpreted to create two separate permitting processes if the rural residence landowner must apply for the adjustment, which seems inconsistent with the County's language in subsection 3 requiring that the adjustment be processed as a part of the wind facility application. The addition of subsection A clarifies that the setback adjustment must be obtained through the wind facility application process and clarifies that while the wind developer is the applicant, the rural residence landowner owner must consent to the lesser setback. We hope this minor change is agreeable to the County.

IRI recommends against adopting the subsections containing language such as "significantly detract" or "livability" because they are unclear, subjective terms, the interpretation of which could vary widely. Instead, the standards should refer clearly and simply to "facts and circumstances," as suggested in the Remand.<sup>3</sup> We therefore made recommended changes to subsection B to include the statewide noise standards. Setbacks required for noise compliance will sufficiently provide for safety as well as protect homes from noise impacts. This standard, together with landowner consent, are clearer proxies of "livability."



**IBERDROLA  
RENEWABLES**

Options 2 and 3 are Contrary to the County's Intent

Option 2 would eliminate the waiver (but allow a variance) and Option 3 would prohibit both a waiver and a variance. We disagree with the characterization of Option 2 as a "do nothing" option because it varies so greatly from the original ordinances.

The 2-mile setback is one of the largest setbacks proposed for wind energy facilities in the nation. It far exceeds standard industry practice and is not necessary to protect the public health or safety. The setback discourages wind energy development in the County and practically speaking could have the effect of prohibiting wind energy altogether.

The County clearly intended to provide for the modification of such a significant setback to give private landowners the ability to site wind turbines closer to their residences and increase revenues obtained from project participation. Options 2 and 3 eliminate waiver provisions and are therefore contrary to the County's intent. It is also clear that the County intended to regulate, not prohibit wind energy, so some adjustment provision is essential to preserve the goal of the original ordinances. Additionally, allowing for a setback adjustment under appropriate circumstances gives the applicant needed flexibility to site turbines. Without such flexibility, wind energy development and the associated investment in the County is unlikely.

Option 3 should also be rejected because it is an extraordinarily strict proposal that provides no relief to land owners whose circumstances create an undue or unnecessary hardship.

IRI recommends against adoption of Options 2 or 3.

Option 4 is Reasonable

Although Option 4, which is to refer the matter to the Planning Commission for its consideration and input, may introduce some delay, it is reasonable to undertake a brief, deliberative process that considers the Planning Commission's input.

Conclusion

IRI thanks you for your consideration of the foregoing recommendation and encourages the Board to adopt Option 1, with the modifications suggested herein.

Sincerely,

Jeffrey B. Durocher, Esq.  
Iberdrola Renewables, Inc.

cc: Doug Olsen, Umatilla County Counsel

00285

**Minnick-Hayner**

attorneys at law

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249 West Alder · P.O. Box 1757 · Walla Walla, WA 99362-0348  
(509) 527-3500 · Fax (509) 527-3506 · E-mail info@minnickhayner.com

February 27, 2012

Umatilla County Commissioners  
216 S.E. 4<sup>th</sup> St.  
Pendleton, OR 97801

**VIA FACSIMILE: (541) 278-5480**  
**and regular mail**

Re: Remand from LUBA of Umatilla County Development Code #T-10-039,  
Conditional Use Section 152.616 (HHH)

Dear Commissioners:

Our law firm, Minnick-Hayner, represents Ted Reid and other landowners in Umatilla County regarding the on-going controversy over Amendment #T-10-039 to Conditional Use Section 152.616 (HHH) of the Umatilla County Development Code pertaining to standards for large scale commercial wind energy projects.

This letter is in response to the recent remand from the Oregon State Land Use Board of Appeals. A hearing on this matter is scheduled for Tuesday, February 28, 2012, and this letter is offered on behalf of Ted Reid for that hearing.

In the final opinion and order issued by the Oregon State Land Use Board of Appeals (LUBA), the Board held that provisions allowing for a City Council or a private landowner to waive the county's two mile setback and substitute for it a lesser setback determined solely at the discretion of the city or landowner was a violation of Article 1, Section 21 of the Oregon Constitution (Final Opinion and Order, page 8, lines 3-9). LUBA also held that the waiver provisions violated the Due Process Clause by granting project neighbors the arbitrary and standardless power to determine whether and to what extent there is a setback for wind facilities (*LUBA Final Opinion and Order*, pages 9-10, lines 25-26 and 1-3).

The cumulative effect of the two mile setback imposed on wind facilities under ordinances 2011-05 and 2011-06 would prohibit wind facilities within a 65,000 acre area within Umatilla County. The two mile setbacks would effectively eliminate a large portion of available land in Umatilla County where wind turbines may be built. Such an ordinance throughout Umatilla County would prevent many farmers and

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James K. Hayner · Tom Scribner · M. Scott Wolfram · David M. Rose · Brandon L. Johnson · Mona J. Geidl

H.H. Hayner (1916-2010) · W.L. Minnick (1913-1993)

**00286**

*Minnick-Hayner is a Washington Professional Service Corporation*

Umatilla County Commissioners

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landowners from contracting with commercial wind energy projects for wind turbines and prevent many landowners from economically using their land.

Pursuant to the 5<sup>th</sup> Amendment of the United States Constitution (applied to the states via the 14<sup>th</sup> Amendment Privileges and Immunities clause), as well as the Oregon State Constitution, private property shall not be taken for public use, without just compensation. An impermissible possessory taking occurs when a regulation is passed that denies all economic use of the land. If a regulation decreases the economic benefit of the land (as opposed to eliminating economic use altogether), then a balancing test is used to determine whether the social objectives promoted by the regulation outweigh the owners' reasonable expectation for use of the property plus the diminution in value of the property. The Amendment will deny many property owners in Umatilla County complete economic use and benefit of their land. For those land owners that suffer a decrease in the economic benefit of their land, the social objectives promoted by this regulation do not outweigh the landowners' legitimate interest in the economic use and benefit of their land. In both instances, the Amendment constitutes inverse condemnation and is impermissible under the United States and Oregon State Constitutions.

Should the Umatilla County Board of Commissioners proceed to amend the current portions of ordinances 2011-05, 2011-06, and 2011-07 and require two mile setbacks throughout all of Umatilla County, the result will be to rob many landowners of the economic benefit of their land without a legitimate state interest for such taking of their land. The harsh financial impact of amending the ordinances to require a two mile setback warrant careful reconsideration of the Amendment altogether.

Very truly yours,



Mona J. Geidl

MJG/ke

cc: Ted Reid

00287

## **Memorandum Regarding LUBA Remand on Ordinances 2011-05, -06, -07**

### **FIRST ASSIGNMENT OF ERROR – SETBACK WAIVER**

#### **I. Introduction.**

This memorandum contains proposed language for adjustments to the two (2) mile setback for rural residential dwellings and draft findings for adoption. The proposal is to add language to accommodate an adjustment for the setback requirement for rural residences. If the Board decides to pursue this option, the process for the adoption of the language would be initiated and referred to the Planning Commission for review and action. Also, the Board will need to formally amend Ordinances 2011-05 and 2011-06 deleting the impermissible allowance of setback waivers by neighbors and city councils.

#### **II. LUBA Decision.**

The Oregon Land Use Board of Appeals ("LUBA") reviewed Ordinance 2011-06 requiring standards for a two (2) mile setback from any rural residence unless the landowner recorded a written waiver for a reduced setback. LUBA remanded Ordinance 2011-06 to the County because it found the ordinance impermissibly delegated authority to a private landowner to waive the County's two-mile setback and substitute for it a lesser setback determined solely at the unrestrained discretion of the landowner. LUBA noted in footnote 3 at page 8 of the Opinion: "Of course, the County could avoid any delegation issue at all by simply providing for a code variance process for the County to determine a lesser setback, based on code variance standards of some kind. Whether such variance standards can permissibly include due consideration whether neighboring cities or landowners have consented to the requested variance is less clear to us."

The language proposed below is an amendment to the UCDC to allow approval criteria for an adjustment to provide for a reduced setback. The proposed language does not delegate to neighboring cities or landowners any decision making authority over a requested adjustment. An adjustment would be granted as part of the wind facility application.

Additionally, LUBA analyzed whether Ordinance 2011-06 would be consistent with Statewide Planning Goal ("Goal") 5. LUBA decided that if due to a setback waiver (in the case of Ordinance 2011-06) a wind facility would be sited in a location under the County's acknowledged land use regulations and plan required consistency with adopted Goal 5 resources, then the County would presumably conduct that analysis as part of the permit proceeding. A provision in the proposed language addresses this issue.

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### **III. Proposed Adjustment Criteria.**

**"Setbacks. The minimum setback from a turbine tower shall be a distance of not less than the following:**

**(1) From a turbine tower to a rural residence, two (2) miles unless the rural residence landowner applies for and receives an adjustment allowing a lesser setback as provided below. For purposes of this section, 'rural residence' is defined as a legal, conforming dwelling existing on a unit of land at the time an application [for a wind facility] is deemed complete. The setback measurement is from the centerline of the turbine tower to the center point of the rural residence.'**

**(2) The approval criteria for an adjustment to provide for a reduced distance between a turbine tower and a rural residence are shown below.**

**A. The proposal will not significantly detract from the livability of the rural residence; and**

**B. Any impacts to the livability of the rural residence resulting from the adjustment are mitigated to the extent practical; and**

**C. If an adjustment affects a Goal 5 resource, the wind facility application must consider the effect of the adjustment on the Goal 5 resource; and**

**D. All other requirements of the wind facility application remain satisfied.**

**(3) An adjustment under this section shall be processed as part of the wind facility application."**

### **FINDINGS ADDRESSING FIRST SUB-ASSIGNMENT OF ERROR IN SECOND ASSIGNMENT OF ERROR**

The Land Use Board of Appeals("LUBA")remanded Ordinance 2011-07 because the ordinance "[adjusted]the balance the county initially struck in its initial ESEE analysis and its program to achieve the goal". *Slip op. 16*. Ordinance 2011-07 amended Umatilla County Development Code("UCDC")152.616(HHH)(11)("Section 11")by adding subsections (B) and (D). which included additional Goal 5 protections and thus "adjusted the balance" of the Goal 5 program. LUBA found that the adjustment required the County to address at least some of the ESEE analysis set out in OAR 660-023-0040(2)



through (5)(the administrative rule implementing Goal 5). Because the County did not conduct the ESEE analysis nor adopt any findings based on an ESEE analysis, LUBA remanded the County's decision in order for the County to conduct the ESEE analysis and adopt findings.

On remand, the County finds that it is not required to adjust the ESEE analysis adopted in its original Goal 5 program. As LUBA noted in its decision, because the County allows wind facilities as a conditional use in resource zones, the County's existing Goal 5 program limits, but does not prohibit, conflicting uses such as wind facilities. *Id.* The County is not required to readopt Section 11 in its entirety on remand. The County now finds that it does not wish to amend its Goal 5 program and will adopt Section 11 on remand by striking subsections (B) and (D) in their entirety. By doing so, the County has not adjusted the Goal 5 program and the administrative rule at issue in this assignment of error is no longer relevant to this issue. The County finds that with the adoption of amended section (11) consistent with the existing and acknowledged Goal 5 program, it has appropriately addressed this sub-assignment of error on remand.

#### **SUMMARY OF SIXTH ASSIGNMENT OF ERROR**

LUBA found that ORS 197.175(2) and Goal 2 require ordinances to be consistent with the applicable comprehensive plan. Cosner et al argued that the county erred in failing to address comprehensive plan policies that encourage energy production in the county. The petitioner identified four comprehensive plan policies that are relevant to energy development but were absent from analysis in support of the siting standards.

The four policies listed in the remand include:

Open Space Policy 42(a): Encourage development of alternative sources of energy.

Open Space Policy 37: The County shall ensure compatible interim uses provided through Development Ordinance standards, and where applicable consider agriculturally designated land as open space for appropriate and eventual resource or energy facilities use.

Energy Conservation Policy 1: Encourage development of alternative sources of energy.

Economy of the County, Policy 1: Encourage diversification within existing and potential resource-based industries.

#### **The UCDC Wind Siting Standards Are Consistent With the Comprehensive Plan**

Ordinances 2011-05, 2011-06 and 2011-07 and the UCDO 152.616(HHH) commercial wind siting standards adopted by Umatilla County are consistent with the comprehensive plan. State law and the Umatilla County Development Ordinance, allows commercial

wind energy facilities as a conditional use in the Exclusive Farm Use Zone. (ORS 215.283(1)) and UCDO 152.616(HHH). As a use allowed in ORS 215.283(2) state law does not require or mandate that commercial wind energy facilities be permitted in the EFU Zone. If commercial wind energy facilities were mandated, they would be included in ORS 215.283(1) and permitted as a Land Use Decision in the county ordinance. If the county did not support commercial wind energy development the county could choose to not allow them in its code and the use would be excluded from each zone. Umatilla County has adopted and implemented a land use code that specifically allows for commercial wind energy facilities and therefore the county supports the development of commercial wind energy facilities.

In other words, the county could choose to not allow commercial wind energy facilities but since the county ordinance allows such facilities, that is proof that the county supports and encourages the development of such facilities.

Land uses referenced in ORS 215.283(2), including "commercial utility facilities for the purpose of generating power for public use by sale," of which a commercial wind energy facilities is one, are by definition "nonfarm uses" that a county may permit "subject to the approval of the governing body or its designee" and subject to ORS 215.296. ORS 215.283(2) ORS 215.296 provides that "an application for a use in ORS 215.283(2) may demonstrate that the standards for approval set forth ...will be satisfied through the imposition of conditions. Any conditions so imposed shall be clear and objective." The purpose of the proposed siting standards are in fact to ensure the county land use process provides clear and objective standards, further evidence that the county is in support of commercial wind energy facilities.

Umatilla County has permitted a number of commercial wind energy facilities since 1997. In 2002 Umatilla County adopted 152.616(HHH) standards for commercial wind energy facilities. Prior to that date, Umatilla County processed land use permits using more general standards, for a "utility facility for purpose of generating power for public use by sale." The 2002 Ordinance and the 2011 Ordinances were developed for the explicit purpose of providing clear and objective standards, to support and encourage commercial wind energy development. Absent specific standards, permitting of renewable energy development and commercial wind energy in particular would be more vague and challenging for a developer to show compliance and therefore obtain final land use approval.

The LUBA appeal referenced only part of four Comprehensive Plan Policies. Where those Policies are part of Plan Findings and Policies, the complete text is printed below. When considered in context of the complete Plan Finding and Policy, and given the findings above, it is clear that the proposed 152.616(HHH) is consistent with the Comprehensive Plan Findings and Policies. In fact, the proposed 152.616(HHH) standards enhance the development of renewable energy in the county.

**Comprehensive Plan Chapter 8. Open Space, Scenic and Historic Areas and Natural Resources, Goal 5**

**Finding 42. Alternative energy resources should be explored more fully in Umatilla County.**

**Policy 42.**

- (a) **Encourage development of alternative sources of energy.**
- (b) **The County will develop a file of alternative energy literature which will be available to the public**
- (c) **The County will refer people to agencies or private sources of energy conservation or development information when such information is not locally available.**
- (d) **With the availability and/or addition of adequate information on wind, solar and other alternate energy resources, the County shall complete the Goal 5 analysis process for those resources (OAR 660-16-000).**

RESPONSE: The County finds that these Comprehensive Plan Policies are satisfied for several reasons. The County allows for the siting of commercial wind energy facilities and other renewable energy facilities. The conditional use standards apply to all zones in which commercial energy projects are allowed. The standards contained in 152.616(HHH) are clear and objective and therefore make the process more attainable for a landowner and developer. In addition to the siting standards the County has made information such as mapping and other literature available. Additionally, the county provides notice to affected agencies as part of the conditional use process, thereby further enhancing the review process. The County allows, but does not require, that a wind energy facility be included on the Goal 5 inventory, thus allowing development without a time-consuming and subjective legislative amendment, thus expediting the review process.

The County finds that the proposed Ordinances comply with these Comprehensive Plan Findings and Policies.

**Comprehensive Plan Chapter 8. Open Space, Scenic and Historic Areas and Natural Resources, Goal 5**

**Finding 37. Areas specifically set aside for natural resource exploitation, future development of reservoirs, energy generation and transmission facilities and industry will lower the cost of eventual use, as compared to allowing incompatible development on the same lands before such eventual use.**

**Policy 37. The County Shall ensure compatible interim uses provided through Development Ordinance standards, and where applicable consider agriculturally designated land as open space for appropriate and eventual resource or energy facilities use.**

RESPONSE: The County finds that this Policy is met where commercial wind energy facilities are permitted on all resource land in the county and where resource designation such as Exclusive Farm Use and Grazing Farm have the effect of preserving areas for future development of energy facilities.

The County finds that the Ordinance comply with this Comprehensive Plan Policy.

## **Chapter 16. ENERGY CONSERVATION**

**Finding 1: Escalating cost of depleting non-renewable energy sources make renewable energy source alternatives (e.g. solar wind) increasingly more economical, and help conserve existing energy supplies.**

**Policy 1: Encourage rehabilitation/weatherization of older structures and the utilization of locally feasibly renewable energy resources through use of tax and permit incentives.**

RESPONSE: The County finds that the proposed wind siting standards in UCDO 152.616(HHH) are consistent with this Policy where the clear and objective standards provide incentive and assurance for a developer seeking permits. The clear and objective standards provide regulatory assurance to a landowner, developer and for financing purposes. Clear and objective standards provide more assurance to a developer seeking to complete the permitting and development process than do vaguely written standards which are more susceptible to appeal.

The County finds that the proposed standards comply with this Plan Policy.

## **Chapter 12. ECONOMY OF THE COUNTY**

**Finding 1: Predominately a resource based economy, the County experiences fluctuations in market demand, production supply, and seasonal unemployment and underemployment (sic).**

**Policy 1: Encourage diversification within existing and potential resource-based industries.**

RESPONSE: The County finds that by allowing commercial wind energy development as a conditional use in resource zones and by adopting clear and objective standards, that the proposed wind siting standards in UCDO 152.616(HHH) encourage the development of commercial wind energy in resource zones and thus enhance opportunities to diversify resource-based industries.

The County finds that the proposed standards comply with this Plan Policy.

**Proposal for consideration by Board of Commissioners for the remand of the LUBA appeal for Ordinances Nos. 2011-05, 2011-06 and 2011-07.**

There were 3 items remanded by the Land Use Board of Appeals to Umatilla County regarding the ordinances: (1) Waiver of setbacks; (2) Goal 5 analysis of Walla Walla Watershed Area; (3) Documentation of consistency of standards with 4 Comprehensive Plan policies regarding alternative energy sources. The following is the proposed language to be adopted by Umatilla County to address the 3 matters on remand.

**I. Proposed Amendments to Ordinance No. 2011-06 to allow for adjustments for setback from a turbine tower to a rural residence**

The 2 mile setback was upheld and is not at issue as part of the remand. The issue remanded was the waiver of the setback requirement. The language proposed below is an amendment to the UCDC to allow approval criteria for an adjustment to provide for a reduced setback. The proposed language does not delegate to neighboring cities or landowners any decision making authority over a requested adjustment. An adjustment would be granted as part of the wind facility application.

**§152.616 STANDARDS FOR REVIEW OF CONDITIONAL USES AND LAND USE DECISIONS.**

(HHH) Commercial Wind Power Generation Facility.

(6) Standards/Criteria of Approval The following requirements and restrictions apply to the siting of a Wind Power Generation Facility:

Setbacks. The minimum setback from a turbine tower shall be a distance of not less than the following:

(1) From a turbine tower to a rural residence, two (2) miles [**NEW LANGUAGE IN BOLD**] **unless the rural residence landowner applies for and receives an adjustment allowing a lesser setback as provided below.** For purposes of this section, 'rural residence' is defined as a legal, conforming dwelling existing on a unit of land at the time an application for a wind facility is deemed complete. The setback measurement is from the centerline of the turbine tower to the center point of the rural residence.'

(2) The approval criteria for an adjustment to provide for a reduced distance between a turbine tower and a rural residence are shown below.

A. The proposal will not significantly detract from the livability of the rural residence; and

B. Any impacts to the livability of the rural residence resulting from the adjustment are mitigated to the extent practical; and

C. If an adjustment affects a Goal 5 resource, the wind facility application must consider the effect of the adjustment on the Goal 5 resource; and

D. All other requirements of the wind facility application remain satisfied.

(3) An adjustment under this section shall be processed as part of the wind facility application.

## **II. Walla Walla Watershed standards adopted under Ordinance 2011-07.**

On remand, the County finds that it is not required to adjust the ESEE analysis adopted in its original Goal 5 program. As LUBA noted in its decision, because the County allows wind facilities as a conditional use in resource zones, the County's existing Goal 5 program limits, but does not prohibit, conflicting uses such as wind facilities. The County is not required to readopt Section 11 in its entirety on remand.

The County now finds that it does not wish to amend its Goal 5 program and will adopt Section 11 on remand by striking subsections (B) and (D) in their entirety. By doing so, the County has not adjusted the Goal 5 program and the administrative rule at issue in this assignment of error is no longer relevant to this issue. The County finds that with the adoption of amended section (11) consistent with the existing and acknowledged Goal 5 program, it has appropriately addressed this sub-assignment of error on remand.

### **§ 152.616 STANDARDS FOR REVIEW OF CONDITIONAL USES AND LAND USE DECISIONS.**

(HHH) Commercial Wind Power Generation Facility.

#### **(11) Walla Walla Watershed.**

Lands located within the Walla Walla Sub-basin East of Highway 11 shall be subject to additional standards. The purpose of these criteria is to prevent impacts to highly erodible soils (as defined by the Oregon Department of Agriculture) and federally listed threatened and endangered species. The standards are also designed to protect sensitive streams and to be consistent with the Clean Water Act.

(A) There shall be no construction of project components, including wind turbines, transmission lines and access roads on soils identified as highly erodible. The highly erodible soils are those soils identified by the Oregon Department of Agriculture as highly erodible.

(B) The application shall demonstrate that the Wind Power Generation Facility and its components will be setback a minimum of two miles from streams and tributaries that contain Federally listed threatened and endangered species, and, that the project will generate no runoff or siltation into the streams.

### III. Compliance with Comprehensive Plan Policies.

The UCDC Wind Siting Standards Are Consistent With the Umatilla County Comprehensive Plan

Comprehensive Plan Chapter 8. OPEN SPACE, SCENIC AND HISTORIC AREAS AND NATURAL RESOURCES, GOAL 5

Finding 42. Alternative energy resources should be explored more fully in Umatilla County.

Policy 42.

- (a) Encourage development of alternative sources of energy.
- (b) The County will develop a file of alternative energy literature which will be available to the public
- (c) The County will refer people to agencies or private sources of energy conservation or development information when such information is not locally available.
- (d) With the availability and/or addition of adequate information on wind, solar and other alternate energy resources, the County shall complete the Goal 5 analysis process for those resources (OAR 660-16-000).

**RESPONSE:** The County finds that these Comprehensive Plan Policies are satisfied for several reasons. The County allows for the siting of commercial wind energy facilities and other renewable energy facilities. The conditional use standards apply to all zones in which commercial energy projects are allowed. The standards contained in 152.616(HHH) are clear and objective and therefore make the process more attainable for a landowner and developer. In addition to the siting standards the County has made information such as mapping and other literature available. Additionally, the county provides notice to affected agencies as part of the conditional use process, thereby further enhancing the review process. The County allows, but does not require, that a wind energy facility be included on the Goal 5 inventory, thus allowing development without a time-consuming and subjective legislative amendment, thus expediting the review process.

The County finds that the proposed Ordinances comply with these Comprehensive Plan Findings and Policies.

00296

Comprehensive Plan Chapter 8. OPEN SPACE, SCENIC AND HISTORIC AREAS AND NATURAL RESOURCES, GOAL 5

Finding 37. Areas specifically set aside for natural resource exploitation, future development of reservoirs, energy generation and transmission facilities and industry will lower the cost of eventual use, as compared to allowing incompatible development on the same lands before such eventual use.

Policy 37. The County shall ensure compatible interim uses provided through Development Ordinance standards, and where applicable consider agriculturally designated land as open space for appropriate and eventual resource or energy facilities use.

**RESPONSE:** The County finds that this Policy is met where commercial wind energy facilities are permitted on all resource land in the county and where resource designation such as Exclusive Farm Use and Grazing Farm have the effect of preserving areas for future development of energy facilities.

The County finds that the Ordinance comply with this Comprehensive Plan Policy.

Chapter 16. ENERGY CONSERVATION

Finding 1: Escalating cost of depleting non-renewable energy sources make renewable energy source alternatives (e.g. solar wind) increasingly more economical, and help conserve existing energy supplies.

Policy 1: Encourage rehabilitation/weatherization of older structures and the utilization of locally feasibly renewable energy resources through use of tax and permit incentives.

**RESPONSE:** The County finds that the proposed wind siting standards in UCDO 152.616(HHH) are consistent with this Policy where the clear and objective standards provide incentive and assurance for a developer seeking permits. The clear and objective standards provide regulatory assurance to a landowner, developer and for financing purposes. Clear and objective standards provide more assurance to a developer seeking to complete the permitting and development process than do vaguely written standards which are more susceptible to appeal.

The County finds that the proposed standards comply with this Plan Policy.

Chapter 12. ECONOMY OF THE COUNTY

Finding 1: Predominately a resource based economy, the County experiences fluctuations in market demand, production supply, and seasonal unemployment and underemployment (sic).

Policy 1: Encourage diversification within existing and potential resource-based industries.

00297



**RESPONSE:** The County finds that by allowing commercial wind energy development as a conditional use in resource zones and by adopting clear and objective standards, that the proposed wind siting standards in UCDO 152.616(HHH) encourage the development of commercial wind energy in resource zones and thus enhance opportunities to diversify resource-based industries.

The County finds that the proposed standards comply with this Plan Policy.

00298

IN THE CIRCUIT COURT OF THE STATE OF OREGON  
FOR UMATILLA COUNTY

} AFFIDAVIT OF PUBLICATION

STATE OF OREGON  
County of Umatilla } ss

I, Dayle Stinson being duly sworn, depose and say that I am the principal clerk of the publisher of the East Oregonian, a newspaper of general circulation, as defined by ORS 193.010 and 19 published at 211 SE Byers Avenue, Pendleton, OR 97801, in the aforesaid that the

EO-5669 NOTICE OF PUBLIC HEARING

a printed copy of which is hereto annexed; was published in the entire issue of said newspaper for 1 successive and consecutive issues in the following issues:

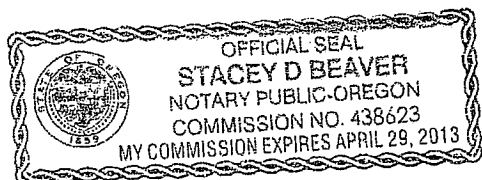
FEBRUARY 18, 2012

Subscribed and sworn to before me on this 27 day of

FEBRUARY, 2012

Dayle Stinson

Stacey D Beaver  
Notary Public of Oregon



EO-5669  
NOTICE OF PUBLIC  
HEARING  
UMATILLA COUNTY  
BOARD OF  
COMMISSIONERS

YOU ARE HEREBY NOTIFIED of a Public Hearing to be held before the Umatilla County Board of Commissioners on Tuesday, February 28, 2012 at 9:00 AM at the Media Room of the County Justice Center, 4700 NW Pioneer Place, Pendleton, OR 97801.

♦ Hearing to address the remand from the State Land Use Board Of Appeals for the amendment to the Umatilla County Development code, #T-10-039, Conditional Use Section 152.616 (HHH) Commercial Wind Energy Facility Siting Standards. The Board will reconsider portions of Ordinances No. 2011-05, 2011-06 and 2011-07 to address the items remanded to the county by the Land Use Board of Appeals.

For further information concerning this proposal, please contact Tamra Mabbott at the Umatilla County Planning Department, 216 SE 4th Street, County Courthouse, Pendleton, Oregon, 97801, 541-278-6246; email

sue, precludes appeal to the Land Use Board of Appeals based on that issue.

Copies of documents and evidence pertaining to the hearing listed above, and all relevant criteria are available for inspection at no cost and will be duplicated at printing cost. Materials are also posted on the County website at

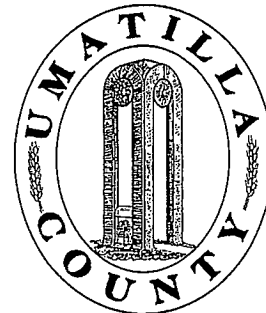
[www.umatillacounty.net/planning](http://www.umatillacounty.net/planning)  
A copy of the staff report will be available for inspection or duplicated at least seven days before the hearing. Hearings shall be governed by Section 152.772 of the Umatilla County Land Development Code.

DATED THIS 11th day of February 2012  
UMATILLA COUNTY  
DEPARTMENT OF  
LAND USE PLANNING  
February 18, 2012

00299

# Umatilla County

Department of Land Use Planning



Director  
Tamra Mabbott

LAND USE  
PLANNING  
541-278-6252

CODE  
ENFORCEMENT  
541-278-6300

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Emergency  
Management  
Division:

EMERGENCY  
MANAGEMENT  
541-966-3700

CHEMICAL  
STOCKPILE  
EMERGENCY  
PREPAREDNESS  
PROGRAM  
(SEPP)  
541-567-2084  
541-966-3700  
1-877-367-2737

## NOTICE OF PUBLIC HEARING UMATILLA COUNTY BOARD OF COMMISSIONERS

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- Hearing to address the remand from the State Land Use Board Of Appeals for the amendment to the Umatilla County Development code, #T-10-039, Conditional Use Section 152.616 (HHH) Commercial Wind Energy Facility Siting Standards. The Board will reconsider portions of Ordinances No. 2011-05, 2011-06 and 2011-07 to address the items remanded to the county by the Land Use Board of Appeals.

For further information concerning this proposal, please contact Tamra Mabbott at the Umatilla County Planning Department, 216 SE 4<sup>th</sup> Street, County Courthouse, Pendleton, Oregon, 97801, 541-278-6246; email [tamra@co.umatilla.or.us](mailto:tamra@co.umatilla.or.us)

Opportunity to voice support or opposition to the above proposal, or to ask questions, will be provided. Failure to raise an issue in a hearing, either in person or by letter, or failure to provide statements or evidence sufficient to afford the decision maker an opportunity to respond to that issue, precludes appeal to the Land Use Board of Appeals based on that issue.

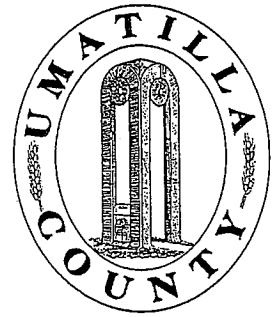
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DATED THIS 11<sup>th</sup> day of February 2012  
UMATILLA COUNTY DEPARTMENT OF LAND USE PLANNING

H:\PublicNotices\2012\28FEBRUARY2012

# Umatilla County

Department of Land Use Planning



Director  
Tamra Mabbott

LAND USE  
PLANNING  
541-278-6252

CODE ENFORCEMENT  
541-278-6300

\*\*\*  
Emergency  
Management  
Division:

EMERGENCY  
MANAGEMENT  
541-966-3700

CHEMICAL  
STOCKPILE EMERGENCY  
PREPAREDNESS  
PROGRAM  
(CSEPP)  
541-567-2084  
541-966-3700  
1-877-367-2737

## AFFIDAVIT OF MAILING

February 10, 2012

Hearing to address the remand from the State Land Use Board Of Appeals for the amendment to the Umatilla County Development code, #T-10-039, Conditional Use Section 152-616 (HHH) Commercial Wind Energy Siting Standards. The Board will reconsider portions of Ordinances No. 2011-05, 2011-06 and 2011-07 to address the items remanded to the county by the Land Use Board of Appeals.

## PUBLIC NOTICE

I hereby certified that the accompanying list of property owners, local, state and federal officials, utility company representatives, news media, and interested parties, were mailed notice of decision for the land use request noted above, via first class mail on 2-10-12.

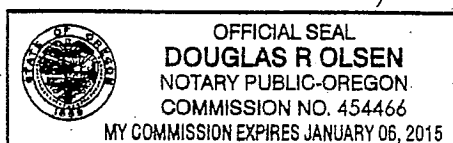
Dated this 10 day of February, 2012.

Connie Hendrickson  
Designated Mailing Officer

STATE OF OREGON            ) ss  
COUNTY OF UMATILLA    )

Signed and personally appeared before me this 10 day of

February, 2012, by Connie Hendrickson



[Signature]  
Notary Public for Oregon



CITY OF  
**MILTON-FREEWATER**

P.O. Box 6 • 722 S. Main • Milton-Freewater, OR 97862

January 25, 2012

UMATILLA COUNTY BOARD OF COMMISSIONERS  
Umatilla County Courthouse  
216 S.E. 4<sup>th</sup> Street  
Pendleton, Oregon 97801

Re: Reconsideration of wind turbine siting regulations

Dear Commissioners:

On behalf of the City Council and City of Milton-Freewater I am writing to urge you to take whatever actions are necessary to support the provisions of the new wind energy siting codes you adopted in 2011.

We understand that the Land Use Board of Appeals has issued a decision ordering you to reconsider four of the 11 challenged provisions of your very well thought out legislation regarding the codes for wind turbine siting in Umatilla County.

Specifically, the two mile set-back provision is an essential protection for the citizens of the city (and county). Retaining, and making effective, the two mile set-back provision is far more important than retaining the provision for waiver of the set-back requirement. Further, the protections for the Walla Walla River watershed area are deserving of your active and dedicated support. Please aggressively commit yourselves to making these provisions pass "legal muster" and become effective codes in Umatilla County.

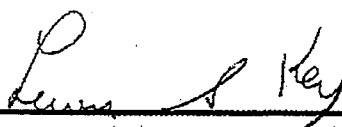
Since the new standards are not in force while under appeal, it is with the utmost urgency that we ask the County Board of Commissioners to take action as soon as humanly possible to rectify concerns that the Land Use Board of Appeals may have with this legislation.

We believe that the wind siting legislation the County Commissioners, Planning Commission, and many citizens worked on so diligently is fair, reasonable and provides proper standards for the development of wind energy resources in the county.

We urge you take aggressive action in order to reinstate this important piece of legislation as soon as possible.

Sincerely,

Lewis S. Key, Mayor  
City of Milton-Freewater

  
PHONE (541) 938-5531 FAX (541) 938-8224

[www.milton-freewater-or.gov](http://www.milton-freewater-or.gov)

00302

CERTIFICATE OF SERVICE

Jim Hatley, Petitioner

Umatilla County, Respondent (LUBA Nos. 2012-017 and 2012-018)

I hereby certify that on Wednesday, April 11, 2012, I served a true and correct copy of the record of the above case:

- By USPS Mail to the Land Use Board of Appeals,  
550 Capitol St. NE, Suite 235, Salem, OR 97301-2552;

- By USPS Mail to Bruce White, Attorney at Law,  
(representing Jim Hatley), P.O. Box 1298, Bend, OR 97709;

- By USPS Mail to Daniel H. Kearns, Attorney at Law,  
1225 American Bank Building, 621 SW Morrison Street,  
Portland, OR 97205;

- By personal delivery to Doug Olsen, Umatilla County Counsel,  
216 SE 4<sup>th</sup> Street, Pendleton, OR 97801

DATED: April 11, 2012

SIGNATURE: Connie Hendrickson  
Connie Hendrickson, Administrative Assistant  
Umatilla County Planning Department