

B2HAPPDoc8-327 DPO Public Comment_Public 2019-06-03	4648
B2HAPPDoc8-328 DPO Public Comment_Radcliffe PGE 2019-07-11	4650
B2HAPPDoc8-329 DPO Public Comment_Rafetty B and W 2019-08-21	4652
B2HAPPDoc8-330 DPO Public Comment_Rainboth 2019-08-22	4655
B2HAPPDoc8-331 DPO Public Comment_Randall 2019-08-19	4657
B2HAPPDoc8-332 DPO Public Comment_Raph 2019-08-15	4660
B2HAPPDoc8-333 DPO Public Comment_Rauch 2019-06-27	4729
B2HAPPDoc8-334 DPO Public Comment_Ray 2019-08-19	4732
B2HAPPDoc8-335 DPO Public Comment_Representative Findley 2019-06-26	4735
B2HAPPDoc8-336 DPO Public Comment_Representative Power 2019-07-05	4738
B2HAPPDoc8-337 DPO Public Comment_Representative Smith 2019-06-28	4739
B2HAPPDoc8-338 DPO Public Comment_Rhoden 2019-08-19	4741
B2HAPPDoc8-339 DPO Public Comment_Rice 2019-06-17	4745
B2HAPPDoc8-340 DPO Public Comment_Rosa Monda 2019-08-05	4747
B2HAPPDoc8-341 DPO Public Comment_Rosenbaum 2019-06-20	4750
B2HAPPDoc8-342 DPO Public Comment_Ross D 2019-06-19 to 06-20	4759
B2HAPPDoc8-343 DPO Public Comment_Ross T 2019-08-22	4764
B2HAPPDoc8-344 DPO Public Comment_Roth 2019-08-22	4784
B2HAPPDoc8-345 DPO Public Comment_Rowan A and R 2019-07-20	4788
B2HAPPDoc8-346 DPO Public Comment_Ryman 2019-06-20	4790
B2HAPPDoc8-347 DPO Public Comment_Saladin 2019-08-19	4796
B2HAPPDoc8-348 DPO Public Comment_Sandoz 2019-08-21	4798
B2HAPPDoc8-349 DPO Public Comment_Sands 2019-08-21	4805
B2HAPPDoc8-350 DPO Public Comment_Sarson 2019-08-22	4810
B2HAPPDoc8-351 DPO Public Comment_Schaures 2019-06-29 to 08-22	4812
B2HAPPDoc8-352 DPO Public Comment_Schultz 2019-06-20	4822
B2HAPPDoc8-353 DPO Public Comment_Schumacher Yeates 2019-08-15	4824
B2HAPPDoc8-354 DPO Public Comment_Sedell E and J 2019-08-21	4893
B2HAPPDoc8-355 DPO Public Comment_Senator Hansell 2019-06-10	4902
B2HAPPDoc8-356 DPO Public Comment_Severs 2019-08-20	4904
B2HAPPDoc8-357 DPO Public Comment_Sexton Coy 2019-08-15	4907
B2HAPPDoc8-358 DPO Public Comment_Sexton Damon 2019-08-15	4976
B2HAPPDoc8-359 DPO Public Comment_Sherer A 2019-08-15	5045

TARDAEWETHER Kellen * ODOE

From: jean public <jeanpublic1@gmail.com>
Sent: Monday, June 3, 2019 10:16 AM
To: TARDAEWETHER Kellen * ODOE; DPOComments@oregon.gov
Cc: KOOISTRA Esther * ODOE; B2H DPOComments * ODOE
Subject: public comment on BoardmantoHemingway transmission line

I DO NOT BELIEVE THIS LINE IS NECESSARY.I BELIEVE IT CUTS INTO NATIONAL LAND LIKE A KNIFE AND HURTS ALL LIVING CONDITINOS FOR ALL ANIMALS

and trees that live in this site. i see no reason to give these givaway programs to utilities anymore. its time to call a halt to these giveaway programs. jean publiee jeapublic1@gmail.com

SUBMIT YOUR COMMENTS AND/OR QUESTIONS

The online comment form is deactivated during the comment period on the Draft Proposed Order (DPO) as part of the Oregon Energy Facility Siting Council (EFSC) review process. Comments must be submitted directly to the Oregon Department of Energy (ODOE) and received no later than July 23, 2019 at 5 pm (PDT) to be included in the record. Oral and written comments are also accepted at [public hearings on the DPO](#).

Written comments may be submitted to the hearing officer, in care of:

Kellen Tardaewether, Senior Siting Analyst Oregon Department of Energy

Phone: [503-373-0214](tel:503-373-0214)

Address: 550 Capitol St N.E.

Salem, OR 97301

Fax: 503-378-6457

B2H.DPOComments@Oregon.gov

For direct communication with Idaho Power, please contact Jeff Maffuccio, Facility Siting Coordinator

PO Box 70 Boise, ID 83707

Phone: [208-388-2402](tel:208-388-2402)

JMaffuccio@idahopower.com

INTERESTED IN POTENTIAL CONTRACTING OPPORTUNITIES?

[Sign up for updates](#)

ADDITIONAL CONTACT INFORMATION

[BUREAU OF LAND MANAGEMENT](#)

Renee Straub, BLM Project Coordinator
BLM Vale District
100 Oregon St.
Vale, Oregon 97918
Phone: [541-473-6289](tel:541-473-6289)
[E-mail Renee](#)



U.S. FOREST SERVICE

Wallowa-Whitman National Forest
David Plummer
Phone: [541-523-1261](tel:541-523-1261)
[E-Mail David](#)



[Questions about](#)

TARDAEWETHER Kellen * ODOE

From: Rebecca Carey-Smith <Rebecca.Carey-Smith@pgn.com>
Sent: Friday, July 12, 2019 4:26 PM
To: B2H DPOComments * ODOE
Subject: [Fortimail Spam Detected] Boardman-Hermiston Line
Attachments: EFSC Boardman-Hermiston Line.pdf

Good afternoon:

Attached please find PGE's letter in support of the Boardman to Hermiston permit application. Please contact me if you have any questions.

Best regards,
Rebecca



Rebecca Carey-Smith

State Government Affairs, Portland General Electric
Rebecca.Carey-Smith@pgn.com • 503-382-7824 (m)
PortlandGeneral.com



Portland General Electric
121 SW Salmon Street · Portland, Ore. 97204

July 11, 2019

To: Energy Facility Siting Council
cc: Todd Cornett, Oregon Department of Energy
Kellen Tardaewether, Oregon Department of Energy
B2H.DPOComments@Oregon.gov
Re: Proposed Boardman to Hemingway Transmission Line

Dear Council Members:

We are writing to express our support for the Boardman to Hemingway (B2H) transmission line, which will help incorporate intermittent renewable energy resources and is one of many important steps in addressing capacity constraints across the Pacific and Mountain West.

PGE is working diligently to help Oregon and our customers achieve a clean energy future and address the growing threat of global warming. To that end, we have set a decarbonization goal to reduce greenhouse gas emissions on our system by more than 80% and are investing in new renewables, like the Wheatridge wind-solar-storage facility in Morrow County. To achieve Oregon's clean energy future in a cost-effective manner that keeps the electric system stable and reliable, the transmission and distribution system across the west must be able to effectively incorporate intermittent and distributed resources.

In looking at the regional electric system, the B2H line will add much needed capacity, which is critical to the successful integration of additional renewables to meet Oregon's clean energy goals. Specifically, this line will help facilitate transfers between resource rich areas in times of excess and in times of need, providing a new pathway to sell excess energy to the Mountain West in the summer

Thank you for the opportunity to submit comments in support of Idaho Power's application to permit and build the B2H line. We respectfully encourage the approval of their application.

Sincerely,

A handwritten signature in black ink, appearing to read "Sania Radcliffe". The signature is fluid and cursive, with a small mark at the end.

Sania Radcliffe
Director, Government Affairs & Environmental Policy
Portland General Electric

August 19, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street N.E.
Salem, OR. 97301

Via E-MAIL: B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project
9/28/2018; Draft Proposed Order 5/23/2019

To: Chairmen Beyeler and Members of the Council

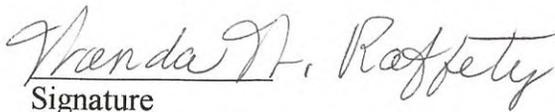
I appreciate the opportunity to comment on the Draft Project Order for the Boardman to Hemingway Transmission Project. I am very supportive of the Oregon California Trails Association (OCTA) and the work that they have done to protect the Oregon Trail, especially here in Oregon. OCTA is mentioned numerous times in **Exhibit S** and the **Historic Properties Management Plan and Programmatic Agreement**. OCTA does NOT believe that Exhibit S Historic Properties Management Plan is complete in 7.2.3 Field Crew, and offers this additional condition.

ADDITIONAL CONDITION #1 OCTA recommends that the Council add an Oregon Trail expert to the Cultural Resource Team. This Oregon Trail individual will have qualifications similar to Field crew members. For example, they will have an undergraduate degree in anthropology, archaeology, or in a field such as geology, engineering or history. It will not be necessary to have attended a field school. This individual will be recommended by the National OCTA President and agreed to by the Field Director.

The field surveys, even with SHPO and NPS data, have missed and/or mislabeled some sections of the emigrant trail. OCTA wants the public to know where the Trails are and I do too! OCTA over the years has marked the trail location with wooden signs, small triangles attached to trees, and more recently, carbonite posts and steel rails. Most private property owners are proud of the trail on their property, and after obtaining permission allow the public to walk and hike on the trail.

Idaho Power and their consultants have not acknowledged trail crossings shown on submitted Maps and do not acknowledge visual intrusion of the line for 10 miles per standards, and only upon ODOE's RAI's, put into documents some trail protections. This has been consistent from the BLM process to current day.

Considering the points above, Idaho Power does not comply with the state standards for cultural resources OAR 354-022-0090, or 345-022-0080, Scenic resources. **EFSC Must Deny the Site Certificate!**



Signature

Printed name: Wanda W Raffety

Mailing address: 1198 D Street, Baker City, OR 97814-2951

Email address: wraffety6@yahoo.com
phone number: (optional) 541 523 2551

August 19, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street N.E.
Salem, OR. 97301

Via E-MAIL: B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposed Order 5/23/2019

To: Chairmen Beyeler and Members of the Council

I appreciate the opportunity to comment on the B2H Draft Proposed Order. The Oregon National Historic Trail will be significantly affected by the B2H Transmission Line.

The Draft Proposed Order identifies significant impacts to the Oregon Trail in several Exhibits, including Exhibit C: Property Location and Maps; Exhibit L: Protected Areas; Exhibit R: Scenic Aesthetic Values; Exhibit S: Cultural Resources; Exhibit T: Recreational Facilities; and Exhibit X: Noise.

B2H crosses the Oregon Trail at least 8 times. EFSC has done a reasonable job of protecting the Trail during construction and operation, if the proposed requirements are followed, **except at the Oregon Trail Interpretive Center at Flagstaff Hill.**

The B2H Transmission Line should be buried for approximately 2 to 2 ½ miles to comply with the exhibits indicated above. Idaho Power has from the early years refused to do any significant analysis for this option. IPC uses cost as the reason for stating that undergrounding is not feasible. Cost is not a specific standard, and costs are the responsibility of the Oregon Public Utilities Commission during rate considerations. EFSC has determined that IPC has the Financial ability even if some partners choose to not participate, so reasonable cost should not be a determining factor for EFSC.

EFSC should refuse to approve the Draft Project Order for the following reasons:

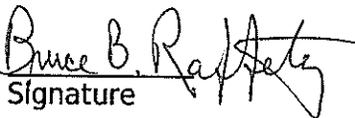
1. Does not comply with Noise Standards as no measurements were done at the Oregon Trail viewpoint or walking trails endpoint near milepost 146. Perhaps not a "Noise Sensitive Property," in the context of residential sleeping areas; however, certainly for tourists and visitors to the Interpretive Center and hiking trails noise will be disturbing. Map 23 in Attachment X-1 does not even show the Oregon Trail.
2. Within OAR 345-022-0040 Protected Areas and ODEQ standards 340-035-0000-0100, this area should have been monitored and modeled as a Noise Sensitive Property and was not.
3. Does not comply with Scenic Values from the Blue Mountains Parkway and Oregon Trail Interpretive Center. The OR 86 encourages drivers to STOP and read interpretive signs, so viewer perception and resource change cause significant decrease of scenic values. IPC says no significant impact.

4. The DPO does not comply with Exhibit L Protected Areas. The BLM ACEC at Flagstaff Hill has not considered undergrounding for the protection of the Oregon Trail. No analysis found the pristine, Class 1 swales of the Oregon Trail within the ACEC located at: Lat 44.813762 Long -117.750194 or 44° 48' 48.26"N 117° 75' 57.97"W. IPC proposes to build a new constructed road over the Oregon Trail in the area identified in the location above.
5. The DPO does not meet the standards required for Exhibit T Recreational Facilities, OAR 345-022-0100, especially at the Flagstaff Hill interpretive center, because of:
 - a. It is a BLM ACEC area managed for public tourism
 - b. It is the single most visited tourist facility in Baker County
 - c. The quality of the facility is outstanding
 - d. There is no other place where the Oregon Trail can be seen and interpreted.
6. The cost estimates of IPC do not compare with those of the *Edison Electric Institute*, January 2013 publication "Out of Sight, Out of Mind, An Updated Study of the Undergrounding of Power Lines." This article suggests that for 2.5 miles of rural undergrounding, the cost will be \$67,500,000. This is almost half the IPC estimate.

The Oregon Trail along the route of the B2H has the most damaging effects to its critical historic elements. Once the Trail is gone it cannot be reconstructed or mitigated back to life. Once gone, always gone. The only easily accessible public facility in Oregon is the Flagstaff Hill Interpretive Center near Baker City. The B2H must be buried to preserve this important site.

Considering the reasons above and the unconscionable desecration of our national treasure, the Council Must Deny the site certificate for the Boardman to Hemingway Transmission project.

Thank you,


Signature

Printed Name: Bruce B Raffety

Mailing Address: 119 D Street, Baker City, OR 97814-2951

Email: wraffety6@yahoo.com

August 5, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, Oregon 97301

Via EMAIL: B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposed Order.

Dear Chair Beyeler and Members of the Council:

COMMENT REGARDING THE BOARDMAN TO HEMINGWAY TRANSMISSION LINE DRAFT PROPOSED ORDER

The application is incomplete as Section X must include information regarding all receptors within ½ mile of site and include all noise sources required to be included in establishing the noise level generated directly or indirectly by the development. Idaho Power has not provided information adequate to determine if they are able to meet the noise standard, even with site certificate conditions.

IDAHO POWER FAILED TO COMPLY WITH OAR 345-021-0010(1)(x) which states that Exhibit X must include information about noise generated by construction and operation of the Project within ½ mile of the site boundary. The site boundary means "the perimeter of the site of a proposed energy facility, it's related or supporting facilities, all temporary laydown and staging areas and all corridors and micrositing corridors proposed by the applicant" (OAR 345-001-0010(55)).

1. The applicant lists the areas which are included in the site boundary in Exhibit F, Page F-2, however, they failed to include noise modeling or include all the receptors within the ½ mile area beyond the entire site perimeter.
2. The applicant failed to do noise modeling for all noise sensitive property as they did not include churches, schools, libraries, or hospitals as is required by the definition in OAR 340-035-0015(38).
3. The applicant also failed to include the noise identified in OAR 340-035-0035(1)(b)(B)(ii) as not being exempt from the ambient statistical noise level indirectly caused by or attributable to that source including all its related activities. This section states, "Sources exempted from the requirements of section (1) of this rule, which are identified in subsections (5)(b) - (f), (j), and (k) of this rule, shall not be excluded from this ambient measurement." The application is not complete prior to the applicant finishing Exhibit X to include all sources required by this rule as

well as all receptors within ½ mile of the entire site boundary. No decisions can be made absent an accurate accounting of the predicted noise impacts which has not occurred.

No Proposed Order can be issued until the developer has shown that they meet the requirements at the time a site certificate is issued. OAR 345-015-0190(5) allows the Department to find the application is complete when the applicant has submitted information adequate for the Council to make findings or impose conditions on all applicable Council standards. While not all information required by OAR 345-021-0000 and 0010 must be submitted, there must be information adequate to show they meet the requirements or will meet them by implementing the conditions contained in the site certificate. The draft site certificate does not assure that the noise standard will not be exceeded, and the developer has not provided noise modeling or included modeling for all required sources of noise to establish the ambient statistical noise level of the development for all NSR's. Missing information includes: 1. Identification of all noise sensitive receptors within ½ mile of the entire site boundary; 2. Identification and notice to the owners of all noise sensitive properties; and 3. Modeling which includes Items (5)(b) - (f), (j), and (k) which cannot be excluded from the ambient noise measurement.

Sincerely,



Signature

Printed Name: Donna Ramboth

Mailing Address:

69565 Antles Ln
Cove, OR 97824

August 15, 2019

Energy Facilities Siting Council
% Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street NE
Salem, OR 97301

Subject: Idaho Power Company's Application for Site Certificate for B2H Transmission Line

To: Chairman Beyeler and Members of the Council

My family and I have lived in Union, OR since 1974, County of Union, and region of Northeast Oregon. I was a member of the Union County Citizens Advisory Board for the B2H Transmission Line for a period of time and have a reasonably full knowledge of the proposed project.

It is my opinion that there are many inaccuracies in the application presented by Idaho Power Company as well as incomplete analysis in other areas. I know that this application should not have been accepted as complete and therefore a draft proposed order should not have been prepared. That would dictate that you must stop the siting process and back up to get the application process finalized first. I base my position on several errors and mistakes that are prevalent in the failed application which also influenced the draft proposed order.

APPLICANT FAILED TO FULLY AND ACCURATELY ANALYZE THE FOLLOWING:

Problem 1: The Draft Proposed Order was prepared prematurely because the application failed to include all of the information to fulfill the analysis of the noise standards. No proposed order can be issued until the developer has shown that they meet the requirements at the time a site certificate is issued. OAR 345-015-0190 (5) allows the Department to find the application is complete when the applicant has submitted information adequate for the Council to make findings or impose conditions on all applicable Council standards. While not all information required by OAR 345-021-0000 and 0010 must be submitted, there must be information adequate to show they meet the requirements or will meet them by implementing the conditions contained in the site certificate. The draft site certificate does not assure that the noise standard will not be exceeded, and the developer has not provided noise modeling or included modeling

for all required sources of noise to establish the ambient statistical noise level of the development for all NSR's. Missing information includes: 1. Identification of all noise sensitive receptors within ½ mile of the entire site boundary; 2. Identification and notice to the owners of all noise sensitive properties; and 3. Modeling which includes Items (5) (b) - (f), (j), and (k) which cannot be excluded from the ambient noise measurement.

Problem 2: Clear-cutting of timbered land under the transmission corridor would present certain problems in the application and the site certificate cannot be issued until these issues are cleared up. The conclusions provided by the applicant in section 8.0 are not accurate; without merit. Specifically, the applicant has failed to document that they will comply with Land Use Goal 4 OAR 660-006-000 through OAR 660-006-0010; There is no documentation provided that would indicate they are in compliance with OAR 345-022-0030 and they have not documented, nor are they able to meet the requirement contained in OAR 345-022-0030 (4) to allow an exception.

Problem 3: The problem of noxious weeds is ongoing and is exacerbated whenever native vegetation is disrupted as with a construction project. There are a number of undesirable species that will appear within a year of ground disturbance, should this line be installed. Once the weeds arrive they will expand their territory into land adjacent to the right-of-way. The applicant does not intend to comply, as required, with Oregon statutes. OAR-345-025-0016 states "in the site certificate, the Council shall include conditions that address monitoring and mitigation to assure compliance with standards contained in OAR Chapter 35, Division 22 and Division 24."

Idaho Power claims no responsibility for weeds outside the right of way (ROW) or those present outside the project that are likely to spread, even though the weeds at the site would disperse to areas outside the ROW. Furthermore, there is no assurance that noxious weeds at the site *would not* be allowed to go to seed. This cannot stand.

General Conclusions:

From the beginning, the B2H project has been beset by problems. It is very likely that Idaho Power Company doesn't even need the power they covet. And, then they don't propose any new substations at any of the population centers in Oregon. Places like La Grande would have no connection to B2H. That is how one-way Idaho Power Company behaves as it expects Oregon to give them a right-of-way. And, at the present time it would appear that my family would get to help pay for a line that isn't going to connect to our system.

Energy Facility Siting Council
August 15, 2019
Page 3

Conclusion:

It is not possible for me to understand why EFSC and the DOE in Oregon would give favorable consideration to a for-profit company from a neighboring state when we would get nothing of value in return. We would get the visual and environmental degradation and it has no appearance of any mutual benefit.

I strongly advise that you should deny a site certificate for B2H. To grant a site certificate would be a great disservice to Oregon.

Sincerely,



Raymond Randall
765 South 3rd
Union, OR 97883

TARDAEWETHER Kellen * ODOE

From: Dale Mammen <dmammen@eoni.com>
Sent: Thursday, August 15, 2019 5:53 PM
To: B2H DPOComments * ODOE
Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposed Order 5/23/2019
Attachments: Scan 2019-8-15 17.38.19.pdf

To: Chairman Beyeler and Members of the Council

Find attached a letter signed by me and 54 other residents of La Grande expressing our concerns regarding the B2H Project and we request that EFSC deny the Site Certificate.

I have also sent a bound copy of this material by the US Postal Service.

Sincerely,

Virginia L. Mammen
405 Balsa
La Grande, Oregon 97850

August 10, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E.
Salem, OR. 97301

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018:Draft Proposed Order.

Dear Chair Beyeler and Members of the Council:

My comment is about the usage of the "Local Streets" ¹ specifically the Modelaire-Hawthorne Loop) ², hereafter referred to as the "loop", of La Grande to access the site entrance. This residential "loop" was constructed without sidewalks for a new development around the early 1960s.

According to OAR 345-022-0110, Public Services (pg. 5. April 2017) "The applicant...must address all permanent and temporary impacts of the facility on housing, traffic, safety, police and fire protection, health care and schools." ³

My impression from reviewing the application Page 17 ⁴ is that the applicant has not fully examined the final portion of the intended route nor does it fully recognize or address the need for traffic mitigation. This "loop" is the only access to/from thirty-six houses to the rest of the city. The area to the north of the "loop" is occupied by the Grande Ronde Hospital and Medical Clinic. Two blocks to the east is located the local high school and a grade school. ²

In June of 2016, the Grande Ronde Hospital petitioned the City to have a conditional use for a parking lot expansion project next to Hawthorne. The Conditional Use Permit was approved subject to the Condition of Approval that "No driveway access to GRH parking lot areas shall be permitted onto Hawthorn Drive as such street is developed to residential standards and is not designed to support commercial traffic." ⁵

The La Grande Director of Public Works, Kyle Carpenter, provided information regarding the widths for the streets in question. The two streets range from 33 feet to 37 feet in width with no sidewalks. I personally measured the area where the unpaved stem of Hawthorne leaves the "loop" to go up the hill. At the junction it measures 32 feet curb cut to curb cut and narrows to 18-21 feet in width as it goes around the corner up the hill. 6 The Public Works Director also provided pictures of the mapping system showing the existing utilities located in the "loop". 7-8. It should also be noted that from the entrance to the "loop" at Sunset Drive to the entrance of the site the road has a 16% grade.

Attachment U2 9 from the application shows an "Aerial Lift Crane to be Used During Construction" and the Transportation and Traffic Plan on page 19 10 lists a number of other vehicles anticipated to be used. Article 6.6 — Public Street Standards for the City of La Grande Section 6.6.002 states that "Collector Streets are designed to withstand normal trucks of an HS20 loading. Larger trucks are to utilize Arterial Streets where at all possible." 11 The majority of vehicles listed on page 19 exceed that limit and would be using a Local Street in addition to Arterial and Collector Streets. According to the Public Works Director the two streets in the "loop" were designed as Local Streets for residential use, able to accept the pressures of HS20 for the purpose of an occasional need such as a weekly garbage truck or an emergency vehicle but for no more than 5% of the time. The paving construction of these over 50 year old streets in the "loop" was not designed for repetitive use by vehicles heavier than a normal car. These streets in the "loop" have not been repaved, only patched when necessary, since they were first constructed.

The application does not address the "loop" specifically, but 3.1.2 (pg. 19) 10 and Table 6 (pg.17) 12 of the Transportation and Traffic Plan indicate there would be numerous vehicles using this route. Not knowing exactly just which vehicles would be on the "loop" daily but making a conservative estimate of 50 round trips (100 single) it would be a constant parade with one truck every 7.2 minutes. This is unacceptable for numerous reasons including constant excessive noise.

Not only would weight of the vehicles be a problem but the narrowness of the "loop" streets and the ninety degree blind curves that would have to be executed would be either impossible or extremely dangerous considering the turning radius for many of these large vehicles. The

already dangerous situation for a number of driveways that exit onto these "loop" streets at blind curves would be exacerbated. 13-14

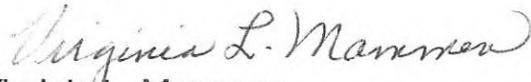
When considering only the traffic and safety issues listed above, the use of the "loop" as a part of the route for Idaho Power seems to be not only dangerous for the residents but unconscionable and irresponsible for Idaho Power to use such streets that are currently primarily for the neighborhood for walking (children to school, all ages for physical training), driving, or biking. I fear there are standards that are either not being considered or they are intentionally being ignored. There should be some common sense, courtesy and respect for the impact this project would impose on any neighborhood.

Finally, La Grande Ordinance Number 3077, which adopted Oregon State Traffic Laws by reference, states in Section 17 page 8 "It shall be unlawful for any person, firm or corporation to use, drive or operate any vehicle or combination of vehicles with a gross weight of 26,000, pounds or more upon any street of the City of La Grande, Oregon, except upon posted truck routes." Neither Modelaire/Hawthorne Loop nor Sunset Drive are posted as truck routes. 15-16

A site review and traffic plan must be completed prior to the cite certificate being issued and not 90 days prior to construction as stated.

For the above reasons I oppose the usage of the proposed route for the construction of the B2H transmission line.

Sincerely,



Virginia L. Mammen
405 Balsa
La Grande, Oregon. 97850

gmammen@eoni.com

**TABLE 1
 STREET STANDARDS**

Functional Classification	ADT Volume	Speed (mph)	# of Travel Lanes	Travel Lane Width	Turn Lane or Median Width	Bike Lanes	Min. Bike Lane Width	On-Street parking
Downtown Arterial	10,000	20	2-3	11'	11'			both sides
Arterial	10,000	40-55	2-5	12'	4-14'	optional ⁴	5'	none
Major Collector	2,000 - 10,000	25-45	2-3	11'	12'	required	5'	one or both sides
Minor Collector	1,000 - 2,000	25-35	2	11'	none	Optional ⁵	5'	one or both sides
Local Street	0 - 1,000	15-25	2	10'	none	none	none	one or both sides

Functional Classification	Sidewalks	Min. Sidewalk Width	Planting Strip Width ¹	Total Paved Width ²	Total ROW Width ³	Private Access Spacing
Downtown Arterial	required	12'	3'6" ⁵	49'	80'	200'
Arterial	required	5'	8'	36'-72'	80'-102'	200' - 400'
Major Collector	required	5'	8'	52'-60'	62'-90'	150' - 300'
Minor Collector	required	5'	8'	30'-48'	60'-78'	75' - 150'
Local Street	required	5'	8'	28'-36'	40'-66'	Each Lot

¹A portion of the required planting strip width may be used instead as additional sidewalk width or reduced right of way, as appropriate.

²The minimum of the paved width was calculated with the following assumptions:

- Arterials: Two (2) travel lanes, four foot (4') median divider, no center turn lane, no bike lanes.
- Major Collectors: Two (2) travel lanes, two (2) bike lanes, no center turn lane, parking on one (1) side.
- Minor Collectors: Two (2) travel lanes, parking on one (1) side of street, no bike lanes.
- Local Streets: Two (2) travel lanes, parking on one (1) side of street.

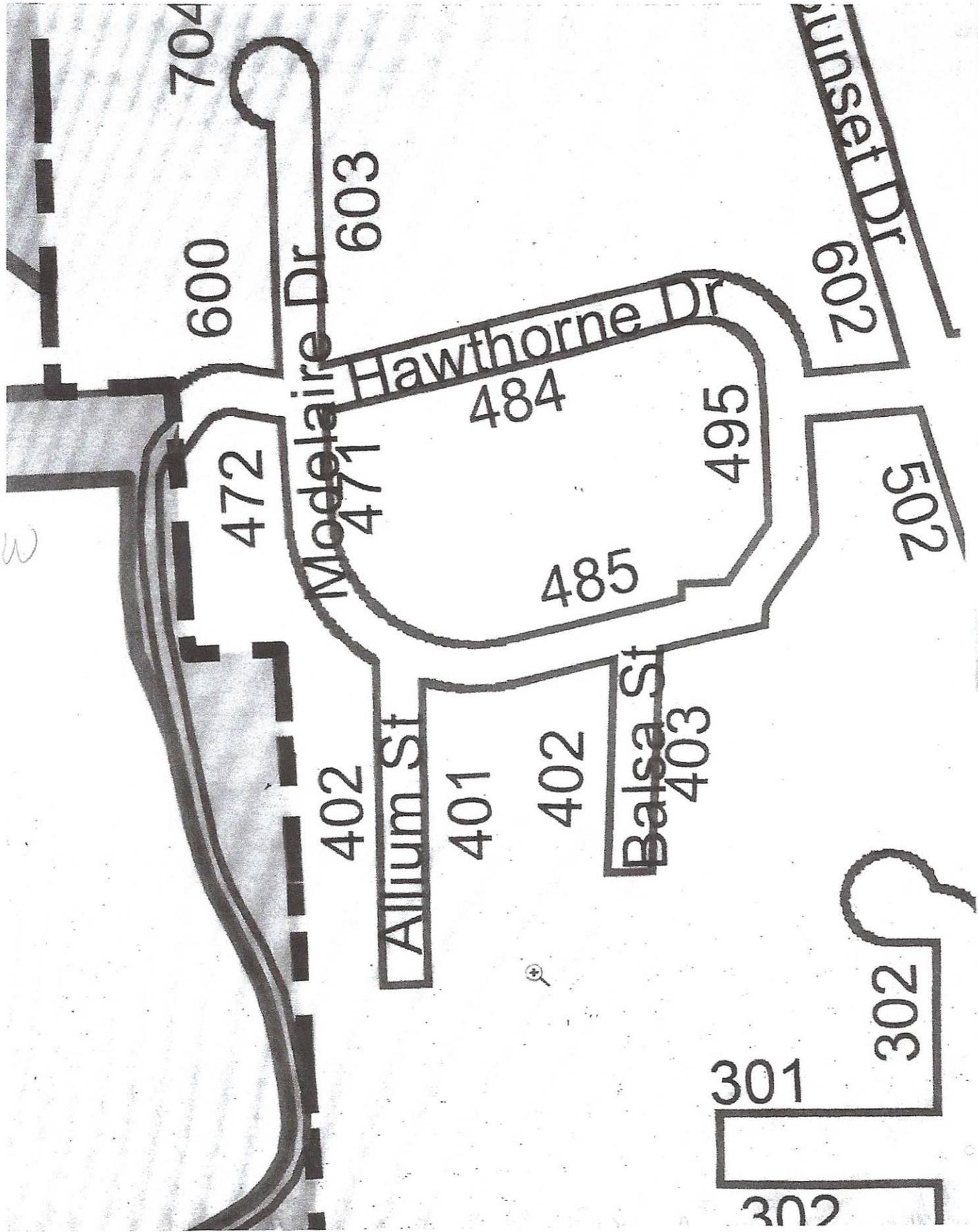
The maximum paved width for each street was calculated assuming the inclusion of all required and optional facilities. Minimum paved widths for each street are as required in Section 6.2.005 of this Code.

³These right-of-way width ranges are for new streets.

⁴Bike lanes should be provided on Arterials unless more desirable parallel facilities are designated and designed to accommodate bicycles.

⁵ Bike lanes should be provided on Minor Collectors where traffic volumes or other factors warrant. Otherwise, Minor Collectors should be designed and designated as shared roadway facilities with wide outside travel lanes of 14' on important bike routes.

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Public Services

OAR 345-022-0110

This standard ensures that the proposed facility will not affect the ability of service providers in local communities to provide public services, such as fire protection or education. The applicant must assess the proposed facility's need for water and for disposal of wastewater, storm water and solid waste. The applicant must also evaluate the expected population increases in local communities resulting from construction and operation of the facility; and must address all permanent and temporary impacts of the facility on housing, traffic safety, police and fire protection, health care and schools. The Council must determine whether the applicant has identified potential adverse impacts to service providers and proposed adequate mitigation to ensure that there will be no significant adverse effect on the ability of a service provider to provide services. In considering the impacts, the Council solicits comments from affected local governments, fire or police departments, school districts and health care agencies.

Waste Minimization

OAR 345-022-0120

This standard requires the Council to evaluate the applicant's proposal to minimize solid waste and wastewater generated by construction and operation of the proposed facility. The standard requires recycling of wastes, if feasible, or proper waste disposal if recycling is not feasible.

The applicant must evaluate the types of waste products that would be produced during construction and operation of the proposed facility and estimate the amounts or volume of waste products. The applicant must propose appropriate methods to handle the waste through collection, storage and disposal. Compliance with the standard assures that the applicant will reduce the amount of waste generated and dispose of waste in a responsible manner.

Need for a Facility

OAR 345-023-0005

This standard requires the applicant for non-generating energy facilities (such as electric transmission lines) to demonstrate the need for the proposed facility. The Council's rules allow an applicant to demonstrate need for a non-generating facility through one of several methods, including the "Least-Cost Plan Rule" (OAR 345-023-0020) or the "System Reliability Rule for Electric Transmission Lines" (OAR 345-023-0030). Under the Least-Cost Plan Rule, the applicant meets this standard if the proposed transmission line was included in an Integrated Resource Plan that has been acknowledged by the Oregon Public Utilities Commission (OPUC). More information about the OPUC and the Integrated Resource Plan acknowledgement process can be found at www.puc.state.or.us.

Specific Standards for Wind Facilities

OAR 345-024-0010 and 345-024-0015

This standard requires the Council to evaluate applications for wind energy facilities to ensure that applicants can design, construct and operate the facility so that that the public is not endangered by moving turbine blades or electrical equipment, and that the applicant can design, construct and operate wind turbines to prevent structural failure that could endanger public safety. Siting standards for wind facilities also require the applicant to reduce cumulative adverse environmental effects in the vicinity by using existing roads, if possible, placing collection lines underground, designing the facility to avoid impacts to vulnerable wildlife in the area (especially birds and bats), and designing the facility to minimize adverse visual features, including using the minimum amount of lighting necessary to meet the requirements of the Federal Aviation Administration for protecting aircraft.

Specific Standards for Transmission Lines

OAR 345-024-0090

This standard requires that the Council evaluate transmission lines under Council jurisdiction to ensure they are designed, constructed and operated to limit the strength of electromagnetic fields in areas where those lines are accessible to the public.



Idaho Power Responses to Comments and Requests for Additional Information on the B2H APASC
 from the City of La Grande
 Compiled by ODOE. RAI's from the City of La Grande and Responses from IPC

U	U-Public Services include utilities such as road systems, water, sanitation services, power, and other amenities necessary for the construction.	Ordinance #2912, Series 1997 gives the City jurisdiction and control on all City street rights-of-way and Ordinance #3077, Series 2009, establishes the process and requirements for permits and licenses for uses of the streets that are not normal uses and may result in damages.	proposed helipad is a necessary supporting facility.	The project construction has two major road systems through La Grande that are proposed for this project – Morgan Lake Road via Gekeler Lane, 'C' Avenue, Walnut Street, and on up Morgan Lake Road. Roads along these routes are used by the ambulance service for accessing the hospital, the public transit system on its normal daily route, citizens to access locations within and outside this area and also for the school busing system for transporting kids to the La Grande Middle School, La Grande High School and Central Elementary School. In addition to the vehicular modes of travel, those routes are heavily used by bicyclists and pedestrians. The other route that would be utilized is the same route with the exception of turning onto Sunset Drive and up Hawthorne Street to a private gravel road that heads up the area above Deal Canyon. Two other routes that are not addressed but that would be obvious access routes for construction would be South 12th Street and South 20th Street. As a general rule, City streets are built with ninety degree angles, which may restrict some	To address the City's concerns regarding traffic and road use within the city's limits, Idaho Power has added the following proposed conditions to Exhibit K: <u>Land Use Condition 9: Prior to construction in Union County, the site certificate holder shall complete the following to address traffic impacts in the county:</u> a. The site certificate holder shall finalize, and submit to the department for its approval, a final county-specific transportation and traffic plan. The protective measures described in the draft Transportation and Traffic Plan in ASG Exhibit U, Attachment U-2, shall be included and implemented as part of the final county-specific plan, unless otherwise approved by the department; b. The site certificate holder shall work with the Union County Road Department and the City of La Grande Public Works Department to identify concerns related to Project construction traffic; and c. The site certificate holder shall develop traffic control measures to mitigate the effects of Project construction traffic. <u>Land Use Condition 26: During construction in Union County, the site certificate holder shall conduct all work in compliance with the Union County-specific</u>
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IV. CONCLUSIONS

Based on the Findings of Fact above, the Planning Commission concludes that the application meets the requirements established in LDC Articles 8.5 and other applicable codes and Ordinances.

V. ORDER AND CONDITIONS OF APPROVAL

Based on the conclusions above, the Planning Commission approves the Conditional Use Permit as requested, subject to the following Conditions of Approval:

- 1. No driveway access to GRH parking lot areas shall be permitted onto Hawthorn Drive as such street is developed to a residential standards and is not designed to support commercial traffic.
- 2. Any existing driveway curb cuts along Hawthorn Drive bordering GRH's property, that are not used for residential purposes, shall be removed and replaced with City standard improvements that exists adjacent to such areas.
- 3. There is a storm sewer line extending through the project area that shall to be protected. Any improvements that may affect the storm sewer line shall be reviewed and approved by the Public Works Director.

VI. STANDARD CONDITIONS OF APPROVAL FOR LAND USE APPLICATIONS

- 1. **Revisions to a Valid Conditional Use Permit:** Any variations, alterations, or changes in a valid Conditional Use Permit requested by the deed holder shall be considered in accordance with the procedures of the Land Development Code as though a new Conditional Use Permit were being applied for.
- 2. **Public Works Standards:** Where a development involves work within the public right-of-way, a Right-of-Way Permit shall be obtained from the Public Works Department in advance of commencing with any work in the right-of-way. All improvements within the public right-of-way shall be in conformance with the most recent adopted City of La Grande "Engineering Standard Drawings and Specifications for Construction Manual."
- 3. **Building Permits:** The City of La Grande Building Department shall be contacted early in the process and in advance of development to coordinate and obtain required building, plumbing, electrical and/or mechanical permits. All required permits shall be acquired in advance of construction.

VI. OTHER PERMITS AND RESTRICTIONS

The applicant and property owner is herein advised that the use of the property involved in this application may require additional permits from the City of La Grande or other local, State or Federal Agencies.

The City of La Grande land use review, approval process and any decision issued does not take the place of, or relieve the applicant of responsibility for acquiring such other permits, or satisfy any restrictions or conditions thereon. The land use decision herein does not remove, alter, or impair in any way the covenants or restrictions imposed on this property by deed or other instrument.

The land use approvals granted by this decision shall be effective only when the rights granted herein have been exercised and commenced within one (1) year of the effective date of the decision. In case such right has not been exercised and commenced or an extension obtained, the approvals granted by this decision shall become null and void. A written request for an extension of time shall be filed with the Planning Department at least thirty (30) days prior to the expiration date of the approval.



Virginia Mammen <4gmammen@gmail.com>

Modelaire Roadway Specifications

3 messages

Kyle Carpenter <KCarpenter@cityoflagrande.org>
To: "gmammen@eoni.com" <gmammen@eoni.com>

Fri, Jul 12, 2019 at 1:51 PM

I have attached a couple pictures of our mapping system that will give you a sense of where existing utilities are in Modelaire and Hawthorne. As for the widths of the roadways, I took measurements in multiple places, and found the following:

- Modelaire Drive (F Avenue) between Sunset Blvd and Hawthorne Drive is approximately 33 feet wide with a grade of about 5 Percent.
- Hawthorne Drive is approximately 32 feet wide at the bottom near the intersection of Modelaire/F Avenue and widens to about 34 feet where it intersects Modelaire at the top of the hill. The grade heading up hill is approximately 15.5 Percent.
- Modelaire Drive is generally 36 feet wide with some minor variability generally less than a foot (35' to 37'). On the southernmost segment of the roadway where the majority of the elevation gain is observed the grade is approximately 16 Percent.

Let me know if there are any other specifications of these roadways that you are interested in that I have missed. Have a great weekend and thanks for the treats, the guys were very appreciative.

Kyle Carpenter, PE
Public Works Director
City of La Grande
Public Works
 Ph: (541) 962-1325
 Fax: (541) 963-4844

2 attachments



Hawthorne.jpg
150K

Modelaire.jpg
120K



attachment U2

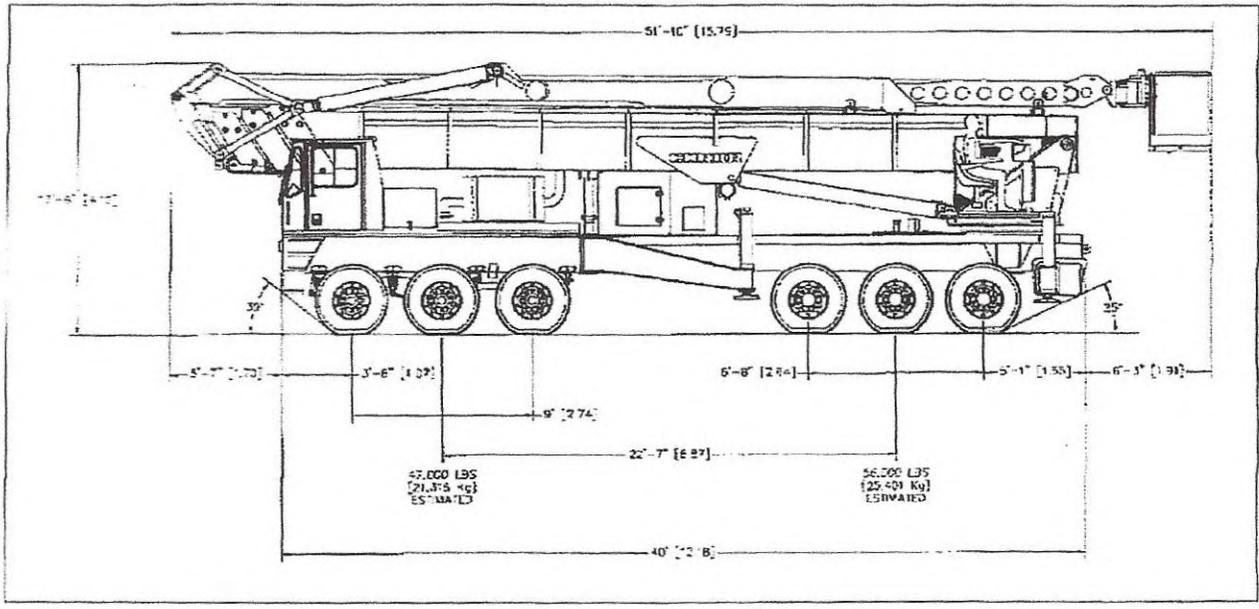


Figure 2. Example Aerial Lift Crane to be Used During Construction (Roadable Length 52 Feet; Width 8 Feet 6 Inches)

The following is a summary of anticipated equipment to be used for each transmission-line construction activity.

- Survey work: pickup trucks or ATVs.
- Timber removal: pickup trucks, feller bunchers, dump trucks, wood chippers.
- Road construction: pickup trucks, bulldozers, motor graders, and water trucks.
- Hole digging, installation of directly embedded structures, or foundation installation: pickup trucks, 2-ton trucks, digger derrick trucks, hole diggers, bulldozers, concrete trucks, water trucks, cranes, hydro cranes, wagon rock drills, dump trucks, and front-end loaders.
- Hauling lattice steel members, tubular poles, braces, and hardware to the structure sites: steel haul trucks, carry alls, cranes, and forklifts.
- Assembly and erection of structures: pickup trucks, 2-ton trucks, carry alls, cranes, and a heavy lift helicopter.
- Wire installation: pickups, wire reel trailers, diesel tractors, cranes, 5-ton boom trucks, splicing trucks, three drum pullers, single drum pullers, tensioner, sagging dozers, carry-alls, static wire reel trailers, bucket trucks, and a light duty helicopter.
- Final cleanup, reclamation, and restoration: pickup trucks, 2-ton trucks, bulldozers, motor graders, dump trucks, front-end loaders, hydro-seed truck, and water trucks.

The highest level of traffic will be when the wire stringing operations begin while several other operations are occurring at the same time, which will likely include ROW clearing, installing foundations, hauling steel, and assembling and erecting structures. For the station work, the highest level of traffic will be during site grading and foundation installation. For the communication station sites, the highest level of traffic will be during grading and site preparation.

Detailed estimates of trips generated by transporting Project construction equipment will be provided by the construction contractor prior to construction.

3.1.3 Traffic Related to Timber Removal

In forested areas, the Project will require removal of timber from the Project ROW and for construction and improvement of access roads. Specific timber harvest plans have not been finalized. Logs from timber clearing may be transported to nearby sawmills. Decisions regarding transportation routes for harvested timber will be made following completion of a timber harvest plan, and the number of log truck tips will be estimated when the timber harvest plan has been finalized. Logging slash will remain onsite if possible. For additional discussion regarding removal of timber in forested areas, see Exhibit K, Attachment K-2, ROW Clearing Assessment.

3.1.4 Impacts to V/C Ratios

Based on the estimated trip generation numbers in Tables 4 and 6, a maximum of approximately 1,294 daily one-way vehicle trips are expected within any one construction spread. To facilitate traffic and other analyses, the two construction spreads are divided into smaller sections based on similar construction windows and seasonal weather restrictions. Not all construction sections will have the same number of concurrent construction activities, depending on how the construction contractor sequences and executes the Project. Some sections will have fewer daily vehicle trips. For the purposes of the traffic analysis, the spreads are divided into five sections with multi-use areas that could have additive traffic impacts. The sections are assumed to have approximately equal levels of activity. The 1,294 daily one-way trips per spread divided over five sections of more concentrated traffic results in 259 daily one-

ARTICLE 6.6 – PUBLIC STREET STANDARDS

SECTION 6.6.001 - PURPOSE

Upon the request of the La Grande City Council, a variety of street design standards have been reviewed and are now incorporated in the Land Development Code.

SECTION 6.6.002 - CLASS I IMPROVEMENT STANDARDS

This classification will cover those streets that are designed to meet the standards for an expected life of twenty (20) years or more. The attached drawings shall be the minimum standard for those streets in this classification. All streets designated as Federal Aid Urban Streets (F.A.U.) shall be constructed under these design standards. Streets in this designation shall be constructed with sidewalks when at all possible in an effort to increase pedestrian safety. Collector streets are designed to withstand normal trucks of an HS 20 loading. Larger trucks are to utilize Arterial streets where at all possible. This level of development shall be the ultimate goal for all streets within the City of La Grande.

Possible means of financing available for this Class shall be methods A, B, C, D, E, F, G, and H in Section 6.6.006.

A. Advantages

1. The construction life is extended to a period above other City standards.
2. The visible aesthetics in relationship to having curbs and a blacktop surface with landscaping or concrete driveways and a sidewalk is generally appealing to the public.
3. Easy maintenance for the Public Works Department for cleaning and minor repair.
4. Storm sewer drainage is confined within the bounds of the curbs during minor flooding periods.
5. Parking is restricted to a solid barrier, that being the curb; this restricts parking in the area on the back side of the curb and confines travel to the street surface.
6. Defined areas for possible cross walks, signs, power poles, and other utilities that are restricted to the outside areas behind the curbs.
7. It allows for a wide range of financing methods and is to City standards for a ten (10) year Bancroft bonding.
8. Provides a dust free surface.

B. Disadvantages

1. The extreme high level of cost that is incurred with this type of development.

SECTION 6.6.003 - CLASS II IMPROVEMENT LEVEL

Streets constructed in this classification shall be constructed to the same standards as Class I Streets with the exception of the form of drainage system. These streets shall meet the standards as shown on the attached drawing. This level of construction shall be only utilized in substitution for Class I Streets when it is determined by the City Council at the recommendation of the City Engineer or Engineering Superintendent, that an adequate drainage system cannot be installed for a Class I Street.

Table 6. Construction Vehicle Trips per Day per Construction Spread

Construction Crew Type	Construction Vehicles					
	Light Construction Vehicles			Heavy Construction Vehicles		
	Number of Pickups/ Mechanic Trucks (per day)	Number of One-way Trips on Public Roads (per day)	Total One-way Trips (per day)	Number of Other Vehicles	Number of One-way Trips on Public Roads (per day)	Total One-way Trips (per day)
Substation Construction	20	2	40	5	2	10
ROW Clearing	9	4	36	5	4	20
Roads/ Pad Grading	9	4	36	9	2	18
Foundations	9	2	18	5	8	40
Tower Lacing (assembly)	27	2	54	0	0	0
Tower Setting (erection)	20	2	40	0	0	0
Wire Stringing	9	4	36	9	4	36
Restoration	3	2	6	0	0	0
Blasting	5	4	20	0	0	0
Material Delivery	20	8	160	12	2	24
Mechanic and Equipment Mgmt.	5	6	30	0	0	0
Refueling	0	0	0	5	4	20
Dust Control	0	0	0	5	4	20
Construction Inspection	5	8	40	0	0	0
Concrete Testing	5	4	20	0	0	0
Environmental Compliance	9	6	54	0	0	0
Surveyors	5	3	30	0	0	0
Totals	—	—	620	—	—	188

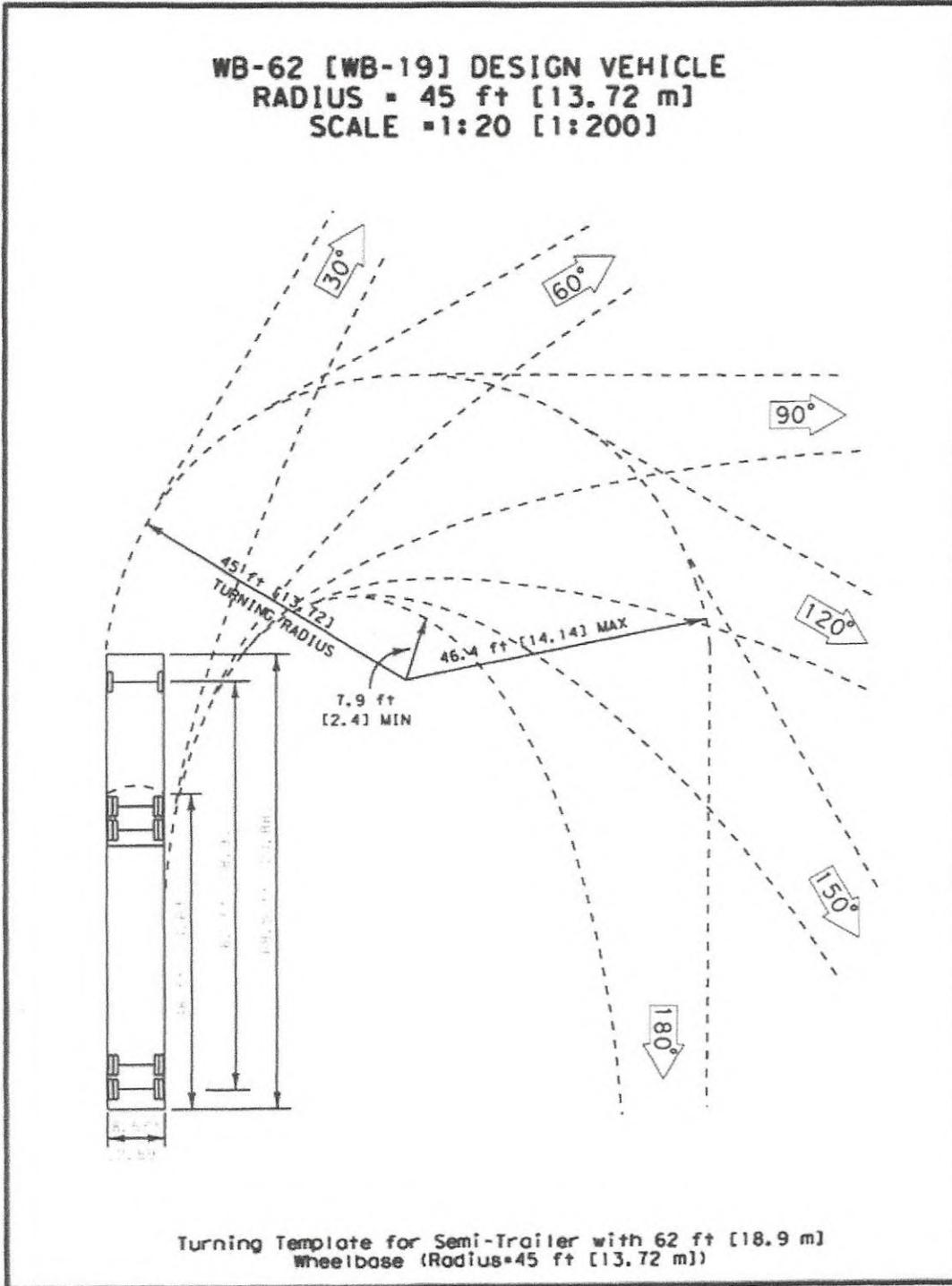


Figure 7-4. Turning Template for Semi-Trailer with 62 ft [18.9 m] Wheelbase, (not to scale). Click [here](#) to see a PDF of the image.

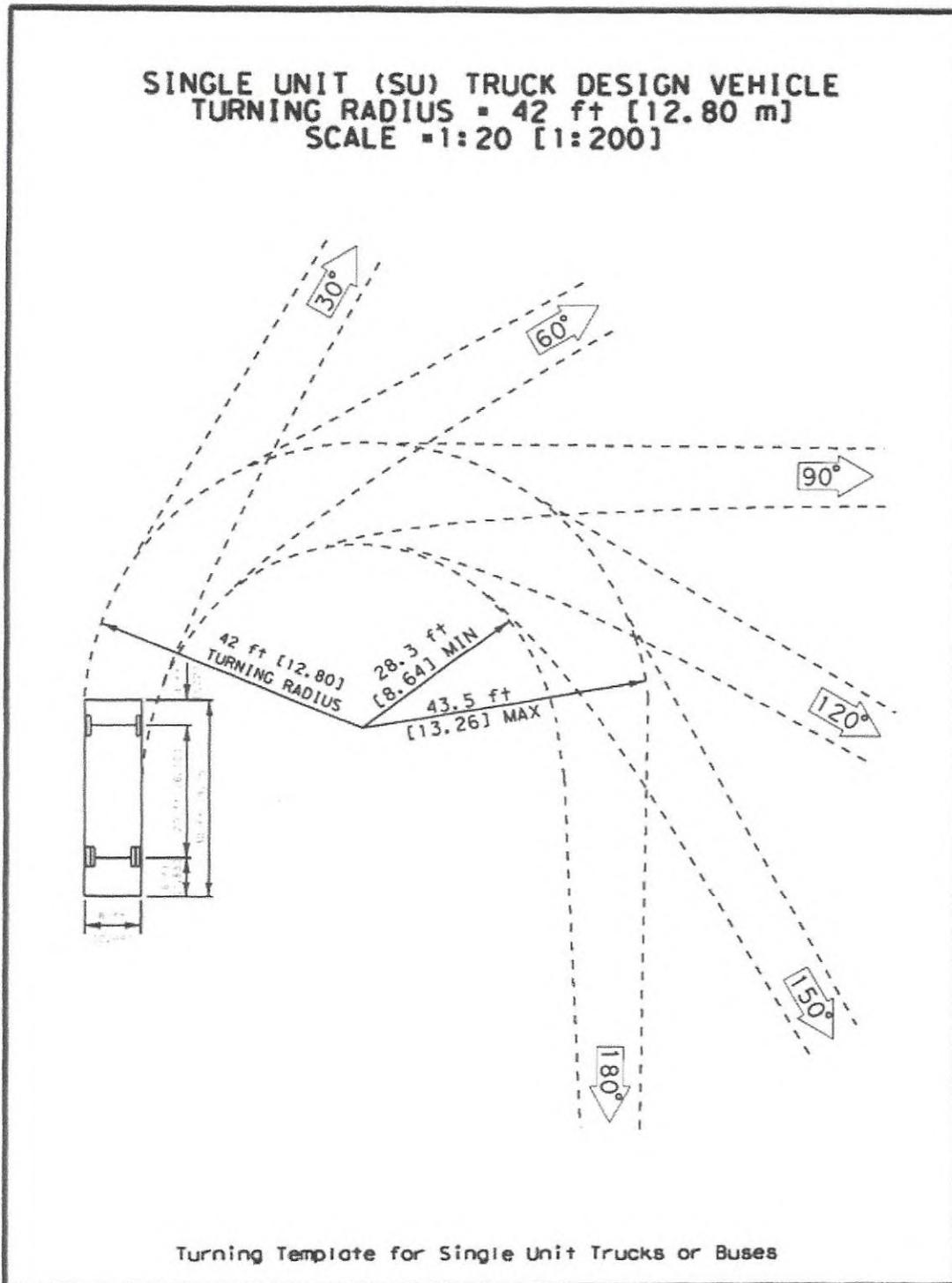


Exhibit 15

**CITY OF LA GRANDE
ORDINANCE NUMBER 3077
SERIES 2009**

**AN ORDINANCE CONTROLLING VEHICULAR AND PEDESTRIAN TRAFFIC, PARADES
AND PROCESSIONS AND ISSUANCE OF PERMITS; PROVIDING PENALTIES; AND
REPEALING ORDINANCE NUMBER 2845, SERIES 1993; ALL AMENDING ORDINANCES
AND ALL OTHER ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH;
AND DECLARING AN EFFECTIVE DATE**

THE CITY OF LA GRANDE ORDAINS AS FOLLOWS:

Section 1. This Ordinance may be cited as the City of La Grande Uniform Traffic Ordinance.

Section 2. APPLICABILITY OF STATE TRAFFIC LAWS.

Oregon Revised Statutes, Chapter 153, and the Oregon Vehicle Code, ORS Chapter 801 and 822, as now constituted, are adopted by reference. Violation of an adopted provision of those chapters is an offense against the City.

Section 3. DEFINITIONS

In addition to those definitions contained in the Oregon state Motor Vehicle Code, the following words or phrases, except where the context clearly indicates a different meaning, shall mean:

a. Alley

A street or highway primarily intended to provide access to the rear or side of lots or buildings in urban areas and not intended for through vehicular traffic.

b. Bicycle

A bicycle is a vehicle that:

1. Is designed to be operated on the ground on wheels;
2. has a seat or saddle for use of the rider;
3. is designed to travel with not more than three (3) wheels in contact with the ground;
4. is propelled exclusively by human power; and,
5. has every wheel more than fourteen inches (14") in diameter or two (2) tandem wheels, either of which is more than fourteen inches (14") in diameter.

c. Bicycle Lane

That part of the highway, adjacent to the roadway, designated by official signs or markings for use by persons riding bicycles, except as otherwise specifically provided by law.

d. Bicycle Path

A public way, not part of a highway, which is designated by official signs or markings for use by persons riding bicycles, except as otherwise specifically provided by law.

e. Block

The part of one side of a street lying between the two (2) nearest cross streets.

f. Central Business District

a. City Regulation of Special Movement of Oversized Load

The applicant shall submit an application to the City Manager or designee, showing the terminal points of the purported movement; the proposed route; the nature of the movement requested, including the weight and dimensions of the vehicle, load, machine, building, or structure to be moved; the time, date and duration of the proposed movement.

b. Special Movement Permit

A permit shall be required to move any vehicle, structure, or load on, or to access a street when, after preparation for movement, the vehicle, structure or load exceeds fourteen feet (14') in height, requires the use of guy wires, or could result in the blockage of a street. An approved application may serve as a permit, and a copy of the approved application shall be provided to the applicant.

Section 17. TRUCK ROUTES

- a. It shall be unlawful for any person, firm, or corporation to use, drive or operate any vehicle or combination of vehicles with a gross weight of 26,000, pounds or more upon any street of the City of La Grande, Oregon, except upon posted truck routes.
- b. Any vehicle with a gross weight over 26,000, pounds specifically picking up deliveries or making deliveries to any business or residence located on a street that is not a truck route will be exempted if the vehicle is driven from the truck route to the destination in the shortest, most direct, and safest route.
- c. The use of Jacob brakes shall not be allowed within the city limits of La Grande, Oregon.
- d. Truck routes will be posted as follows:
 1. Walnut street north from the city limits to C Avenue;
 2. C Avenue east from Walnut Street to Gekeler Avenue;
 3. Gekeler Avenue east to the city limits;
 4. 12th street south from Gekeler Avenue to the city limits;
 5. 2nd Street south from the city limits to Adams Avenue;
 6. Monroe Avenue east from Spruce Street to Highway 82;
 7. Jackson Avenue east from Spruce Street, and
 8. Spruce Street south from the city limits to Monroe.

Section 18. IMPOUNDMENT AND DETENTION OF VEHICLES

- a. Whenever a vehicle is placed in a manner or location that constitutes an obstruction to traffic or a hazard to public safety, a police officer or enforcement officer shall order the owner or operator of the vehicle to remove said vehicle. If the vehicle is unattended, the officer or enforcement officer may cause the vehicle to be towed and stored at the owner's expense. The owner shall be liable for the costs of towing and storing, notwithstanding that the vehicle was parked by another or that the vehicle was initially parked in a safe manner but subsequently became an obstruction or hazard.

I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

SIGNATURE

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SIGNATURE

PRINTED NAME

ADDRESS

EMAIL

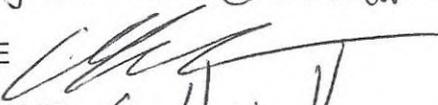

Jessie Huxell
472 Modelaire Dr. LaGrande OR 97850

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C. Huxell
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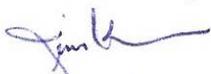
ADDRESS

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Blake Bars
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blakebars@gmail.com

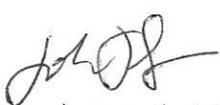
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SIGNATURE 
PRINTED NAME Jim Kreider
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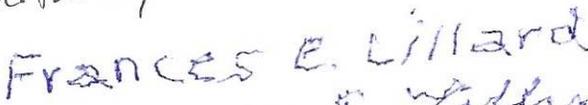
SIGNATURE 
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SIGNATURE 
PRINTED NAME JOHN BARLITZ
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EMAIL

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SIGNATURE 
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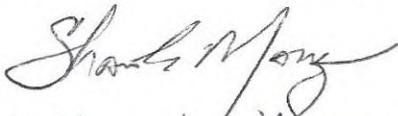
SIGNATURE 
PRINTED NAME Frances E. Lillard
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EMAIL

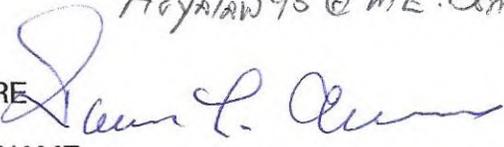
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SIGNATURE 
PRINTED NAME M. Jeannette Smith
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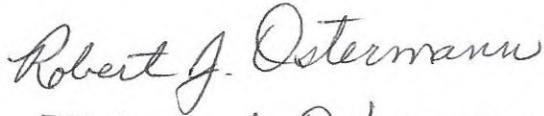
SIGNATURE 
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EMAIL kimheitstuman@hotmail.com

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PRINTED NAME
ADDRESS Connie L. Allen 541-9637720
410 Balsa Street LaGrande, Oregon 97858
EMAIL N/A

SIGNATURE 
PRINTED NAME Linda M. Snyder
ADDRESS 491 Modelaire
EMAIL

SIGNATURE 
PRINTED NAME Robert J. Ostermann
ADDRESS 495 Modelaire Dr. La Grande, OR 97850
EMAIL

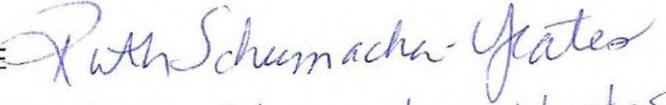
SIGNATURE 
PRINTED NAME Robin J. Ostermann
ADDRESS 495 Modelaire Dr La Grande, OR 97850
EMAIL

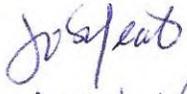
I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

SIGNATURE 
PRINTED NAME Jonathan D. White
ADDRESS 485 Modelaire Dr
EMAIL jondwhite418@gmail.com

SIGNATURE 
PRINTED NAME Robin Stedfeld
ADDRESS 485 Modelaine Dr. La Grande
EMAIL rstedfeld@yahoo.com

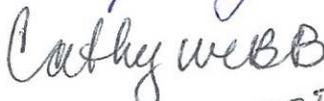
SIGNATURE 
PRINTED NAME Rita Allen
ADDRESS 410 Balsa St. La Grande Or.
EMAIL

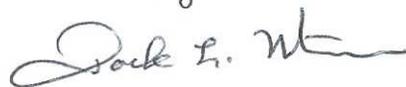
SIGNATURE 
PRINTED NAME Ruth Schumacher Yeates
ADDRESS 408 Sunset Drive La Grande, OR 97850
EMAIL ruthschumacheryeates@gmail.com

SIGNATURE 
PRINTED NAME JOHN YEATES
ADDRESS 408 SUNSET DR. LA GRANDE, OR 97850
EMAIL jyeates52@gmail.com

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SIGNATURE 
PRINTED NAME LOIS BARRY
ADDRESS P.O. Box 566, La Grande, OR 97850
EMAIL loisbarry31@gmail.com

SIGNATURE 
PRINTED NAME CATHY WEBB
ADDRESS 1708 CEDAR ST. LAGRANDE, OR 97850
EMAIL thunkski@gmail.com

SIGNATURE 
PRINTED NAME Jack L. Martin
ADDRESS 1412 Gilcrest Dr. LaGrande
EMAIL Buff Martin 27 @GMail .com

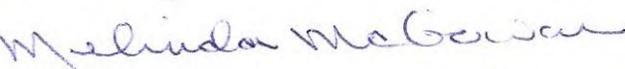
SIGNATURE 
PRINTED NAME GERALDINE BRASETH-PALMER
ADDRESS 1602 GILCREST DRIVE LA GRANDE, Ore 97850
EMAIL 

SIGNATURE 
PRINTED NAME Jean RAPH
ADDRESS 1509 MADISON AVE LaGrande, OR 97850
EMAIL Jraph19@gmail.com

I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

SIGNATURE 
PRINTED NAME Damon Sexton
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EMAIL Sexton.damon@gmail.com

SIGNATURE 
PRINTED NAME Coy Sexton
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SIGNATURE 
PRINTED NAME Melinda McGowan
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SIGNATURE 
PRINTED NAME Keith D. Hudson
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EMAIL Keithdhudson@gmail.com

SIGNATURE 
PRINTED NAME Laura Elly Hudson
ADDRESS 605 F Ave, La Grande OR 97850
EMAIL ellyhudson@gmail.com

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SIGNATURE *Gary D. Pierson*
PRINTED NAME Gary D. Pierson
ADDRESS 489 Modelaire Drive, La Grande OR 97850
EMAIL -

SIGNATURE *Lynn Wheeler Duncan*
PRINTED NAME LYNN WHEELER DUNCAN
ADDRESS 489 Modelaire Drive, La Grande OR 97850
EMAIL rlwd1910@gmail.com

SIGNATURE *Anne G. Cavinato*
PRINTED NAME Anne G. Cavinato
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EMAIL acavinat@eou.edu

SIGNATURE *Joe Horst*
PRINTED NAME JOE HORST
ADDRESS 86 HAWTHORNE DR. LA GRANDE OR.
EMAIL joehorst@eoni.com

SIGNATURE *Angela Sherer*
PRINTED NAME ANGELA Sherer
ADDRESS 91 - W. Hawthorne Dr. LaGrande, OR 97850
EMAIL asherer@frontier.com

I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

SIGNATURE *Robert J. Sherer*
PRINTED NAME Robert J. Sherer
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SIGNATURE *Heather M. Null*
PRINTED NAME Heather M. Null
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EMAIL hnull@comi.com

SIGNATURE *Bert R. Freewing*
PRINTED NAME Bert R. Freewing
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EMAIL jeanfreewing@gmail.com

SIGNATURE *Lindsey McCullough*
PRINTED NAME Lindsey McCullough
ADDRESS 406 Balsa St., La Grande, OR 97850
EMAIL lindz_mm91@hotmail.com

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

SIGNATURE *Merle E. Comfort*
PRINTED NAME MERLE E. COMFORT
ADDRESS 209 SCORPIO DRIVE LA GRANDE OR 97850
EMAIL merlecomfort@gmail.com

SIGNATURE *Robin I. Maille*
PRINTED NAME Robin Maille
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EMAIL rmaille@icloud.com

SIGNATURE *Bruce C Kevan*
PRINTED NAME *Bruce C*
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EMAIL bruce.kevan@lagrandesd.org

SIGNATURE *Carol S. Summers*
PRINTED NAME CAROL S. SUMMERS
ADDRESS 2811 Bekeler Ln - La Grande, OR
EMAIL carolsummers1935@gmail.com

SIGNATURE *Caroline Kaye Juniper*
PRINTED NAME Caroline Kaye Juniper
ADDRESS 406 Nth St. LaGrande - OR 97850
EMAIL

I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

SIGNATURE *Gerald D. Juniper*
PRINTED NAME *Gerald Darwin Juniper*
ADDRESS *406 4th St. LaGrande, OR. 97850*
EMAIL

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

TARDAEWETHER Kellen * ODOE

From: Dale Mammen <dmammen@eoni.com>
Sent: Thursday, August 15, 2019 5:28 PM
To: B2H DPOComments * ODOE
Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposal Order 5/23/2019
Attachments: Scan 2019-8-15 17.14.06.pdf

To: Chairman Beyeler and Members of the Council

Find attached a letter sign by me and 46 other residents of La Grande expressing our concerns regarding the B2H Project and requesting that EFSC Deny the Site Certificate.

I have also sent a bound copy of this material by US Postal Service.

Virginia L. Mammen
405 Balsa
La Grande, Oregon 97850

August 10, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E.
Salem, Oregon. 97301

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018:Draft Proposed Order.

Dear Chair Beyeler and Members of the Council:

My comment is about the predicted noise levels resulting from construction and operation of the proposed Boardman to Hemingway Transmission Line Project. I would like to address the noise coming from the blasting and rock breaking specifically above the area at the top of Modelaire Drive 1 both to the north and the south of that area and also the construction traffic noise that that will impact the west hills and the area below.

In Exhibit X page X-9 3.3.1.1 2 blasting and rock breaking is mentioned saying that "Modern blasting techniques include the electronically controlled ignition of multiple small explosive charges in an area of rock that are delayed fractions of second, resulting in a total event that is generally less than a second. Impulse (instantaneous) noise from blasts could reach up to 140dBA at the blast location or over 90 dBA within 500 feet." This sounds oh so "don't worry about it, it will be OK just over in a split second." Living in this area off Modelaire Drive, I don't find this at all comforting. And the fact that this will be overseen by properly licensed personnel and all of the necessary authorizations doesn't help anything either.

The area in question, which for such inordinate construction is extremely close to many residents, has been my home for over 50 years and during

related medical problems and exhibit various reactions to loud noises.¹⁰
These children also live in the neighborhoods to be affected by the noise so they would be impacted coming and going to school, at home and also while at school. To impose the constant possibility of loud noises is cruel, disrespectful and totally unacceptable. ¹¹

For a project like this involving blasting and heavy machinery noise so close to homes, schools, and medical facilities impacting hundreds of peoples' daily lives, the day to day agitation, wondering what is coming next, fear and being on constant alert are not just addressed by some type of mitigation but must be addressed by a route that is much less impactful to peoples' safety, sanity, and health.

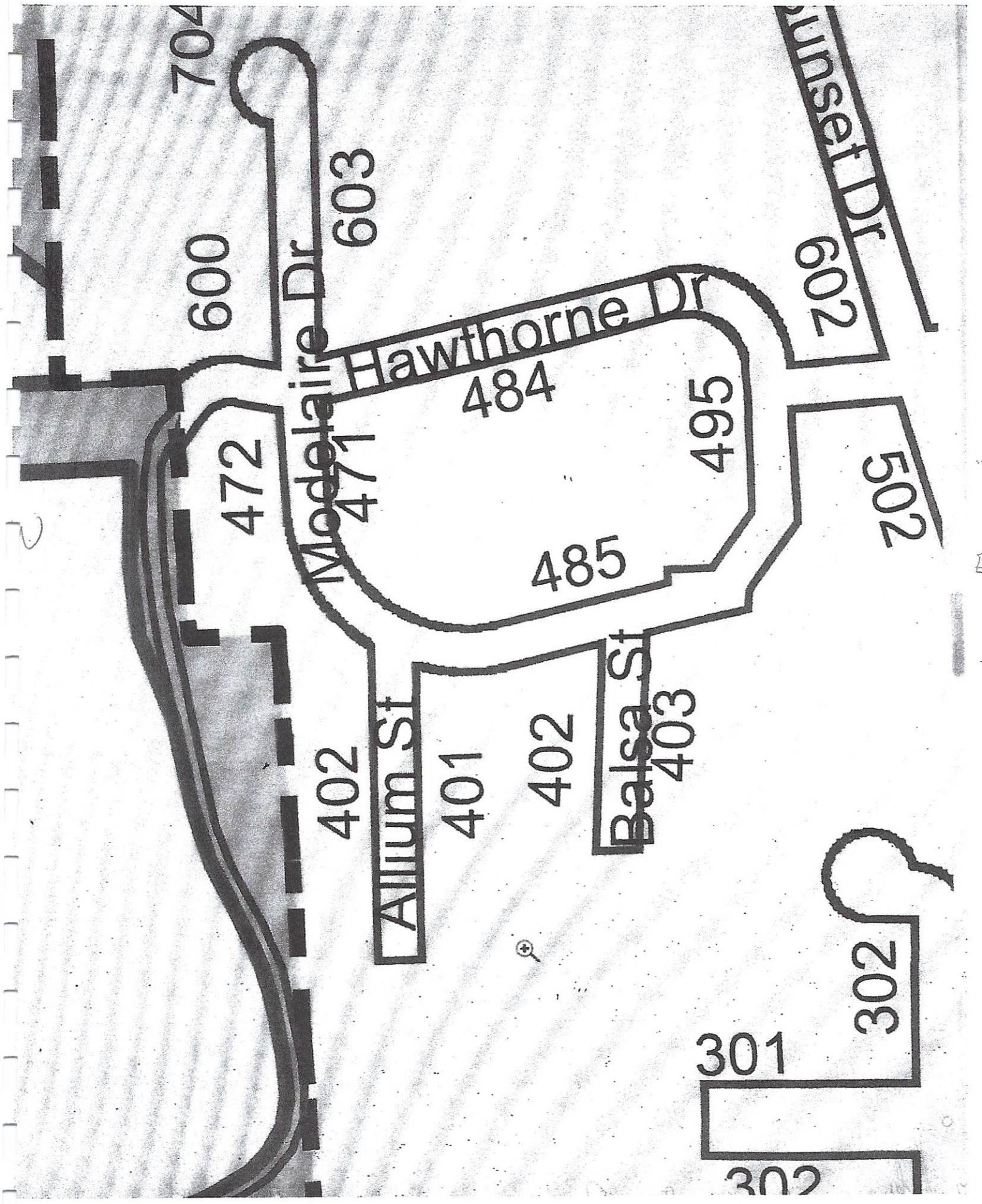
Sincerely,



Virginia L. Mammen
405 Balsa
La Grande, Oregon 97850

gmammen@eoni.com

N



3.3 Predicted Noise Levels

1 OAR 345-021-0010(1)(x)(A): Predicted noise levels resulting from construction and operation
2 of the proposed facility.
3

3.3.1 Construction Noise

3.3.1.1 Predicted Construction Noise Levels

4 Project construction will occur sequentially, moving along the length of the Project route, or in
5 other areas such as near access roads, structure sites, conductor pulling sites, and staging and
6 maintenance areas. Overhead transmission line construction is typically completed in the
7 following stages, but various construction activities may overlap, with multiple construction
8 crews operating simultaneously:
9

- 10 • Site access and preparation
- 11 • Installation of structure foundations
- 12 • Erecting of support structures
- 13 • Stringing of conductors, shield wire, and fiber-optic ground wire

14 The following subsections discuss certain construction activities that will periodically generate
15 audible noise, including blasting and rock breaking, implosive devices used during conductor
16 stringing, helicopter operations, and vehicle traffic.
17

Blasting and Rock Breaking

18 Blasting is a short-duration event as compared to rock removal methods, such as using track rig
19 drills, rock breakers, jackhammers, rotary percussion drills, core barrels, or rotary rock drills.
20 Modern blasting techniques include the electronically controlled ignition of multiple small-
21 explosive charges in an area of rock that are delayed fractions of second, resulting in a total
22 event duration that is generally less than a second. Impulse (instantaneous) noise from blasts
23 could reach up to 140 dBA at the blast location or over 90 dBA within 500 feet.
24

25 Lattice tower foundations for the Project typically will be installed using drilled shafts or piers;
26 however, if hard rock is encountered within the planned drilling depth, blasting may be required
27 to loosen or fracture the rock to reach the required depth to install the structure foundations.
28 Final blasting locations will not be identified until an investigative geotechnical survey of the
29 analysis area is conducted during the detailed design.

30 The contracted blasting specialist will prepare a blasting plan that demonstrate compliance with
31 applicable state and local blasting regulations, including the use of properly licensed personnel
32 and the acquisition of necessary authorizations. The Framework Blasting Plan is set forth in
33 Exhibit G, Attachment G-5.

Implosive Devices

34 An implosive conductor splice consists of a split-second detonation with sound and flash.
35 Implosive splicing activities are anticipated to be limited to daytime hours. A blasting plan will be
36 developed by an individual certified and licensed to perform the work. The plan will
37 communicate all safety and technical requirements including, but not limited to, delineation of
38 the controlled access zone and distance away from residences.
39

Public Services

— OAR 345-022-0110

This standard ensures that the proposed facility will not affect the ability of service providers in local communities to provide public services, such as fire protection or education. The applicant must assess the proposed facility's need for water and for disposal of wastewater, storm water and solid waste. The applicant must also evaluate the expected population increases in local communities resulting from construction and operation of the facility; and must address all permanent and temporary impacts of the facility on housing, traffic safety, police and fire protection, health care and schools. The Council must determine whether the applicant has identified potential adverse impacts to service providers and proposed adequate mitigation to ensure that there will be no significant adverse effect on the ability of a service provider to provide services. In considering the impacts, the Council solicits comments from affected local governments, fire or police departments, school districts and health care agencies.

Waste Minimization

— OAR 345-022-0120

This standard requires the Council to evaluate the applicant's proposal to minimize solid waste and wastewater generated by construction and operation of the proposed facility. The standard requires recycling of wastes, if feasible, or proper waste disposal if recycling is not feasible.

The applicant must evaluate the types of waste products that would be produced during construction and operation of the proposed facility and estimate the amounts or volume of waste products. The applicant must propose appropriate methods to handle the waste through collection, storage and disposal. Compliance with the standard assures that the applicant will reduce the amount of waste generated and dispose of waste in a responsible manner.

Need for a Facility

— OAR 345-023-0005

This standard requires the applicant for non-generating energy facilities (such as electric transmission lines) to demonstrate the need for the proposed facility. The Council's rules allow an applicant to demonstrate need for a non-generating facility through one of several methods, including the "Least-Cost Plan Rule" (OAR 345-023-0020) or the "System Reliability Rule for Electric Transmission Lines" (OAR 345-023-0030). Under the Least-Cost Plan Rule, the applicant meets this standard if the proposed transmission line was included in an Integrated Resource Plan that has been acknowledged by the Oregon Public Utilities Commission (OPUC). More information about the OPUC and the Integrated Resource Plan acknowledgement process can be found at www.puc.state.or.us.

Specific Standards for Wind Facilities

— OAR 345-024-0010 and 345-024-0015

— This standard requires the Council to evaluate applications for wind energy facilities to ensure that applicants can design, construct and operate the facility so that that the public is not endangered by moving turbine blades or electrical equipment, and that the applicant can design, construct and operate wind turbines to prevent structural failure that could endanger public safety.

— Siting standards for wind facilities also require the applicant to reduce cumulative adverse environmental effects in the vicinity by using existing roads, if possible, placing collection lines underground, designing the facility to avoid impacts to vulnerable wildlife in the area (especially birds and bats), and designing the facility to minimize adverse visual features, including using the minimum amount of lighting necessary to meet the requirements of the Federal Aviation Administration for protecting aircraft.

Specific Standards for Transmission Lines

— OAR 345-024-0090

This standard requires that the Council evaluate transmission lines under Council jurisdiction to ensure they are designed, constructed and operated to limit the strength of electromagnetic fields in areas where those lines are accessible to the public.



Department of Environmental Quality

Chapter 340

Division 35

NOISE CONTROL REGULATIONS

340-035-0035

Noise Control Regulations for Industry and Commerce

(1) Standards and Regulations:

(a) Existing Noise Sources. No person owning or controlling an existing industrial or commercial noise source shall cause or permit the operation of that noise source if the statistical noise levels generated by that source and measured at an appropriate measurement point, specified in subsection (3)(b) of this rule, exceed the levels specified in Table 7, except as otherwise provided in these rules. [Table not included. See ED. NOTE.]

(b) New Noise Sources:

(A) New Sources Located on Previously Used Sites. No person owning or controlling a new industrial or commercial noise source located on a previously used industrial or commercial site shall cause or permit the operation of that noise source if the statistical noise levels generated by that new source and measured at an appropriate measurement point, specified in subsection (3)(b) of this rule, exceed the levels specified in Table 8, except as otherwise provided in these rules. For noise levels generated by a wind energy facility including wind turbines of any size and any associated equipment or machinery, subparagraph (1)(b)(B)(iii) applies. [Table not included. See ED. NOTE.]

(B) New Sources Located on Previously Unused Site:

(i) No person owning or controlling a new industrial or commercial noise source located on a previously unused industrial or commercial site shall cause or permit the operation of that noise source if the noise levels generated or indirectly caused by that noise source increase the ambient statistical noise levels, L10 or L50, by more than 10 dBA in any one hour, or exceed the levels specified in Table 8, as measured at an appropriate measurement point, as specified in subsection (3)(b) of this rule, except as specified in subparagraph (1)(b)(B)(iii).

(ii) The ambient statistical noise level of a new industrial or commercial noise source on a previously unused industrial or commercial site shall include all noises generated or indirectly caused by or attributable to that source including all of its related activities. Sources exempted from the requirements of section (1) of this rule, which are identified in subsections (5)(b)-(f), (j), and (k) of this rule, shall not be excluded from this ambient measurement.

(iii) For noise levels generated or caused by a wind energy facility:

(I) The increase in ambient statistical noise levels is based on an assumed background L50 ambient noise level of 26 dBA or the actual ambient background level. The person owning the wind energy facility may conduct measurements to determine the actual ambient L10 and L50 background level.

(II) The "actual ambient background level" is the measured noise level at the appropriate measurement point as specified in subsection (3)(b) of this rule using generally accepted noise engineering measurement practices. Background noise measurements shall be obtained at the appropriate measurement point, synchronized with wind speed measurements of hub height conditions at the nearest wind turbine location. "Actual ambient background level" does not include noise generated or caused by the wind energy facility.

(III) The noise levels from a wind energy facility may increase the ambient statistical noise levels L10 and L50 by more than 10 dBA (but not above the limits specified in Table 8), if the person who owns the noise sensitive property executes a legally effective easement or real covenant that benefits the property on which the wind energy facility is located. The easement or covenant must authorize the wind energy facility to increase the ambient statistical noise levels, L10 or L50 on the sensitive property by more than 10 dBA at the appropriate measurement point.

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(2) Compliance. Upon written notification from the Director, the owner or controller of an industrial or commercial noise source operating in violation of the adopted rules shall submit a compliance schedule acceptable to the Department. The schedule will set forth the dates, terms, and conditions by which the person responsible for the noise source shall comply with the adopted rules.

(3) Measurement:

(a) Sound measurements procedures shall conform to those procedures which are adopted by the Commission and set forth in Sound Measurement Procedures Manual (NPCS-1), or to such other procedures as are approved in writing by the Department;

(b) Unless otherwise specified, the appropriate measurement point shall be that point on the noise sensitive property, described below, which is further from the noise source:

(A) 25 feet (7.6 meters) toward the noise source from that point on the noise sensitive building nearest the noise source;

(B) That point on the noise sensitive property line nearest the noise source.

(4) Monitoring and Reporting:

(a) Upon written notification from the Department, persons owning or controlling an industrial or commercial noise source shall monitor and record the statistical noise levels and operating times of equipment, facilities, operations, and activities, and shall submit such data to the Department in the form and on the schedule requested by the Department. Procedures for such measurements shall conform to those procedures which are adopted by the Commission and set forth in Sound Measurement Procedures Manual (NPCS-1);

(b) Nothing in this rule shall preclude the Department from conducting separate or additional noise tests and measurements. Therefore, when requested by the Department, the owner or operator of an industrial or commercial noise source shall provide the following:

(A) Access to the site;

(B) Reasonable facilities, where available, including but not limited to, electric power and ladders adequate to perform the testing;

(C) Cooperation in the reasonable operation, manipulation, or shutdown of various equipment or operations as needed to ascertain the source of sound and measure its emission.

(5) Exemptions: Except as otherwise provided in subparagraph (1)(b)(B)(ii) of this rule, the rules in section (1) of this rule shall not apply to:

(a) Emergency equipment not operated on a regular or scheduled basis;

(b) Warning devices not operating continuously for more than 5 minutes;

(c) Sounds created by the tires or motor used to propel any road vehicle complying with the noise standards for road vehicles;

(d) Sounds resulting from the operation of any equipment or facility of a surface carrier engaged in interstate commerce by railroad only to the extent that such equipment or facility is regulated by pre-emptive federal regulations as set forth in Part 201 of Title 40 of the Code of Federal Regulations, promulgated pursuant to Section 17 of the Noise Control Act of 1972, 86 Stat. 1248, Public Law 92-576; but this exemption does not apply to any standard, control, license, regulation, or restriction necessitated by special local conditions which is approved by the Administrator of the EPA after consultation with the Secretary of Transportation pursuant to procedures set forth in Section 17(c)(2) of the Act;

(e) Sounds created by bells, chimes, or carillons;

(f) Sounds not electronically amplified which are created by or generated at sporting, amusement, and entertainment events, except those sounds which are regulated under other noise standards. An event is a noteworthy happening and does not include informal, frequent, or ongoing activities such as, but not limited to, those which normally occur at bowling alleys or amusement parks operating in one location for a significant period of time;

(g) Sounds that originate on construction sites.

(h) Sounds created in construction or maintenance of capital equipment;

(i) Sounds created by lawn care maintenance and snow removal equipment;

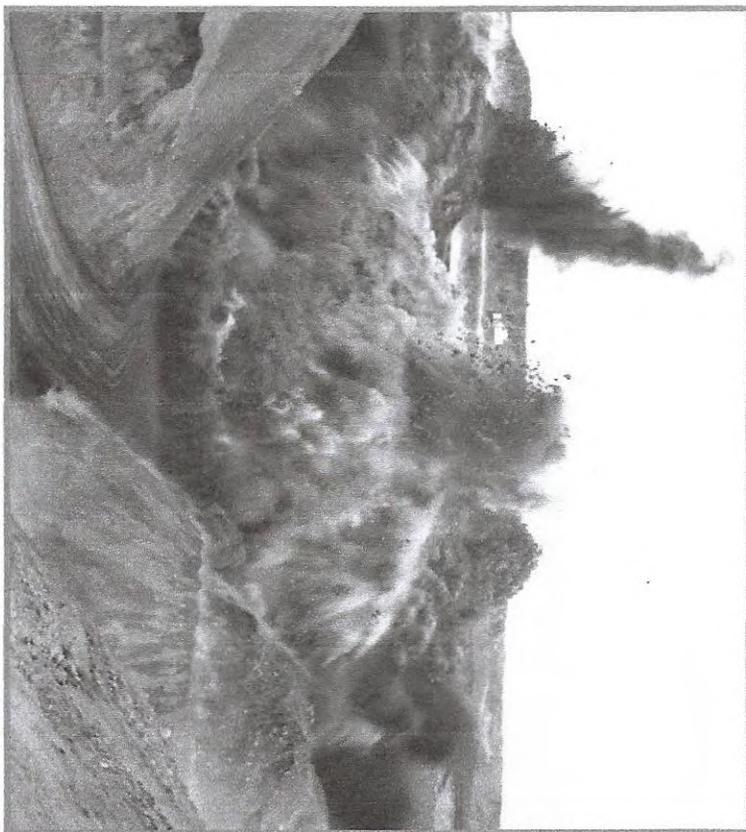
(j) Sounds generated by the operation of aircraft and subject to pre-emptive federal regulation. This exception does not apply to aircraft engine testing, activity conducted at the airport that is not directly related to flight operations, and any other activity not pre-emptively regulated by the federal government or controlled under OAR 340-035-0045;

Controlling the Adverse Effects of Blasting

This module addresses the control of offsite impacts that result from blasting, namely:

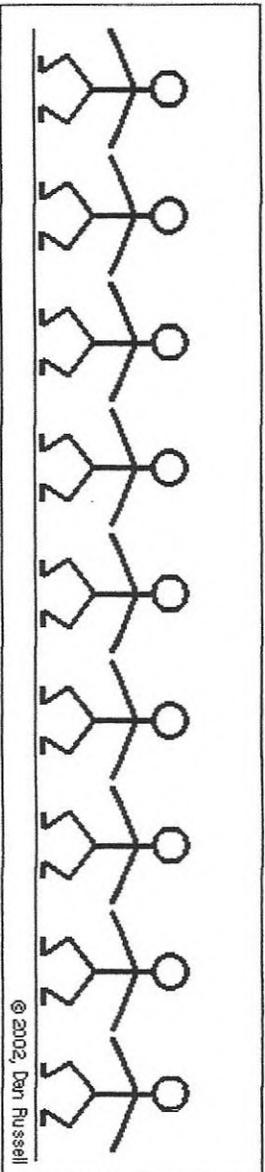
- vibrations,
- airblast, and
- flyrock.

Much of the information in the module is derived from the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The performance standards apply to all surface coal mines. Similar standards have been adopted on some State and local levels and applied to non-coal blasting operations such as quarrying and construction.



Part I: Ground Vibrations, Airblast, and Flyrock

Explosive energy is used to break rock. However, the use of this energy is not 100-percent efficient. Some of the energy escapes into the atmosphere to generate **airblast or air vibrations**. Some of the energy also leaves the blast site through the surface soil and bedrock in the form of **ground vibrations**.



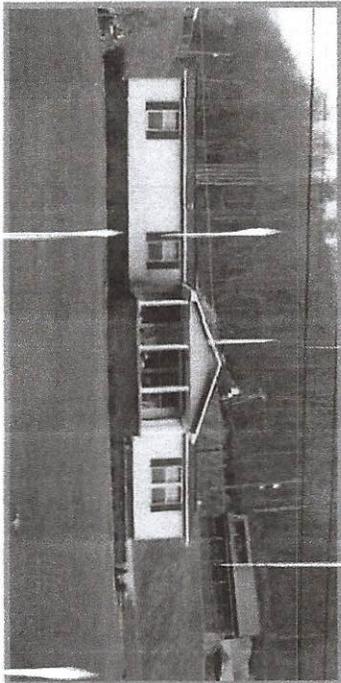
Both air and ground vibrations create waves that disturb the material in which they travel. When these waves encounter a structure, they cause it to shake. Ground vibrations enter the house through the basement and airblast enters the house through the walls and roof.

Airblast may be audible (noise) or in-audible (concussion). When outside a house the blast may be heard because of the noise, however noise has little impact on the structure. The concussion wave causes the structure to shake and rattles objects hanging on walls or sitting on shelves. This "interior noise" will alarm and startle people living in the house.

Flyrock is debris ejected from the blast site that is traveling through the air or along the ground. Flyrock the single most dangerous adverse effect that can cause property damage and personal injury or death.

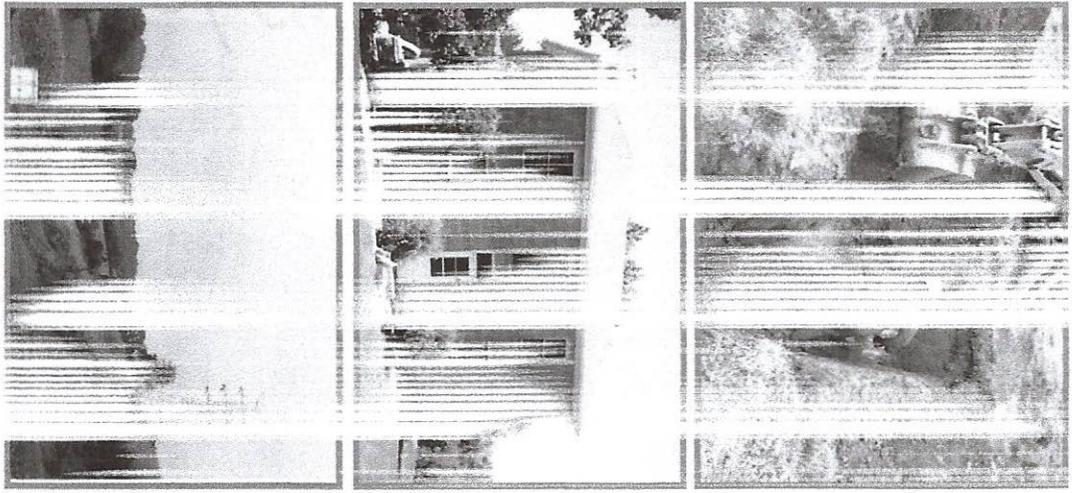
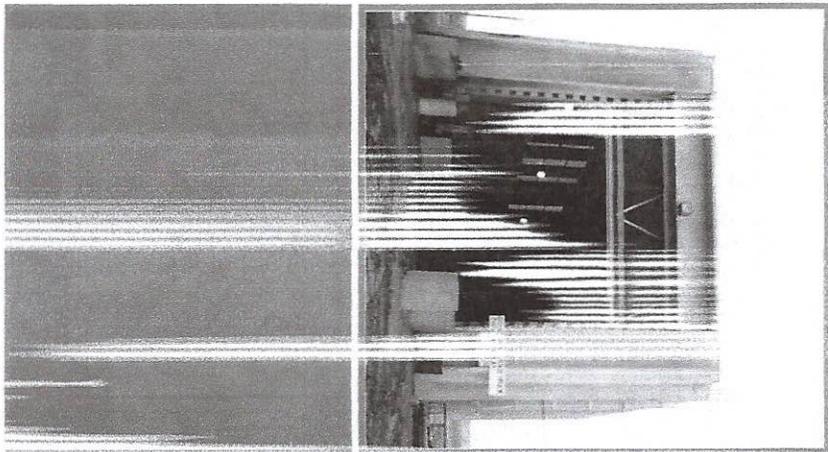
Blasting Impacts on Structures

Both above-ground and below-ground structures are susceptible to vibration impacts. Structures can include onsite mine offices and buildings, as well as offsite residences, schools, churches, power-transmission lines, and buried pipelines. Some of these structures may include historic or cultural features sensitive to even low levels of vibrations.



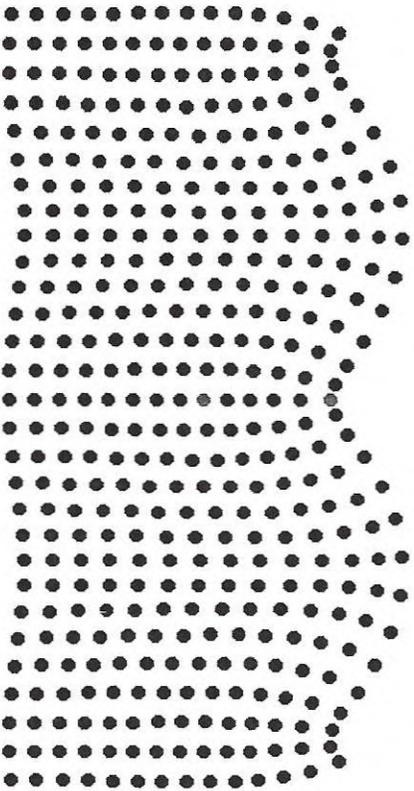
It is important to understand:

1. the causes of ground vibrations and airblast, and
2. what practices can be followed to control and minimize the adverse effects



Ground Vibrations

Ground vibrations propagate away from a blast site as Rayleigh (or surface) waves. These waves form a disturbance in the ground that displaces particles of soil or rock as they pass by. Particle motions are quite complicated. At the ground surface (free boundary), measured particle motions have the greatest displacements, and displacements decrease with depth (see the illustration below). At a depth of between 20 to 50 feet below ground surface, particle displacements are barely detectable. Structures that are well coupled to the ground tend to move with this motion; structures buried in the ground are less affected by surface motions.



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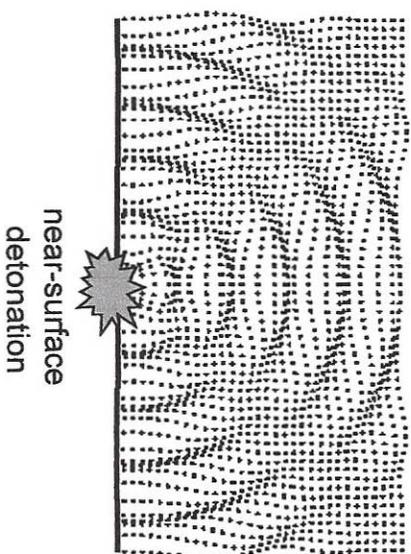
Ground vibrations are measured in terms of **particle velocity** and are reported in inches per second (ips) or the speed at which a particle of soil or rock moves.

At typical blasting distances from residential structures, the ground only moves with displacements equal to the thickness of a piece of writing paper. In terms of displacement, this equates to hundredths of an inch; visually, such movement cannot be detected.

Airblast

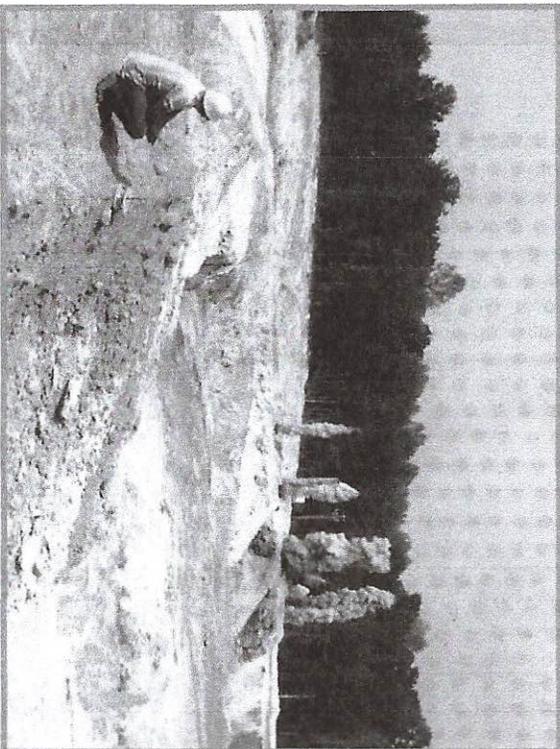
Airblast is measured as a pressure in pounds per square inch (psi) and is often reported in terms of **decibels (dB)**.

Airblast is a pressure wave that that may be audible or inaudible. Elevated airblast levels are generated when explosive energy in the form gases escape from the detonating blast holes. Energy escapes either through the top stemming or through fractures in the rock along the face or at the ground surface.



Airblast radiates outward from the blast site in all directions and can travel long distances. Sound waves travel much slower (1,100 ft/s) than ground vibrations (about 5,000 – 20,000 ft/s). Hence, airblast arrives at offsite structures later than do ground vibrations.

Both ground vibrations and airblast cause structures to shake structures. Occupants in structures that are located far from a blast may experience shaking from vibration and airblast as two separate, closely spaced events. This can be particularly bothersome, as it prolongs the duration of structure shaking and leads the property owner to think that two separate blasts occurred.



Structure Response

As ground and air vibrations reach a structure, each will cause it to shake. Structure response is dependant on the vibration characteristics (frequency and amplitude) and structure type.

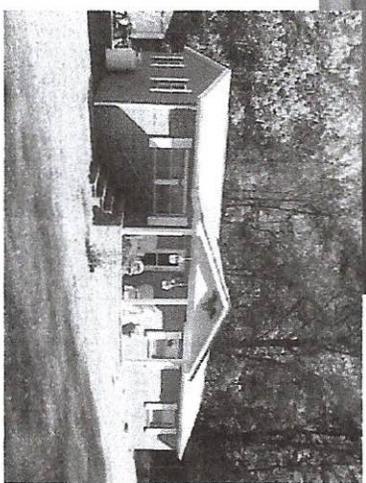
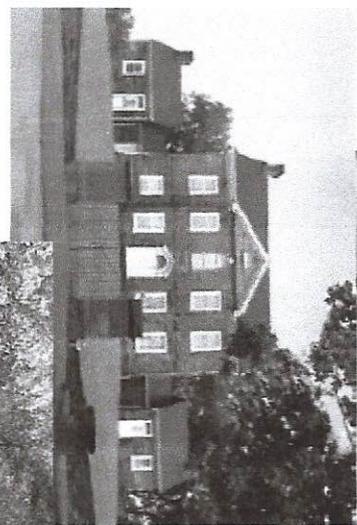
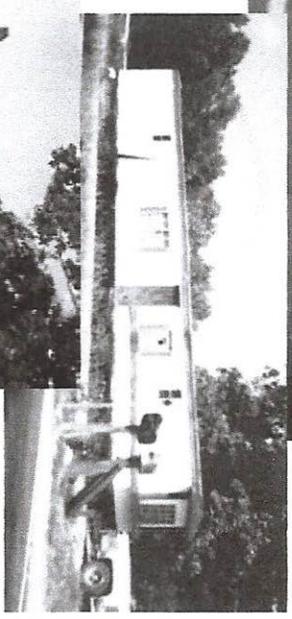
Ground Vibrations enter the house through the basement. This is like shaking the bottom of a flag pole. Movement at the top of the pole depends on how (frequency) and how hard (amplitude) the bottom of the pole is shaken. If shaken at just the right pace, or at the pole's natural frequency, the top will move significantly compared to the bottom. Motion at the top is amplified from the bottom motion.

All blast damage studies have measured incoming ground vibrations at the ground surface. The observed structure amplifications were typically between 1 to 4 times the ground vibration. Structure response below ground level is the same or less than the incoming vibrations

Airblast enters the house through the roof and walls. Like ground vibrations, the frequency and amplitude of the vibrations affect structure response. However the low frequency events (concussion) that most strongly affect structures is normally only a one or two cycle event.

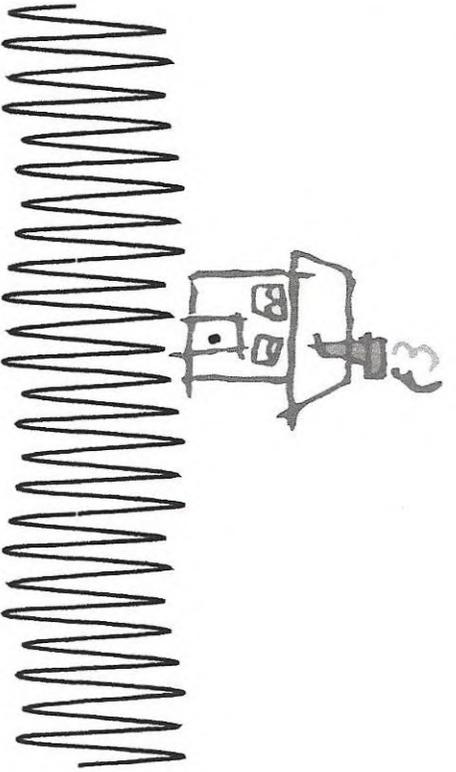
Due to the different arrival times of ground and air vibrations, occupants may feel two distinct impacts on the house.

Exhibit 5f

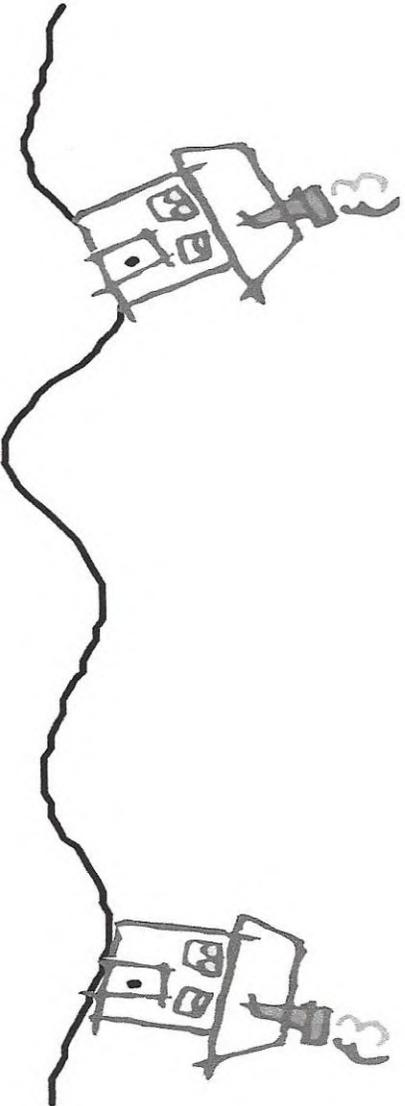


Ground Vibration Structure Response

Exhibit 59



On the other hand, low-frequency wave cycles are long as compared with the dimensions of structures. Accordingly, low frequencies tend to efficiently couple energy into structures and to promote higher-amplitude, long-duration shaking.



High frequencies do not promote structure shaking. The length of a single high-frequency wave cycle is short as compared with the dimension of a structure. A structure does not significantly respond to high frequencies.

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A noisy problem

People often become more sensitive to noise as they age, which can affect their mental and physical health.

Published: March, 2019



Image: © Juanmonino/Getty Images

Are you more sensitive to noises than you used to be? Do certain sounds now feel too loud and jarring? Don't worry; it's actually quite normal.

Age-related hearing loss is common among older adults and affects about two-thirds of men in their 70s and 85% of men ages 80 and older. Although it's not clear why, this can also make people hypersensitive to sounds that they used to tolerate easily, which in turn can affect their well-being.

"Exposure to noises from crowds, traffic, and other everyday sounds can become harder to tolerate and increase stress levels, leading to anxiety and a reduction in overall quality of life," says Dr. Stephanie Tompkins, an audiologist with Harvard-affiliated Massachusetts Eye and Ear. "As your sensitivity to noises increases, this can lead to greater isolation, too, as you may try to avoid potentially noisy places and situations."

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Quiet in the Hospital: How Noise...

Quiet in the Hospital: How Noise Reduction Helps Patients Heal

on June 7, 2018 (<https://medcenterblog.uvmhealth.org/innovations/hospital-noise-reduction/>) in Innovation (<https://medcenterblog.uvmhealth.org/category/innovations/>) by UVM Medical Center (<https://medcenterblog.uvmhealth.org/author/uvmmedcenter/>)

Noise. It is present in almost every aspect of our lives. From the traffic in the streets, to the fan that provides us white noise in the background to sleep, noise exists. Unfortunately, like stress, too much of it can have a negative impact on a person's health and rest. Some sounds we do like to hear, such as birds chirping, signaling spring in Vermont, but what about sounds in a hospital?

Many of us get admitted to hospitals when we are too sick to take care of ourselves at home. We expect exceptional care from physicians and nurses and, of course, to rest in order to help our bodies heal. We understand that some noises in a hospital are necessary for care; however, others simply aren't.

The Sounds of a Hospital

Many organizations, including the UVM Medical Center, have high tech equipment, which greatly assists in the delivery of care to our patients, but can also be noisy. Sometimes, healthcare providers are the source of the noise as we interact and communicate with our patients and other health team members.

Another factor is visits from families and friends during visiting hours. It is difficult when one's roommate is trying to rest in the opposite bed. Yet, we need to be cognizant of noise in patient care areas as sounds can be magnified and misinterpreted, increasing agitation and even confusion for some patients.

We become accustomed to the noise; our patients are not.

The Research on Noise, Quiet, and Healing

Research has shown that noise plays a negative role in healing and that decreasing noise in patient care areas aids in healing processes and helps facilitate speedier recoveries for patients. Patients are able to heal, sleep better and recover more quickly when able to rest. A quieter environment can also help decrease burnout for hospital staff.

Studies show that patients are more likely to develop negative side effects from a noisy hospital, such as sleep disturbances, elevated blood pressure and heart rate, and increased use of pain medications.

Noise can also increase annoyance levels for staff. One study indicated noise, such as talking inside and outside patient rooms, is the most common source of noise as well as visitors' voices, TVs, and behaviors of other patients.

Research concluded that best practices to eliminate noise from talking included staff education about noise reduction, public indicators such as sound monitors, a quiet time protocol, and lower cost environmental fixes, such as fixing noisy doors and squeaky wheels. Lastly, by introducing scripting with routine monitoring, patients' perception of quietness increased and the perception of noise decreased.

How We Address Noise at the UVM Medical Center

We introduced the "Culture of Quiet" Organizational initiative. The Nursing Professional Governance Patient and Family Experience Global council continued this work. After convening a small task force of nurses and assessing current quiet strategies, we introduced the following tactics:

- Many hospital units have designated 'quiet hours' with automatically dimming of lights at quiet hour intervals.
- Signage is visible in most patient care areas to help keep patients, family, and visitors aware. Throughout the hospital, you will see signs with a relaxing pair of Adirondack chairs and the sun setting with details on when a unit has quiet hours.
- Many semi-private rooms have windows in doors, so doors can be closed allowing for patient rest.
- We offer headphones for TVs and earplugs to help minimize sounds.
- In-patient kits contain a sleeping mask and other comfort items that can be provided at time of admission. Each kit contains a card and explains, 'the best healing occurs in a quiet environment.'
- New education material is available for staff, patients and visitors-just ask to review the next time visiting.
- Some units offer white noise machines, others have this built in.
- Noisy equipment such as wheels and doors can be tagged and replaced.
- Our facility and distribution staff have changed their cleaning and supply delivery schedules to accommodate patient care.
- Healthcare teams within the hospital are focusing efforts to cluster patient care to minimize interruptions to provide restful moments.

How you can help us.

We ask patients and visitors to hold us accountable when sounds are too loud. We want our community to alert us when noise levels are high and we will do what we can to minimize sound. In turn, we ask that all members of the healthcare team, patients, family, and friends be aware to keep voices soft, cell phones on vibrate, and hold each other accountable for these are the times of the day when our patients take pause to rest and positively impact their healing.

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Dangerous Decibels: Hospital Noise More Than a Nuisance

By Diane Sparacino, Staff Writer

Imagine a world where hospitals have become so noisy that the annoyance has topped hospital complaints, even more than for the tasteless, Jell-O-laden hospital food (Deardorff, 2011). If you're a nurse, you know that we're already there – with noise levels reaching nearly that of a chainsaw (Garcia, 2012). In fact, for more than five decades, hospital noise has seen a steady rise (ScienceDaily, 2005).

But it wasn't always that way. At one time, hospitals were virtually noise-free like libraries – respected spaces, preserved as quiet zones. The culture was such that a loud visitor might be silenced by a nurse's purposeful glare or sharply delivered "Shhh!" As early as 1859, the importance of maintaining a quiet environment for patients was a topic for discussion. In Florence Nightingale's book, "Notes on Nursing," she described needless noise as "the most cruel absence of care" (Deardorff, 2011).

Fast forward to 1995, when the World Health Organization (WHO) outlined its hospital noise guidelines, suggesting that patient room sound levels not exceed 35 decibels (dB). Yet since 1960, the average daytime hospital noise levels around the world have steadily risen to more than double the



acceptable level (from 57 to 72 dB), with nighttime levels increasing from 42 to 60 dB. WHO found that the issue was not only pervasive, but high noise levels remained fairly consistent across the board, despite the type of hospital (ScienceDaily, 2005).

Researchers at Johns Hopkins University began to look into the noise problem in 2003. They maintained that excessive noise not only hindered the ability for patients to rest, but raised the risk for medical errors. Other studies blamed hospital noise for a possible increase in healing time and a contributing factor in stress-related burnout among healthcare workers (ScienceDaily, 2005).

Technology is, of course, partly to blame. State-of-the-art machines, banks of useful alarms, respirators, generators, powerful ventilation systems and intercoms all add up to a lot of unwanted racket. When human voices are added to the mix, (i.e., staff members being forced to speak loudly over the steady din of medical equipment), it's anything but a restful environment. For the recovering patient in need of sleep, that can be a real issue (Deardorff, 2011).

Contributing to the problem, experts say, are the materials used in hospitals. Because they must be easily sanitized, surfaces cannot be porous where they could harbor disease-causing organisms. Rather than using noise-muffling materials like carpet, acoustic tiles and other soft surfaces, hospitals have traditionally been outfitted using smooth, hard surfaces – especially in patient rooms. Good for cleanliness – not so great for dampening sounds, which tend to bounce around the typical hospital (Deardorff, 2011).

Which brings us to the most recent research, published January 2012 in the *Archives of Internal Medicine*. In the report, Jordan Yoder, BSE, from the Pritzker School of Medicine, University of Chicago, and his colleagues associated elevated noise levels with “clinically significant sleep loss among hospitalized patients,” perhaps causing a delay in their recovery time (Garcia, 2012). During the 155-day study period, researchers examined hospital sound levels. The numbers far exceeded (WHO) recommendations for average hospital-room noise levels, with the peak noise at an average 80.3 dB – nearly as loud as a chainsaw or electric sander (85 dB), and well over the recommended maximum of 40 dB. And while nights tended to be quieter, they were still noisier than recommended allowances, with “a mean maximum sound level of 69.7 dB” (Garcia, 2012).

Perhaps most interestingly, the researchers broke down the sources of noise into categories: “Staff conversation (65%), roommates (54%), alarms (42%), intercoms (39%), and pagers (38%) were the most common sources of noise disruptive reported by patients” (Garcia, 2012). “Despite the importance of sleep for recovery, hospital noise may put patients at risk for sleep loss and its associated negative effects,” they wrote. In addition, researchers found that the intensive care and surgical wards had some work to do in dampening noise levels, with ICU peaking at 67 dB and 42 dB for surgical areas. Both far exceeded WHO’s 30 dB patient room recommendation (Garcia, 2012).

Besides patient sleep deprivation, which itself can lead to a multitude of health problems including high blood sugar, high blood pressure and fatigue, studies have reported that elevated noise levels can increase heart and respiratory rates, blood pressure and cortisol levels. Recovery room noise causes patients to request more pain medication, and preterm infants “are at increased risk for hearing loss, abnormal brain and sensory development, and speech and language problems when exposed to prolonged and excessive noise” (Deardorff, 2011).

There is still more research to be done, of course, but Yoder and his colleagues had good news, as well; much of the hospital noise they identified is modifiable, suggesting that hospitals can take steps to successfully create a quieter environment for both patients and healthcare providers (Garcia, 2012).

Around the country, "quiet campaigns" have been launched by hospitals in an attempt to dampen nighttime noise. Besides dimming lights and asking staff to keep their voices down at night, they are working to eliminate overhead paging systems, replace wall and/or floor coverings – even the clang of metal trashcans. Northwestern's Prentice Women's Hospital in Chicago was built with noise reduction in mind, replacing the idea of centralized nursing stations with the advent of smaller, multiple stations (Deardorff, 2011)

Billed as "one of the nation's largest hospital construction projects," Palomar Medical Center in North San Diego County is a state-of-the-art facility that has been designed "to encourage quietness," according to Tina Pope, Palomar Health Service Excellence Manager. Slated to open its doors this August, the hospital will feature a new nursing call system to route calls directly to staff and help eliminate the need for overhead paging, de-centralized nursing stations and clear sig lines, allowing staff to check on patients without having to leave unit doors open. With measures already in place including "Quiet Hospital" badges on staff and posters at the entrance of every unit, a "Quiet at Night" campaign (9 p.m. – 6 a.m.), and a "Quiet Champions" program that encourages staff to report noise problems, Palomar is one of a growing number of hospitals working toward a new era of quiet.

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Noises Are Truly Horrible For People Who Have PTSD

20 Mar '2018 [Sound](#)

Noise is a really big issue for PTSD survivors: people who have mental health problems because of their traumas. How are they connected?

Almost everybody has experienced a trauma. But some traumas are more scarring than others and can even result in long-lasting mental disorders like **PTSD**, which can have an extreme impact on someone's life. It's a disorder that can develop in the brain after a horrifying experience, like war or a car crash.

Symptoms

The symptoms of PTSD are, to say the least, not pleasant. They range from nightmares about the traumatic events, disturbing thoughts and feelings, anxiety, trying to avoid anything that has something to do with the traumatic event, and an increase in the fight-or-flight response.

Around ten percent of the population suffers from PTSD, according to data from **NCBI**, a part of the US National Library of Medicine. And, remarkably enough, that percentage is the same for people who suffer from tinnitus (the sound of a constant beep in your ears). The NCBI clearly sees a link between the two.

PTSD survivors also suffer from the Exaggerated Startle Syndrome, with anxiety and actions in an extreme and irrational way too loud noises and bangs. And then there are the sounds that remind them of the sounds during the traumatic events, which can trigger memories of the



Fear

PTSD can also cause a general fear of sounds: phonophobia, or a fear of some specific sounds: misophonia. Survivors of the disorder also are generally much more sensitive to sounds and perceive them as much louder than other people would.

All of this makes the life of people with PTSD very hard. If you think you are suffering from this, consult your doctor. Really, please do it. For yourself, and for the ones you love.

Do you have PTSD and would you like to tell your experiences to us? We are always very open and interested to hear what you have to say. And again: if you haven't done it yet, visit your doctor, please. Thank you!

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Does noise affect learning? A short review on noise effects on cognitive performance in children

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Abstract

The present paper provides an overview of research concerning both acute and chronic effects of exposure to noise on children's cognitive performance. Experimental studies addressing the impact of acute exposure showed negative effects on speech perception and listening comprehension. These effects are more pronounced in children as compared to adults. Children with language or attention disorders and second-language learners are still more impaired than age-matched controls. Noise-induced disruption was also found for non-auditory tasks, i.e., serial recall of visually presented lists and reading. The impact of chronic exposure to noise was examined in quasi-experimental studies. Indoor noise and reverberation in classroom settings were found to be associated with poorer performance of the children in verbal tasks. Regarding chronic exposure to aircraft noise, studies consistently found that high exposure is associated with lower reading performance. Even though the reported effects are usually small in magnitude, and confounding variables were not always sufficiently controlled, policy makers responsible for noise abatement should be aware of the potential impact of environmental noise on children's development.

Keywords: noise, cognitive performance, cognitive development, children, speech perception, listening comprehension, irrelevant sound effect, classroom acoustics

In everyday life, cognitive tasks are often performed in the presence of task-irrelevant environmental noise. Accordingly, numerous studies on noise effects on performance have been conducted since the middle of the 20th century (for reviews see Hellbrück and Liebl, [2007](#); Szalma and Hancock, [2011](#)), showing that—depending on characteristics of sounds and tasks—noise of low to moderate intensity may in fact evoke substantial impairments in performance.

Most of these studies were conducted with adults. The present review, however, will focus on studies including children. Children are especially vulnerable to harmful effects of environmental noise, as cognitive functions are less automatized and thus more prone to disruption. We will report findings concerning effects of acute noise on performance in concurrent auditory and non-auditory tasks, as well as effects of chronic noise on children's cognitive development.

Effects of acute noise on children's performance in auditory tasks

Psychoacoustic studies have consistently shown that children's speech perception is more impaired than adults' by unfavorable listening conditions. The ability to recognize speech under conditions of noise or noise combined with reverberation improves until the teenage years (Johnson, [2000](#); Wightman and Kistler, [2005](#); Talarico et al., [2007](#); Neuman et al., [2010](#)). With stationary noise makers, signal-to-noise ratios (SNRs) have to be 5–7 dB higher for young children when compared to adults in order to achieve comparable levels of identification of speech or nonspeech signals, with adult-like performance reached at about 6 years of age (Schneider et al., [1989](#); Fallon et al., [2000](#); Werner, [2007](#)). However, with maskers that vary over time, i.e., with trial-by-trial variation of the maskers' spectral composition (Oh et al., [2001](#); Hall et al., [2005](#); Leibold and Neff, [2007](#)) or with fluctuating maskers such as single-talker speech (Wightman and Kistler, [2005](#)), adult-like performance is usually not reached before the age of 10 years. Furthermore, children are less able than adults to make use of spectro-temporal and spatial cues for separation of signal and noise (Wightman et al., [2003](#); Hall et al., [2005](#)). These findings demonstrate that children are especially prone to *informational* masking, i.e., masking that goes beyond energetic masking predicted by filter models of the auditory periphery.

Studies identified a range of linguistic and cognitive factors to be responsible for children's difficulties with speech perception in noise: concerning the former, children are less able than adults to use stored phonological knowledge to reconstruct degraded speech input. This holds for the level of individual phonemes, as children's phoneme categories are less well specified than adults' (Hazan and Barrett, [2000](#)), but also for the lexical level since children's phonological word representations are more holistic and less segmented into phoneme units. Therefore the probability of successfully matching incomplete speech input with stored long-term representations is reduced (Nittrouer, [1996](#); Metsala, [1997](#); Mayo et al., [2003](#)). In addition, young children are less able than older children and adults to make use of contextual cues to reconstruct noise-masked words presented in sentential context (Elliott, [1979](#)). Concerning attention, children's immature auditory selective attention skills contribute to their difficulties with speech-in-noise perception. Children's susceptibility to informational masking has been attributed to deficits in focusing attention on auditory channels centered on signal frequencies, while ignoring nonsignal channels (Wightman and Kistler, [2005](#)). Behavioral and ERP measures from dichotic listening paradigms provide evidence that auditory selective attention improves throughout entire childhood (Doyle, [1973](#); Pearson and Lane, [1991](#); Coch et al., [2005](#); Wightman et al., [2010](#); Gomes et al., [2012](#)).

Owing to the mediating role of linguistic competence and selective attention, children with language or attention disorders are still more impaired than normally developing children by noise in speech perception tasks (Geffner et al., [1996](#); Ziegler et al., [2005](#), [2009](#)). A stronger noise effect is also evident for children tested in their second language when compared to native children (Crandell and Smaldino,

Autism & Anxiety: Parents seek help for extreme reaction to loud noise

September 5, 2018

Our 12-year-old son has autism, mild intellectual disability and anxiety attacks so severe that we end up in the emergency room. Loud noises are the worst – for example the school fire alarm, thunderstorms, a balloon popping, fireworks. Any help would be greatly appreciated.



This week's "Got Questions?" answer is by Judy Reaven, a clinical psychologist and associate professor of psychiatry and pediatrics at the University of Colorado School of Medicine and Children's Hospital Colorado, in Denver. Dr. Reaven's conducted research on the effectiveness of cognitive-behavioral therapy for anxiety in adolescents with autism, with the support of an [Autism Speaks research grant](#).

Editor's note: The following information is not meant to diagnose or treat and should not take the place of personal consultation, as appropriate, with a qualified healthcare professional and/or behavioral therapist.

Thanks for the great question. It certainly sounds like your family is experiencing a very difficult situation. Anxiety symptoms and reactions are very common in individuals with autism spectrum disorder (ASD). They can interfere with functioning across home, community and school settings.

Although your son's reaction sounds more severe than most, many people with autism struggle with a range of fears, phobias and worries. These can range from a debilitating fear of, say, spiders or the dark to chronic anxiety about making mistakes or being late.

Fortunately, recent research suggests that anxiety in children and adults who have autism is quite treatable. Often, these individuals are helped by the same or similar strategies that work well in treating anxiety in the general population.

These approaches include cognitive behavior therapy, or CBT. Cognitive-behavioral approaches are well-established, evidenced-based treatments that have become the gold standard of psychosocial treatments for anxiety. [My own research](#) and that of my colleagues has demonstrated the helpfulness of modifying cognitive-behavioral approaches to address the special needs of those who have autism.

Where to begin?

You describe a number of fears that may be related to sensory sensitivities. I recommend that you begin by consulting an occupational therapist who can assess whether your son's extreme sensitivities to noises are part of a broader sensory processing disorder. If this is the case, and if your son's fears are exclusively triggered by sensory stimuli, then his symptoms may be best addressed by a sensory-focused intervention. Many occupational therapists who specialize in autism receive special training in this area.

It's common for children with ASD and anxiety to become extremely frightened in response to sensory stimuli. Perhaps – like many individuals with autism – your son also has difficulty telling you what's scaring him. Instead, he may show his fear with extreme avoidance of a situation.

For example, he might refuse to go to school after a fire drill. He might become fearful of birthday parties after being frightened by a balloon that popped unexpectedly. Other signs of extreme distress can include yelling, crying, clinging and general agitation. Because your son may have difficulty communicating, it's important to observe his behavior for these signs of distress. This can help you determine what's triggering his fears.

Avoidance versus learning to cope

Many parents go to great pains to protect their children by avoiding agitating situations. This approach is sometimes appropriate and even necessary. However, it denies individuals the opportunity to learn how to manage anxiety-provoking situations on their own.

By helping your son learn to manage his fear, you can prepare him for an unpredictable world so that he can participate in it to the maximum extent possible.

Given the severity of your son's anxiety symptoms, I suggest that you seek professional support in addition to the strategies offered here. Families whose children have milder symptoms of anxiety can try these strategies on their own – seeking professional help if symptoms worsen.

Tackling one fear at a time

I suggest making a list of your child's major fears and worries. Try to rank order them from mild to severe. To encourage success, I'd start with a mild-to-moderate fear before taking on his extreme reaction to loud noises.

Key components of a cognitive behavioral approach include introducing coping strategies such as deep breathing and "helpful thoughts" that can help a person manage fearful reactions.

For example, you can teach your son to take deep slow breaths to help manage his body's physical anxiety reactions.

"Helpful thoughts" are statements that your son can say to himself when faced with a situation that makes him anxious. For example, you can coach to your son to say, "This is a loud noise. I don't like it, but I can handle it."

To help your son to learn these strategies, I suggest you model taking deep breaths while repeating a "helpful thought" out loud.

Graded exposure

The most important step is to help your son face his fears a little at a time. We call this "graded exposure." For example, explain to your son that the two of you are going to listen to a recording of thunder. The first time, you might play the recording at a soft volume, then gradually increase the volume over time as he demonstrates increased comfort with the sounds.

Or you might try watching a video of a balloon pop – perhaps with the volume off the first time. Then he can watch a real balloon pop while standing some distance away. Over time, he can move closer and closer to the balloon.

After such exercises, you can present him with small rewards for being brave and "facing fears." Remember that even a small act of bravery – such as listening to a recording of thunder for 10 seconds – represents an important step toward handling fears. It deserves to be acknowledged.

Although graded exposure may seem counterintuitive, [research](#) indicates that this strategy is the single most effective strategy for getting over a particular fear.

I wish you and your son the very best. Please let us know how you're doing with an email to GotQuestions@autismspeaks.org.

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I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

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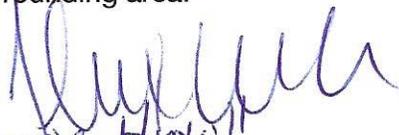
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I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

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M. Jeannette Smith

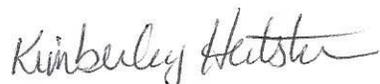
ADDRESS

410 Allium Street

EMAIL

jeannettercupfor@gmail.com

SIGNATURE



PRINTED NAME

KIMBERLEY HETSTUMAN

ADDRESS

2409 CENTURY LP, LA GRANDE, OR 97850

EMAIL

kimheitstuman@hotmail.com

SIGNATURE



PRINTED NAME

Shawn K. Mangum

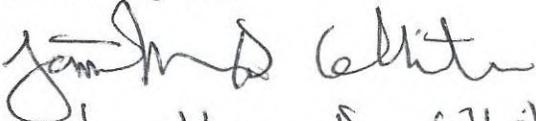
ADDRESS

2909 E. M. Ave.

EMAIL

Hoya/kw95@me.com

I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE 
PRINTED NAME Jonathan D. White
ADDRESS 485 Madelaine Dr
EMAIL jondwhite418@gmail.com

SIGNATURE 
PRINTED NAME Robin Stedfeld
ADDRESS 485 Madelaine Dr. LaGrande
EMAIL rstedfeld@yahoo.com

SIGNATURE 
PRINTED NAME RONNIE L. ALLEN 541-963-7720
ADDRESS 410 Balsa Street LA GRANDE, OREGON 97850
EMAIL NA NONE:

SIGNATURE 
PRINTED NAME Rita Allen
ADDRESS 410 Balsa St. LaGrande Or.
EMAIL

SIGNATURE 
PRINTED NAME LINDA M. SNYDER
ADDRESS 491 1770 DEHAIR
EMAIL

I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE *Robin J. Ostermann*
PRINTED NAME Robin J. Ostermann
ADDRESS 495 Modelaire Dr La Grande, OR 97850
EMAIL

SIGNATURE *Robert J. Ostermann*
PRINTED NAME Robert J. Ostermann
ADDRESS 495 Modelaire Dr. La Grande, OR 97850
EMAIL

SIGNATURE *John Yeates*
PRINTED NAME JOHN YEATES
ADDRESS 408 SUNSET DRIVE LA GRANDE, OR 97850
EMAIL jyeates52@gmail.com

SIGNATURE *Ruth Schumacher Yeates*
PRINTED NAME Ruth Schumacher Yeates
ADDRESS 408 Sunset Dr, La Grande
EMAIL ruthschumacheryeates@gmail.com

SIGNATURE *D. Dale Mammen*
PRINTED NAME D. Dale Mammen
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EMAIL dmammen@comi.com

I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE



PRINTED NAME

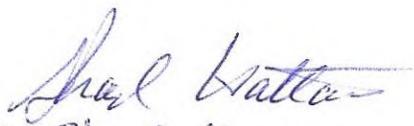
Denise Hattan

ADDRESS

507 Sunset Dr. La Grande, OR

EMAIL

SIGNATURE



PRINTED NAME

Shad Hattan

ADDRESS

507 Sunset Dr

EMAIL

hattansl88@gmail.com

SIGNATURE



PRINTED NAME

Jack L. Martin

ADDRESS

1412 Gildcrest Dr.

EMAIL

SIGNATURE



PRINTED NAME

GERALDINE BRASETH-PALMER

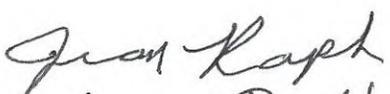
ADDRESS

1602 Gildcrest Drive - LaGrande, Or; 97850

EMAIL



SIGNATURE



PRINTED NAME

Jean RAPH

ADDRESS

1509 Madison Ave LaGrande, OR 97850

EMAIL

jraph19@gmail.com

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SIGNATURE *Damon Sexton*
PRINTED NAME Damon Sexton
ADDRESS 401 Balsa St La Grande, OR 97850
EMAIL sexton.damon@gmail.com

SIGNATURE *Coy Sexton*
PRINTED NAME Coy Sexton
ADDRESS 401 Balsa Street, La Grande, OR 97850
EMAIL coytris@gmail.com

SIGNATURE *Melinda McGowan*
PRINTED NAME Melinda McGowan
ADDRESS 602 Sunset Dr.
EMAIL melindamegowan@gmail.com

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

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SIGNATURE *Lois Barry*
PRINTED NAME LOIS BARRY
ADDRESS P.O. BOX 566, LA GRANDE, OR 97850
EMAIL loisbarry31@gmail.com

SIGNATURE *Cathy Webb*
PRINTED NAME CATHY WEBB
ADDRESS 1700 Cedar St. LA GRANDE, OR 97850
EMAIL thinkski@gmail.com

SIGNATURE *JoAnn Marlette*
PRINTED NAME JOANN MARLETTE
ADDRESS 2031 Court St. #8, Baker City, OR 97814
EMAIL joannmarlette@yahoo.com

SIGNATURE *Keith D. Hudson*
PRINTED NAME Keith D. Hudson
ADDRESS 605 F Ave, La Grande OR 97850
EMAIL Keithdhudson@gmail.com

SIGNATURE *Laura Elly Hudson*
PRINTED NAME Laura Elly Hudson
ADDRESS 605 F Ave, La Grande OR 97850
EMAIL ellyhudson@gmail.com

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SIGNATURE *Lynn Wheeler Duncan*
PRINTED NAME LYNN WHEELER DUNCAN
ADDRESS 489 Modelaire Drive, LaGrande OR 97850
EMAIL rlwd1910@gmail.com

SIGNATURE *Gary D. Pierson*
PRINTED NAME Gary D. Pierson
ADDRESS 489 Modelaire Drive, La Grande OR 97850
EMAIL -

SIGNATURE *Anne G. Cavinato*
PRINTED NAME Anne G. Cavinato
ADDRESS 86 Hawthorne Dr. La Grande OR 97850
EMAIL acavinot@ecu.edu

SIGNATURE *Joe Horst*
PRINTED NAME JOE HORST
ADDRESS 86 HAWTHORNE DR. LA GRANDE OR. 97850
EMAIL joehorst@con.com

SIGNATURE *Angela Sherrer*
PRINTED NAME Angela Sherrer
ADDRESS 91 W. Hawthorne Dr La Grande, OR 97850
EMAIL asherrer@frontier.com

I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE

Merle E Comfort

PRINTED NAME

MERLE E COMFORT

ADDRESS

209 SORPIO LA GRANDE OR 97850

EMAIL

merlecomfort@gmail.com

SIGNATURE

Robin L. Maille

PRINTED NAME

Robin Maille

ADDRESS

401 Cedar St., La Grande

EMAIL

rmaille@icloud.com

SIGNATURE

Carol Summers

PRINTED NAME

CAROL S. SUMMERS

ADDRESS

2811 Bekelen Lane La Grande, OR.

EMAIL

carolsummers1938@gmail.com

SIGNATURE

Caroline Kaye Juniper

PRINTED NAME

Caroline Kaye Juniper

ADDRESS

406 4th Street - LaGrande - OR 97850

EMAIL

SIGNATURE

Gerald D Juniper

PRINTED NAME

Gerald Darwin Juniper

ADDRESS

406 4th St. LaGrande, OR. 97850

EMAIL

I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE *Robert J. Sherer*
PRINTED NAME Robert J. Sherer
ADDRESS 970 Hawthorne Dr, La Grande, OR 97850
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SIGNATURE *Heather M. Null*
PRINTED NAME Heather M. Null
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EMAIL hnull@conic.com

SIGNATURE *Bert R. Freewing*
PRINTED NAME Bert R. Freewing
ADDRESS 709 South 12th Street La Grande, OR 97850
EMAIL jeanfreewing@gmail.com

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL



Oregon Department of Energy and the Energy Facility Siting Council

Public Hearing on the Draft Proposed Order
for the Boardman to Hemingway Transmission Line
June 18-20 and June 26-27, 2019, 4:30-8 p.m.
Public Written or Oral Testimony Registration

Name (mandatory) Chris Rauch

Mailing Address (mandatory) 72967 Strawberry Ln
Lexington, OR

Phone Number (optional) () _____ Email Address (optional) _____

Today's Date: 6-27-19

Do you wish to make oral public testimony at this Hearing: Yes No

Written comments can also be submitted today.

All written comments must be received by the deadline, July 23, 2019, 5 p.m. PDT to:

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street NE
Salem, OR 97301
Fax: 503-378-6457
Email: B2H.DPOComments@oregon.gov

Note: by submitting written or oral testimony, you will receive a notice from the Oregon Department of Energy at a future date of the opportunity to request party status in a contested case hearing on the proposed facility.

Written Testimony
(Please print legibly – Use the back for additional space if needed. Additional written comments may be attached to this card.)

Page 38

1 Mine is more of I married a farmer. I'm
 2 originally from Portland, but I married a farmer,
 3 seventh generation. We have one son, and we hope to be
 4 a third generation.
 5 Where we put our mobile home, our home where
 6 we raised our son, is right, this line goes right behind
 7 us. It's on our land and it goes right behind us. We
 8 have one of the best views ever, I think per Brian.
 9 Where the line is going is my favorite spot. I can see
 10 Mount Hood, Mount Adams, and Mount St. Helens on a clear
 11 day from our top, right where this line is going. It's
 12 where I love to spend our time when it's not in crop, we
 13 do crop rotation.
 14 My hardest part is if you're not from this
 15 area, you might not understand the land and how it
 16 works. We border the two men who just spoke. And so
 17 when there is a fire from one of these, it will wipe out
 18 all of us that are bordering each other. There is no
 19 way to stop a fire. We saw that in Morrow in the fires
 20 that were along the river this last year. A farmer died
 21 trying to put it out with his tractor. So that's very
 22 real.
 23 The right-of-ways that have been in the first
 24 meeting, from the first meeting Idaho Power said they
 25 would just condemn our land if we did not agree to this

Page 39

1 process. So from the get-go 10 years ago, it has been
 2 stressful, to say the least, to have that be our first
 3 meeting here, except for in a different room.
 4 So my concern is what was said -- and I didn't
 5 get your name, I apologize, and I'm sorry, you just took
 6 a bite so I won't... But I spoke with -- we could do
 7 comments or questions last time in our meetings here to
 8 Idaho Power about once a corridor is open, the
 9 possibility of more lines. And as she said, that once a
 10 line is open, they won't call it co-locations; it's much
 11 easier to do lines down the same corridor. Makes total
 12 sense. Didn't you say that? Once there's a line it's
 13 easier to go down where a line is. You said
 14 co-locations?
 15 MS. TARDAEWETHER: Yes, the siting
 16 opportunity.
 17 MS. ELIZABETH ASHBECK: Siting opportunity.
 18 I'm using wrong words.
 19 So once there is a line though it's easier to
 20 add another line; is that correct?
 21 MS. TARDAEWETHER: It depends.
 22 MS. ELIZABETH ASHBECK: Yes. Thank you. I
 23 know you're shaking your head no.
 24 But you see them. I've just taken pictures
 25 along -- you can just go out here -- not out here. If

Page 40

1 you go out here, once the lines are open out here they
 2 open up. My concern is, we are only one, one house
 3 right there on Melville Lane, we're the only one. We
 4 were told we were the path of least resistance because
 5 we are the only one. I understand that, being a house.
 6 So my concern is, is once that line is open
 7 and you put in more lines, where does that leave our
 8 family farm? I don't have any stats on that. And they
 9 can say they don't know, but to me that risk is too
 10 high. And so that's really -- I don't know how to make
 11 stats on that because once it's opened you can't close
 12 it because it's there.
 13 So how does that change our way of live and
 14 where we live? And we've lived there for the last
 15 25 years. They have farmed there a lot longer, but we
 16 have lived there for 25 years.
 17 And so I do appreciate your time. I know that
 18 you probably don't know what the land looks like since
 19 you haven't been out there. But I do invite you. You
 20 have my address, you can come out and see if you would
 21 like.
 22 So that's it. Thank you.
 23 HEARING OFFICER WEBSTER: Thank you.
 24 Next up is Chris Rauch.
 25 MR. CHRIS RAUCH: Chris Rauch, C-h-r-i-s,

Page 41

1 R-a-u-c-h. Just like it doesn't sound. Address, 72967
 2 Strawberry Lane, Lexington, Oregon. I'm managing
 3 partner of North Lex Power And Land. I'm also managing
 4 partner and owner of Starvation Farms. And part of this
 5 runs right through part of this, or both of us.
 6 Wouldn't it be good if this gentleman back
 7 here with the maps could have had it up here so these
 8 landowners coming up here could have just looked at it?
 9 It would have helped somewhat.
 10 But I want to stress or put my 2 cents in.
 11 North Lex Power And Land, its managing partner is pretty
 12 much neutral in this project. Starvation Farms' owner,
 13 I'm basically neutral. The one concern I would like to
 14 see done probably -- I know how some of these things
 15 work. If they could have put it right on the property
 16 line it would have been less problematic, put it that
 17 way, between me and my neighbor or just on my property
 18 line because some of it's strictly on ours.
 19 Being off to the side is a bit of a concern as
 20 a farmer. It does add cost, it's kind of a pain in the
 21 ass. I'm being quite honest.
 22 The other two concerns is for North Lex Power
 23 And Land, and they are actually directed not to you
 24 guys. There's like two questions basically directed to
 25 Idaho Power. One, on part of this land there's already

Page 42

1 a lease with another company. I'm wondering how that's
 2 going to be handled. And that lease could have
 3 something be built on it? And if that is built, what
 4 happens then to the power line? Where does it go?
 5 And that's pretty much it at this point.
 6 Unless somebody wants to answer the questions.
 7 HEARING OFFICER WEBSTER: Unfortunately, no
 8 real answers tonight, just testimony from the public.
 9 MR. CHRIS RAUCH: Yeah, I know.
 10 HEARING OFFICER WEBSTER: Thank you though.
 11 Next up, Irene Gilbert.
 12 MS. IRENE GILBERT: Irene Gilbert, Stop B2H
 13 member. And first I want to make -- oh, 2310 Adams
 14 Avenue, La Grande, Oregon.
 15 First, actually, today I'm just going to make
 16 some general comments about different areas of the
 17 application. But I also wanted to remind the folks
 18 here -- I know you don't deal with me that much -- but
 19 when people talk about restrictions on the transmission
 20 line, I just wanted to remind you that a lot of the big
 21 players, like Google, Target, Walmart, Home Depot, all
 22 those big companies are trying to get off the grid.
 23 They're wanting to develop their own energy sources.
 24 There are lots of litigation things going on in
 25 different states now because the utilities don't want

Page 43

1 them to leave the grid or be able to do that. So
 2 anyway, that really counters the idea that we're going
 3 to have this huge influx of electric need.
 4 Also, the FERC requirement that new renewables
 5 have a consistent level of energy coming onto the grid
 6 has resulted in, as you well know, a lot of the wind
 7 developers are asking to have solar and batteries added
 8 to their development so that they can have consistency
 9 in the energy that they're providing.
 10 So those kinds of things are going to mean
 11 that the projections for this huge need for transmission
 12 lines is somewhat overstated.
 13 Now, I've been a member of a farming family,
 14 ranching family. And in the Willamette Valley, we
 15 raised a lot of cattle, we raised feed for them, we grew
 16 trees, we harvested trees. We provided habitat for
 17 western pond turtles and endangered species of fish, all
 18 kinds of wildlife.
 19 And I can remember at one point having to sit
 20 around the table and having one of my sister-in-laws
 21 say, I wonder how many cows we would have to raise to
 22 make any money. We were selling 200 cows every fall and
 23 the prices were so bad that we were thinking, if we
 24 raise more will we start making money or how does this
 25 work?

Page 44

1 A lot of these farmers and ranchers, the
 2 average for these smaller developments -- we weren't
 3 small, we had a thousand acres, that's a lot in the
 4 Willamette Valley -- but here, a lot of these people,
 5 according to the data, says they're living on an average
 6 of like \$22,500 a year.
 7 So I can appreciate this line would make jobs
 8 for some electricians, and I can appreciate that they
 9 would like that. But it also can take away the jobs and
 10 the livelihood of a lot of farmers who understand they
 11 don't own the land they're on; they are the caretakers
 12 of that land. The land owns them. And they're here
 13 trying to protect what is -- well, it's just the basis
 14 of their entire existence.
 15 So having said that as kind of an
 16 introduction, I'd like to remind you that whatever you
 17 put in the site certificate, if indeed you get a site
 18 certificate issued, is all that Idaho Power is going to
 19 be required to do.
 20 So when you don't have final plans for things
 21 like fire, and you say it's going to be developed after
 22 the fact, you are leaving all of these people very
 23 vulnerable because they had no input in what the final
 24 product looks like. It's my observation that you have
 25 accepted some very bare-bones kinds of plans, and say,

Page 45

1 We'll work it out later. Idaho Power is going around
 2 telling people, We'll work it out later.
 3 They got 31 issues from the weed folks in five
 4 counties that they have felt should be in that plan.
 5 Those things are not in the plan. And Idaho Power is
 6 telling people, they're telling our commissioners, We'll
 7 work it out later. We'll talk about it after the site
 8 certificate is issued.
 9 We all know that if people don't ask for a
 10 contested case now, by the time those things happen,
 11 it's too late. And all of these people that are
 12 concerned about it will have nothing. They wouldn't
 13 even be notified of what kinds of final plans get
 14 approved. So it's a pretty unbalanced kind of system.
 15 And a few things I just wanted to just comment
 16 about are notification of people. When you notify
 17 people within 250 feet of a transmission line that this
 18 line is going to go in, there are a whole lot of people
 19 that are being directly impacted who don't even know,
 20 who were never notified. It's not a just kind of
 21 notification.
 22 I am concerned about groundwater and the
 23 groundwater impacts. You heard something about that
 24 here from one of these farmers. But when you bring in a
 25 bunch of equipment and you start -- one thing, you



Ms. Annie Ray
5806 SE Rhone St
Portland, OR 97206

PORTLAND
OR 97206
16 AUG 2019
PM 3 L



Energy Facilities Siting Council
c/o Kelley Tapalawtha
Oregon Dept. Energy
530 Capital St. NE
Salem, OR 97301

RECEIVED

AUG 19 2019

DEPARTMENT OF ENERGY

9730183742 0009



August 5, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposal Order May 23, 2019.

Chair Beyeler and Members of the Council:

I am very concerned about the Boardman to Hemingway Transmission Project as it is proposed. My concerns are for the safety of myself and all of the citizens of La Grande if this line is permitted. My primary concerns are slope instability and wildfire hazard.

The proposed route sited to the west of La Grande is placed on a ridge noted to have instability and high risk for slides. The geologic study provided by Idaho Power references several studies (below).

Table H-2. USGS Quaternary Faults within 5 Miles of Project by County on page H-12 clearly shows that the project is placed right on an active fault in the West Grande Ronde Valley Fault Zone. In addition, in exhibit H, Geological Hazards and Soil Stability, Table B3: Soils Descriptions, Union County, much of the erosion hazard is rated "severe." Below is part of the report:

5.2 La Grande Area Slope Instability

As part of our study, we reviewed DOGAMI's open file report: Engineering Geology of the La Grande Area, Union County, Oregon, by Schlicker and Deacon (1971). The study identified several landslides in the areas west and south of La Grande. The majority of the landslide features mapped by Schlicker and Deacon (1971) were similarly mapped as landslides or alluvial fans in Ferns and others (2010). The current SLIDO database uses the feature locations mapped in Ferns and others (2010). While the two map sets generally agree, there are differences in the mapped limits of some landslide and alluvial fan areas, and there is one landslide area in Schlicker and Deacon (1971), near towers 106/3 and 106/4, which is not included in SLIDO or Ferns and others (2010). The Landslide Inventory in Appendix E includes mapped landslide and alluvial fan limits from both SLIDO and Schlicker and Deacon (1971).

This slope instability is not inconsequential to a project like this. Recall in 2014, Oso, Washington, was the site of a catastrophic mudslide as the result of logging disturbance of the soil upslope from the town combined with significant rainfall. This resulted in 43 fatalities. We must learn from previous mistakes in not heeding the geologists' warnings. The area down slope from the proposed B2H line lies the Grande Ronde Hospital and Clinics, which employs hundreds of people and is the critical access hospital for this region. La Grande High School and Central Elementary School are also positioned down slope from the proposed towers. At least 100 homes are positioned down slope of the proposed towers. According to "Engineering Geology of the La Grande Area, Union County, Oregon" maps published by Schlicker, and Deacon (1971), the ENTIRE area of the hillside is deemed a "landslide area" in the La Grande SE quadrangle. This is not a safe place for a transmission line.

The next significant hazard to our community is wildfire. Oregon is ranked 8th Most Wildfire Prone state in the United States according to Verisk Wildfire Risk analysis. La Grande is ranked in the top 50 communities in Oregon with the greatest cumulative housing-unit exposure to wildfire as referenced in "Exposure of human communities to wildfire in the Pacific Northwest," by Joe H. Scott, Julie Gilbertson-Day and Richard D. Stratton (available at http://pyrologix.com/ftp/Public/Reports/RiskToCommunities_OR-WA_BriefingPaper.pdf). Finally the proposed route is in the vicinity of Morgan lake, the highest risk area (#1) in Union County in terms of wildland-urban interface, according to the County's Community Wildfire Protection Plan, August 10, 2005.

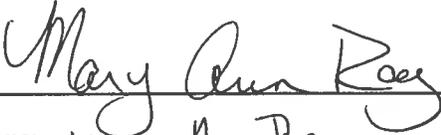
Cal Fire cites Pacific Gas and Electric equipment and power lines as the cause of numerous wildfires in the state in the last 2 years. This includes the Camp Fire in Butte County (2018), Tubbs Fire in Napa/Sonoma Counties (2017), Witch Fire in San Diego (2007), Valley Fire in Lake/Napa/Sonoma Counties (2015), Nuns Fire in Sonoma County (2017), which were all attributed to transmission.

The Boardman To Hemingway Transmission Line Project proposal places lines about 2000 feet or less than half a mile from the La Grande city limits, including medium density housing within the city as well as Grande Ronde Hospital. If a line from this proposed route were to spark a fire, La Grande residents would have little time to react. According to National Geographic, wildfires can move as fast as 6.7 mph in forests and 14 mph in grasslands. A fast-moving fire starting at the B2H lines could move to residential areas of La Grande and HOSPITAL in 10 minutes. This is frightening and an unacceptable risk for our citizens.

The current proposal for a Boardman to Hemingway transmission line does not adequately address the issue of landslides, basically by stating it will be mitigated somehow when the time comes to build. The proposal offers no analysis of wildfire risk, which is an unacceptable omission. All of the routes proposed are unsafe and create an unacceptable risk to the citizens of La Grande.

The Council should DENY the request for a site certificate.

Sincerely,



Name: Mary Ann Ray

Address:

~~5806 SE Aloha St~~
5806 SE Aloha St
Portland, OR 97206

TARDAEWETHER Kellen * ODOE

From: Rep Findley <Rep.LynnFindley@oregonlegislature.gov>
Sent: Wednesday, June 26, 2019 1:37 PM
To: B2H DPOComments * ODOE
Cc: Jordan Bice
Subject: B2H Project Public Comment
Attachments: B2H Public Testimony Letter.pdf

Dear Mr. Tardaewether,

Attached are Representative Lynn Findley's comments on the Boardman to Hemingway Project. If you have any questions, please feel free to reach out to our office.

Regards,

Tanner Lloyd
Legislative Director
Representative Lynn Findley – HD 60
503-986-1460 | H-475
Tanner.Lloyd@OregonLegislature.gov

LYNN P. FINDLEY
State Representative



DISTRICT 60
Baker, Grant, Harney
Malheur, and part of
Lake County

OREGON HOUSE OF REPRESENTATIVES

June 26, 2019

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St N.E.
Salem, OR 97301

Subject: Boardman to Hemingway Project Public Comment

Dear Mr. Tardaewether,

As clean energy standards take effect in Oregon and utilities move away from traditional sources like coal, electrical transmission upgrades are becoming increasingly important to our region's infrastructure. We are in need of a robust electrical grid to balance energy demand and intermittent wind and solar generation across multiple regions.

The Boardman to Hemingway (B2H) transmission line will help meet that need. I will support the permitting and construction of the project contingent upon a route change.

This project will benefit customers across the Pacific Northwest and Mountain West regions. It will deliver clean energy in the winter months to the Northwest and give the Northwest's independent energy generators and utilities a path to sell excess energy to Mountain West customers during the summer.

In addition to maximizing clean energy resources, B2H is a low-cost way to solve the constraints from population growth in the Pacific Northwest and the Mountain West. B2H will free up capacity on existing, lower-voltage transmission lines running through eastern Oregon. This will provide economic development opportunities creating jobs and expanding opportunities to my constituents.

Although there are many benefits, I am concerned with the preferred route Idaho Power chose as it directly contradicts the local land-use laws regarding farmland in Malheur County. These laws specifically prohibit the installation of transmission lines on farmland and interfere with fundamental agriculture practices such as irrigation and aerial application of pesticides and herbicides. Installing transmission lines in certain fields could render them useless and severely limit farmers' livelihoods.

Capitol Office: 900 Court St. NE, H-475, Salem, OR 97301 – Phone: 503-986-1460
District Office: 151 Court St. South, Suite 1, Vale, OR 97918 – Phone: 541-473-4029
Email: Rep.LynnFindley@OregonLegislature.gov

LYNN P. FINDLEY
State Representative



DISTRICT 60
Baker, Grant, Harney
Malheur, and part of
Lake County

OREGON HOUSE OF REPRESENTATIVES

I support the general concept of B2H and concur that there is a definite need to improve our electrical grid. However, my hope is that we can move forward without hurting our local farmers. If the route is changed to address these problems, the project will have my full support.

Please contact my office if you have further questions.

Sincerely,

Lynn P. Findley

KARIN POWER
STATE REPRESENTATIVE
DISTRICT 41
MULTNOMAH AND CLACKAMAS COUNTIES



RECEIVED
JUL 05 2019
Department of Energy

HOUSE OF REPRESENTATIVES

Members of the Energy Facility Siting Council:

Clean energy will make our state and the rest of the country safer, healthier and more prosperous. To get there, we need projects like the Boardman to Hemingway transmission line.

Many clean-energy resources are intermittent. Wind turbines only produce power when the wind is blowing. Solar panels only work when the sun is shining. Transmission projects like Boardman to Hemingway will help balance the system by moving clean energy from where it's produced to the customers who use it.

For example, wind and hydro plants in the Pacific Northwest produce plenty of clean energy in the summer. That's right when irrigators and air conditioners cause demand to peak in the Mountain West. However, existing lines between the two regions are already carrying as much power as they can. Boardman to Hemingway will relieve that constraint, adding approximately 1,000 megawatts of capacity in both directions. That will help energy companies like PacifiCorp and Idaho Power buy more clean energy from the Pacific Northwest and rely less on coal or natural gas, thus supporting the state of Oregon's carbon reduction goals.

And customers in my district will benefit in the winter time when our energy use peaks. We'll be able to buy clean solar energy from the desert Southwest or other resources to the east and south to heat our homes and businesses.

That's why transmission projects like Boardman to Hemingway are so important to the clean-energy future I and my legislative colleagues envision for Oregon and the nation. They make wind, solar and other clean energy sources available without sacrificing reliability or affordability. Please consider these benefits to our communities as you weigh the merits of Boardman to Hemingway, and vote to issue a site certificate for the project.

Thank you and please don't hesitate to contact me if you have any questions.

Sincerely,

State Representative Karin Power

TARDAEWETHER Kellen * ODOE

From: Crane Nicole <Nicole.Crane@oregonlegislature.gov>
Sent: Friday, June 28, 2019 12:12 PM
To: B2H DPOComments * ODOE
Subject: Letter of Support of B2H Transmission Line
Attachments: B2H Transmission Line.pdf

Kellen,

Please find the attached letter to the EFSC in support of the Boardman to Hemingway project from Representative Greg Smith.

Thank you,
Nicole



Nicole Crane

Legislative Director
Representative Greg Smith
Oregon House District 57
(O) (503) 986-1457
900 Court Street, Office H-482 | Salem OR, 97301
<https://www.oregonlegislature.gov/smithg>



The Honorable Greg Smith

Oregon House of Representatives
District 57

June 28, 2019

Members of the Energy Facility Siting Council,

As clean energy standards take effect in Oregon, and as utilities move away from traditional sources like coal, electrical transmission upgrades are becoming more important than ever. We need a more robust electrical grid to balance energy demand and intermittent wind and solar generation across multiple regions.

The Boardman to Hemingway (B2H) transmission line will help meet that need. We support the permitting and construction of the project.

Customers across the Pacific Northwest and Mountain West will benefit from the project. It will deliver clean energy in the winter months to the Northwest and give the Northwest's independent energy generators and utilities a path to sell excess energy to Mountain West customers during the summer. In addition to maximizing clean energy resources, B2H is the lowest-cost way to solve the constraints that could result from population growth in the Pacific Northwest and the Mountain West. B2H will also free up capacity on existing, lower-voltage transmission lines running through eastern Oregon. This will provide economic development opportunities that create jobs and expanded opportunities to our constituents.

Construction of B2H will lead to increased spending at businesses in eastern Oregon, bringing an immediate economic benefit to the area. The line will also generate more than \$4 million in property tax revenue every year.

Idaho Power, in its work to acquire permits for B2H, has demonstrated that it is a responsible corporate partner. For more than 10 years, the company has worked hard to find the most beneficial route for the line. This includes meeting with hundreds of our constituents, listening to their concerns and adjusting route options in response.

These are a few of the reasons we support B2H. We hope the Energy Facility Siting Council also recognizes that B2H will benefit customers, businesses and local governments in Oregon and vote to approve a site certificate for the Boardman to Hemingway transmission line as soon as possible.

Best Regards,

Representative Greg Smith

Wendy S. Rother
1701 1st St.
La Grande, OR
97850

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AUG 19 2019

DEPARTMENT OF ENERGY

FROM LAND ON SALE
117 AUG 2019 PM 4 L



Kellen Tardawether, Senior Siting Analyst
Oregon Energy Facility Siting Council
Oregon Dept. of Energy
550 Capitol St, NE
Salem, OR 97301

97301-374299



1701 1st Street
La Grande, OR 97850-1503
August 17, 2019

Kellen Tardaewether, Senior Siting Analyst
Oregon Energy Facility Siting Council
Oregon Department of Energy
550 Capitol St., NE
Salem, OR 97301

In re: Idaho Power Application for the Boardman to Hemingway (B2H) Transmission
Project September 28, 2018: Draft Proposal Order May 23, 2019
Slope Instability

Dear Chairman Beyeler and Council Members:

I was uncertain about moving into Oregon when we arrived here a year ago. However, I especially like living in La Grande and have become somewhat active with the Art Center East readings. Many La Grande residents have made me feel welcome. I also feel healthier here, especially because Oregon seems to be a healthy environment.

But I recently heard about B2H. This proposed transmission line construction frightens me. It reveals Idaho Power's blatant disregard for La Grande residents, wildlife ecosystems, and wildfire hazards. In fact, although the ***Exhibit G Materials Analysis, Attachment G-5 FRAMEWORK BLASTING PLAN*** appalls me, ***Idaho Power's neglect to consider the active fault in the West Grande Ronde Valley Fault Zone appalls me even more. It threatens all La Grande residents and wildlife.***

Its proposed route to the west of La Grande is on an unstable ridge noted for its high risk of landslides. Idaho Power's geologic study also references several studies (below) that illustrate this.

Table H-2: USGS Quaternary Faults within Five Miles of Project by County (on page H-12) is to be placed on **an active fault** in the West Grande Ronde Valley Fault Zone. Further, Exhibit H, Geological Hazards and Soil Stability, Table B3: Soils Descriptions, Union County, indicates much of the erosion hazard is rated "**severe.**" The following quotes part of this report:

5.2 La Grande Area Slope Instability

“As part of our study, we reviewed DOGAMI’s open file report: *Engineering Geology of the La Grande Area, Union County, Oregon*, by Schlicker and Deacon (1971). The study identified several landslides in the areas west and south of La Grande. The majority of landslide features mapped by Schlicker and Deacon (1971) were similarly mapped as landslides or alluvial fans in *Ferns and others* (2010).” Although the study’s two map sets agree overall, differences occur in the limits of some landslide and alluvial fan locations. Further, the *SLIDO* or *Ferns and others* (2010) neglects to include one landslide location near Towers 106/3 and 106/4 from Schlicker and Deacon (1971). However, Appendix E’s Landslide Inventory includes *SLIDO* and Schlicker and Deacon (1971) mapped landslide and alluvial fan limits.

This slope instability remains a crucial concern. In 2014, significant rainfall on the logging disturbance of soil upslope from the town resulted in a catastrophic mudslide in Oso, Washington. Forty-three persons died in this catastrophe. Ignoring geologists’ warning could result in a similar disaster here in La Grande, especially when the **Grande Ronde Hospital and Clinics (this region’s critical access unit employing hundreds of employees, lies down slope from the B2H line.**

In the same vein, La Grande High School and Central Elementary School are also down slope from the proposed towers, along with at least, 100 homes. Schlicker and Deacon’s 1971 maps, “Engineering Geology of the La Grande Area, Union County, Oregon, also deem the hillside’s **entire** area a “landslide area” in the La Grande SE quadrangle. **Constructing a transmission line there is a reckless endeavor.**

Next, ***Exhibit G Materials Analysis, Attachment G-5 FRAMEWORK BLASTING PLAN, DESIGN FEATURES fails to specify the “high-fire danger periods” and “extreme fire danger periods” in accordance with the Oregon Department of Forestry.*** Even though the Attachment (on page five at 3.3 Safety Procedures, 3.3.3 Fire Safety) provides that “Fire Suppression Personnel have been previously identified in the Fire Suppression and Prevention Plan as a “Watchman,” this wording remains insufficient to minimize fire risks.

Verisk Wildlife Risk analysis rates Oregon the **Eighth Most Wildfire Prone state in the United States.** Likewise, Joe H. Scott, Julie Gilbertson-Day, and Richard D. Stratton’s “Exposure of Human Communities to Wildfire in the Pacific Northwest” ranks La Grande among the **top Fifty Oregon communities with the highest “cumulative housing-unit exposure to wildfire.”**

According to *National Geographic Magazine*, wildfires may spread as fast as 6.7 miles per hour in forests and 14 miles-per-hour in grasslands. The B2H proposal puts lines about 2,000 feet or less than half a mile from La Grande’s city limits, including its

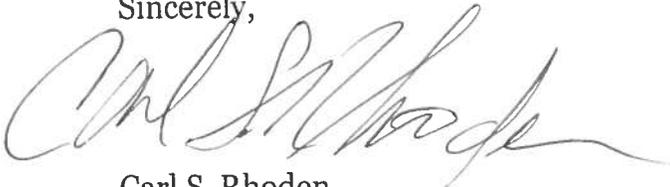
To Chairman Beyeler
Page Three

medium density housing and Grande Ronde Hospital. A fire moving from the B2H lines could spread to La Grande's residential areas and Hospital within 10 minutes. La Grande residents would have little time to react. .

Finally, because the present Boardman to Hemingway Transmission Line proposal fails to adequately resolve the strong potential of resulting landslides and because it fails to adequately analyze and protect against wildfire risk, **it remains unacceptable**, especially to those of us living within its immediate vicinity. Each route it proposes remains unsafe to La Grande citizens, their children, those recuperating and working in the Grande Ronde Hospital, and to the surrounding wildlife and ecosystems.

Please prohibit this reckless intrusion of our state. Please deny the request for a site certificate.

Sincerely,

A handwritten signature in black ink, appearing to read 'Carl S. Rhoden', written in a cursive style.

Carl S. Rhoden

TARDAEWETHER Kellen * ODOE

From: Joel Rice <joelrice@me.com>
Sent: Monday, June 17, 2019 11:24 AM
To: B2H DPOComments * ODOE
Subject: B2H Comments

JOEL RICE, MD
BLUE MOUNTAIN ASSOCIATES, LLC/GRANDE RONDE RECOVERY, LLC
Board Certified in GENERAL, GERIATRIC AND ADDICTION PSYCHIATRY
1101 I AVE
LA GRANDE, OR 97850
joelrice@me.com
PHONE: 541.962.0162 FAX: 541.962.0119

DATE: 6/17/19 PAGES: 3

RE: Destruction of Glass Hill Habitat by Idaho Power

TO: Darrel T. Anderson
Idaho Power CEO
Jeff Maffuccio
Facility Siting Coordinator
PO Box 70
Boise, Idaho 83707

CC: JMaffuccio@idahopower.com (and by signed letter)
Union County Commissioners commissioners@union-county.org
La Grande City Government - mayor@cityoflagrande.org
rstroke@cityoflagrande.org

I cannot begin to tell you how heartbroken I am that Idaho Power has decided, in a game of political chess with no attention to ecosystem habitat whatsoever, to divide the most pristine and most protected montane meadow and mixed conifer habitat in all of Union County with a habitat destroying high voltage transmission line, destroying much of my life work and leaving me demoralized or worse for the rest of my days. The proposed division of my property by a high voltage line has left me hopeless and in a state of shock.

At the tender age of 15 I decided that one of my life goals was to protect a minimum of 2000 acres from development and even natural resource extraction as part of my duty to God and the planet. It turns out that this is a hard thing to do when you start from scratch but I succeeded, with great economic loss and considerable risk and stress. I succeeded only to see Idaho Power rip this accomplishment out of my hands by dividing and conquering the only private land in Union County entirely protected from habitat erosion of any kind.

I have spent decades controlling weeds, thinning trees, seeding, planting trees and closing skidding trails on the only piece of property devoted solely to habitat development in perpetuity in Union County. The plan was to leave a permanent pristine habitat for the enjoyment and edification of the people of Union County. One montane meadow under threat of destruction from Idaho Power has the greatest established biological diversity of any montane meadow in Union County. I have spent over \$500,000 on thinning alone and countless hours and dollars on weed control. The land is coming back and on the verge of re-establishing an intact ecosystem for the first time in many years only to be raped by Idaho Power. The purity of nature despoiled by financial greed and politics.

I know every species of shrub, forb and grass on Glass Hill. I doubt the rapists ready to sully her have any awareness of the species diversity they are about to pillage. How can you destroy work of art when you don't even know the artist.

I have spent the last few years building a cabin by hand that looks over the ecological intact Winn Meadow. The massive construction project proposed by Idaho Power will destroy the ecology of the meadow and the view. Given my propensity to develop crushing migraine headaches under high voltage wires I doubt I will be able to return. My land is ruined for me. My life's work is ruined. More importantly it is permanently ruined for the people of Union County. There is already public access for hunting, mountain biking, hiking, skiing, snowshoeing, mushrooming etc. None of this will be possible in the future once Idaho Power rapes the land. And who would want to visit a rape victim with the expectation of enjoyment or peace. I certainly will not.

It was my hope to put a small cabin residence along Glass Hill Road for residents of Union County suffering from drug and/or alcohol addiction to establish the beginning of recovery in a peaceful setting connected with God and nature. My retirement plan was to manage this Union County resource for the victims of the Opiate Epidemic sweeping our country. This resource will also be despoiled by the high voltage wire and constant snapping of the electromagnetic field overhead. This was another life goal ripped from my hands by the greed of Idaho Power.

Hundreds of Union County residents utilize my property for hunting (enrolled in an ODFW program for public hunting access), hiking, horseback riding, mountain biking, mushrooming, classroom trips, picnics, Native American festivals etc. My hope, under threat of desecration by Idaho Power, was to preserve this public use in perpetuity.

I host a Native American "Sundance" festival due to my appreciation of what this festival means to many in recovery from drug and alcohol addiction. This wonderful event will also be raped and left for dead by Idaho Power greed.

My only recourse is to carefully document the damage inflicted by B2H in the form of a guided hiking trails with kiosks, a documentary movie, a website and possibly a museum located underneath the high voltage line itself. I will teach what such raping of the land does to habitat and what the taking of private property does to social organization. We will keep detailed maps available online documenting the spread of weeds, erosion and soil compaction. I hope to fund a \$1,000,000 position at OHSU dedicated to the study of ecological, psychological and social costs of Right of Ways. That is all I can do. It is hard to imagine that Idaho Power could in any fashion "make right" what they are doing to my peace of mind and my investments. I am prepared for a long legal and media fight in which Idaho Power explains why they decided to destroy the most protected and sensitive corridor of habitat in Union County. This will be my life's work now after retirement. My legacy for Union County will be one of a careful systematic documentation of habitat destruction instead of a careful, systematic restoration of said habitat. My nonprofit, memorial museum and B&Bs will insure that the rape of Glass Hill is not forgotten.

I am certain that Idaho Power is familiar with the work of Dr. Elinor Ostrom who has pioneered work on game theory and development of the commons for which she won the Nobel Prize. I am equally certain that Idaho Power is completely ignoring her scientific wisdom in deference to political expediency. This power line is likely unnecessary and if necessary could certainly have been positioned with less damage to Union County and without the taking and rape of my precious land.

Joel D. Rice, MD

Oregon Energy Facility Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E
Salem, OR 97301

Email: B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project (B2H) 9/28/2018; Draft Proposed Order 5/23/2019.

Dear Chair Beyeler and Members of the Council:

This letter is a public comment for the above referenced project. Specifically, this letter will discuss Idaho Power's compliance with Standard 345-022-0110 - Public Services, in Exhibit U (3.5.6.2 and 3.5.6.5) of the EFSC application for B2H to ODOE. The letter will discuss the impact potential wildfires caused by the B2H transmission line will have on the ability of public and private providers within the analysis area to provide fire protection.

The effect of transmission lines on wildfire impact in western states has been well documented. In California, PG&E lines have caused 5 of the 10 most destructive fires since 2015, producing a liability of over 30 billion for PG&E. When considering the impact of B2H's operation, residents of Union County find the similarities between La Grande and Paradise California, where the infamous Camp Fire struck in 2018, deeply concerning. La Grande and Paradise share similar elevations and populations, however, La Grande has several characteristics that make it significantly more vulnerable to the ravages of wildfire than Paradise. For instance, La Grande averages 18 inches of rain yearly while Paradise enjoys 55 inches. Additionally, the proposed line runs adjacent to La Grande, while the line causing the Camp Fire was 7 miles from Paradise. *Oregon's 2006 Communities at Risk Assessment* by the Oregon Department of Forestry cites a startling fact: **The fire risk of the wildland urban interface (WUI) in La Grande has been rated the #1 WUI fire risk in Oregon!**

There is no doubt that construction of the proposed B2H transmission line would significantly increase the risk of wildfire in our area. From Idaho Power's own Draft Protection Order (Exhibit U-3.5.6.2, p. U-24): "Most activities will occur during summer when the weather is hot and dry. Much of the proposed construction will occur in grassland and shrub-dominated landscapes where the potential for naturally occurring fire is high. Project construction-related activities, including the use of vehicles, chainsaws, and other motorized equipment, will likely increase this potential risk in some areas within the Site Boundary. Fire hazards can also be related to workers smoking, refueling, and operating vehicles and other equipment off roadways. Welding on broken construction equipment could also potentially result in the combustion of native materials near the welding site." Idaho Power recognizes this hazard but makes no consideration of it in its application.

There are several specifics to examine in an analysis of the proposed B2H line's effects on Union County's ability to provide fire protection services. Firstly, firefighting crews in our region are

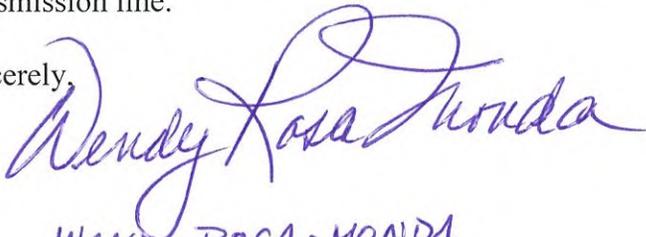
limited and volunteer. In their application, Idaho Power avers, "Most of the fire districts within the analysis area comprise volunteers, and in some cases, it takes considerable time to collect and mobilize an entire fire crew." As well, JB Brock, Union County emergency Manager states in Idaho Power's application "volunteer fire departments (rural fire protection districts) have a hard time finding volunteers due to budget constraints, similarly to budget constraints at the state and federal level. The wildland fires are getting bigger and cost more to fight" (U-1C-6). Fire crews in Union County are not equipped to handle potential wildfires generated by the proposed B2H transmission line.

The fact that fire crews are unstable, small and volunteer affects many aspects of their ability to respond to wildfires. Delayed response times, as noted in the quote from the previous paragraph, is one effect. Estimates of response time in the EFSC application are best-case scenarios. The estimate of 4 to 8 minutes as the response time in Union County (Table U-10) is far from even a best-case scenario (p. U-17). Residents that live on Morgan Lake Road concur that driving time is at least 10-15 minutes to the most accessible areas of the line from the base of Morgan Lake Road. Add to this estimate travel time from the La Grande Fire Station (approximately 7 minutes) and the time needed for individual fire fighters to travel to the Fire Station for a more realistic best-case scenario response time. The Paradise Camp Fire burned at a rate of over 1 acre per second!

Another factor in transmission line fires particularly impactful for small volunteer fire departments is the complications to firefighting introduced by the transmission lines themselves. According to Marvin Vetter, ODOF's Rangeland Coordinator, "local crews have no training in this scenario and will wait for the lines to be de-energized." JB Brock, Union County Emergency Manager, states, "The project (transmission line) could limit the ability on initial attack if fire fighters have to wait for power lines to be de-energized." (U-1C-6) These delays allow fires to grow even more.

How can communities struggling to maintain volunteer fire crews hope to address the overwhelming additional challenges and risks imposed by a project such as the B2H transmission line? Where is this addressed in Idaho Power's application and how can Idaho Power conclude that the proposed B2H transmission line is "not expected to have significant adverse impacts on fire protections services" (Exhibit U 3.5.6.2)? Considering the current capacities of fire protection services in Union County and the additional risks of wildfire imposed by the B2H transmission line, I urge you to act in accordance with state statute OAR 345-022-0110 and reject Idaho Power's application to construct the Boardman to Hemingway transmission line.

Sincerely,



Name

WENDY ROSA-MONDA

Address

905 LAKE AVE
LA GRANDE, OR

97850

August 5, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, Oregon 97301

Via EMAIL: B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposed Order.

Dear Chair Beyeler and Members of the Council:

APPLICANT FAILED TO INCLUDE ALL REQUIRED SOURCES OF NOISE IN THEIR MODELING OF NOISE IMPACTS OF DEVELOPMENT

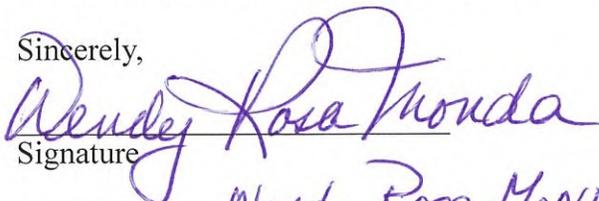
Idaho Power did not include any of the items listed in OAR 340-035-0035(l)(b)(B)(ii), which are only exempt from the noise measurement when the development occurs on a previously used site. When establishing ambient noise level for a new development on a site not previously used, it states: "Sources exempt from the requirements of section (l) of this rule, which are identified in subsections (5)(b) - (f), (j), and (k) of this rule, shall not be excluded from this ambient measurement."

The applicant's noise modeling only includes the noise generated from the transmission line itself. Noise modeling must be corrected to include (b) Warning Devices, (c) sounds created by road vehicles, (d) Sounds from the operation of any equipment or facility of a surface carrier engaged in interstate commerce by railroad to the extent that such equipment or facility is regulated by pre-emptive federal regulations as set forth in Part 201 of Title 40 of the Code of Federal Regulations, promulgated pursuant to Section 17 of the Noise Control Act of 1972, 86 Stat. 1248, Public Law 92-576 ; (e) bells, chimes, or carillons; (f) aircraft subject to pre-emptive federal regulations and (k) sounds created by the operation of road vehicle auxiliary equipment.

The application is incomplete. Without having the information regarding these additional noise sources, the department and the siting council lack the information regarding how many noise sensitive properties are impacted and by how much.

A proposed order cannot be issued until the developer submits all the information regarding the noise impacts of this development. This information must be available to decide if the standard is met or if it can be met with additional site conditions.

Sincerely,


Signature

Printed Name: Wendy Rosa-MONDA

Mailing Address: 905 LAKE AVE

LA GRANDE, OR

97850



Oregon Department of Energy and the Energy Facility Siting Council

Public Hearing on the Draft Proposed Order
for the Boardman to Hemingway Transmission Line
June 18-20 and June 26-27, 2019, 4:30-8 p.m.
Public Written or Oral Testimony Registration

Name (mandatory) Michael R. Rosenbaum

Mailing Address (mandatory) 1402 1st St. Apt. A
La Grande, OR 97850

Phone Number (optional) (541) 963-4828 Email Address (optional) chafmeets@egfmc.la.or.us

Today's Date: 06/20/2019

Do you wish to make oral public testimony at this Hearing: Yes No

Written comments can also be submitted today.

All written comments must be received by the deadline, July 23, 2019, 5 p.m. PDT to:

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street NE
Salem, OR 97301
Fax: 503-378-6457
Email: B2H.DPOComments@oregon.gov

Note: by submitting written or oral testimony, you will receive a notice from the Oregon Department of Energy at a future date of the opportunity to request party status in a contested case hearing on the proposed facility.

Written Testimony

(Please print legibly – Use the back for additional space if needed. Additional written comments may be attached to this card.)

Page 38

1 massive construction trucks -- that is
 2 Modelaire/Hawthorne Loop -- but to serve the hospital
 3 when needed for the residents of 37 homes of men, women,
 4 and children who walk -- I might add, there are no
 5 sidewalks on that loop -- or drive daily, a neighborhood
 6 which you could destroy, seemingly without giving it
 7 another thought. Thank you.
 8 I will be providing written testimony another
 9 time.
 10 HEARING OFFICER WEBSTER: Thank you.
 11 MS. ADRIAN HENDERSON: Hello. I'm Adrian
 12 Henderson. Thank you very much for letting me speak
 13 today. I live at 219 Harrison in La Grande, Oregon.
 14 Thank you for allowing me to testify.
 15 You've already heard about the problems with
 16 noise and invasive weeds. I am concerned with the lack
 17 of requiring Idaho Power to make sure weeds do not go to
 18 seed or make them clean their equipment before it leaves
 19 the road or moves from one person's property to another.
 20 As a member of the Chickasaw/Choctaw/Umatilla
 21 tribe, I want to remind you of how important this is to
 22 the tribes because of how it impacts our first foods.
 23 Comments were provided by the tribes about this.
 24 You also heard from the developer that they
 25 would be working with the counties to make more changes

Page 39

1 to their weed plan. What I'm concerned about is that
 2 the only thing Idaho Power is required to do are the
 3 things that you include in the site certificates. The
 4 site certificates need to state that Idaho Power must
 5 comply with the state rules that require them to protect
 6 the land from seeds being spread from their transmission
 7 line, as long as the lines are in place. This is a
 8 major problem, and why we need to be listening to the
 9 people who are here today.
 10 A statement by the developer that they plan to
 11 fix something later means nothing if you do not include
 12 it in the site certificate. The public will no longer
 13 have the right to appeal what they are doing; in fact,
 14 they don't even need to receive the information about
 15 what the developer is actually including in their weed
 16 plans.
 17 This is why you will be receiving in writing
 18 comments from me and others in this audience about what
 19 needs to be changed.
 20 I hope you will address the many problems you
 21 are hearing about or denying Idaho Power permission to
 22 build a transmission line that will cause huge damages,
 23 increase our electric costs, but give us nominal
 24 benefits.
 25 Unlike Idaho Power customers, we are not

Page 40

1 having blackouts, equipment failures, or other problems
 2 that this utility company are having. Maybe they would
 3 have so many more problems if they would develop
 4 energy -- so many less problems if they would develop
 5 energy resources in Idaho instead of moving in hundreds
 6 of miles of high-voltage transmission lines to get it to
 7 their customers.
 8 Thank you very much. Appreciate it.
 9 HEARING OFFICER WEBSTER: Thank you.
 10 Following Mr. Rosenbaum, we will hear from
 11 Lois Barry.
 12 MR. MICHAEL ROSENBAUM: A little bit of an
 13 aside here, interestingly enough, I received an email
 14 from my insurance company today: "Help protect your
 15 home from wildfire. Find out how. Dear Michael,
 16 Wildfires can occur suddenly with little to no warning.
 17 We want to help you stay safe and prepared. Review the
 18 resources below to learn how to protect yourself and
 19 your property from wildfire."
 20 I would like to thank the Council for this
 21 opportunity to present testimony to the EFSC.
 22 My name is Michael R. Rosenbaum. I reside at
 23 1402 First Street in La Grande. I first moved to
 24 La Grande in 1969, and I have lived here for a total of
 25 27 years, having left and returned twice. I work

Page 41

1 seasonally for a federal agency and am currently a
 2 member of the City of La Grande committee dedicated to
 3 wildfire awareness, protection, and preparedness. The
 4 views expressed here are my own, and do not represent
 5 either my employer or the committee of which I'm a
 6 member.
 7 According to Wikipedia, there are a total of
 8 946 incorporated and unincorporated cities in Oregon.
 9 In the 2018 study "Exposure of human communities to
 10 wildfire in the Pacific Northwest," researchers Joe H.
 11 Scott and Julie Gilbertson-Day of Pyrologix and
 12 Richard D. Stratton of the USDA Forest Service, ranked
 13 La Grande number 40 of 50 communities with the highest
 14 community exposure ranking with 5,426 housing units
 15 exposed to wildfire and a burn probability rate of 138.
 16 You will note that La Grande is edged by open
 17 grasslands and timber on its southwest, west, and
 18 northwest flanks, two of these three directions housing
 19 the proposed Boardman to Hemingway transmission line.
 20 The June 30, 2016, revision of the Union
 21 County Wildfire Protection Plan, the CWPP, details in
 22 the Union County Risk Assessment Summary of the
 23 Northeast Oregon Multi-Jurisdictional Natural Hazard
 24 Mitigation Plan, wildfire that either did encroach or
 25 had the potential to put La Grande at risk. It details

Page 42

1 as well conditions that put the community's probability
 2 of and vulnerability to a future hazard event rating as
 3 high.
 4 Note, this rating did not include any events
 5 that might be caused by or influenced by a 500-kV power
 6 line or a failure thereof in close proximity to
 7 La Grande. This issue will be taken up later in the
 8 testimony.
 9 1973: The Rooster Peak Wildfire, 6,400 acres,
 10 encroachment into the southwest city limits, structures
 11 lost and the city threatened.
 12 1986: The Frizzel Wildfire, 250 acres burned
 13 in the Mt. Emily Wildfire-Urban interface, northwest of
 14 La Grande.
 15 2001: The Boulevard Wildfire, 150 acres in
 16 the La Grande City watershed southwest of the city.
 17 Fuel conditions in this location remain a substantial
 18 hazard and this fire could have presented a "major
 19 event" given less favorable conditions.
 20 In a brochure issued by the La Grande
 21 Wildland-Urban Interface Committee, there were
 22 approximately 34 human-caused and approximately 52
 23 lightning-caused wildfires in the last 10 years in close
 24 proximity to La Grande, several of which were on or near
 25 to the proposed route or routes of the Boardman to

Page 43

1 Hemingway power line.
 2 Let us look briefly at weather patterns in
 3 La Grande. From the weatherspark.com website, the
 4 predominant wind direction from mid-March to mid-October
 5 is from the west. However, there are extended
 6 exceptions to this. In 2017 and 2018, smoke from remote
 7 wildfires in British Columbia, Montana, and Washington
 8 were driven into the Grande Ronde Valley by north and
 9 northeast winds. The limited visibility could have
 10 hampered early wildfire detection. It did affect
 11 livability and health issues.
 12 Also note that the majority of thunderstorms
 13 are driven into this area of the Blue Mountains by
 14 southwest and west winds.
 15 In a plot from the Department of Atmospheric
 16 Sciences at the University of Utah, the strongest area
 17 winds from 16 to 20 miles per hour and from 20 miles per
 18 hour to infinity are from the south. The winds were
 19 plotted from January 2017 to June 2019. The seasons of
 20 the highest winds were not noted. Additionally, these
 21 stronger winds did occur, to a lesser extent, from the
 22 west and northwest. The Western Regional Climate Center
 23 notes that from 1992 to 2002 the predominant wind
 24 direction from April to September was northwest with
 25 southerly winds October to the end of the year.

Page 44

1 Referring back to the Union County Risk
 2 Assessment Summary, windstorms not attributable to
 3 outflow from thunderstorms are not infrequent, but tend
 4 to occur in the late fall and winter. Exceptions to
 5 this are June 1998 with gusts to 50 miles an hour,
 6 June 2001 with gusts to 60 miles per hour, July 22,
 7 2004, with 70 miles-per-hour winds, and August of 2004
 8 with gusts to 54 miles per hour. There may be other
 9 incidents which occurred after these dates.
 10 Again, please note that these wind events are
 11 not generally attributable to outflow from nearby
 12 thunderstorms, but it is general knowledge that
 13 cumulonimbus-generated lightning with resultant wildfire
 14 can create their own winds and patterns such as fire
 15 whirls and long-distance transport of spotting, burning
 16 material.
 17 Thus, the power lines which are the subject of
 18 this hearing could be affected by wildfire not generated
 19 by line failure and from a remote ignition source. And
 20 once involved, this grid could further amplify wildfire
 21 severity and possibly drive the flame front into La
 22 Grande.
 23 Let us turn to the subject of wildfire
 24 detection and the danger posed to the City of La Grande
 25 by a proximate transmission line. There are three

Page 45

1 lookout towers which could early detect a wildfire start
 2 either generated by a power line failure, line drop, or
 3 a wildfire encroaching on the transmission line route.
 4 They are Johnson Rock on the Wallowa-Whitman National
 5 Forest southwest of La Grande, Mt. Ireland on the
 6 Wallowa-Whitman northwest of Baker City, and Table Rock
 7 on the Umatilla National Forest north of La Grande in
 8 Washington.
 9 Other means of detection include aircraft
 10 flyovers, public reporting, strike indicators, and
 11 satellites.
 12 The Camp Fire of 2018 which forced evacuation,
 13 and eventually engulfed, the City of Paradise,
 14 California, and forced evacuation of Magalia,
 15 Centerville, Pulga, and three other cities and
 16 threatened seven other communities was not early
 17 detected. The failure of PG&E transmission lines was
 18 caused in part by wind speeds of up to 72 miles per
 19 hour. A local lookout, which may have been able to
 20 early detect the fire start, had been decommissioned.
 21 Realistically, Johnson Rock lookout above
 22 Vey's Meadow and the Grande Ronde River would have the
 23 greatest chance to report a wildfire start. But would
 24 there be enough time given possible extreme fire
 25 behavior, possible transmission line failure causing a

Page 46

1 fire start, possible limited visibility preventing early
 2 detection, possible spotting from a remote ignition, and
 3 other variables bringing wildfire to the transmission
 4 line route to suppress the incident in time to stop
 5 encroachment into the city limits and to save structures
 6 in the Wildland-Urban Interfaces that are also in
 7 proximity to the transmission line route?
 8 These factors must be taken into account
 9 before approval and construction of the Boardman to
 10 Hemingway system.
 11 In Oregon on June 14 --
 12 HEARING OFFICER WEBSTER: Mr. Rosenbaum, we
 13 are out of time.
 14 MR. MICHAEL ROSENBAUM: I have got another
 15 minute. Okay?
 16 HEARING OFFICER WEBSTER: Okay.
 17 MR. MICHAEL ROSENBAUM: In Oregon, on June 14,
 18 2019, according to "The Statesman Journal," Pacific
 19 Power, with approximately 600,000 end-user customers,
 20 proposed to shut down electricity during extreme weather
 21 events, which will help limit the effects of the grid on
 22 wildfire. It is likely that other Oregon power
 23 companies with local end users will follow suit, in my
 24 estimation.
 25 In California, PG&E has recently cut power in

Page 47

1 extreme weather conditions in several northern
 2 California counties, including Butte County where
 3 Paradise is located.
 4 Note that the Soda fire in 2015 in southwest
 5 Idaho and Oregon was not caused by a failure in Idaho
 6 Power's system, but did require the company to replace
 7 2.5 miles of transmission line. I ask: What is the
 8 guarantee to the people of La Grande, Oregon, that Idaho
 9 Power, with no local end-user customers, will shut power
 10 generation in the event of red flag warnings locally for
 11 extreme conditions, including low RHs of single digits
 12 to the low 20 percents, lightning activity levels of 4
 13 and higher, extended high temperatures, severe
 14 thunderstorms with attendant high outflow winds?
 15 I haven't gone into the issue of the changing
 16 climate of the Blue Mountains and also the frequent
 17 changes in weather patterns from year to year during
 18 fire season. The estimate in the Blue Mountains is the
 19 temperatures could increase 4 1/2 to 6 1/2 degrees over
 20 the next 30 years.
 21 In conclusion, I propose that the Boardman to
 22 Hemingway transmission line, with the suggested routes
 23 in close proximity to the City of La Grande and
 24 structures in the Wildland-Urban Interface, would
 25 contribute to the vulnerability and the high probability

Page 48

1 of wildfire intrusion and exposure. It would put values
 2 at risk with a failed line on the ground or involvement
 3 of transmission lines and support structures in a
 4 wildfire. Values such as firefighting personnel and
 5 equipment, homes, structures, including medical
 6 facilities, businesses, infrastructure, private
 7 timberlands and pasture.
 8 If the system is not a causative factor in a
 9 wildfire start, it could be a contributing factor in the
 10 rapid acceleration of unchecked wildfire spread.
 11 Should you approve this transmission line
 12 route through the Blue Mountains, and specifically in
 13 proximity to La Grande, you are quite literally playing
 14 with fire.
 15 HEARING OFFICER WEBSTER: Thank you.
 16 After we hear from Ms. Barry, we will hear
 17 from John Anderson.
 18 MS. LOIS BARRY: I'm Lois Barry, L-o-i-s,
 19 B-a-r-r-y. I live at 60688 Morgan Lake Road in
 20 La Grande, which appropriately enough is the 150 acres
 21 that burned in a 1973 forest fire that Mike Rosenbaum
 22 just referred to. That is the fire that endangered the
 23 entire town of La Grande and especially the hospital.
 24 At the moment, the current proposed Mill Creek
 25 route of the B2H would put three towers right across the

Page 49

1 middle of that 150 acres of 40-foot high pine trees that
 2 have regrown in the last 50 years. That was an aside.
 3 Now, I have two statements. I realize that
 4 the mission of the EFSC committee is to choose a route
 5 for the B2H and not to decide if it's a good project.
 6 Even so, you should know that the B2H project has a
 7 basic flaw. It was discussed as early as 2006, and
 8 those plans have not changed in 13 years: It is no
 9 longer needed. And if it were needed, the BLM
 10 environmentally-preferred route should be the route of
 11 choice. If you approve the site application for the B2H
 12 now, whatever route is chosen, will become the site of a
 13 \$1.2 billion stranded asset.
 14 My second point. I'm a retired professor. I
 15 taught research writing and critical thinking for
 16 25 years. And I have carefully read several relevant
 17 sections of Idaho Power's application. It's a
 18 substandard piece of work. It's replete with obvious
 19 inaccuracies and unsupported conclusions.
 20 And here is a clear example of a factual
 21 inaccuracy: Page 62 refers to, quote, "extensive work
 22 in the siting study of the Morgan Lake Alternative,"
 23 unquote. I doubt it was extensive because it's
 24 completely inaccurate. Morgan Lake Park is described as
 25 204 acres, containing one lake, which is developed with

I would like to thank the Council for this opportunity to present testimony to the EFSC.

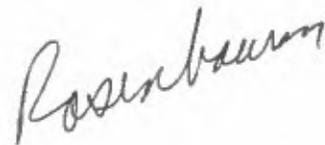
My name is Michael R. Rosenbaum. I reside at 1402 1st Street, La Grande. I first moved to La Grande in 1969 and have lived here a total of 27 years having left and returned twice. I work seasonally for a federal agency and am currently a member of a City of La Grande committee dedicated to wildfire awareness, protection and preparedness. The views expressed here are my own and do not represent either my employer or the committee of which I'm a member.

According to Wikipedia there are a total of 946 incorporated and unincorporated cities in Oregon. In the 2018 study "Exposure of human communities to wildfire in the Pacific Northwest" researchers Joe H. Scott and Julie Gilbertson-Day of Pyrologix and Richard D. Stratton of the USDA Forest Service ranked La Grande number 40 of 50 communities with the highest community exposure ranking with 5,426 housing units exposed to wildfire and a burn probability rank of 138. You will note that La Grande is edged by open grasslands and timber on its Southwest, West and Northwest flanks, two of these three directions housing the proposed Boardman to Hemingway Transmission Line.

The June 30, 2016 revision of the Union County Wildfire Protection Plan (CWPP) details in the Union County Risk Assessment Summary of the Northeast Oregon Multi-Jurisdictional Natural Hazard Mitigation Plan wildfire that either did encroach or had the potential to put La Grande at risk. It details as well conditions that put the community's probability of and vulnerability to a future hazard event rating as high. Note: this rating did not include any events that might be caused by

or influenced by a 500 kv powerline or failure thereof in close proximity to La Grande. This issue will be taken up later in this testimony.

1973: The Rooster Peak Wildfire. 6400 acres. Encroachment into the Southwest city limits. Structures lost and the city threatened.

A handwritten signature in cursive script that reads "Rosenbaum".

1986:The Frizzel Wildfire.250 acres burned in the Mt. Emily Wildfire-Urban Interface.Northwest of La Grande.

2001:The Boulevard Wildfire.150 acres in the La Grande City Watershed Southwest of the city.Fuel conditions in this location remain a substantial hazard and this fire could have presented a "major event" given less favorable conditions.

In a brochure issued by the La Grande Wildland-Urban Interface Committee there were approximately 34 human caused and approximately 52 lightning caused wildfires in the last ten years in close proximity to La Grande, several of which were on or near to the proposed route(s) of the Boardman to Hemingway powerline.

Let us look briefly at weather patterns in La Grande.From the weatherspark.com website the predominant wind direction from mid-March to mid-October is from the West.However there are extended exceptions to this.In 2017 and 2018 smoke from remote wildfires in British Columbia, Montana and Washington were driven into the Grande Ronde Valley by North and Northeast winds.The limited visibility could have hampered early wildfire detection.It did affect livability and health issues.Also note that the majority of thunderstorms are driven into this area of the Blue Mountains by Southwest and West winds.

In a plot from the Department of Atmospheric Sciences, The University of Utah, the strongest area winds from 16-20 miles per hour and from 20 miles per hour to infinity are from the South.The winds were plotted from January, 2017 to June, 2019 The seasons of the highest winds were not noted.Additionally these stronger winds did occur, to a lesser extent from the West/Northwest.The Western Regional Climate Center notes that from 1992 to 2002 the predominant wind direction from April to September was NW with southerly winds from October to the end of the year.

Referring back to the Union County Risk Assessment Summary windstorms not attributable to outflow from thunderstorms are not infrequent but tend to occur in late fall and winter. Exceptions to this are June, 1998 with gusts to 50 mph, June, 2001 with gusts to 60 mph, July 22, 2004 with 70 mph winds, August, 2004 with gusts to 54 mph. There may be other incidents which occurred after these dates. Again note that these wind events are not generally attributable to outflow from nearby thunderstorms but it is general knowledge that cumulo-nimbus generated lightning with resultant wildfire can create their own winds and patterns such as fire whirls and long-distance transport of spotting burning material. Thus the powerlines which are the subject of this hearing could be affected by wildfire not generated by line failure and from a remote ignition source. And once involved this grid could further amplify wildfire severity and possibly drive the flame front into La Grande.

Let us turn to the subject of wildfire detection and the danger posed to the City of La Grande by a proximate transmission line. There are three lookout towers which could early detect a wildfire start either generated by a powerline failure, line drop or a wildfire encroaching on the transmission line route. They are Johnson Rock on The Wallowa Whitman National Forest SW of La Grande, Mt. Ireland on the Wallowa Whitman NW of Baker City and Table Rock on the Umatilla National Forest north of La Grande in Washington. Other means of detection include aircraft flyovers, public reporting, strike indicators and satellites.

The Camp Fire of 2018 which forced the evacuation (and eventually engulfed) the City of Paradise, CA and forced evacuation of Magalia, Centerville, Pulga and 3 other cities and threatened 7 other communities was not early detected. The failure of PG&E transmission lines was caused in part by wind speeds of up to 72 miles per hour. A local lookout which may have been able to early detect the fire start had been decommissioned. Realistically Johnson Rock L.O. above Vey's Meadow and the Grande Ronde River would have the greatest chance to

report a wildfire start but would there be enough time given possible extreme fire behavior, possible transmission line failure causing a fire start, possible limited visibility preventing early detection, possible spotting from a remote ignition and other variables bringing wildfire to the transmission line route, to suppress the incident in time to stop encroachment into the city limits and to save structures in the Wildland-Urban Interfaces that are also in proximity to the transmission line route?

These factors must be taken into account before approval and construction of The Boardman to Hemingway system.

→ In Oregon on June 14, 2019 according to *The Statesman Journal* Pacific Power with approximately 600,00 end-user customers proposed to shut down electricity during extreme weather events which will help limit the effects of the grid on wildfire. It is likely that other Oregon power companies with local end-users will follow suit (in my estimation).

In CA PG&E has recently proactively cut power in extreme weather conditions in several Northern California counties: Napa, Solano, Yolo and several others including Butte County where Paradise is located.

Note that the Soda Fire in 2015 in Southwest Idaho and Oregon was not caused by a failure in Idaho Power's System but did require the company to replace 2.5 miles of transmission line. What is the guarantee to the people of La Grande, OR that Idaho Power with no local end-user customers will shut power generation in the event of Red Flag warnings locally for extreme conditions including low rh's in the range of single digits to the low 20 percents, Lightning Activity Levels (LAL's) of 4 and higher, extended high temperatures, severe thunderstorms with attendant high outflow winds?

I have not gone into the issue of the changing climate in the Blue Mountains and also the frequent changes in weather patterns from year to year during fire season. A recent USFS

estimate could see temperature increases in the Blue Mountains over the next 30 years in the range of 4.5 to 6.5 degrees. There may be other unforeseen changes which could affect the viability of the transmission line.

I propose that the Boardman to Hemingway transmission line with the suggested routes in close proximity to the City of La Grande and structures in the Wildland-Urban Interface would contribute to the vulnerability and the high probability of wildfire intrusion and exposure. It would put values at risk with a failed line on the ground or involvement of the transmission lines and support structures in a wildfire. Values such as firefighting personnel and equipment, homes, structures including medical facilities, businesses, infrastructure, private timberlands and pasture. If the system is not a causative factor in a wildfire start it could be a contributive factor in the rapid acceleration of unchecked wildfire spread.

Should you approve this transmission line route through the Blue Mountains and specifically in proximity to La Grande you are quite literally playing with fire.

Doug Ross
407 main
LaGrande
OR 97850

POSTAGE WILL BE PAID BY ADDRESSEE

17 AUG 2019 PM 4 L



RECEIVED

AUG 19 2019

DEPARTMENT OF ENERGY

Energy Facilities Siting Council
c/o Kellen Tardewetter, Senior Siting Analyst
Oregon Dept of Energy
550 Capital St NE
Salem

5791R-974299



August 5, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposal Order May 23, 2019.

Chair Beyeler and Members of the Council:

I am very concerned about the Boardman to Hemingway Transmission Project as it is proposed. My concerns are for the safety of myself and all of the citizens of La Grande if this line is permitted. My primary concerns are slope instability and wildfire hazard.

The proposed route sited to the west of La Grande is placed on a ridge noted to have instability and high risk for slides. The geologic study provided by Idaho Power references several studies (below).

Table H-2. USGS Quaternary Faults within 5 Miles of Project by County on page H-12 clearly shows that the project is placed right on an active fault in the West Grande Ronde Valley Fault Zone. In addition, in exhibit H, Geological Hazards and Soil Stability, Table B3: Soils Descriptions, Union County, much of the erosion hazard is rated "severe." Below is part of the report:

5.2 La Grande Area Slope Instability

As part of our study, we reviewed DOGAMI's open file report: Engineering Geology of the La Grande Area, Union County, Oregon, by Schlicker and Deacon (1971). The study identified several landslides in the areas west and south of La Grande. The majority of the landslide features mapped by Schlicker and Deacon (1971) were similarly mapped as landslides or alluvial fans in Ferns and others (2010). The current SLIDO database uses the feature locations mapped in Ferns and others (2010). While the two map sets generally agree, there are differences in the mapped limits of some landslide and alluvial fan areas, and there is one landslide area in Schlicker and Deacon (1971), near towers 106/3 and 106/4, which is not included in SLIDO or Ferns and others (2010). The Landslide Inventory in Appendix E includes mapped landslide and alluvial fan limits from both SLIDO and Schlicker and Deacon (1971).

This slope instability is not inconsequential to a project like this. Recall in 2014, Oso, Washington, was the site of a catastrophic mudslide as the result of logging disturbance of the soil upslope from the town combined with significant rainfall. This resulted in 43 fatalities. We must learn from previous mistakes in not heeding the geologists' warnings. The area down slope from the proposed B2H line lies the Grande Ronde Hospital and Clinics, which employs hundreds of people and is the critical access hospital for this region. La Grande High School and Central Elementary School are also positioned down slope from the proposed towers. At least 100 homes are positioned down slope of the proposed towers. According to "Engineering Geology of the La Grande Area, Union County, Oregon" maps published by Schlicker, and Deacon (1971), the ENTIRE area of the hillside is deemed a "landslide area" in the La Grande SE quadrangle. This is not a safe place for a transmission line.

The next significant hazard to our community is wildfire. Oregon is ranked 8th Most Wildfire Prone state in the United States according to Verisk Wildfire Risk analysis. La Grande is ranked in the top 50 communities in Oregon with the greatest cumulative housing-unit exposure to wildfire as referenced in "Exposure of human communities to wildfire in the Pacific Northwest," by Joe H. Scott, Julie Gilbertson-Day and Richard D. Stratton (available at http://pyrologix.com/ftp/Public/Reports/RiskToCommunities_OR-WA_BriefingPaper.pdf). Finally the proposed route is in the vicinity of Morgan lake, the highest risk area (#1) in Union County in terms of wildland-urban interface, according to the County's Community Wildfire Protection Plan, August 10, 2005.

Cal Fire cites Pacific Gas and Electric equipment and power lines as the cause of numerous wildfires in the state in the last 2 years. This includes the Camp Fire in Butte County (2018), Tubbs Fire in Napa/Sonoma Counties (2017), Witch Fire in San Diego (2007), Valley Fire in Lake/Napa/Sonoma Counties (2015), Nuns Fire in Sonoma County (2017), which were all attributed to transmission.

The Boardman To Hemingway Transmission Line Project proposal places lines about 2000 feet or less than half a mile from the La Grande city limits, including medium density housing within the city as well as Grande Ronde Hospital. If a line from this proposed route were to spark a fire, La Grande residents would have little time to react. According to National Geographic, wildfires can move as fast as 6.7 mph in forests and 14 mph in grasslands. A fast-moving fire starting at the B2H lines could move to residential areas of La Grande and HOSPITAL in 10 minutes. This is frightening and an unacceptable risk for our citizens.

The current proposal for a Boardman to Hemingway transmission line does not adequately address the issue of landslides, basically by stating it will be mitigated somehow when the time comes to build. The proposal offers no analysis of wildfire risk, which is an unacceptable omission. All of the routes proposed are unsafe and create an unacceptable risk to the citizens of La Grande.

The Council should DENY the request for a site certificate.

Sincerely,

Douglas Bradford Ross

Name: Doug Ross

Address: 407 Main Ave
La Grande, OR. 97850

As a long term LaGrande resident I do not understand why we have to bear all the risks for this project when there is no benefit to the residents of Union County!

PLEASE RETURN THIS FORM TO THE COUNCIL ASSISTANT

*See reverse for tips on giving testimony

ENERGY FACILITY SITING COUNCIL (EFSC)

Date: 6-20-19 Location: LaGrande
REGISTRATION FOR PUBLIC COMMENT

Name: Douglas Ross
Address: 407 Main Ave, LaGrande OR 97850
I represent (if applicable) Ross Construction
Print your name OR your organization/business name.

Send me future notifications about Council meetings via email.
My email address is: _____

I wish to address the Energy Facility Siting Council and/or

I wish to submit the following written comment:

I see no need for this Power Line,
it will be outmoded before it is built.
There are other alternatives to spending
all this money on such a large infrastructure.
Money would be better spent on alternative
energy promotion in Idaho Power service
areas. As a taxpayer I see this as a waste
of public money that government does not have!

PLEASE NOTE: If there are a large number of speakers, it may be necessary to limit the amount of time each speaker is allowed.

ESTERSON Sarah * ODOE

From: Tamson Ross <rosstc@eou.edu>
Sent: Thursday, August 22, 2019 4:49 PM
To: B2H DPOComments * ODOE
Subject: [Fortimail Spam Detected] Stop B2H!!

August 17, 2019

Kellen Tardaewether, Senior Siting Analyst

Oregon Department of Energy

550 Capitol St. NE

Salem, Oregon 97301

email: B2H.DPOComments@Oregon.gov

APPLICANT FAILED TO INCLUDE A SERIOUS ANALYSIS OF NON EFU ROUTES REQUIRED BY ORS 215.

Exhibit K, 4.1.1.4 Non-EFU Alternatives.

The applicant states that “The proposed EFU avoidance route provides substantially the most direct route between the Project endpoints while avoiding EFU lands where possible. They also claim that the evaluation they did met the standard of being reasonable by virtue of being fair, proper, just, moderate and suitable under the circumstances. If their statements were actually accurate, the preferred route and alternate route proposed in the application for a site certificate would meet the requirements of ORS 215.275 AND OAR 345-022-0030.

Unfortunately, the application does not support Idaho Power's stated results for the following reasons:

- The applicant failed to do a robust evaluation of the alternative routes and provided practically no analysis of the “No Action” alternative.
- The applicant failed to identify all land meeting the definition of “farm” land.
- The proposed route does not meet a test of being a “reasonable” route as defined by *Friends of Parrett Mountain v Northwest Natural Gas Co.* 336 Or. 93, 108 (2003) due to the fact that it lacks “fairness”, is not “just, moderate, or suitable under the circumstances”. The proposed route fails to utilize available public lands and instead places the burden of impacts of the transmission line on unwilling private landowners.

Morrow and Malheur Counties are the only ones where the transmission line use of public land as opposed to private land is roughly equivalent to the percentages of each type in the county.

Baker County contains fifty one percent public land and 49% private land. The Boardman to Hemingway transmission line would be built using 83% private land and only 17% public land.

Union County contains 50% public and 50% private land. Idaho Power plans to build the transmission line on 19% public and 81% private land in this county.

Umatilla County contains 75% private land, however, the B2H transmission line would be built on 100% private land.

Due to the above, the applicant fails to comply with OAR 345-021-0010 and cannot be found to comply with OAR 345-022-0030 requiring a serious effort to identify a route which minimizes or avoids the impacts on EFU lands.

Tamson Cosgrove Ross

1904 Oak st, La Grande, OR, 97850

ESTERSON Sarah * ODOE

From: Tamson Ross <rosstc@eou.edu>
Sent: Thursday, August 22, 2019 4:51 PM
To: B2H DPOComments * ODOE
Subject: [Fortimail Spam Detected] Stop B2H!!

12 August 2019

Oregon Energy Facility Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E
Salem, OR 97301

B2H.DPOComments@Oregon.gov

Dear Chair Beyeler and Members of the Council:

As I understand it, the applicant did not complete noise modeling on multiple noise sensitive properties within ½ mile of the development as required by OAR 340-035-0015(38). In fact, the closest noise modeling was performed at Hilgard, the junction of I-84 and 244, about 8 miles air miles away, with a train track near by. Applicant could scarcely have chosen a site less representative of the absolute silence typical of the Morgan Lake setting.

Page 145 (T-4-46) Baseline condition: "... A goal of minimal development of Morgan Lake Park should be maintained to preserve the maximum natural setting and to encourage solitude, isolation, and limited visibility of users..." Solitude, of course, suggests an absence of distraction from external stimuli including noise. Campers often comment on the tranquility of the park where a 5 mph speed limit is enforced to limit noise, and no shooting or motorized craft are allowed on the lake. Even when the campground is full, it's possible to picnic or hike beside the lake in absolute silence.

Noise Sensitive Property is "property normally used for sleeping, or normally used as schools, churches, hospitals, or public libraries. Obviously the noise corona of popping, humming transmission lines will interfere with the silence campers have every right to expect in a natural setting.

This transmission line is planned to be sited within 500' west of the park boundary, which would place it easily within less than 1/5 of a mile of overnight camp sites.

The applicant's ASC should be denied until all required and adequate noise modeling has been performed.

____Tam_____ Tamson Cosgrove Ross- 1904 Oak st, La Grande, OR, 97850
19fdf
sdfd

From: Tamson Ross <rosstc@eou.edu>
Sent: Thursday, August 22, 2019 4:45 PM
To: B2H DPOComments * ODOE
Subject: [Fortimail Spam Detected] Shut down B2H!!!

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, Oregon 97301
email: B2H.DPOComments@Oregon.gov

REGARDING; CONCERNS DUE TO THE INCREASED RISK AND LACK OF RESPONSE CAPABILITIES IN THE EVENT OF A FIRE ALONG THE TRANSMISSION LINE

The increased potential for wildfire has been established as a given along any transmission line. Not only is there an undetermined and potentially significant amount of time that will elapse prior to the identification of the fire, but then there may be a response time of up to 40 minutes after a fire is located in some areas according to fire fighting resources. There will be ample opportunity for the fire to grow significantly. Given the potential lack of speed in getting to the location, the difficulty traversing the terrain, and the lack of specialized equipment available to fight forest fires, local resources are not adequate to protect the public from wildfires occurring due to the construction and ongoing operation and maintenance of this transmission line.

Responding to fires that do occur will limit local resources available to provide service to their local areas of responsibility and the developer is planning to rely upon those local resources to deal with fires along the transmission corridor. Concern over the increased risk of fire as a result of this transmission line including multiple comments voiced by the citizens of the counties as well as special advisory groups prompted both Union and Baker counties to request funding for an analysis and recommendation to identify and mitigate the increased risk created by the construction and operation of the transmission line. Funding for that activity is not being supported by the developer.

This development will have a significant impact on the local service providers to provide protection and respond to fires. There would be construction occurring during the hot, dry summer, that they will be establishing Right of Ways with abundant low lying, heavy brush and grass which burns fast and hot. There are long distances along the entire length of the transmission line with no designated fire response unit, the employees building and maintaining the transmission line are not going to be qualified to fight fires they create, there is a lack of specialized equipment needed to fight transmission line caused fires, response times will be excessive, there is a lack of paid personnel available to deal with these remote fires, some fire stations have old equipment, and they will be creating hundreds of miles of new and improved roads to allow and increase access for human caused fires.

According to the Forest Service, between 88% and 90% of wildfires are human caused. There will be a significant increase in access for both people and vehicles along the entire right of way for the life of the transmission line. For example, Union County identified the following needs if the developer is going to rely upon local fire protection resources:

- Each volunteer firefighter needs to be provided with a phone and GPS system utilizing current technology able to provide service in remote areas along the transmission line
- There is a need for two heavy duty all terrain water trucks and any additional equipment needs identified by the Fire Chief.
- An additional full time position with the County fire department during any construction occurring in Union County.
- A permanent ½ time position to provide monitoring, training and firefighting during the life of the development.
- The county needs to participate in the development of a fire plan prior to it being accepted
- There is a need to provide resources to assure a response time of 14 minutes or less 90% of the time as required by NFPA.

A matter that adds significantly to the risk is the fact that the developer is stating they will rely upon Rural Fire Protection Services to respond and fight fires along the transmission line. These fire departments are only authorized to fight structural fires.

I hope you take these comments seriously, as the risk of catastrophic fires in the areas being impacted by the Boardman to Hemingway Transmission line are high. No acceptance of Condition Number 6 should be given until the developer has shown that they are dealing with the increased fire potential they are creating through this development.

Sincerely,

Tamson Cosgrove Ross

1904 Oak st, La Grande, OR, 97850

ESTERSON Sarah * ODOE

From: Tamson Ross <rosstc@eou.edu>
Sent: Thursday, August 22, 2019 4:41 PM
To: B2H DPOComments * ODOE
Subject: [Fortimail Spam Detected] SAY NO TO B2H!!!!

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, Oregon 97301
email: B2H.DPOComments@Oregon.gov

B2H EFSC LACK OF DOCUMENTATION FOR GREAT GRAY OWL AND FLAMMULATED OWL

The surveys provided for these two species are too old to be a reliable indicator of the presence or impacts to these bird species. They were done in 2011 and 2012, seven years ago. On Page P1-9, Table P1-1 the applicant proposes doing updated surveys only on areas not previously surveyed and submitting them to only ODOE. This type of secretive procedure where the public is completely removed from any opportunity to comment or review the decisions being made by ODOE is the basis for a great deal of public dissatisfaction with the process currently being supported by ODOE and EFSC.

There is no current information in the application to base any decision regarding what the impacts will be to these birds as a result of the Boardman to Hemingway Transmission Line. A site certificate cannot be issued determining compliance with OAR 345-022-0060 without knowing what the use of the area is by wildlife. In addition, since habitat category must include the use of the habitat by species, the habitat categories cannot be determined until the developer provides the necessary current information. Given that the area of the Ladd Marsh Wildlife area is not only protected, but also contains both federal and state mitigation areas, it is not possible to determine whether or not the development will have unacceptable impacts to these mitigation sites absent information regarding the use of the adjacent habitat by wildlife utilizing the mitigation sites and whether or not the habitat will be compromised making it unsuitable for use of the species due to impacts of the development. Considering the lack of information near Ladd Marsh Wildlife area, one must question why.

Ladd Marsh is an important Migratory Bird Flyway according to the Oregon Department of Fish and Wildlife (ODFW 2008.) The Audubon Society lists it as an Important Bird Area. The number of bird species using this area has expanded in the last several years, however, in 2008 over 230 species of birds had been recorded on LMWA and over 120 species nest in the area and yet the developer appears to be ignoring the importance of not only the wildlife area, but also the habitat surrounding the wildlife area which is critical to the survival of birds moving in and out of the mitigation sites.

Signature,

Tamson Cosgrove Ross

1904 oak st, La Grande, OR, 97850

ESTERSON Sarah * ODOE

From: Tamson Ross <rosstc@eou.edu>
Sent: Thursday, August 22, 2019 4:35 PM
To: B2H DPOComments * ODOE
Subject: [Fortimail Spam Detected] Stop the POWER!! (B2H)

August 5, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, Oregon 97301

Via EMAIL: B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposed Order.

Dear Chair Beyeler and Members of the Council:

APPLICANT FAILED TO INCLUDE ALL REQUIRED SOURCES OF NOISE IN THEIR MODELING OF NOISE IMPACTS OF DEVELOPMENT

Idaho Power did not include any of the items listed in OAR 340-035-0035(l)(b)(B)(ii), which are only exempt from the noise measurement when the development occurs on a previously used site. When establishing ambient noise level for a new development on a site not previously used, it states: "Sources exempt from the requirements of section (l) of this rule, which are identified in subsections (5)(b) - (f), (j), and (k) of this rule, shall not be excluded from this ambient measurement."

The applicant's noise modeling only includes the noise generated from the transmission line itself. Noise modeling must be corrected to include (b) Warning Devices, (c) sounds created by road vehicles, (d) Sounds from the operation of any equipment or facility of a surface carrier engaged in interstate commerce by railroad to the extent that such equipment or facility is regulated by pre-emptive federal regulations as set forth in Part 201 of Title 40 of the Code of Federal Regulations, promulgated pursuant to Section 17 of the Noise Control Act of 1972, 86 Stat. 1248, Public Law 92-576 ; (e) bells, chimes, or carillons; (f) aircraft subject to pre-emptive federal regulations and (k) sounds created by the operation of road vehicle auxiliary equipment.

The application is incomplete. Without having the information regarding these additional noise sources, the department and the siting council lack the information regarding how many noise sensitive properties are impacted and by how much.

A proposed order cannot be issued until the developer submits all the information regarding the noise impacts of this development. This information must be available to decide if the standard is met or if it can be met with additional site conditions.

Sincerely,

Tamson Cosgrove

1904 Oak st, La Grande, OR, 97850

ESTERSON Sarah * ODOE

From: Tamson Ross <rosstc@eou.edu>
Sent: Thursday, August 22, 2019 4:28 PM
To: B2H DPOComments * ODOE
Subject: [Fortimail Spam Detected] Stop B2H

August 22, 2019

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, Oregon 97301
email: B2H.DPOComments@Oregon.gov

THE APPLICANT SIGNIFICANTLY UNDERSTATES THE FINANCIAL IMPACTS TO THE STATE AND LOCAL ECONOMY AS A RESULT OF THE LOSS OF FOREST LANDS “PERMANENTLY”

Exhibit K, Attachment K-2, Page 23, Section 7.0

Idaho Power values Oregon’s forest lands at an absurdly low amount according to individuals owning forest land in both counties.

The applicant claims that removal of forestland by clearing of trees permanently will have little economic impact to Umatilla and Union County. They value the loss of 245.6 acres of forestland in Umatilla County at \$488.60 per acre. They value the removal of 530.1 acres lost to the transmission line in Union County at \$182.98 per acre. The applicant provides no justification or documentation to support the figures they claim apply or the basis for the difference in value per acre between Umatilla and Union Counties for forest economic value.

The applicant failed to address OAR 660-006-0025(5)(a) which does not apply only to forest zoned land currently in production. It addresses FOREST ZONED LAND. The developer is removing the income and opportunity for the landowners and counties to obtain the benefits available through timber production. For example, a large amount of land was burned and is recovering but will become productive timber land. The applicant also limited their assessment of impacts to accepted forest practices to the current use of the land. The requirement under OAR660-006-0025(5)(a) is to assess whether or not the development will cause a significant change or significantly increase the costs of accepted forest practices on forest lands. This developer is stating that they are going to cause a permanent change to the land in their proposed right of way. Accepted forest practices are based upon the impacts in the future when the land is being utilized for growing trees or other uses consistent with the forest zoned lands. Forest uses are defined in Union County Land Use Plan as The (1)production of trees and the processing of forest products (2) open space, buffers from noise, and visual separation of conflicting uses; (3) watershed protection and wildlife and fisheries habitat; (4) soil protection from wind and water, (5) maintenance of clean air and water (6) outdoor recreational activities and related support services and wilderness values compatible with these uses, and (7) grazing land for livestock

The developer assumes incorrectly that the forest zoned lands not currently in production of trees will ever be used for that purpose.

The assessment of the impacts to accepted forest practices is seriously understated due to the understatement of forest lands, the lack of including the impacts to forest practices and the economic impacts of removing the land from forest uses.

1. The applicant ignored the definition of “forest lands” in determining the amount being impacted by the development. Forest Lands include, “lands composed of existing and potential forest lands which are suitable for commercial forest uses; (2) other forested lands needed for watershed protection, wildlife and fisheries habitat and recreation; (3)lands where extreme conditions of climate, soil and topography require the maintenance of vegetative cover irrespective of use; (4)other forested lands in urban and agricultural areas which provide urban buffers, wind breaks, wildlife, and fisheries habitat, livestock habitat, scenic corridors and recreation use; (5)means any woodland, brushland, timberland, grazing land or clearing that, during any time of the year, contains enough forest growth, slashing or vegetation to constitute, in the judgment of the state forester, a fire hazard, regardless of how the land is zoned or taxed. As a result of only counting forest lands currently in production, the forest impacts are significantly understated.
2. There is no explanation regarding how they came to the numbers they are using for forest sector jobs or explain the difference between the two counties.

Costs to the landowner of forest zoned land currently in production of timber:

1. There is a significant change when the landowner can no longer use his land for growing timber, but continues to have the expense of paying taxes on land that is not productive. The loss comes directly from the landowners profit from the harvest.
2. Landowners will receive less income with the same expenses.
3. For landowners who receive income from hunters, the land will become less desirable due to the visual impact of the line and the fact that elk will avoid the area for multiple reasons including human and vehicle traffic, corona visual impacts, etc.
4. Landowners use their land as collateral for borrowing funding to run their operations. The reduction in value will make it more difficult for owners to obtain necessary funding in order to stay in business.
5. Accessing timber on either side of the transmission line requires moving vehicles and equipment around the transmission line due to an inability to move log trucks and large equipment under the line.
6. Limits the direction for falling timber and can result in more dangerous tree falling with increased damage to the remaining timber as well as the one being harvested.
7. A transmission line results in the loss of timber along the line due to blow downs.
8. There is an increase in the potential for fire both from the line, but even more significantly, from human traffic along the transmission line.
9. Increased liability and insurance needed due to increased risk of injury to trespassers.
10. There is a loss of wildlife habitat without being mitigated due to a failure to require the developer to provide mitigation for the destruction of forest habitat along the right of way. Requiring mitigation for only the bases of the structures means only a minute amount of the loss will be compensated for. Only allowing the removal of nest sites when birds are not present does not address the fact that many birds such as bald and golden eagles use the same nesting sites year after year and forest landowners usually include wildlife habitat as a reason for maintaining the forest land.
11. Idaho Power states that the value of the forest land removed permanently from production would be further reduced due to the ability of the forest owners to use the transmission line corridor for growing crops or grazing. This statement is unequivocally false. The lineal nature of a transmission line precludes any productive use of land taken for the transmission line. The right of way is too narrow to make it available for production of crops, and the costs associated with purchasing equipment for agricultural operations would be prohibitive. It would be unusual for a forest operator to already own equipment for a crop operation. In order to use the right of way as grazing land, it would have to be fenced. According to “Estimated Livestock Fencing Costs for the Small-Farm

Owner” by Derek L. Barber, the average cost of materials for ¼ mile (1,320 ft.) of field fence is \$1,108.53 plus the cost of building it. The Iowa State University Extension identified 2011 costs for constructing ¼ mile of fencing to be \$1,947.75 installed. Enclosing a square acre requires 820 feet of fence.

Costs to forest zoned land currently being used for farm practices:

1. Increased invasive weeds.
2. Increased costs to apply herbicides, pesticides and fertilizer due to restricting the use of aircraft for application.
3. Increased safety hazard due to transmission line interference with emergency calling.
4. Increased cost of activities normally occurring through radio controlled equipment due to need to hire a person to perform the function.
5. Interference with irrigation equipment.
6. Loss of land use around the transmission structures due to turning radius of equipment and restrictions regarding height of equipment that can go under the transmission lines.
7. Soil compaction from equipment causes reduced crop yield for years according to landowners with existing transmission lines crossing their land.
8. Road damage due to ongoing use by developer and contractors performing maintenance on the transmission line.

Costs to the local economy:

1. The developer failed to include the harvest income that is received by the landowner and then spent primarily in the local area.
2. There is no consideration for the increased value of money which is circulated in the local community.
3. There is no accounting for the state and local taxes paid as well as harvest taxes which are paid and support the state and local area.
4. Replacing trees with a transmission line will negatively impact tourism dollars as it will reduce the numbers of wildlife viewers and hunters due to a reduction in elk, deer, birds, and other wildlife that draw them to the area. The Oregon Department of Fish and Wildlife and Travel Oregon reported that 2008 recreation expenditures in Oregon totaled \$2.5 billion as reported by Dean Runyan Associates. As the following comment notes, energy projects are cutting into that revenue.
5. Attached article “Are energy projects causing loss of tourism dollars on public lands?” cites the data from the Bureau of Land Management which recorded a 12% drop in the number of visitors to the Imperial Sand Dunes Recreation Area over the year after a high voltage power line was constructed. Data is available in the BLM’s Centro Field Office under Highlights of the Desert District Advisory Council Meeting dated February 9, 2013.
6. The increased costs to harvest timber after a transmission line has been built is recognized by the courts who mandate that payment be made to landowners for this loss if their property is condemned to build the transmission line. The compensation must include at a minimum the value of the existing timber, the value of the timber that could be produced on the land in the future, and the increased costs of harvesting the timber adjoining the transmission line.
7. The developer plans to use local resources to fight fires caused by the transmission line or access created by the transmission line to human caused fires. There is no required mitigation for the increased risk of fire. The applicant’s statements that they “may” restrict hours of operation, they “may” require water trailers, “may” require fire watches, “may” restrict road use during thaws means there is no mitigation being required to reduce the increased fire risk or the road damages that will occur.

Some facts related to the value of forest land:

According to US Forest Service Tech. Rept. PNW-GTR-578 Rev. 2004 entitled “Forests of Eastern Oregon: an Overview”, Eastern Oregon Forests produce an average of 20 cubic feet per acre of timber each year. That would mean that an acre of land would produce approximately 240 board feet of lumber per year per acre during the life of the transmission line. According to Scott Hartell, Planning Director, Union County, forest land in Union County is classified as either 20 cubic feet per acre per year, or 50 cubic feet per acre per year, so the amounts could be significantly higher. The “Forest Facts Oregon’s Forests: Some Facts and Figures” published in 2009 by the Oregon Department of Forestry states that economists estimate that for every billion board feet that is harvested in Oregon 11 forest sector jobs are created or retained. With the reduced harvest of timber on public land, the importance of private forest lands has increased significantly in sustaining the industry.

Removing trees from land currently being used to grow them certainly will create a substantial change in accepted forest practices. It also will substantially increase the costs of growing and harvesting trees on the surrounding lands. The transmission line will make it impossible to use aerial equipment to harvest trees on steep hillsides adjacent to the line, it will increase time and costs of harvest due to the need to avoid equipment contact with the transmission lines, avoid trees falling on the transmission lines, require the use of routes of access and egress from the forested lands that avoid having log trucks and equipment moving below the transmission lines, will decrease the harvest along the transmission line due to loss of trees along the forested land along the corridor due to wind and weather conditions impacting weakened root infrastructure once the transmission corridor is cleared.

In other words, this transmission line will remove forested land resulting in nearly a total loss of the economic value of the land removed from production of trees, and will impact the landowners and county economy not only by the loss of the production of trees and taxes, fees, employment and other benefits coming from that activity, but there will be related losses to the productivity of adjacent land, increased costs of harvesting along the transmission line, increased risk of wildfire, potential increase in the number of trespassers, interference with wildlife activities including displacement of wildlife using the forest lands to what may be less desirable habitat, opening the area up to increased predation on the multiple non-raptor species utilizing the forested areas, it will decrease the value of land if it is sold, cause a long-term reduction in assessed value of the land, etc.

The Conclusions stated by the applicant in section 8.0 are absolutely false.

In addition, the applicant has failed to provide documentation to support their comments. The only reference the applicant sites that relates at all to this issue is the publication from the Oregon Forest Resources Institute.

In summary:

The applicant has failed to document that they will comply with Land Use Goal 4 OAR 660-006-000 through OAR 660-006-0010; There is no documentation provided that would indicate they are in compliance with OAR 345-022-0030; and they have not documented, nor are they able to meet the requirement contained in OAR 345-022-0030(4) to allow an exception.

Sincerely,

Tamson Cosgrove Ross

1904 oak st, La Grande, OR

ESTERSON Sarah * ODOE

From: Tamson Ross <rosstc@eou.edu>
Sent: Thursday, August 22, 2019 4:21 PM
To: B2H DPOComments * ODOE
Subject: [Fortimail Spam Detected] Stop B2H

August 12, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street N.E.
Salem, OR. 97301

Via E-MAIL: B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposed Order 5/23/2019

To: Chairmen Beyeler and Members of the Council

I appreciate the opportunity to comment on the Draft Project Order for the Boardman to Hemingway Transmission Project. I am very supportive of the Oregon California Trails Association (OCTA) and the work that they have done to protect the Oregon Trail, especially here in Oregon. OCTA is mentioned numerous times in **Exhibit S** and the **Historic Properties Management Plan and Programmatic Agreement**. OCTA does NOT believe that Exhibit S Historic Properties Management Plan is complete in 7.2.3 Field Crew, and offers this additional condition.

ADDITIONAL CONDITION #1 OCTA recommends that the Council add an Oregon Trail expert to the Cultural Resource Team. This Oregon Trail individual will have qualifications similar to Field crew members. For example, they will have an undergraduate degree in anthropology, archaeology, or in a field such as geology, engineering or history. It will not be necessary to have attended a field school. This individual will be recommended by the National OCTA President and agreed to by the Field Director.

The field surveys, even with SHPO and NPS data, have missed and/or mislabeled some sections of the emigrant trail. OCTA wants the public to know where the Trails are and I do too! OCTA over the years has marked the trail location with wooden signs, small triangles attached to trees, and more recently, carbonite posts and steel rails. Most private property owners are proud of the trail on their property, and after obtaining permission allow the public to walk and hike on the trail.

Idaho Power and their consultants have not acknowledged trail crossings shown on submitted Maps and do not acknowledge visual intrusion of the line for 10 miles per standards, and only upon ODOE's RAI's, put into documents some trail protections. This has been consistent from the BLM process to current day.

Considering the points above, Idaho Power does not comply with the state standards for cultural resources OAR 354-022-0090, or 345-022-0080, Scenic resources. **EFSC Must Deny the Site Certificate!**

Tamson Cosgrove Ross

1904 oak st La Grande OR, 97850

ESTERSON Sarah * ODOE

From: Tamson Ross <rosstc@eou.edu>
Sent: Thursday, August 22, 2019 4:31 PM
To: B2H DPOComments * ODOE
Subject: [Fortimail Spam Detected] Stop B2H

August 22, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposal Order May 23, 2019.

Chair Beyeler and Members of the Council:

I am very concerned about the Boardman to Hemingway Transmission Project as it is proposed. My concerns are for the safety of myself and all of the citizens of La Grande if this line is permitted. My primary concerns are slope instability and wildfire hazard.

The proposed route sited to the west of La Grande is placed on a ridge noted to have instability and high risk for slides. The geologic study provided by Idaho Power references several studies (below).

Table H-2. USGS Quaternary Faults within 5 Miles of Project by County on page H-12 clearly shows that the project is placed right on an active fault in the West Grande Ronde Valley Fault Zone. In addition, in exhibit H, Geological Hazards and Soil Stability, Table B3: Soils Descriptions, Union County, much of the erosion hazard is rated "severe." Below is part of the report:

5.2 La Grande Area Slope Instability

As part of our study, we reviewed DOGAMI's open file report: Engineering Geology of the La Grande Area, Union County, Oregon, by Schlicker and Deacon (1971). The study identified several landslides in the areas west and south of La Grande. The majority of the landslide features mapped by Schlicker and Deacon (1971) were similarly mapped as landslides or alluvial fans in Ferns and others (2010). The current SLIDO database uses the feature locations mapped in Ferns and others (2010). While the two map sets generally agree, there are differences in the mapped limits of some landslide and alluvial fan areas, and there is one landslide area in Schlicker and Deacon (1971), near towers 106/3 and 106/4, which is not included in SLIDO or Ferns and others (2010). The Landslide Inventory in Appendix E includes mapped landslide and alluvial fan limits from both SLIDO and Schlicker and Deacon (1971).

This slope instability is not inconsequential to a project like this. Recall in 2014, Oso, Washington, was the site of a catastrophic mudslide as the result of logging disturbance of the soil upslope from the town combined with significant rainfall. This resulted in 43 fatalities. We must learn from previous mistakes in not heeding the geologists' warnings. The area down slope from the proposed B2H line lies the Grande Ronde Hospital and Clinics, which employs hundreds of people and is the critical access hospital for this region. La Grande High School and Central Elementary School are also positioned down slope from the proposed towers. At least 100 homes are positioned down slope of the proposed towers. According to "Engineering Geology of the La Grande Area, Union County, Oregon" maps published by Schlicker, and Deacon (1971), the ENTIRE area of the hillside is deemed a "landslide area" in the La Grande SE quadrangle. This is not a safe place for a transmission line.

The next significant hazard to our community is wildfire. Oregon is ranked 8th Most Wildfire Prone state in the United States according to Verisk Wildfire Risk analysis. La Grande is ranked in the top 50 communities in Oregon with the greatest cumulative

housing-unit exposure to wildfire as referenced in “Exposure of human communities to wildfire in the Pacific Northwest,” by Joe H. Scott, Julie Gilbertson-Day and Richard D. Stratton (available at http://pyrologix.com/ftp/Public/Reports/RiskToCommunities_OR-WA_BriefingPaper.pdf). Finally the proposed route is in the vicinity of Morgan lake, the highest risk area (#1) in Union County in terms of wildland-urban interface, according to the County’s Community Wildfire Protection Plan, August 10, 2005.

Cal Fire cites Pacific Gas and Electric equipment and power lines as the cause of numerous wildfires in the state in the last 2 years. This includes the Camp Fire in Butte County (2018), Tubbs Fire in Napa/Sonoma Counties (2017), Witch Fire in San Diego (2007), Valley Fire in Lake/Napa/Sonoma Counties (2015), Nuns Fire in Sonoma County (2017), which were all attributed to transmission.

The Boardman To Hemingway Transmission Line Project proposal places lines about 2000 feet or less than half a mile from the La Grande city limits, including medium density housing within the city as well as Grande Ronde Hospital. If a line from this proposed route were to spark a fire, La Grande residents would have little time to react. According to National Geographic, wildfires can move as fast as 6.7 mph in forests and 14 mph in grasslands. A fast-moving fire starting at the B2H lines could move to residential areas of La Grande and HOSPITAL in 10 minutes. This is frightening and an unacceptable risk for our citizens.

The current proposal for a Boardman to Hemingway transmission line does not adequately address the issue of landslides, basically by stating it will be mitigated somehow when the time comes to build. The proposal offers no analysis of wildfire risk, which is an unacceptable omission. All of the routes proposed are unsafe and create an unacceptable risk to the citizens of La Grande.

The Council should DENY the request for a site certificate.

Sincerely,

Tamson Cosgrove Ross

1904 Oak st, La Grande, OR. 97850

From: Tamson Ross <rosstc@eou.edu>
Sent: Thursday, August 22, 2019 4:24 PM
To: B2H DPOComments * ODOE
Subject: [Fortimail Spam Detected] Stop B2H!

August 10, 2019

Oregon Energy Facility Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E
Salem, OR 97301

Email: B2H.DPOComments@Oregon.gov

Dear Chair Beyeler and Members of the Council:

Morgan Lake Park, analyzed as part of the Morgan Lake Alternative - (Attachment T-3, Table T-2, p. T-3-2; Table T-3-1, p. T-13) and Summary of Impacts, pp. T-27-28, 43, (T-4-51-56), inaccurately describes features of the park itself and severely underestimates the permanent impact of development on this unique city park.

See OAR 345-021-0010 (1) (T) (A) (B) (D) & OAR 345-022-0100

Morgan Lake Park is an important opportunity primarily because of its unique designation status as a city park, rareness, and special qualities per OAR 345-021-0010(1)(t)(A) Attachment T-3, Table T-3-1 (p. T-13)

Page 62 (T-57) refers to “extensive work in the siting study of the Morgan Lake Alternative.” That is doubtful because it is completely inaccurate:

Page 145 (T-4-46) Morgan Lake Park is described as 204 acres, containing one lake, which is developed with primitive campsites and fishing docks.

Morgan Lake Park actually contains two lakes. Morgan Lake covers 70 acres; the other, Twin Lake, [also known as Little Morgan Lake] is in plain sight, within 300’ of Morgan Lake; it covers 27 acres.

Twin Lake is undeveloped, a wild life and bird sanctuary, home to nesting bald eagles. In their application, Idaho Power omits any references to Twin Lake.

Page 156, (T-4-6) purports to be a map of Morgan Lake Park. According to the map legend, the purple cross hatch area is Morgan Lake Park. That’s wrong. The purple cross hatch is Morgan Lake. The actual boundaries of the 204 acre park are not indicated. Obviously, it’s difficult to believe “extensive work on this siting study” ever occurred.

2) b. A specific example of unsupported conclusion:

Page 145 (T-4-46) Baseline condition: "... A goal of minimal development of Morgan Lake Park should be maintained to preserve the maximum natural setting and to encourage solitude, isolation, and limited visibility of users..."

Page 146 (T-4-47) "The landscape character is natural appearing. Scenic integrity is high as the human developments are harmonious with the landscape."

Page 49 (T-44) "Vegetation will block views of the towers from most locations in the park." In reality, one tower would dominate the entrance to the park, all 130' in plain view. Within the Park, the trees bordering the lake are no more than 80' high. 130' transmission towers will rise more than 50' above those trees, dominating the current landscape.

Idaho Power does not provide a graphic representation of Morgan Lake Park, with the accurate height of existing trees, and elevation of towers above the trees. It simply concludes that the inescapable sight of 500 kV transmission lines and towers around a natural lake setting will have "no significant impact" on Morgan Lake Park.

This is the park whose baseline "should be maintained to preserve the maximum natural setting and to encourage solitude, isolation, and limited visibility of users" [because 50 years ago, no one ever imagined anything larger than a human being, might ever intrude]..."

I urge the Commission to deny this application for a site certificate until each comment submitted and sent to the Commission by August 22 has been thoroughly analyzed, and Idaho Power has provided credible evidence to support each of its conclusions of "no significant impact."

Tamson Ross

1904 oak st, La Grande, OR, 97850

TARDAEWETHER Kellen * ODOE

From: Tamson Ross <rosstc@eou.edu>
Sent: Thursday, August 22, 2019 4:21 PM
To: B2H DPOComments * ODOE
Subject: [Fortimail Spam Detected] Stop B2H

August 12, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street N.E.
Salem, OR. 97301

Via E-MAIL: B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposed Order 5/23/2019

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Considering the points above, Idaho Power does not comply with the state standards for cultural resources OAR 354-022-0090, or 345-022-0080, Scenic resources. **EFSC Must Deny the Site Certificate!**

Tamson Cosgrove Ross

1904 oak st La Grande OR, 97850

August 2, 2019

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, Oregon 97301
email: B2H.DPOComments@Oregon.gov

THE APPLICANT SIGNIFICANTLY UNDERSTATES THE IMPACTS TO EMPLOYMENT AND FOREST LANDS AS A RESULT OF THE PROPOSED B2H TRANSMISSION LINE

Exhibit K, Attachment K-2, Pages 19 and 20, Section 7.0

The applicant claims that removal of forestland by clearing of trees for a period of over 50 years will have little economic impact to forest sector jobs in Umatilla and Union County. They value the loss of 245.6 acres of forestland in Umatilla County at \$488.60 per acre. However, they value the removal of 530.1 acres lost to the transmission line in Union County at \$182.98 per acre. The applicant provides no justification or documentation to support the difference in value per acre between Umatilla and Union Counties.

Some forest facts related to this section:

According to US Forest Service Tech. Rept. PNW-GTR-578 Rev. 2004 entitled "Forests of Eastern Oregon: an Overview", Eastern Oregon Forests produce an average of 20 cubic feet per acre of timber each year. That would mean that an acre of land would produce approximately 240 board feet of lumber per year per acre during the life of the transmission line. According to Scott Hartell, Planning Director, Union County, forest land in Union County is classified as either 20 cubic feet per acre per year, or 50 cubic feet per acre per year, so the value amounts could be significantly higher. The "Forest Facts Oregon's Forests: Some Facts and Figures" published in 2009 by the Oregon Department of Forestry states that economists estimate that for every billion board feet that is harvested in Oregon 11 forest sector jobs are created or retained.

Idaho Power's stated timber values are unrealistically low according to individuals owning forest land in both counties. No one would be using land for trees which precludes other uses if the economic benefits were as the developer is stating.

The applicant's identification of the acres of forest land impacted is incorrect due not only to the failure to use soil types to identify forest lands, but also, the fact that they are requesting a 300 foot right of way and they need to include the value of any additional trees they will be removing in the 100 foot area on each side of the right of way.

The applicant claims that the value of the land in the right of way will not be significantly reduced due to the owner's opportunity to use the land for agricultural or range land after the transmission line is constructed. This is completely unfounded. The lineal nature of a transmission line precludes any productive use of land taken for the transmission line. The right of way is too narrow to make it available for production of crops, and the costs associated with purchasing equipment for agricultural operations would be prohibitive.

It would be unusual for a forest operator to already own equipment for a crop operation. In order to use the right of way as grazing land, it would have to be fenced. According to "Estimated Livestock Fencing Costs for the Small-Farm Owner" by Derek L. Barber, the average cost of materials for ¼ mile (1,320 ft.)

of field fence is \$1,108.53 plus the cost of building it. The Iowa State University Extension identified 2011 costs for constructing ¼ mile of fencing to be \$1,947.75 installed. Enclosing a square acre requires 820 feet of fence. In other words, the cost of fencing an acre of lost forest land would exceed the value the applicant claims the land would add to the local economy per acre for the 50 years the transmission line is predicted to be in place.

The applicant also claims that the transmission line right of way through forest lands will not cause a substantial change in accepted forest practices or cause a significant increase in the cost of accepted forest practices on lands to be directly impacted by the Project or on surrounding lands. Removing trees from land currently being used to grow them certainly will create a substantial change in accepted forest practices. It also will substantially increase the costs of growing and harvesting trees on the surrounding lands. Soil compacted by heavy equipment used to access the line will discourage regrowth.

The transmission line will make it impossible to use aerial equipment to harvest trees on steep hillsides adjacent to the line; it will increase costs of harvest due to the need to avoid equipment contact with the transmission lines, avoid trees falling on the transmission lines, require new access and egress from the forested lands that avoid having log trucks and equipment moving below the transmission line, It will decrease the harvest along the transmission line due to tree loss along the corridor from wind and weather conditions impacting weakened root infrastructure once the transmission corridor is cleared.

Removing forested land along the transmission line will result in nearly a total loss of the economic value of the land removed from production of trees, and will impact the landowners and county economy not only by the loss of the production of trees and taxes, fees, employment and other benefits coming from that activity, but there will be related losses to the productivity of adjacent land, increased costs of harvesting along the transmission line, introduction of noxious weeds, increased risk of wildfire, potential increase in the number of trespassers, interference with wildlife activities including displacement of wildlife to what may be less desirable habitat, opening the area up to increased predation on the multiple non-raptor species utilizing the forested areas, decreased value of land if it is sold, long-term reduction in assessed value of the land, etc. The conclusions stated by the applicant in section 8.0 are false, absolutely without merit.

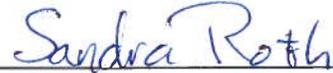
In addition, the applicant has failed to provide documentation to support their conclusions. The only reference the applicant cites that relates at all to this issue is the publication from the Oregon Forest Resources Institute.

In summary:
The applicant has failed to document that they will comply with Land Use Goal 4 OAR 660-006-000 through OAR 660-006-0010; There is no documentation provided that would indicate they are in compliance with OAR 345-022-0030 and they have not documented, nor are they able to meet the requirement contained in OAR 345-022-0030(4) to allow an exception.

Therefore, the Council should DENY the application for site certificate.



Signature



Printed Name

Mailing Address: 69465 Lantz Ln.
Cove, Or. 97824
r. 10 r. 10 supposed to plant trees not cut them down

August 5, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposal Order May 23, 2019.

Chair Beyeler and Members of the Council:

I am very concerned about the Boardman to Hemingway Transmission Project as it is proposed. My concerns are for the safety of myself and all of the citizens of La Grande if this line is permitted. My primary concerns are slope instability and wildfire hazard.

The proposed route sited to the west of La Grande is placed on a ridge noted to have instability and high risk for slides. The geologic study provided by Idaho Power references several studies (below).

Table H-2. USGS Quaternary Faults within 5 Miles of Project by County on page H-12 clearly shows that the project is placed right on an active fault in the West Grande Ronde Valley Fault Zone. In addition, in exhibit H, Geological Hazards and Soil Stability, Table B3: Soils Descriptions, Union County, much of the erosion hazard is rated "severe." Below is part of the report:

5.2 La Grande Area Slope Instability^g

As part of our study, we reviewed DOGAMI's open file report: Engineering Geology of the La Grande Area, Union County, Oregon, by Schlicker and Deacon (1971). The study identified several landslides in the areas west and south of La Grande. The majority of the landslide features mapped by Schlicker and Deacon (1971) were similarly mapped as landslides or alluvial fans in Ferns and others (2010). The current SLIDO database uses the feature locations mapped in Ferns and others (2010). While the two map sets generally agree, there are differences in the mapped limits of some landslide and alluvial fan areas, and there is one landslide area in Schlicker and Deacon (1971), near towers 106/3 and 106/4, which is not included in SLIDO or Ferns and others (2010). The Landslide Inventory in Appendix E includes mapped landslide and alluvial fan limits from both SLIDO and Schlicker and Deacon (1971).

This slope instability is not inconsequential to a project like this. Recall in 2014, Oso, Washington, was the site of a catastrophic mudslide as the result of logging disturbance of the soil upslope from the town combined with significant rainfall. This resulted in 43 fatalities. We must learn from previous mistakes in not heeding the geologists' warnings. The area down slope from the proposed B2H line lies the Grande Ronde Hospital and Clinics, which employs hundreds of people and is the critical access hospital for this region. La Grande High School and Central Elementary School are also positioned down slope from the proposed towers. At least 100 homes are positioned down slope of the proposed towers. According to "Engineering Geology of the La Grande Area, Union County, Oregon" maps published by Schlicker, and Deacon (1971), the ENTIRE area of the hillside is deemed a "landslide area" in the La Grande SE quadrangle. This is not a safe place for a transmission line.

The next significant hazard to our community is wildfire. Oregon is ranked 8th Most Wildfire Prone state in the United States according to Verisk Wildfire Risk analysis. La Grande is ranked in the top 50 communities in Oregon with the greatest cumulative housing-unit exposure to wildfire as referenced in "Exposure of human communities to wildfire in the Pacific Northwest," by Joe H. Scott, Julie Gilbertson-Day and Richard D. Stratton (available at http://pyrologix.com/ftp/Public/Reports/RiskToCommunities_OR-WA_BriefingPaper.pdf). Finally the proposed route is in the vicinity of Morgan lake, the highest risk area (#1) in Union County in terms of wildland-urban interface, according to the County's Community Wildfire Protection Plan, August 10, 2005.

Cal Fire cites Pacific Gas and Electric equipment and power lines as the cause of numerous wildfires in the state in the last 2 years. This includes the Camp Fire in Butte County (2018), Tubbs Fire in Napa/Sonoma Counties (2017), Witch Fire in San Diego (2007), Valley Fire in Lake/Napa/Sonoma Counties (2015), Nuns Fire in Sonoma County (2017), which were all attributed to transmission.

The Boardman To Hemingway Transmission Line Project proposal places lines about 2000 feet or less than half a mile from the La Grande city limits, including medium density housing within the city as well as Grande Ronde Hospital. If a line from this proposed route were to spark a fire, La Grande residents would have little time to react. According to National Geographic, wildfires can move as fast as 6.7 mph in forests and 14 mph in grasslands. A fast-moving fire starting at the B2H lines could move to residential areas of La Grande and HOSPITAL in 10 minutes. This is frightening and an unacceptable risk for our citizens.

The current proposal for a Boardman to Hemingway transmission line does not adequately address the issue of landslides, basically by stating it will be mitigated somehow when the time comes to build. The proposal offers no analysis of wildfire risk, which is an unacceptable omission. All of the routes proposed are unsafe and create an unacceptable risk to the citizens of La Grande.

The Council should DENY the request for a site certificate.

Sincerely,



Name: Sandra Roth

Address:

~~La Grande, OR. 97850~~

Cave, OR. 97824

TARDAEWETHER Kellen * ODOE

From: Ron Rowan <rowan@thegeo.net>
Sent: Saturday, July 20, 2019 12:01 PM
To: B2H DPOComments * ODOE
Subject: [Fortimail Spam Detected] B2H Comments on Siting of Power Line in Baker Country
Attachments: B2H Powerline letter 7-20-19.docx

Mr. Tardaewether:

Please find attached our letter opposing the B2H transmission line through Baker County.

Thank you for your consideration.

Ron and Ann Rowan

DATE: July 20, 2019

TO: Kellen Tardaewether, Senior Siting Analyst
Oregon Dept of Energy
550 Capitol St N.E.
Salem, OR 97301

FROM: Ron and Ann Rowan
42676 Nye Rd.
Baker City, OR 97814
541-523-0630 Home Phone
rowan@thegeo.net

SUBJECT: Proposed B2H Transmission Line through Baker County, OR

We live in Segment 3 of the proposed B2H transmission line route. Our house is located within ½ mile of the Flagstaff Alternative route and west of the Oregon Trail Interpretive Center in the Baker Valley.

Our principle concern is locating the transmission line west of the Oregon Trail Interpretive Center (OTIC) using the Flagstaff Alternative route. This route will have a major visual impact to those looking west from the OTIC into the Baker Valley. The trail system below the OTIC gives the experience of “walking the Oregon Trail”. With the presence of looming towers, the historical experience will be greatly compromised. With the transmission line going along the edge of Baker Valley, the line will interfere with agricultural practices and detract from the value of the affected property. We are strongly opposed to placing the transmission line west of the OTIC. The proposed action of building the transmission along the Flagstaff Alternative Route will have serious consequences. The presence of large transmission towers will introduce permanent impacts on visual resources, National Historic Trails and the value of private agricultural land.

We attended the EFSC public hearing in Baker City on June 19th and agree with the unanimous testimony opposing the transmission line through Baker County.



Oregon Department of Energy and the Energy Facility Siting Council

Public Hearing on the Draft Proposed Order
for the Boardman to Hemingway Transmission Line
June 18-20 and June 26-27, 2019, 4:30-8 p.m.
Public Written or Oral Testimony Registration

Name (mandatory) Sandy Reynal

Mailing Address (mandatory) 604 RR Ave
LaGrande OR 97850

Phone Number (optional) 541 379-3405 Email Address (optional) sdringma@gmail.com

Today's Date: 6/20/19

Do you wish to make oral public testimony at this Hearing: Yes No

Written comments can also be submitted today.

All written comments must be received by the deadline, July 23, 2019, 5 p.m. PDT to:

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street NE
Salem, OR 97301
Fax: 503-378-6457
Email: B2H.DPOComments@oregon.gov

Note: by submitting written or oral testimony, you will receive a notice from the Oregon Department of Energy at a future date of the opportunity to request party status in a contested case hearing on the proposed facility.

Written Testimony

(Please print legibly – Use the back for additional space if needed. Additional written comments may be attached to this card.)

Page 26

1 name, if you would spell it for the record as well, so
 2 the court reporter can get it down correctly.
 3 The first person in this we are going to call
 4 up is Sandy Ryman, and then we are going to follow
 5 Ms. Ryman with David, it looks like Moyal. When
 6 Ms. Ryman finishes and the next person comes up, I will
 7 then identify the person that follows so you'll know who
 8 the next person is going to be.
 9 Good evening.
 10 MS. SANDY RYMAN: Good evening. My name is
 11 Sandy Ryman, R-y-m-a-n, and my address is 604 M Avenue
 12 here in La Grande, Oregon.
 13 I am a lifelong resident of eastern Oregon,
 14 and I have an undergraduate degree in community health
 15 and an MBA. So you can tell this is not my area of
 16 expertise. But what I currently do in my work is I look
 17 at needs and needs assessments; so I decided to focus on
 18 Exhibit N, the needs portion of the application for a
 19 site certificate.
 20 And in doing that, I'm still wading through
 21 all the details, but I wanted to take a look at the
 22 needs portion in particular. And it discusses the fact
 23 that in September of 2009, Idaho Power's board of
 24 directors approved guidelines to establish a goal to
 25 reduce CO2 emission intensity of the company's utility

Page 27

1 operations.
 2 One of the primary sources of electrical
 3 energy for Idaho Power is currently hydroelectrical
 4 generation, and they state in the application that
 5 because of the changes in stream flows and production
 6 levels of existing renewable resources, they have been
 7 working on assuring diversity in their energy resources
 8 and they list those. And they're also working on
 9 assuring diversity because changes in extreme flows can
 10 impact the CO2 emissions process for producing energy.
 11 They listed eight different types of
 12 supply-side resources. And my point No. 1 is that I
 13 question whether those aren't -- aren't more of those
 14 power resources available in southern Idaho? Because I
 15 wonder if the cost of this transmission line is
 16 considered in any of those CO2 emission calculations
 17 overall. It seems questionable as compared to more
 18 localized power sources within southern Idaho.
 19 I also did some research in looking at the
 20 April 2015, report from the US Department of Energy.
 21 They do an energy review transmission, storage, and
 22 distribution infrastructure on it, and they came up with
 23 some facts that I found quite interesting.
 24 So my point No. 2 is the fact that they point
 25 out that there is low load growth, that the growth rate

Page 28

1 of total US energy electrical consumption has been on
 2 the decline and has even been negative in the last few
 3 years. In fact, the growth rate of the US electricity
 4 load is the lowest levels since 1950.
 5 So moving on from that, and point 3 that I
 6 want to make, is they also discuss the fact that severe
 7 weather and climate changes are currently causing
 8 significant damage to grid infrastructure, and
 9 particularly to transmission lines. And they go on to
 10 talk about the fact that there are certain regions of
 11 the country that are specifically impacted by weather
 12 events. And in the West our weather events are caused
 13 by lightning and wildfires.
 14 And the report goes on, it also talks about
 15 five factors that need to be considered; lightning,
 16 wildfires, extreme cold, extreme winds, and vegetation
 17 growth. And really, all of those are things which can
 18 have an impact on this transmission line and could
 19 create a long-term maintenance impact for Idaho Power.
 20 I'm going to talk also about the fact that the
 21 modeling effort which is sited in this Department of
 22 Energy report states that the modeling effort really
 23 focuses only on new transmission along existing or
 24 proposed corridors, and it doesn't consider local and
 25 regional reliability impacts of these kind of scenarios.

Page 29

1 And so it seems like whatever kind of modeling
 2 opportunity Idaho Power had, that if they're using the
 3 standard models, even the Federal Department of Energy
 4 pointed out, those standard models don't really help
 5 with understanding the reliability of the scenario which
 6 they are presenting.
 7 My point No. 4 is the electrical transmission
 8 can take 4 or more years to be built out. And I feel
 9 like, in addition to that, costs are going to be rising
 10 and transmission costs are going to go up due to
 11 maintenance, due to the weather situations. So that is
 12 my point No. 4.
 13 Point No. 5 is that up until now I've only
 14 talked about the transmission line and the factors that
 15 impact its veracity, but there is also a lot of new
 16 technologies which are coming out. And I went back to a
 17 report which I remembered reading a couple of years ago,
 18 it was by Gregory Reed, who is a professor and director
 19 of the Center for Energy and the Grid Institute at the
 20 University of Pittsburgh School of Engineering, and he
 21 did have an article in "The Hill" publication in
 22 December of 2017.
 23 He talked about: Our existing grid was
 24 originally designed to move electricity in one
 25 direction, from large, centralized resources to

Page 30

1 factories, commercial facilities, businesses and homes.
 2 But the way that we use energy today is based more on
 3 power electronics and direct current, which is the
 4 format Thomas Edison preferred. Many of the new
 5 resources in energy, such as solar and battery energy
 6 storage, are inherently DC, which is resulting in a
 7 mismatch between AC, which is the transmission line
 8 we're talking about, and the DC-based resources and
 9 loads.
 10 And he talks about how this electricity
 11 resources include not only cleaner natural gas plants,
 12 but distributed solar and wind farms located mainly in
 13 rural areas. This new paradigm was enabling options for
 14 smaller regional microgrids as a method of building
 15 greater resiliency, reliability, and security in our
 16 power infrastructure. And these are defined by smaller
 17 geographical boundaries. Microgrids essentially contain
 18 enough energy resources to meet the demands.
 19 And nowhere in the application does Idaho
 20 Power talk about having looked at microgrids as an
 21 option.
 22 So I asked myself: Why is Idaho Power looking
 23 at this long transmission line? Well, the US Department
 24 of Energy report that I cited previously says that:
 25 Currently power groups, like the American Electric

Page 31

1 Power, is not building new power plants; they are
 2 retiring power plants, but they are expanding their
 3 transmission network because it provides reliable
 4 financial returns at a time when an industry's main
 5 source of income, power generation, is flat.
 6 And so I was very concerned that the whole
 7 siting methodology may not have looked at this, and I
 8 was wanting to make sure that you folks heard that.
 9 HEARING OFFICER WEBSTER: Thank you very much.
 10 Following Mr. Moyal, we will have Roger Barnes
 11 on deck.
 12 UNIDENTIFIED SPEAKER: Mr. Barnes is not here.
 13 HEARING OFFICER WEBSTER: Well, then we are
 14 going to skip Mr. Barnes and we will hear from JoAnne
 15 Marlette after --
 16 MR. MOYAL: David Moyal.
 17 HEARING OFFICER WEBSTER: Yes, your turn, and
 18 then Ms. Marlette.
 19 MR. DAVID MOYAL: Thanks for allowing me to
 20 speak to members of the Council --
 21 HEARING OFFICER WEBSTER: A couple things. If
 22 you would use the microphone, if you would state your
 23 name and your address, and if you would read a little
 24 bit slower so the court reporter can take it down.
 25 MR. MOYAL: I will.

Page 32

1 My name is David Moyal, and my address is 1804
 2 Second Street here in La Grande. I appreciate the
 3 opportunity to speak to the members of the Council.
 4 I object to the proposed routing of the B2H
 5 transmission line through Union County. I'm a resident
 6 of La Grande, and I'm very concerned because I live not
 7 much more than a mile from the proposed route. In its
 8 application for site certificate, Idaho Power states
 9 that the project is, and I quote, "not likely to result
 10 in significant adverse impacts to scenic resources and
 11 values identified as significant or important in local
 12 land use plans, tribal land management plans" --
 13 HEARING OFFICER WEBSTER: Mr. Moyal, if you
 14 would move the mic a little closer to you.
 15 MR. MOYAL: Closer still? Is this okay?
 16 HEARING OFFICER WEBSTER: Yes.
 17 MR. MOYAL: -- "and federal land management
 18 plans for any lands located within the analysis area
 19 described for the project."
 20 But this conclusion is far from the case. The
 21 arguments for it can only be made by the narrowest
 22 possible interpretation of specific clauses in the Union
 23 County land use plan. The plan's general and
 24 overarching purpose, and I quote Union County's general
 25 plan, is: "The natural beauty of Union County is worthy

Page 33

1 of preservation and should be preserved consistent with
 2 the stated purposes of this plan."
 3 It goes on to say on page 33 that the
 4 development will maintain or enhance the attractiveness
 5 of the area and not degrade resources. The application
 6 ignores the general purpose of the plan, basically
 7 saying, and I paraphrase it, if an area isn't
 8 specifically mentioned in the plan, in County's plan,
 9 then it lies outside the purview of the application and
 10 doesn't need evaluation.
 11 The logic behind this dismissal of scenic
 12 resources impact is flawed. The County, in defining
 13 specific areas of concern, couldn't possibly in the
 14 1970s have anticipated every possible project that might
 15 deleteriously affect County viewshed, hence the general
 16 mission statement of the plan, which I quoted earlier,
 17 needs to be addressed in the application before
 18 conclusions regarding scenic values can be reached.
 19 I'll go off topic a little bit. I would like
 20 to point out the injustice in the exclusion of the City
 21 of La Grande from permitting and siting process. More
 22 than any other municipality we are impacted by this
 23 project, yet because it lies immediately outside our
 24 city limits we are excluded beyond the City Council
 25 proclamation opposing the project from the

Sandy Ryman

Hello, my name is Sandy Ryman and am a lifelong resident of eastern Oregon. I have an undergraduate degree in Community Health with minors in biology and chemistry, and an MBA. This is not my area of expertise but my work focuses on needs and I have focused my research into this proposal on Exhibit N – the Needs portion of the Idaho Power application for a site certificate.

My comments today are meant to question the foundations of the business model for this proposal for the Boardman to Hemingway transmission line.

Exhibit N of the Idaho Power Application for a Site Certificate describes the need for this project. I am still wading through those details.

The report states: “In September 2009, Idaho Power’s Board of Directors approved guidelines to establish a goal to reduce the CO2 emission intensity of the company’s utility operations.”

A primary electrical source for IP is currently hydroelectric generation. Because of changes in stream flows and production levels of existing renewal resources, they have also worked on assuring diversity in energy resources. These portfolios included eight different types of supply-side resources—solar, single-cycle combustion turbine, combined-cycle combustion turbine, geothermal, pumped storage, distributed generation, combined heat and power.

Additionally, IP notes work on assuring a diversity of energy sources with the power from the Longhorn Power Station, to be built by the Bonneville Power Administration, is from the Mid-Columbia market which includes parts of Canada as well as Washington and Oregon. Sources of power are, at a minimum, wind, dams and coal.

Point 1: I question whether there aren’t more of these power sources available in southern Idaho. Is the cost of this transmission line considered in CO2 emission calculations, because it seems questionable as compared to more localized power sources within southern Idaho?

In April 2015 the US Department of Energy produced a QUADRENNIAL ENERGY REVIEW: ENERGY TRANSMISSION, STORAGE, AND DISTRIBUTION INFRASTRUCTURE.
https://www.energy.gov/sites/prod/files/2015/09/f26/OER_AppendixC_Electricity.pdf

Interesting Facts:

Point 2: Low Load Growth The growth rate of total U.S. end-use electricity consumption has been on the decline—even going negative in recent years. In fact, the growth rate of U.S. electricity load (demand) is at the lowest levels since 1950 (see Figure C-3).

Point 3: Severe Weather and Climate Change Currently, severe weather events are the largest cause of damage to grid infrastructure and disturbances to electricity service. Weather is the leading cause of grid disturbances, particularly at the distribution level, but causes vary by region and include, in addition to weather, types of vegetation, as well as vegetation management and other maintenance practices.

While electricity services in all regions of the country are affected by weather-related outages, “year-in-review” reports published by DOE since 2010 illustrate that **certain regions typically are affected more by certain types of weather events.**

Though the Pacific Northwest, California, and Texas also are impacted. **The West sees many outages caused by lightning and wildfires.**

Additionally, overall extreme wind and temperatures can also make a difference, so in this area 5 factors need to be considered:

- lightning
- wildfires
- extreme cold
- extreme winds
- vegetation growth

These factors create a long term maintenance impact for Idaho Power.

U.S. temperatures are projected to continue rising in the coming decades.⁵² Electricity transmission systems carry less current and operate less efficiently when ambient air temperatures are higher.

In the context of expanding access to renewable energy, **many discussions coalesce** around the **relative strengths and weaknesses of building long-distance, high-voltage electrical transmission lines from the high-quality resources to demand centers, as compared to relying on existing or shorter new transmission to connect demand with nearby, potentially lower-quality renewable or other resources. As with the overall OER modeling effort, this effort used ReEDs, which only builds new transmission along existing or proposed corridors and does not consider local and regional reliability impacts of scenarios.**

Point 4: ELECTRICITY Transmission projects can take 4 or more years and maybe even up to a decade to reach operation and have high upfront capital cost. In all the variables comparing sources of energy available to IP, I don’t know how the cost of the transmission line building and maintenance was factored in. I still need to research this further. Maybe it is factored in and maybe it isn’t – wait till my 6th point for more on that.

Point 5: Up till now, I have focused on looking at the transmission line and factors effecting it’s veracity but there are so many new technologies coming on board that can also impact costs.

I read an article from December, 2017, Gregory Reed *who is a professor and director of the [Center for Energy](#) and [the GRID Institute](#) at the University of Pittsburgh [Swanson School of Engineering](#).* published an online article for *The Hill*, stating:

<https://thehill.com/opinion/energy-environment/365890-a-vulnerable-power-grid-lets-invest-in-critical-national>

Our existing “grid was originally designed to move electricity in one direction, from large, centralized resources to factories, commercial facilities, businesses and homes. But the way we use electricity today is based more on power electronics and direct current, or DC, the format that Thomas Edison preferred. Many new resources, such as solar and battery energy storage systems, are inherently DC, resulting in a mismatch between AC delivery infrastructure and DC-based resources and loads.

He goes further in stating:

“electricity sources include not only cleaner natural gas plants but also distributed solar and wind farms, located mainly in rural areas. This new paradigm is enabling options for smaller regional “microgrids,” as a method of building greater resiliency, reliability, and security in our power infrastructure.

Defined primarily by smaller geographical boundaries, microgrids essentially contain enough energy resources to meet the demand. Microgrids provide energy independence and allow for more rapid restoration of outages as compared to conventional power delivery methods. Microgrids also present opportunities for novel solutions such as the application of DC architecture.

No where were microgrids stated as a resource to assist in creating greater efficiencies within IP’s current system. “At the consumer end, DC networks would better match resources to modern use, increasing efficiency and lowering operating costs.”

Also, according to the U.S. Energy Information Administration about 5 percent of energy generation in the US is lost as it travels from power plant to consumer., use of local energy resources and DC microgrids can reduce those losses significantly.

The promise of DC microgrids <https://microgridknowledge.com/dc-microgrids/>

Point 6: I asked myself, “So why is Idaho Power looking at this long transmission line?”

According to the US Department of Energy report, I cited previously:

“While a number of cost-recovery schemes are available, the incentive to build transmission rests on the fact that, relative to many other investments, transmission assets can provide long-term and stable returns— something that cannot be ensured elsewhere in a dynamic economy and technological environment. For example, American Electric Power—one of the Nation’s largest electric utilities (and a large owner of both generation and transmission)—now has a strategy of not building new power plants, retiring power plants, and expanding its transmission network, which totals more than 39,000 circuit-miles that cross through 11 states, **to provide reliable financial returns at a time when the industry’s main sources of income (traditionally power generation) are flat.** 114”

I am concerned that Oregon citing methods do not look at the needs in terms of cost to the end consumer and whether that cost is really necessary in light of new technologies like microgrids, new battery storage systems, and other internal system changes which can reduce energy requirements. Idaho Power appears to be using the same revenue strategy as American Electric Power – that is a significant concern to end users and those of us along this proposed route.

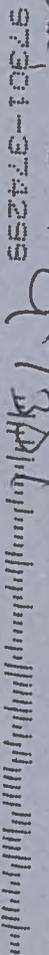
1112 1/2 Adams Ave
La Grande, OR 97850

POSTMARKED ON 5/2
17 AUG 2019 PM 4 E



Energy Facility Siting Counsel
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Salem, Oregon 97301
email: B2H.DPOComments@Oregon.gov

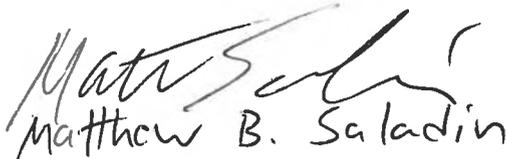
B2H EFSC LACK OF DOCUMENTATION FOR GREAT GRAY OWL AND
FLAMMULATED OWL

The surveys provided for these two species are too old to be a reliable indicator of the presence or impacts to these bird species. They were done in 2011 and 2012, seven years ago. On Page P1-9, Table P1-1 the applicant proposes doing updated surveys only on areas not previously surveyed and submitting them to only ODOE. This type of secretive procedure where the public is completely removed from any opportunity to comment or review the decisions being made by ODOE is the basis for a great deal of public dissatisfaction with the process currently being supported by ODOE and EFSC.

There is no current information in the application to base any decision regarding what the impacts will be to these birds as a result of the Boardman to Hemingway Transmission Line. A site certificate cannot be issued determining compliance with OAR 345-022-0060 without knowing what the use of the area is by wildlife. In addition, since habitat category must include the use of the habitat by species, the habitat categories cannot be determined until the developer provides the necessary current information. Given that the area of the Ladd Marsh Wildlife area is not only protected, but also contains both federal and state mitigation areas, it is not possible to determine whether or not the development will have unacceptable impacts to these mitigation sites absent information regarding the use of the adjacent habitat by wildlife utilizing the mitigation sites and whether or not the habitat will be compromised making it unsuitable for use of the species due to impacts of the development. Considering the lack of information near Ladd Marsh Wildlife area, one must question why.

Ladd Marsh is an important Migratory Bird Flyway according to the Oregon Department of Fish and Wildlife (ODFW 2008.) The Audubon Society lists it as an Important Bird Area. The number of bird species using this area has expanded in the last several years, however, in 2008 over 230 species of birds had been recorded on LMWA and over 120 species nest in the area and yet the developer appears to be ignoring the importance of not only the wildlife area, but also the habitat surrounding the wildlife area which is critical to the survival of birds moving in and out of the mitigation sites.

Signature/Name


Matthew B. Saladin

Address:

903 2nd St.
La Grande OR 97850

ESTERSON Sarah * ODOE

From: Patty Sandoz <psandoz@eoni.com>
Sent: Wednesday, August 21, 2019 7:35 PM
To: B2H DPOComments * ODOE
Subject: B2H Comment: Fire Hazard
Attachments: B2H Fire Hazards.docx

August 21, 2019

Kellen Tardaewether, Senior Siting Analyst

Oregon Department of Energy

550 Capitol St. NE

Salem, Oregon 97301

From: Patty Sandoz

905 14th Street

La Grande, OR 97850

(541) 963-7595

email: B2H.DPOComments@Oregon.gov

Regarding: THERE WILL BE AN INCREASED RISK OF WILD FIRES AND THERE IS A LACK OF LOCAL RESOURCES TO RESPOND IN A TIMELY AND EFFECTIVE MANNER.

The Boardman to Hemingway transmission line will increase the potential and severity of wildfires due to opening up additional access for people, lightning strikes, remoteness of much of the line, the fact that high voltage transmission lines increase the height and heat of fires along the transmission lines, and limitations on local human and equipment resources to fight wildfires in remote locations.

Both Union County and Baker County have submitted comments regarding the fact that they do not have the manpower or specialized equipment necessary to fight fires in the new remote areas which will have an increased risk of catastrophic fires. Part of the area which will be crossed by the transmission line has no designated fire protection other than the Oregon Forest service.

Given the timeframes for contacting and assembling volunteers, and the long travel times to respond to multiple areas along the transmission line, fires will have an opportunity to grow significantly prior to any fire response being able to access the area. Reports from volunteers called on to fight a fire which occurred during the construction of the Elkhorn Wind development stated they had difficulty accessing the area, the terrain was steep and there were multiple rattlesnakes in the area which made the job of fighting the fire very difficult.

Both Union and Baker Counties have submitted written comments to the Oregon Department of Energy stating they would need additional manpower and equipment if they are to be in a position of being able to effectively protect the citizens and resources from potential wildfires resulting from the development of the transmission line.

This is a serious issue due to the fact that the developer has indicated their intent to rely upon local resources in the event a fire occurs along the transmission line.

Sincerely,

Patty Sandoz

Address:

905 14th Street

La Grande, OR 97850

August 21, 2019

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, Oregon 97301

From: Patty Sandoz
905 14th Street
La Grande, OR 97850
(541) 963-7595

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Sincerely,
Patty Sandoz

Address:
905 14th Street
La Grande, OR 97850

August 21, 2019

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street N.E.
Salem, OR. 97301

From: Patty Sandoz
905 14th Street
La Grande, OR 97850
(541) 963-7595

To: Chairmen Beyeler and Members of the Council

Thank you for the opportunity to comment and object. In eastern Oregon there are no 500-kV transmission lines. B2H is very large, sometimes three time the size of current lines in the area.

Idaho Power claims that the transmission line will remain in service for perpetuity. There are no references or hard data to support this optimistic estimate. In fact, 500-kV long distance transmission lines were first built in the 1960s. This same argument is being used for the “Sams Valley Reinforcement Projects” by PacifiCorp. Over the last 50 years, wind power, solar power, local distributed energy, including new battery storage will certainly affect long distance transmission lines. Cancellation of 500-kV projects such as Cascade Crossing and Colusa-Sutter in California, are specific illustrations of changes being made by forward thinking executives.

On page W-3, IPC is required to “remove foundations for each support structure to a depth of one (1) foot below grade, depending on ground slope.” There will be over 4400 cement foundations, most at four feet



diameter, but some up to eight feet in diameter. Regrowth of native grasses, shrubs and trees will require more than one foot of soil. The requirement of one foot has been used on other energy facilities, but B2H is much larger than any other facilities constructed to date in eastern Oregon. IPC does not say how they will remove the reinforced concrete, but mechanical equipment will certainly leave cement chunks in the ground to be covered with some top soil. Weather erosion will soon show the remaining rebars and foundation.

This formula of required bonding will leave the public exposed to risk of returning the lands to preconstruction condition. Most damage will be done in the early stages of construction, such as

ground disturbance for roads and right-of-way and foundation preparation. In (d.) bond or letter of credit amendments should be based upon qualified appraisal.

A bond or letter of credit purpose, is to protect the public from the RISK of not having the site restored to a useful non-hazardous condition. EFSC is recommending that the Council approve the assumption that the risk to the public is ZERO (0) for 50 years, then remain under-insured for the next 50 years. If EFSC and IPC feel that the risk is zero, then the cost of the bond should be low. The risk should be moved to the bank, not forced upon the public. The fact that it may have an operating life of 100 years does not remove the risk that it is there and would need removal and ROW recondition.

Sincerely,

Patty Sandoz

Address:

905 14th Street

La Grande, OR 97850

August 21, 2019

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street N.E.
Salem, OR. 97301

From: Patty Sandoz
905 14th Street
La Grande, OR 97850
(541) 963-7595

To: Chairmen Beyeler and Members of the Council

Thank you for the opportunity to comment and object. The electric grid has been in the same basic form for 100 years. But the methods to address current and future needs is forward focused with introductions of alternate forms of renewable energy including solar panels and wind turbines. The pace of change in implementing these alternate forms is accelerating. At the same time, human consumption need is decreasing as people accelerate their own levels of conservation. There simply is no need for the Boardman to Hemingway power line.

We also must consider safety of all in these turbulent times. A focused generation of energy makes for a prime target for anyone with evil intentions.

High voltage, long distance power lines will be increasingly underutilized. These mega lines are both unstable and dangerous--they are fire hazards and they will destroy ecosystems along any proposed route.

The Boardman to Hemingway line is dangerous on many levels. It is not needed.

Sincerely,
Patty Sandoz

Address:
905 14th Street
La Grande, OR 97850

July 27, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Siting Senior Analyst
Oregon Department of Energy
550 Capitol St. N.E.
Salem, OR 97301

Via EMAIL: B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018;
Draft Proposed Order.

Dear Chair Beyeler and Members of the Council:

I am an Eastern Oregonian and have traveled and recreated in the vicinity of Hilgard State Park for many years. I have concerns about the steep slopes, soils hazards, landslide risks, and erosion impacts that the construction of the Boardman to Hemingway Transmission line will pose in an already dangerous canyon.

Re: Soil Protection - **Drill site 95/3 and 95/4 on unstable and steep slopes**
345-022-0020

(c) ...The applicant, through appropriate site-specific study, has adequately characterized the potential geological and soil hazards of the site and its vicinity that could, in the absence of a seismic event, adversely affect, or be aggravated by, the construction and operation of the proposed facility...

Permanent Administrative Order EFSC 2-2017 Chapter 345 Department of Energy; Energy Facility Siting Council;
effective date 10/18/2017; agency approved date 09/22/2017.

Geological Hazards and Soil Stability; Exhibit H. Attachment H-1, Engineering Geology and Seismic Hazards Supplement to Exhibit H Boardman to Hemingway 500 kV Transmission Line Project Boardman, Oregon to Hemingway, Idaho January 25, 2018; Shannon & Wilson, Inc. 3990 Collins Way, Suite 100, Lake Oswego, Oregon. 97035.

Drill sites 95/3 and 95/4 are shown on the following tables and maps and analysis by Shannon & Wilson, Inc.:

Soils; Map page 18 of 44:

Table B3: Soil Descriptions, described as:

5776CN; erosion hazard; severe, percent of slope Low; 30: High; 60. (sheet 3 of 4)

Table C1: Summary of Proposed Borings; Map Sheet 36

95/3 – Angle change along alignment; Slope stability/landslide; Geo-Seismic Hazard; Road and railroad crossing

95/4 - Angle change along alignment; Road and railroad crossing

Appendix E: Landslide Inventory, E.2.3; PLS-002 Sheet 5, 6

“PLS-002 is an approximately 460-acre potential landslide that was identified in available LiDAR data. PLS-002 has not been verified in the field and should not be considered a landslide based solely on interpretation of LiDAR data. The IPC Proposed Route passes above this potential landslide between towers 93/5 and 95/3, potentially affecting the stability of these proposed towers and associated work areas. A field reconnaissance along this portion of the alignment should be performed as part of the geotechnical exploration program.”

Idaho Power Corporation, in Exhibit H 2.2.4 states *“The soils (in Union County) vary from a few inches to a few feet thick over weathered bedrock, are generally well-drained, and are typically characterized as having a severe erosion hazard.”* Idaho Power Corporation admits in ASC page B-12 that *“The mountainous area such as the Blue Mountains present very challenging topography with many areas of steep slopes in excess of 35 percent and other areas of unstable slopes*

presenting design and construction challenges.” IPCs stated original intention to the EFSC was the following: “Using topographic maps the corridors were adjusted to avoid or minimize distance across very steep slopes and other physical features less desirable for construction and operation of a transmission line.

Hazard Analysis Union County Emergency Operations Plan Updated 6/30/16 lists Winter weather as the highest weighted risk item before Seismic, Fire, Hazmat-Transportation, and Drought. Most of the area receives a large percentage of the annual moisture as snowfall and both the winter storms and the spring melt can be precipitous and unpredictable.

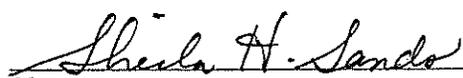
The area surrounding the drill site 95/3 and 95/4 is within a mile of the Hilgard Junction State Park and Recreation area and the heavily traveled I84 transportation/utility corridor.

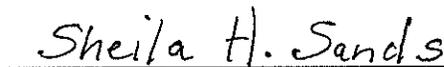
Conclusion and Requested Relief:

Drill site 95/3 and 95/4, and its vicinity, represent a significant risk of several possible adverse effects. This area encompassed by the lands shown in PLS-002 should be removed for consideration as a site for a transmission “facility.” While Idaho Power Corporation attempts to mitigate problems of unstable soil with structure and footing modifications, this should not be considered an acceptable risk when the entire area is unstable.

I appreciate your consideration and your attention to this matter.

Sincerely,


Signature


Printed Name:

Mailing Address: 1508 2nd Street, La Grande, OR 97850

References

Burns, W. J., Mickelson, K. A., Saint-Pierre, E. C., 2011 SLIDO-2, Statewide Landslide Information Database for Oregon, Release 2; Oregon Department of Geology and Mineral Industries.

Idaho Power Corporation, 2017, *Exhibit H of the Application for the Boardman to Hemingway Transmission Line Project*: Report Prepared by Idaho Power Corporation, Boise, Idaho.

Geological Hazards and Soil Stability; Exhibit H. Attachment H-1, Engineering Geology and Seismic Hazards Supplement to Exhibit H Boardman to Hemingway 500kV Transmission Line Project Boardman, Oregon to Hemingway, Idaho January 25, 2018; Shannon & Wilson, Inc. 3990 Collins Way, Suite 100, Lake Oswego, Oregon. 97035.

Permanent Administrative Order EFSC 2-2017 Chapter 345 Department of Energy; Energy Facility Siting Council; effective date 10/18/2017; agency approved date 09/22/2017.

Oregon Department of Energy; Energy Facility Siting Council – Chapter 345, Division 22 General Standards for Siting Facilities; OAR Amend: 345-022-0022; Soil Protection

Idaho Power Corporation, 2017, *Exhibit H of the Application for the Boardman to Hemingway Transmission Line Project*: Report Prepared by Idaho Power Corporation, Boise, Idaho.

Geological Hazards and Soil Stability; Exhibit H. Attachment H-1, Engineering Geology and Seismic Hazards Supplement to Exhibit H Boardman to Hemingway 500kV Transmission Line Project Boardman, Oregon to Hemingway, Idaho January 25, 2018; Shannon & Wilson, Inc. 3990 Collins Way, Suite 100, Lake Oswego, Oregon. 97035, page 28 and elsewhere.

Union County, Oregon, Union County Emergency Operations Plan – Hazard Analysis. Updated – 6/30/2016.

August 2, 2019

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, Oregon 97301
email: B2H.DPOComments@Oregon.gov

THE APPLICANT SIGNIFICANTLY UNDERSTATES THE IMPACTS TO EMPLOYMENT AND FOREST LANDS AS A RESULT OF THE PROPOSED B2H TRANSMISSION LINE

Exhibit K, Attachment K-2, Pages 19 and 20, Section 7.0

The applicant claims that removal of forestland by clearing of trees for a period of over 50 years will have little economic impact to forest sector jobs in Umatilla and Union County. They value the loss of 245.6 acres of forestland in Umatilla County at \$488.60 per acre. However, they value the removal of 530.1 acres lost to the transmission line in Union County at \$182.98 per acre. The applicant provides no justification or documentation to support the difference in value per acre between Umatilla and Union Counties.

Some forest facts related to this section:

According to US Forest Service Tech. Rept. PNW-GTR-578 Rev. 2004 entitled "Forests of Eastern Oregon: an Overview", Eastern Oregon Forests produce an average of 20 cubic feet per acre of timber each year. That would mean that an acre of land would produce approximately 240 board feet of lumber per year per acre during the life of the transmission line. According to Scott Hartell, Planning Director, Union County, forest land in Union County is classified as either 20 cubic feet per acre per year, or 50 cubic feet per acre per year, so the value amounts could be significantly higher. The "Forest Facts Oregon's Forests: Some Facts and Figures" published in 2009 by the Oregon Department of Forestry states that economists estimate that for every billion board feet that is harvested in Oregon 11 forest sector jobs are created or retained.

Idaho Power's stated timber values are unrealistically low according to individuals owning forest land in both counties. No one would be using land for trees which precludes other uses if the economic benefits were as the developer is stating.

The applicant's identification of the acres of forest land impacted is incorrect due not only to the failure to use soil types to identify forest lands, but also, the fact that they are requesting a 300 foot right of way and they need to include the value of any additional trees they will be removing in the 100 foot area on each side of the right of way.

The applicant claims that the value of the land in the right of way will not be significantly reduced due to the owner's opportunity to use the land for agricultural or range land after the transmission line is constructed. This is completely unfounded. The lineal nature of a transmission line precludes any productive use of land taken for the transmission line. The right of way is too narrow to make it available for production of crops, and the costs associated with purchasing equipment for agricultural operations would be prohibitive.

It would be unusual for a forest operator to already own equipment for a crop operation. In order to use the right of way as grazing land, it would have to be fenced. According to "Estimated Livestock Fencing Costs for the Small-Farm Owner" by Derek L. Barber, the average cost of materials for ¼ mile (1,320 ft.)

of field fence is \$1,108.53 plus the cost of building it. The Iowa State University Extension identified 2011 costs for constructing ¼ mile of fencing to be \$1,947.75 installed. Enclosing a square acre requires 820 feet of fence. In other words, the cost of fencing an acre of lost forest land would exceed the value the applicant claims the land would add to the local economy per acre for the 50 years the transmission line is predicted to be in place.

The applicant also claims that the transmission line right of way through forest lands will not cause a substantial change in accepted forest practices or cause a significant increase in the cost of accepted forest practices on lands to be directly impacted by the Project or on surrounding lands. Removing trees from land currently being used to grow them certainly will create a substantial change in accepted forest practices. It also will substantially increase the costs of growing and harvesting trees on the surrounding lands. Soil compacted by heavy equipment used to access the line will discourage regrowth.

The transmission line will make it impossible to use aerial equipment to harvest trees on steep hillsides adjacent to the line; it will increase costs of harvest due to the need to avoid equipment contact with the transmission lines, avoid trees falling on the transmission lines, require new access and egress from the forested lands that avoid having log trucks and equipment moving below the transmission line, It will decrease the harvest along the transmission line due to tree loss along the corridor from wind and weather conditions impacting weakened root infrastructure once the transmission corridor is cleared.

Removing forested land along the transmission line will result in nearly a total loss of the economic value of the land removed from production of trees, and will impact the landowners and county economy not only by the loss of the production of trees and taxes, fees, employment and other benefits coming from that activity, but there will be related losses to the productivity of adjacent land, increased costs of harvesting along the transmission line, introduction of noxious weeds, increased risk of wildfire, potential increase in the number of trespassers, interference with wildlife activities including displacement of wildlife to what may be less desirable habitat, opening the area up to increased predation on the multiple non-raptor species utilizing the forested areas, decreased value of land if it is sold, long-term reduction in assessed value of the land, etc. The conclusions stated by the applicant in section 8.0 are false, absolutely without merit.

In addition, the applicant has failed to provide documentation to support their conclusions. The only reference the applicant cites that relates at all to this issue is the publication from the Oregon Forest Resources Institute.

In summary:

The applicant has failed to document that they will comply with Land Use Goal 4 OAR 660-006-000 through OAR 660-006-0010; There is no documentation provided that would indicate they are in compliance with OAR 345-022-0030 and they have not documented, nor are they able to meet the requirement contained in OAR 345-022-0030(4) to allow an exception.

Therefore, the Council should DENY the application for site certificate.

 _____
Signature Printed Name

Mailing Address: 1508 2nd St., La Grande, OR 97850

August 5, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, Oregon 97301

Via EMAIL: B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposed Order.

Dear Chair Beyeler and Members of the Council:

APPLICANT FAILED TO INCLUDE ALL REQUIRED SOURCES OF NOISE IN THEIR MODELING OF NOISE IMPACTS OF DEVELOPMENT

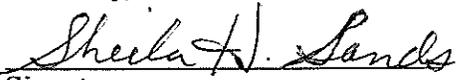
Idaho Power did not include any of the items listed in OAR 340-035-0035(l)(b)(B)(ii), which are only exempt from the noise measurement when the development occurs on a previously used site. When establishing ambient noise level for a new development on a site not previously used, it states: "Sources exempt from the requirements of section (l) of this rule, which are identified in subsections (5)(b) - (f), (j), and (k) of this rule, shall not be excluded from this ambient measurement."

The applicant's noise modeling only includes the noise generated from the transmission line itself. Noise modeling must be corrected to include (b) Warning Devices, (c) sounds created by road vehicles, (d) Sounds from the operation of any equipment or facility of a surface carrier engaged in interstate commerce by railroad to the extent that such equipment or facility is regulated by pre-emptive federal regulations as set forth in Part 201 of Title 40 of the Code of Federal Regulations, promulgated pursuant to Section 17 of the Noise Control Act of 1972, 86 Stat. 1248, Public Law 92-576 ; (e) bells, chimes, or carillons; (f) aircraft subject to pre-emptive federal regulations and (k) sounds created by the operation of road vehicle auxiliary equipment.

The application is incomplete. Without having the information regarding these additional noise sources, the department and the siting council lack the information regarding how many noise sensitive properties are impacted and by how much.

A proposed order cannot be issued until the developer submits all the information regarding the noise impacts of this development. This information must be available to decide if the standard is met or if it can be met with additional site conditions.

Sincerely,


Signature

Printed Name: Sheila H. Sands
Mailing Address: 1508 2nd St.
La Grande, OR 97850

August 10, 2019

Oregon Energy Facility Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E
Salem, OR 97301

Email: B2H.DPOComments@Oregon.gov

Dear Chair Beyeler and Members of the Council:

Our family home is located on Morgan Lake Road. I bring my children from the city regularly to visit their grandparents and experience nature. We have direct experience of the tranquility of this spot. We are also clearly aware of the natural challenges this incredible place presents in the form of snow, fire, and wildlife sensitivity. With the current mood around wildfires throughout the country, we are particularly sensitive to the addition of power lines on the mountain, as well as the kinds of precautions that will be taken to avoid them around the power lines which will directly impact the wildlife we treasure so much. We believe this is not the right place for the power lines and the analysis done for the project is inadequate.

Morgan Lake Park, analyzed as part of the Morgan Lake Alternative - (Attachment T-3, Table T-2, p. T-3-2; Table T-3-1, p. T-13) and Summary of Impacts, pp. T-27-28, 43, (T-4-51-56), inaccurately describes features of the park itself and severely underestimates the permanent impact of development on this unique city park.

See OAR 345-021-0010 (1) (T) (A) (B) (D) & OAR 345-022-0100

Morgan Lake Park is an important opportunity primarily because of its unique designation status as a city park, rareness, and special qualities per OAR 345-021-0010(1)(t)(A) Attachment T-3, Table T-3-1 (p. T-13)

Page 62 (T-57) refers to "extensive work in the siting study of the Morgan Lake Alternative." That is doubtful because much of the information in the study is completely inaccurate:

Page 145 (T-4-46) Morgan Lake Park is described as 204 acres, containing one lake, which is developed with primitive campsites and fishing docks.

Morgan Lake Park actually contains two lakes. Morgan Lake covers 70 acres; the other, Twin Lake, [also known as Little Morgan Lake] is in plain sight, within 300' of Morgan Lake; it covers 27 acres.

Twin Lake is undeveloped, a wildlife and bird sanctuary, home to nesting bald eagles. In their application, Idaho Power omits any references to Twin Lake.

Page 156, (T-4-6) purports to be a map of Morgan Lake Park. According to the map legend, the purple cross hatch area is Morgan Lake Park. That's wrong. The purple cross hatch is Morgan Lake. The actual boundaries of the 204 acre park are not indicated. Obviously, it is difficult to believe "extensive work on this siting study" ever occurred.

2) b. A specific example of unsupported conclusion:

Page 145 (T-4-46) Baseline condition: "... A goal of minimal development of Morgan Lake Park should be maintained to preserve the maximum natural setting and to encourage solitude, isolation, and limited visibility of users..."

Yet, the applicant did not complete noise modeling on multiple noise sensitive properties within ½ mile of the development as required by OAR 340-035-0015(38). In fact, the closest noise modeling was performed at Hilgard, the junction of I-84 and 244, about 8 miles air miles away, with a train track nearby. Applicant could scarcely have chosen a site less representative of the absolute silence typical of the Morgan Lake setting.

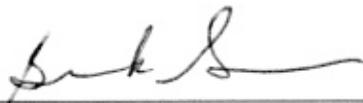
Page 146 (T-4-47) "The landscape character is natural appearing. Scenic integrity is high as the human developments are harmonious with the landscape."

Page 49 (T-44) "Vegetation will block views of the towers from most locations in the park." In reality, one tower would dominate the entrance to the park, all 130' in plain view. Within the Park, the trees bordering the lake are no more than 80' high. 130' transmission towers will rise more than 50' above those trees, dominating the current landscape.

Idaho Power does not provide a graphic representation of Morgan Lake Park, with the accurate height of existing trees, and elevation of towers above the trees. It simply concludes that the inescapable sight of 500 kV transmission lines and towers around a natural lake setting will have "no significant impact" on Morgan Lake Park.

This is the park whose baseline "should be maintained to preserve the maximum natural setting and to encourage solitude, isolation, and limited visibility of users" [because 50 years ago, no one ever imagined anything larger than a human being, might ever intrude]..."

I urge the Commission to deny this application for a site certificate until each comment submitted and sent to the Commission by August 22 has been thoroughly analyzed, and Idaho Power has provided credible evidence to support each of its conclusions of "no significant impact."



Signature

Name: Brook Sarson

Mailing Address: 60202 Morgan Lake Rd.
La Grande, OR 97850

TARDAEWETHER Kellen * ODOE

From: CINDY SCHAURES <lctbk@msn.com>
Sent: Saturday, June 29, 2019 12:05 PM
To: B2H DPOComments * ODOE; rstraub@blm.gov <rstraub@blm.gov>; TARDAEWETHER Kellen * ODOE; JMaffuccio@idahopower.com <JMaffuccio@idahopower.com>; comment@boardmantohemingway.com
Subject: Stop B2H

My name is Lucinda Schaures and I own property on the south side of La Grande just below where the proposed route for the B2H powerline is located. I do have many objections for B2H and would like to voice my opinions in this email. For expediency's sake, I will focus on just a couple of my concerns at this time.

1. There is a powerline that cuts across my acreage. It has caused me problems in many different ways. The land under the powerlines is virtually useless. I am getting ready to sell the property and have discovered that the value of my land is greatly decreased by the powerlines. The people who have property under or near the proposed powerlines will see their property decrease in value momentarily as well as aesthetically. The views of our beautiful valley will have a ugly scar on them. On a regular basis, someone comes to my property and enters without my permission spraying and cutting down the vegetation that grows directly beneath the powerlines. Is that going to happen on all the acreage that is affected by B2H? How will the land owners feel about that on their own property?
2. Last year, I had to tear down part of an old barn on my property. The soil underneath the barn is now covered in noxious weeds even though I planted grass, sprayed, and have pulled the weeds numerous times. The soil that will be disturbed during construction of the proposed power line will most likely be covered with noxious weeds that will spread upsetting the balance of our native vegetation. That is a huge concern and can add to the very high reality of fire that can be caused by the proposed powerlines.

As I previously mentioned, there are many other reasons that I and many other people I know are opposed to B2H. I do feel it is antiquated technology, a fire danger, dangerous to our environment, and the list could go on. There was a good letter that was published in The Observer that sums up many but not all of my concerns. The link to the letter is here: <https://www.lagrandeobserver.com/opinion/6989637-151/my-voice-nothing-to-gain-everything-to-lose>

Please listen to the many concerned citizens of my area and stop the B2H powerline.

Lucinda Schaures
P. O. Box 3096
La Grande, OR 97850

Sent from [Mail](#) for Windows 10

Published March 7, 2019 at 10:40AM

MY VOICE: Nothing to gain, everything to lose: B2H transmission line is obsolete and devastating

The B2H transmission line is a 20th century solution in search of a modern problem that doesn't exist. It's wasteful, obsolete and potentially devastating.

As of late, the City of La Grande's official position on the B2H Transmission Line project has been "No Position" or at best "Move B2H." During my campaign for city council this past fall, I studied this issue and I can absolutely understand why the city has taken that stance. "We don't have a dog in that fight" is a phrase we often hear at council meetings and work sessions, and the city's attitude about this issue is no different — but this time, it's due to a lack of understanding and a failure to fully appreciate the devastating consequences of this obsolete and completely unnecessary project. Consequences that absolutely give the city a number of reasons to join the effort to stop the B2H project.

Ashley O'Toole is a local real estate agent. He sits on several boards and committees in La Grande and Union County. In 2018 he was a candidate for La Grande City Council, and he recently joined the STOP

Here are some truths: Not a single tower will be built on city property, and not a single dollar of increased property tax revenue will benefit the city.

(Speaking of taxes, we've also found that the proposed, approximately \$600,000 tax benefit to Union County is merely a guess by Idaho Power and cannot be corroborated by anyone at the County Assessor's office or Oregon Department of Revenue — but that's a story for a later time.)

It's also true the city no longer has a "seat at the table" when it comes to working with Idaho Power, the county, state, BLM and other agencies that have a stake in this project.

However, that doesn't mean the city government and residents can't take action to help stop this project while there's still time.

Idaho Power is planning to utilize Morgan Lake Road, as well as the Modelaire/Hawthorne Loop during construction. I understandt Morgan Lake Road is a county road, so hopefully they're negotiating with Idaho Power, but who will pay to repair Gekeler Lane or Walnut Street? Modelaire and Hawthorne? I promise you the private corporation will not simply volunteer those funds.

The citizens of La Grande will be stuck footing a bill that could reach up to several hundreds of thousands of dollars.

The city government should also request that Idaho Power gives us the funds to more effectively respond to a fire, be it additional equipment or salary. These are not pipe dreams — local municipalities around the country have experienced successful negotiations in similar situations.

If you enjoy hunting, you'll probably be mad when some of our most cherished local hunting grounds are destroyed. If you enjoy afternoons at Morgan Lake, you'll be upset when Morgan Lake Road is completely jammed every day for more than a year with cranes, D8 Dozers, timber trucks and other equipment during construction; and you probably won't enjoy the view of those 180-foot towers when they're finished (nearly twice the height of the Sac Annex Building).

If you're a history buff like me, you'll be angry to find out that miles of Oregon Trail ruts will likely be destroyed. If this transmission line causes a fire (like the one responsible for starting the Camp Fire outside of Paradise, California, in 2018), you'll probably be upset when your house burns down.

La Grande has nothing to gain from this project and everything to lose. It will ruin our surrounding ecosystems, our hunting and recreational grounds, our historical sites, our property values, our view of the surrounding mountains and our ability to effectively protect ourselves from devastating fires. All of this, to help a private corporation's customers in Sun Valley, Idaho, receive hydro-power originally intended for us in Oregon and Washington. ("Sun" Valley, where solar power would be a much more modern, effective and cheaper energy solution for those customers.)

Since 2009, at least 11 proposals for new, high-voltage transmission lines around the country have been replaced by more cost-effective solutions.

Now it's our turn. There is still time to stop B2H, but it will require all of us getting mad and taking action. If you'd like to find out more information, or how you can join the effort, please email stopB2H@gmail.com . Our website, www.stopb2h.org, (<http://www.stopb2h.org>) is coming soon.

August 2, 2019

Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, Oregon 97301
email: B2H.DPOComments@Oregon.gov

THE APPLICANT SIGNIFICANTLY UNDERSTATES THE IMPACTS TO EMPLOYMENT AND FOREST LANDS AS A RESULT OF THE PROPOSED B2H TRANSMISSION LINE

Exhibit K, Attachment K-2, Pages 19 and 20, Section 7.0

The applicant claims that removal of forestland by clearing of trees for a period of over 50 years will have little economic impact to forest sector jobs in Umatilla and Union County. They value the loss of 245.6 acres of forestland in Umatilla County at \$488.60 per acre. However, they value the removal of 530.1 acres lost to the transmission line in Union County at \$182.98 per acre. The applicant provides no justification or documentation to support the difference in value per acre between Umatilla and Union Counties.

Some forest facts related to this section:

According to US Forest Service Tech. Rept. PNW-GTR-578 Rev. 2004 entitled "Forests of Eastern Oregon: an Overview", Eastern Oregon Forests produce an average of 20 cubic feet per acre of timber each year. That would mean that an acre of land would produce approximately 240 board feet of lumber per year per acre during the life of the transmission line. According to Scott Hartell, Planning Director, Union County, forest land in Union County is classified as either 20 cubic feet per acre per year, or 50 cubic feet per acre per year, so the value amounts could be significantly higher. The "Forest Facts Oregon's Forests: Some Facts and Figures" published in 2009 by the Oregon Department of Forestry states that economists estimate that for every billion board feet that is harvested in Oregon 11 forest sector jobs are created or retained.

Idaho Power's stated timber values are unrealistically low according to individuals owning forest land in both counties. No one would be using land for trees which precludes other uses if the economic benefits were as the developer is stating.

The applicant's identification of the acres of forest land impacted is incorrect due not only to the failure to use soil types to identify forest lands, but also, the fact that they are requesting a 300 foot right of way and they need to include the value of any additional trees they will be removing in the 100 foot area on each side of the right of way.

The applicant claims that the value of the land in the right of way will not be significantly reduced due to the owner's opportunity to use the land for agricultural or range land after the transmission line is constructed. This is completely unfounded. The lineal nature of a transmission line precludes any productive use of land taken for the transmission line. The right of way is too narrow to make it available for production of crops, and the costs associated with purchasing equipment for agricultural operations would be prohibitive.

It would be unusual for a forest operator to already own equipment for a crop operation. In order to use the right of way as grazing land, it would have to be fenced. According to "Estimated Livestock Fencing Costs for the Small-Farm Owner" by Derek L. Barber, the average cost of materials for ¼ mile (1,320 ft.)

of field fence is \$1,108.53 plus the cost of building it. The Iowa State University Extension identified 2011 costs for constructing ¼ mile of fencing to be \$1,947.75 installed. Enclosing a square acre requires 820 feet of fence. In other words, the cost of fencing an acre of lost forest land would exceed the value the applicant claims the land would add to the local economy per acre for the 50 years the transmission line is predicted to be in place.

The applicant also claims that the transmission line right of way through forest lands will not cause a substantial change in accepted forest practices or cause a significant increase in the cost of accepted forest practices on lands to be directly impacted by the Project or on surrounding lands. Removing trees from land currently being used to grow them certainly will create a substantial change in accepted forest practices. It also will substantially increase the costs of growing and harvesting trees on the surrounding lands. Soil compacted by heavy equipment used to access the line will discourage regrowth.

The transmission line will make it impossible to use aerial equipment to harvest trees on steep hillsides adjacent to the line; it will increase costs of harvest due to the need to avoid equipment contact with the transmission lines, avoid trees falling on the transmission lines, require new access and egress from the forested lands that avoid having log trucks and equipment moving below the transmission line, It will decrease the harvest along the transmission line due to tree loss along the corridor from wind and weather conditions impacting weakened root infrastructure once the transmission corridor is cleared.

Removing forested land along the transmission line will result in nearly a total loss of the economic value of the land removed from production of trees, and will impact the landowners and county economy not only by the loss of the production of trees and taxes, fees, employment and other benefits coming from that activity, but there will be related losses to the productivity of adjacent land, increased costs of harvesting along the transmission line, introduction of noxious weeds, increased risk of wildfire, potential increase in the number of trespassers, interference with wildlife activities including displacement of wildlife to what may be less desirable habitat, opening the area up to increased predation on the multiple non-raptor species utilizing the forested areas, decreased value of land if it is sold, long-term reduction in assessed value of the land, etc. The conclusions stated by the applicant in section 8.0 are false, absolutely without merit.

In addition, the applicant has failed to provide documentation to support their conclusions. The only reference the applicant cites that relates at all to this issue is the publication from the Oregon Forest Resources Institute.

In summary:

The applicant has failed to document that they will comply with Land Use Goal 4 OAR 660-006-000 through OAR 660-006-0010; There is no documentation provided that would indicate they are in compliance with OAR 345-022-0030 and they have not documented, nor are they able to meet the requirement contained in OAR 345-022-0030(4) to allow an exception.

Therefore, the Council should DENY the application for site certificate.


Signature

Lucinda Schaures
Printed Name

Mailing Address: PO Box 3096
LaGrande OR 97850

August 5, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, OR 97301

B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposal Order May 23, 2019.

Chair Beyeler and Members of the Council:

I am very concerned about the Boardman to Hemingway Transmission Project as it is proposed. My concerns are for the safety of myself and all of the citizens of La Grande if this line is permitted. My primary concerns are slope instability and wildfire hazard.

The proposed route sited to the west of La Grande is placed on a ridge noted to have instability and high risk for slides. The geologic study provided by Idaho Power references several studies (below).

Table H-2. USGS Quaternary Faults within 5 Miles of Project by County on page H-12 clearly shows that the project is placed right on an active fault in the West Grande Ronde Valley Fault Zone. In addition, in exhibit H, Geological Hazards and Soil Stability, Table B3: Soils Descriptions, Union County, much of the erosion hazard is rated "severe." Below is part of the report:

5.2 La Grande Area Slope Instability

As part of our study, we reviewed DOGAMI's open file report: Engineering Geology of the La Grande Area, Union County, Oregon, by Schlicker and Deacon (1971). The study identified several landslides in the areas west and south of La Grande. The majority of the landslide features mapped by Schlicker and Deacon (1971) were similarly mapped as landslides or alluvial fans in Ferns and others (2010). The current SLIDO database uses the feature locations mapped in Ferns and others (2010). While the two map sets generally agree, there are differences in the mapped limits of some landslide and alluvial fan areas, and there is one landslide area in Schlicker and Deacon (1971), near towers 106/3 and 106/4, which is not included in SLIDO or Ferns and others (2010). The Landslide Inventory in Appendix E includes mapped landslide and alluvial fan limits from both SLIDO and Schlicker and Deacon (1971).

This slope instability is not inconsequential to a project like this. Recall in 2014, Oso, Washington, was the site of a catastrophic mudslide as the result of logging disturbance of the soil upslope from the town combined with significant rainfall. This resulted in 43 fatalities. We must learn from previous mistakes in not heeding the geologists' warnings. The area down slope from the proposed B2H line lies the Grande Ronde Hospital and Clinics, which employs hundreds of people and is the critical access hospital for this region. La Grande High School and Central Elementary School are also positioned down slope from the proposed towers. At least 100 homes are positioned down slope of the proposed towers. According to "Engineering Geology of the La Grande Area, Union County, Oregon" maps published by Schlicker, and Deacon (1971), the ENTIRE area of the hillside is deemed a "landslide area" in the La Grande SE quadrangle. This is not a safe place for a transmission line.

The next significant hazard to our community is wildfire. Oregon is ranked 8th Most Wildfire Prone state in the United States according to Verisk Wildfire Risk analysis. La Grande is ranked in the top 50 communities in Oregon with the greatest cumulative housing-unit exposure to wildfire as referenced in "Exposure of human communities to wildfire in the Pacific Northwest," by Joe H. Scott, Julie Gilbertson-Day and Richard D. Stratton (available at http://pyrologix.com/ftp/Public/Reports/RiskToCommunities_OR-WA_BriefingPaper.pdf). Finally the proposed route is in the vicinity of Morgan lake, the highest risk area (#1) in Union County in terms of wildland-urban interface, according to the County's Community Wildfire Protection Plan, August 10, 2005.

Cal Fire cites Pacific Gas and Electric equipment and power lines as the cause of numerous wildfires in the state in the last 2 years. This includes the Camp Fire in Butte County (2018), Tubbs Fire in Napa/Sonoma Counties (2017), Witch Fire in San Diego (2007), Valley Fire in Lake/Napa/Sonoma Counties (2015), Nuns Fire in Sonoma County (2017), which were all attributed to transmission.

The Boardman To Hemingway Transmission Line Project proposal places lines about 2000 feet or less than half a mile from the La Grande city limits, including medium density housing within the city as well as Grande Ronde Hospital. If a line from this proposed route were to spark a fire, La Grande residents would have little time to react. According to National Geographic, wildfires can move as fast as 6.7 mph in forests and 14 mph in grasslands. A fast-moving fire starting at the B2H lines could move to residential areas of La Grande and HOSPITAL in 10 minutes. This is frightening and an unacceptable risk for our citizens.

The current proposal for a Boardman to Hemingway transmission line does not adequately address the issue of landslides, basically by stating it will be mitigated somehow when the time comes to build. The proposal offers no analysis of wildfire risk, which is an unacceptable omission. All of the routes proposed are unsafe and create an unacceptable risk to the citizens of La Grande.

The Council should DENY the request for a site certificate.

Sincerely,

Lucinda Schaires

Name: Lucinda Schaires

Address: P.O. Box 3096
La Grande, OR. 97850

August 12, 2019

Oregon Energy Facility Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E
Salem, OR 97301

Dear Chair Beyeler and Members of the Council:

Page 62 (T-57) ASC refers to “extensive work in the siting study of the Morgan Lake Alternative.” I doubt it was extensive because it is entirely inaccurate:

Page 145 (T-4-46) Morgan Lake Park is described as 204 acres, containing one lake, which is developed with primitive campsites and fishing docks.

Morgan Lake Park actually contains two lakes. Morgan Lake covers 70 acres; the other, Twin Lake, [also known as Little Morgan Lake] is in plain sight, within 300’ of Morgan Lake; it covers 27 acres.

Twin Lake is undeveloped, a wild life and bird sanctuary, home to nesting bald eagles. It is designated as protected wetlands. In their application, Idaho Power conveniently omits any references to Twin Lake.

Page 156, (T-4-6) ASC purports to be a map of Morgan Lake Park. According to the map legend, the purple cross hatch amoeba-shaped area is Morgan Lake Park. That’s wrong. The purple cross hatch is Morgan Lake. The actual boundaries of the 204 acre park are not indicated. Obviously, it’s difficult to believe “extensive work on this siting study” ever occurred.

The applicant also used aerial photography to identify and avoid, where practical, irrigation pivots, houses, barns, private runways, other structures (e.g., wind turbines), and land use features. The corridors were adjusted using topographic maps to avoid or minimize distance across very steep slopes and other physical features less desirable for transmission line construction and operation. The corridors were again checked against the constraint and opportunity geographic information system (GIS) database to avoid, where possible, exclusion areas and areas of high permitting difficulty such as potential Oregon Department of Wildlife (ODFW) Category 1 habitats. The applicant then grouped the alternative corridors into 14 regions and evaluated on the basis of permitting difficulty, construction difficulty and mitigation costs. Using the constraint database, which incorporated the eight siting factors, the applicant reviewed the alternatives to determine the most reasonable corridor within each region. (DPO p. 11)

It is distressing to think that this is only one of many errors in Idaho Power’s ASC. If the IPC surveying and engineering staffs are unable to detect a 27 acre lake within a 204 acre park, it’s disquieting to imagine the difficulties in identifying and analyzing less obvious and life-threatening situations like fault zones, slide areas and other potential dangers to public safety

If this slipshod effort is typical of IPC's careful attention to engineering a route, it may also explain IPC's egregious error in choosing to site the B2H on their preferred Mill Creek or alternative Morgan Lake route rather than on the carefully studied and analyzed BLM Environmentally Preferred route.

Following the DEIS, Idaho Power made a hasty and ill-advised effort to avoid litigation threatened by a individuals whose remote properties and summer cabins would have been impact by the line. If Idaho Power had chosen to follow the BLM Environmentally Preferred route, miles to the west of La Grande, rather than in the immediate view of 13,000 La Grande residents, there might have been ten people at the public meetings in La Grande, rather than the hundreds who have consistently appeared to protest various serious problems associated with the routes proposed for the B2H. The haste of this effort is evident in the abundant errors of omission and misinformation typical of the B2H ASCand DPO which will be addressec in a separate comment.

Lucinda Schawres
Signature

Name: Lucinda Schawres

Address: PO Box 3096
La Grande OR 97850

PLEASE RETURN THIS FORM TO THE COUNCIL ASSISTANT

*See reverse for tips on giving testimony

ENERGY FACILITY SITING COUNCIL (EFSC)

Date: 6/20/19 Location: La Grande, OR

REGISTRATION FOR PUBLIC COMMENT

Name: Chelsea Schultz

Address: 1200 B ave

I represent (if applicable) _____

Print your name OR your organization/business name.

Send me future notifications about Council meetings via email.

My email address is: _____

I wish to address the Energy Facility Siting Council and/or

I wish to submit the following written comment:

I agree that the tower is a danger to
the environment, animals, and humans. Its is
not worth the ~~no~~ damage it will' cause.

stop BZH Coalition

PLEASE NOTE: If there are a large number of speakers, it may be necessary to limit the amount of time each speaker is allowed.

TARDAEWETHER Kellen * ODOE

From: Dale Mammen <dmammen@eoni.com>
Sent: Thursday, August 15, 2019 5:53 PM
To: B2H DPOComments * ODOE
Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposed Order 5/23/2019
Attachments: Scan 2019-8-15 17.38.19.pdf

To: Chairman Beyeler and Members of the Council

Find attached a letter signed by me and 54 other residents of La Grande expressing our concerns regarding the B2H Project and we request that EFSC deny the Site Certificate.

I have also sent a bound copy of this material by the US Postal Service.

Sincerely,

Virginia L. Mammen
405 Balsa
La Grande, Oregon 97850

August 10, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E.
Salem, OR. 97301

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018:Draft Proposed Order.

Dear Chair Beyeler and Members of the Council:

My comment is about the usage of the "Local Streets" ¹ specifically the Modelaire-Hawthorne Loop) ², hereafter referred to as the "loop", of La Grande to access the site entrance. This residential "loop" was constructed without sidewalks for a new development around the early 1960s.

According to OAR 345-022-0110, Public Services (pg. 5. April 2017) "The applicant...must address all permanent and temporary impacts of the facility on housing, traffic, safety, police and fire protection, health care and schools." ³

My impression from reviewing the application Page 17 ⁴ is that the applicant has not fully examined the final portion of the intended route nor does it fully recognize or address the need for traffic mitigation. This "loop" is the only access to/from thirty-six houses to the rest of the city. The area to the north of the "loop" is occupied by the Grande Ronde Hospital and Medical Clinic. Two blocks to the east is located the local high school and a grade school. ²

In June of 2016, the Grande Ronde Hospital petitioned the City to have a conditional use for a parking lot expansion project next to Hawthorne. The Conditional Use Permit was approved subject to the Condition of Approval that "No driveway access to GRH parking lot areas shall be permitted onto Hawthorn Drive as such street is developed to residential standards and is not designed to support commercial traffic." ⁵

The La Grande Director of Public Works, Kyle Carpenter, provided information regarding the widths for the streets in question. The two streets range from 33 feet to 37 feet in width with no sidewalks. I personally measured the area where the unpaved stem of Hawthorne leaves the "loop" to go up the hill. At the junction it measures 32 feet curb cut to curb cut and narrows to 18-21 feet in width as it goes around the corner up the hill. 6 The Public Works Director also provided pictures of the mapping system showing the existing utilities located in the "loop". 7-8. It should also be noted that from the entrance to the "loop" at Sunset Drive to the entrance of the site the road has a 16% grade.

Attachment U2 9 from the application shows an "Aerial Lift Crane to be Used During Construction" and the Transportation and Traffic Plan on page 19 10 lists a number of other vehicles anticipated to be used. Article 6.6 — Public Street Standards for the City of La Grande Section 6.6.002 states that "Collector Streets are designed to withstand normal trucks of an HS20 loading. Larger trucks are to utilize Arterial Streets where at all possible." 11 The majority of vehicles listed on page 19 exceed that limit and would be using a Local Street in addition to Arterial and Collector Streets. According to the Public Works Director the two streets in the "loop" were designed as Local Streets for residential use, able to accept the pressures of HS20 for the purpose of an occasional need such as a weekly garbage truck or an emergency vehicle but for no more than 5% of the time. The paving construction of these over 50 year old streets in the "loop" was not designed for repetitive use by vehicles heavier than a normal car. These streets in the "loop" have not been repaved, only patched when necessary, since they were first constructed.

The application does not address the "loop" specifically, but 3.1.2 (pg. 19) 10 and Table 6 (pg.17) 12 of the Transportation and Traffic Plan indicate there would be numerous vehicles using this route. Not knowing exactly just which vehicles would be on the "loop" daily but making a conservative estimate of 50 round trips (100 single) it would be a constant parade with one truck every 7.2 minutes. This is unacceptable for numerous reasons including constant excessive noise.

Not only would weight of the vehicles be a problem but the narrowness of the "loop" streets and the ninety degree blind curves that would have to be executed would be either impossible or extremely dangerous considering the turning radius for many of these large vehicles. The

already dangerous situation for a number of driveways that exit onto these "loop" streets at blind curves would be exacerbated. 13-14

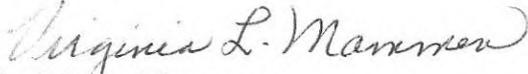
When considering only the traffic and safety issues listed above, the use of the "loop" as a part of the route for Idaho Power seems to be not only dangerous for the residents but unconscionable and irresponsible for Idaho Power to use such streets that are currently primarily for the neighborhood for walking (children to school, all ages for physical training), driving, or biking. I fear there are standards that are either not being considered or they are intentionally being ignored. There should be some common sense, courtesy and respect for the impact this project would impose on any neighborhood.

Finally, La Grande Ordinance Number 3077, which adopted Oregon State Traffic Laws by reference, states in Section 17 page 8 "It shall be unlawful for any person, firm or corporation to use, drive or operate any vehicle or combination of vehicles with a gross weight of 26,000, pounds or more upon any street of the City of La Grande, Oregon, except upon posted truck routes." Neither Modelaire/Hawthorne Loop nor Sunset Drive are posted as truck routes. 15-16

A site review and traffic plan must be completed prior to the cite certificate being issued and not 90 days prior to construction as stated.

For the above reasons I oppose the usage of the proposed route for the construction of the B2H transmission line.

Sincerely,


Virginia L. Mammen
405 Balsa
La Grande, Oregon. 97850

gmammen@eoni.com

**TABLE 1
 STREET STANDARDS**

Functional Classification	ADT Volume	Speed (mph)	# of Travel Lanes	Travel Lane Width	Turn Lane or Median Width	Bike Lanes	Min. Bike Lane Width	On-Street parking
Downtown Arterial	10,000	20	2-3	11'	11'			both sides
Arterial	10,000	40-55	2-5	12'	4-14'	optional ⁴	5'	none
Major Collector	2,000 - 10,000	25-45	2-3	11'	12'	required	5'	one or both sides
Minor Collector	1,000 - 2,000	25-35	2	11'	none	Optional ⁵	5'	one or both sides
Local Street	0 - 1,000	15-25	2	10'	none	none	none	one or both sides

Functional Classification	Sidewalks	Min. Sidewalk Width	Planting Strip Width ¹	Total Paved Width ²	Total ROW Width ³	Private Access Spacing
Downtown Arterial	required	12'	3'6" ⁵	49'	80'	200'
Arterial	required	5'	8'	36'-72'	80'-102'	200' - 400'
Major Collector	required	5'	8'	52'-60'	62'-90'	150' - 300'
Minor Collector	required	5'	8'	30'-48'	60'-78'	75' - 150'
Local Street	required	5'	8'	28'-36'	40'-66'	Each Lot

¹A portion of the required planting strip width may be used instead as additional sidewalk width or reduced right of way, as appropriate.

²The minimum of the paved width was calculated with the following assumptions:

- Arterials: Two (2) travel lanes, four foot (4') median divider, no center turn lane, no bike lanes.
- Major Collectors: Two (2) travel lanes, two (2) bike lanes, no center turn lane, parking on one (1) side.
- Minor Collectors: Two (2) travel lanes, parking on one (1) side of street, no bike lanes.
- Local Streets: Two (2) travel lanes, parking on one (1) side of street.

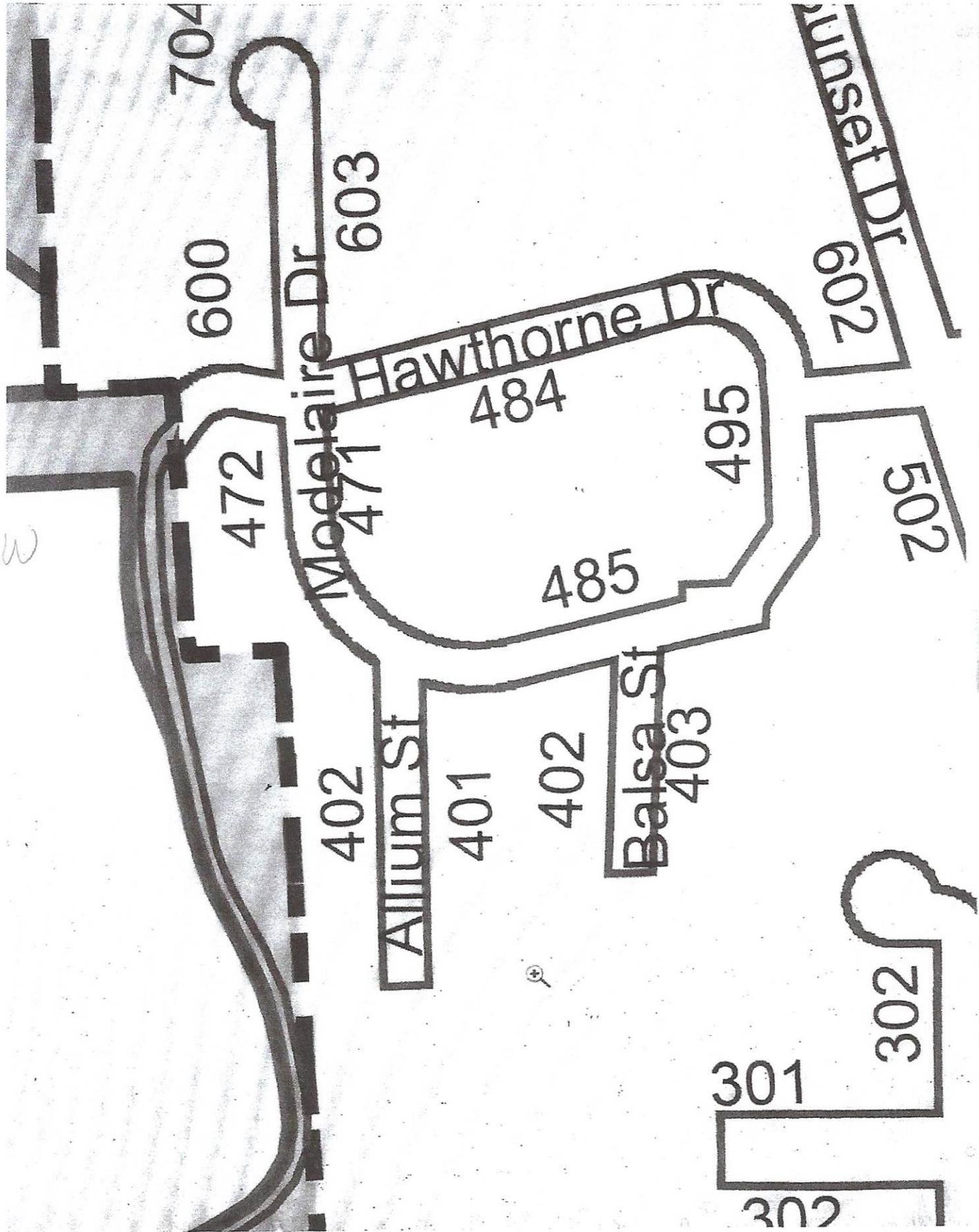
The maximum paved width for each street was calculated assuming the inclusion of all required and optional facilities. Minimum paved widths for each street are as required in Section 6.2.005 of this Code.

³These right-of-way width ranges are for new streets.

⁴Bike lanes should be provided on Arterials unless more desirable parallel facilities are designated and designed to accommodate bicycles.

⁵ Bike lanes should be provided on Minor Collectors where traffic volumes or other factors warrant. Otherwise, Minor Collectors should be designed and designated as shared roadway facilities with wide outside travel lanes of 14' on important bike routes.

N



W

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S

Public Services

ORAR 345-022-0110

This standard ensures that the proposed facility will not affect the ability of service providers in local communities to provide public services, such as fire protection or education. The applicant must assess the proposed facility's need for water and for disposal of wastewater, storm water and solid waste. The applicant must also evaluate the expected population increases in local communities resulting from construction and operation of the facility; and must address all permanent and temporary impacts of the facility on housing, traffic safety, police and fire protection, health care and schools. The Council must determine whether the applicant has identified potential adverse impacts to service providers and proposed adequate mitigation to ensure that there will be no significant adverse effect on the ability of a service provider to provide services. In considering the impacts, the Council solicits comments from affected local governments, fire or police departments, school districts and health care agencies.

Waste Minimization

ORAR 345-022-0120

This standard requires the Council to evaluate the applicant's proposal to minimize solid waste and wastewater generated by construction and operation of the proposed facility. The standard requires recycling of wastes, if feasible, or proper waste disposal if recycling is not feasible.

The applicant must evaluate the types of waste products that would be produced during construction and operation of the proposed facility and estimate the amounts or volume of waste products. The applicant must propose appropriate methods to handle the waste through collection, storage and disposal. Compliance with the standard assures that the applicant will reduce the amount of waste generated and dispose of waste in a responsible manner.

Need for a Facility

ORAR 345-023-0005

This standard requires the applicant for non-generating energy facilities (such as electric transmission lines) to demonstrate the need for the proposed facility. The Council's rules allow an applicant to demonstrate need for a non-generating facility through one of several methods, including the "Least-Cost Plan Rule" (ORAR 345-023-0020) or the "System Reliability Rule for Electric Transmission Lines" (ORAR 345-023-0030). Under the Least-Cost Plan Rule, the applicant meets this standard if the proposed transmission line was included in an Integrated Resource Plan that has been acknowledged by the Oregon Public Utilities Commission (OPUC). More information about the OPUC and the Integrated Resource Plan acknowledgement process can be found at www.puc.state.or.us.

Specific Standards for Wind Facilities

ORAR 345-024-0010 and 345-024-0015

This standard requires the Council to evaluate applications for wind energy facilities to ensure that applicants can design, construct and operate the facility so that that the public is not endangered by moving turbine blades or electrical equipment, and that the applicant can design, construct and operate wind turbines to prevent structural failure that could endanger public safety. Siting standards for wind facilities also require the applicant to reduce cumulative adverse environmental effects in the vicinity by using existing roads, if possible, placing collection lines underground, designing the facility to avoid impacts to vulnerable wildlife in the area (especially birds and bats), and designing the facility to minimize adverse visual features, including using the minimum amount of lighting necessary to meet the requirements of the Federal Aviation Administration for protecting aircraft.

Specific Standards for Transmission Lines

ORAR 345-024-0090

This standard requires that the Council evaluate transmission lines under Council jurisdiction to ensure they are designed, constructed and operated to limit the strength of electromagnetic fields in areas where those lines are accessible to the public.



Idaho Power Responses to Comments and Requests for Additional Information on the B2H APASC
from the City of La Grande
Compiled by ODOE. RAI's from the City of La Grande and Responses from IPC

U	U-Public Services include utilities such as road systems, water, sanitation services, power, and other amenities necessary for the construction.	Ordinance #2912, Series 1997 gives the City jurisdiction and control on all City street rights-of-way and Ordinance #3077, Series 2009, establishes the process and requirements for permits and licenses for uses of the streets that are not normal uses and may result in damages.	proposed helipad is a necessary supporting facility.	The project construction has two major road systems through La Grande that are proposed for this project – Morgan Lake Road via Gekeler Lane, 'C' Avenue, Walnut Street, and on up Morgan Lake Road. Roads along these routes are used by the ambulance service for accessing the hospital, the public transit system on its normal daily route, citizens to access locations within and outside this area and also for the school busing system for transporting kids to the La Grande Middle School, La Grande High School and Central Elementary School. In addition to the vehicular modes of travel, those routes are heavily used by bicyclists and pedestrians. The other route that would be utilized is the same route with the exception of turning onto Sunset Drive and up Hawthorne Street to a private gravel road that heads up the area above Deal Canyon. Two other routes that are not addressed but that would be obvious access routes for construction would be South 12th Street and South 20th Street. As a general rule, City streets are built with ninety degree angles, which may restrict some	To address the City's concerns regarding traffic and road use within the city's limits, Idaho Power has added the following proposed conditions to Exhibit K: <i>Land Use Condition 9: Prior to construction in Union County, the site certificate holder shall complete the following to address traffic impacts in the county:</i> <i>a. The site certificate holder shall finalize, and submit to the department for its approval, a final county-specific transportation and traffic plan. The protective measures described in the draft Transportation and Traffic Plan in ASG Exhibit U, Attachment U-2, shall be included and implemented as part of the final county-specific plan, unless otherwise approved by the department;</i> <i>b. The site certificate holder shall work with the Union County Road Department and the City of La Grande Public Works Department to identify concerns related to Project construction traffic; and</i> <i>c. The site certificate holder shall develop traffic control measures to mitigate the effects of Project construction traffic.</i> <i>Land Use Condition 26: During construction in Union County, the site certificate holder shall conduct all work in compliance with the Union County-specific</i>
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IV. CONCLUSIONS

Based on the Findings of Fact above, the Planning Commission concludes that the application meets the requirements established in LDC Articles 8.5 and other applicable codes and Ordinances.

V. ORDER AND CONDITIONS OF APPROVAL

Based on the conclusions above, the Planning Commission approves the Conditional Use Permit as requested, subject to the following Conditions of Approval:

- 1. No driveway access to GRH parking lot areas shall be permitted onto Hawthorn Drive as such street is developed to a residential standards and is not designed to support commercial traffic.
- 2. Any existing driveway curb cuts along Hawthorn Drive bordering GRH's property, that are not used for residential purposes, shall be removed and replaced with City standard improvements that exists adjacent to such areas.
- 3. There is a storm sewer line extending through the project area that shall to be protected. Any improvements that may affect the storm sewer line shall be reviewed and approved by the Public Works Director.

VI. STANDARD CONDITIONS OF APPROVAL FOR LAND USE APPLICATIONS

- 1. **Revisions to a Valid Conditional Use Permit:** Any variations, alterations, or changes in a valid Conditional Use Permit requested by the deed holder shall be considered in accordance with the procedures of the Land Development Code as though a new Conditional Use Permit were being applied for.
- 2. **Public Works Standards:** Where a development involves work within the public right-of-way, a Right-of-Way Permit shall be obtained from the Public Works Department in advance of commencing with any work in the right-of-way. All improvements within the public right-of-way shall be in conformance with the most recent adopted City of La Grande "Engineering Standard Drawings and Specifications for Construction Manual."
- 3. **Building Permits:** The City of La Grande Building Department shall be contacted early in the process and in advance of development to coordinate and obtain required building, plumbing, electrical and/or mechanical permits. All required permits shall be acquired in advance of construction.

VI. OTHER PERMITS AND RESTRICTIONS

The applicant and property owner is herein advised that the use of the property involved in this application may require additional permits from the City of La Grande or other local, State or Federal Agencies.

The City of La Grande land use review, approval process and any decision issued does not take the place of, or relieve the applicant of responsibility for acquiring such other permits, or satisfy any restrictions or conditions thereon. The land use decision herein does not remove, alter, or impair in any way the covenants or restrictions imposed on this property by deed or other instrument.

The land use approvals granted by this decision shall be effective only when the rights granted herein have been exercised and commenced within one (1) year of the effective date of the decision. In case such right has not been exercised and commenced or an extension obtained, the approvals granted by this decision shall become null and void. A written request for an extension of time shall be filed with the Planning Department at least thirty (30) days prior to the expiration date of the approval.



Virginia Mammen <4gmammen@gmail.com>

Modelaire Roadway Specifications

3 messages

Kyle Carpenter <KCarpenter@cityoflagrande.org>
To: "gmammen@eoni.com" <gmammen@eoni.com>

Fri, Jul 12, 2019 at 1:51 PM

I have attached a couple pictures of our mapping system that will give you a sense of where existing utilities are in Modelaire and Hawthorne. As for the widths of the roadways, I took measurements in multiple places, and found the following:

- Modelaire Drive (F Avenue) between Sunset Blvd and Hawthorne Drive is approximately 33 feet wide with a grade of about 5 Percent.
- Hawthorne Drive is approximately 32 feet wide at the bottom near the intersection of Modelaire/F Avenue and widens to about 34 feet where it intersects Modelaire at the top of the hill. The grade heading up hill is approximately 15.5 Percent.
- Modelaire Drive is generally 36 feet wide with some minor variability generally less than a foot (35' to 37'). On the southernmost segment of the roadway where the majority of the elevation gain is observed the grade is approximately 16 Percent.

Let me know if there are any other specifications of these roadways that you are interested in that I have missed. Have a great weekend and thanks for the treats, the guys were very appreciative.

Kyle Carpenter, PE
Public Works Director
City of La Grande
Public Works
 Ph: (541) 962-1325
 Fax: (541) 963-4844

2 attachments



Hawthorne.jpg
150K

Modelaire.jpg
120K





attachment U2

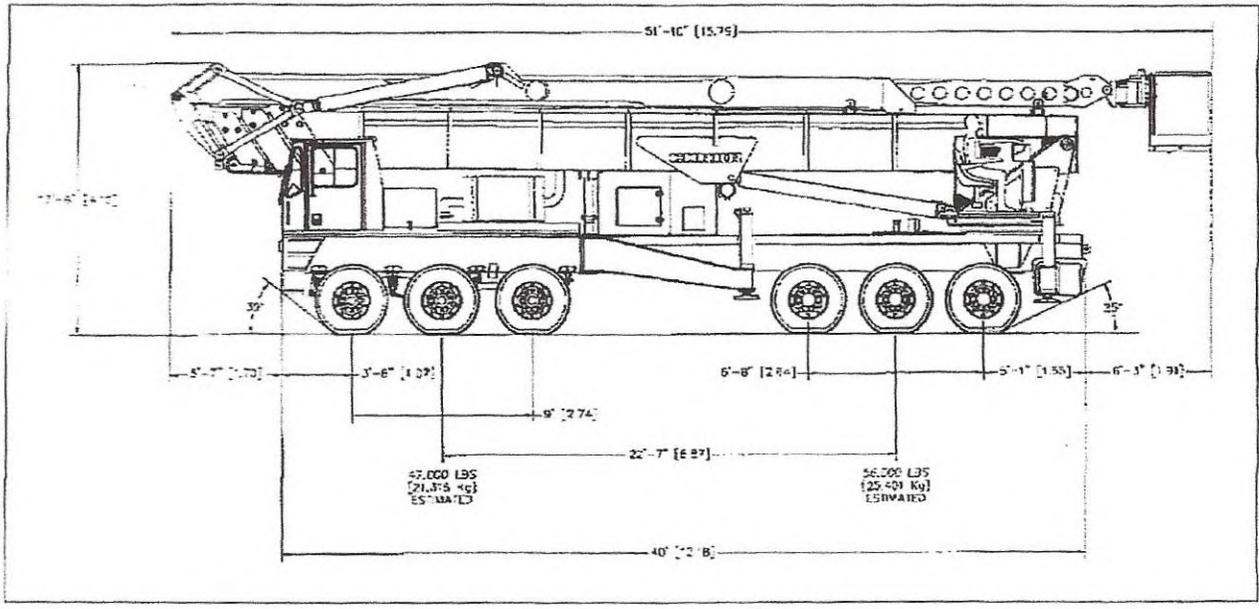


Figure 2. Example Aerial Lift Crane to be Used During Construction (Roadable Length 52 Feet; Width 8 Feet 6 Inches)

The following is a summary of anticipated equipment to be used for each transmission-line construction activity.

- Survey work: pickup trucks or ATVs.
- Timber removal: pickup trucks, feller bunchers, dump trucks, wood chippers.
- Road construction: pickup trucks, bulldozers, motor graders, and water trucks.
- Hole digging, installation of directly embedded structures, or foundation installation: pickup trucks, 2-ton trucks, digger derrick trucks, hole diggers, bulldozers, concrete trucks, water trucks, cranes, hydro cranes, wagon rock drills, dump trucks, and front-end loaders.
- Hauling lattice steel members, tubular poles, braces, and hardware to the structure sites: steel haul trucks, carry alls, cranes, and forklifts.
- Assembly and erection of structures: pickup trucks, 2-ton trucks, carry alls, cranes, and a heavy lift helicopter.
- Wire installation: pickups, wire reel trailers, diesel tractors, cranes, 5-ton boom trucks, splicing trucks, three drum pullers, single drum pullers, tensioner, sagging dozers, carry-alls, static wire reel trailers, bucket trucks, and a light duty helicopter.
- Final cleanup, reclamation, and restoration: pickup trucks, 2-ton trucks, bulldozers, motor graders, dump trucks, front-end loaders, hydro-seed truck, and water trucks.

The highest level of traffic will be when the wire stringing operations begin while several other operations are occurring at the same time, which will likely include ROW clearing, installing foundations, hauling steel, and assembling and erecting structures. For the station work, the highest level of traffic will be during site grading and foundation installation. For the communication station sites, the highest level of traffic will be during grading and site preparation.

Detailed estimates of trips generated by transporting Project construction equipment will be provided by the construction contractor prior to construction.

3.1.3 Traffic Related to Timber Removal

In forested areas, the Project will require removal of timber from the Project ROW and for construction and improvement of access roads. Specific timber harvest plans have not been finalized. Logs from timber clearing may be transported to nearby sawmills. Decisions regarding transportation routes for harvested timber will be made following completion of a timber harvest plan, and the number of log truck tips will be estimated when the timber harvest plan has been finalized. Logging slash will remain onsite if possible. For additional discussion regarding removal of timber in forested areas, see Exhibit K, Attachment K-2, ROW Clearing Assessment.

3.1.4 Impacts to V/C Ratios

Based on the estimated trip generation numbers in Tables 4 and 6, a maximum of approximately 1,294 daily one-way vehicle trips are expected within any one construction spread. To facilitate traffic and other analyses, the two construction spreads are divided into smaller sections based on similar construction windows and seasonal weather restrictions. Not all construction sections will have the same number of concurrent construction activities, depending on how the construction contractor sequences and executes the Project. Some sections will have fewer daily vehicle trips. For the purposes of the traffic analysis, the spreads are divided into five sections with multi-use areas that could have additive traffic impacts. The sections are assumed to have approximately equal levels of activity. The 1,294 daily one-way trips per spread divided over five sections of more concentrated traffic results in 259 daily one-

ARTICLE 6.6 – PUBLIC STREET STANDARDS

SECTION 6.6.001 - PURPOSE

Upon the request of the La Grande City Council, a variety of street design standards have been reviewed and are now incorporated in the Land Development Code.

SECTION 6.6.002 - CLASS I IMPROVEMENT STANDARDS

This classification will cover those streets that are designed to meet the standards for an expected life of twenty (20) years or more. The attached drawings shall be the minimum standard for those streets in this classification. All streets designated as Federal Aid Urban Streets (F.A.U.) shall be constructed under these design standards. Streets in this designation shall be constructed with sidewalks when at all possible in an effort to increase pedestrian safety. Collector streets are designed to withstand normal trucks of an HS 20 loading. Larger trucks are to utilize Arterial streets where at all possible. This level of development shall be the ultimate goal for all streets within the City of La Grande.

Possible means of financing available for this Class shall be methods A, B, C, D, E, F, G, and H in Section 6.6.006.

A. Advantages

1. The construction life is extended to a period above other City standards.
2. The visible aesthetics in relationship to having curbs and a blacktop surface with landscaping or concrete driveways and a sidewalk is generally appealing to the public.
3. Easy maintenance for the Public Works Department for cleaning and minor repair.
4. Storm sewer drainage is confined within the bounds of the curbs during minor flooding periods.
5. Parking is restricted to a solid barrier, that being the curb; this restricts parking in the area on the back side of the curb and confines travel to the street surface.
6. Defined areas for possible cross walks, signs, power poles, and other utilities that are restricted to the outside areas behind the curbs.
7. It allows for a wide range of financing methods and is to City standards for a ten (10) year Bancroft bonding.
8. Provides a dust free surface.

B. Disadvantages

1. The extreme high level of cost that is incurred with this type of development.

SECTION 6.6.003 - CLASS II IMPROVEMENT LEVEL

Streets constructed in this classification shall be constructed to the same standards as Class I Streets with the exception of the form of drainage system. These streets shall meet the standards as shown on the attached drawing. This level of construction shall be only utilized in substitution for Class I Streets when it is determined by the City Council at the recommendation of the City Engineer or Engineering Superintendent, that an adequate drainage system cannot be installed for a Class I Street.

Table 6. Construction Vehicle Trips per Day per Construction Spread

Construction Crew Type	Construction Vehicles					
	Light Construction Vehicles			Heavy Construction Vehicles		
	Number of Pickups/ Mechanic Trucks (per day)	Number of One-way Trips on Public Roads (per day)	Total One-way Trips (per day)	Number of Other Vehicles	Number of One-way Trips on Public Roads (per day)	Total One-way Trips (per day)
Substation Construction	20	2	40	5	2	10
ROW Clearing	9	4	36	5	4	20
Roads/ Pad Grading	9	4	36	9	2	18
Foundations	9	2	18	5	8	40
Tower Lacing (assembly)	27	2	54	0	0	0
Tower Setting (erection)	20	2	40	0	0	0
Wire Stringing	9	4	36	9	4	36
Restoration	3	2	6	0	0	0
Blasting	5	4	20	0	0	0
Material Delivery	20	8	160	12	2	24
Mechanic and Equipment Mgmt.	5	6	30	0	0	0
Refueling	0	0	0	5	4	20
Dust Control	0	0	0	5	4	20
Construction Inspection	5	8	40	0	0	0
Concrete Testing	5	4	20	0	0	0
Environmental Compliance	9	6	54	0	0	0
Surveyors	5	3	30	0	0	0
Totals	—	—	620	—	—	188

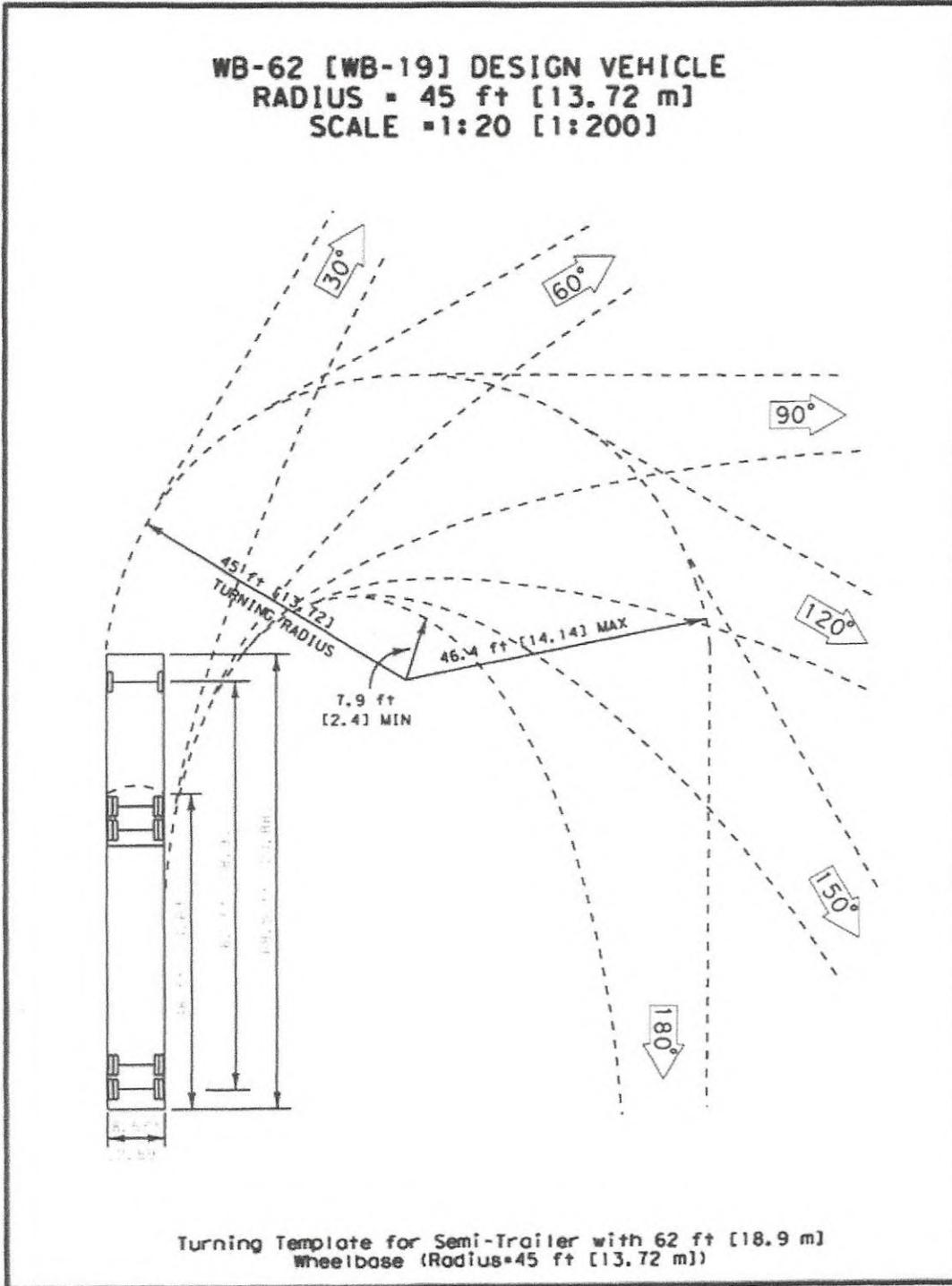


Figure 7-4. Turning Template for Semi-Trailer with 62 ft [18.9 m] Wheelbase, (not to scale). Click [here](#) to see a PDF of the image.

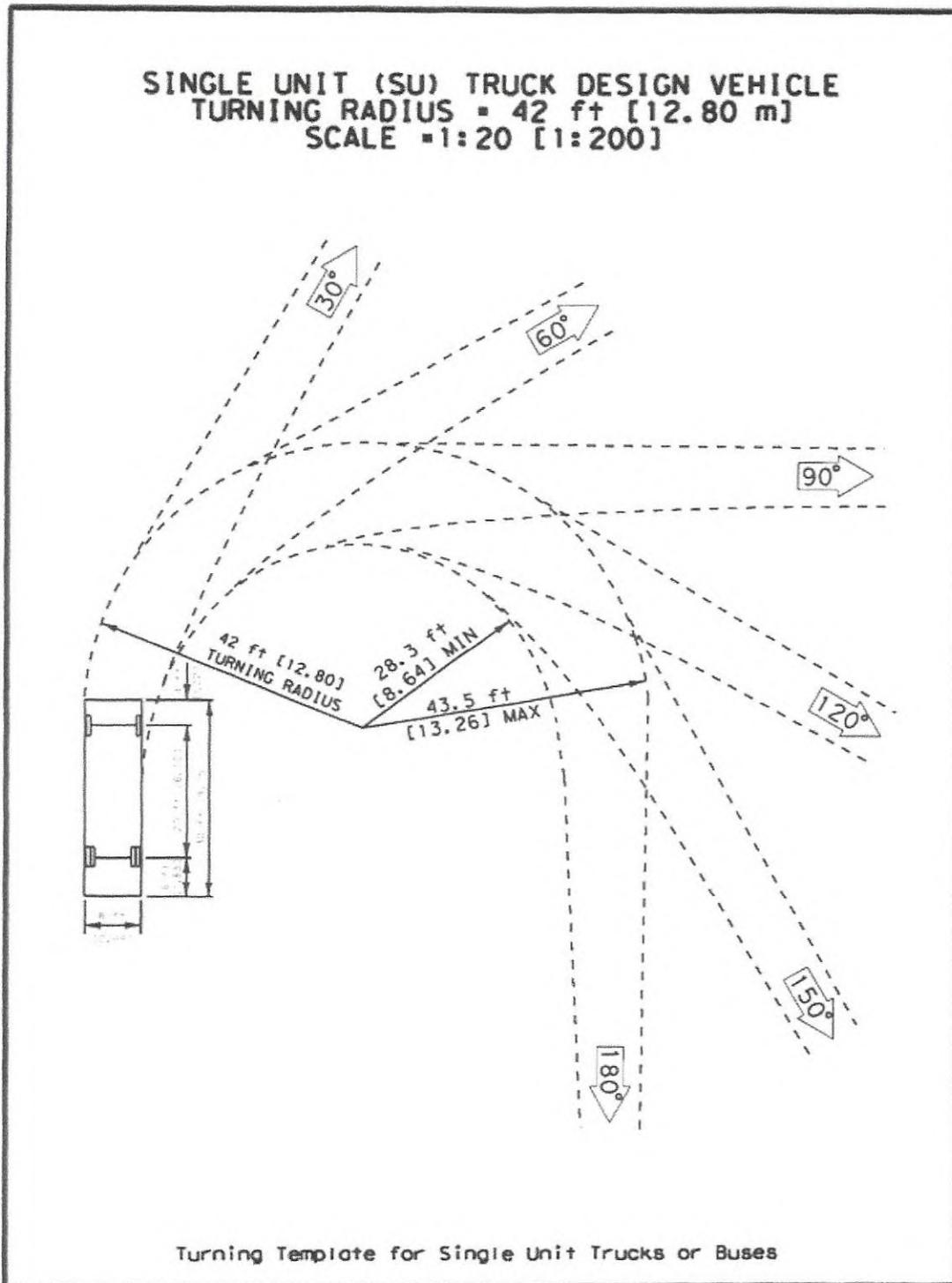


Exhibit 15

**CITY OF LA GRANDE
ORDINANCE NUMBER 3077
SERIES 2009**

**AN ORDINANCE CONTROLLING VEHICULAR AND PEDESTRIAN TRAFFIC, PARADES
AND PROCESSIONS AND ISSUANCE OF PERMITS; PROVIDING PENALTIES; AND
REPEALING ORDINANCE NUMBER 2845, SERIES 1993; ALL AMENDING ORDINANCES
AND ALL OTHER ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH;
AND DECLARING AN EFFECTIVE DATE**

THE CITY OF LA GRANDE ORDAINS AS FOLLOWS:

Section 1. This Ordinance may be cited as the City of La Grande Uniform Traffic Ordinance.

Section 2. APPLICABILITY OF STATE TRAFFIC LAWS.

Oregon Revised Statutes, Chapter 153, and the Oregon Vehicle Code, ORS Chapter 801 and 822, as now constituted, are adopted by reference. Violation of an adopted provision of those chapters is an offense against the City.

Section 3. DEFINITIONS

In addition to those definitions contained in the Oregon state Motor Vehicle Code, the following words or phrases, except where the context clearly indicates a different meaning, shall mean:

a. Alley

A street or highway primarily intended to provide access to the rear or side of lots or buildings in urban areas and not intended for through vehicular traffic.

b. Bicycle

A bicycle is a vehicle that:

1. Is designed to be operated on the ground on wheels;
2. has a seat or saddle for use of the rider;
3. is designed to travel with not more than three (3) wheels in contact with the ground;
4. is propelled exclusively by human power; and,
5. has every wheel more than fourteen inches (14") in diameter or two (2) tandem wheels, either of which is more than fourteen inches (14") in diameter.

c. Bicycle Lane

That part of the highway, adjacent to the roadway, designated by official signs or markings for use by persons riding bicycles, except as otherwise specifically provided by law.

d. Bicycle Path

A public way, not part of a highway, which is designated by official signs or markings for use by persons riding bicycles, except as otherwise specifically provided by law.

e. Block

The part of one side of a street lying between the two (2) nearest cross streets.

f. Central Business District

a. City Regulation of Special Movement of Oversized Load

The applicant shall submit an application to the City Manager or designee, showing the terminal points of the purported movement; the proposed route; the nature of the movement requested, including the weight and dimensions of the vehicle, load, machine, building, or structure to be moved; the time, date and duration of the proposed movement.

b. Special Movement Permit

A permit shall be required to move any vehicle, structure, or load on, or to access a street when, after preparation for movement, the vehicle, structure or load exceeds fourteen feet (14') in height, requires the use of guy wires, or could result in the blockage of a street. An approved application may serve as a permit, and a copy of the approved application shall be provided to the applicant.

Section 17. TRUCK ROUTES

- a. It shall be unlawful for any person, firm, or corporation to use, drive or operate any vehicle or combination of vehicles with a gross weight of 26,000, pounds or more upon any street of the City of La Grande, Oregon, except upon posted truck routes.
- b. Any vehicle with a gross weight over 26,000, pounds specifically picking up deliveries or making deliveries to any business or residence located on a street that is not a truck route will be exempted if the vehicle is driven from the truck route to the destination in the shortest, most direct, and safest route.
- c. The use of Jacob brakes shall not be allowed within the city limits of La Grande, Oregon.
- d. Truck routes will be posted as follows:
 1. Walnut street north from the city limits to C Avenue;
 2. C Avenue east from Walnut Street to Gekeler Avenue;
 3. Gekeler Avenue east to the city limits;
 4. 12th street south from Gekeler Avenue to the city limits;
 5. 2nd Street south from the city limits to Adams Avenue;
 6. Monroe Avenue east from Spruce Street to Highway 82;
 7. Jackson Avenue east from Spruce Street, and
 8. Spruce Street south from the city limits to Monroe.

Section 18. IMPOUNDMENT AND DETENTION OF VEHICLES

- a. Whenever a vehicle is placed in a manner or location that constitutes an obstruction to traffic or a hazard to public safety, a police officer or enforcement officer shall order the owner or operator of the vehicle to remove said vehicle. If the vehicle is unattended, the officer or enforcement officer may cause the vehicle to be towed and stored at the owner's expense. The owner shall be liable for the costs of towing and storing, notwithstanding that the vehicle was parked by another or that the vehicle was initially parked in a safe manner but subsequently became an obstruction or hazard.

I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

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SIGNATURE

PRINTED NAME

ADDRESS

EMAIL

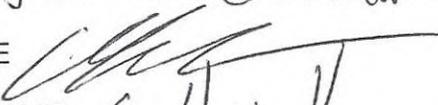

Jessie Huxell
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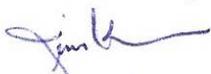
ADDRESS

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Blake Bars
Blake Bars
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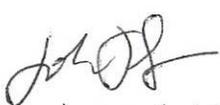
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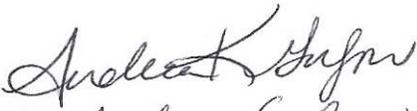
SIGNATURE 
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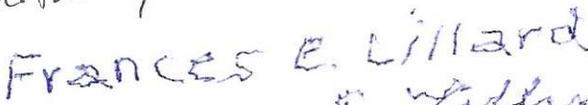
SIGNATURE 
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SIGNATURE 
PRINTED NAME JOHN BARLITZ
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EMAIL

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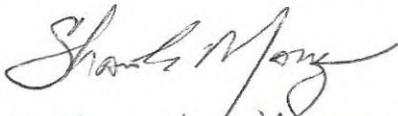
SIGNATURE 
PRINTED NAME Frances E. Lillard
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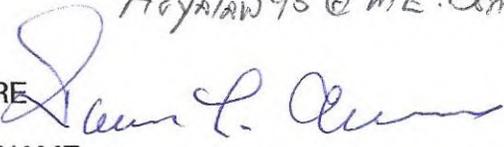
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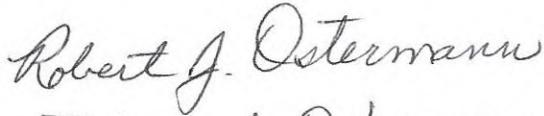
SIGNATURE 
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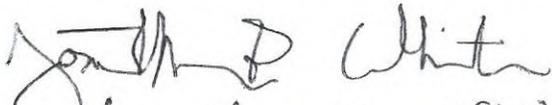
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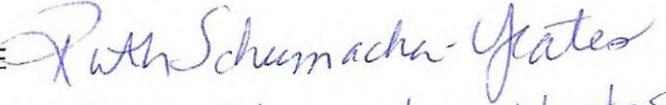
SIGNATURE 
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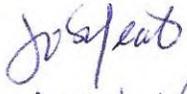
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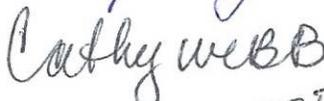
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PRINTED NAME Rita Allen
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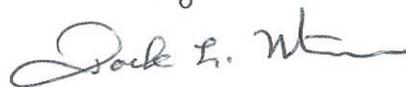
SIGNATURE 
PRINTED NAME Ruth Schumacher Yeates
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EMAIL ruthschumacheryeates@gmail.com

SIGNATURE 
PRINTED NAME JOHN YEATES
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EMAIL jyeates52@gmail.com

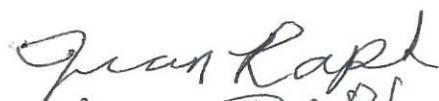
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SIGNATURE 
PRINTED NAME LOIS BARRY
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SIGNATURE 
PRINTED NAME CATHY WEBB
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EMAIL thunkski@gmail.com

SIGNATURE 
PRINTED NAME Jack L. Martin
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EMAIL Buff Martin 27 @GMail .com

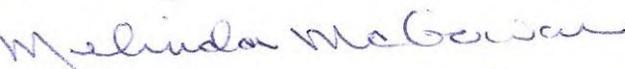
SIGNATURE 
PRINTED NAME GERALDINE BRASETH-PALMER
ADDRESS 1602 GILCREST DRIVE LA GRANDE, Ore 97850
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SIGNATURE 
PRINTED NAME Jean RAPH
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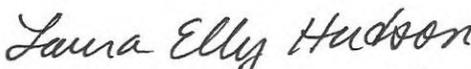
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SIGNATURE 
PRINTED NAME Damon Sexton
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SIGNATURE 
PRINTED NAME Coy Sexton
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SIGNATURE 
PRINTED NAME Melinda McGowan
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SIGNATURE 
PRINTED NAME Keith D. Hudson
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EMAIL Keithdhudson@gmail.com

SIGNATURE 
PRINTED NAME Laura Elly Hudson
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SIGNATURE *Gary D. Pierson*
PRINTED NAME Gary D. Pierson
ADDRESS 489 Modelaire Drive, La Grande OR 97850
EMAIL -

SIGNATURE *Lynn Wheeler Duncan*
PRINTED NAME LYNN WHEELER DUNCAN
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SIGNATURE *Anne G. Cavinato*
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SIGNATURE *Joe Horst*
PRINTED NAME JOE HORST
ADDRESS 86 HAWTHORNE DR. LA GRANDE OR.
EMAIL joehorst@eoni.com

SIGNATURE *Angela Sherer*
PRINTED NAME ANGELA Sherer
ADDRESS 91 - W. Hawthorne Dr. LaGrande, OR 97850
EMAIL asherer@frontier.com

I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

SIGNATURE *Robert J. Sherer*
PRINTED NAME Robert J. Sherer
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SIGNATURE *Heather M. Null*
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SIGNATURE *Bert R. Freewing*
PRINTED NAME Bert R. Freewing
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EMAIL jeanfreewing@gmail.com

SIGNATURE *Lindsey McCullough*
PRINTED NAME Lindsey McCullough
ADDRESS 406 Balsa St., La Grande, OR 97850
EMAIL lindz_mm91@hotmail.com

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

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SIGNATURE *Merle E. Comfort*
PRINTED NAME MERLE E. COMFORT
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SIGNATURE *Robin I. Maille*
PRINTED NAME Robin Maille
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SIGNATURE *Carol S. Summers*
PRINTED NAME CAROL S. SUMMERS
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EMAIL carolsummers1935@gmail.com

SIGNATURE *Caroline Kaye Juniper*
PRINTED NAME Caroline Kaye Juniper
ADDRESS 406 Nth St. LaGrande - OR 97850
EMAIL

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SIGNATURE *Gerald D. Juniper*
PRINTED NAME *Gerald Darwin Juniper*
ADDRESS *406 4th St. LaGrande, OR. 97850*
EMAIL

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

TARDAEWETHER Kellen * ODOE

From: Dale Mammen <dmammen@eoni.com>
Sent: Thursday, August 15, 2019 5:28 PM
To: B2H DPOComments * ODOE
Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposal Order 5/23/2019
Attachments: Scan 2019-8-15 17.14.06.pdf

To: Chairman Beyeler and Members of the Council

Find attached a letter sign by me and 46 other residents of La Grande expressing our concerns regarding the B2H Project and requesting that EFSC Deny the Site Certificate.

I have also sent a bound copy of this material by US Postal Service.

Virginia L. Mammen
405 Balsa
La Grande, Oregon 97850

August 10, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E.
Salem, Oregon. 97301

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018:Draft Proposed Order.

Dear Chair Beyeler and Members of the Council:

My comment is about the predicted noise levels resulting from construction and operation of the proposed Boardman to Hemingway Transmission Line Project. I would like to address the noise coming from the blasting and rock breaking specifically above the area at the top of Modelaire Drive 1 both to the north and the south of that area and also the construction traffic noise that that will impact the west hills and the area below.

In Exhibit X page X-9 3.3.1.1 2 blasting and rock breaking is mentioned saying that "Modern blasting techniques include the electronically controlled ignition of multiple small explosive charges in an area of rock that are delayed fractions of second, resulting in a total event that is generally less than a second. Impulse (instantaneous) noise from blasts could reach up to 140dBA at the blast location or over 90 dBA within 500 feet." This sounds oh so "don't worry about it, it will be OK just over in a split second." Living in this area off Modelaire Drive, I don't find this at all comforting. And the fact that this will be overseen by properly licensed personnel and all of the necessary authorizations doesn't help anything either.

The area in question, which for such inordinate construction is extremely close to many residents, has been my home for over 50 years and during

related medical problems and exhibit various reactions to loud noises.¹⁰
These children also live in the neighborhoods to be affected by the noise so they would be impacted coming and going to school, at home and also while at school. To impose the constant possibility of loud noises is cruel, disrespectful and totally unacceptable. ¹¹

For a project like this involving blasting and heavy machinery noise so close to homes, schools, and medical facilities impacting hundreds of peoples' daily lives, the day to day agitation, wondering what is coming next, fear and being on constant alert are not just addressed by some type of mitigation but must be addressed by a route that is much less impactful to peoples' safety, sanity, and health.

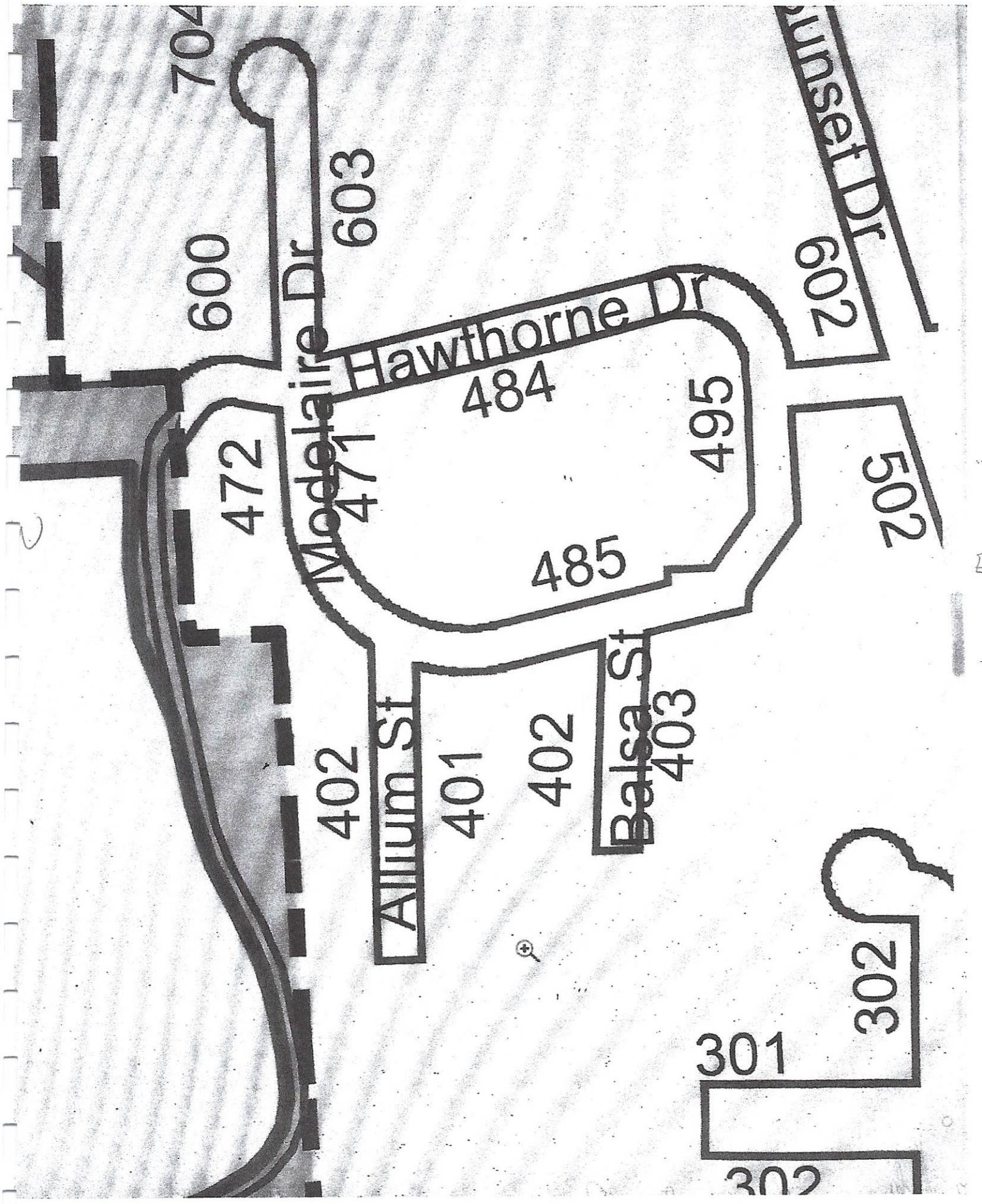
Sincerely,



Virginia L. Mammen
405 Balsa
La Grande, Oregon 97850

gmammen@eoni.com

N



2

11

5

3.3 Predicted Noise Levels

1 OAR 345-021-0010(1)(x)(A): Predicted noise levels resulting from construction and operation
2 of the proposed facility.
3

3.3.1 Construction Noise

3.3.1.1 Predicted Construction Noise Levels

4 Project construction will occur sequentially, moving along the length of the Project route, or in
5 other areas such as near access roads, structure sites, conductor pulling sites, and staging and
6 maintenance areas. Overhead transmission line construction is typically completed in the
7 following stages, but various construction activities may overlap, with multiple construction
8 crews operating simultaneously:
9

- 10 • Site access and preparation
- 11 • Installation of structure foundations
- 12 • Erecting of support structures
- 13 • Stringing of conductors, shield wire, and fiber-optic ground wire

14 The following subsections discuss certain construction activities that will periodically generate
15 audible noise, including blasting and rock breaking, implosive devices used during conductor
16 stringing, helicopter operations, and vehicle traffic.
17

Blasting and Rock Breaking

18 Blasting is a short-duration event as compared to rock removal methods, such as using track rig
19 drills, rock breakers, jackhammers, rotary percussion drills, core barrels, or rotary rock drills.
20 Modern blasting techniques include the electronically controlled ignition of multiple small-
21 explosive charges in an area of rock that are delayed fractions of second, resulting in a total
22 event duration that is generally less than a second. Impulse (instantaneous) noise from blasts
23 could reach up to 140 dBA at the blast location or over 90 dBA within 500 feet.
24

25 Lattice tower foundations for the Project typically will be installed using drilled shafts or piers;
26 however, if hard rock is encountered within the planned drilling depth, blasting may be required
27 to loosen or fracture the rock to reach the required depth to install the structure foundations.
28 Final blasting locations will not be identified until an investigative geotechnical survey of the
29 analysis area is conducted during the detailed design.

30 The contracted blasting specialist will prepare a blasting plan that demonstrate compliance with
31 applicable state and local blasting regulations, including the use of properly licensed personnel
32 and the acquisition of necessary authorizations. The Framework Blasting Plan is set forth in
33 Exhibit G, Attachment G-5.

Implosive Devices

34 An implosive conductor splice consists of a split-second detonation with sound and flash.
35 Implosive splicing activities are anticipated to be limited to daytime hours. A blasting plan will be
36 developed by an individual certified and licensed to perform the work. The plan will
37 communicate all safety and technical requirements including, but not limited to, delineation of
38 the controlled access zone and distance away from residences.
39

Public Services

— OAR 345-022-0110

This standard ensures that the proposed facility will not affect the ability of service providers in local communities to provide public services, such as fire protection or education. The applicant must assess the proposed facility's need for water and for disposal of wastewater, storm water and solid waste. The applicant must also evaluate the expected population increases in local communities resulting from construction and operation of the facility; and must address all permanent and temporary impacts of the facility on housing, traffic safety, police and fire protection, health care and schools. The Council must determine whether the applicant has identified potential adverse impacts to service providers and proposed adequate mitigation to ensure that there will be no significant adverse effect on the ability of a service provider to provide services. In considering the impacts, the Council solicits comments from affected local governments, fire or police departments, school districts and health care agencies.

Waste Minimization

— OAR 345-022-0120

This standard requires the Council to evaluate the applicant's proposal to minimize solid waste and wastewater generated by construction and operation of the proposed facility. The standard requires recycling of wastes, if feasible, or proper waste disposal if recycling is not feasible.

The applicant must evaluate the types of waste products that would be produced during construction and operation of the proposed facility and estimate the amounts or volume of waste products. The applicant must propose appropriate methods to handle the waste through collection, storage and disposal. Compliance with the standard assures that the applicant will reduce the amount of waste generated and dispose of waste in a responsible manner.

Need for a Facility

— OAR 345-023-0005

This standard requires the applicant for non-generating energy facilities (such as electric transmission lines) to demonstrate the need for the proposed facility. The Council's rules allow an applicant to demonstrate need for a non-generating facility through one of several methods, including the "Least-Cost Plan Rule" (OAR 345-023-0020) or the "System Reliability Rule for Electric Transmission Lines" (OAR 345-023-0030). Under the Least-Cost Plan Rule, the applicant meets this standard if the proposed transmission line was included in an Integrated Resource Plan that has been acknowledged by the Oregon Public Utilities Commission (OPUC). More information about the OPUC and the Integrated Resource Plan acknowledgement process can be found at www.puc.state.or.us.

Specific Standards for Wind Facilities

— OAR 345-024-0010 and 345-024-0015

— This standard requires the Council to evaluate applications for wind energy facilities to ensure that applicants can design, construct and operate the facility so that that the public is not endangered by moving turbine blades or electrical equipment, and that the applicant can design, construct and operate wind turbines to prevent structural failure that could endanger public safety.

— Siting standards for wind facilities also require the applicant to reduce cumulative adverse environmental effects in the vicinity by using existing roads, if possible, placing collection lines underground, designing the facility to avoid impacts to vulnerable wildlife in the area (especially birds and bats), and designing the facility to minimize adverse visual features, including using the minimum amount of lighting necessary to meet the requirements of the Federal Aviation Administration for protecting aircraft.

Specific Standards for Transmission Lines

— OAR 345-024-0090

This standard requires that the Council evaluate transmission lines under Council jurisdiction to ensure they are designed, constructed and operated to limit the strength of electromagnetic fields in areas where those lines are accessible to the public.



Department of Environmental Quality

Chapter 340

Division 35

NOISE CONTROL REGULATIONS

340-035-0035

Noise Control Regulations for Industry and Commerce

(1) Standards and Regulations:

(a) Existing Noise Sources. No person owning or controlling an existing industrial or commercial noise source shall cause or permit the operation of that noise source if the statistical noise levels generated by that source and measured at an appropriate measurement point, specified in subsection (3)(b) of this rule, exceed the levels specified in Table 7, except as otherwise provided in these rules. [Table not included. See ED. NOTE.]

(b) New Noise Sources:

(A) New Sources Located on Previously Used Sites. No person owning or controlling a new industrial or commercial noise source located on a previously used industrial or commercial site shall cause or permit the operation of that noise source if the statistical noise levels generated by that new source and measured at an appropriate measurement point, specified in subsection (3)(b) of this rule, exceed the levels specified in Table 8, except as otherwise provided in these rules. For noise levels generated by a wind energy facility including wind turbines of any size and any associated equipment or machinery, subparagraph (1)(b)(B)(iii) applies. [Table not included. See ED. NOTE.]

(B) New Sources Located on Previously Unused Site:

(i) No person owning or controlling a new industrial or commercial noise source located on a previously unused industrial or commercial site shall cause or permit the operation of that noise source if the noise levels generated or indirectly caused by that noise source increase the ambient statistical noise levels, L10 or L50, by more than 10 dBA in any one hour, or exceed the levels specified in Table 8, as measured at an appropriate measurement point, as specified in subsection (3)(b) of this rule, except as specified in subparagraph (1)(b)(B)(iii).

(ii) The ambient statistical noise level of a new industrial or commercial noise source on a previously unused industrial or commercial site shall include all noises generated or indirectly caused by or attributable to that source including all of its related activities. Sources exempted from the requirements of section (1) of this rule, which are identified in subsections (5)(b)-(f), (j), and (k) of this rule, shall not be excluded from this ambient measurement.

(iii) For noise levels generated or caused by a wind energy facility:

(I) The increase in ambient statistical noise levels is based on an assumed background L50 ambient noise level of 26 dBA or the actual ambient background level. The person owning the wind energy facility may conduct measurements to determine the actual ambient L10 and L50 background level.

(II) The "actual ambient background level" is the measured noise level at the appropriate measurement point as specified in subsection (3)(b) of this rule using generally accepted noise engineering measurement practices. Background noise measurements shall be obtained at the appropriate measurement point, synchronized with wind speed measurements of hub height conditions at the nearest wind turbine location. "Actual ambient background level" does not include noise generated or caused by the wind energy facility.

(III) The noise levels from a wind energy facility may increase the ambient statistical noise levels L10 and L50 by more than 10 dBA (but not above the limits specified in Table 8), if the person who owns the noise sensitive property executes a legally effective easement or real covenant that benefits the property on which the wind energy facility is located. The easement or covenant must authorize the wind energy facility to increase the ambient statistical noise levels, L10 or L50 on the sensitive property by more than 10 dBA at the appropriate measurement point.

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(2) Compliance. Upon written notification from the Director, the owner or controller of an industrial or commercial noise source operating in violation of the adopted rules shall submit a compliance schedule acceptable to the Department. The schedule will set forth the dates, terms, and conditions by which the person responsible for the noise source shall comply with the adopted rules.

(3) Measurement:

(a) Sound measurements procedures shall conform to those procedures which are adopted by the Commission and set forth in Sound Measurement Procedures Manual (NPCS-1), or to such other procedures as are approved in writing by the Department;

(b) Unless otherwise specified, the appropriate measurement point shall be that point on the noise sensitive property, described below, which is further from the noise source:

(A) 25 feet (7.6 meters) toward the noise source from that point on the noise sensitive building nearest the noise source;

(B) That point on the noise sensitive property line nearest the noise source.

(4) Monitoring and Reporting:

(a) Upon written notification from the Department, persons owning or controlling an industrial or commercial noise source shall monitor and record the statistical noise levels and operating times of equipment, facilities, operations, and activities, and shall submit such data to the Department in the form and on the schedule requested by the Department. Procedures for such measurements shall conform to those procedures which are adopted by the Commission and set forth in Sound Measurement Procedures Manual (NPCS-1);

(b) Nothing in this rule shall preclude the Department from conducting separate or additional noise tests and measurements. Therefore, when requested by the Department, the owner or operator of an industrial or commercial noise source shall provide the following:

(A) Access to the site;

(B) Reasonable facilities, where available, including but not limited to, electric power and ladders adequate to perform the testing;

(C) Cooperation in the reasonable operation, manipulation, or shutdown of various equipment or operations as needed to ascertain the source of sound and measure its emission.

(5) Exemptions: Except as otherwise provided in subparagraph (1)(b)(B)(ii) of this rule, the rules in section (1) of this rule shall not apply to:

(a) Emergency equipment not operated on a regular or scheduled basis;

(b) Warning devices not operating continuously for more than 5 minutes;

(c) Sounds created by the tires or motor used to propel any road vehicle complying with the noise standards for road vehicles;

(d) Sounds resulting from the operation of any equipment or facility of a surface carrier engaged in interstate commerce by railroad only to the extent that such equipment or facility is regulated by pre-emptive federal regulations as set forth in Part 201 of Title 40 of the Code of Federal Regulations, promulgated pursuant to Section 17 of the Noise Control Act of 1972, 86 Stat. 1248, Public Law 92-576; but this exemption does not apply to any standard, control, license, regulation, or restriction necessitated by special local conditions which is approved by the Administrator of the EPA after consultation with the Secretary of Transportation pursuant to procedures set forth in Section 17(c)(2) of the Act;

(e) Sounds created by bells, chimes, or carillons;

(f) Sounds not electronically amplified which are created by or generated at sporting, amusement, and entertainment events, except those sounds which are regulated under other noise standards. An event is a noteworthy happening and does not include informal, frequent, or ongoing activities such as, but not limited to, those which normally occur at bowling alleys or amusement parks operating in one location for a significant period of time;

(g) Sounds that originate on construction sites.

(h) Sounds created in construction or maintenance of capital equipment;

(i) Sounds created by lawn care maintenance and snow removal equipment;

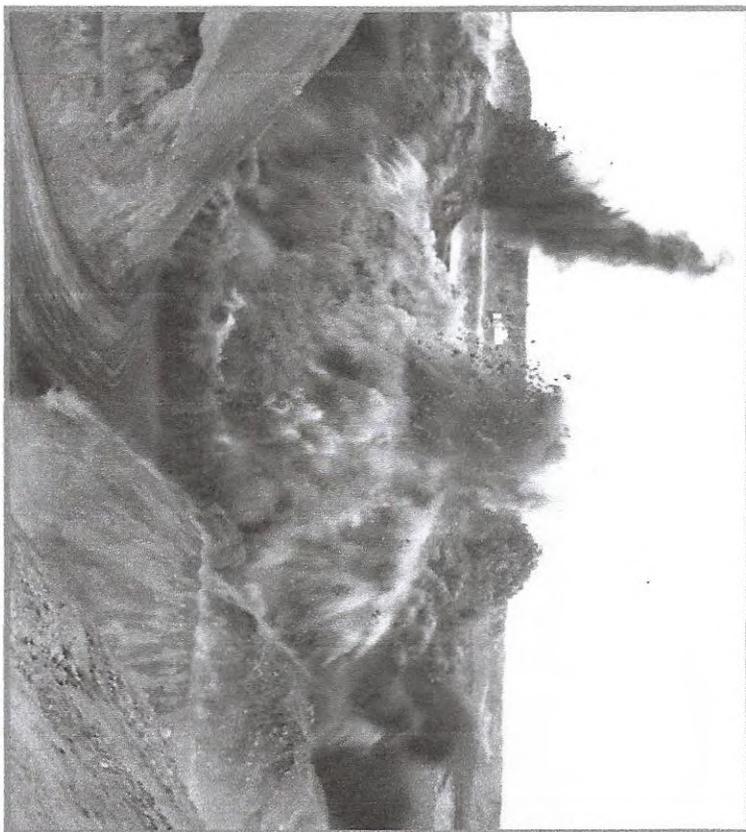
(j) Sounds generated by the operation of aircraft and subject to pre-emptive federal regulation. This exception does not apply to aircraft engine testing, activity conducted at the airport that is not directly related to flight operations, and any other activity not pre-emptively regulated by the federal government or controlled under OAR 340-035-0045;

Controlling the Adverse Effects of Blasting

This module addresses the control of offsite impacts that result from blasting, namely:

- vibrations,
- airblast, and
- flyrock.

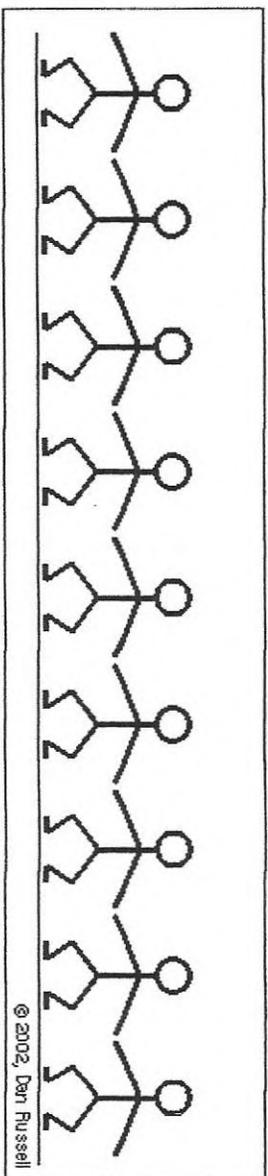
Much of the information in the module is derived from the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The performance standards apply to all surface coal mines. Similar standards have been adopted on some State and local levels and applied to non-coal blasting operations such as quarrying and construction.



Part I: Ground Vibrations, Airblast, and Flyrock

Exhibit 5b

Explosive energy is used to break rock. However, the use of this energy is not 100-percent efficient. Some of the energy escapes into the atmosphere to generate **airblast or air vibrations**. Some of the energy also leaves the blast site through the surface soil and bedrock in the form of **ground vibrations**.



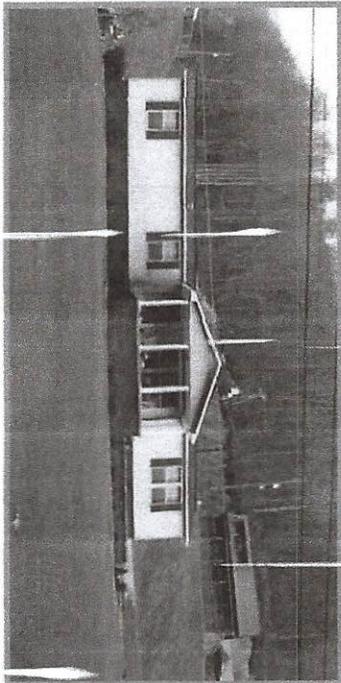
Both air and ground vibrations create waves that disturb the material in which they travel. When these waves encounter a structure, they cause it to shake. Ground vibrations enter the house through the basement and airblast enters the house through the walls and roof.

Airblast may be audible (noise) or in-audible (concussion). When outside a house the blast may be heard because of the noise, however noise has little impact on the structure. The concussion wave causes the structure to shake and rattles objects hanging on walls or sitting on shelves. This “interior noise” will alarm and startle people living in the house.

Flyrock is debris ejected from the blast site that is traveling through the air or along the ground. Flyrock the single most dangerous adverse effect that can cause property damage and personal injury or death.

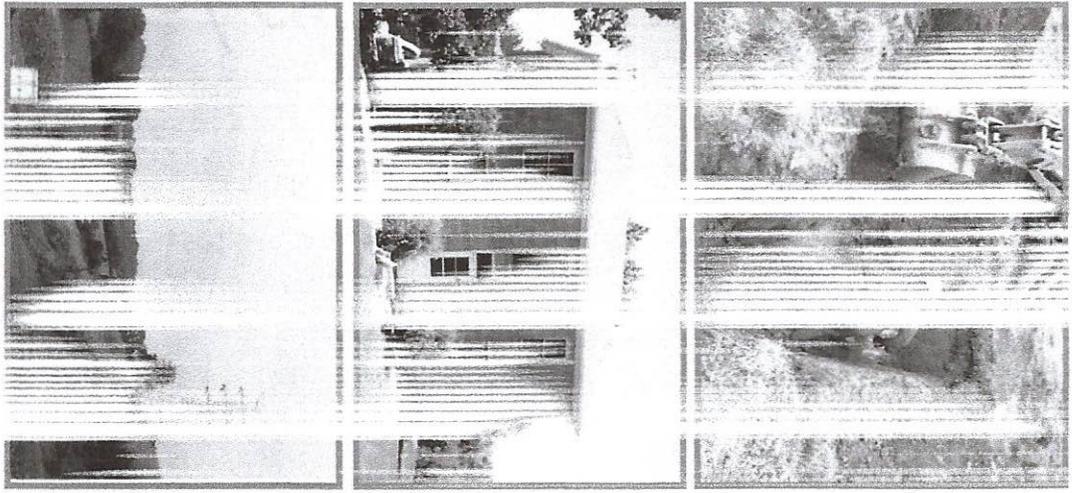
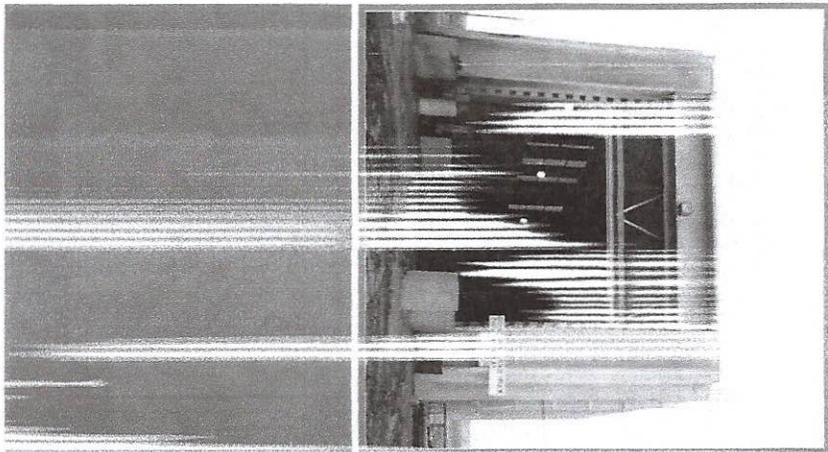
Blasting Impacts on Structures

Both above-ground and below-ground structures are susceptible to vibration impacts. Structures can include onsite mine offices and buildings, as well as offsite residences, schools, churches, power-transmission lines, and buried pipelines. Some of these structures may include historic or cultural features sensitive to even low levels of vibrations.



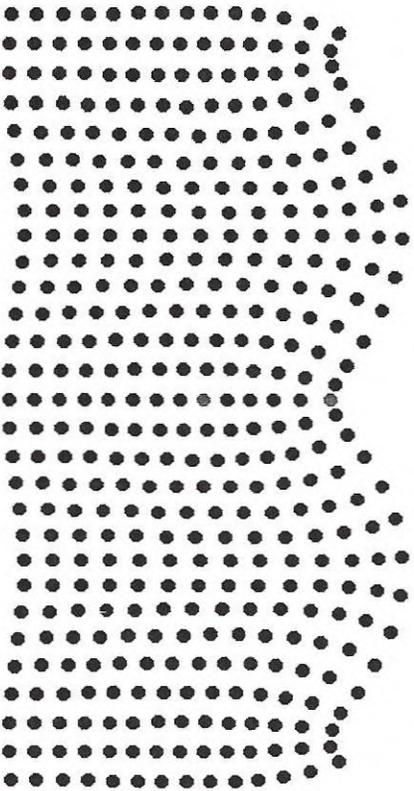
It is important to understand:

1. the causes of ground vibrations and airblast, and
2. what practices can be followed to control and minimize the adverse effects



Ground Vibrations

Ground vibrations propagate away from a blast site as Rayleigh (or surface) waves. These waves form a disturbance in the ground that displaces particles of soil or rock as they pass by. Particle motions are quite complicated. At the ground surface (free boundary), measured particle motions have the greatest displacements, and displacements decrease with depth (see the illustration below). At a depth of between 20 to 50 feet below ground surface, particle displacements are barely detectable. Structures that are well coupled to the ground tend to move with this motion; structures buried in the ground are less affected by surface motions.



©1999, Daniel A. Russell

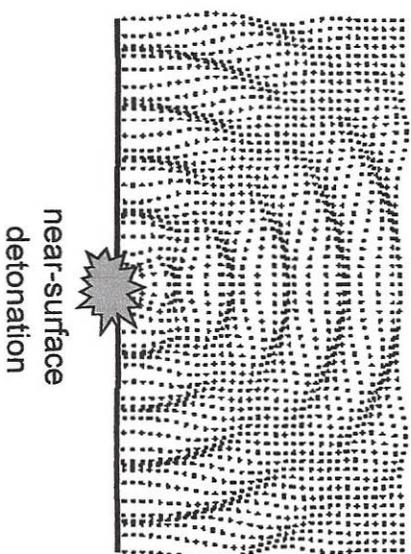
Ground vibrations are measured in terms of **particle velocity** and are reported in inches per second (ips) or the speed at which a particle of soil or rock moves.

At typical blasting distances from residential structures, the ground only moves with displacements equal to the thickness of a piece of writing paper. In terms of displacement, this equates to hundredths of an inch; visually, such movement cannot be detected.

Airblast

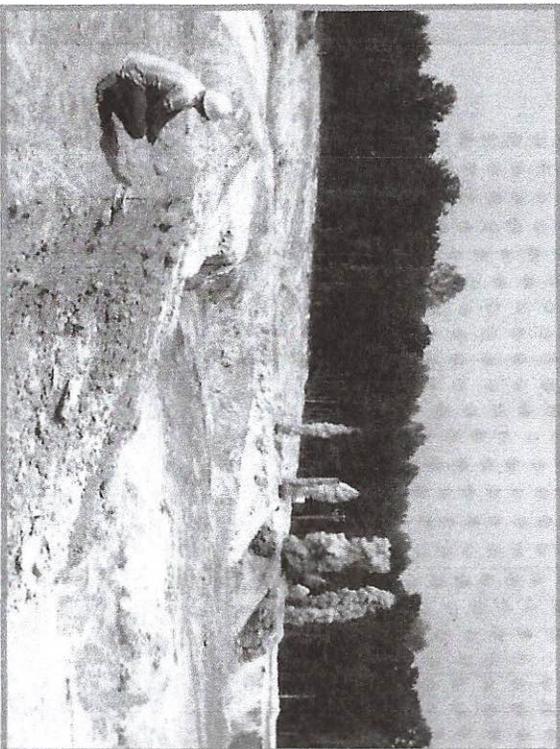
Airblast is measured as a pressure in pounds per square inch (psi) and is often reported in terms of **decibels (dB)**.

Airblast is a pressure wave that that may be audible or inaudible. Elevated airblast levels are generated when explosive energy in the form gases escape from the detonating blast holes. Energy escapes either through the top stemming or through fractures in the rock along the face or at the ground surface.



Airblast radiates outward from the blast site in all directions and can travel long distances. Sound waves travel much slower (1,100 ft/s) than ground vibrations (about 5,000 – 20,000 ft/s). Hence, airblast arrives at offsite structures later than do ground vibrations.

Both ground vibrations and airblast cause structures to shake structures. Occupants in structures that are located far from a blast may experience shaking from vibration and airblast as two separate, closely spaced events. This can be particularly bothersome, as it prolongs the duration of structure shaking and leads the property owner to think that two separate blasts occurred.



Structure Response

As ground and air vibrations reach a structure, each will cause it to shake. Structure response is dependant on the vibration characteristics (frequency and amplitude) and structure type.

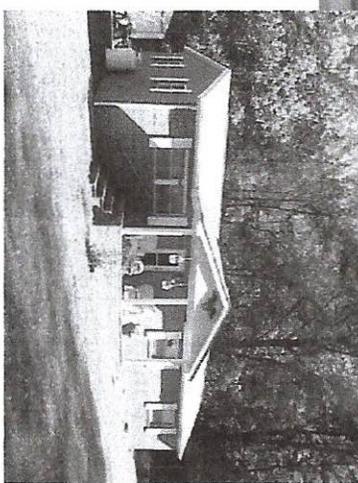
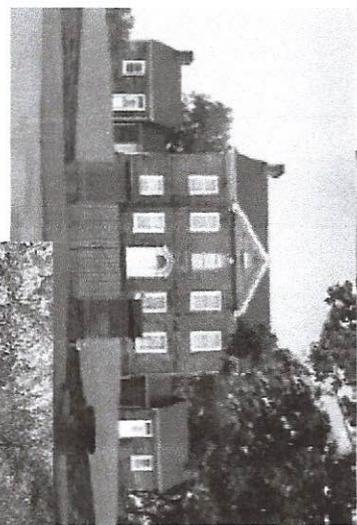
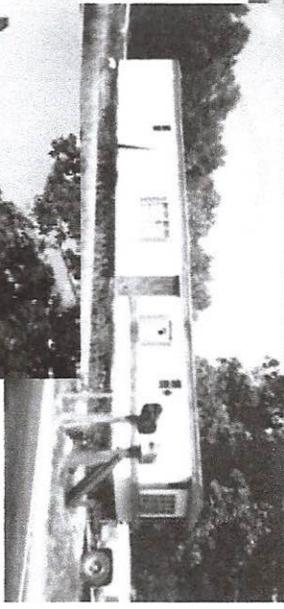
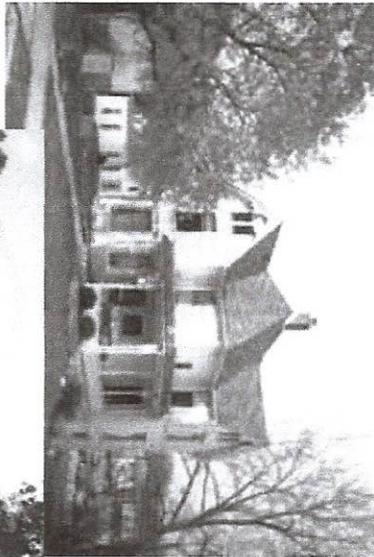
Ground Vibrations enter the house through the basement. This is like shaking the bottom of a flag pole. Movement at the top of the pole depends on how (frequency) and how hard (amplitude) the bottom of the pole is shaken. If shaken at just the right pace, or at the pole's natural frequency, the top will move significantly compared to the bottom. Motion at the top is amplified from the bottom motion.

All blast damage studies have measured incoming ground vibrations at the ground surface. The observed structure amplifications were typically between 1 to 4 times the ground vibration. Structure response below ground level is the same or less than the incoming vibrations

Airblast enters the house through the roof and walls. Like ground vibrations, the frequency and amplitude of the vibrations affect structure response. However the low frequency events (concussion) that most strongly affect structures is normally only a one or two cycle event.

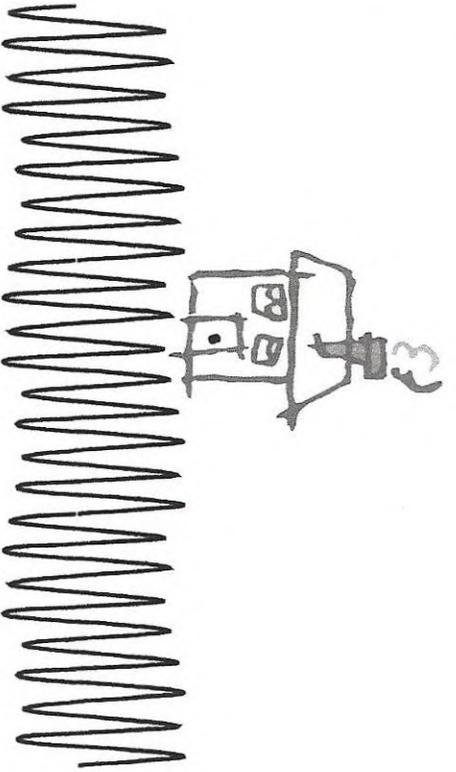
Due to the different arrival times of ground and air vibrations, occupants may feel two distinct impacts on the house.

Exhibit 5f

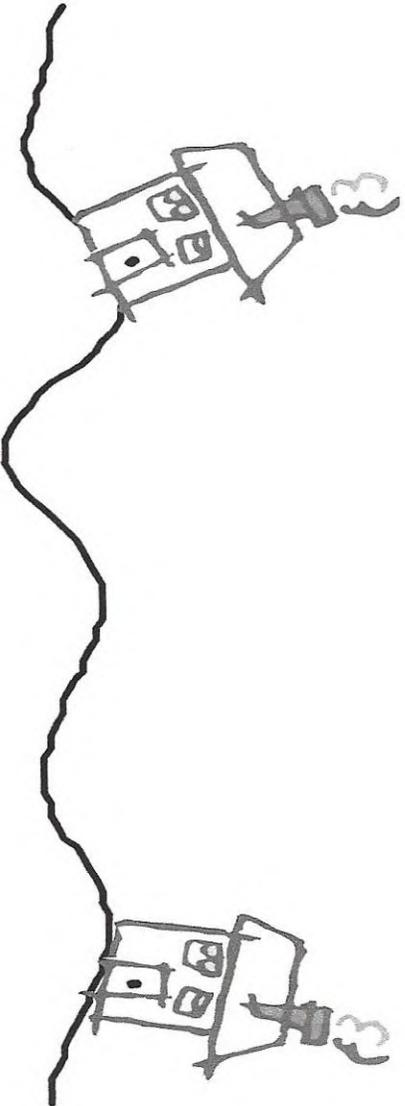


Ground Vibration Structure Response

Exhibit 59



On the other hand, low-frequency wave cycles are long as compared with the dimensions of structures. Accordingly, low frequencies tend to efficiently couple energy into structures and to promote higher-amplitude, long-duration shaking.



High frequencies do not promote structure shaking. The length of a single high-frequency wave cycle is short as compared with the dimension of a structure. A structure does not significantly respond to high frequencies.

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A noisy problem

People often become more sensitive to noise as they age, which can affect their mental and physical health.

Published: March, 2019

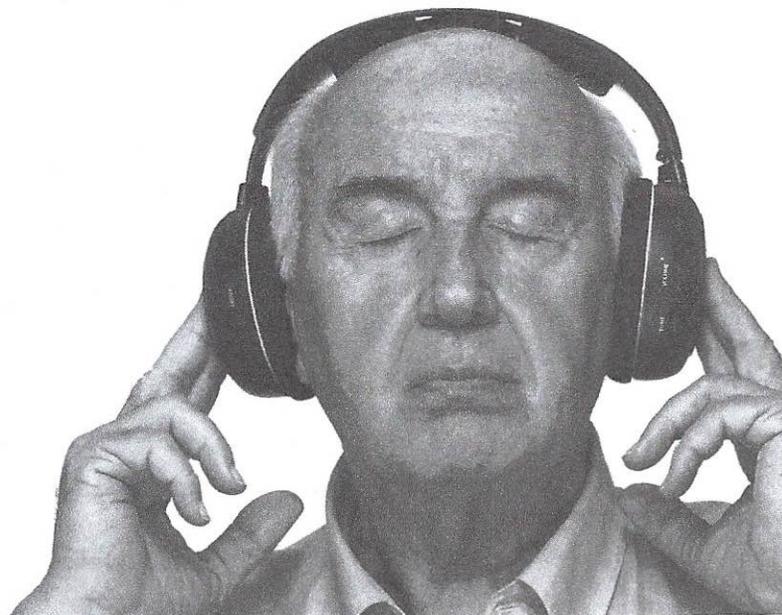


Image: © Juanmonino/Getty Images

Are you more sensitive to noises than you used to be? Do certain sounds now feel too loud and jarring? Don't worry; it's actually quite normal.

Age-related hearing loss is common among older adults and affects about two-thirds of men in their 70s and 85% of men ages 80 and older. Although it's not clear why, this can also make people hypersensitive to sounds that they used to tolerate easily, which in turn can affect their well-being.

"Exposure to noises from crowds, traffic, and other everyday sounds can become harder to tolerate and increase stress levels, leading to anxiety and a reduction in overall quality of life," says Dr. Stephanie Tompkins, an audiologist with Harvard-affiliated Massachusetts Eye and Ear. "As your sensitivity to noises increases, this can lead to greater isolation, too, as you may try to avoid potentially noisy places and situations."

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Quiet in the Hospital: How Noise...

Quiet in the Hospital: How Noise Reduction Helps Patients Heal

on June 7, 2018 (<https://medcenterblog.uvmhealth.org/innovations/hospital-noise-reduction/>) in Innovation (<https://medcenterblog.uvmhealth.org/category/innovations/>) by UVM Medical Center (<https://medcenterblog.uvmhealth.org/author/uvmmedcenter/>)

Noise. It is present in almost every aspect of our lives. From the traffic in the streets, to the fan that provides us white noise in the background to sleep, noise exists. Unfortunately, like stress, too much of it can have a negative impact on a person's health and rest. Some sounds we do like to hear, such as birds chirping, signaling spring in Vermont, but what about sounds in a hospital?

Many of us get admitted to hospitals when we are too sick to take care of ourselves at home. We expect exceptional care from physicians and nurses and, of course, to rest in order to help our bodies heal. We understand that some noises in a hospital are necessary for care; however, others simply aren't.

The Sounds of a Hospital

Many organizations, including the UVM Medical Center, have high tech equipment, which greatly assists in the delivery of care to our patients, but can also be noisy. Sometimes, healthcare providers are the source of the noise as we interact and communicate with our patients and other health team members.

Another factor is visits from families and friends during visiting hours. It is difficult when one's roommate is trying to rest in the opposite bed. Yet, we need to be cognizant of noise in patient care areas as sounds can be magnified and misinterpreted, increasing agitation and even confusion for some patients.

We become accustomed to the noise; our patients are not.

The Research on Noise, Quiet, and Healing

Research has shown that noise plays a negative role in healing and that decreasing noise in patient care areas aids in healing processes and helps facilitate speedier recoveries for patients. Patients are able to heal, sleep better and recover more quickly when able to rest. A quieter environment can also help decrease burnout for hospital staff.

Studies show that patients are more likely to develop negative side effects from a noisy hospital, such as sleep disturbances, elevated blood pressure and heart rate, and increased use of pain medications.

Noise can also increase annoyance levels for staff. One study indicated noise, such as talking inside and outside patient rooms, is the most common source of noise as well as visitors' voices, TVs, and behaviors of other patients.

Research concluded that best practices to eliminate noise from talking included staff education about noise reduction, public indicators such as sound monitors, a quiet time protocol, and lower cost environmental fixes, such as fixing noisy doors and squeaky wheels. Lastly, by introducing scripting with routine monitoring, patients' perception of quietness increased and the perception of noise decreased.

How We Address Noise at the UVM Medical Center

We introduced the "Culture of Quiet" Organizational initiative. The Nursing Professional Governance Patient and Family Experience Global council continued this work. After convening a small task force of nurses and assessing current quiet strategies, we introduced the following tactics:

- Many hospital units have designated 'quiet hours' with automatically dimming of lights at quiet hour intervals.
- Signage is visible in most patient care areas to help keep patients, family, and visitors aware. Throughout the hospital, you will see signs with a relaxing pair of Adirondack chairs and the sun setting with details on when a unit has quiet hours.
- Many semi-private rooms have windows in doors, so doors can be closed allowing for patient rest.
- We offer headphones for TVs and earplugs to help minimize sounds.
- In-patient kits contain a sleeping mask and other comfort items that can be provided at time of admission. Each kit contains a card and explains, 'the best healing occurs in a quiet environment.'
- New education material is available for staff, patients and visitors-just ask to review the next time visiting.
- Some units offer white noise machines, others have this built in.
- Noisy equipment such as wheels and doors can be tagged and replaced.
- Our facility and distribution staff have changed their cleaning and supply delivery schedules to accommodate patient care.
- Healthcare teams within the hospital are focusing efforts to cluster patient care to minimize interruptions to provide restful moments.

How you can help us.

We ask patients and visitors to hold us accountable when sounds are too loud. We want our community to alert us when noise levels are high and we will do what we can to minimize sound. In turn, we ask that all members of the healthcare team, patients, family, and friends be aware to keep voices soft, cell phones on vibrate, and hold each other accountable for these are the times of the day when our patients take pause to rest and positively impact their healing.

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Dangerous Decibels: Hospital Noise More Than a Nuisance

By Diane Sparacino, Staff Writer

Imagine a world where hospitals have become so noisy that the annoyance has topped hospital complaints, even more than for the tasteless, Jell-O-laden hospital food (Deardorff, 2011). If you're a nurse, you know that we're already there – with noise levels reaching nearly that of a chainsaw (Garcia, 2012). In fact, for more than five decades, hospital noise has seen a steady rise (ScienceDaily, 2005).

But it wasn't always that way. At one time, hospitals were virtually noise-free like libraries – respected spaces, preserved as quiet zones. The culture was such that a loud visitor might be silenced by a nurse's purposeful glare or sharply delivered "Shhh!" As early as 1859, the importance of maintaining a quiet environment for patients was a topic for discussion. In Florence Nightingale's book, "Notes on Nursing," she described needless noise as "the most cruel absence of care" (Deardorff, 2011).

Fast forward to 1995, when the World Health Organization (WHO) outlined its hospital noise guidelines, suggesting that patient room sound levels not exceed 35 decibels (dB). Yet since 1960, the average daytime hospital noise levels around the world have steadily risen to more than double the



acceptable level (from 57 to 72 dB), with nighttime levels increasing from 42 to 60 dB. WHO found that the issue was not only pervasive, but high noise levels remained fairly consistent across the board, despite the type of hospital (ScienceDaily, 2005).

Researchers at Johns Hopkins University began to look into the noise problem in 2003. They maintained that excessive noise not only hindered the ability for patients to rest, but raised the risk for medical errors. Other studies blamed hospital noise for a possible increase in healing time and a contributing factor in stress-related burnout among healthcare workers (ScienceDaily, 2005).

Technology is, of course, partly to blame. State-of-the-art machines, banks of useful alarms, respirators, generators, powerful ventilation systems and intercoms all add up to a lot of unwanted racket. When human voices are added to the mix, (i.e., staff members being forced to speak loudly over the steady din of medical equipment), it's anything but a restful environment. For the recovering patient in need of sleep, that can be a real issue (Deardorff, 2011).

Contributing to the problem, experts say, are the materials used in hospitals. Because they must be easily sanitized, surfaces cannot be porous where they could harbor disease-causing organisms. Rather than using noise-muffling materials like carpet, acoustic tiles and other soft surfaces, hospitals have traditionally been outfitted using smooth, hard surfaces – especially in patient rooms. Good for cleanliness – not so great for dampening sounds, which tend to bounce around the typical hospital (Deardorff, 2011).

Which brings us to the most recent research, published January 2012 in the *Archives of Internal Medicine*. In the report, Jordan Yoder, BSE, from the Pritzker School of Medicine, University of Chicago, and his colleagues associated elevated noise levels with “clinically significant sleep loss among hospitalized patients,” perhaps causing a delay in their recovery time (Garcia, 2012). During the 155-day study period, researchers examined hospital sound levels. The numbers far exceeded (WHO) recommendations for average hospital-room noise levels, with the peak noise at an average 80.3 dB – nearly as loud as a chainsaw or electric sander (85 dB), and well over the recommended maximum of 40 dB. And while nights tended to be quieter, they were still noisier than recommended allowances, with “a mean maximum sound level of 69.7 dB” (Garcia, 2012).

Perhaps most interestingly, the researchers broke down the sources of noise into categories: “Staff conversation (65%), roommates (54%), alarms (42%), intercoms (39%), and pagers (38%) were the most common sources of noise disruptive reported by patients” (Garcia, 2012). “Despite the importance of sleep for recovery, hospital noise may put patients at risk for sleep loss and its associated negative effects,” they wrote. In addition, researchers found that the intensive care and surgical wards had some work to do in dampening noise levels, with ICU peaking at 67 dB and 42 dB for surgical areas. Both far exceeded WHO’s 30 dB patient room recommendation (Garcia, 2012).

Besides patient sleep deprivation, which itself can lead to a multitude of health problems including high blood sugar, high blood pressure and fatigue, studies have reported that elevated noise levels can increase heart and respiratory rates, blood pressure and cortisol levels. Recovery room noise causes patients to request more pain medication, and preterm infants “are at increased risk for hearing loss, abnormal brain and sensory development, and speech and language problems when exposed to prolonged and excessive noise” (Deardorff, 2011).

There is still more research to be done, of course, but Yoder and his colleagues had good news, as well; much of the hospital noise they identified is modifiable, suggesting that hospitals can take steps to successfully create a quieter environment for both patients and healthcare providers (Garcia, 2012).

Around the country, "quiet campaigns" have been launched by hospitals in an attempt to dampen nighttime noise. Besides dimming lights and asking staff to keep their voices down at night, they are working to eliminate overhead paging systems, replace wall and/or floor coverings – even the clang of metal trashcans. Northwestern's Prentice Women's Hospital in Chicago was built with noise reduction in mind, replacing the idea of centralized nursing stations with the advent of smaller, multiple stations (Deardorff, 2011)

Billed as "one of the nation's largest hospital construction projects," Palomar Medical Center in North San Diego County is a state-of-the-art facility that has been designed "to encourage quietness," according to Tina Pope, Palomar Health Service Excellence Manager. Slated to open its doors this August, the hospital will feature a new nursing call system to route calls directly to staff and help eliminate the need for overhead paging, de-centralized nursing stations and clear sig lines, allowing staff to check on patients without having to leave unit doors open. With measures already in place including "Quiet Hospital" badges on staff and posters at the entrance of every unit, a "Quiet at Night" campaign (9 p.m. – 6 a.m.), and a "Quiet Champions" program that encourages staff to report noise problems, Palomar is one of a growing number of hospitals working toward a new era of quiet.

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Noises Are Truly Horrible For People Who Have PTSD

20 Mar '2018 [Sound](#)

Noise is a really big issue for PTSD survivors: people who have mental health problems because of their traumas. How are they connected?

Almost everybody has experienced a trauma. But some traumas are more scarring than others and can even result in long-lasting mental disorders like **PTSD**, which can have an extreme impact on someone's life. It's a disorder that can develop in the brain after a horrifying experience, like war or a car crash.

Symptoms

The symptoms of PTSD are, to say the least, not pleasant. They range from nightmares about the traumatic events, disturbing thoughts and feelings, anxiety, trying to avoid anything that has something to do with the traumatic event, and an increase in the fight-or-flight response.

Around ten percent of the population suffers from PTSD, according to data from **NCBI**, a part of the US National Library of Medicine. And, remarkably enough, that percentage is the same for people who suffer from tinnitus (the sound of a constant beep in your ears). The NCBI clearly sees a link between the two.

PTSD survivors also suffer from the Exaggerated Startle Syndrome, with anxiety and actions in an extreme and irrational way too loud noises and bangs. And then there are the sounds that remind them of the sounds during the traumatic events, which can trigger memories of the



Fear

PTSD can also cause a general fear of sounds: phonophobia, or a fear of some specific sounds: misophonia. Survivors of the disorder also are generally much more sensitive to sounds and perceive them as much louder than other people would.

All of this makes the life of people with PTSD very hard. If you think you are suffering from this, consult your doctor. Really, please do it. For yourself, and for the ones you love.

Do you have PTSD and would you like to tell your experiences to us? We are always very open and interested to hear what you have to say. And again: if you haven't done it yet, visit your doctor, please. Thank you!

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Does noise affect learning? A short review on noise effects on cognitive performance in children

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Abstract

The present paper provides an overview of research concerning both acute and chronic effects of exposure to noise on children's cognitive performance. Experimental studies addressing the impact of acute exposure showed negative effects on speech perception and listening comprehension. These effects are more pronounced in children as compared to adults. Children with language or attention disorders and second-language learners are still more impaired than age-matched controls. Noise-induced disruption was also found for non-auditory tasks, i.e., serial recall of visually presented lists and reading. The impact of chronic exposure to noise was examined in quasi-experimental studies. Indoor noise and reverberation in classroom settings were found to be associated with poorer performance of the children in verbal tasks. Regarding chronic exposure to aircraft noise, studies consistently found that high exposure is associated with lower reading performance. Even though the reported effects are usually small in magnitude, and confounding variables were not always sufficiently controlled, policy makers responsible for noise abatement should be aware of the potential impact of environmental noise on children's development.

Keywords: noise, cognitive performance, cognitive development, children, speech perception, listening comprehension, irrelevant sound effect, classroom acoustics

In everyday life, cognitive tasks are often performed in the presence of task-irrelevant environmental noise. Accordingly, numerous studies on noise effects on performance have been conducted since the middle of the 20th century (for reviews see Hellbrück and Liebl, 2007; Szalma and Hancock, 2011), showing that—depending on characteristics of sounds and tasks—noise of low to moderate intensity may in fact evoke substantial impairments in performance.

Most of these studies were conducted with adults. The present review, however, will focus on studies including children. Children are especially vulnerable to harmful effects of environmental noise, as cognitive functions are less automatized and thus more prone to disruption. We will report findings concerning effects of acute noise on performance in concurrent auditory and non-auditory tasks, as well as effects of chronic noise on children's cognitive development.

Effects of acute noise on children's performance in auditory tasks

Psychoacoustic studies have consistently shown that children's speech perception is more impaired than adults' by unfavorable listening conditions. The ability to recognize speech under conditions of noise or noise combined with reverberation improves until the teenage years (Johnson, 2000; Wightman and Kistler, 2005; Talarico et al., 2007; Neuman et al., 2010). With stationary noise makers, signal-to-noise ratios (SNRs) have to be 5–7 dB higher for young children when compared to adults in order to achieve comparable levels of identification of speech or nonspeech signals, with adult-like performance reached at about 6 years of age (Schneider et al., 1989; Fallon et al., 2000; Werner, 2007). However, with maskers that vary over time, i.e., with trial-by-trial variation of the maskers' spectral composition (Oh et al., 2001; Hall et al., 2005; Leibold and Neff, 2007) or with fluctuating maskers such as single-talker speech (Wightman and Kistler, 2005), adult-like performance is usually not reached before the age of 10 years. Furthermore, children are less able than adults to make use of spectro-temporal and spatial cues for separation of signal and noise (Wightman et al., 2003; Hall et al., 2005). These findings demonstrate that children are especially prone to *informational* masking, i.e., masking that goes beyond energetic masking predicted by filter models of the auditory periphery.

Studies identified a range of linguistic and cognitive factors to be responsible for children's difficulties with speech perception in noise: concerning the former, children are less able than adults to use stored phonological knowledge to reconstruct degraded speech input. This holds for the level of individual phonemes, as children's phoneme categories are less well specified than adults' (Hazan and Barrett, 2000), but also for the lexical level since children's phonological word representations are more holistic and less segmented into phoneme units. Therefore the probability of successfully matching incomplete speech input with stored long-term representations is reduced (Nittrouer, 1996; Metsala, 1997; Mayo et al., 2003). In addition, young children are less able than older children and adults to make use of contextual cues to reconstruct noise-masked words presented in sentential context (Elliott, 1979). Concerning attention, children's immature auditory selective attention skills contribute to their difficulties with speech-in-noise perception. Children's susceptibility to informational masking has been attributed to deficits in focusing attention on auditory channels centered on signal frequencies, while ignoring nonsignal channels (Wightman and Kistler, 2005). Behavioral and ERP measures from dichotic listening paradigms provide evidence that auditory selective attention improves throughout entire childhood (Doyle, 1973; Pearson and Lane, 1991; Coch et al., 2005; Wightman et al., 2010; Gomes et al., 2012).

Owing to the mediating role of linguistic competence and selective attention, children with language or attention disorders are still more impaired than normally developing children by noise in speech perception tasks (Geffner et al., 1996; Ziegler et al., 2005, 2009). A stronger noise effect is also evident for children tested in their second language when compared to native children (Crandell and Smaldino,

Autism & Anxiety: Parents seek help for extreme reaction to loud noise

September 5, 2018

Our 12-year-old son has autism, mild intellectual disability and anxiety attacks so severe that we end up in the emergency room. Loud noises are the worst – for example the school fire alarm, thunderstorms, a balloon popping, fireworks. Any help would be greatly appreciated.



This week's "Got Questions?" answer is by Judy Reaven, a clinical psychologist and associate professor of psychiatry and pediatrics at the University of Colorado School of Medicine and Children's Hospital Colorado, in Denver. Dr. Reaven's conducted research on the effectiveness of cognitive-behavioral therapy for anxiety in adolescents with autism, with the support of an [Autism Speaks research grant](#).

Editor's note: The following information is not meant to diagnose or treat and should not take the place of personal consultation, as appropriate, with a qualified healthcare professional and/or behavioral therapist.

Thanks for the great question. It certainly sounds like your family is experiencing a very difficult situation. Anxiety symptoms and reactions are very common in individuals with autism spectrum disorder (ASD). They can interfere with functioning across home, community and school settings.

Although your son's reaction sounds more severe than most, many people with autism struggle with a range of fears, phobias and worries. These can range from a debilitating fear of, say, spiders or the dark to chronic anxiety about making mistakes or being late.

Fortunately, recent research suggests that anxiety in children and adults who have autism is quite treatable. Often, these individuals are helped by the same or similar strategies that work well in treating anxiety in the general population.

These approaches include cognitive behavior therapy, or CBT. Cognitive-behavioral approaches are well-established, evidenced-based treatments that have become the gold standard of psychosocial treatments for anxiety. [My own research](#) and that of my colleagues has demonstrated the helpfulness of modifying cognitive-behavioral approaches to address the special needs of those who have autism.

Where to begin?

You describe a number of fears that may be related to sensory sensitivities. I recommend that you begin by consulting an occupational therapist who can assess whether your son's extreme sensitivities to noises are part of a broader sensory processing disorder. If this is the case, and if your son's fears are exclusively triggered by sensory stimuli, then his symptoms may be best addressed by a sensory-focused intervention. Many occupational therapists who specialize in autism receive special training in this area.

It's common for children with ASD and anxiety to become extremely frightened in response to sensory stimuli. Perhaps – like many individuals with autism – your son also has difficulty telling you what's scaring him. Instead, he may show his fear with extreme avoidance of a situation.

For example, he might refuse to go to school after a fire drill. He might become fearful of birthday parties after being frightened by a balloon that popped unexpectedly. Other signs of extreme distress can include yelling, crying, clinging and general agitation. Because your son may have difficulty communicating, it's important to observe his behavior for these signs of distress. This can help you determine what's triggering his fears.

Avoidance versus learning to cope

Many parents go to great pains to protect their children by avoiding agitating situations. This approach is sometimes appropriate and even necessary. However, it denies individuals the opportunity to learn how to manage anxiety-provoking situations on their own.

By helping your son learn to manage his fear, you can prepare him for an unpredictable world so that he can participate in it to the maximum extent possible.

Given the severity of your son's anxiety symptoms, I suggest that you seek professional support in addition to the strategies offered here. Families whose children have milder symptoms of anxiety can try these strategies on their own – seeking professional help if symptoms worsen.

Tackling one fear at a time

I suggest making a list of your child's major fears and worries. Try to rank order them from mild to severe. To encourage success, I'd start with a mild-to-moderate fear before taking on his extreme reaction to loud noises.

Key components of a cognitive behavioral approach include introducing coping strategies such as deep breathing and "helpful thoughts" that can help a person manage fearful reactions.

For example, you can teach your son to take deep slow breaths to help manage his body's physical anxiety reactions.

"Helpful thoughts" are statements that your son can say to himself when faced with a situation that makes him anxious. For example, you can coach to your son to say, "This is a loud noise. I don't like it, but I can handle it."

To help your son to learn these strategies, I suggest you model taking deep breaths while repeating a "helpful thought" out loud.

Graded exposure

The most important step is to help your son face his fears a little at a time. We call this "graded exposure." For example, explain to your son that the two of you are going to listen to a recording of thunder. The first time, you might play the recording at a soft volume, then gradually increase the volume over time as he demonstrates increased comfort with the sounds.

Or you might try watching a video of a balloon pop – perhaps with the volume off the first time. Then he can watch a real balloon pop while standing some distance away. Over time, he can move closer and closer to the balloon.

After such exercises, you can present him with small rewards for being brave and "facing fears." Remember that even a small act of bravery – such as listening to a recording of thunder for 10 seconds – represents an important step toward handling fears. It deserves to be acknowledged.

Although graded exposure may seem counterintuitive, [research](#) indicates that this strategy is the single most effective strategy for getting over a particular fear.

I wish you and your son the very best. Please let us know how you're doing with an email to GotQuestions@autismspeaks.org.

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I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

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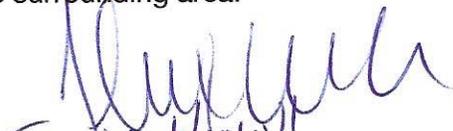
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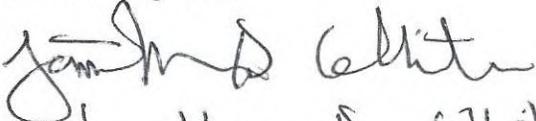


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PRINTED NAME RONNIE L. ALLEN 541-963-7720
ADDRESS 410 Balsa Street LA GRANDE, OREGON 97850
EMAIL NA NONE:

SIGNATURE 
PRINTED NAME Rita Allen
ADDRESS 410 Balsa St. LaGrande Or.
EMAIL

SIGNATURE 
PRINTED NAME LINDA M. SNYDER
ADDRESS 491 1770 DEHAIR
EMAIL

I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE *Robin J. Ostermann*
PRINTED NAME Robin J. Ostermann
ADDRESS 495 Modelaire Dr La Grande, OR 97850
EMAIL

SIGNATURE *Robert J. Ostermann*
PRINTED NAME Robert J. Ostermann
ADDRESS 495 Modelaire Dr. La Grande, OR 97850
EMAIL

SIGNATURE *John Yeates*
PRINTED NAME JOHN YEATES
ADDRESS 408 SUNSET DRIVE LA GRANDE, OR 97850
EMAIL jyeates52@gmail.com

SIGNATURE *Ruth Schumacher Yeates*
PRINTED NAME Ruth Schumacher Yeates
ADDRESS 408 Sunset Dr, La Grande
EMAIL ruthschumacheryeates@gmail.com

SIGNATURE *D. Dale Mammen*
PRINTED NAME D. Dale Mammen
ADDRESS 405 Balsa. La Grande, Or
EMAIL dmammen@comi.com

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SIGNATURE



PRINTED NAME

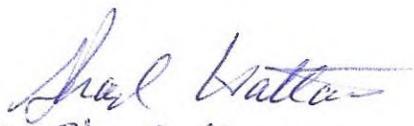
Denise Hattan

ADDRESS

507 Sunset Dr. La Grande, OR

EMAIL

SIGNATURE



PRINTED NAME

Shad Hattan

ADDRESS

507 Sunset Dr

EMAIL

hattansl88@gmail.com

SIGNATURE



PRINTED NAME

Jack L. Martin

ADDRESS

1412 Gildcrest Dr.

EMAIL

SIGNATURE



PRINTED NAME

GERALDINE BRASETH-PALMER

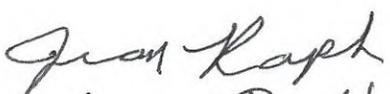
ADDRESS

1602 Gildcrest Drive - LaGrande, Or; 97850

EMAIL



SIGNATURE



PRINTED NAME

Jean RAPH

ADDRESS

1509 Madison Ave LaGrande, OR 97850

EMAIL

jraph19@gmail.com

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SIGNATURE *Damon Sexton*
PRINTED NAME Damon Sexton
ADDRESS 401 Balsa St La Grande, OR 97850
EMAIL sexton.damon@gmail.com

SIGNATURE *Coy Sexton*
PRINTED NAME Coy Sexton
ADDRESS 401 Balsa Street, La Grande, OR 97850
EMAIL coytris@gmail.com

SIGNATURE *Melinda McGowan*
PRINTED NAME Melinda McGowan
ADDRESS 602 Sunset Dr.
EMAIL melindamegowan@gmail.com

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE *Lois Barry*
PRINTED NAME LOIS BARRY
ADDRESS P.O. BOX 566, LA GRANDE, OR 97850
EMAIL loisbarry31@gmail.com

SIGNATURE *Cathy Webb*
PRINTED NAME CATHY WEBB
ADDRESS 1700 Cedar St. LA GRANDE, OR 97850
EMAIL thinkski@gmail.com

SIGNATURE *JoAnn Markette*
PRINTED NAME JOANN MARLETTE
ADDRESS 2031 Court St. #8, Baker City, OR 97814
EMAIL joannmarlette@yahoo.com

SIGNATURE *Keith D. Hudson*
PRINTED NAME Keith D. Hudson
ADDRESS 605 F Ave, La Grande OR 97850
EMAIL Keithdhudson@gmail.com

SIGNATURE *Laura Elly Hudson*
PRINTED NAME Laura Elly Hudson
ADDRESS 605 F Ave, La Grande OR 97850
EMAIL ellyhudson@gmail.com

I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE *Lynn Wheeler Duncan*
PRINTED NAME LYNN WHEELER DUNCAN
ADDRESS 489 Modelaire Drive, LaGrande OR 97850
EMAIL rlwd1910@gmail.com

SIGNATURE *Gary D. Pierson*
PRINTED NAME Gary D. Pierson
ADDRESS 489 Modelaire Drive, La Grande OR 97850
EMAIL -

SIGNATURE *Anne G. Cavinato*
PRINTED NAME Anne G. Cavinato
ADDRESS 86 Hawthorne Dr. La Grande OR 97850
EMAIL acavinot@ecu.edu

SIGNATURE *Joe Horst*
PRINTED NAME JOE HORST
ADDRESS 86 HAWTHORNE DR. LA GRANDE OR. 97850
EMAIL joehorst@con.com

SIGNATURE *Angela Sherrer*
PRINTED NAME Angela Sherrer
ADDRESS 91 W. Hawthorne Dr La Grande, OR 97850
EMAIL asherrer@frontier.com

I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE

Merle E Comfort

PRINTED NAME

MERLE E COMFORT

ADDRESS

209 SCORPIO LA GRANDE OR 97850

EMAIL

merlecomfort@gmail.com

SIGNATURE

Robin L. Maille

PRINTED NAME

Robin Maille

ADDRESS

401 Cedar St., La Grande

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rmaille@icloud.com

SIGNATURE

Carol Summers

PRINTED NAME

CAROL S. SUMMERS

ADDRESS

2811 Bekelen Lane La Grande, OR.

EMAIL

carolsummers1938@gmail.com

SIGNATURE

Caroline Kaye Juniper

PRINTED NAME

Caroline Kaye Juniper

ADDRESS

406 4th Street - LaGrande - OR 97850

EMAIL

SIGNATURE

Gerald D Juniper

PRINTED NAME

Gerald Darwin Juniper

ADDRESS

406 4th St. LaGrande, OR. 97850

EMAIL

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SIGNATURE *Robert J. Sherer*
PRINTED NAME Robert J. Sherer
ADDRESS 970 Hawthorne Dr, La Grande, OR 97850
EMAIL asherer@frontier.com.

SIGNATURE *Heather M. Null*
PRINTED NAME Heather M. Null
ADDRESS 492 Madelaine Dr. La Grande, OR 97850
EMAIL hnull@conic.com

SIGNATURE *Bert R. Freewing*
PRINTED NAME Bert R. Freewing
ADDRESS 709 South 12th Street La Grande, OR 97850
EMAIL jeanfreewing@gmail.com

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

12 August 2019

Oregon Energy Facility Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E
Salem, OR 97301

Dear Chair Beyeler and Members of the Council:

As I understand it, the applicant did not complete noise modeling on multiple noise sensitive properties within ½ mile of the development as required by OAR 340-035-0015(38). In fact, the closest noise modeling was performed at Hilgard, the junction of I-84 and 244, about 8 miles air miles away, with a train track near by. Applicant could scarcely have chosen a site less representative of the absolute silence typical of the Morgan Lake setting.

Page 145 (T-4-46) Baseline condition: "... A goal of minimal development of Morgan Lake Park should be maintained to preserve the maximum natural setting and to encourage solitude, isolation, and limited visibility of users..." Solitude, of course, suggests an absence of distraction from external stimuli including noise. Campers often comment on the tranquility of the park where a 5 mph speed limit is enforced to limit noise, and no shooting or motorized craft are allowed on the lake. Even when the campground is full, it's possible to picnic or hike beside the lake in absolute silence.

Noise Sensitive Property is "property normally used for sleeping, or normally used as schools, churches, hospitals, or public libraries. Obviously the noise corona of popping, humming transmission lines will interfere with the silence campers have every right to expect in a natural setting.

This transmission line is planned to be sited within 500' west of the park boundary, which would place it easily within less than 1/5 of a mile of overnight camp sites.

The applicant's ASC should be denied until all required and adequate noise modeling has been performed.


(Signature)

Name: Edwin Sedell

Address 97 Oak St
La Grande OR
97850

August 5, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. NE
Salem, Oregon 97301

Via EMAIL: B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposed Order.

Dear Chair Beyeler and Members of the Council:

COMMENT REGARDING THE BOARDMAN TO HEMINGWAY TRANSMISSION LINE DRAFT PROPOSED ORDER

The application is incomplete as Section X must include information regarding all receptors within ½ mile of site and include all noise sources required to be included in establishing the noise level generated directly or indirectly by the development. Idaho Power has not provided information adequate to determine if they are able to meet the noise standard, even with site certificate conditions.

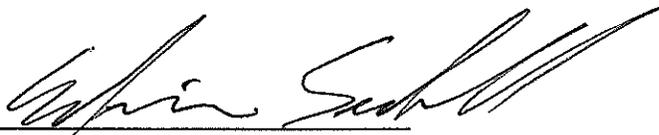
IDAHO POWER FAILED TO COMPLY WITH OAR 345-021-0010(1)(x) which states that Exhibit X must include information about noise generated by construction and operation of the Project within ½ mile of the site boundary. The site boundary means “the perimeter of the site of a proposed energy facility, it’s related or supporting facilities, all temporary laydown and staging areas and all corridors and micrositing corridors proposed by the applicant” (OAR 345-001-0010(55)).

1. The applicant lists the areas which are included in the site boundary in Exhibit F, Page F-2, however, they failed to include noise modeling or include all the receptors within the ½ mile area beyond the entire site perimeter.
2. The applicant failed to do noise modeling for all noise sensitive property as they did not include churches, schools, libraries, or hospitals as is required by the definition in OAR 340-035-0015(38).
3. The applicant also failed to include the noise identified in OAR 340-035-0035(1)(b)(B)(ii) as not being exempt from the ambient statistical noise level indirectly caused by or attributable to that source including all its related activities. This section states, “Sources exempted from the requirements of section (1) of this rule, which are identified in subsections (5)(b) - (f), (j), and (k) of this rule, shall not be excluded from this ambient measurement.” The application is not complete prior to the applicant finishing Exhibit X to include all sources required by this rule as

well as all receptors within ½ mile of the entire site boundary. No decisions can be made absent an accurate accounting of the predicted noise impacts which has not occurred.

No Proposed Order can be issued until the developer has shown that they meet the requirements at the time a site certificate is issued. OAR 345-015-0190(5) allows the Department to find the application is complete when the applicant has submitted information adequate for the Council to make findings or impose conditions on all applicable Council standards. While not all information required by OAR 345-021-0000 and 0010 must be submitted, there must be information adequate to show they meet the requirements or will meet them by implementing the conditions contained in the site certificate. The draft site certificate does not assure that the noise standard will not be exceeded, and the developer has not provided noise modeling or included modeling for all required sources of noise to establish the ambient statistical noise level of the development for all NSR's. Missing information includes: 1. Identification of all noise sensitive receptors within ½ mile of the entire site boundary; 2. Identification and notice to the owners of all noise sensitive properties; and 3. Modeling which includes Items (5)(b) - (f), (j), and (k) which cannot be excluded from the ambient noise measurement.

Sincerely,



Signature

Printed Name: *Edwin R Sedell*

Mailing Address:

*97 Oak St.
La Grande, OR
97850*

August 12, 2019

Oregon Energy Facility Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E
Salem, OR 97301

Dear Chair Beyeler and Members of the Council:

Page 62 (T-57) ASC refers to “extensive work in the siting study of the Morgan Lake Alternative.” I doubt it was extensive because it is entirely inaccurate:

Page 145 (T-4-46) Morgan Lake Park is described as 204 acres, containing one lake, which is developed with primitive campsites and fishing docks.

Morgan Lake Park actually contains two lakes. Morgan Lake covers 70 acres; the other, Twin Lake, [also known as Little Morgan Lake] is in plain sight, within 300’ of Morgan Lake; it covers 27 acres.

Twin Lake is undeveloped, a wild life and bird sanctuary, home to nesting bald eagles. It is designated as protected wetlands. In their application, Idaho Power conveniently omits any references to Twin Lake.

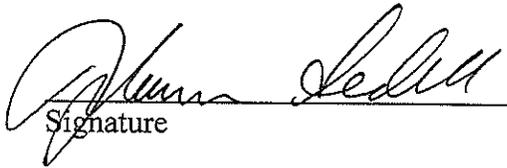
Page 156, (T-4-6) ASC purports to be a map of Morgan Lake Park. According to the map legend, the purple cross hatch amoeba-shaped area is Morgan Lake Park. That’s wrong. The purple cross hatch is Morgan Lake. The actual boundaries of the 204 acre park are not indicated. Obviously, it’s difficult to believe “extensive work on this siting study” ever occurred.

The applicant also used aerial photography to identify and avoid, where practical, irrigation pivots, houses, barns, private runways, other structures (e.g., wind turbines), and land use features. The corridors were adjusted using topographic maps to avoid or minimize distance across very steep slopes and other physical features less desirable for transmission line construction and operation. The corridors were again checked against the constraint and opportunity geographic information system (GIS) database to avoid, where possible, exclusion areas and areas of high permitting difficulty such as potential Oregon Department of Wildlife (ODFW) Category 1 habitats. The applicant then grouped the alternative corridors into 14 regions and evaluated on the basis of permitting difficulty, construction difficulty and mitigation costs. Using the constraint database, which incorporated the eight siting factors, the applicant reviewed the alternatives to determine the most reasonable corridor within each region. (DPO p. 11)

It is distressing to think that this is only one of many errors in Idaho Power’s ASC. If the IPC surveying and engineering staffs are unable to detect a 27 acre lake within a 204 acre park, it’s disquieting to imagine the difficulties in identifying and analyzing less obvious and life-threatening situations like fault zones, slide areas and other potential dangers to public safety

If this slipshod effort is typical of IPC's careful attention to engineering a route, it may also explain IPC's egregious error in choosing to site the B2H on their preferred Mill Creek or alternative Morgan Lake route rather than on the carefully studied and analyzed BLM Environmentally Preferred route.

Following the DEIS, Idaho Power made a hasty and ill-advised effort to avoid litigation threatened by a individuals whose remote properties and summer cabins would have been impact by the line. If Idaho Power had chosen to follow the BLM Environmentally Preferred route, miles to the west of La Grande, rather than in the immediate view of 13,000 La Grande residents, there might have been ten people at the public meetings in La Grande, rather than the hundreds who have consistently appeared to protest various serious problems associated with the routes proposed for the B2H. The haste of this effort is evident in the abundant errors of omission and misinformation typical of the B2H ASCand DPO which will be addresssed in a separate comment.



Signature

Name: Johanna Sedell

Address: 97 Oak Street
La Grande, OR 97850

August 12, 2019

Oregon Energy Facility Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E
Salem, OR 97301

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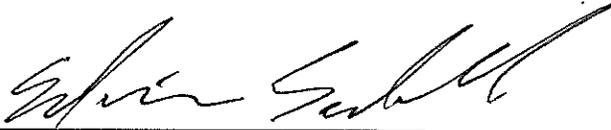
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Signature

Name: Edwin Sedell

Address: 97 Oak St.
La Grande OR
97850

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)
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/

August 14, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol Street N.E.
Salem, OR. 97301

Via E-MAIL: B2H.DPOComments@Oregon.gov

~~Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project
9/28/2018; Draft Proposed Order 5/23/2019~~

To: Chairmen Beyeler and Members of the Council

I appreciate the opportunity to comment on the B2H Draft Proposed Order. The Oregon National Historic Trail will be significantly affected by the B2H Transmission Line.

The Draft Proposed Order identifies significant impacts to the Oregon Trail in several Exhibits, including Exhibit C: Property Location and Maps; Exhibit L: Protected Areas; Exhibit R: Scenic Aesthetic Values; Exhibit S: Cultural Resources; Exhibit T: Recreational Facilities; and Exhibit X: Noise.

B2H crosses the Oregon Trail at least 8 times. EFSC has done a reasonable job of protecting the Trail during construction and operation, if the proposed requirements are followed, **except at the Oregon Trail Interpretive Center at Flagstaff Hill.**

The B2H Transmission Line should be buried for approximately 2 to 2 ½ miles to comply with the exhibits indicated above. Idaho Power has from the early years refused to do any significant analysis for this option. IPC uses cost as the reason for stating that undergrounding is not feasible. Cost is not a specific standard, and costs are the responsibility of the Oregon Public Utilities Commission during rate considerations. EFSC has determined that IPC has the Financial ability even if some partners choose to not participate, so reasonable cost should not be a determining factor for EFSC.

EFSC should refuse to approve the Draft Project Order for the following reasons:

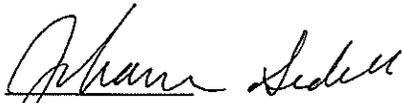
1. Does not comply with Noise Standards as no measurements were done at the Oregon Trail viewpoint or walking trails endpoint near milepost 146. Perhaps not a "Noise Sensitive Property," in the context of residential sleeping areas; however, certainly for tourists and visitors to the Interpretive Center and hiking trails noise will be disturbing. Map 23 in Attachment X-1 does not even show the Oregon Trail.
2. Within OAR 345-022-0040 Protected Areas and ODEQ standards 340-035-0000-0100, this area should have been monitored and modeled as a Noise Sensitive Property and was not.
3. Does not comply with Scenic Values from the Blue Mountains Parkway and Oregon Trail Interpretive Center. The OR 86 encourages drivers to STOP and read interpretive signs, so viewer perception and resource change cause significant decrease of scenic vales. IPC says no significant impact.
4. The DPO does not comply with Exhibit L Protected Areas. The BLM ACEC at Flagstaff Hill has not considered undergrounding for the protection of the Oregon Trail. No analysis found the pristine, Class 1 swales of the Oregon Trail within the ACEC located at: Lat 44.813762 Long -117.750194 or 44° 48' 48.26"N 117° 75' 57.97"W. IPC proposes to build a new constructed road over the Oregon Trail in the area identified in the location above.
5. The DPO does not meet the standards required for Exhibit T Recreational Facilities, OAR 345-022-0100, especially at the Flagstaff Hill interpretive center, because of:
 - a. It is a BLM ACEC area managed for public tourism

- b. It is the single most visited tourist facility in Baker County
 - c. The quality of the facility is outstanding
 - d. There is no other place where the Oregon Trail can be seen and interpreted.
6. The cost estimates of IPC do not compare with those of the *Edison Electric Institute*, January 2013 publication "Out of Sight, Out of Mind, An Updated Study of the Undergrounding of Power Lines." This article suggests that for 2.5 miles of rural undergrounding, the cost will be \$67,500,000. This is almost half the IPC estimate.

The Oregon Trail along the route of the B2H has the most damaging affects to its critical historic elements. Once the Trail is gone it cannot be reconstructed or mitigated back to life. Once gone, always gone. The only easily accessible public facility in Oregon is the Flagstaff Hill Interpretive Center near Baker City. The B2H must be buried to preserve this important site.

Considering the reasons above and the unconscionable desecration of our national treasure, the Council Must Deny the site certificate for the Boardman to Hemingway Transmission project.

Thank you,


Signature

Printed Name: Johanna Sedell

Mailing Address: 97 Oak Street
La Grande, OR 97850

Email: johanna.dus@yahoo.com



OREGON STATE SENATE

To Members of the Energy Facility Siting Council:

As clean energy standards take effect in Oregon, and as utilities move away from traditional sources like coal, electrical transmission upgrades are becoming more important than ever. We need a more robust electrical grid to balance energy demand and intermittent wind and solar generation across multiple regions.

The Boardman to Hemingway (B2H) transmission line will help meet that need. I support the permitting and construction of the project.

Customers across the Pacific Northwest will benefit from the project. It will deliver clean energy in the winter months to the Northwest and give the Northwest's independent energy generators and utilities a path to sell excess energy to customers during the summer.

Construction of B2H will lead to increased spending at businesses in eastern Oregon, bringing an immediate economic benefit to the area. The line will also generate more than \$4 million in property tax revenue every year.

It is my understanding that there are ongoing discussions with some communities in my Senate District about the proposed route. I appreciate Idaho Power's willingness to engage with local communities to address any questions or concerns. I believe the company will continue to take local feedback into account during the final planning and construction stages of the project. Because of their good faith efforts to find solutions, I offer my support.

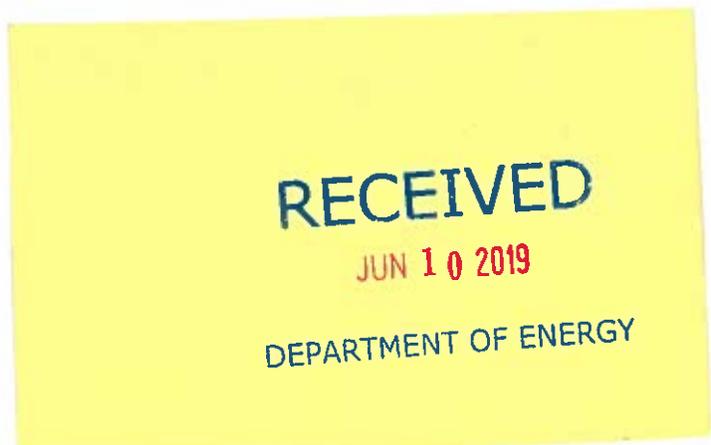
B2H presents a great opportunity to literally empower economic growth in the region. I hope the Energy Facility Siting Council will vote to approve a site certificate for the Boardman to Hemingway transmission line.

Thank you. Please contact my office if you have further questions.

Sincerely,

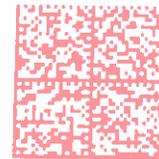
Bill Hansell

State Senator, District #29



BILL HANSELL
OREGON STATE SENATE
900 COURT ST NE S-415
SALEM, OR 97301

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Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St N.E.
Salem, OR 97301

ELB-45B 97301



ESTERSON Sarah * ODOE

From: Shirlee Severs <shirleesevers@gmail.com>
Sent: Tuesday, August 20, 2019 3:14 PM
To: B2H DPOComments * ODOE
Subject: STOPB2H, Please
Attachments: Letter for B2H PDF.pdf

Attached is my letter as well as here:

Date August 20, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St N.E.
Salem, OR. 97301

Via EMAIL: B2H.DPOComments@Oregon.gov

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposed Order 5/23/2019.

Dear Chair Beyeler and Members of the Council:

I have lived in Baker City for just 25 months. I fell in love with Eastern Oregon 3 years ago when traveling through from Nevada to Wyoming. I was enamored by the beauty; the Elkhorn Mountains to the west and the Eagle Caps to the east provided a contrast to the high desert and green valley of Baker City and surrounding areas. It is a part of Oregon I want to be part of.

Reading through the extremely lengthy draft proposal, *5 IV.F.5. Potential Visual Impacts from Facility Structures*, I have counted 166 statements using the words, **visual impact**. This is my primary concern. "extreme visual impact." There are 28 protected areas that were *carried forward for additional assessment*. Twenty eight, (28) areas at risk of being severely impacted VISUALLY by these transmission lines. Owyhee River, Ladd Marsh Wildlife, Oregon Trail Interpretive Center, Oregon Trail - Straw Ranch, Oregon Trail - Birch Creek —the list goes on.

In addition, *There are 12 protected areas (listed in Table PA-3) that would have 5 "medium to high intensity visual impacts"*

The draft proposal describes the impact and ITC proposed resolution. For most of them, *the applicant proposes 16 to use a **modified tower structure***. Modified tower structure?! Any and all tower structures will have significant impact to the beauty of Eastern Oregon. For this very reason the entire Boardman to Hemingway transmission line is a horrible idea and should be abolished. You all should be ashamed of yourselves for even considering this antiquated idea would come to fruition without a fight from the citizens of Eastern Oregon!

I urge you to consider carefully the Boardman to Hemingway transmission lines and get on board with 21st Century technology if you still feel it necessary to provide power to the state of Idaho! EFSC must deny the site certificate!

Thanks for taking the time to reconsider the impact this monstrosity will have on the people of Eastern Oregon,

Shirlee Severs
2415 Court Avenue
Baker City, OR 97814
775-622-5848

Date August 20, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St N.E.
Salem, OR. 97301

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Dear Chair Beyeler and Members of the Council:

I have lived in Baker City for just 25 months. I fell in love with Eastern Oregon 3 years ago when traveling through from Nevada to Wyoming. I was enamored by the beauty; the Elkhorn Mountains to the west and the Eagle Caps to the east provided a contrast to the high desert and green valley of Baker City and surrounding areas. It is a part of Oregon I want to be part of.

Reading through the extremely lengthy draft proposal, *5 IV.F.5. Potential Visual Impacts from Facility Structures*, I have counted 166 statements using the words, **visual impact**. This is my primary concern. “extreme visual impact.” There are 28 protected areas that were *carried forward for additional assessment*. Twenty eight, (28) areas at risk of being severely impacted VISUALLY by these transmission lines. Owyhee River, Ladd Marsh Wildlife, Oregon Trail Interpretive Center, Oregon Trail - Straw Ranch, Oregon Trail - Birch Creek —the list goes on.

In addition, *There are 12 protected areas (listed in Table PA-3) that would have 5 “medium to high intensity visual impacts”*

The draft proposal describes the impact and ITC proposed resolution. For most of them, *the applicant proposes 16 to use a **modified tower structure***. Modified tower structure?! Any and all tower structures will have significant impact to the beauty of Eastern Oregon. For this very reason the entire Boardman to Hemingway transmission line is a horrible idea and should be abolished. You all should be ashamed of yourselves for even considering this antiquated idea would come to fruition without a fight from the citizens of Eastern Oregon!

I urge you to consider carefully the Boardman to Hemingway transmission lines and get on board with 21st Century technology if you still feel it necessary to provide power to the state of Idaho! EFSC must deny the site certificate!

Thanks for taking the time to reconsider the impact this monstrosity will have on the people of Eastern Oregon,

Shirlee Severs
2415 Court Avenue
Baker City, OR 97814
775-622-5848

TARDAEWETHER Kellen * ODOE

From: Dale Mammen <dmammen@eoni.com>
Sent: Thursday, August 15, 2019 5:53 PM
To: B2H DPOComments * ODOE
Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposed Order 5/23/2019
Attachments: Scan 2019-8-15 17.38.19.pdf

To: Chairman Beyeler and Members of the Council

Find attached a letter signed by me and 54 other residents of La Grande expressing our concerns regarding the B2H Project and we request that EFSC deny the Site Certificate.

I have also sent a bound copy of this material by the US Postal Service.

Sincerely,

Virginia L. Mammen
405 Balsa
La Grande, Oregon 97850

August 10, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E.
Salem, OR. 97301

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018:Draft Proposed Order.

Dear Chair Beyeler and Members of the Council:

My comment is about the usage of the “Local Streets” ¹ specifically the Modelaire-Hawthorne Loop) ², hereafter referred to as the “loop”, of La Grande to access the site entrance. This residential “loop” was constructed without sidewalks for a new development around the early 1960s.

According to OAR 345-022-0110, Public Services (pg. 5. April 2017) “The applicant...must address all permanent and temporary impacts of the facility on housing, traffic, safety, police and fire protection, health care and schools.” ³

My impression from reviewing the application Page 17 ⁴ is that the applicant has not fully examined the final portion of the intended route nor does it fully recognize or address the need for traffic mitigation. This “loop” is the only access to/from thirty-six houses to the rest of the city. The area to the north of the “loop” is occupied by the Grande Ronde Hospital and Medical Clinic. Two blocks to the east is located the local high school and a grade school. ²

In June of 2016, the Grande Ronde Hospital petitioned the City to have a conditional use for a parking lot expansion project next to Hawthorne. The Conditional Use Permit was approved subject to the Condition of Approval that “No driveway access to GRH parking lot areas shall be permitted onto Hawthorn Drive as such street is developed to residential standards and is not designed to support commercial traffic.” ⁵

The La Grande Director of Public Works, Kyle Carpenter, provided information regarding the widths for the streets in question. The two streets range from 33 feet to 37 feet in width with no sidewalks. I personally measured the area where the unpaved stem of Hawthorne leaves the "loop" to go up the hill. At the junction it measures 32 feet curb cut to curb cut and narrows to 18-21 feet in width as it goes around the corner up the hill. 6 The Public Works Director also provided pictures of the mapping system showing the existing utilities located in the "loop". 7-8. It should also be noted that from the entrance to the "loop" at Sunset Drive to the entrance of the site the road has a 16% grade.

Attachment U2 9 from the application shows an "Aerial Lift Crane to be Used During Construction" and the Transportation and Traffic Plan on page 19 10 lists a number of other vehicles anticipated to be used. Article 6.6 — Public Street Standards for the City of La Grande Section 6.6.002 states that "Collector Streets are designed to withstand normal trucks of an HS20 loading. Larger trucks are to utilize Arterial Streets where at all possible." 11 The majority of vehicles listed on page 19 exceed that limit and would be using a Local Street in addition to Arterial and Collector Streets. According to the Public Works Director the two streets in the "loop" were designed as Local Streets for residential use, able to accept the pressures of HS20 for the purpose of an occasional need such as a weekly garbage truck or an emergency vehicle but for no more than 5% of the time. The paving construction of these over 50 year old streets in the "loop" was not designed for repetitive use by vehicles heavier than a normal car. These streets in the "loop" have not been repaved, only patched when necessary, since they were first constructed.

The application does not address the "loop" specifically, but 3.1.2 (pg. 19) 10 and Table 6 (pg.17) 12 of the Transportation and Traffic Plan indicate there would be numerous vehicles using this route. Not knowing exactly just which vehicles would be on the "loop" daily but making a conservative estimate of 50 round trips (100 single) it would be a constant parade with one truck every 7.2 minutes. This is unacceptable for numerous reasons including constant excessive noise.

Not only would weight of the vehicles be a problem but the narrowness of the "loop" streets and the ninety degree blind curves that would have to be executed would be either impossible or extremely dangerous considering the turning radius for many of these large vehicles. The

already dangerous situation for a number of driveways that exit onto these "loop" streets at blind curves would be exacerbated. 13-14

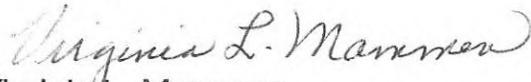
When considering only the traffic and safety issues listed above, the use of the "loop" as a part of the route for Idaho Power seems to be not only dangerous for the residents but unconscionable and irresponsible for Idaho Power to use such streets that are currently primarily for the neighborhood for walking (children to school, all ages for physical training), driving, or biking. I fear there are standards that are either not being considered or they are intentionally being ignored. There should be some common sense, courtesy and respect for the impact this project would impose on any neighborhood.

Finally, La Grande Ordinance Number 3077, which adopted Oregon State Traffic Laws by reference, states in Section 17 page 8 "It shall be unlawful for any person, firm or corporation to use, drive or operate any vehicle or combination of vehicles with a gross weight of 26,000, pounds or more upon any street of the City of La Grande, Oregon, except upon posted truck routes." Neither Modelaire/Hawthorne Loop nor Sunset Drive are posted as truck routes. 15-16

A site review and traffic plan must be completed prior to the cite certificate being issued and not 90 days prior to construction as stated.

For the above reasons I oppose the usage of the proposed route for the construction of the B2H transmission line.

Sincerely,



Virginia L. Mammen
405 Balsa
La Grande, Oregon. 97850

gmammen@eoni.com

**TABLE 1
 STREET STANDARDS**

Functional Classification	ADT Volume	Speed (mph)	# of Travel Lanes	Travel Lane Width	Turn Lane or Median Width	Bike Lanes	Min. Bike Lane Width	On-Street parking
Downtown Arterial	10,000	20	2-3	11'	11'			both sides
Arterial	10,000	40-55	2-5	12'	4-14'	optional ⁴	5'	none
Major Collector	2,000 - 10,000	25-45	2-3	11'	12'	required	5'	one or both sides
Minor Collector	1,000 - 2,000	25-35	2	11'	none	Optional ⁵	5'	one or both sides
Local Street	0 - 1,000	15-25	2	10'	none	none	none	one or both sides

Functional Classification	Sidewalks	Min. Sidewalk Width	Planting Strip Width ¹	Total Paved Width ²	Total ROW Width ³	Private Access Spacing
Downtown Arterial	required	12'	3'6" ⁵	49'	80'	200'
Arterial	required	5'	8'	36'-72'	80'-102'	200' - 400'
Major Collector	required	5'	8'	52'-60'	62'-90'	150' - 300'
Minor Collector	required	5'	8'	30'-48'	60'-78'	75' - 150'
Local Street	required	5'	8'	28'-36'	40'-66'	Each Lot

¹A portion of the required planting strip width may be used instead as additional sidewalk width or reduced right of way, as appropriate.

²The minimum of the paved width was calculated with the following assumptions:

- Arterials: Two (2) travel lanes, four foot (4') median divider, no center turn lane, no bike lanes.
- Major Collectors: Two (2) travel lanes, two (2) bike lanes, no center turn lane, parking on one (1) side.
- Minor Collectors: Two (2) travel lanes, parking on one (1) side of street, no bike lanes.
- Local Streets: Two (2) travel lanes, parking on one (1) side of street.

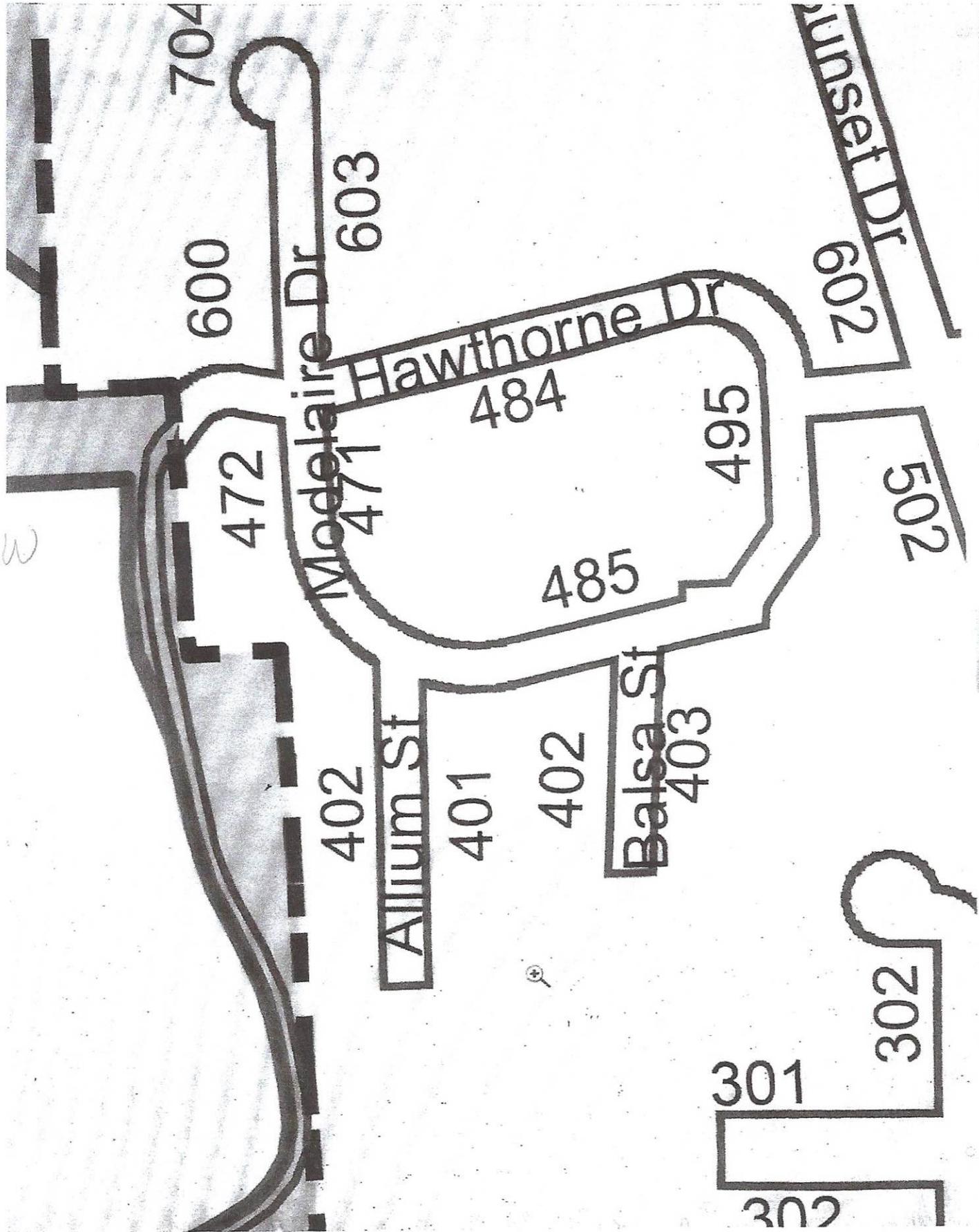
The maximum paved width for each street was calculated assuming the inclusion of all required and optional facilities. Minimum paved widths for each street are as required in Section 6.2.005 of this Code.

³These right-of-way width ranges are for new streets.

⁴Bike lanes should be provided on Arterials unless more desirable parallel facilities are designated and designed to accommodate bicycles.

⁵ Bike lanes should be provided on Minor Collectors where traffic volumes or other factors warrant. Otherwise, Minor Collectors should be designed and designated as shared roadway facilities with wide outside travel lanes of 14' on important bike routes.

N



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Public Services

ORAR 345-022-0110

This standard ensures that the proposed facility will not affect the ability of service providers in local communities to provide public services, such as fire protection or education. The applicant must assess the proposed facility's need for water and for disposal of wastewater, storm water and solid waste. The applicant must also evaluate the expected population increases in local communities resulting from construction and operation of the facility; and must address all permanent and temporary impacts of the facility on housing, traffic safety, police and fire protection, health care and schools. The Council must determine whether the applicant has identified potential adverse impacts to service providers and proposed adequate mitigation to ensure that there will be no significant adverse effect on the ability of a service provider to provide services. In considering the impacts, the Council solicits comments from affected local governments, fire or police departments, school districts and health care agencies.

Waste Minimization

ORAR 345-022-0120

This standard requires the Council to evaluate the applicant's proposal to minimize solid waste and wastewater generated by construction and operation of the proposed facility. The standard requires recycling of wastes, if feasible, or proper waste disposal if recycling is not feasible.

The applicant must evaluate the types of waste products that would be produced during construction and operation of the proposed facility and estimate the amounts or volume of waste products. The applicant must propose appropriate methods to handle the waste through collection, storage and disposal. Compliance with the standard assures that the applicant will reduce the amount of waste generated and dispose of waste in a responsible manner.

Need for a Facility

ORAR 345-023-0005

This standard requires the applicant for non-generating energy facilities (such as electric transmission lines) to demonstrate the need for the proposed facility. The Council's rules allow an applicant to demonstrate need for a non-generating facility through one of several methods, including the "Least-Cost Plan Rule" (ORAR 345-023-0020) or the "System Reliability Rule for Electric Transmission Lines" (ORAR 345-023-0030). Under the Least-Cost Plan Rule, the applicant meets this standard if the proposed transmission line was included in an Integrated Resource Plan that has been acknowledged by the Oregon Public Utilities Commission (OPUC). More information about the OPUC and the Integrated Resource Plan acknowledgement process can be found at www.puc.state.or.us.

Specific Standards for Wind Facilities

ORAR 345-024-0010 and 345-024-0015

This standard requires the Council to evaluate applications for wind energy facilities to ensure that applicants can design, construct and operate the facility so that that the public is not endangered by moving turbine blades or electrical equipment, and that the applicant can design, construct and operate wind turbines to prevent structural failure that could endanger public safety. Siting standards for wind facilities also require the applicant to reduce cumulative adverse environmental effects in the vicinity by using existing roads, if possible, placing collection lines underground, designing the facility to avoid impacts to vulnerable wildlife in the area (especially birds and bats), and designing the facility to minimize adverse visual features, including using the minimum amount of lighting necessary to meet the requirements of the Federal Aviation Administration for protecting aircraft.

Specific Standards for Transmission Lines

ORAR 345-024-0090

This standard requires that the Council evaluate transmission lines under Council jurisdiction to ensure they are designed, constructed and operated to limit the strength of electromagnetic fields in areas where those lines are accessible to the public.



Idaho Power Responses to Comments and Requests for Additional Information on the B2H APASC
 from the City of La Grande
 Compiled by ODOE. RAI's from the City of La Grande and Responses from IPC

U	U-Public Services include utilities such as road systems, water, sanitation services, power, and other amenities necessary for the construction.	Ordinance #2912, Series 1997 gives the City jurisdiction and control on all City street rights-of-way and Ordinance #3077, Series 2009, establishes the process and requirements for permits and licenses for uses of the streets that are not normal uses and may result in damages.	proposed helipad is a necessary supporting facility.	The project construction has two major road systems through La Grande that are proposed for this project – Morgan Lake Road via Gekeler Lane, 'C' Avenue, Walnut Street, and on up Morgan Lake Road. Roads along these routes are used by the ambulance service for accessing the hospital, the public transit system on its normal daily route, citizens to access locations within and outside this area and also for the school busing system for transporting kids to the La Grande Middle School, La Grande High School and Central Elementary School. In addition to the vehicular modes of travel, those routes are heavily used by bicyclists and pedestrians. The other route that would be utilized is the same route with the exception of turning onto Sunset Drive and up Hawthorne Street to a private gravel road that heads up the area above Deal Canyon. Two other routes that are not addressed but that would be obvious access routes for construction would be South 12th Street and South 20th Street. As a general rule, City streets are built with ninety degree angles, which may restrict some	To address the City's concerns regarding traffic and road use within the city's limits, Idaho Power has added the following proposed conditions to Exhibit K: <u>Land Use Condition 9: Prior to construction in Union County, the site certificate holder shall complete the following to address traffic impacts in the county:</u> a. The site certificate holder shall finalize, and submit to the department for its approval, a final county-specific transportation and traffic plan. The protective measures described in the draft Transportation and Traffic Plan in ASG Exhibit U, Attachment U-2, shall be included and implemented as part of the final county-specific plan, unless otherwise approved by the department; b. The site certificate holder shall work with the Union County Road Department and the City of La Grande Public Works Department to identify concerns related to Project construction traffic; and c. The site certificate holder shall develop traffic control measures to mitigate the effects of Project construction traffic. <u>Land Use Condition 26: During construction in Union County, the site certificate holder shall conduct all work in compliance with the Union County-specific</u>
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IV. CONCLUSIONS

Based on the Findings of Fact above, the Planning Commission concludes that the application meets the requirements established in LDC Articles 8.5 and other applicable codes and Ordinances.

V. ORDER AND CONDITIONS OF APPROVAL

Based on the conclusions above, the Planning Commission approves the Conditional Use Permit as requested, subject to the following Conditions of Approval:

- 1. No driveway access to GRH parking lot areas shall be permitted onto Hawthorn Drive as such street is developed to a residential standards and is not designed to support commercial traffic.
- 2. Any existing driveway curb cuts along Hawthorn Drive bordering GRH's property, that are not used for residential purposes, shall be removed and replaced with City standard improvements that exists adjacent to such areas.
- 3. There is a storm sewer line extending through the project area that shall to be protected. Any improvements that may affect the storm sewer line shall be reviewed and approved by the Public Works Director.

VI. STANDARD CONDITIONS OF APPROVAL FOR LAND USE APPLICATIONS

- 1. **Revisions to a Valid Conditional Use Permit:** Any variations, alterations, or changes in a valid Conditional Use Permit requested by the deed holder shall be considered in accordance with the procedures of the Land Development Code as though a new Conditional Use Permit were being applied for.
- 2. **Public Works Standards:** Where a development involves work within the public right-of-way, a Right-of-Way Permit shall be obtained from the Public Works Department in advance of commencing with any work in the right-of-way. All improvements within the public right-of-way shall be in conformance with the most recent adopted City of La Grande "Engineering Standard Drawings and Specifications for Construction Manual."
- 3. **Building Permits:** The City of La Grande Building Department shall be contacted early in the process and in advance of development to coordinate and obtain required building, plumbing, electrical and/or mechanical permits. All required permits shall be acquired in advance of construction.

VI. OTHER PERMITS AND RESTRICTIONS

The applicant and property owner is herein advised that the use of the property involved in this application may require additional permits from the City of La Grande or other local, State or Federal Agencies.

The City of La Grande land use review, approval process and any decision issued does not take the place of, or relieve the applicant of responsibility for acquiring such other permits, or satisfy any restrictions or conditions thereon. The land use decision herein does not remove, alter, or impair in any way the covenants or restrictions imposed on this property by deed or other instrument.

The land use approvals granted by this decision shall be effective only when the rights granted herein have been exercised and commenced within one (1) year of the effective date of the decision. In case such right has not been exercised and commenced or an extension obtained, the approvals granted by this decision shall become null and void. A written request for an extension of time shall be filed with the Planning Department at least thirty (30) days prior to the expiration date of the approval.



Virginia Mammen <4gmammen@gmail.com>

Modelaire Roadway Specifications

3 messages

Kyle Carpenter <KCarpenter@cityoflagrande.org>
To: "gmammen@eoni.com" <gmammen@eoni.com>

Fri, Jul 12, 2019 at 1:51 PM

I have attached a couple pictures of our mapping system that will give you a sense of where existing utilities are in Modelaire and Hawthorne. As for the widths of the roadways, I took measurements in multiple places, and found the following:

- Modelaire Drive (F Avenue) between Sunset Blvd and Hawthorne Drive is approximately 33 feet wide with a grade of about 5 Percent.
- Hawthorne Drive is approximately 32 feet wide at the bottom near the intersection of Modelaire/F Avenue and widens to about 34 feet where it intersects Modelaire at the top of the hill. The grade heading up hill is approximately 15.5 Percent.
- Modelaire Drive is generally 36 feet wide with some minor variability generally less than a foot (35' to 37'). On the southernmost segment of the roadway where the majority of the elevation gain is observed the grade is approximately 16 Percent.

Let me know if there are any other specifications of these roadways that you are interested in that I have missed. Have a great weekend and thanks for the treats, the guys were very appreciative.

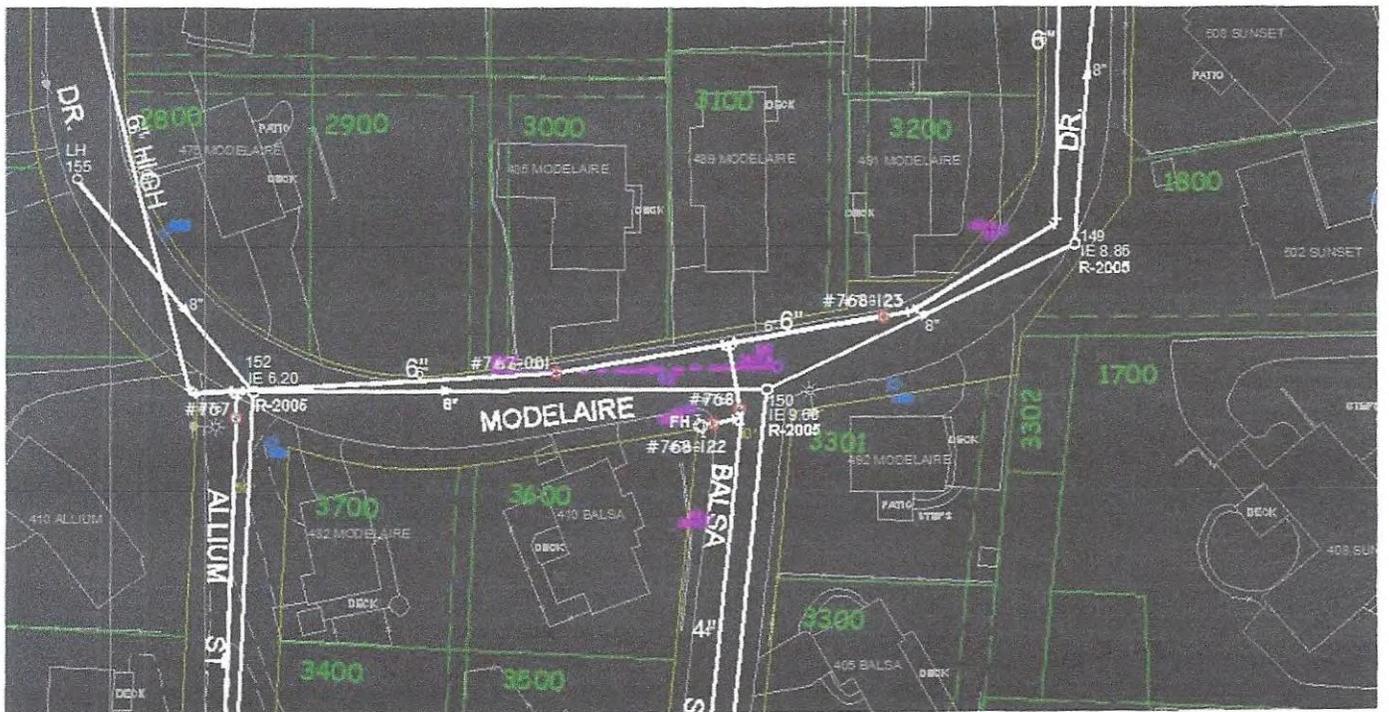
Kyle Carpenter, PE
Public Works Director
City of La Grande
Public Works
 Ph: (541) 962-1325
 Fax: (541) 963-4844

2 attachments



Hawthorne.jpg
150K

Modelaire.jpg
120K



attachment U2

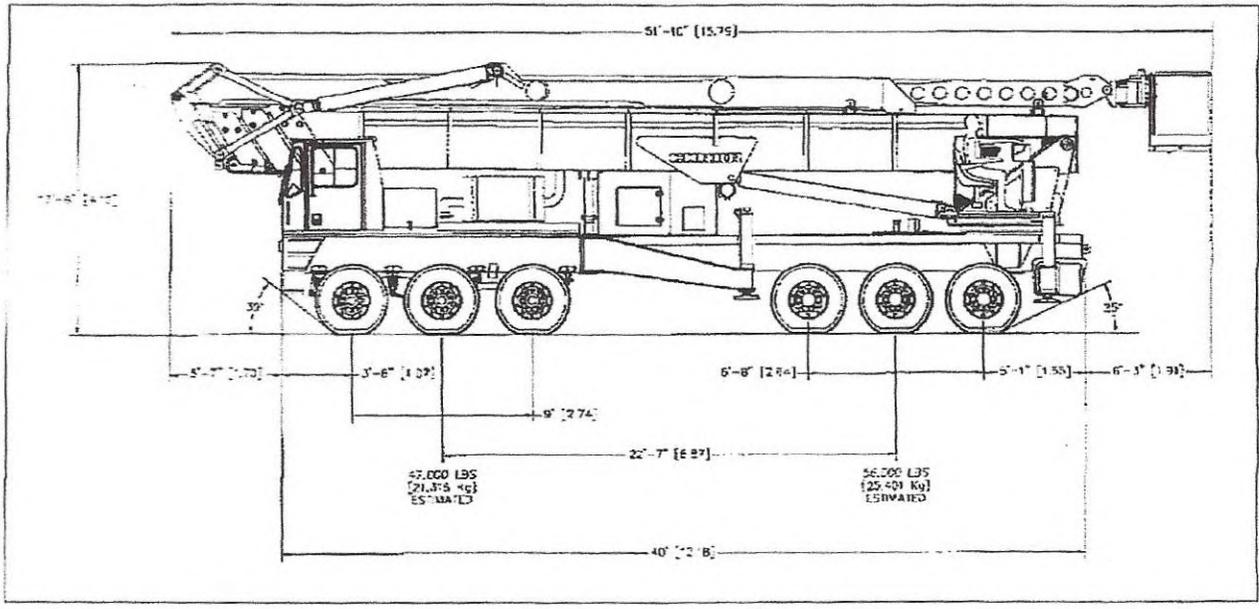


Figure 2. Example Aerial Lift Crane to be Used During Construction (Roadable Length 52 Feet; Width 8 Feet 6 Inches)

The following is a summary of anticipated equipment to be used for each transmission-line construction activity.

- Survey work: pickup trucks or ATVs.
- Timber removal: pickup trucks, feller bunchers, dump trucks, wood chippers.
- Road construction: pickup trucks, bulldozers, motor graders, and water trucks.
- Hole digging, installation of directly embedded structures, or foundation installation: pickup trucks, 2-ton trucks, digger derrick trucks, hole diggers, bulldozers, concrete trucks, water trucks, cranes, hydro cranes, wagon rock drills, dump trucks, and front-end loaders.
- Hauling lattice steel members, tubular poles, braces, and hardware to the structure sites: steel haul trucks, carry alls, cranes, and forklifts.
- Assembly and erection of structures: pickup trucks, 2-ton trucks, carry alls, cranes, and a heavy lift helicopter.
- Wire installation: pickups, wire reel trailers, diesel tractors, cranes, 5-ton boom trucks, splicing trucks, three drum pullers, single drum pullers, tensioner, sagging dozers, carry-alls, static wire reel trailers, bucket trucks, and a light duty helicopter.
- Final cleanup, reclamation, and restoration: pickup trucks, 2-ton trucks, bulldozers, motor graders, dump trucks, front-end loaders, hydro-seed truck, and water trucks.

The highest level of traffic will be when the wire stringing operations begin while several other operations are occurring at the same time, which will likely include ROW clearing, installing foundations, hauling steel, and assembling and erecting structures. For the station work, the highest level of traffic will be during site grading and foundation installation. For the communication station sites, the highest level of traffic will be during grading and site preparation.

Detailed estimates of trips generated by transporting Project construction equipment will be provided by the construction contractor prior to construction.

3.1.3 Traffic Related to Timber Removal

In forested areas, the Project will require removal of timber from the Project ROW and for construction and improvement of access roads. Specific timber harvest plans have not been finalized. Logs from timber clearing may be transported to nearby sawmills. Decisions regarding transportation routes for harvested timber will be made following completion of a timber harvest plan, and the number of log truck tips will be estimated when the timber harvest plan has been finalized. Logging slash will remain onsite if possible. For additional discussion regarding removal of timber in forested areas, see Exhibit K, Attachment K-2, ROW Clearing Assessment.

3.1.4 Impacts to V/C Ratios

Based on the estimated trip generation numbers in Tables 4 and 6, a maximum of approximately 1,294 daily one-way vehicle trips are expected within any one construction spread. To facilitate traffic and other analyses, the two construction spreads are divided into smaller sections based on similar construction windows and seasonal weather restrictions. Not all construction sections will have the same number of concurrent construction activities, depending on how the construction contractor sequences and executes the Project. Some sections will have fewer daily vehicle trips. For the purposes of the traffic analysis, the spreads are divided into five sections with multi-use areas that could have additive traffic impacts. The sections are assumed to have approximately equal levels of activity. The 1,294 daily one-way trips per spread divided over five sections of more concentrated traffic results in 259 daily one-

ARTICLE 6.6 – PUBLIC STREET STANDARDS

SECTION 6.6.001 - PURPOSE

Upon the request of the La Grande City Council, a variety of street design standards have been reviewed and are now incorporated in the Land Development Code.

SECTION 6.6.002 - CLASS I IMPROVEMENT STANDARDS

This classification will cover those streets that are designed to meet the standards for an expected life of twenty (20) years or more. The attached drawings shall be the minimum standard for those streets in this classification. All streets designated as Federal Aid Urban Streets (F.A.U.) shall be constructed under these design standards. Streets in this designation shall be constructed with sidewalks when at all possible in an effort to increase pedestrian safety. Collector streets are designed to withstand normal trucks of an HS 20 loading. Larger trucks are to utilize Arterial streets where at all possible. This level of development shall be the ultimate goal for all streets within the City of La Grande.

Possible means of financing available for this Class shall be methods A, B, C, D, E, F, G, and H in Section 6.6.006.

A. Advantages

1. The construction life is extended to a period above other City standards.
2. The visible aesthetics in relationship to having curbs and a blacktop surface with landscaping or concrete driveways and a sidewalk is generally appealing to the public.
3. Easy maintenance for the Public Works Department for cleaning and minor repair.
4. Storm sewer drainage is confined within the bounds of the curbs during minor flooding periods.
5. Parking is restricted to a solid barrier, that being the curb; this restricts parking in the area on the back side of the curb and confines travel to the street surface.
6. Defined areas for possible cross walks, signs, power poles, and other utilities that are restricted to the outside areas behind the curbs.
7. It allows for a wide range of financing methods and is to City standards for a ten (10) year Bancroft bonding.
8. Provides a dust free surface.

B. Disadvantages

1. The extreme high level of cost that is incurred with this type of development.

SECTION 6.6.003 - CLASS II IMPROVEMENT LEVEL

Streets constructed in this classification shall be constructed to the same standards as Class I Streets with the exception of the form of drainage system. These streets shall meet the standards as shown on the attached drawing. This level of construction shall be only utilized in substitution for Class I Streets when it is determined by the City Council at the recommendation of the City Engineer or Engineering Superintendent, that an adequate drainage system cannot be installed for a Class I Street.

Table 6. Construction Vehicle Trips per Day per Construction Spread

Construction Crew Type	Construction Vehicles					
	Light Construction Vehicles			Heavy Construction Vehicles		
	Number of Pickups/ Mechanic Trucks (per day)	Number of One-way Trips on Public Roads (per day)	Total One-way Trips (per day)	Number of Other Vehicles	Number of One-way Trips on Public Roads (per day)	Total One-way Trips (per day)
Substation Construction	20	2	40	5	2	10
ROW Clearing	9	4	36	5	4	20
Roads/ Pad Grading	9	4	36	9	2	18
Foundations	9	2	18	5	8	40
Tower Lacing (assembly)	27	2	54	0	0	0
Tower Setting (erection)	20	2	40	0	0	0
Wire Stringing	9	4	36	9	4	36
Restoration	3	2	6	0	0	0
Blasting	5	4	20	0	0	0
Material Delivery	20	8	160	12	2	24
Mechanic and Equipment Mgmt.	5	6	30	0	0	0
Refueling	0	0	0	5	4	20
Dust Control	0	0	0	5	4	20
Construction Inspection	5	8	40	0	0	0
Concrete Testing	5	4	20	0	0	0
Environmental Compliance	9	6	54	0	0	0
Surveyors	5	3	30	0	0	0
Totals	—	—	620	—	—	188

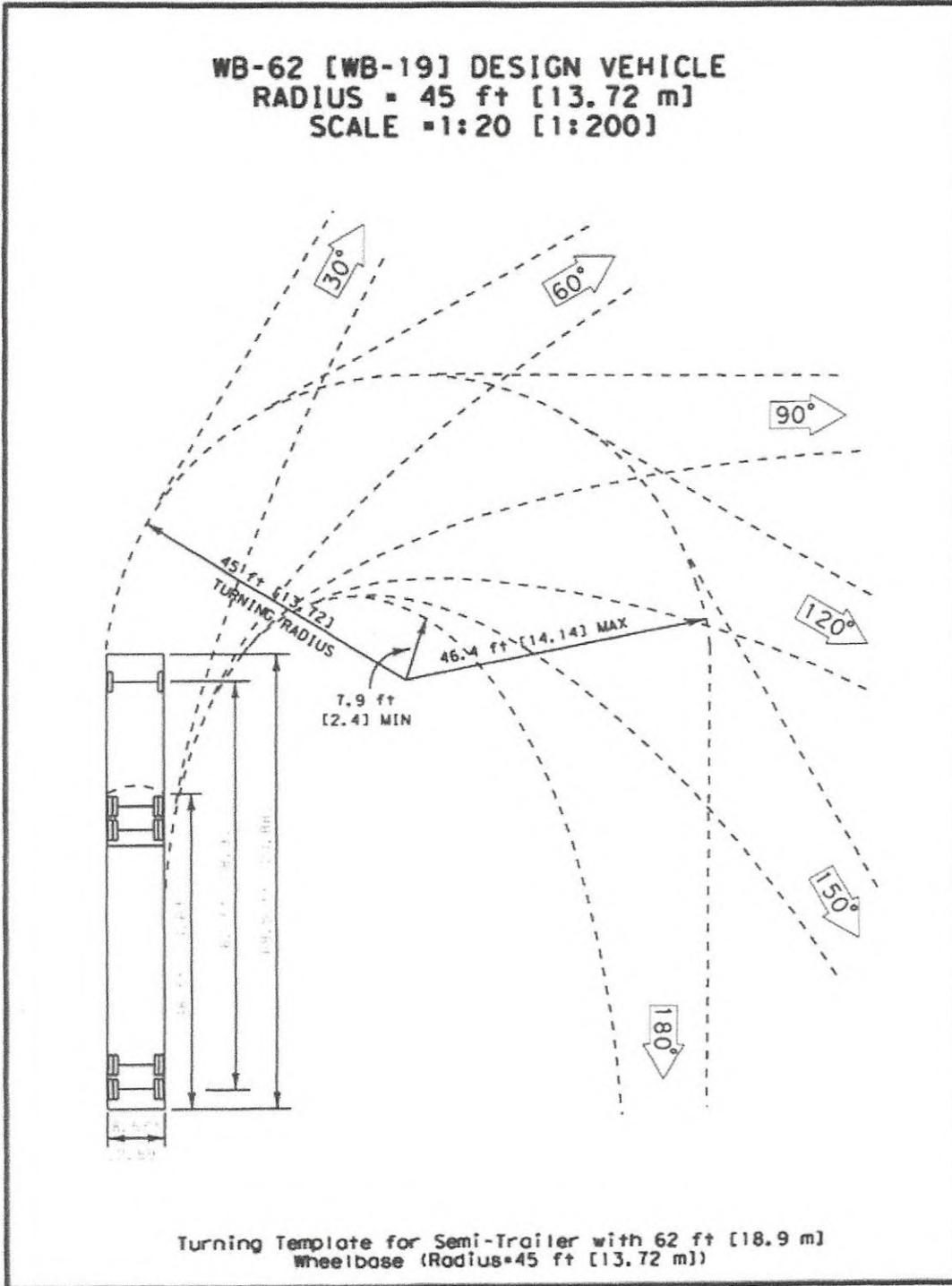


Figure 7-4. Turning Template for Semi-Trailer with 62 ft [18.9 m] Wheelbase, (not to scale). Click [here](#) to see a PDF of the image.

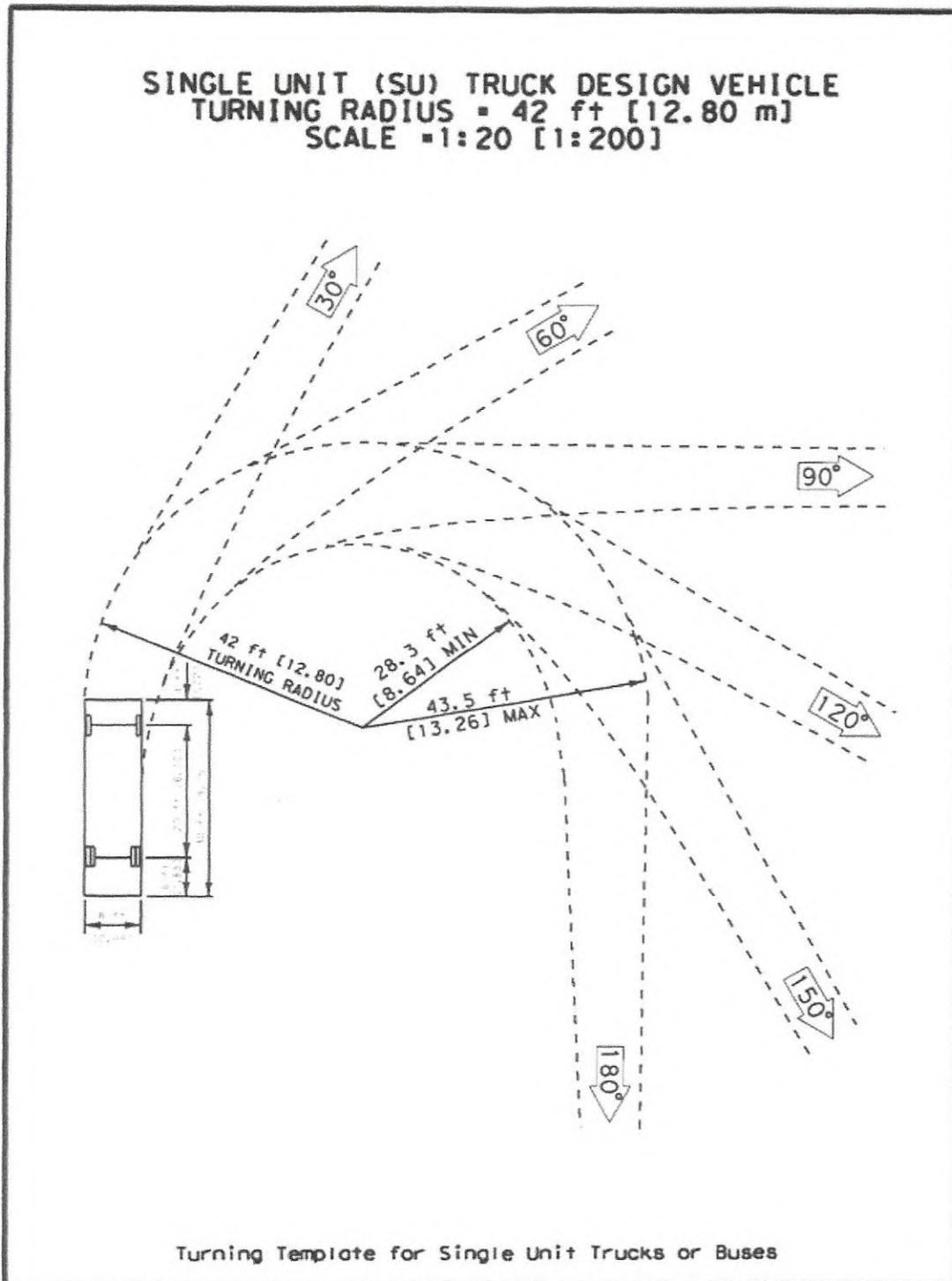


Exhibit 15

**CITY OF LA GRANDE
ORDINANCE NUMBER 3077
SERIES 2009**

**AN ORDINANCE CONTROLLING VEHICULAR AND PEDESTRIAN TRAFFIC, PARADES
AND PROCESSIONS AND ISSUANCE OF PERMITS; PROVIDING PENALTIES; AND
REPEALING ORDINANCE NUMBER 2845, SERIES 1993; ALL AMENDING ORDINANCES
AND ALL OTHER ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH;
AND DECLARING AN EFFECTIVE DATE**

THE CITY OF LA GRANDE ORDAINS AS FOLLOWS:

Section 1. This Ordinance may be cited as the City of La Grande Uniform Traffic Ordinance.

Section 2. APPLICABILITY OF STATE TRAFFIC LAWS.

Oregon Revised Statutes, Chapter 153, and the Oregon Vehicle Code, ORS Chapter 801 and 822, as now constituted, are adopted by reference. Violation of an adopted provision of those chapters is an offense against the City.

Section 3. DEFINITIONS

In addition to those definitions contained in the Oregon state Motor Vehicle Code, the following words or phrases, except where the context clearly indicates a different meaning, shall mean:

a. Alley

A street or highway primarily intended to provide access to the rear or side of lots or buildings in urban areas and not intended for through vehicular traffic.

b. Bicycle

A bicycle is a vehicle that:

1. Is designed to be operated on the ground on wheels;
2. has a seat or saddle for use of the rider;
3. is designed to travel with not more than three (3) wheels in contact with the ground;
4. is propelled exclusively by human power; and,
5. has every wheel more than fourteen inches (14") in diameter or two (2) tandem wheels, either of which is more than fourteen inches (14") in diameter.

c. Bicycle Lane

That part of the highway, adjacent to the roadway, designated by official signs or markings for use by persons riding bicycles, except as otherwise specifically provided by law.

d. Bicycle Path

A public way, not part of a highway, which is designated by official signs or markings for use by persons riding bicycles, except as otherwise specifically provided by law.

e. Block

The part of one side of a street lying between the two (2) nearest cross streets.

f. Central Business District

a. City Regulation of Special Movement of Oversized Load

The applicant shall submit an application to the City Manager or designee, showing the terminal points of the purported movement; the proposed route; the nature of the movement requested, including the weight and dimensions of the vehicle, load, machine, building, or structure to be moved; the time, date and duration of the proposed movement.

b. Special Movement Permit

A permit shall be required to move any vehicle, structure, or load on, or to access a street when, after preparation for movement, the vehicle, structure or load exceeds fourteen feet (14') in height, requires the use of guy wires, or could result in the blockage of a street. An approved application may serve as a permit, and a copy of the approved application shall be provided to the applicant.

Section 17. TRUCK ROUTES

- a. It shall be unlawful for any person, firm, or corporation to use, drive or operate any vehicle or combination of vehicles with a gross weight of 26,000, pounds or more upon any street of the City of La Grande, Oregon, except upon posted truck routes.
- b. Any vehicle with a gross weight over 26,000, pounds specifically picking up deliveries or making deliveries to any business or residence located on a street that is not a truck route will be exempted if the vehicle is driven from the truck route to the destination in the shortest, most direct, and safest route.
- c. The use of Jacob brakes shall not be allowed within the city limits of La Grande, Oregon.
- d. Truck routes will be posted as follows:
 1. Walnut street north from the city limits to C Avenue;
 2. C Avenue east from Walnut Street to Gekeler Avenue;
 3. Gekeler Avenue east to the city limits;
 4. 12th street south from Gekeler Avenue to the city limits;
 5. 2nd Street south from the city limits to Adams Avenue;
 6. Monroe Avenue east from Spruce Street to Highway 82;
 7. Jackson Avenue east from Spruce Street, and
 8. Spruce Street south from the city limits to Monroe.

Section 18. IMPOUNDMENT AND DETENTION OF VEHICLES

- a. Whenever a vehicle is placed in a manner or location that constitutes an obstruction to traffic or a hazard to public safety, a police officer or enforcement officer shall order the owner or operator of the vehicle to remove said vehicle. If the vehicle is unattended, the officer or enforcement officer may cause the vehicle to be towed and stored at the owner's expense. The owner shall be liable for the costs of towing and storing, notwithstanding that the vehicle was parked by another or that the vehicle was initially parked in a safe manner but subsequently became an obstruction or hazard.

I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

SIGNATURE

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Marie Skinner

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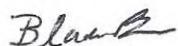
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Blake Bars

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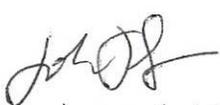
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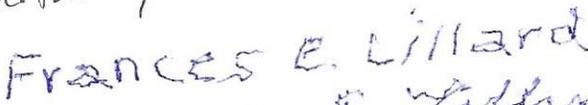
SIGNATURE 
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SIGNATURE 
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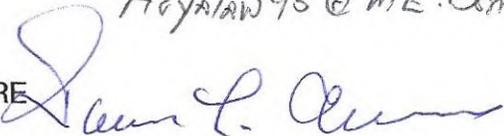
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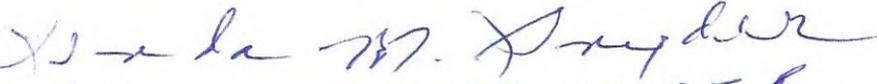
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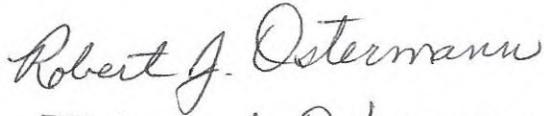
SIGNATURE 
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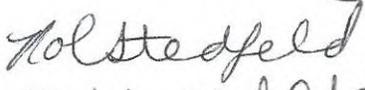
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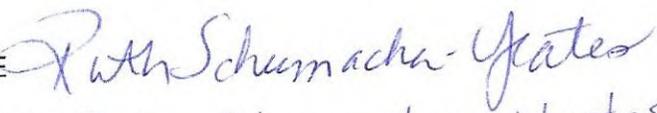
SIGNATURE 
PRINTED NAME Robin J. Ostermann
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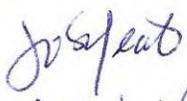
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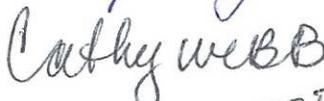
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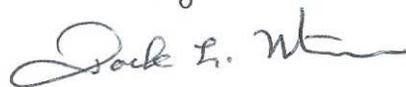
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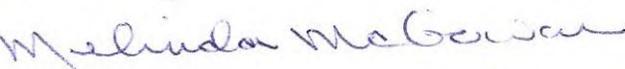
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SIGNATURE *Gary D. Pierson*
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SIGNATURE *Robert J. Sherer*
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SIGNATURE
PRINTED NAME
ADDRESS
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SIGNATURE *Merle E. Comfort*
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EMAIL

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SIGNATURE *Gerald D. Juniper*
PRINTED NAME *Gerald Darwin Juniper*
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EMAIL

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

TARDAEWETHER Kellen * ODOE

From: Dale Mammen <dmammen@eoni.com>
Sent: Thursday, August 15, 2019 5:28 PM
To: B2H DPOComments * ODOE
Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposal Order 5/23/2019
Attachments: Scan 2019-8-15 17.14.06.pdf

To: Chairman Beyeler and Members of the Council

Find attached a letter sign by me and 46 other residents of La Grande expressing our concerns regarding the B2H Project and requesting that EFSC Deny the Site Certificate.

I have also sent a bound copy of this material by US Postal Service.

Virginia L. Mammen
405 Balsa
La Grande, Oregon 97850

August 10, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E.
Salem, Oregon. 97301

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018:Draft Proposed Order.

Dear Chair Beyeler and Members of the Council:

My comment is about the predicted noise levels resulting from construction and operation of the proposed Boardman to Hemingway Transmission Line Project. I would like to address the noise coming from the blasting and rock breaking specifically above the area at the top of Modelaire Drive 1 both to the north and the south of that area and also the construction traffic noise that that will impact the west hills and the area below.

In Exhibit X page X-9 3.3.1.1 2 blasting and rock breaking is mentioned saying that "Modern blasting techniques include the electronically controlled ignition of multiple small explosive charges in an area of rock that are delayed fractions of second, resulting in a total event that is generally less than a second. Impulse (instantaneous) noise from blasts could reach up to 140dBA at the blast location or over 90 dBA within 500 feet." This sounds oh so "don't worry about it, it will be OK just over in a split second." Living in this area off Modelaire Drive, I don't find this at all comforting. And the fact that this will be overseen by properly licensed personnel and all of the necessary authorizations doesn't help anything either.

The area in question, which for such inordinate construction is extremely close to many residents, has been my home for over 50 years and during

related medical problems and exhibit various reactions to loud noises.¹⁰
These children also live in the neighborhoods to be affected by the noise so they would be impacted coming and going to school, at home and also while at school. To impose the constant possibility of loud noises is cruel, disrespectful and totally unacceptable. ¹¹

For a project like this involving blasting and heavy machinery noise so close to homes, schools, and medical facilities impacting hundreds of peoples' daily lives, the day to day agitation, wondering what is coming next, fear and being on constant alert are not just addressed by some type of mitigation but must be addressed by a route that is much less impactful to peoples' safety, sanity, and health.

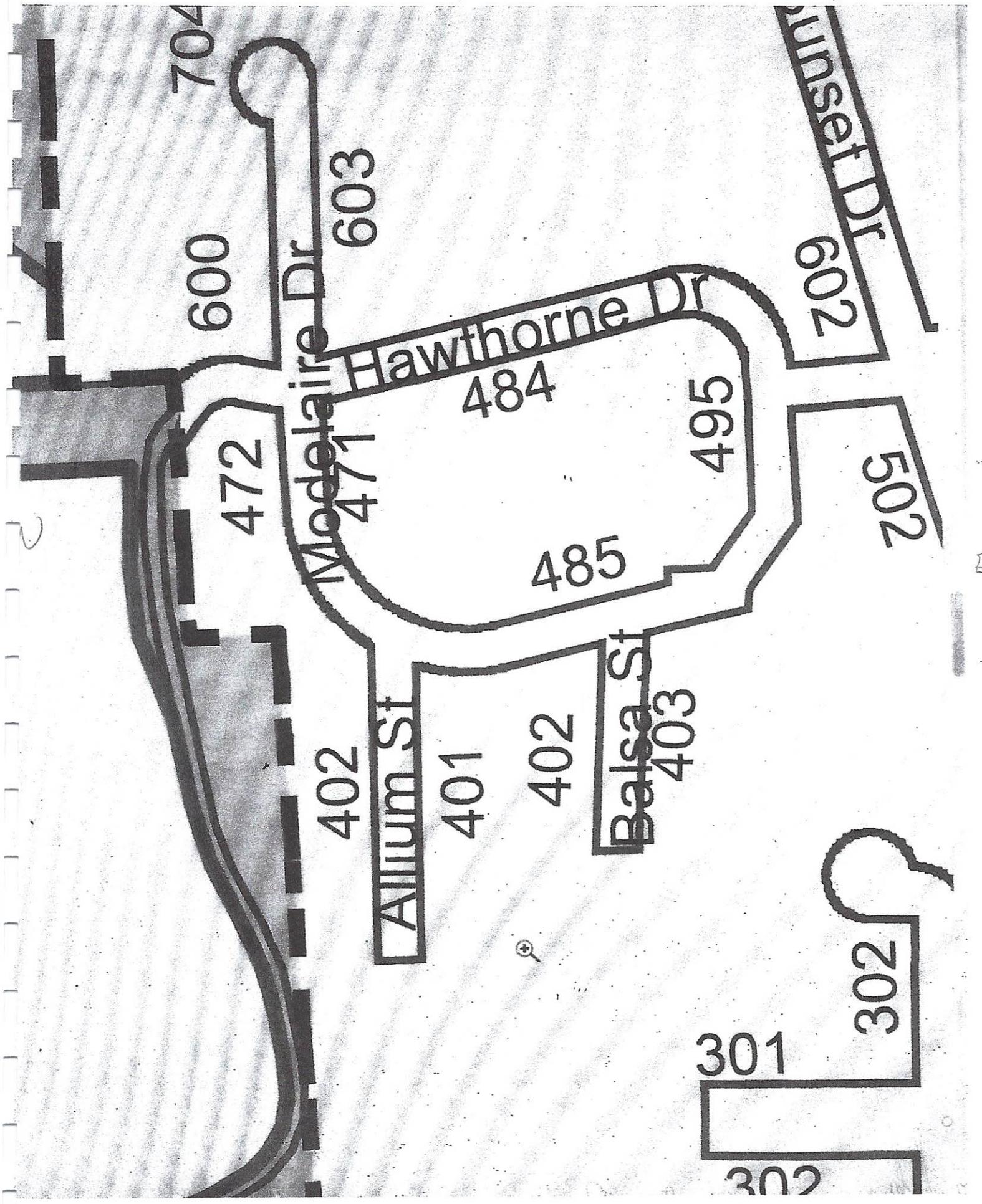
Sincerely,



Virginia L. Mammen
405 Balsa
La Grande, Oregon 97850

gmammen@eoni.com

N



3.3 Predicted Noise Levels

1 OAR 345-021-0010(1)(x)(A): Predicted noise levels resulting from construction and operation
2 of the proposed facility.
3

3.3.1 Construction Noise

3.3.1.1 Predicted Construction Noise Levels

4 Project construction will occur sequentially, moving along the length of the Project route, or in
5 other areas such as near access roads, structure sites, conductor pulling sites, and staging and
6 maintenance areas. Overhead transmission line construction is typically completed in the
7 following stages, but various construction activities may overlap, with multiple construction
8 crews operating simultaneously:
9

- 10 • Site access and preparation
- 11 • Installation of structure foundations
- 12 • Erecting of support structures
- 13 • Stringing of conductors, shield wire, and fiber-optic ground wire

14 The following subsections discuss certain construction activities that will periodically generate
15 audible noise, including blasting and rock breaking, implosive devices used during conductor
16 stringing, helicopter operations, and vehicle traffic.
17

Blasting and Rock Breaking

18 Blasting is a short-duration event as compared to rock removal methods, such as using track rig
19 drills, rock breakers, jackhammers, rotary percussion drills, core barrels, or rotary rock drills.
20 Modern blasting techniques include the electronically controlled ignition of multiple small-
21 explosive charges in an area of rock that are delayed fractions of second, resulting in a total
22 event duration that is generally less than a second. Impulse (instantaneous) noise from blasts
23 could reach up to 140 dBA at the blast location or over 90 dBA within 500 feet.
24

25 Lattice tower foundations for the Project typically will be installed using drilled shafts or piers;
26 however, if hard rock is encountered within the planned drilling depth, blasting may be required
27 to loosen or fracture the rock to reach the required depth to install the structure foundations.
28 Final blasting locations will not be identified until an investigative geotechnical survey of the
29 analysis area is conducted during the detailed design.

30 The contracted blasting specialist will prepare a blasting plan that demonstrate compliance with
31 applicable state and local blasting regulations, including the use of properly licensed personnel
32 and the acquisition of necessary authorizations. The Framework Blasting Plan is set forth in
33 Exhibit G, Attachment G-5.

Implosive Devices

34 An implosive conductor splice consists of a split-second detonation with sound and flash.
35 Implosive splicing activities are anticipated to be limited to daytime hours. A blasting plan will be
36 developed by an individual certified and licensed to perform the work. The plan will
37 communicate all safety and technical requirements including, but not limited to, delineation of
38 the controlled access zone and distance away from residences.
39

Public Services

— OAR 345-022-0110

This standard ensures that the proposed facility will not affect the ability of service providers in local communities to provide public services, such as fire protection or education. The applicant must assess the proposed facility's need for water and for disposal of wastewater, storm water and solid waste. The applicant must also evaluate the expected population increases in local communities resulting from construction and operation of the facility; and must address all permanent and temporary impacts of the facility on housing, traffic safety, police and fire protection, health care and schools. The Council must determine whether the applicant has identified potential adverse impacts to service providers and proposed adequate mitigation to ensure that there will be no significant adverse effect on the ability of a service provider to provide services. In considering the impacts, the Council solicits comments from affected local governments, fire or police departments, school districts and health care agencies.

Waste Minimization

— OAR 345-022-0120

This standard requires the Council to evaluate the applicant's proposal to minimize solid waste and wastewater generated by construction and operation of the proposed facility. The standard requires recycling of wastes, if feasible, or proper waste disposal if recycling is not feasible.

The applicant must evaluate the types of waste products that would be produced during construction and operation of the proposed facility and estimate the amounts or volume of waste products. The applicant must propose appropriate methods to handle the waste through collection, storage and disposal. Compliance with the standard assures that the applicant will reduce the amount of waste generated and dispose of waste in a responsible manner.

Need for a Facility

— OAR 345-023-0005

This standard requires the applicant for non-generating energy facilities (such as electric transmission lines) to demonstrate the need for the proposed facility. The Council's rules allow an applicant to demonstrate need for a non-generating facility through one of several methods, including the "Least-Cost Plan Rule" (OAR 345-023-0020) or the "System Reliability Rule for Electric Transmission Lines" (OAR 345-023-0030). Under the Least-Cost Plan Rule, the applicant meets this standard if the proposed transmission line was included in an Integrated Resource Plan that has been acknowledged by the Oregon Public Utilities Commission (OPUC). More information about the OPUC and the Integrated Resource Plan acknowledgement process can be found at www.puc.state.or.us.

Specific Standards for Wind Facilities

— OAR 345-024-0010 and 345-024-0015

— This standard requires the Council to evaluate applications for wind energy facilities to ensure that applicants can design, construct and operate the facility so that that the public is not endangered by moving turbine blades or electrical equipment, and that the applicant can design, construct and operate wind turbines to prevent structural failure that could endanger public safety.
— Siting standards for wind facilities also require the applicant to reduce cumulative adverse environmental effects in the vicinity by using existing roads, if possible, placing collection lines underground, designing the facility to avoid impacts to vulnerable wildlife in the area (especially birds and bats), and designing the facility to minimize adverse visual features, including using the minimum amount of lighting necessary to meet the requirements of the Federal Aviation Administration for protecting aircraft.

Specific Standards for Transmission Lines

— OAR 345-024-0090

This standard requires that the Council evaluate transmission lines under Council jurisdiction to ensure they are designed, constructed and operated to limit the strength of electromagnetic fields in areas where those lines are accessible to the public.



Department of Environmental Quality

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Writer Login](#)

Chapter 340

Division 35

NOISE CONTROL REGULATIONS

340-035-0035

Noise Control Regulations for Industry and Commerce

(1) Standards and Regulations:

(a) Existing Noise Sources. No person owning or controlling an existing industrial or commercial noise source shall cause or permit the operation of that noise source if the statistical noise levels generated by that source and measured at an appropriate measurement point, specified in subsection (3)(b) of this rule, exceed the levels specified in Table 7, except as otherwise provided in these rules. [Table not included. See ED. NOTE.]

(b) New Noise Sources:

(A) New Sources Located on Previously Used Sites. No person owning or controlling a new industrial or commercial noise source located on a previously used industrial or commercial site shall cause or permit the operation of that noise source if the statistical noise levels generated by that new source and measured at an appropriate measurement point, specified in subsection (3)(b) of this rule, exceed the levels specified in Table 8, except as otherwise provided in these rules. For noise levels generated by a wind energy facility including wind turbines of any size and any associated equipment or machinery, subparagraph (1)(b)(B)(iii) applies. [Table not included. See ED. NOTE.]

(B) New Sources Located on Previously Unused Site:

(i) No person owning or controlling a new industrial or commercial noise source located on a previously unused industrial or commercial site shall cause or permit the operation of that noise source if the noise levels generated or indirectly caused by that noise source increase the ambient statistical noise levels, L10 or L50, by more than 10 dBA in any one hour, or exceed the levels specified in Table 8, as measured at an appropriate measurement point, as specified in subsection (3)(b) of this rule, except as specified in subparagraph (1)(b)(B)(iii).

(ii) The ambient statistical noise level of a new industrial or commercial noise source on a previously unused industrial or commercial site shall include all noises generated or indirectly caused by or attributable to that source including all of its related activities. Sources exempted from the requirements of section (1) of this rule, which are identified in subsections (5)(b)-(f), (j), and (k) of this rule, shall not be excluded from this ambient measurement.

(iii) For noise levels generated or caused by a wind energy facility:

(I) The increase in ambient statistical noise levels is based on an assumed background L50 ambient noise level of 26 dBA or the actual ambient background level. The person owning the wind energy facility may conduct measurements to determine the actual ambient L10 and L50 background level.

(II) The "actual ambient background level" is the measured noise level at the appropriate measurement point as specified in subsection (3)(b) of this rule using generally accepted noise engineering measurement practices. Background noise measurements shall be obtained at the appropriate measurement point, synchronized with wind speed measurements of hub height conditions at the nearest wind turbine location. "Actual ambient background level" does not include noise generated or caused by the wind energy facility.

(III) The noise levels from a wind energy facility may increase the ambient statistical noise levels L10 and L50 by more than 10 dBA (but not above the limits specified in Table 8), if the person who owns the noise sensitive property executes a legally effective easement or real covenant that benefits the property on which the wind energy facility is located. The easement or covenant must authorize the wind energy facility to increase the ambient statistical noise levels, L10 or L50 on the sensitive property by more than 10 dBA at the appropriate measurement point.

(2) Compliance. Upon written notification from the Director, the owner or controller of an industrial or commercial noise source operating in violation of the adopted rules shall submit a compliance schedule acceptable to the Department. The schedule will set forth the dates, terms, and conditions by which the person responsible for the noise source shall comply with the adopted rules.

(3) Measurement:

(a) Sound measurements procedures shall conform to those procedures which are adopted by the Commission and set forth in Sound Measurement Procedures Manual (NPCS-1), or to such other procedures as are approved in writing by the Department;

(b) Unless otherwise specified, the appropriate measurement point shall be that point on the noise sensitive property, described below, which is further from the noise source:

(A) 25 feet (7.6 meters) toward the noise source from that point on the noise sensitive building nearest the noise source;

(B) That point on the noise sensitive property line nearest the noise source.

(4) Monitoring and Reporting:

(a) Upon written notification from the Department, persons owning or controlling an industrial or commercial noise source shall monitor and record the statistical noise levels and operating times of equipment, facilities, operations, and activities, and shall submit such data to the Department in the form and on the schedule requested by the Department. Procedures for such measurements shall conform to those procedures which are adopted by the Commission and set forth in Sound Measurement Procedures Manual (NPCS-1);

(b) Nothing in this rule shall preclude the Department from conducting separate or additional noise tests and measurements. Therefore, when requested by the Department, the owner or operator of an industrial or commercial noise source shall provide the following:

(A) Access to the site;

(B) Reasonable facilities, where available, including but not limited to, electric power and ladders adequate to perform the testing;

(C) Cooperation in the reasonable operation, manipulation, or shutdown of various equipment or operations as needed to ascertain the source of sound and measure its emission.

(5) Exemptions: Except as otherwise provided in subparagraph (1)(b)(B)(ii) of this rule, the rules in section (1) of this rule shall not apply to:

(a) Emergency equipment not operated on a regular or scheduled basis;

(b) Warning devices not operating continuously for more than 5 minutes;

(c) Sounds created by the tires or motor used to propel any road vehicle complying with the noise standards for road vehicles;

(d) Sounds resulting from the operation of any equipment or facility of a surface carrier engaged in interstate commerce by railroad only to the extent that such equipment or facility is regulated by pre-emptive federal regulations as set forth in Part 201 of Title 40 of the Code of Federal Regulations, promulgated pursuant to Section 17 of the Noise Control Act of 1972, 86 Stat. 1248, Public Law 92-576; but this exemption does not apply to any standard, control, license, regulation, or restriction necessitated by special local conditions which is approved by the Administrator of the EPA after consultation with the Secretary of Transportation pursuant to procedures set forth in Section 17(c)(2) of the Act;

(e) Sounds created by bells, chimes, or carillons;

(f) Sounds not electronically amplified which are created by or generated at sporting, amusement, and entertainment events, except those sounds which are regulated under other noise standards. An event is a noteworthy happening and does not include informal, frequent, or ongoing activities such as, but not limited to, those which normally occur at bowling alleys or amusement parks operating in one location for a significant period of time;

(g) Sounds that originate on construction sites.

(h) Sounds created in construction or maintenance of capital equipment;

(i) Sounds created by lawn care maintenance and snow removal equipment;

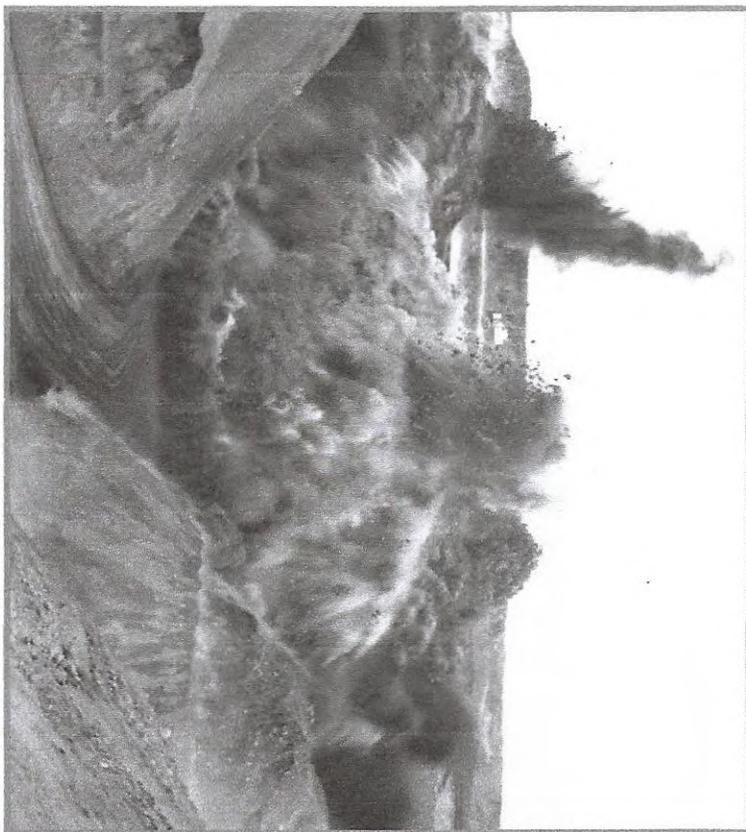
(j) Sounds generated by the operation of aircraft and subject to pre-emptive federal regulation. This exception does not apply to aircraft engine testing, activity conducted at the airport that is not directly related to flight operations, and any other activity not pre-emptively regulated by the federal government or controlled under OAR 340-035-0045;

Controlling the Adverse Effects of Blasting

This module addresses the control of offsite impacts that result from blasting, namely:

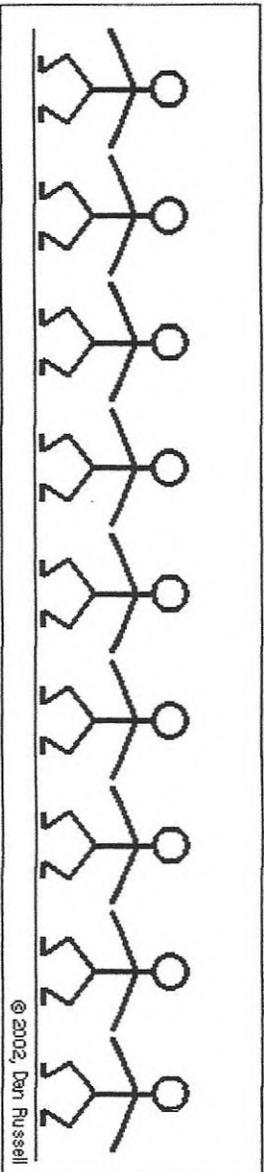
- vibrations,
- airblast, and
- flyrock.

Much of the information in the module is derived from the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The performance standards apply to all surface coal mines. Similar standards have been adopted on some State and local levels and applied to non-coal blasting operations such as quarrying and construction.



Part I: Ground Vibrations, Airblast, and Flyrock

Explosive energy is used to break rock. However, the use of this energy is not 100-percent efficient. Some of the energy escapes into the atmosphere to generate **airblast or air vibrations**. Some of the energy also leaves the blast site through the surface soil and bedrock in the form of **ground vibrations**.



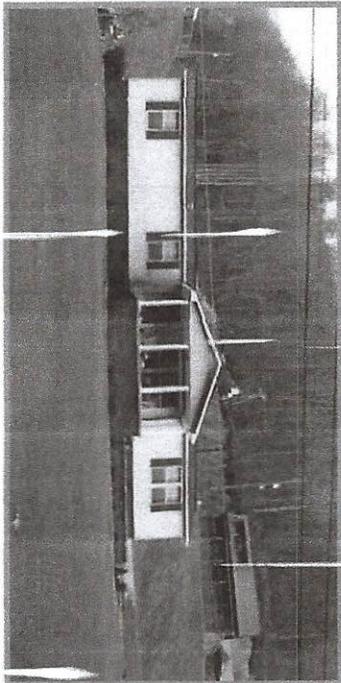
Both air and ground vibrations create waves that disturb the material in which they travel. When these waves encounter a structure, they cause it to shake. Ground vibrations enter the house through the basement and airblast enters the house through the walls and roof.

Airblast may be audible (noise) or in-audible (concussion). When outside a house the blast may be heard because of the noise, however noise has little impact on the structure. The concussion wave causes the structure to shake and rattles objects hanging on walls or sitting on shelves. This "interior noise" will alarm and startle people living in the house.

Flyrock is debris ejected from the blast site that is traveling through the air or along the ground. Flyrock the single most dangerous adverse effect that can cause property damage and personal injury or death.

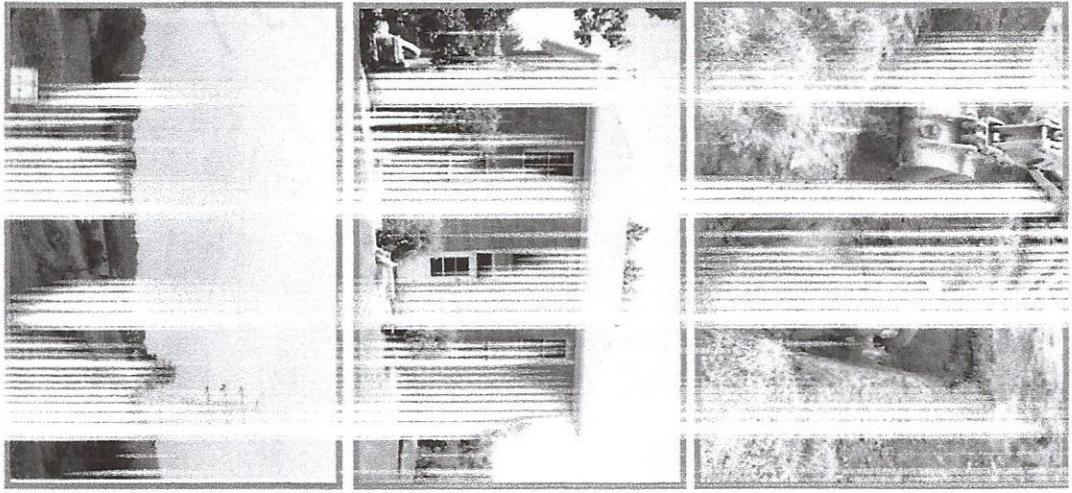
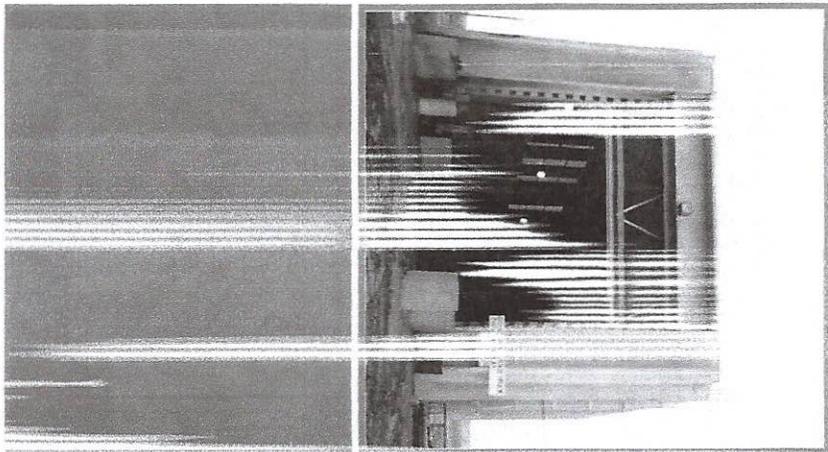
Blasting Impacts on Structures

Both above-ground and below-ground structures are susceptible to vibration impacts. Structures can include onsite mine offices and buildings, as well as offsite residences, schools, churches, power-transmission lines, and buried pipelines. Some of these structures may include historic or cultural features sensitive to even low levels of vibrations.



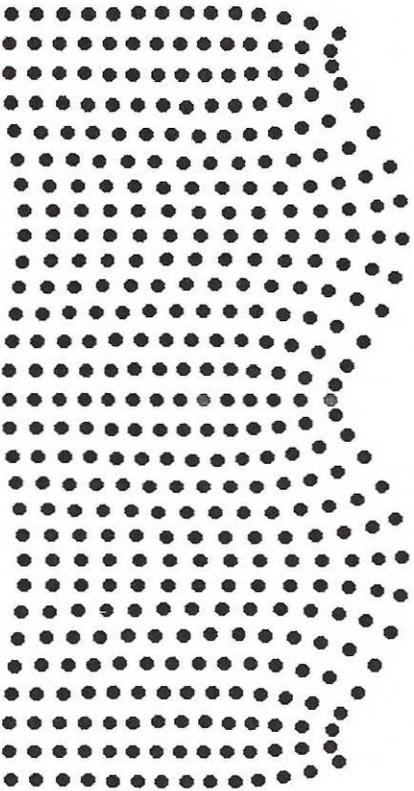
It is important to understand:

1. the causes of ground vibrations and airblast, and
2. what practices can be followed to control and minimize the adverse effects



Ground Vibrations

Ground vibrations propagate away from a blast site as Rayleigh (or surface) waves. These waves form a disturbance in the ground that displaces particles of soil or rock as they pass by. Particle motions are quite complicated. At the ground surface (free boundary), measured particle motions have the greatest displacements, and displacements decrease with depth (see the illustration below). At a depth of between 20 to 50 feet below ground surface, particle displacements are barely detectable. Structures that are well coupled to the ground tend to move with this motion; structures buried in the ground are less affected by surface motions.



©1999, Daniel A. Russell

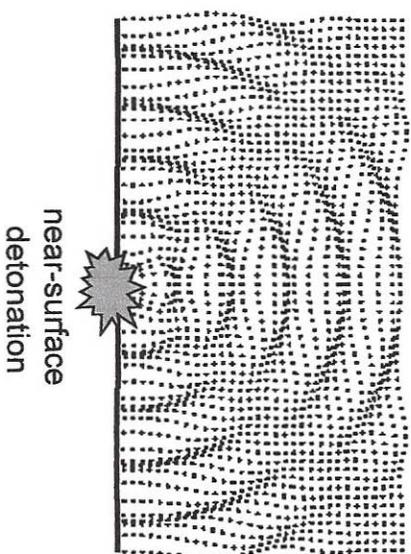
Ground vibrations are measured in terms of **particle velocity** and are reported in inches per second (ips) or the speed at which a particle of soil or rock moves.

At typical blasting distances from residential structures, the ground only moves with displacements equal to the thickness of a piece of writing paper. In terms of displacement, this equates to hundredths of an inch; visually, such movement cannot be detected.

Airblast

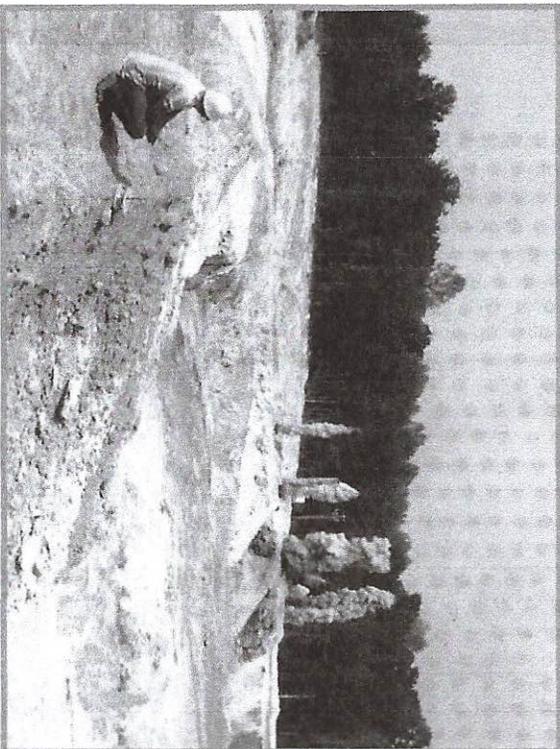
Airblast is measured as a pressure in pounds per square inch (psi) and is often reported in terms of **decibels (dB)**.

Airblast is a pressure wave that that may be audible or inaudible. Elevated airblast levels are generated when explosive energy in the form gases escape from the detonating blast holes. Energy escapes either through the top stemming or through fractures in the rock along the face or at the ground surface.



Airblast radiates outward from the blast site in all directions and can travel long distances. Sound waves travel much slower (1,100 ft/s) than ground vibrations (about 5,000 – 20,000 ft/s). Hence, airblast arrives at offsite structures later than do ground vibrations.

Both ground vibrations and airblast cause structures to shake structures. Occupants in structures that are located far from a blast may experience shaking from vibration and airblast as two separate, closely spaced events. This can be particularly bothersome, as it prolongs the duration of structure shaking and leads the property owner to think that two separate blasts occurred.



Structure Response

As ground and air vibrations reach a structure, each will cause it to shake. Structure response is dependant on the vibration characteristics (frequency and amplitude) and structure type.

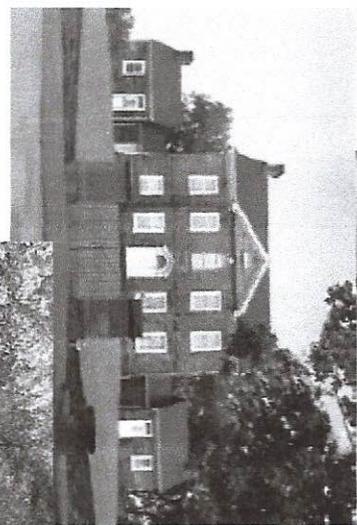
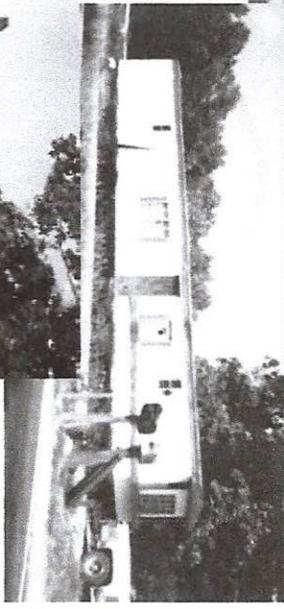
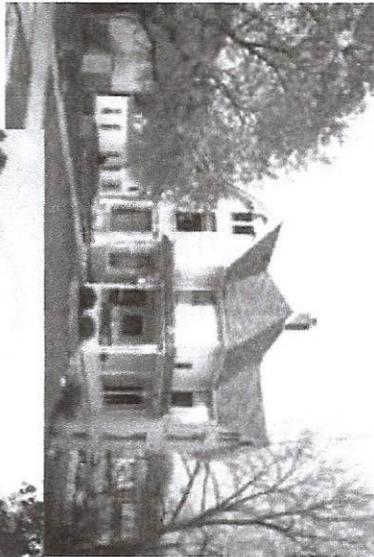
Ground Vibrations enter the house through the basement. This is like shaking the bottom of a flag pole. Movement at the top of the pole depends on how (frequency) and how hard (amplitude) the bottom of the pole is shaken. If shaken at just the right pace, or at the pole's natural frequency, the top will move significantly compared to the bottom. Motion at the top is amplified from the bottom motion.

All blast damage studies have measured incoming ground vibrations at the ground surface. The observed structure amplifications were typically between 1 to 4 times the ground vibration. Structure response below ground level is the same or less than the incoming vibrations

Airblast enters the house through the roof and walls. Like ground vibrations, the frequency and amplitude of the vibrations affect structure response. However the low frequency events (concussion) that most strongly affect structures is normally only a one or two cycle event.

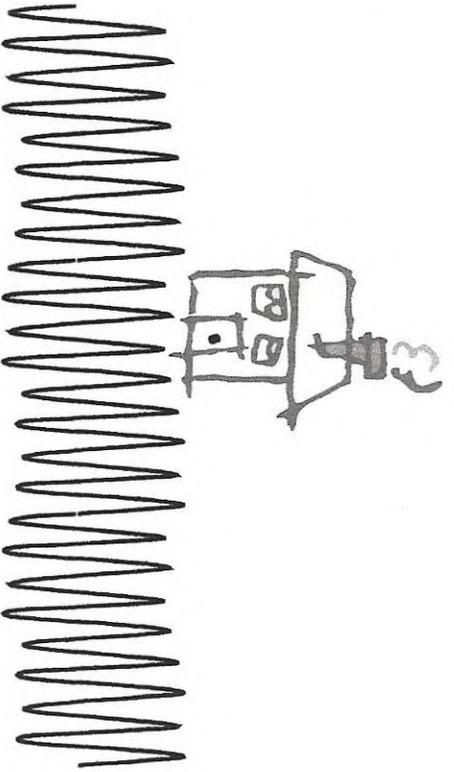
Due to the different arrival times of ground and air vibrations, occupants may feel two distinct impacts on the house.

Exhibit 5f

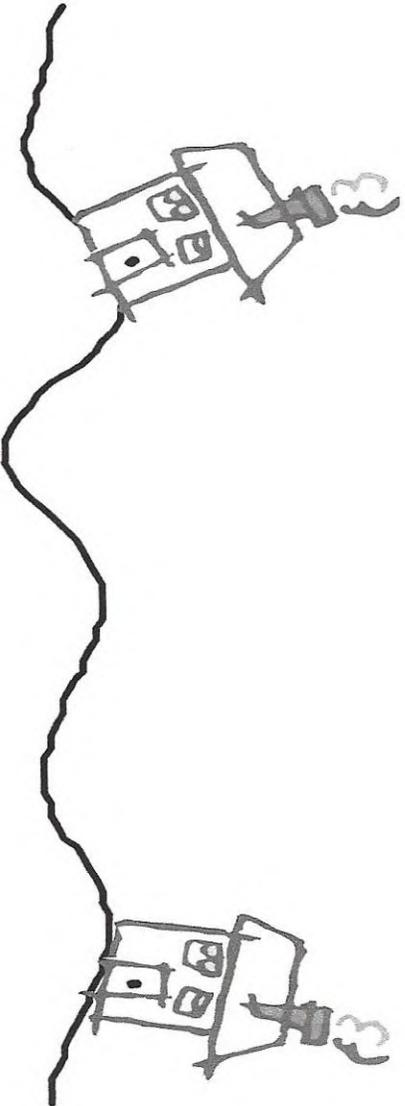


Ground Vibration Structure Response

Exhibit 59



On the other hand, low-frequency wave cycles are long as compared with the dimensions of structures. Accordingly, low frequencies tend to efficiently couple energy into structures and to promote higher-amplitude, long-duration shaking.



High frequencies do not promote structure shaking. The length of a single high-frequency wave cycle is short as compared with the dimension of a structure. A structure does not significantly respond to high frequencies.

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Harvard Men's Health Watch

A noisy problem

People often become more sensitive to noise as they age, which can affect their mental and physical health.

Published: March, 2019

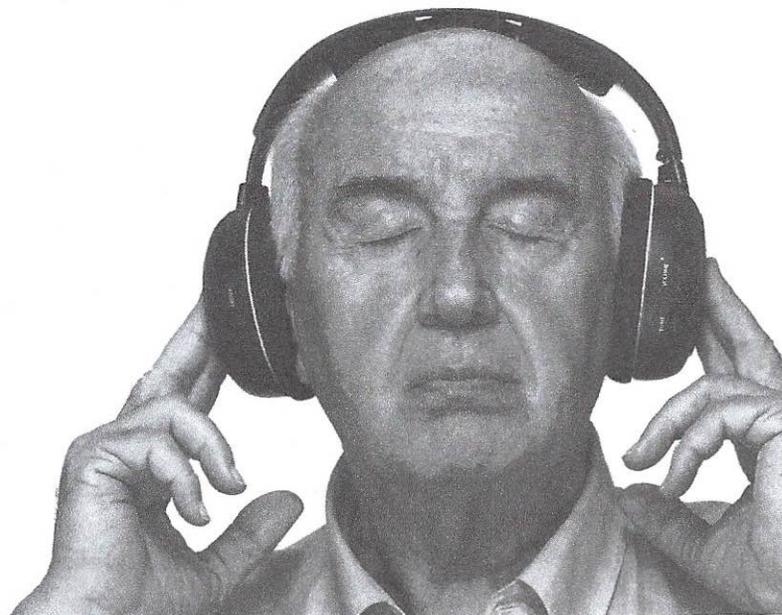


Image: © Juanmonino/Getty Images

Are you more sensitive to noises than you used to be? Do certain sounds now feel too loud and jarring? Don't worry; it's actually quite normal.

Age-related hearing loss is common among older adults and affects about two-thirds of men in their 70s and 85% of men ages 80 and older. Although it's not clear why, this can also make people hypersensitive to sounds that they used to tolerate easily, which in turn can affect their well-being.

"Exposure to noises from crowds, traffic, and other everyday sounds can become harder to tolerate and increase stress levels, leading to anxiety and a reduction in overall quality of life," says Dr. Stephanie Tompkins, an audiologist with Harvard-affiliated Massachusetts Eye and Ear. "As your sensitivity to noises increases, this can lead to greater isolation, too, as you may try to avoid potentially noisy places and situations."

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Quiet in the Hospital: How Noise...

Quiet in the Hospital: How Noise Reduction Helps Patients Heal

on June 7, 2018 (<https://medcenterblog.uvmhealth.org/innovations/hospital-noise-reduction/>) in Innovation (<https://medcenterblog.uvmhealth.org/category/innovations/>) by UVM Medical Center (<https://medcenterblog.uvmhealth.org/author/uvmmedcenter/>)

Noise. It is present in almost every aspect of our lives. From the traffic in the streets, to the fan that provides us white noise in the background to sleep, noise exists. Unfortunately, like stress, too much of it can have a negative impact on a person's health and rest. Some sounds we do like to hear, such as birds chirping, signaling spring in Vermont, but what about sounds in a hospital?

Many of us get admitted to hospitals when we are too sick to take care of ourselves at home. We expect exceptional care from physicians and nurses and, of course, to rest in order to help our bodies heal. We understand that some noises in a hospital are necessary for care; however, others simply aren't.

The Sounds of a Hospital

Many organizations, including the UVM Medical Center, have high tech equipment, which greatly assists in the delivery of care to our patients, but can also be noisy. Sometimes, healthcare providers are the source of the noise as we interact and communicate with our patients and other health team members.

Another factor is visits from families and friends during visiting hours. It is difficult when one's roommate is trying to rest in the opposite bed. Yet, we need to be cognizant of noise in patient care areas as sounds can be magnified and misinterpreted, increasing agitation and even confusion for some patients.

We become accustomed to the noise; our patients are not.

The Research on Noise, Quiet, and Healing

Research has shown that noise plays a negative role in healing and that decreasing noise in patient care areas aids in healing processes and helps facilitate speedier recoveries for patients. Patients are able to heal, sleep better and recover more quickly when able to rest. A quieter environment can also help decrease burnout for hospital staff.

Studies show that patients are more likely to develop negative side effects from a noisy hospital, such as sleep disturbances, elevated blood pressure and heart rate, and increased use of pain medications.

Noise can also increase annoyance levels for staff. One study indicated noise, such as talking inside and outside patient rooms, is the most common source of noise as well as visitors' voices, TVs, and behaviors of other patients.

Research concluded that best practices to eliminate noise from talking included staff education about noise reduction, public indicators such as sound monitors, a quiet time protocol, and lower cost environmental fixes, such as fixing noisy doors and squeaky wheels. Lastly, by introducing scripting with routine monitoring, patients' perception of quietness increased and the perception of noise decreased.

How We Address Noise at the UVM Medical Center

We introduced the "Culture of Quiet" Organizational initiative. The Nursing Professional Governance Patient and Family Experience Global council continued this work. After convening a small task force of nurses and assessing current quiet strategies, we introduced the following tactics:

- Many hospital units have designated 'quiet hours' with automatically dimming of lights at quiet hour intervals.
- Signage is visible in most patient care areas to help keep patients, family, and visitors aware. Throughout the hospital, you will see signs with a relaxing pair of Adirondack chairs and the sun setting with details on when a unit has quiet hours.
- Many semi-private rooms have windows in doors, so doors can be closed allowing for patient rest.
- We offer headphones for TVs and earplugs to help minimize sounds.
- In-patient kits contain a sleeping mask and other comfort items that can be provided at time of admission. Each kit contains a card and explains, 'the best healing occurs in a quiet environment.'
- New education material is available for staff, patients and visitors-just ask to review the next time visiting.
- Some units offer white noise machines, others have this built in.
- Noisy equipment such as wheels and doors can be tagged and replaced.
- Our facility and distribution staff have changed their cleaning and supply delivery schedules to accommodate patient care.
- Healthcare teams within the hospital are focusing efforts to cluster patient care to minimize interruptions to provide restful moments.

How you can help us.

We ask patients and visitors to hold us accountable when sounds are too loud. We want our community to alert us when noise levels are high and we will do what we can to minimize sound. In turn, we ask that all members of the healthcare team, patients, family, and friends be aware to keep voices soft, cell phones on vibrate, and hold each other accountable for these are the times of the day when our patients take pause to rest and positively impact their healing.

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Dangerous Decibels: Hospital Noise More Than a Nuisance

By Diane Sparacino, Staff Writer

Imagine a world where hospitals have become so noisy that the annoyance has topped hospital complaints, even more than for the tasteless, Jell-O-laden hospital food (Deardorff, 2011). If you're a nurse, you know that we're already there – with noise levels reaching nearly that of a chainsaw (Garcia, 2012). In fact, for more than five decades, hospital noise has seen a steady rise (ScienceDaily, 2005).

But it wasn't always that way. At one time, hospitals were virtually noise-free like libraries – respected spaces, preserved as quiet zones. The culture was such that a loud visitor might be silenced by a nurse's purposeful glare or sharply delivered "Shhh!" As early as 1859, the importance of maintaining a quiet environment for patients was a topic for discussion. In Florence Nightingale's book, "Notes on Nursing," she described needless noise as "the most cruel absence of care" (Deardorff, 2011).

Fast forward to 1995, when the World Health Organization (WHO) outlined its hospital noise guidelines, suggesting that patient room sound levels not exceed 35 decibels (dB). Yet since 1960, the average daytime hospital noise levels around the world have steadily risen to more than double the



acceptable level (from 57 to 72 dB), with nighttime levels increasing from 42 to 60 dB. WHO found that the issue was not only pervasive, but high noise levels remained fairly consistent across the board, despite the type of hospital (ScienceDaily, 2005).

Researchers at Johns Hopkins University began to look into the noise problem in 2003. They maintained that excessive noise not only hindered the ability for patients to rest, but raised the risk for medical errors. Other studies blamed hospital noise for a possible increase in healing time and a contributing factor in stress-related burnout among healthcare workers (ScienceDaily, 2005).

Technology is, of course, partly to blame. State-of-the-art machines, banks of useful alarms, respirators, generators, powerful ventilation systems and intercoms all add up to a lot of unwanted racket. When human voices are added to the mix, (i.e., staff members being forced to speak loudly over the steady din of medical equipment), it's anything but a restful environment. For the recovering patient in need of sleep, that can be a real issue (Deardorff, 2011).

Contributing to the problem, experts say, are the materials used in hospitals. Because they must be easily sanitized, surfaces cannot be porous where they could harbor disease-causing organisms. Rather than using noise-muffling materials like carpet, acoustic tiles and other soft surfaces, hospitals have traditionally been outfitted using smooth, hard surfaces – especially in patient rooms. Good for cleanliness – not so great for dampening sounds, which tend to bounce around the typical hospital (Deardorff, 2011).

Which brings us to the most recent research, published January 2012 in the *Archives of Internal Medicine*. In the report, Jordan Yoder, BSE, from the Pritzker School of Medicine, University of Chicago, and his colleagues associated elevated noise levels with “clinically significant sleep loss among hospitalized patients,” perhaps causing a delay in their recovery time (Garcia, 2012). During the 155-day study period, researchers examined hospital sound levels. The numbers far exceeded (WHO) recommendations for average hospital-room noise levels, with the peak noise at an average 80.3 dB – nearly as loud as a chainsaw or electric sander (85 dB), and well over the recommended maximum of 40 dB. And while nights tended to be quieter, they were still noisier than recommended allowances, with “a mean maximum sound level of 69.7 dB” (Garcia, 2012).

Perhaps most interestingly, the researchers broke down the sources of noise into categories: “Staff conversation (65%), roommates (54%), alarms (42%), intercoms (39%), and pagers (38%) were the most common sources of noise disruptive reported by patients” (Garcia, 2012). “Despite the importance of sleep for recovery, hospital noise may put patients at risk for sleep loss and its associated negative effects,” they wrote. In addition, researchers found that the intensive care and surgical wards had some work to do in dampening noise levels, with ICU peaking at 67 dB and 42 dB for surgical areas. Both far exceeded WHO’s 30 dB patient room recommendation (Garcia, 2012).

Besides patient sleep deprivation, which itself can lead to a multitude of health problems including high blood sugar, high blood pressure and fatigue, studies have reported that elevated noise levels can increase heart and respiratory rates, blood pressure and cortisol levels. Recovery room noise causes patients to request more pain medication, and preterm infants “are at increased risk for hearing loss, abnormal brain and sensory development, and speech and language problems when exposed to prolonged and excessive noise” (Deardorff, 2011).

There is still more research to be done, of course, but Yoder and his colleagues had good news, as well; much of the hospital noise they identified is modifiable, suggesting that hospitals can take steps to successfully create a quieter environment for both patients and healthcare providers (Garcia, 2012).

Around the country, "quiet campaigns" have been launched by hospitals in an attempt to dampen nighttime noise. Besides dimming lights and asking staff to keep their voices down at night, they are working to eliminate overhead paging systems, replace wall and/or floor coverings – even the clang of metal trashcans. Northwestern's Prentice Women's Hospital in Chicago was built with noise reduction in mind, replacing the idea of centralized nursing stations with the advent of smaller, multiple stations (Deardorff, 2011)

Billed as "one of the nation's largest hospital construction projects," Palomar Medical Center in North San Diego County is a state-of-the-art facility that has been designed "to encourage quietness," according to Tina Pope, Palomar Health Service Excellence Manager. Slated to open its doors this August, the hospital will feature a new nursing call system to route calls directly to staff and help eliminate the need for overhead paging, de-centralized nursing stations and clear sig lines, allowing staff to check on patients without having to leave unit doors open. With measures already in place including "Quiet Hospital" badges on staff and posters at the entrance of every unit, a "Quiet at Night" campaign (9 p.m. – 6 a.m.), and a "Quiet Champions" program that encourages staff to report noise problems, Palomar is one of a growing number of hospitals working toward a new era of quiet.

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Noises Are Truly Horrible For People Who Have PTSD

20 Mar '2018 [Sound](#)

Noise is a really big issue for PTSD survivors: people who have mental health problems because of their traumas. How are they connected?

Almost everybody has experienced a trauma. But some traumas are more scarring than others and can even result in long-lasting mental disorders like **PTSD**, which can have an extreme impact on someone's life. It's a disorder that can develop in the brain after a horrifying experience, like war or a car crash.

Symptoms

The symptoms of PTSD are, to say the least, not pleasant. They range from nightmares about the traumatic events, disturbing thoughts and feelings, anxiety, trying to avoid anything that has something to do with the traumatic event, and an increase in the fight-or-flight response.

Around ten percent of the population suffers from PTSD, according to data from **NCBI**, a part of the US National Library of Medicine. And, remarkably enough, that percentage is the same for people who suffer from tinnitus (the sound of a constant beep in your ears). The NCBI clearly sees a link between the two.

PTSD survivors also suffer from the Exaggerated Startle Syndrome, with anxiety and actions in an extreme and irrational way too loud noises and bangs. And then there are the sounds that remind them of the sounds during the traumatic events, which can trigger memories of the



Fear

PTSD can also cause a general fear of sounds: phonophobia, or a fear of some specific sounds: misophonia. Survivors of the disorder also are generally much more sensitive to sounds and perceive them as much louder than other people would.

All of this makes the life of people with PTSD very hard. If you think you are suffering from this, consult your doctor. Really, please do it. For yourself, and for the ones you love.

Do you have PTSD and would you like to tell your experiences to us? We are always very open and interested to hear what you have to say. And again: if you haven't done it yet, visit your doctor, please. Thank you!

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PMCID: PMC3757288

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Does noise affect learning? A short review on noise effects on cognitive performance in children

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Abstract

The present paper provides an overview of research concerning both acute and chronic effects of exposure to noise on children's cognitive performance. Experimental studies addressing the impact of acute exposure showed negative effects on speech perception and listening comprehension. These effects are more pronounced in children as compared to adults. Children with language or attention disorders and second-language learners are still more impaired than age-matched controls. Noise-induced disruption was also found for non-auditory tasks, i.e., serial recall of visually presented lists and reading. The impact of chronic exposure to noise was examined in quasi-experimental studies. Indoor noise and reverberation in classroom settings were found to be associated with poorer performance of the children in verbal tasks. Regarding chronic exposure to aircraft noise, studies consistently found that high exposure is associated with lower reading performance. Even though the reported effects are usually small in magnitude, and confounding variables were not always sufficiently controlled, policy makers responsible for noise abatement should be aware of the potential impact of environmental noise on children's development.

Keywords: noise, cognitive performance, cognitive development, children, speech perception, listening comprehension, irrelevant sound effect, classroom acoustics

In everyday life, cognitive tasks are often performed in the presence of task-irrelevant environmental noise. Accordingly, numerous studies on noise effects on performance have been conducted since the middle of the 20th century (for reviews see Hellbrück and Liebl, 2007; Szalma and Hancock, 2011), showing that—depending on characteristics of sounds and tasks—noise of low to moderate intensity may in fact evoke substantial impairments in performance.

Most of these studies were conducted with adults. The present review, however, will focus on studies including children. Children are especially vulnerable to harmful effects of environmental noise, as cognitive functions are less automatized and thus more prone to disruption. We will report findings concerning effects of acute noise on performance in concurrent auditory and non-auditory tasks, as well as effects of chronic noise on children's cognitive development.

Effects of acute noise on children's performance in auditory tasks

Psychoacoustic studies have consistently shown that children's speech perception is more impaired than adults' by unfavorable listening conditions. The ability to recognize speech under conditions of noise or noise combined with reverberation improves until the teenage years (Johnson, 2000; Wightman and Kistler, 2005; Talarico et al., 2007; Neuman et al., 2010). With stationary noise makers, signal-to-noise ratios (SNRs) have to be 5–7 dB higher for young children when compared to adults in order to achieve comparable levels of identification of speech or nonspeech signals, with adult-like performance reached at about 6 years of age (Schneider et al., 1989; Fallon et al., 2000; Werner, 2007). However, with maskers that vary over time, i.e., with trial-by-trial variation of the maskers' spectral composition (Oh et al., 2001; Hall et al., 2005; Leibold and Neff, 2007) or with fluctuating maskers such as single-talker speech (Wightman and Kistler, 2005), adult-like performance is usually not reached before the age of 10 years. Furthermore, children are less able than adults to make use of spectro-temporal and spatial cues for separation of signal and noise (Wightman et al., 2003; Hall et al., 2005). These findings demonstrate that children are especially prone to *informational* masking, i.e., masking that goes beyond energetic masking predicted by filter models of the auditory periphery.

Studies identified a range of linguistic and cognitive factors to be responsible for children's difficulties with speech perception in noise: concerning the former, children are less able than adults to use stored phonological knowledge to reconstruct degraded speech input. This holds for the level of individual phonemes, as children's phoneme categories are less well specified than adults' (Hazan and Barrett, 2000), but also for the lexical level since children's phonological word representations are more holistic and less segmented into phoneme units. Therefore the probability of successfully matching incomplete speech input with stored long-term representations is reduced (Nittrouer, 1996; Metsala, 1997; Mayo et al., 2003). In addition, young children are less able than older children and adults to make use of contextual cues to reconstruct noise-masked words presented in sentential context (Elliott, 1979). Concerning attention, children's immature auditory selective attention skills contribute to their difficulties with speech-in-noise perception. Children's susceptibility to informational masking has been attributed to deficits in focusing attention on auditory channels centered on signal frequencies, while ignoring nonsignal channels (Wightman and Kistler, 2005). Behavioral and ERP measures from dichotic listening paradigms provide evidence that auditory selective attention improves throughout entire childhood (Doyle, 1973; Pearson and Lane, 1991; Coch et al., 2005; Wightman et al., 2010; Gomes et al., 2012).

Owing to the mediating role of linguistic competence and selective attention, children with language or attention disorders are still more impaired than normally developing children by noise in speech perception tasks (Geffner et al., 1996; Ziegler et al., 2005, 2009). A stronger noise effect is also evident for children tested in their second language when compared to native children (Crandell and Smaldino,

Autism & Anxiety: Parents seek help for extreme reaction to loud noise

September 5, 2018

Our 12-year-old son has autism, mild intellectual disability and anxiety attacks so severe that we end up in the emergency room. Loud noises are the worst – for example the school fire alarm, thunderstorms, a balloon popping, fireworks. Any help would be greatly appreciated.



This week's "Got Questions?" answer is by Judy Reaven, a clinical psychologist and associate professor of psychiatry and pediatrics at the University of Colorado School of Medicine and Children's Hospital Colorado, in Denver. Dr. Reaven's conducted research on the effectiveness of cognitive-behavioral therapy for anxiety in adolescents with autism, with the support of an [Autism Speaks research grant](#).

Editor's note: The following information is not meant to diagnose or treat and should not take the place of personal consultation, as appropriate, with a qualified healthcare professional and/or behavioral therapist.

Thanks for the great question. It certainly sounds like your family is experiencing a very difficult situation. Anxiety symptoms and reactions are very common in individuals with autism spectrum disorder (ASD). They can interfere with functioning across home, community and school settings.

Although your son's reaction sounds more severe than most, many people with autism struggle with a range of fears, phobias and worries. These can range from a debilitating fear of, say, spiders or the dark to chronic anxiety about making mistakes or being late.

Fortunately, recent research suggests that anxiety in children and adults who have autism is quite treatable. Often, these individuals are helped by the same or similar strategies that work well in treating anxiety in the general population.

These approaches include cognitive behavior therapy, or CBT. Cognitive-behavioral approaches are well-established, evidenced-based treatments that have become the gold standard of psychosocial treatments for anxiety. [My own research](#) and that of my colleagues has demonstrated the helpfulness of modifying cognitive-behavioral approaches to address the special needs of those who have autism.

Where to begin?

You describe a number of fears that may be related to sensory sensitivities. I recommend that you begin by consulting an occupational therapist who can assess whether your son's extreme sensitivities to noises are part of a broader sensory processing disorder. If this is the case, and if your son's fears are exclusively triggered by sensory stimuli, then his symptoms may be best addressed by a sensory-focused intervention. Many occupational therapists who specialize in autism receive special training in this area.

It's common for children with ASD and anxiety to become extremely frightened in response to sensory stimuli. Perhaps – like many individuals with autism – your son also has difficulty telling you what's scaring him. Instead, he may show his fear with extreme avoidance of a situation.

For example, he might refuse to go to school after a fire drill. He might become fearful of birthday parties after being frightened by a balloon that popped unexpectedly. Other signs of extreme distress can include yelling, crying, clinging and general agitation. Because your son may have difficulty communicating, it's important to observe his behavior for these signs of distress. This can help you determine what's triggering his fears.

Avoidance versus learning to cope

Many parents go to great pains to protect their children by avoiding agitating situations. This approach is sometimes appropriate and even necessary. However, it denies individuals the opportunity to learn how to manage anxiety-provoking situations on their own.

By helping your son learn to manage his fear, you can prepare him for an unpredictable world so that he can participate in it to the maximum extent possible.

Given the severity of your son's anxiety symptoms, I suggest that you seek professional support in addition to the strategies offered here. Families whose children have milder symptoms of anxiety can try these strategies on their own – seeking professional help if symptoms worsen.

Tackling one fear at a time

I suggest making a list of your child's major fears and worries. Try to rank order them from mild to severe. To encourage success, I'd start with a mild-to-moderate fear before taking on his extreme reaction to loud noises.

Key components of a cognitive behavioral approach include introducing coping strategies such as deep breathing and "helpful thoughts" that can help a person manage fearful reactions.

For example, you can teach your son to take deep slow breaths to help manage his body's physical anxiety reactions.

"Helpful thoughts" are statements that your son can say to himself when faced with a situation that makes him anxious. For example, you can coach to your son to say, "This is a loud noise. I don't like it, but I can handle it."

To help your son to learn these strategies, I suggest you model taking deep breaths while repeating a "helpful thought" out loud.

Graded exposure

The most important step is to help your son face his fears a little at a time. We call this "graded exposure." For example, explain to your son that the two of you are going to listen to a recording of thunder. The first time, you might play the recording at a soft volume, then gradually increase the volume over time as he demonstrates increased comfort with the sounds.

Or you might try watching a video of a balloon pop – perhaps with the volume off the first time. Then he can watch a real balloon pop while standing some distance away. Over time, he can move closer and closer to the balloon.

After such exercises, you can present him with small rewards for being brave and "facing fears." Remember that even a small act of bravery – such as listening to a recording of thunder for 10 seconds – represents an important step toward handling fears. It deserves to be acknowledged.

Although graded exposure may seem counterintuitive, [research](#) indicates that this strategy is the single most effective strategy for getting over a particular fear.

I wish you and your son the very best. Please let us know how you're doing with an email to GotQuestions@autismspeaks.org.

60
Shares

Additional Resources & Tools

EXPERT
OPINION

[Help for Child with Autism & Recurring Behavioral Crises: Part 2](#)

EXPERT
OPINION

[Parents Seek Help for Son with Autism and Recurring Behavioral Crises](#)



SCIENCE
NEWS

EXPERT
OPINION

[Parents Seek Help: Child with Severe Autism Eats Only Sweets](#)

I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

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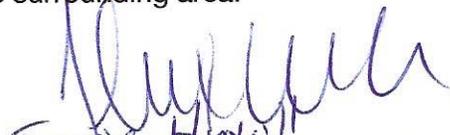
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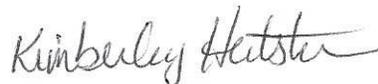
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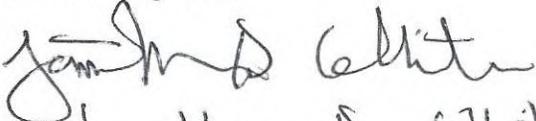


Shawn K. Mangum

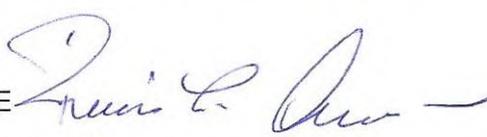
2909 E. M. Ave.

Hoya/mw95@me.com

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SIGNATURE



PRINTED NAME

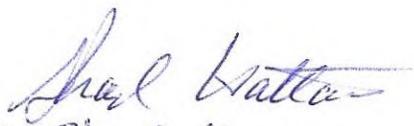
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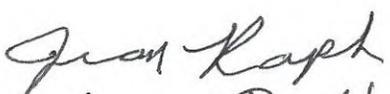
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TARDAEWETHER Kellen * ODOE

From: Dale Mammen <dmammen@eoni.com>
Sent: Thursday, August 15, 2019 5:53 PM
To: B2H DPOComments * ODOE
Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposed Order 5/23/2019
Attachments: Scan 2019-8-15 17.38.19.pdf

To: Chairman Beyeler and Members of the Council

Find attached a letter signed by me and 54 other residents of La Grande expressing our concerns regarding the B2H Project and we request that EFSC deny the Site Certificate.

I have also sent a bound copy of this material by the US Postal Service.

Sincerely,

Virginia L. Mammen
405 Balsa
La Grande, Oregon 97850

August 10, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E.
Salem, OR. 97301

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018:Draft Proposed Order.

Dear Chair Beyeler and Members of the Council:

My comment is about the usage of the "Local Streets" ¹ specifically the Modelaire-Hawthorne Loop) ², hereafter referred to as the "loop", of La Grande to access the site entrance. This residential "loop" was constructed without sidewalks for a new development around the early 1960s.

According to OAR 345-022-0110, Public Services (pg. 5. April 2017) "The applicant...must address all permanent and temporary impacts of the facility on housing, traffic, safety, police and fire protection, health care and schools." ³

My impression from reviewing the application Page 17 ⁴ is that the applicant has not fully examined the final portion of the intended route nor does it fully recognize or address the need for traffic mitigation. This "loop" is the only access to/from thirty-six houses to the rest of the city. The area to the north of the "loop" is occupied by the Grande Ronde Hospital and Medical Clinic. Two blocks to the east is located the local high school and a grade school. ²

In June of 2016, the Grande Ronde Hospital petitioned the City to have a conditional use for a parking lot expansion project next to Hawthorne. The Conditional Use Permit was approved subject to the Condition of Approval that "No driveway access to GRH parking lot areas shall be permitted onto Hawthorn Drive as such street is developed to residential standards and is not designed to support commercial traffic." ⁵

The La Grande Director of Public Works, Kyle Carpenter, provided information regarding the widths for the streets in question. The two streets range from 33 feet to 37 feet in width with no sidewalks. I personally measured the area where the unpaved stem of Hawthorne leaves the "loop" to go up the hill. At the junction it measures 32 feet curb cut to curb cut and narrows to 18-21 feet in width as it goes around the corner up the hill. 6 The Public Works Director also provided pictures of the mapping system showing the existing utilities located in the "loop". 7-8. It should also be noted that from the entrance to the "loop" at Sunset Drive to the entrance of the site the road has a 16% grade.

Attachment U2 9 from the application shows an "Aerial Lift Crane to be Used During Construction" and the Transportation and Traffic Plan on page 19 10 lists a number of other vehicles anticipated to be used. Article 6.6 — Public Street Standards for the City of La Grande Section 6.6.002 states that "Collector Streets are designed to withstand normal trucks of an HS20 loading. Larger trucks are to utilize Arterial Streets where at all possible." 11 The majority of vehicles listed on page 19 exceed that limit and would be using a Local Street in addition to Arterial and Collector Streets. According to the Public Works Director the two streets in the "loop" were designed as Local Streets for residential use, able to accept the pressures of HS20 for the purpose of an occasional need such as a weekly garbage truck or an emergency vehicle but for no more than 5% of the time. The paving construction of these over 50 year old streets in the "loop" was not designed for repetitive use by vehicles heavier than a normal car. These streets in the "loop" have not been repaved, only patched when necessary, since they were first constructed.

The application does not address the "loop" specifically, but 3.1.2 (pg. 19) 10 and Table 6 (pg.17) 12 of the Transportation and Traffic Plan indicate there would be numerous vehicles using this route. Not knowing exactly just which vehicles would be on the "loop" daily but making a conservative estimate of 50 round trips (100 single) it would be a constant parade with one truck every 7.2 minutes. This is unacceptable for numerous reasons including constant excessive noise.

Not only would weight of the vehicles be a problem but the narrowness of the "loop" streets and the ninety degree blind curves that would have to be executed would be either impossible or extremely dangerous considering the turning radius for many of these large vehicles. The

already dangerous situation for a number of driveways that exit onto these "loop" streets at blind curves would be exacerbated. 13-14

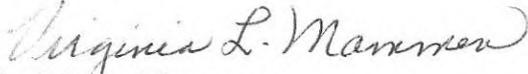
When considering only the traffic and safety issues listed above, the use of the "loop" as a part of the route for Idaho Power seems to be not only dangerous for the residents but unconscionable and irresponsible for Idaho Power to use such streets that are currently primarily for the neighborhood for walking (children to school, all ages for physical training), driving, or biking. I fear there are standards that are either not being considered or they are intentionally being ignored. There should be some common sense, courtesy and respect for the impact this project would impose on any neighborhood.

Finally, La Grande Ordinance Number 3077, which adopted Oregon State Traffic Laws by reference, states in Section 17 page 8 "It shall be unlawful for any person, firm or corporation to use, drive or operate any vehicle or combination of vehicles with a gross weight of 26,000, pounds or more upon any street of the City of La Grande, Oregon, except upon posted truck routes." Neither Modelaire/Hawthorne Loop nor Sunset Drive are posted as truck routes. 15-16

A site review and traffic plan must be completed prior to the cite certificate being issued and not 90 days prior to construction as stated.

For the above reasons I oppose the usage of the proposed route for the construction of the B2H transmission line.

Sincerely,


Virginia L. Mammen
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gmammen@eoni.com

**TABLE 1
 STREET STANDARDS**

Functional Classification	ADT Volume	Speed (mph)	# of Travel Lanes	Travel Lane Width	Turn Lane or Median Width	Bike Lanes	Min. Bike Lane Width	On-Street parking
Downtown Arterial	10,000	20	2-3	11'	11'			both sides
Arterial	10,000	40-55	2-5	12'	4-14'	optional ⁴	5'	none
Major Collector	2,000 - 10,000	25-45	2-3	11'	12'	required	5'	one or both sides
Minor Collector	1,000 - 2,000	25-35	2	11'	none	Optional ⁵	5'	one or both sides
Local Street	0 - 1,000	15-25	2	10'	none	none	none	one or both sides

Functional Classification	Sidewalks	Min. Sidewalk Width	Planting Strip Width ¹	Total Paved Width ²	Total ROW Width ³	Private Access Spacing
Downtown Arterial	required	12'	3'6" ⁵	49'	80'	200'
Arterial	required	5'	8'	36'-72'	80'-102'	200' - 400'
Major Collector	required	5'	8'	52'-60'	62'-90'	150' - 300'
Minor Collector	required	5'	8'	30'-48'	60'-78'	75' - 150'
Local Street	required	5'	8'	28'-36'	40'-66'	Each Lot

¹A portion of the required planting strip width may be used instead as additional sidewalk width or reduced right of way, as appropriate.

²The minimum of the paved width was calculated with the following assumptions:

Arterials: Two (2) travel lanes, four foot (4') median divider, no center turn lane, no bike lanes.

Major Collectors: Two (2) travel lanes, two (2) bike lanes, no center turn lane, parking on one (1) side.

Minor Collectors: Two (2) travel lanes, parking on one (1) side of street, no bike lanes.

Local Streets: Two (2) travel lanes, parking on one (1) side of street.

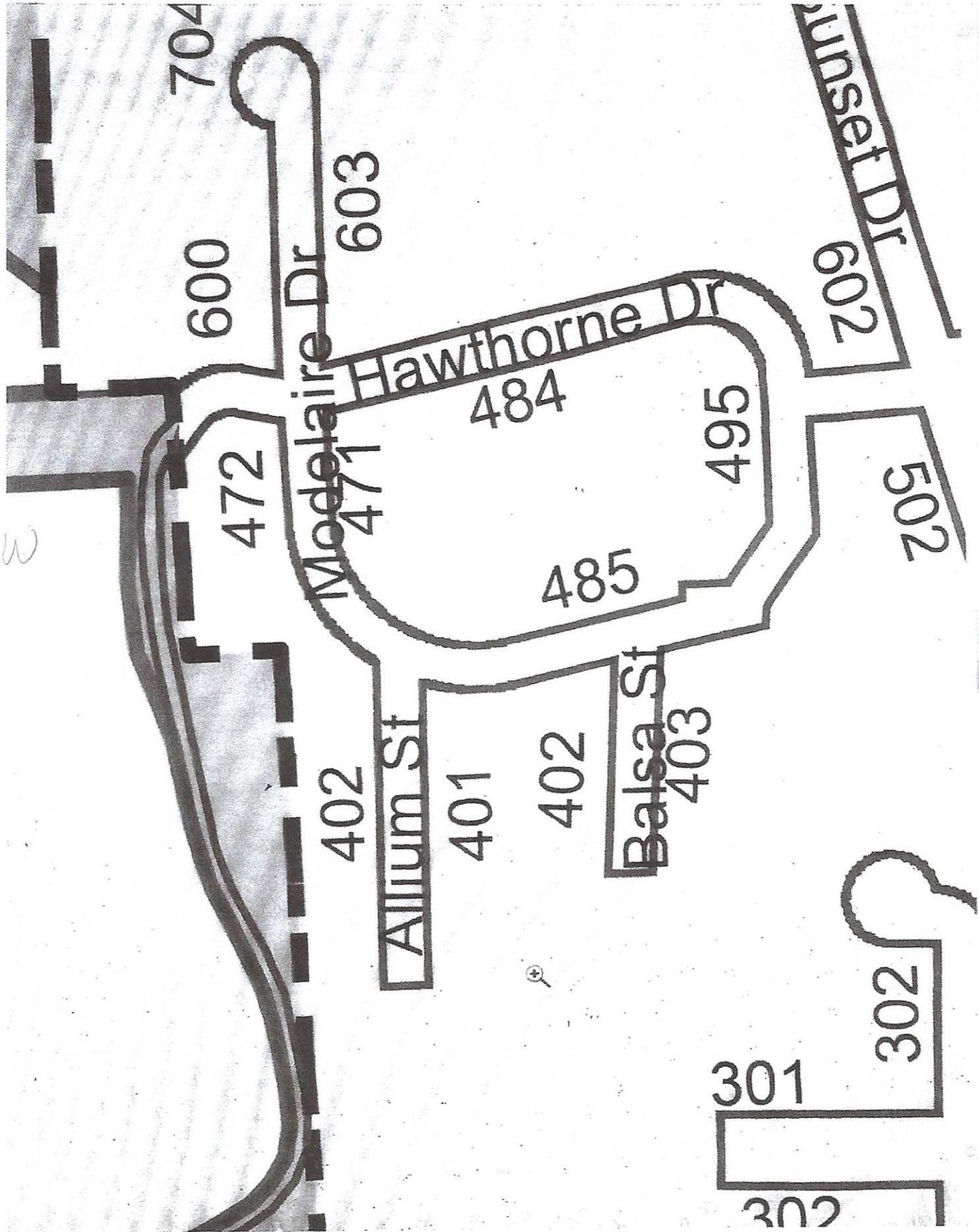
The maximum paved width for each street was calculated assuming the inclusion of all required and optional facilities. Minimum paved widths for each street are as required in Section 6.2.005 of this Code.

³These right-of-way width ranges are for new streets.

⁴Bike lanes should be provided on Arterials unless more desirable parallel facilities are designated and designed to accommodate bicycles.

⁵ Bike lanes should be provided on Minor Collectors where traffic volumes or other factors warrant. Otherwise, Minor Collectors should be designed and designated as shared roadway facilities with wide outside travel lanes of 14' on important bike routes.

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Public Services

OAR 345-022-0110

This standard ensures that the proposed facility will not affect the ability of service providers in local communities to provide public services, such as fire protection or education. The applicant must assess the proposed facility's need for water and for disposal of wastewater, storm water and solid waste. The applicant must also evaluate the expected population increases in local communities resulting from construction and operation of the facility; and must address all permanent and temporary impacts of the facility on housing, traffic safety, police and fire protection, health care and schools. The Council must determine whether the applicant has identified potential adverse impacts to service providers and proposed adequate mitigation to ensure that there will be no significant adverse effect on the ability of a service provider to provide services. In considering the impacts, the Council solicits comments from affected local governments, fire or police departments, school districts and health care agencies.

Waste Minimization

OAR 345-022-0120

This standard requires the Council to evaluate the applicant's proposal to minimize solid waste and wastewater generated by construction and operation of the proposed facility. The standard requires recycling of wastes, if feasible, or proper waste disposal if recycling is not feasible.

The applicant must evaluate the types of waste products that would be produced during construction and operation of the proposed facility and estimate the amounts or volume of waste products. The applicant must propose appropriate methods to handle the waste through collection, storage and disposal. Compliance with the standard assures that the applicant will reduce the amount of waste generated and dispose of waste in a responsible manner.

Need for a Facility

OAR 345-023-0005

This standard requires the applicant for non-generating energy facilities (such as electric transmission lines) to demonstrate the need for the proposed facility. The Council's rules allow an applicant to demonstrate need for a non-generating facility through one of several methods, including the "Least-Cost Plan Rule" (OAR 345-023-0020) or the "System Reliability Rule for Electric Transmission Lines" (OAR 345-023-0030). Under the Least-Cost Plan Rule, the applicant meets this standard if the proposed transmission line was included in an Integrated Resource Plan that has been acknowledged by the Oregon Public Utilities Commission (OPUC). More information about the OPUC and the Integrated Resource Plan acknowledgement process can be found at www.puc.state.or.us.

Specific Standards for Wind Facilities

OAR 345-024-0010 and 345-024-0015

This standard requires the Council to evaluate applications for wind energy facilities to ensure that applicants can design, construct and operate the facility so that that the public is not endangered by moving turbine blades or electrical equipment, and that the applicant can design, construct and operate wind turbines to prevent structural failure that could endanger public safety. Siting standards for wind facilities also require the applicant to reduce cumulative adverse environmental effects in the vicinity by using existing roads, if possible, placing collection lines underground, designing the facility to avoid impacts to vulnerable wildlife in the area (especially birds and bats), and designing the facility to minimize adverse visual features, including using the minimum amount of lighting necessary to meet the requirements of the Federal Aviation Administration for protecting aircraft.

Specific Standards for Transmission Lines

OAR 345-024-0090

This standard requires that the Council evaluate transmission lines under Council jurisdiction to ensure they are designed, constructed and operated to limit the strength of electromagnetic fields in areas where those lines are accessible to the public.



Idaho Power Responses to Comments and Requests for Additional Information on the B2H APASC
 from the City of La Grande
 Compiled by ODOE. RAI's from the City of La Grande and Responses from IPC

U	U-Public Services include utilities such as road systems, water, sanitation services, power, and other amenities necessary for the construction.	Ordinance #2912, Series 1997 gives the City jurisdiction and control on all City street rights-of-way and Ordinance #3077, Series 2009, establishes the process and requirements for permits and licenses for uses of the streets that are not normal uses and may result in damages.	proposed helipad is a necessary supporting facility.	The project construction has two major road systems through La Grande that are proposed for this project – Morgan Lake Road via Gekele Lane, 'C' Avenue, Walnut Street, and on up Morgan Lake Road. Roads along these routes are used by the ambulance service for accessing the hospital, the public transit system on its normal daily route, citizens to access locations within and outside this area and also for the school busing system for transporting kids to the La Grande Middle School, La Grande High School and Central Elementary School. In addition to the vehicular modes of travel, those routes are heavily used by bicyclists and pedestrians. The other route that would be utilized is the same route with the exception of turning onto Sunset Drive and up Hawthorne Street to a private gravel road that heads up the area above Deal Canyon. Two other routes that are not addressed but that would be obvious access routes for construction would be South 12th Street and South 20th Street. As a general rule, City streets are built with ninety degree angles, which may restrict some	To address the City's concerns regarding traffic and road use within the city's limits, Idaho Power has added the following proposed conditions to Exhibit K: <u>Land Use Condition 9: Prior to construction in Union County, the site certificate holder shall complete the following to address traffic impacts in the county:</u> a. The site certificate holder shall finalize, and submit to the department for its approval, a final county-specific transportation and traffic plan. The protective measures described in the draft Transportation and Traffic Plan in ASG Exhibit U, Attachment U-2, shall be included and implemented as part of the final county-specific plan, unless otherwise approved by the department; b. The site certificate holder shall work with the Union County Road Department and the City of La Grande Public Works Department to identify concerns related to Project construction traffic; and c. The site certificate holder shall develop traffic control measures to mitigate the effects of Project construction traffic. <u>Land Use Condition 26: During construction in Union County, the site certificate holder shall conduct all work in compliance with the Union County-specific</u>
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IV. CONCLUSIONS

Based on the Findings of Fact above, the Planning Commission concludes that the application meets the requirements established in LDC Articles 8.5 and other applicable codes and Ordinances.

V. ORDER AND CONDITIONS OF APPROVAL

Based on the conclusions above, the Planning Commission approves the Conditional Use Permit as requested, subject to the following Conditions of Approval:

- 1. No driveway access to GRH parking lot areas shall be permitted onto Hawthorn Drive as such street is developed to a residential standards and is not designed to support commercial traffic.
- 2. Any existing driveway curb cuts along Hawthorn Drive bordering GRH's property, that are not used for residential purposes, shall be removed and replaced with City standard improvements that exists adjacent to such areas.
- 3. There is a storm sewer line extending through the project area that shall to be protected. Any improvements that may affect the storm sewer line shall be reviewed and approved by the Public Works Director.

VI. STANDARD CONDITIONS OF APPROVAL FOR LAND USE APPLICATIONS

- 1. **Revisions to a Valid Conditional Use Permit:** Any variations, alterations, or changes in a valid Conditional Use Permit requested by the deed holder shall be considered in accordance with the procedures of the Land Development Code as though a new Conditional Use Permit were being applied for.
- 2. **Public Works Standards:** Where a development involves work within the public right-of-way, a Right-of-Way Permit shall be obtained from the Public Works Department in advance of commencing with any work in the right-of-way. All improvements within the public right-of-way shall be in conformance with the most recent adopted City of La Grande "Engineering Standard Drawings and Specifications for Construction Manual."
- 3. **Building Permits:** The City of La Grande Building Department shall be contacted early in the process and in advance of development to coordinate and obtain required building, plumbing, electrical and/or mechanical permits. All required permits shall be acquired in advance of construction.

VI. OTHER PERMITS AND RESTRICTIONS

The applicant and property owner is herein advised that the use of the property involved in this application may require additional permits from the City of La Grande or other local, State or Federal Agencies.

The City of La Grande land use review, approval process and any decision issued does not take the place of, or relieve the applicant of responsibility for acquiring such other permits, or satisfy any restrictions or conditions thereon. The land use decision herein does not remove, alter, or impair in any way the covenants or restrictions imposed on this property by deed or other instrument.

The land use approvals granted by this decision shall be effective only when the rights granted herein have been exercised and commenced within one (1) year of the effective date of the decision. In case such right has not been exercised and commenced or an extension obtained, the approvals granted by this decision shall become null and void. A written request for an extension of time shall be filed with the Planning Department at least thirty (30) days prior to the expiration date of the approval.



Virginia Mammen <4gmammen@gmail.com>

Modelaire Roadway Specifications

3 messages

Kyle Carpenter <KCarpenter@cityoflagrande.org>
To: "gmammen@eoni.com" <gmammen@eoni.com>

Fri, Jul 12, 2019 at 1:51 PM

I have attached a couple pictures of our mapping system that will give you a sense of where existing utilities are in Modelaire and Hawthorne. As for the widths of the roadways, I took measurements in multiple places, and found the following:

- Modelaire Drive (F Avenue) between Sunset Blvd and Hawthorne Drive is approximately 33 feet wide with a grade of about 5 Percent.
- Hawthorne Drive is approximately 32 feet wide at the bottom near the intersection of Modelaire/F Avenue and widens to about 34 feet where it intersects Modelaire at the top of the hill. The grade heading up hill is approximately 15.5 Percent.
- Modelaire Drive is generally 36 feet wide with some minor variability generally less than a foot (35' to 37'). On the southernmost segment of the roadway where the majority of the elevation gain is observed the grade is approximately 16 Percent.

Let me know if there are any other specifications of these roadways that you are interested in that I have missed. Have a great weekend and thanks for the treats, the guys were very appreciative.

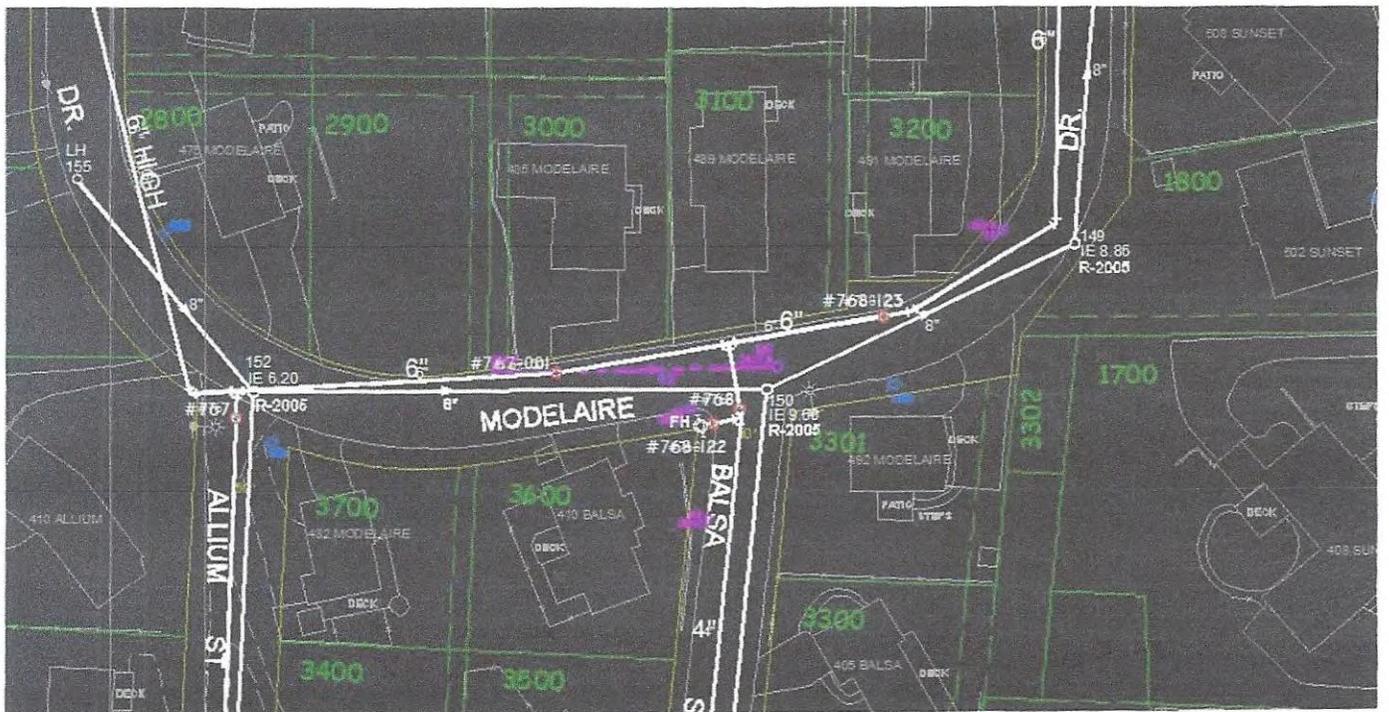
Kyle Carpenter, PE
Public Works Director
City of La Grande
Public Works
 Ph: (541) 962-1325
 Fax: (541) 963-4844

2 attachments



Hawthorne.jpg
150K

Modelaire.jpg
120K





attachment U2

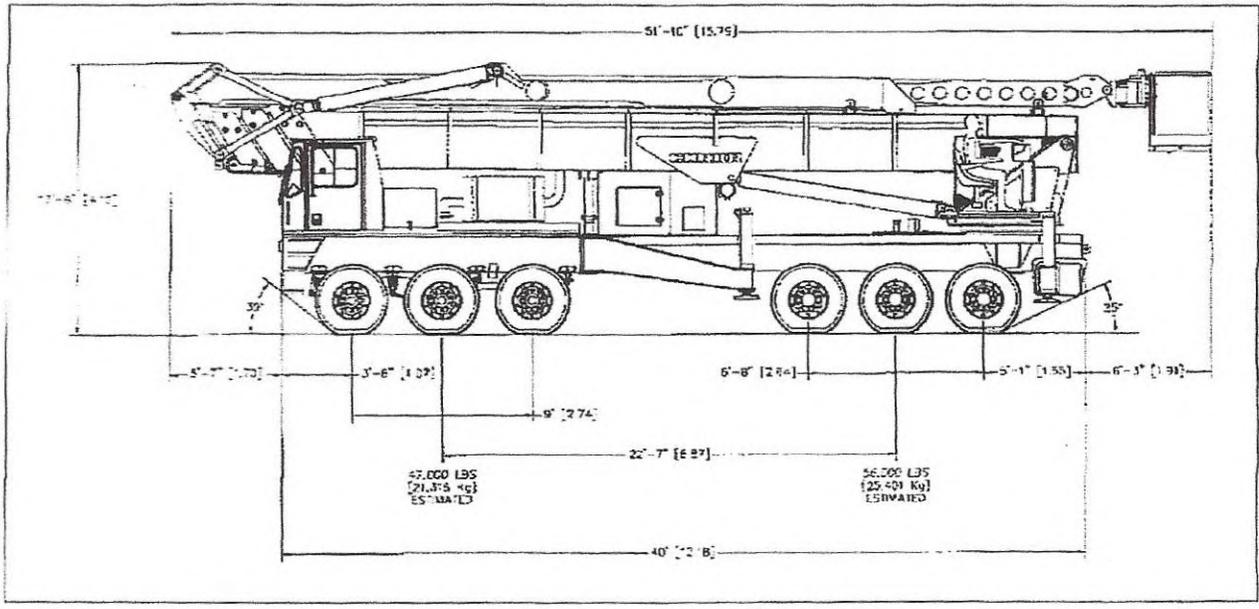


Figure 2. Example Aerial Lift Crane to be Used During Construction (Roadable Length 52 Feet; Width 8 Feet 6 Inches)

The following is a summary of anticipated equipment to be used for each transmission-line construction activity.

- Survey work: pickup trucks or ATVs.
- Timber removal: pickup trucks, feller bunchers, dump trucks, wood chippers.
- Road construction: pickup trucks, bulldozers, motor graders, and water trucks.
- Hole digging, installation of directly embedded structures, or foundation installation: pickup trucks, 2-ton trucks, digger derrick trucks, hole diggers, bulldozers, concrete trucks, water trucks, cranes, hydro cranes, wagon rock drills, dump trucks, and front-end loaders.
- Hauling lattice steel members, tubular poles, braces, and hardware to the structure sites: steel haul trucks, carry alls, cranes, and forklifts.
- Assembly and erection of structures: pickup trucks, 2-ton trucks, carry alls, cranes, and a heavy lift helicopter.
- Wire installation: pickups, wire reel trailers, diesel tractors, cranes, 5-ton boom trucks, splicing trucks, three drum pullers, single drum pullers, tensioner, sagging dozers, carry-alls, static wire reel trailers, bucket trucks, and a light duty helicopter.
- Final cleanup, reclamation, and restoration: pickup trucks, 2-ton trucks, bulldozers, motor graders, dump trucks, front-end loaders, hydro-seed truck, and water trucks.

The highest level of traffic will be when the wire stringing operations begin while several other operations are occurring at the same time, which will likely include ROW clearing, installing foundations, hauling steel, and assembling and erecting structures. For the station work, the highest level of traffic will be during site grading and foundation installation. For the communication station sites, the highest level of traffic will be during grading and site preparation.

Detailed estimates of trips generated by transporting Project construction equipment will be provided by the construction contractor prior to construction.

3.1.3 Traffic Related to Timber Removal

In forested areas, the Project will require removal of timber from the Project ROW and for construction and improvement of access roads. Specific timber harvest plans have not been finalized. Logs from timber clearing may be transported to nearby sawmills. Decisions regarding transportation routes for harvested timber will be made following completion of a timber harvest plan, and the number of log truck tips will be estimated when the timber harvest plan has been finalized. Logging slash will remain onsite if possible. For additional discussion regarding removal of timber in forested areas, see Exhibit K, Attachment K-2, ROW Clearing Assessment.

3.1.4 Impacts to V/C Ratios

Based on the estimated trip generation numbers in Tables 4 and 6, a maximum of approximately 1,294 daily one-way vehicle trips are expected within any one construction spread. To facilitate traffic and other analyses, the two construction spreads are divided into smaller sections based on similar construction windows and seasonal weather restrictions. Not all construction sections will have the same number of concurrent construction activities, depending on how the construction contractor sequences and executes the Project. Some sections will have fewer daily vehicle trips. For the purposes of the traffic analysis, the spreads are divided into five sections with multi-use areas that could have additive traffic impacts. The sections are assumed to have approximately equal levels of activity. The 1,294 daily one-way trips per spread divided over five sections of more concentrated traffic results in 259 daily one-

ARTICLE 6.6 – PUBLIC STREET STANDARDS

SECTION 6.6.001 - PURPOSE

Upon the request of the La Grande City Council, a variety of street design standards have been reviewed and are now incorporated in the Land Development Code.

SECTION 6.6.002 - CLASS I IMPROVEMENT STANDARDS

This classification will cover those streets that are designed to meet the standards for an expected life of twenty (20) years or more. The attached drawings shall be the minimum standard for those streets in this classification. All streets designated as Federal Aid Urban Streets (F.A.U.) shall be constructed under these design standards. Streets in this designation shall be constructed with sidewalks when at all possible in an effort to increase pedestrian safety. Collector streets are designed to withstand normal trucks of an HS 20 loading. Larger trucks are to utilize Arterial streets where at all possible. This level of development shall be the ultimate goal for all streets within the City of La Grande.

Possible means of financing available for this Class shall be methods A, B, C, D, E, F, G, and H in Section 6.6.006.

A. Advantages

1. The construction life is extended to a period above other City standards.
2. The visible aesthetics in relationship to having curbs and a blacktop surface with landscaping or concrete driveways and a sidewalk is generally appealing to the public.
3. Easy maintenance for the Public Works Department for cleaning and minor repair.
4. Storm sewer drainage is confined within the bounds of the curbs during minor flooding periods.
5. Parking is restricted to a solid barrier, that being the curb; this restricts parking in the area on the back side of the curb and confines travel to the street surface.
6. Defined areas for possible cross walks, signs, power poles, and other utilities that are restricted to the outside areas behind the curbs.
7. It allows for a wide range of financing methods and is to City standards for a ten (10) year Bancroft bonding.
8. Provides a dust free surface.

B. Disadvantages

1. The extreme high level of cost that is incurred with this type of development.

SECTION 6.6.003 - CLASS II IMPROVEMENT LEVEL

Streets constructed in this classification shall be constructed to the same standards as Class I Streets with the exception of the form of drainage system. These streets shall meet the standards as shown on the attached drawing. This level of construction shall be only utilized in substitution for Class I Streets when it is determined by the City Council at the recommendation of the City Engineer or Engineering Superintendent, that an adequate drainage system cannot be installed for a Class I Street.

Table 6. Construction Vehicle Trips per Day per Construction Spread

Construction Crew Type	Construction Vehicles					
	Light Construction Vehicles			Heavy Construction Vehicles		
	Number of Pickups/ Mechanic Trucks (per day)	Number of One-way Trips on Public Roads (per day)	Total One-way Trips (per day)	Number of Other Vehicles	Number of One-way Trips on Public Roads (per day)	Total One-way Trips (per day)
Substation Construction	20	2	40	5	2	10
ROW Clearing	9	4	36	5	4	20
Roads/ Pad Grading	9	4	36	9	2	18
Foundations	9	2	18	5	8	40
Tower Lacing (assembly)	27	2	54	0	0	0
Tower Setting (erection)	20	2	40	0	0	0
Wire Stringing	9	4	36	9	4	36
Restoration	3	2	6	0	0	0
Blasting	5	4	20	0	0	0
Material Delivery	20	8	160	12	2	24
Mechanic and Equipment Mgmt.	5	6	30	0	0	0
Refueling	0	0	0	5	4	20
Dust Control	0	0	0	5	4	20
Construction Inspection	5	8	40	0	0	0
Concrete Testing	5	4	20	0	0	0
Environmental Compliance	9	6	54	0	0	0
Surveyors	5	3	30	0	0	0
Totals	—	—	620	—	—	188

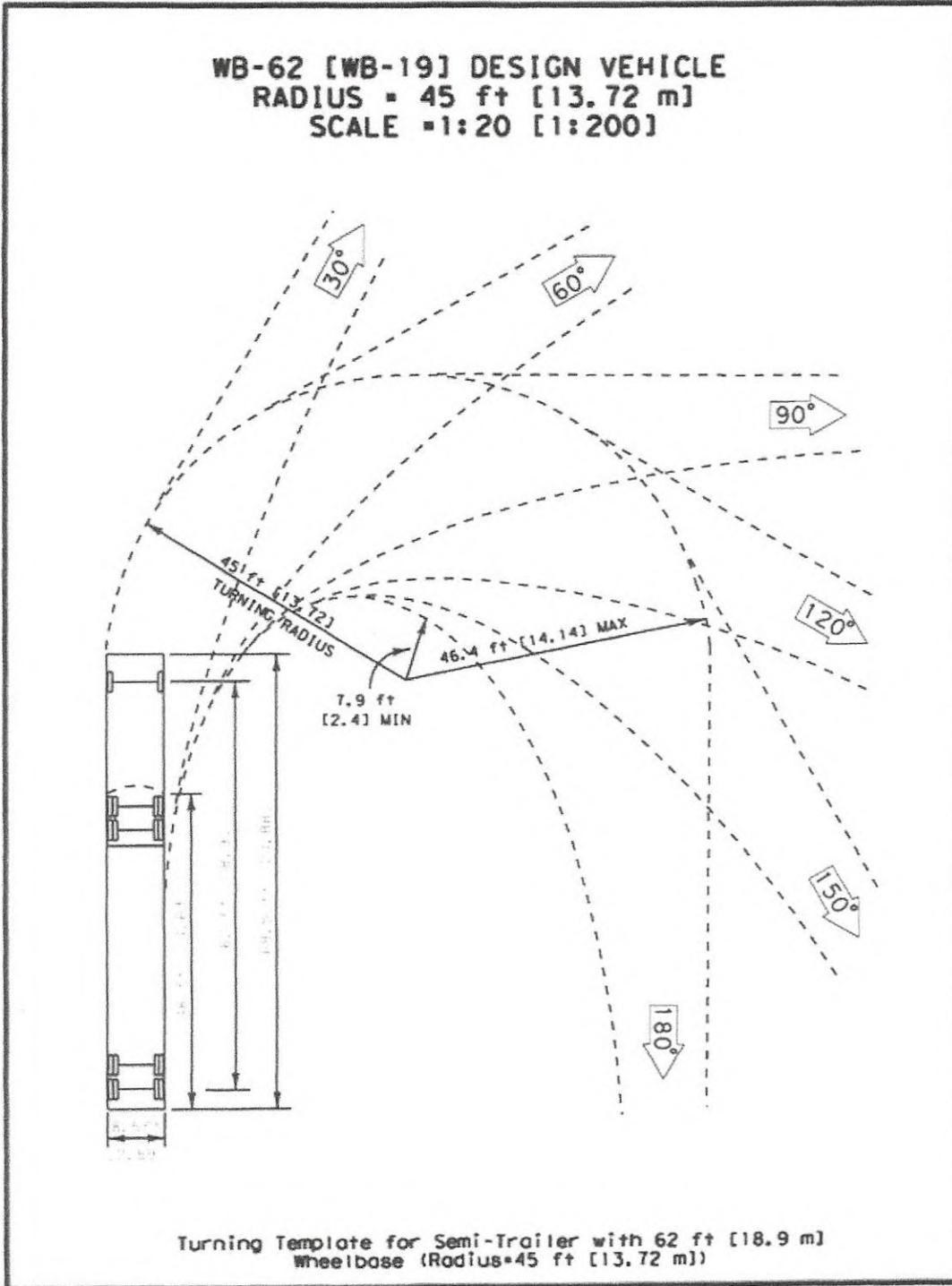


Figure 7-4. Turning Template for Semi-Trailer with 62 ft [18.9 m] Wheelbase, (not to scale). Click [here](#) to see a PDF of the image.

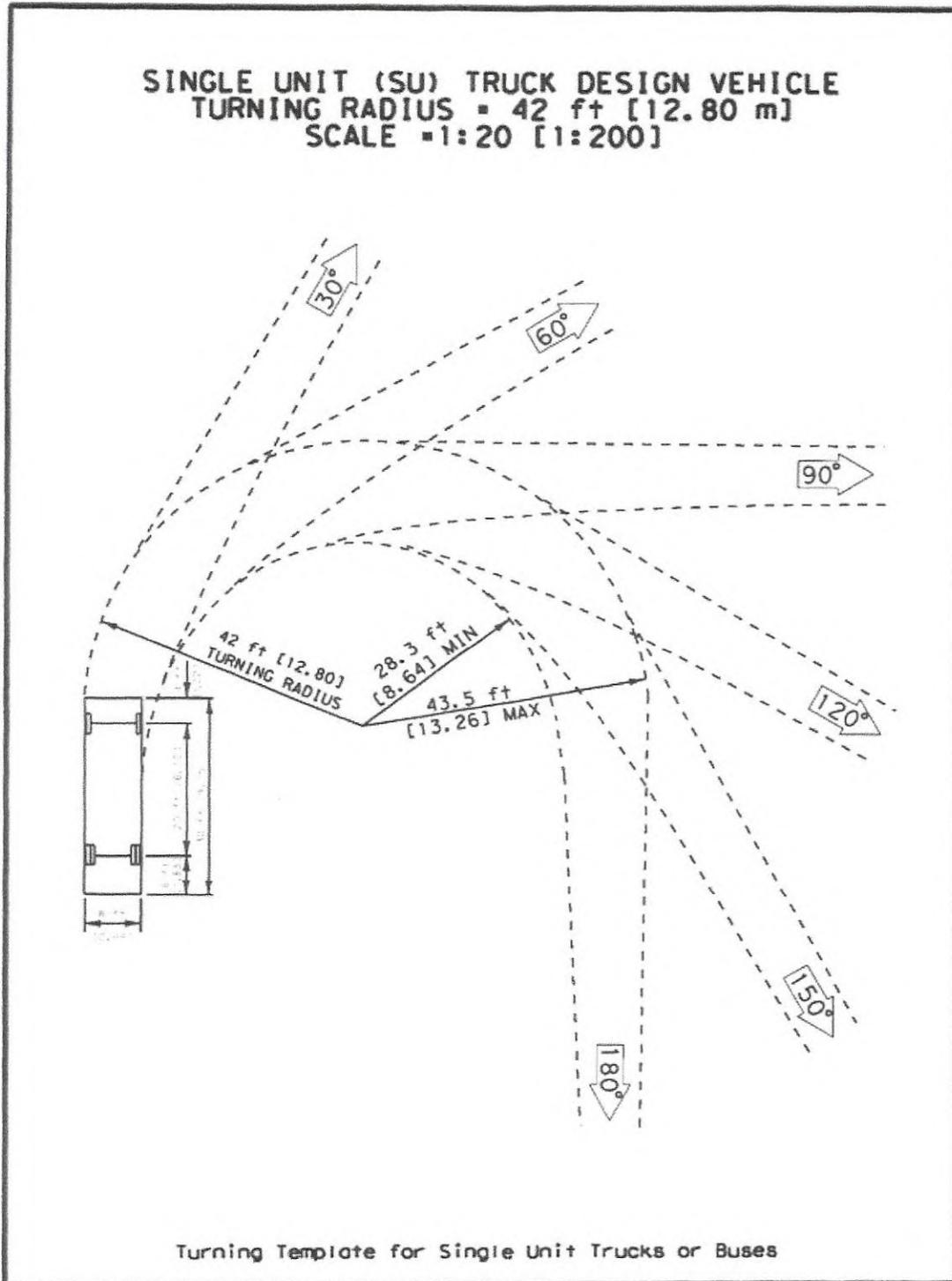


Exhibit 15

**CITY OF LA GRANDE
ORDINANCE NUMBER 3077
SERIES 2009**

AN ORDINANCE CONTROLLING VEHICULAR AND PEDESTRIAN TRAFFIC, PARADES AND PROCESSIONS AND ISSUANCE OF PERMITS; PROVIDING PENALTIES; AND REPEALING ORDINANCE NUMBER 2845, SERIES 1993; ALL AMENDING ORDINANCES AND ALL OTHER ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH; AND DECLARING AN EFFECTIVE DATE

THE CITY OF LA GRANDE ORDAINS AS FOLLOWS:

Section 1. This Ordinance may be cited as the City of La Grande Uniform Traffic Ordinance.

Section 2. APPLICABILITY OF STATE TRAFFIC LAWS.

Oregon Revised Statutes, Chapter 153, and the Oregon Vehicle Code, ORS Chapter 801 and 822, as now constituted, are adopted by reference. Violation of an adopted provision of those chapters is an offense against the City.

Section 3. DEFINITIONS

In addition to those definitions contained in the Oregon state Motor Vehicle Code, the following words or phrases, except where the context clearly indicates a different meaning, shall mean:

a. Alley

A street or highway primarily intended to provide access to the rear or side of lots or buildings in urban areas and not intended for through vehicular traffic.

b. Bicycle

A bicycle is a vehicle that:

1. Is designed to be operated on the ground on wheels;
2. has a seat or saddle for use of the rider;
3. is designed to travel with not more than three (3) wheels in contact with the ground;
4. is propelled exclusively by human power; and,
5. has every wheel more than fourteen inches (14") in diameter or two (2) tandem wheels, either of which is more than fourteen inches (14") in diameter.

c. Bicycle Lane

That part of the highway, adjacent to the roadway, designated by official signs or markings for use by persons riding bicycles, except as otherwise specifically provided by law.

d. Bicycle Path

A public way, not part of a highway, which is designated by official signs or markings for use by persons riding bicycles, except as otherwise specifically provided by law.

e. Block

The part of one side of a street lying between the two (2) nearest cross streets.

f. Central Business District

a. City Regulation of Special Movement of Oversized Load

The applicant shall submit an application to the City Manager or designee, showing the terminal points of the purported movement; the proposed route; the nature of the movement requested, including the weight and dimensions of the vehicle, load, machine, building, or structure to be moved; the time, date and duration of the proposed movement.

b. Special Movement Permit

A permit shall be required to move any vehicle, structure, or load on, or to access a street when, after preparation for movement, the vehicle, structure or load exceeds fourteen feet (14') in height, requires the use of guy wires, or could result in the blockage of a street. An approved application may serve as a permit, and a copy of the approved application shall be provided to the applicant.

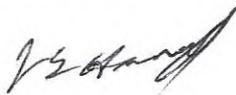
Section 17. TRUCK ROUTES

- a. It shall be unlawful for any person, firm, or corporation to use, drive or operate any vehicle or combination of vehicles with a gross weight of 26,000, pounds or more upon any street of the City of La Grande, Oregon, except upon posted truck routes.
- b. Any vehicle with a gross weight over 26,000, pounds specifically picking up deliveries or making deliveries to any business or residence located on a street that is not a truck route will be exempted if the vehicle is driven from the truck route to the destination in the shortest, most direct, and safest route.
- c. The use of Jacob brakes shall not be allowed within the city limits of La Grande, Oregon.
- d. Truck routes will be posted as follows:
 1. Walnut street north from the city limits to C Avenue;
 2. C Avenue east from Walnut Street to Gekeler Avenue;
 3. Gekeler Avenue east to the city limits;
 4. 12th street south from Gekeler Avenue to the city limits;
 5. 2nd Street south from the city limits to Adams Avenue;
 6. Monroe Avenue east from Spruce Street to Highway 82;
 7. Jackson Avenue east from Spruce Street, and
 8. Spruce Street south from the city limits to Monroe.

Section 18. IMPOUNDMENT AND DETENTION OF VEHICLES

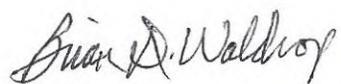
- a. Whenever a vehicle is placed in a manner or location that constitutes an obstruction to traffic or a hazard to public safety, a police officer or enforcement officer shall order the owner or operator of the vehicle to remove said vehicle. If the vehicle is unattended, the officer or enforcement officer may cause the vehicle to be towed and stored at the owner's expense. The owner shall be liable for the costs of towing and storing, notwithstanding that the vehicle was parked by another or that the vehicle was initially parked in a safe manner but subsequently became an obstruction or hazard.

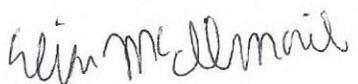
I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

SIGNATURE 
PRINTED NAME James E. Howell II
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SIGNATURE 
PRINTED NAME ELISE McILMAIL
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EMAIL mcilmailelise@hotmail.com

I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

SIGNATURE

PRINTED NAME

ADDRESS

EMAIL

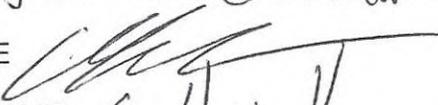

Jessie Huxell
472 Modelaire Dr. LaGrande OR 97850

SIGNATURE

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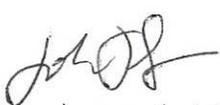
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PRINTED NAME D. Dale Mammen
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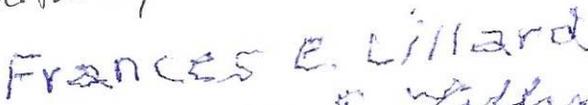
SIGNATURE 
PRINTED NAME Judie Arritola
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SIGNATURE 
PRINTED NAME JOHN BARLITZ
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SIGNATURE 
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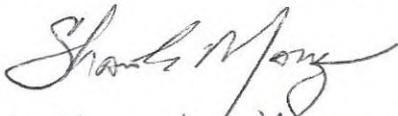
SIGNATURE 
PRINTED NAME Frances E. Lillard
ADDRESS 471 Modelaire Dr. L.G.
EMAIL

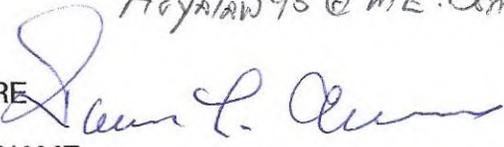
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EMAIL smithbrent@gmail.com

SIGNATURE 
PRINTED NAME M. Jeannette Smith
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EMAIL jeannetterampton@gmail.com

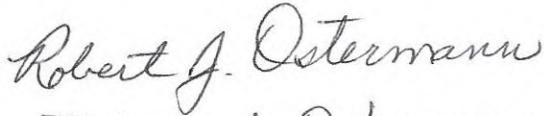
SIGNATURE 
PRINTED NAME KIMBERLEY HEITSTUMAN
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EMAIL kimheitstuman@hotmail.com

I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

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SIGNATURE 
PRINTED NAME Linda M. SNYDER
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SIGNATURE 
PRINTED NAME Robert J. Ostermann
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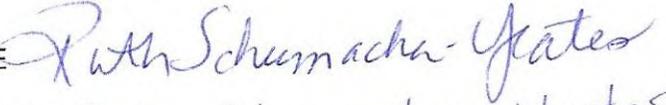
SIGNATURE 
PRINTED NAME Robin J. Ostermann
ADDRESS 495 Modelaire Dr La Grande, OR 97850
EMAIL

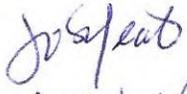
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SIGNATURE 
PRINTED NAME Jonathan D. White
ADDRESS 485 Modelaire Dr
EMAIL jondwhite418@gmail.com

SIGNATURE 
PRINTED NAME Robin Stedfeld
ADDRESS 485 Modelaine Dr. La Grande
EMAIL rstedfeld@yahoo.com

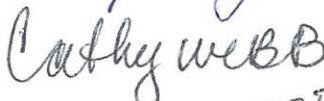
SIGNATURE 
PRINTED NAME Rita Allen
ADDRESS 410 Balsa St. La Grande Or.
EMAIL

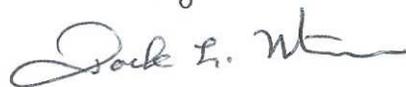
SIGNATURE 
PRINTED NAME Ruth Schumacher Yeates
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EMAIL ruthschumacheryeates@gmail.com

SIGNATURE 
PRINTED NAME JOHN YEATES
ADDRESS 408 SUNSET DR. LA GRANDE, OR 97850
EMAIL jyeates52@gmail.com

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SIGNATURE 
PRINTED NAME LOIS BARRY
ADDRESS P.O. Box 566, La Grande, OR 97850
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SIGNATURE 
PRINTED NAME CATHY WEBB
ADDRESS 1708 CEDAR ST. LAGRANDE, OR 97850
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SIGNATURE 
PRINTED NAME Jack L. Martin
ADDRESS 1412 Gilcrest Dr. LaGrande
EMAIL Buff Martin 27 @GMail .com

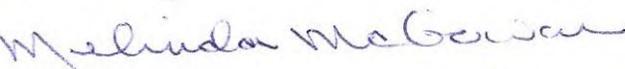
SIGNATURE 
PRINTED NAME GERALDINE BRASETH-PALMER
ADDRESS 1602 GILCREST DRIVE LA GRANDE, Ore 97850
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SIGNATURE 
PRINTED NAME Jean RAPH
ADDRESS 1509 MADISON AVE LaGrande, OR 97850
EMAIL Jraph19@gmail.com

I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

SIGNATURE 
PRINTED NAME Damon Sexton
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SIGNATURE 
PRINTED NAME Coy Sexton
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SIGNATURE 
PRINTED NAME Keith D. Hudson
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SIGNATURE 
PRINTED NAME Laura Elly Hudson
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SIGNATURE *Gary D. Pierson*
PRINTED NAME Gary D. Pierson
ADDRESS 489 Modelaire Drive, La Grande OR 97850
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SIGNATURE *Lynn Wheeler Duncan*
PRINTED NAME LYNN WHEELER DUNCAN
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SIGNATURE *Anne G. Cavinato*
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SIGNATURE *Joe Horst*
PRINTED NAME JOE HORST
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SIGNATURE *Angela Sherer*
PRINTED NAME ANGELA Sherer
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EMAIL asherer@frontier.com

I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

SIGNATURE *Robert J. Sherer*
PRINTED NAME Robert J. Sherer
ADDRESS 97 W Hawthorne Dr, La Grande, Or. 97850
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SIGNATURE *Heather M. Null*
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SIGNATURE *Bert R. Frewing*
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SIGNATURE *Lindsey McCullough*
PRINTED NAME Lindsey McCullough
ADDRESS 406 Balsa St., La Grande, OR 97850
EMAIL lindz_mm91@hotmail.com

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

SIGNATURE *Merle E. Comfort*
PRINTED NAME MERLE E. COMFORT
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SIGNATURE *Robin I. Maille*
PRINTED NAME Robin Maille
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SIGNATURE *Bruce C Kevan*
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SIGNATURE *Carol S. Summers*
PRINTED NAME CAROL S. SUMMERS
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EMAIL carolsummers1935@gmail.com

SIGNATURE *Caroline Kaye Juniper*
PRINTED NAME Caroline Kaye Juniper
ADDRESS 406 Nth St. LaGrande - OR 97850
EMAIL

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SIGNATURE *Gerald D. Juniper*
PRINTED NAME *Gerald Darwin Juniper*
ADDRESS *406 4th St. LaGrande, OR. 97850*
EMAIL

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

TARDAEWETHER Kellen * ODOE

From: Dale Mammen <dmammen@eoni.com>
Sent: Thursday, August 15, 2019 5:28 PM
To: B2H DPOComments * ODOE
Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposal Order 5/23/2019
Attachments: Scan 2019-8-15 17.14.06.pdf

To: Chairman Beyeler and Members of the Council

Find attached a letter sign by me and 46 other residents of La Grande expressing our concerns regarding the B2H Project and requesting that EFSC Deny the Site Certificate.

I have also sent a bound copy of this material by US Postal Service.

Virginia L. Mammen
405 Balsa
La Grande, Oregon 97850

August 10, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E.
Salem, Oregon. 97301

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018:Draft Proposed Order.

Dear Chair Beyeler and Members of the Council:

My comment is about the predicted noise levels resulting from construction and operation of the proposed Boardman to Hemingway Transmission Line Project. I would like to address the noise coming from the blasting and rock breaking specifically above the area at the top of Modelaire Drive 1 both to the north and the south of that area and also the construction traffic noise that that will impact the west hills and the area below.

In Exhibit X page X-9 3.3.1.1 2 blasting and rock breaking is mentioned saying that "Modern blasting techniques include the electronically controlled ignition of multiple small explosive charges in an area of rock that are delayed fractions of second, resulting in a total event that is generally less than a second. Impulse (instantaneous) noise from blasts could reach up to 140dBA at the blast location or over 90 dBA within 500 feet." This sounds oh so "don't worry about it, it will be OK just over in a split second." Living in this area off Modelaire Drive, I don't find this at all comforting. And the fact that this will be overseen by properly licensed personnel and all of the necessary authorizations doesn't help anything either.

The area in question, which for such inordinate construction is extremely close to many residents, has been my home for over 50 years and during

related medical problems and exhibit various reactions to loud noises.¹⁰
These children also live in the neighborhoods to be affected by the noise so they would be impacted coming and going to school, at home and also while at school. To impose the constant possibility of loud noises is cruel, disrespectful and totally unacceptable. ¹¹

For a project like this involving blasting and heavy machinery noise so close to homes, schools, and medical facilities impacting hundreds of peoples' daily lives, the day to day agitation, wondering what is coming next, fear and being on constant alert are not just addressed by some type of mitigation but must be addressed by a route that is much less impactful to peoples' safety, sanity, and health.

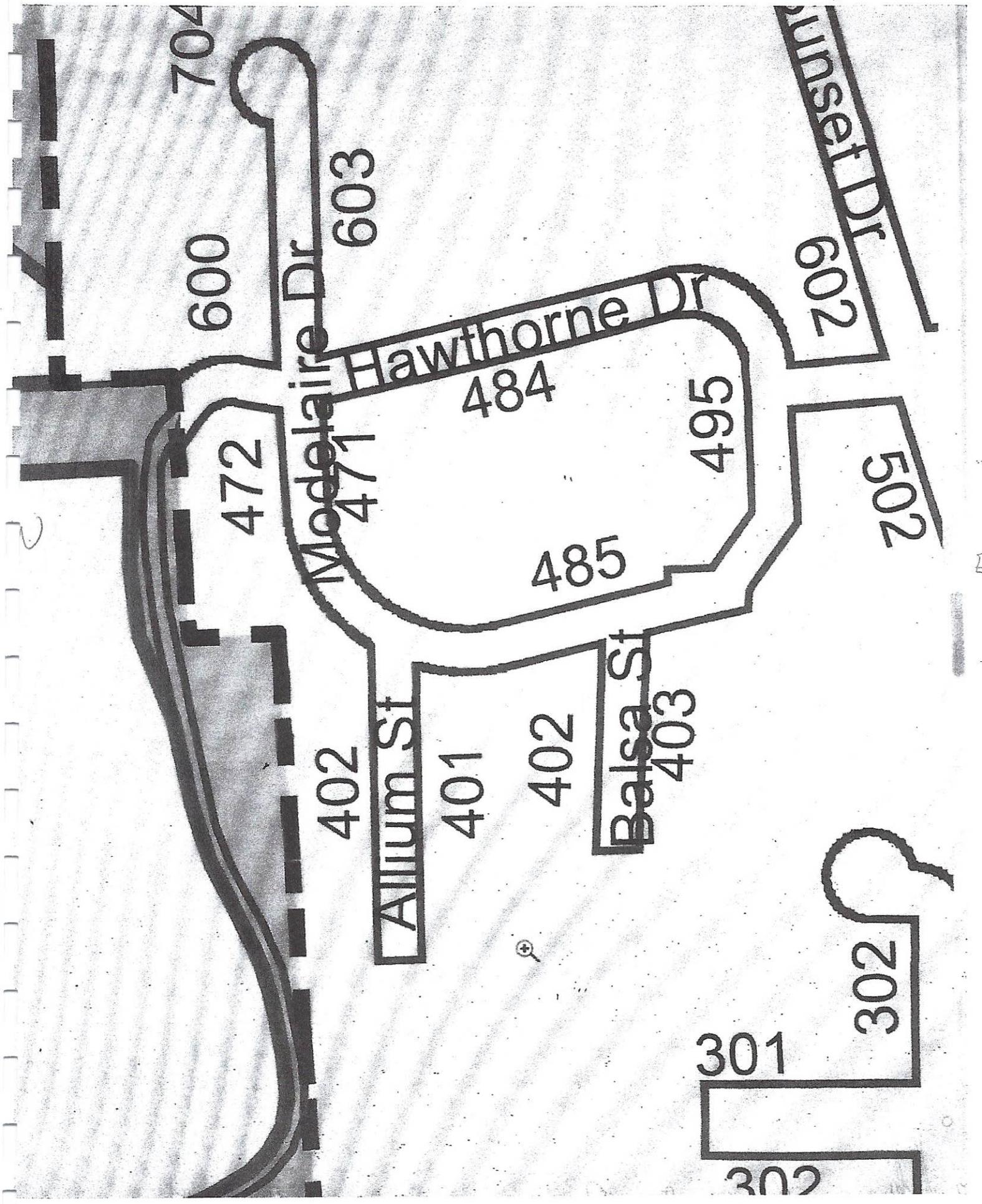
Sincerely,



Virginia L. Mammen
405 Balsa
La Grande, Oregon 97850

gmammen@eoni.com

N



3.3 Predicted Noise Levels

1 OAR 345-021-0010(1)(x)(A): Predicted noise levels resulting from construction and operation
2 of the proposed facility.
3

3.3.1 Construction Noise

3.3.1.1 Predicted Construction Noise Levels

4 Project construction will occur sequentially, moving along the length of the Project route, or in
5 other areas such as near access roads, structure sites, conductor pulling sites, and staging and
6 maintenance areas. Overhead transmission line construction is typically completed in the
7 following stages, but various construction activities may overlap, with multiple construction
8 crews operating simultaneously:
9

- 10 • Site access and preparation
- 11 • Installation of structure foundations
- 12 • Erecting of support structures
- 13 • Stringing of conductors, shield wire, and fiber-optic ground wire

14 The following subsections discuss certain construction activities that will periodically generate
15 audible noise, including blasting and rock breaking, implosive devices used during conductor
16 stringing, helicopter operations, and vehicle traffic.
17

Blasting and Rock Breaking

18 Blasting is a short-duration event as compared to rock removal methods, such as using track rig
19 drills, rock breakers, jackhammers, rotary percussion drills, core barrels, or rotary rock drills.
20 Modern blasting techniques include the electronically controlled ignition of multiple small-
21 explosive charges in an area of rock that are delayed fractions of second, resulting in a total
22 event duration that is generally less than a second. Impulse (instantaneous) noise from blasts
23 could reach up to 140 dBA at the blast location or over 90 dBA within 500 feet.
24

25 Lattice tower foundations for the Project typically will be installed using drilled shafts or piers;
26 however, if hard rock is encountered within the planned drilling depth, blasting may be required
27 to loosen or fracture the rock to reach the required depth to install the structure foundations.
28 Final blasting locations will not be identified until an investigative geotechnical survey of the
29 analysis area is conducted during the detailed design.

30 The contracted blasting specialist will prepare a blasting plan that demonstrate compliance with
31 applicable state and local blasting regulations, including the use of properly licensed personnel
32 and the acquisition of necessary authorizations. The Framework Blasting Plan is set forth in
33 Exhibit G, Attachment G-5.

Implosive Devices

34 An implosive conductor splice consists of a split-second detonation with sound and flash.
35 Implosive splicing activities are anticipated to be limited to daytime hours. A blasting plan will be
36 developed by an individual certified and licensed to perform the work. The plan will
37 communicate all safety and technical requirements including, but not limited to, delineation of
38 the controlled access zone and distance away from residences.
39

Public Services

— OAR 345-022-0110

This standard ensures that the proposed facility will not affect the ability of service providers in local communities to provide public services, such as fire protection or education. The applicant must assess the proposed facility's need for water and for disposal of wastewater, storm water and solid waste. The applicant must also evaluate the expected population increases in local communities resulting from construction and operation of the facility; and must address all permanent and temporary impacts of the facility on housing, traffic safety, police and fire protection, health care and schools. The Council must determine whether the applicant has identified potential adverse impacts to service providers and proposed adequate mitigation to ensure that there will be no significant adverse effect on the ability of a service provider to provide services. In considering the impacts, the Council solicits comments from affected local governments, fire or police departments, school districts and health care agencies.

Waste Minimization

— OAR 345-022-0120

This standard requires the Council to evaluate the applicant's proposal to minimize solid waste and wastewater generated by construction and operation of the proposed facility. The standard requires recycling of wastes, if feasible, or proper waste disposal if recycling is not feasible.

The applicant must evaluate the types of waste products that would be produced during construction and operation of the proposed facility and estimate the amounts or volume of waste products. The applicant must propose appropriate methods to handle the waste through collection, storage and disposal. Compliance with the standard assures that the applicant will reduce the amount of waste generated and dispose of waste in a responsible manner.

Need for a Facility

— OAR 345-023-0005

This standard requires the applicant for non-generating energy facilities (such as electric transmission lines) to demonstrate the need for the proposed facility. The Council's rules allow an applicant to demonstrate need for a non-generating facility through one of several methods, including the "Least-Cost Plan Rule" (OAR 345-023-0020) or the "System Reliability Rule for Electric Transmission Lines" (OAR 345-023-0030). Under the Least-Cost Plan Rule, the applicant meets this standard if the proposed transmission line was included in an Integrated Resource Plan that has been acknowledged by the Oregon Public Utilities Commission (OPUC). More information about the OPUC and the Integrated Resource Plan acknowledgement process can be found at www.puc.state.or.us.

Specific Standards for Wind Facilities

— OAR 345-024-0010 and 345-024-0015

— This standard requires the Council to evaluate applications for wind energy facilities to ensure that applicants can design, construct and operate the facility so that that the public is not endangered by moving turbine blades or electrical equipment, and that the applicant can design, construct and operate wind turbines to prevent structural failure that could endanger public safety.

— Siting standards for wind facilities also require the applicant to reduce cumulative adverse environmental effects in the vicinity by using existing roads, if possible, placing collection lines underground, designing the facility to avoid impacts to vulnerable wildlife in the area (especially birds and bats), and designing the facility to minimize adverse visual features, including using the minimum amount of lighting necessary to meet the requirements of the Federal Aviation Administration for protecting aircraft.

Specific Standards for Transmission Lines

— OAR 345-024-0090

This standard requires that the Council evaluate transmission lines under Council jurisdiction to ensure they are designed, constructed and operated to limit the strength of electromagnetic fields in areas where those lines are accessible to the public.



Department of Environmental Quality

Chapter 340

Division 35

NOISE CONTROL REGULATIONS

340-035-0035

Noise Control Regulations for Industry and Commerce

(1) Standards and Regulations:

(a) Existing Noise Sources. No person owning or controlling an existing industrial or commercial noise source shall cause or permit the operation of that noise source if the statistical noise levels generated by that source and measured at an appropriate measurement point, specified in subsection (3)(b) of this rule, exceed the levels specified in Table 7, except as otherwise provided in these rules. [Table not included. See ED. NOTE.]

(b) New Noise Sources:

(A) New Sources Located on Previously Used Sites. No person owning or controlling a new industrial or commercial noise source located on a previously used industrial or commercial site shall cause or permit the operation of that noise source if the statistical noise levels generated by that new source and measured at an appropriate measurement point, specified in subsection (3)(b) of this rule, exceed the levels specified in Table 8, except as otherwise provided in these rules. For noise levels generated by a wind energy facility including wind turbines of any size and any associated equipment or machinery, subparagraph (1)(b)(B)(iii) applies. [Table not included. See ED. NOTE.]

(B) New Sources Located on Previously Unused Site:

(i) No person owning or controlling a new industrial or commercial noise source located on a previously unused industrial or commercial site shall cause or permit the operation of that noise source if the noise levels generated or indirectly caused by that noise source increase the ambient statistical noise levels, L10 or L50, by more than 10 dBA in any one hour, or exceed the levels specified in Table 8, as measured at an appropriate measurement point, as specified in subsection (3)(b) of this rule, except as specified in subparagraph (1)(b)(B)(iii).

(ii) The ambient statistical noise level of a new industrial or commercial noise source on a previously unused industrial or commercial site shall include all noises generated or indirectly caused by or attributable to that source including all of its related activities. Sources exempted from the requirements of section (1) of this rule, which are identified in subsections (5)(b)-(f), (j), and (k) of this rule, shall not be excluded from this ambient measurement.

(iii) For noise levels generated or caused by a wind energy facility:

(I) The increase in ambient statistical noise levels is based on an assumed background L50 ambient noise level of 26 dBA or the actual ambient background level. The person owning the wind energy facility may conduct measurements to determine the actual ambient L10 and L50 background level.

(II) The "actual ambient background level" is the measured noise level at the appropriate measurement point as specified in subsection (3)(b) of this rule using generally accepted noise engineering measurement practices. Background noise measurements shall be obtained at the appropriate measurement point, synchronized with wind speed measurements of hub height conditions at the nearest wind turbine location. "Actual ambient background level" does not include noise generated or caused by the wind energy facility.

(III) The noise levels from a wind energy facility may increase the ambient statistical noise levels L10 and L50 by more than 10 dBA (but not above the limits specified in Table 8), if the person who owns the noise sensitive property executes a legally effective easement or real covenant that benefits the property on which the wind energy facility is located. The easement or covenant must authorize the wind energy facility to increase the ambient statistical noise levels, L10 or L50 on the sensitive property by more than 10 dBA at the appropriate measurement point.

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(2) Compliance. Upon written notification from the Director, the owner or controller of an industrial or commercial noise source operating in violation of the adopted rules shall submit a compliance schedule acceptable to the Department. The schedule will set forth the dates, terms, and conditions by which the person responsible for the noise source shall comply with the adopted rules.

(3) Measurement:

(a) Sound measurements procedures shall conform to those procedures which are adopted by the Commission and set forth in Sound Measurement Procedures Manual (NPCS-1), or to such other procedures as are approved in writing by the Department;

(b) Unless otherwise specified, the appropriate measurement point shall be that point on the noise sensitive property, described below, which is further from the noise source:

(A) 25 feet (7.6 meters) toward the noise source from that point on the noise sensitive building nearest the noise source;

(B) That point on the noise sensitive property line nearest the noise source.

(4) Monitoring and Reporting:

(a) Upon written notification from the Department, persons owning or controlling an industrial or commercial noise source shall monitor and record the statistical noise levels and operating times of equipment, facilities, operations, and activities, and shall submit such data to the Department in the form and on the schedule requested by the Department. Procedures for such measurements shall conform to those procedures which are adopted by the Commission and set forth in Sound Measurement Procedures Manual (NPCS-1);

(b) Nothing in this rule shall preclude the Department from conducting separate or additional noise tests and measurements. Therefore, when requested by the Department, the owner or operator of an industrial or commercial noise source shall provide the following:

(A) Access to the site;

(B) Reasonable facilities, where available, including but not limited to, electric power and ladders adequate to perform the testing;

(C) Cooperation in the reasonable operation, manipulation, or shutdown of various equipment or operations as needed to ascertain the source of sound and measure its emission.

(5) Exemptions: Except as otherwise provided in subparagraph (1)(b)(B)(ii) of this rule, the rules in section (1) of this rule shall not apply to:

(a) Emergency equipment not operated on a regular or scheduled basis;

(b) Warning devices not operating continuously for more than 5 minutes;

(c) Sounds created by the tires or motor used to propel any road vehicle complying with the noise standards for road vehicles;

(d) Sounds resulting from the operation of any equipment or facility of a surface carrier engaged in interstate commerce by railroad only to the extent that such equipment or facility is regulated by pre-emptive federal regulations as set forth in Part 201 of Title 40 of the Code of Federal Regulations, promulgated pursuant to Section 17 of the Noise Control Act of 1972, 86 Stat. 1248, Public Law 92-576; but this exemption does not apply to any standard, control, license, regulation, or restriction necessitated by special local conditions which is approved by the Administrator of the EPA after consultation with the Secretary of Transportation pursuant to procedures set forth in Section 17(c)(2) of the Act;

(e) Sounds created by bells, chimes, or carillons;

(f) Sounds not electronically amplified which are created by or generated at sporting, amusement, and entertainment events, except those sounds which are regulated under other noise standards. An event is a noteworthy happening and does not include informal, frequent, or ongoing activities such as, but not limited to, those which normally occur at bowling alleys or amusement parks operating in one location for a significant period of time;

(g) Sounds that originate on construction sites.

(h) Sounds created in construction or maintenance of capital equipment;

(i) Sounds created by lawn care maintenance and snow removal equipment;

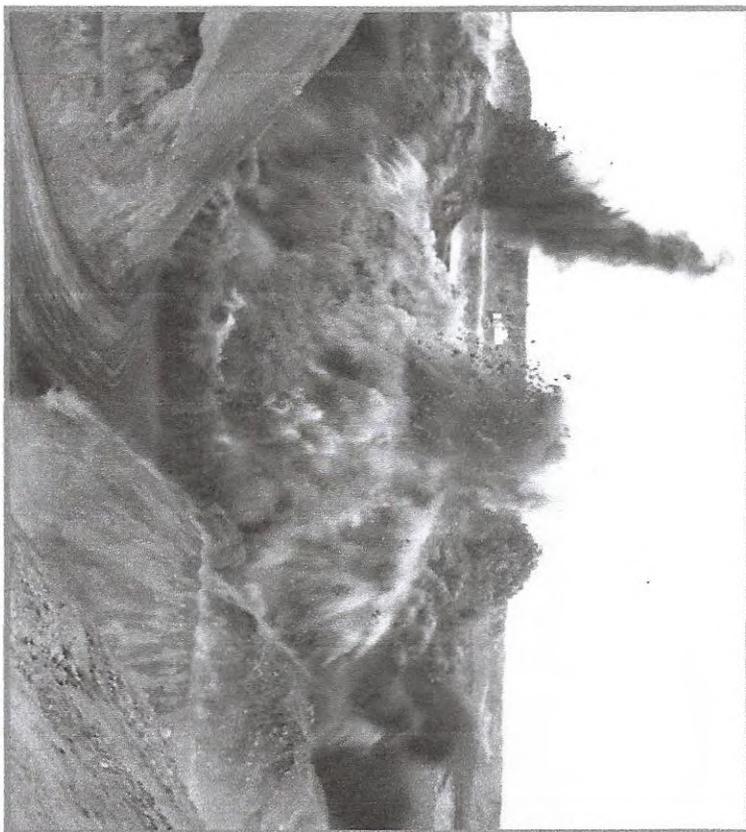
(j) Sounds generated by the operation of aircraft and subject to pre-emptive federal regulation. This exception does not apply to aircraft engine testing, activity conducted at the airport that is not directly related to flight operations, and any other activity not pre-emptively regulated by the federal government or controlled under OAR 340-035-0045;

Controlling the Adverse Effects of Blasting

This module addresses the control of offsite impacts that result from blasting, namely:

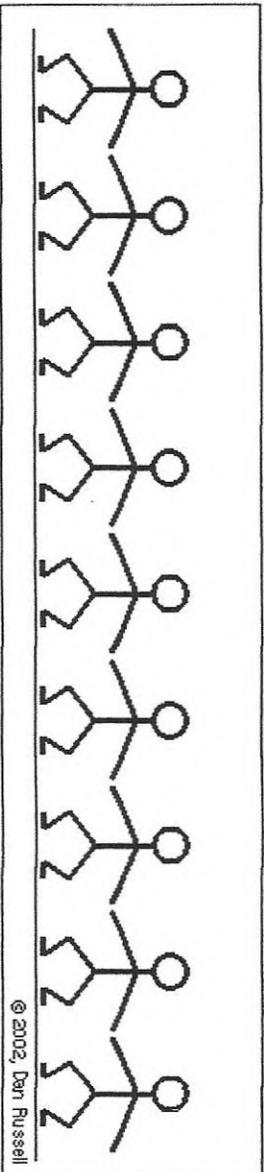
- vibrations,
- airblast, and
- flyrock.

Much of the information in the module is derived from the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The performance standards apply to all surface coal mines. Similar standards have been adopted on some State and local levels and applied to non-coal blasting operations such as quarrying and construction.



Part I: Ground Vibrations, Airblast, and Flyrock

Explosive energy is used to break rock. However, the use of this energy is not 100-percent efficient. Some of the energy escapes into the atmosphere to generate **airblast or air vibrations**. Some of the energy also leaves the blast site through the surface soil and bedrock in the form of **ground vibrations**.



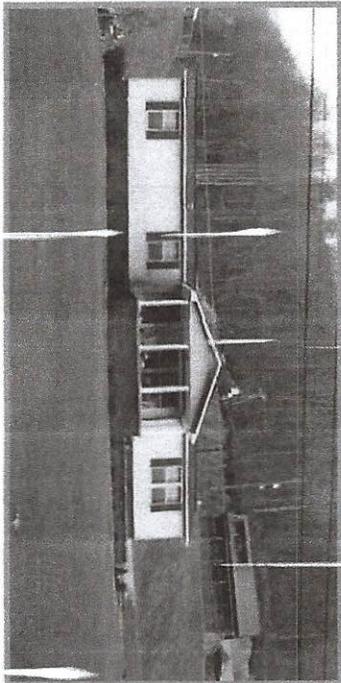
Both air and ground vibrations create waves that disturb the material in which they travel. When these waves encounter a structure, they cause it to shake. Ground vibrations enter the house through the basement and airblast enters the house through the walls and roof.

Airblast may be audible (noise) or in-audible (concussion). When outside a house the blast may be heard because of the noise, however noise has little impact on the structure. The concussion wave causes the structure to shake and rattles objects hanging on walls or sitting on shelves. This "interior noise" will alarm and startle people living in the house.

Flyrock is debris ejected from the blast site that is traveling through the air or along the ground. Flyrock the single most dangerous adverse effect that can cause property damage and personal injury or death.

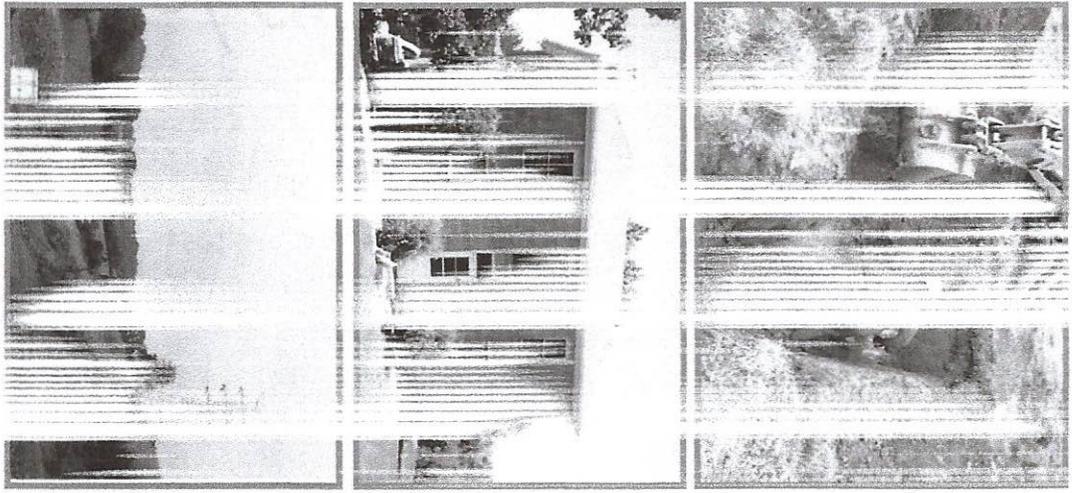
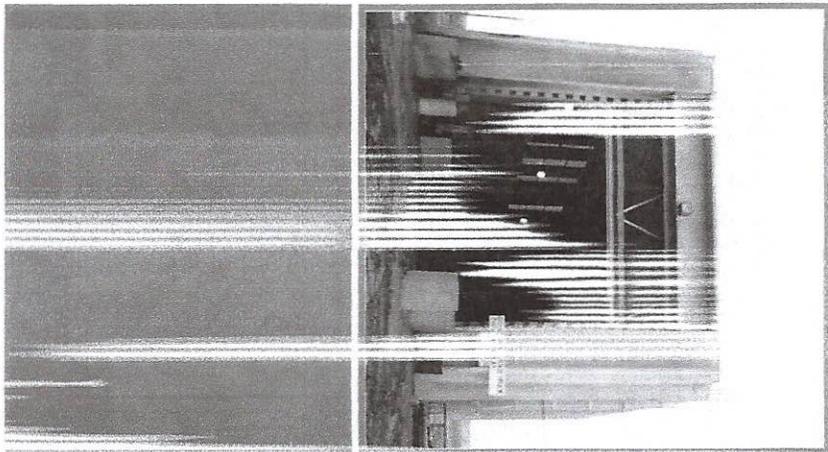
Blasting Impacts on Structures

Both above-ground and below-ground structures are susceptible to vibration impacts. Structures can include onsite mine offices and buildings, as well as offsite residences, schools, churches, power-transmission lines, and buried pipelines. Some of these structures may include historic or cultural features sensitive to even low levels of vibrations.



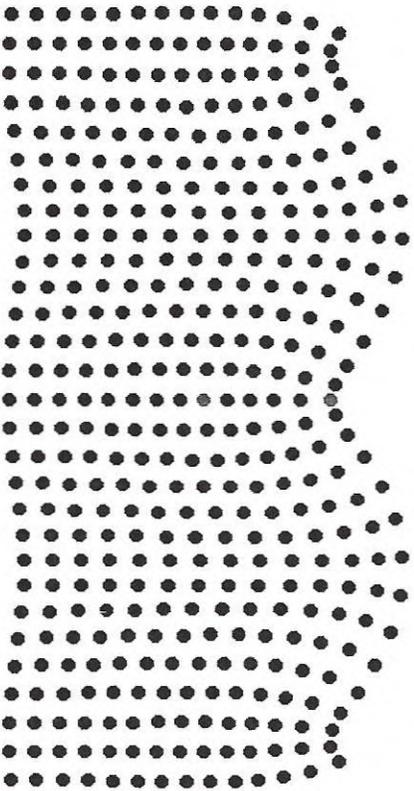
It is important to understand:

1. the causes of ground vibrations and airblast, and
2. what practices can be followed to control and minimize the adverse effects



Ground Vibrations

Ground vibrations propagate away from a blast site as Rayleigh (or surface) waves. These waves form a disturbance in the ground that displaces particles of soil or rock as they pass by. Particle motions are quite complicated. At the ground surface (free boundary), measured particle motions have the greatest displacements, and displacements decrease with depth (see the illustration below). At a depth of between 20 to 50 feet below ground surface, particle displacements are barely detectable. Structures that are well coupled to the ground tend to move with this motion; structures buried in the ground are less affected by surface motions.



©1999, Daniel A. Russell

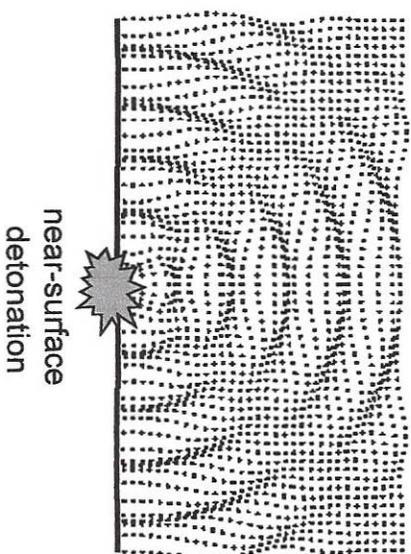
Ground vibrations are measured in terms of **particle velocity** and are reported in inches per second (ips) or the speed at which a particle of soil or rock moves.

At typical blasting distances from residential structures, the ground only moves with displacements equal to the thickness of a piece of writing paper. In terms of displacement, this equates to hundredths of an inch; visually, such movement cannot be detected.

Airblast

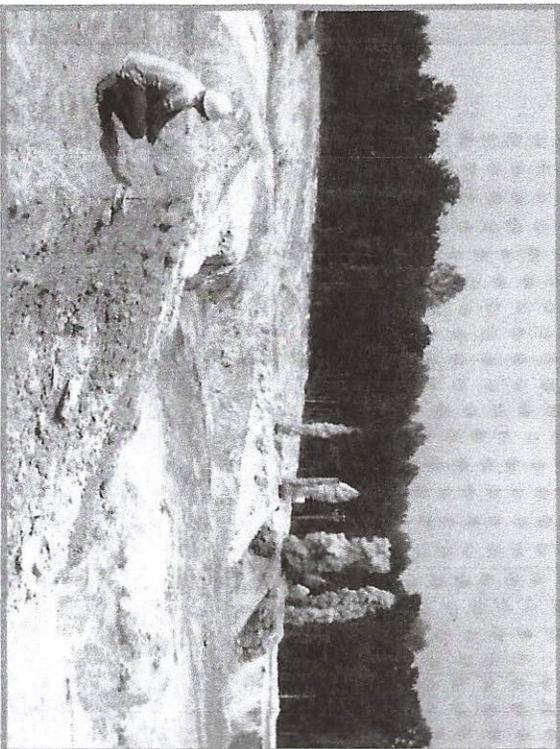
Airblast is measured as a pressure in pounds per square inch (psi) and is often reported in terms of **decibels (dB)**.

Airblast is a pressure wave that that may be audible or inaudible. Elevated airblast levels are generated when explosive energy in the form gases escape from the detonating blast holes. Energy escapes either through the top stemming or through fractures in the rock along the face or at the ground surface.



Airblast radiates outward from the blast site in all directions and can travel long distances. Sound waves travel much slower (1,100 ft/s) than ground vibrations (about 5,000 – 20,000 ft/s). Hence, airblast arrives at offsite structures later than do ground vibrations.

Both ground vibrations and airblast cause structures to shake structures. Occupants in structures that are located far from a blast may experience shaking from vibration and airblast as two separate, closely spaced events. This can be particularly bothersome, as it prolongs the duration of structure shaking and leads the property owner to think that two separate blasts occurred.



Structure Response

As ground and air vibrations reach a structure, each will cause it to shake. Structure response is dependant on the vibration characteristics (frequency and amplitude) and structure type.

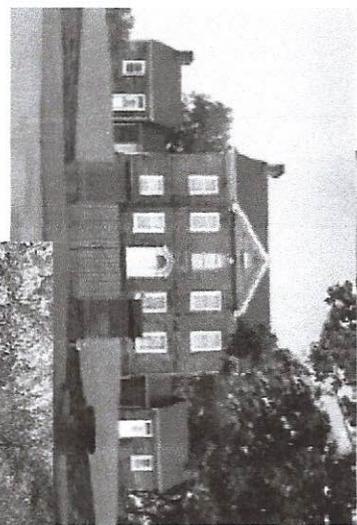
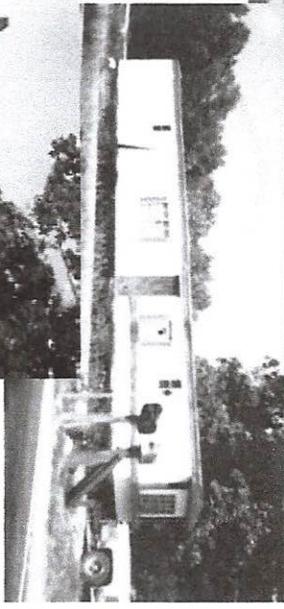
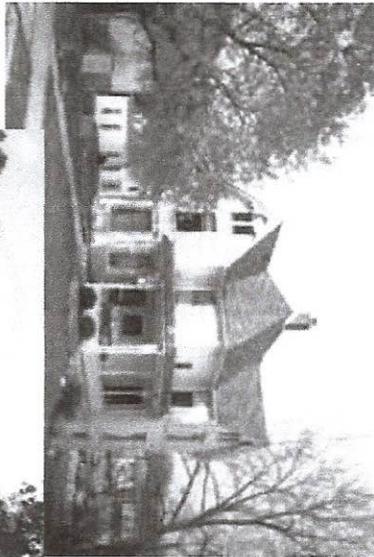
Ground Vibrations enter the house through the basement. This is like shaking the bottom of a flag pole. Movement at the top of the pole depends on how (frequency) and how hard (amplitude) the bottom of the pole is shaken. If shaken at just the right pace, or at the pole's natural frequency, the top will move significantly compared to the bottom. Motion at the top is amplified from the bottom motion.

All blast damage studies have measured incoming ground vibrations at the ground surface. The observed structure amplifications were typically between 1 to 4 times the ground vibration. Structure response below ground level is the same or less than the incoming vibrations

Airblast enters the house through the roof and walls. Like ground vibrations, the frequency and amplitude of the vibrations affect structure response. However the low frequency events (concussion) that most strongly affect structures is normally only a one or two cycle event.

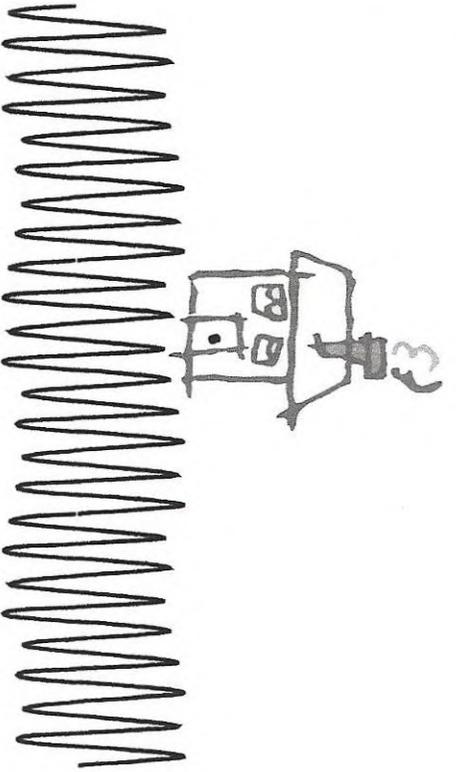
Due to the different arrival times of ground and air vibrations, occupants may feel two distinct impacts on the house.

Exhibit 5 F

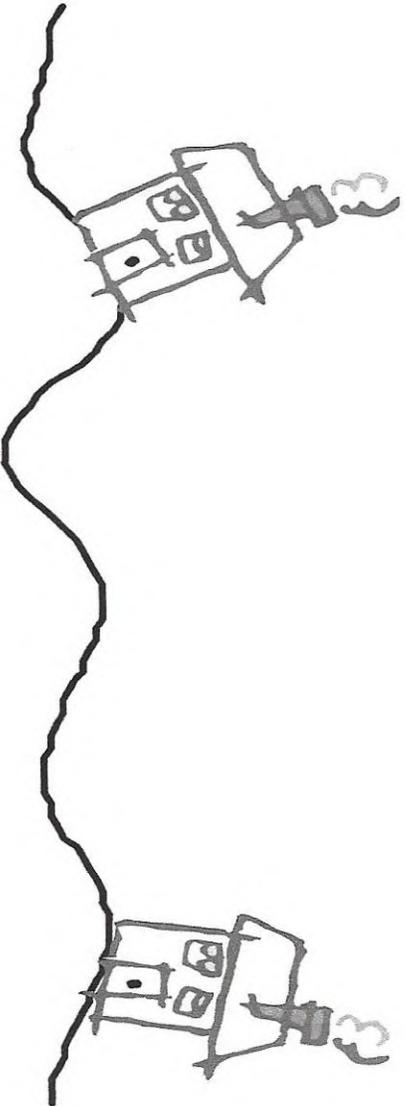


Ground Vibration Structure Response

Exhibit 59



On the other hand, low-frequency wave cycles are long as compared with the dimensions of structures. Accordingly, low frequencies tend to efficiently couple energy into structures and to promote higher-amplitude, long-duration shaking.



High frequencies do not promote structure shaking. The length of a single high-frequency wave cycle is short as compared with the dimension of a structure. A structure does not significantly respond to high frequencies.

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A noisy problem

People often become more sensitive to noise as they age, which can affect their mental and physical health.

Published: March, 2019

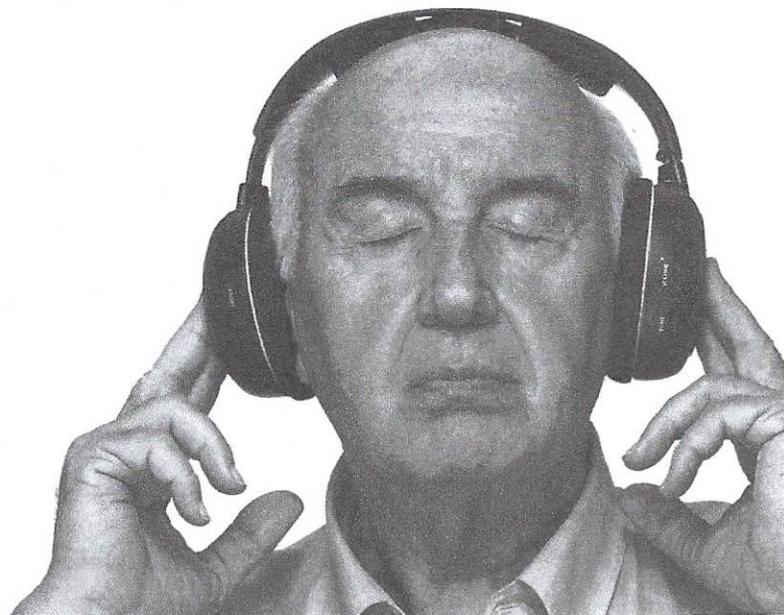


Image: © Juanmonino/Getty Images

Are you more sensitive to noises than you used to be? Do certain sounds now feel too loud and jarring? Don't worry; it's actually quite normal.

Age-related hearing loss is common among older adults and affects about two-thirds of men in their 70s and 85% of men ages 80 and older. Although it's not clear why, this can also make people hypersensitive to sounds that they used to tolerate easily, which in turn can affect their well-being.

"Exposure to noises from crowds, traffic, and other everyday sounds can become harder to tolerate and increase stress levels, leading to anxiety and a reduction in overall quality of life," says Dr. Stephanie Tompkins, an audiologist with Harvard-affiliated Massachusetts Eye and Ear. "As your sensitivity to noises increases, this can lead to greater isolation, too, as you may try to avoid potentially noisy places and situations."

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Quiet in the Hospital: How Noise...

Quiet in the Hospital: How Noise Reduction Helps Patients Heal

on June 7, 2018 (<https://medcenterblog.uvmhealth.org/innovations/hospital-noise-reduction/>) in Innovation (<https://medcenterblog.uvmhealth.org/category/innovations/>) by UVM Medical Center (<https://medcenterblog.uvmhealth.org/author/uvmmedcenter/>)

Noise. It is present in almost every aspect of our lives. From the traffic in the streets, to the fan that provides us white noise in the background to sleep, noise exists. Unfortunately, like stress, too much of it can have a negative impact on a person's health and rest. Some sounds we do like to hear, such as birds chirping, signaling spring in Vermont, but what about sounds in a hospital?

Many of us get admitted to hospitals when we are too sick to take care of ourselves at home. We expect exceptional care from physicians and nurses and, of course, to rest in order to help our bodies heal. We understand that some noises in a hospital are necessary for care; however, others simply aren't.

The Sounds of a Hospital

Many organizations, including the UVM Medical Center, have high tech equipment, which greatly assists in the delivery of care to our patients, but can also be noisy. Sometimes, healthcare providers are the source of the noise as we interact and communicate with our patients and other health team members.

Another factor is visits from families and friends during visiting hours. It is difficult when one's roommate is trying to rest in the opposite bed. Yet, we need to be cognizant of noise in patient care areas as sounds can be magnified and misinterpreted, increasing agitation and even confusion for some patients.

We become accustomed to the noise; our patients are not.

The Research on Noise, Quiet, and Healing

Research has shown that noise plays a negative role in healing and that decreasing noise in patient care areas aids in healing processes and helps facilitate speedier recoveries for patients. Patients are able to heal, sleep better and recover more quickly when able to rest. A quieter environment can also help decrease burnout for hospital staff.

Studies show that patients are more likely to develop negative side effects from a noisy hospital, such as sleep disturbances, elevated blood pressure and heart rate, and increased use of pain medications.

Noise can also increase annoyance levels for staff. One study indicated noise, such as talking inside and outside patient rooms, is the most common source of noise as well as visitors' voices, TVs, and behaviors of other patients.

Research concluded that best practices to eliminate noise from talking included staff education about noise reduction, public indicators such as sound monitors, a quiet time protocol, and lower cost environmental fixes, such as fixing noisy doors and squeaky wheels. Lastly, by introducing scripting with routine monitoring, patients' perception of quietness increased and the perception of noise decreased.

How We Address Noise at the UVM Medical Center

We introduced the "Culture of Quiet" Organizational initiative. The Nursing Professional Governance Patient and Family Experience Global council continued this work. After convening a small task force of nurses and assessing current quiet strategies, we introduced the following tactics:

- Many hospital units have designated 'quiet hours' with automatically dimming of lights at quiet hour intervals.
- Signage is visible in most patient care areas to help keep patients, family, and visitors aware. Throughout the hospital, you will see signs with a relaxing pair of Adirondack chairs and the sun setting with details on when a unit has quiet hours.
- Many semi-private rooms have windows in doors, so doors can be closed allowing for patient rest.
- We offer headphones for TVs and earplugs to help minimize sounds.
- In-patient kits contain a sleeping mask and other comfort items that can be provided at time of admission. Each kit contains a card and explains, 'the best healing occurs in a quiet environment.'
- New education material is available for staff, patients and visitors-just ask to review the next time visiting.
- Some units offer white noise machines, others have this built in.
- Noisy equipment such as wheels and doors can be tagged and replaced.
- Our facility and distribution staff have changed their cleaning and supply delivery schedules to accommodate patient care.
- Healthcare teams within the hospital are focusing efforts to cluster patient care to minimize interruptions to provide restful moments.

How you can help us.

We ask patients and visitors to hold us accountable when sounds are too loud. We want our community to alert us when noise levels are high and we will do what we can to minimize sound. In turn, we ask that all members of the healthcare team, patients, family, and friends be aware to keep voices soft, cell phones on vibrate, and hold each other accountable for these are the times of the day when our patients take pause to rest and positively impact their healing.

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Dangerous Decibels: Hospital Noise More Than a Nuisance

By Diane Sparacino, Staff Writer

Imagine a world where hospitals have become so noisy that the annoyance has topped hospital complaints, even more than for the tasteless, Jell-O-laden hospital food (Deardorff, 2011). If you're a nurse, you know that we're already there – with noise levels reaching nearly that of a chainsaw (Garcia, 2012). In fact, for more than five decades, hospital noise has seen a steady rise (ScienceDaily, 2005).

But it wasn't always that way. At one time, hospitals were virtually noise-free like libraries – respected spaces, preserved as quiet zones. The culture was such that a loud visitor might be silenced by a nurse's purposeful glare or sharply delivered "Shhh!" As early as 1859, the importance of maintaining a quiet environment for patients was a topic for discussion. In Florence Nightingale's book, "Notes on Nursing," she described needless noise as "the most cruel absence of care" (Deardorff, 2011).

Fast forward to 1995, when the World Health Organization (WHO) outlined its hospital noise guidelines, suggesting that patient room sound levels not exceed 35 decibels (dB). Yet since 1960, the average daytime hospital noise levels around the world have steadily risen to more than double the



acceptable level (from 57 to 72 dB), with nighttime levels increasing from 42 to 60 dB. WHO found that the issue was not only pervasive, but high noise levels remained fairly consistent across the board, despite the type of hospital (ScienceDaily, 2005).

Researchers at Johns Hopkins University began to look into the noise problem in 2003. They maintained that excessive noise not only hindered the ability for patients to rest, but raised the risk for medical errors. Other studies blamed hospital noise for a possible increase in healing time and a contributing factor in stress-related burnout among healthcare workers (ScienceDaily, 2005).

Technology is, of course, partly to blame. State-of-the-art machines, banks of useful alarms, respirators, generators, powerful ventilation systems and intercoms all add up to a lot of unwanted racket. When human voices are added to the mix, (i.e., staff members being forced to speak loudly over the steady din of medical equipment), it's anything but a restful environment. For the recovering patient in need of sleep, that can be a real issue (Deardorff, 2011).

Contributing to the problem, experts say, are the materials used in hospitals. Because they must be easily sanitized, surfaces cannot be porous where they could harbor disease-causing organisms. Rather than using noise-muffling materials like carpet, acoustic tiles and other soft surfaces, hospitals have traditionally been outfitted using smooth, hard surfaces – especially in patient rooms. Good for cleanliness – not so great for dampening sounds, which tend to bounce around the typical hospital (Deardorff, 2011).

Which brings us to the most recent research, published January 2012 in the *Archives of Internal Medicine*. In the report, Jordan Yoder, BSE, from the Pritzker School of Medicine, University of Chicago, and his colleagues associated elevated noise levels with “clinically significant sleep loss among hospitalized patients,” perhaps causing a delay in their recovery time (Garcia, 2012). During the 155-day study period, researchers examined hospital sound levels. The numbers far exceeded (WHO) recommendations for average hospital-room noise levels, with the peak noise at an average 80.3 dB – nearly as loud as a chainsaw or electric sander (85 dB), and well over the recommended maximum of 40 dB. And while nights tended to be quieter, they were still noisier than recommended allowances, with “a mean maximum sound level of 69.7 dB” (Garcia, 2012).

Perhaps most interestingly, the researchers broke down the sources of noise into categories: “Staff conversation (65%), roommates (54%), alarms (42%), intercoms (39%), and pagers (38%) were the most common sources of noise disruptive reported by patients” (Garcia, 2012). “Despite the importance of sleep for recovery, hospital noise may put patients at risk for sleep loss and its associated negative effects,” they wrote. In addition, researchers found that the intensive care and surgical wards had some work to do in dampening noise levels, with ICU peaking at 67 dB and 42 dB for surgical areas. Both far exceeded WHO’s 30 dB patient room recommendation (Garcia, 2012).

Besides patient sleep deprivation, which itself can lead to a multitude of health problems including high blood sugar, high blood pressure and fatigue, studies have reported that elevated noise levels can increase heart and respiratory rates, blood pressure and cortisol levels. Recovery room noise causes patients to request more pain medication, and preterm infants “are at increased risk for hearing loss, abnormal brain and sensory development, and speech and language problems when exposed to prolonged and excessive noise” (Deardorff, 2011).

There is still more research to be done, of course, but Yoder and his colleagues had good news, as well; much of the hospital noise they identified is modifiable, suggesting that hospitals can take steps to successfully create a quieter environment for both patients and healthcare providers (Garcia, 2012).

Around the country, "quiet campaigns" have been launched by hospitals in an attempt to dampen nighttime noise. Besides dimming lights and asking staff to keep their voices down at night, they are working to eliminate overhead paging systems, replace wall and/or floor coverings – even the clang of metal trashcans. Northwestern's Prentice Women's Hospital in Chicago was built with noise reduction in mind, replacing the idea of centralized nursing stations with the advent of smaller, multiple stations (Deardorff, 2011)

Billed as "one of the nation's largest hospital construction projects," Palomar Medical Center in North San Diego County is a state-of-the-art facility that has been designed "to encourage quietness," according to Tina Pope, Palomar Health Service Excellence Manager. Slated to open its doors this August, the hospital will feature a new nursing call system to route calls directly to staff and help eliminate the need for overhead paging, de-centralized nursing stations and clear sig lines, allowing staff to check on patients without having to leave unit doors open. With measures already in place including "Quiet Hospital" badges on staff and posters at the entrance of every unit, a "Quiet at Night" campaign (9 p.m. – 6 a.m.), and a "Quiet Champions" program that encourages staff to report noise problems, Palomar is one of a growing number of hospitals working toward a new era of quiet.

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Noises Are Truly Horrible For People Who Have PTSD

20 Mar '2018 [Sound](#)

Noise is a really big issue for PTSD survivors: people who have mental health problems because of their traumas. How are they connected?

Almost everybody has experienced a trauma. But some traumas are more scarring than others and can even result in long-lasting mental disorders like **PTSD**, which can have an extreme impact on someone's life. It's a disorder that can develop in the brain after a horrifying experience, like war or a car crash.

Symptoms

The symptoms of PTSD are, to say the least, not pleasant. They range from nightmares about the traumatic events, disturbing thoughts and feelings, anxiety, trying to avoid anything that has something to do with the traumatic event, and an increase in the fight-or-flight response.

Around ten percent of the population suffers from PTSD, according to data from **NCBI**, a part of the US National Library of Medicine. And, remarkably enough, that percentage is the same for people who suffer from tinnitus (the sound of a constant beep in your ears). The NCBI clearly sees a link between the two.

PTSD survivors also suffer from the Exaggerated Startle Syndrome, with anxiety and actions in an extreme and irrational way too loud noises and bangs. And then there are the sounds that remind them of the sounds during the traumatic events, which can trigger memories of the



Fear

PTSD can also cause a general fear of sounds: phonophobia, or a fear of some specific sounds: misophonia. Survivors of the disorder also are generally much more sensitive to sounds and perceive them as much louder than other people would.

All of this makes the life of people with PTSD very hard. If you think you are suffering from this, consult your doctor. Really, please do it. For yourself, and for the ones you love.

Do you have PTSD and would you like to tell your experiences to us? We are always very open and interested to hear what you have to say. And again: if you haven't done it yet, visit your doctor, please. Thank you!

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Does noise affect learning? A short review on noise effects on cognitive performance in children

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Abstract

The present paper provides an overview of research concerning both acute and chronic effects of exposure to noise on children's cognitive performance. Experimental studies addressing the impact of acute exposure showed negative effects on speech perception and listening comprehension. These effects are more pronounced in children as compared to adults. Children with language or attention disorders and second-language learners are still more impaired than age-matched controls. Noise-induced disruption was also found for non-auditory tasks, i.e., serial recall of visually presented lists and reading. The impact of chronic exposure to noise was examined in quasi-experimental studies. Indoor noise and reverberation in classroom settings were found to be associated with poorer performance of the children in verbal tasks. Regarding chronic exposure to aircraft noise, studies consistently found that high exposure is associated with lower reading performance. Even though the reported effects are usually small in magnitude, and confounding variables were not always sufficiently controlled, policy makers responsible for noise abatement should be aware of the potential impact of environmental noise on children's development.

Keywords: noise, cognitive performance, cognitive development, children, speech perception, listening comprehension, irrelevant sound effect, classroom acoustics

In everyday life, cognitive tasks are often performed in the presence of task-irrelevant environmental noise. Accordingly, numerous studies on noise effects on performance have been conducted since the middle of the 20th century (for reviews see Hellbrück and Liebl, 2007; Szalma and Hancock, 2011), showing that—depending on characteristics of sounds and tasks—noise of low to moderate intensity may in fact evoke substantial impairments in performance.

Most of these studies were conducted with adults. The present review, however, will focus on studies including children. Children are especially vulnerable to harmful effects of environmental noise, as cognitive functions are less automatized and thus more prone to disruption. We will report findings concerning effects of acute noise on performance in concurrent auditory and non-auditory tasks, as well as effects of chronic noise on children's cognitive development.

Effects of acute noise on children's performance in auditory tasks

Psychoacoustic studies have consistently shown that children's speech perception is more impaired than adults' by unfavorable listening conditions. The ability to recognize speech under conditions of noise or noise combined with reverberation improves until the teenage years (Johnson, 2000; Wightman and Kistler, 2005; Talarico et al., 2007; Neuman et al., 2010). With stationary noise makers, signal-to-noise ratios (SNRs) have to be 5–7 dB higher for young children when compared to adults in order to achieve comparable levels of identification of speech or nonspeech signals, with adult-like performance reached at about 6 years of age (Schneider et al., 1989; Fallon et al., 2000; Werner, 2007). However, with maskers that vary over time, i.e., with trial-by-trial variation of the maskers' spectral composition (Oh et al., 2001; Hall et al., 2005; Leibold and Neff, 2007) or with fluctuating maskers such as single-talker speech (Wightman and Kistler, 2005), adult-like performance is usually not reached before the age of 10 years. Furthermore, children are less able than adults to make use of spectro-temporal and spatial cues for separation of signal and noise (Wightman et al., 2003; Hall et al., 2005). These findings demonstrate that children are especially prone to *informational* masking, i.e., masking that goes beyond energetic masking predicted by filter models of the auditory periphery.

Studies identified a range of linguistic and cognitive factors to be responsible for children's difficulties with speech perception in noise: concerning the former, children are less able than adults to use stored phonological knowledge to reconstruct degraded speech input. This holds for the level of individual phonemes, as children's phoneme categories are less well specified than adults' (Hazan and Barrett, 2000), but also for the lexical level since children's phonological word representations are more holistic and less segmented into phoneme units. Therefore the probability of successfully matching incomplete speech input with stored long-term representations is reduced (Nittrouer, 1996; Metsala, 1997; Mayo et al., 2003). In addition, young children are less able than older children and adults to make use of contextual cues to reconstruct noise-masked words presented in sentential context (Elliott, 1979). Concerning attention, children's immature auditory selective attention skills contribute to their difficulties with speech-in-noise perception. Children's susceptibility to informational masking has been attributed to deficits in focusing attention on auditory channels centered on signal frequencies, while ignoring nonsignal channels (Wightman and Kistler, 2005). Behavioral and ERP measures from dichotic listening paradigms provide evidence that auditory selective attention improves throughout entire childhood (Doyle, 1973; Pearson and Lane, 1991; Coch et al., 2005; Wightman et al., 2010; Gomes et al., 2012).

Owing to the mediating role of linguistic competence and selective attention, children with language or attention disorders are still more impaired than normally developing children by noise in speech perception tasks (Geffner et al., 1996; Ziegler et al., 2005, 2009). A stronger noise effect is also evident for children tested in their second language when compared to native children (Crandell and Smaldino,

Autism & Anxiety: Parents seek help for extreme reaction to loud noise

September 5, 2018

Our 12-year-old son has autism, mild intellectual disability and anxiety attacks so severe that we end up in the emergency room. Loud noises are the worst – for example the school fire alarm, thunderstorms, a balloon popping, fireworks. Any help would be greatly appreciated.



This week's "Got Questions?" answer is by Judy Reaven, a clinical psychologist and associate professor of psychiatry and pediatrics at the University of Colorado School of Medicine and Children's Hospital Colorado, in Denver. Dr. Reaven's conducted research on the effectiveness of cognitive-behavioral therapy for anxiety in adolescents with autism, with the support of an [Autism Speaks research grant](#).

Editor's note: The following information is not meant to diagnose or treat and should not take the place of personal consultation, as appropriate, with a qualified healthcare professional and/or behavioral therapist.

Thanks for the great question. It certainly sounds like your family is experiencing a very difficult situation. Anxiety symptoms and reactions are very common in individuals with autism spectrum disorder (ASD). They can interfere with functioning across home, community and school settings.

Although your son's reaction sounds more severe than most, many people with autism struggle with a range of fears, phobias and worries. These can range from a debilitating fear of, say, spiders or the dark to chronic anxiety about making mistakes or being late.

Fortunately, recent research suggests that anxiety in children and adults who have autism is quite treatable. Often, these individuals are helped by the same or similar strategies that work well in treating anxiety in the general population.

These approaches include cognitive behavior therapy, or CBT. Cognitive-behavioral approaches are well-established, evidenced-based treatments that have become the gold standard of psychosocial treatments for anxiety. [My own research](#) and that of my colleagues has demonstrated the helpfulness of modifying cognitive-behavioral approaches to address the special needs of those who have autism.

Where to begin?

You describe a number of fears that may be related to sensory sensitivities. I recommend that you begin by consulting an occupational therapist who can assess whether your son's extreme sensitivities to noises are part of a broader sensory processing disorder. If this is the case, and if your son's fears are exclusively triggered by sensory stimuli, then his symptoms may be best addressed by a sensory-focused intervention. Many occupational therapists who specialize in autism receive special training in this area.

It's common for children with ASD and anxiety to become extremely frightened in response to sensory stimuli. Perhaps – like many individuals with autism – your son also has difficulty telling you what's scaring him. Instead, he may show his fear with extreme avoidance of a situation.

For example, he might refuse to go to school after a fire drill. He might become fearful of birthday parties after being frightened by a balloon that popped unexpectedly. Other signs of extreme distress can include yelling, crying, clinging and general agitation. Because your son may have difficulty communicating, it's important to observe his behavior for these signs of distress. This can help you determine what's triggering his fears.

Avoidance versus learning to cope

Many parents go to great pains to protect their children by avoiding agitating situations. This approach is sometimes appropriate and even necessary. However, it denies individuals the opportunity to learn how to manage anxiety-provoking situations on their own.

By helping your son learn to manage his fear, you can prepare him for an unpredictable world so that he can participate in it to the maximum extent possible.

Given the severity of your son's anxiety symptoms, I suggest that you seek professional support in addition to the strategies offered here. Families whose children have milder symptoms of anxiety can try these strategies on their own – seeking professional help if symptoms worsen.

Tackling one fear at a time

I suggest making a list of your child's major fears and worries. Try to rank order them from mild to severe. To encourage success, I'd start with a mild-to-moderate fear before taking on his extreme reaction to loud noises.

Key components of a cognitive behavioral approach include introducing coping strategies such as deep breathing and "helpful thoughts" that can help a person manage fearful reactions.

For example, you can teach your son to take deep slow breaths to help manage his body's physical anxiety reactions.

"Helpful thoughts" are statements that your son can say to himself when faced with a situation that makes him anxious. For example, you can coach to your son to say, "This is a loud noise. I don't like it, but I can handle it."

To help your son to learn these strategies, I suggest you model taking deep breaths while repeating a "helpful thought" out loud.

Graded exposure

The most important step is to help your son face his fears a little at a time. We call this "graded exposure." For example, explain to your son that the two of you are going to listen to a recording of thunder. The first time, you might play the recording at a soft volume, then gradually increase the volume over time as he demonstrates increased comfort with the sounds.

Or you might try watching a video of a balloon pop – perhaps with the volume off the first time. Then he can watch a real balloon pop while standing some distance away. Over time, he can move closer and closer to the balloon.

After such exercises, you can present him with small rewards for being brave and "facing fears." Remember that even a small act of bravery – such as listening to a recording of thunder for 10 seconds – represents an important step toward handling fears. It deserves to be acknowledged.

Although graded exposure may seem counterintuitive, [research](#) indicates that this strategy is the single most effective strategy for getting over a particular fear.

I wish you and your son the very best. Please let us know how you're doing with an email to GotQuestions@autismspeaks.org.

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I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

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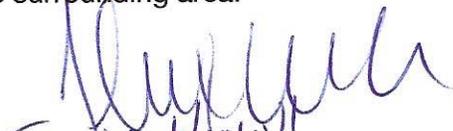
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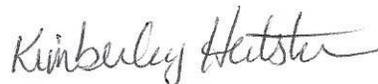
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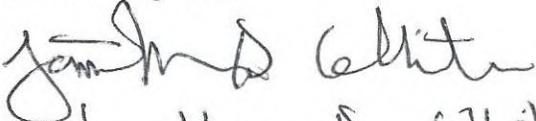


Shawn K. Mangum

2909 E. M. Ave.

Hoya/mw95@me.com

I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE 
PRINTED NAME Jonathan D. White
ADDRESS 485 Madelaine Dr
EMAIL jondwhite418@gmail.com

SIGNATURE 
PRINTED NAME Robin Stedfeld
ADDRESS 485 Madelaine Dr. LaGrande
EMAIL rstedfeld@yahoo.com

SIGNATURE 
PRINTED NAME RONNIE L. ALLEN 541-963-7720
ADDRESS 410 Balsa Street LA GRANDE, OREGON 97850
EMAIL NA NONE

SIGNATURE 
PRINTED NAME Rita Allen
ADDRESS 410 Balsa St. LaGrande Or.
EMAIL

SIGNATURE 
PRINTED NAME LINDA M. SNYDER
ADDRESS 491 1770 DEHAIR
EMAIL

I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE *Robin J. Ostermann*
PRINTED NAME Robin J. Ostermann
ADDRESS 495 Modelaire Dr La Grande, OR 97850
EMAIL

SIGNATURE *Robert J. Ostermann*
PRINTED NAME Robert J. Ostermann
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SIGNATURE *John Yeates*
PRINTED NAME JOHN YEATES
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EMAIL jyeates52@gmail.com

SIGNATURE *Ruth Schumacher Yeates*
PRINTED NAME Ruth Schumacher Yeates
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EMAIL ruthschumacheryeates@gmail.com

SIGNATURE *D. Dale Mammen*
PRINTED NAME D. Dale Mammen
ADDRESS 405 Balsa. La Grande, Or
EMAIL dmammen@comi.com

I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE



PRINTED NAME

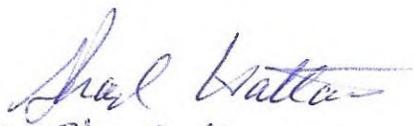
Denise Hattan

ADDRESS

507 Sunset Dr. La Grande, OR

EMAIL

SIGNATURE



PRINTED NAME

Shad Hattan

ADDRESS

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EMAIL

hattansl88@gmail.com

SIGNATURE



PRINTED NAME

Jack L. Martin

ADDRESS

1412 Gildcrest Dr.

EMAIL

SIGNATURE



PRINTED NAME

GERALDINE BRASETH-PALMER

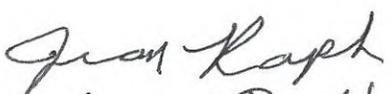
ADDRESS

1602 Gildcrest Drive - LaGrande, Or; 97850

EMAIL



SIGNATURE



PRINTED NAME

Jean RAPH

ADDRESS

1509 Madison Ave LaGrande, OR 97850

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jraph19@gmail.com

I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE *Damon Sexton*
PRINTED NAME Damon Sexton
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SIGNATURE *Coy Sexton*
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SIGNATURE
PRINTED NAME
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SIGNATURE
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I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE *Lois Barry*
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SIGNATURE *Laura Elly Hudson*
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I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE *Lynn Wheeler Duncan*
PRINTED NAME LYNN WHEELER DUNCAN
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SIGNATURE *Gary D. Pierson*
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SIGNATURE *Anne G. Cavinato*
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SIGNATURE *Joe Horst*
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SIGNATURE *Angela Sherrer*
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I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE

Merle E Comfort

PRINTED NAME

MERLE E COMFORT

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SIGNATURE

Robin L. Maille

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Carol Summers

PRINTED NAME

CAROL S. SUMMERS

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carolsummers1938@gmail.com

SIGNATURE

Caroline Kaye Juniper

PRINTED NAME

Caroline Kaye Juniper

ADDRESS

406 4th Street - LaGrande - OR 97850

EMAIL

SIGNATURE

Gerald D Juniper

PRINTED NAME

Gerald Darwin Juniper

ADDRESS

406 4th St. LaGrande, OR. 97850

EMAIL

I have read the attached letter regarding noise and it expresses my concerns and my request to abandon the use of the proposed route for the Boardman to Hemingway Transmission Project and that it be rerouted to an area that is much less impactful to the residents of La Grande and to the surrounding area.

SIGNATURE *Robert J. Sherer*
PRINTED NAME Robert J. Sherer
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SIGNATURE *Heather M. Null*
PRINTED NAME Heather M. Null
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EMAIL hnull@conic.com

SIGNATURE *Bert R. Freewing*
PRINTED NAME Bert R. Freewing
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EMAIL jeanfrewing@gmail.com

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

SIGNATURE
PRINTED NAME
ADDRESS
EMAIL

TARDAEWETHER Kellen * ODOE

From: Dale Mammen <dmammen@eoni.com>
Sent: Thursday, August 15, 2019 5:53 PM
To: B2H DPOComments * ODOE
Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018; Draft Proposed Order 5/23/2019
Attachments: Scan 2019-8-15 17.38.19.pdf

To: Chairman Beyeler and Members of the Council

Find attached a letter signed by me and 54 other residents of La Grande expressing our concerns regarding the B2H Project and we request that EFSC deny the Site Certificate.

I have also sent a bound copy of this material by the US Postal Service.

Sincerely,

Virginia L. Mammen
405 Balsa
La Grande, Oregon 97850

August 10, 2019

Energy Facilities Siting Council
c/o Kellen Tardaewether, Senior Siting Analyst
Oregon Department of Energy
550 Capitol St. N.E.
Salem, OR. 97301

Subject: Idaho Power Application for a Site Certificate for the Boardman to Hemingway Transmission Project 9/28/2018:Draft Proposed Order.

Dear Chair Beyeler and Members of the Council:

My comment is about the usage of the "Local Streets" ¹ specifically the Modelaire-Hawthorne Loop) ², hereafter referred to as the "loop", of La Grande to access the site entrance. This residential "loop" was constructed without sidewalks for a new development around the early 1960s.

According to OAR 345-022-0110, Public Services (pg. 5. April 2017) "The applicant...must address all permanent and temporary impacts of the facility on housing, traffic, safety, police and fire protection, health care and schools." ³

My impression from reviewing the application Page 17 ⁴ is that the applicant has not fully examined the final portion of the intended route nor does it fully recognize or address the need for traffic mitigation. This "loop" is the only access to/from thirty-six houses to the rest of the city. The area to the north of the "loop" is occupied by the Grande Ronde Hospital and Medical Clinic. Two blocks to the east is located the local high school and a grade school. ²

In June of 2016, the Grande Ronde Hospital petitioned the City to have a conditional use for a parking lot expansion project next to Hawthorne. The Conditional Use Permit was approved subject to the Condition of Approval that "No driveway access to GRH parking lot areas shall be permitted onto Hawthorn Drive as such street is developed to residential standards and is not designed to support commercial traffic." ⁵

The La Grande Director of Public Works, Kyle Carpenter, provided information regarding the widths for the streets in question. The two streets range from 33 feet to 37 feet in width with no sidewalks. I personally measured the area where the unpaved stem of Hawthorne leaves the "loop" to go up the hill. At the junction it measures 32 feet curb cut to curb cut and narrows to 18-21 feet in width as it goes around the corner up the hill. 6 The Public Works Director also provided pictures of the mapping system showing the existing utilities located in the "loop". 7-8. It should also be noted that from the entrance to the "loop" at Sunset Drive to the entrance of the site the road has a 16% grade.

Attachment U2 9 from the application shows an "Aerial Lift Crane to be Used During Construction" and the Transportation and Traffic Plan on page 19 10 lists a number of other vehicles anticipated to be used. Article 6.6 — Public Street Standards for the City of La Grande Section 6.6.002 states that "Collector Streets are designed to withstand normal trucks of an HS20 loading. Larger trucks are to utilize Arterial Streets where at all possible." 11 The majority of vehicles listed on page 19 exceed that limit and would be using a Local Street in addition to Arterial and Collector Streets. According to the Public Works Director the two streets in the "loop" were designed as Local Streets for residential use, able to accept the pressures of HS20 for the purpose of an occasional need such as a weekly garbage truck or an emergency vehicle but for no more than 5% of the time. The paving construction of these over 50 year old streets in the "loop" was not designed for repetitive use by vehicles heavier than a normal car. These streets in the "loop" have not been repaved, only patched when necessary, since they were first constructed.

The application does not address the "loop" specifically, but 3.1.2 (pg. 19) 10 and Table 6 (pg.17) 12 of the Transportation and Traffic Plan indicate there would be numerous vehicles using this route. Not knowing exactly just which vehicles would be on the "loop" daily but making a conservative estimate of 50 round trips (100 single) it would be a constant parade with one truck every 7.2 minutes. This is unacceptable for numerous reasons including constant excessive noise.

Not only would weight of the vehicles be a problem but the narrowness of the "loop" streets and the ninety degree blind curves that would have to be executed would be either impossible or extremely dangerous considering the turning radius for many of these large vehicles. The

already dangerous situation for a number of driveways that exit onto these "loop" streets at blind curves would be exacerbated. 13-14

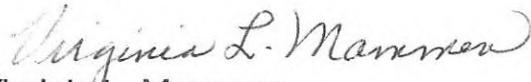
When considering only the traffic and safety issues listed above, the use of the "loop" as a part of the route for Idaho Power seems to be not only dangerous for the residents but unconscionable and irresponsible for Idaho Power to use such streets that are currently primarily for the neighborhood for walking (children to school, all ages for physical training), driving, or biking. I fear there are standards that are either not being considered or they are intentionally being ignored. There should be some common sense, courtesy and respect for the impact this project would impose on any neighborhood.

Finally, La Grande Ordinance Number 3077, which adopted Oregon State Traffic Laws by reference, states in Section 17 page 8 "It shall be unlawful for any person, firm or corporation to use, drive or operate any vehicle or combination of vehicles with a gross weight of 26,000, pounds or more upon any street of the City of La Grande, Oregon, except upon posted truck routes." Neither Modelaire/Hawthorne Loop nor Sunset Drive are posted as truck routes. 15-16

A site review and traffic plan must be completed prior to the cite certificate being issued and not 90 days prior to construction as stated.

For the above reasons I oppose the usage of the proposed route for the construction of the B2H transmission line.

Sincerely,



Virginia L. Mammen
405 Balsa
La Grande, Oregon. 97850

gmammen@eoni.com

**TABLE 1
 STREET STANDARDS**

Functional Classification	ADT Volume	Speed (mph)	# of Travel Lanes	Travel Lane Width	Turn Lane or Median Width	Bike Lanes	Min. Bike Lane Width	On-Street parking
Downtown Arterial	10,000	20	2-3	11'	11'			both sides
Arterial	10,000	40-55	2-5	12'	4-14'	optional ⁴	5'	none
Major Collector	2,000 - 10,000	25-45	2-3	11'	12'	required	5'	one or both sides
Minor Collector	1,000 - 2,000	25-35	2	11'	none	Optional ⁵	5'	one or both sides
Local Street	0 - 1,000	15-25	2	10'	none	none	none	one or both sides

Functional Classification	Sidewalks	Min. Sidewalk Width	Planting Strip Width ¹	Total Paved Width ²	Total ROW Width ³	Private Access Spacing
Downtown Arterial	required	12'	3'6" ⁵	49'	80'	200'
Arterial	required	5'	8'	36'-72'	80'-102'	200' - 400'
Major Collector	required	5'	8'	52'-60'	62'-90'	150' - 300'
Minor Collector	required	5'	8'	30'-48'	60'-78'	75' - 150'
Local Street	required	5'	8'	28'-36'	40'-66'	Each Lot

¹A portion of the required planting strip width may be used instead as additional sidewalk width or reduced right of way, as appropriate.

²The minimum of the paved width was calculated with the following assumptions:

- Arterials: Two (2) travel lanes, four foot (4') median divider, no center turn lane, no bike lanes.
- Major Collectors: Two (2) travel lanes, two (2) bike lanes, no center turn lane, parking on one (1) side.
- Minor Collectors: Two (2) travel lanes, parking on one (1) side of street, no bike lanes.
- Local Streets: Two (2) travel lanes, parking on one (1) side of street.

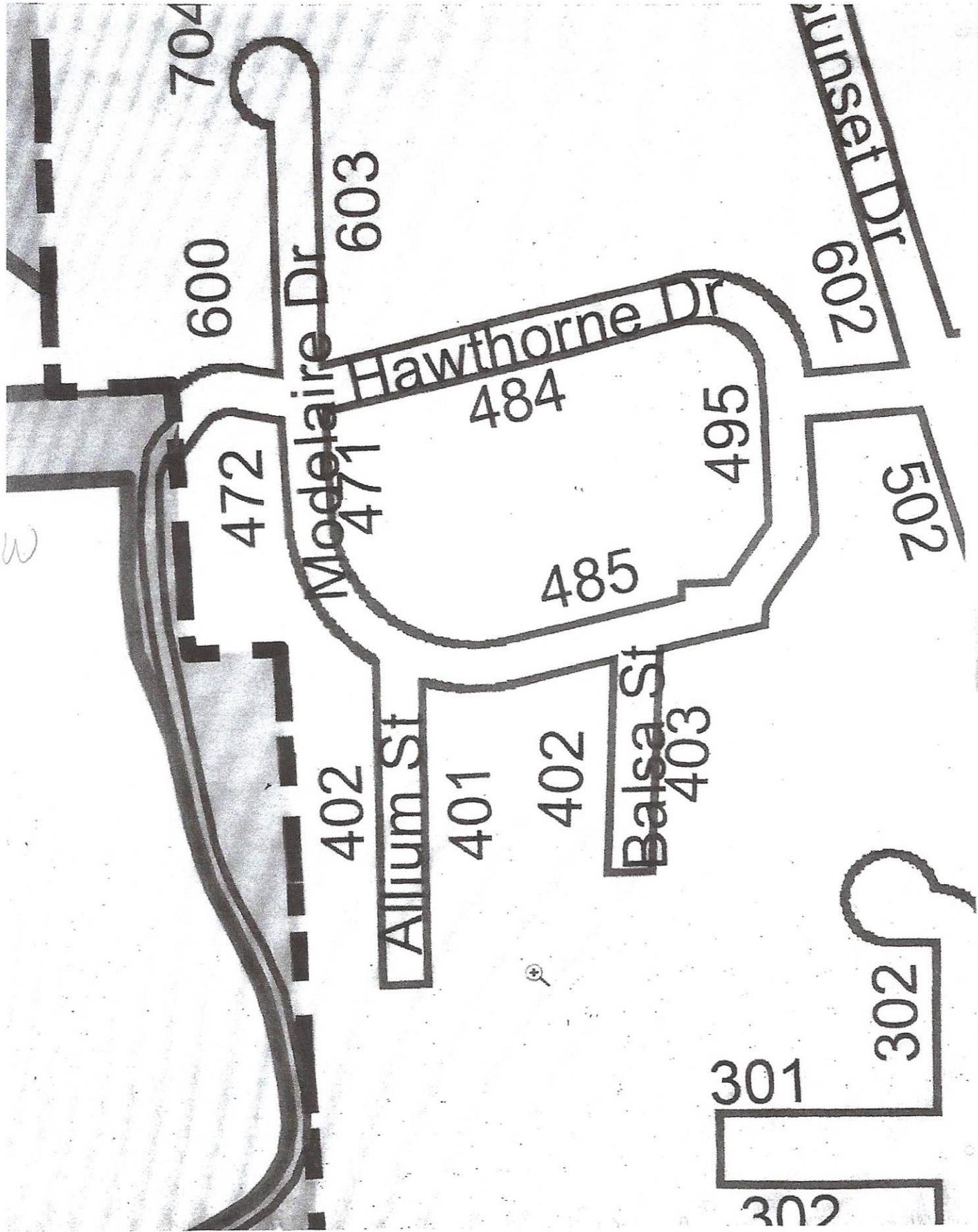
The maximum paved width for each street was calculated assuming the inclusion of all required and optional facilities. Minimum paved widths for each street are as required in Section 6.2.005 of this Code.

³These right-of-way width ranges are for new streets.

⁴Bike lanes should be provided on Arterials unless more desirable parallel facilities are designated and designed to accommodate bicycles.

⁵ Bike lanes should be provided on Minor Collectors where traffic volumes or other factors warrant. Otherwise, Minor Collectors should be designed and designated as shared roadway facilities with wide outside travel lanes of 14' on important bike routes.

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Public Services

OAR 345-022-0110

This standard ensures that the proposed facility will not affect the ability of service providers in local communities to provide public services, such as fire protection or education. The applicant must assess the proposed facility's need for water and for disposal of wastewater, storm water and solid waste. The applicant must also evaluate the expected population increases in local communities resulting from construction and operation of the facility; and must address all permanent and temporary impacts of the facility on housing, traffic safety, police and fire protection, health care and schools. The Council must determine whether the applicant has identified potential adverse impacts to service providers and proposed adequate mitigation to ensure that there will be no significant adverse effect on the ability of a service provider to provide services. In considering the impacts, the Council solicits comments from affected local governments, fire or police departments, school districts and health care agencies.

Waste Minimization

OAR 345-022-0120

This standard requires the Council to evaluate the applicant's proposal to minimize solid waste and wastewater generated by construction and operation of the proposed facility. The standard requires recycling of wastes, if feasible, or proper waste disposal if recycling is not feasible.

The applicant must evaluate the types of waste products that would be produced during construction and operation of the proposed facility and estimate the amounts or volume of waste products. The applicant must propose appropriate methods to handle the waste through collection, storage and disposal. Compliance with the standard assures that the applicant will reduce the amount of waste generated and dispose of waste in a responsible manner.

Need for a Facility

OAR 345-023-0005

This standard requires the applicant for non-generating energy facilities (such as electric transmission lines) to demonstrate the need for the proposed facility. The Council's rules allow an applicant to demonstrate need for a non-generating facility through one of several methods, including the "Least-Cost Plan Rule" (OAR 345-023-0020) or the "System Reliability Rule for Electric Transmission Lines" (OAR 345-023-0030). Under the Least-Cost Plan Rule, the applicant meets this standard if the proposed transmission line was included in an Integrated Resource Plan that has been acknowledged by the Oregon Public Utilities Commission (OPUC). More information about the OPUC and the Integrated Resource Plan acknowledgement process can be found at www.puc.state.or.us.

Specific Standards for Wind Facilities

OAR 345-024-0010 and 345-024-0015

This standard requires the Council to evaluate applications for wind energy facilities to ensure that applicants can design, construct and operate the facility so that that the public is not endangered by moving turbine blades or electrical equipment, and that the applicant can design, construct and operate wind turbines to prevent structural failure that could endanger public safety. Siting standards for wind facilities also require the applicant to reduce cumulative adverse environmental effects in the vicinity by using existing roads, if possible, placing collection lines underground, designing the facility to avoid impacts to vulnerable wildlife in the area (especially birds and bats), and designing the facility to minimize adverse visual features, including using the minimum amount of lighting necessary to meet the requirements of the Federal Aviation Administration for protecting aircraft.

Specific Standards for Transmission Lines

OAR 345-024-0090

This standard requires that the Council evaluate transmission lines under Council jurisdiction to ensure they are designed, constructed and operated to limit the strength of electromagnetic fields in areas where those lines are accessible to the public.



Idaho Power Responses to Comments and Requests for Additional Information on the B2H APASC
 from the City of La Grande
 Compiled by ODOE. RAI's from the City of La Grande and Responses from IPC

U	U-Public Services include utilities such as road systems, water, sanitation services, power, and other amenities necessary for the construction.	Ordinance #2912, Series 1997 gives the City jurisdiction and control on all City street rights-of-way and Ordinance #3077, Series 2009, establishes the process and requirements for permits and licenses for uses of the streets that are not normal uses and may result in damages.	<p>proposed helipad is a necessary supporting facility.</p> <p>The project construction has two major road systems through La Grande that are proposed for this project – Morgan Lake Road via Gekeler Lane, 'C' Avenue, Walnut Street, and on up Morgan Lake Road. Roads along these routes are used by the ambulance service for accessing the hospital, the public transit system on its normal daily route, citizens to access locations within and outside this area and also for the school busing system for transporting kids to the La Grande Middle School, La Grande High School and Central Elementary School. In addition to the vehicular modes of travel, those routes are heavily used by bicyclists and pedestrians. The other route that would be utilized is the same route with the exception of turning onto Sunset Drive and up Hawthorne Street to a private gravel road that heads up the area above Deal Canyon. Two other routes that are not addressed but that would be obvious access routes for construction would be South 12th Street and South 20th Street. As a general rule, City streets are built with ninety degree angles, which may restrict some</p> <p>To address the City's concerns regarding traffic and road use within the city's limits, Idaho Power has added the following proposed conditions to Exhibit K:</p> <p><i>Land Use Condition 9: Prior to construction in Union County, the site certificate holder shall complete the following to address traffic impacts in the county:</i></p> <p><i>a. The site certificate holder shall finalize, and submit to the department for its approval, a final county-specific transportation and traffic plan. The protective measures described in the draft Transportation and Traffic Plan in ASG Exhibit U, Attachment U-2, shall be included and implemented as part of the final county-specific plan, unless otherwise approved by the department;</i></p> <p><i>b. The site certificate holder shall work with the Union County Road Department and the City of La Grande Public Works Department to identify concerns related to Project construction traffic; and</i></p> <p><i>c. The site certificate holder shall develop traffic control measures to mitigate the effects of Project construction traffic.</i></p> <p><i>Land Use Condition 26: During construction in Union County, the site certificate holder shall conduct all work in compliance with the Union County-specific</i></p>
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IV. CONCLUSIONS

Based on the Findings of Fact above, the Planning Commission concludes that the application meets the requirements established in LDC Articles 8.5 and other applicable codes and Ordinances.

V. ORDER AND CONDITIONS OF APPROVAL

Based on the conclusions above, the Planning Commission approves the Conditional Use Permit as requested, subject to the following Conditions of Approval:

- 1. No driveway access to GRH parking lot areas shall be permitted onto Hawthorn Drive as such street is developed to a residential standards and is not designed to support commercial traffic.
- 2. Any existing driveway curb cuts along Hawthorn Drive bordering GRH's property, that are not used for residential purposes, shall be removed and replaced with City standard improvements that exists adjacent to such areas.
- 3. There is a storm sewer line extending through the project area that shall to be protected. Any improvements that may affect the storm sewer line shall be reviewed and approved by the Public Works Director.

VI. STANDARD CONDITIONS OF APPROVAL FOR LAND USE APPLICATIONS

- 1. **Revisions to a Valid Conditional Use Permit:** Any variations, alterations, or changes in a valid Conditional Use Permit requested by the deed holder shall be considered in accordance with the procedures of the Land Development Code as though a new Conditional Use Permit were being applied for.
- 2. **Public Works Standards:** Where a development involves work within the public right-of-way, a Right-of-Way Permit shall be obtained from the Public Works Department in advance of commencing with any work in the right-of-way. All improvements within the public right-of-way shall be in conformance with the most recent adopted City of La Grande "Engineering Standard Drawings and Specifications for Construction Manual."
- 3. **Building Permits:** The City of La Grande Building Department shall be contacted early in the process and in advance of development to coordinate and obtain required building, plumbing, electrical and/or mechanical permits. All required permits shall be acquired in advance of construction.

VI. OTHER PERMITS AND RESTRICTIONS

The applicant and property owner is herein advised that the use of the property involved in this application may require additional permits from the City of La Grande or other local, State or Federal Agencies.

The City of La Grande land use review, approval process and any decision issued does not take the place of, or relieve the applicant of responsibility for acquiring such other permits, or satisfy any restrictions or conditions thereon. The land use decision herein does not remove, alter, or impair in any way the covenants or restrictions imposed on this property by deed or other instrument.

The land use approvals granted by this decision shall be effective only when the rights granted herein have been exercised and commenced within one (1) year of the effective date of the decision. In case such right has not been exercised and commenced or an extension obtained, the approvals granted by this decision shall become null and void. A written request for an extension of time shall be filed with the Planning Department at least thirty (30) days prior to the expiration date of the approval.



Virginia Mammen <4gmammen@gmail.com>

Modelaire Roadway Specifications

3 messages

Kyle Carpenter <KCarpenter@cityoflagrande.org>
To: "gmammen@eoni.com" <gmammen@eoni.com>

Fri, Jul 12, 2019 at 1:51 PM

I have attached a couple pictures of our mapping system that will give you a sense of where existing utilities are in Modelaire and Hawthorne. As for the widths of the roadways, I took measurements in multiple places, and found the following:

- Modelaire Drive (F Avenue) between Sunset Blvd and Hawthorne Drive is approximately 33 feet wide with a grade of about 5 Percent.
- Hawthorne Drive is approximately 32 feet wide at the bottom near the intersection of Modelaire/F Avenue and widens to about 34 feet where it intersects Modelaire at the top of the hill. The grade heading up hill is approximately 15.5 Percent.
- Modelaire Drive is generally 36 feet wide with some minor variability generally less than a foot (35' to 37'). On the southernmost segment of the roadway where the majority of the elevation gain is observed the grade is approximately 16 Percent.

Let me know if there are any other specifications of these roadways that you are interested in that I have missed. Have a great weekend and thanks for the treats, the guys were very appreciative.

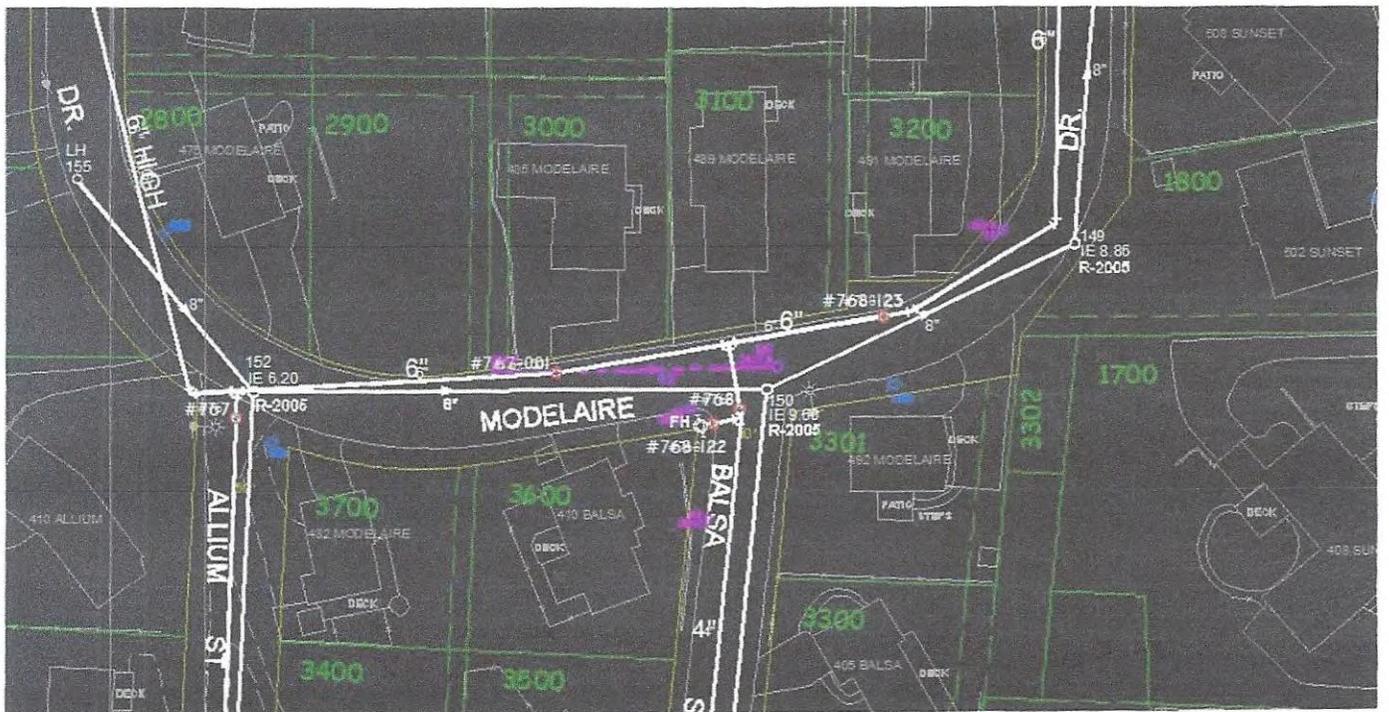
Kyle Carpenter, PE
Public Works Director
City of La Grande
Public Works
 Ph: (541) 962-1325
 Fax: (541) 963-4844

2 attachments



Hawthorne.jpg
150K

Modelaire.jpg
120K





attachment U2

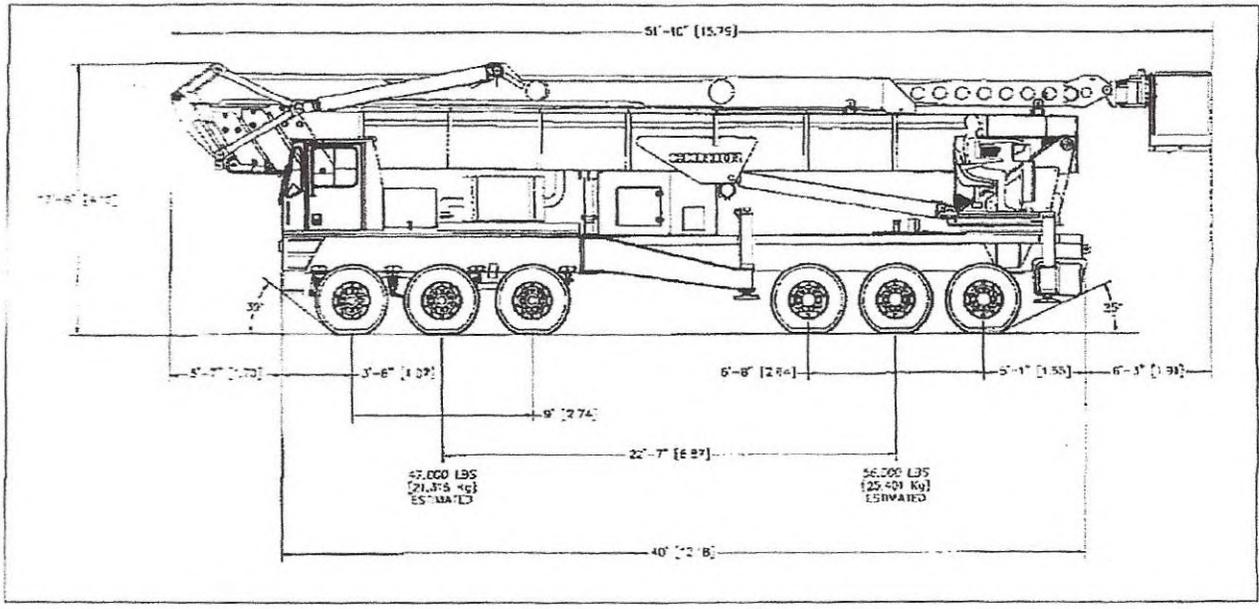


Figure 2. Example Aerial Lift Crane to be Used During Construction (Roadable Length 52 Feet; Width 8 Feet 6 Inches)

The following is a summary of anticipated equipment to be used for each transmission-line construction activity.

- Survey work: pickup trucks or ATVs.
- Timber removal: pickup trucks, feller bunchers, dump trucks, wood chippers.
- Road construction: pickup trucks, bulldozers, motor graders, and water trucks.
- Hole digging, installation of directly embedded structures, or foundation installation: pickup trucks, 2-ton trucks, digger derrick trucks, hole diggers, bulldozers, concrete trucks, water trucks, cranes, hydro cranes, wagon rock drills, dump trucks, and front-end loaders.
- Hauling lattice steel members, tubular poles, braces, and hardware to the structure sites: steel haul trucks, carry alls, cranes, and forklifts.
- Assembly and erection of structures: pickup trucks, 2-ton trucks, carry alls, cranes, and a heavy lift helicopter.
- Wire installation: pickups, wire reel trailers, diesel tractors, cranes, 5-ton boom trucks, splicing trucks, three drum pullers, single drum pullers, tensioner, sagging dozers, carry-alls, static wire reel trailers, bucket trucks, and a light duty helicopter.
- Final cleanup, reclamation, and restoration: pickup trucks, 2-ton trucks, bulldozers, motor graders, dump trucks, front-end loaders, hydro-seed truck, and water trucks.

The highest level of traffic will be when the wire stringing operations begin while several other operations are occurring at the same time, which will likely include ROW clearing, installing foundations, hauling steel, and assembling and erecting structures. For the station work, the highest level of traffic will be during site grading and foundation installation. For the communication station sites, the highest level of traffic will be during grading and site preparation.

Detailed estimates of trips generated by transporting Project construction equipment will be provided by the construction contractor prior to construction.

3.1.3 Traffic Related to Timber Removal

In forested areas, the Project will require removal of timber from the Project ROW and for construction and improvement of access roads. Specific timber harvest plans have not been finalized. Logs from timber clearing may be transported to nearby sawmills. Decisions regarding transportation routes for harvested timber will be made following completion of a timber harvest plan, and the number of log truck tips will be estimated when the timber harvest plan has been finalized. Logging slash will remain onsite if possible. For additional discussion regarding removal of timber in forested areas, see Exhibit K, Attachment K-2, ROW Clearing Assessment.

3.1.4 Impacts to V/C Ratios

Based on the estimated trip generation numbers in Tables 4 and 6, a maximum of approximately 1,294 daily one-way vehicle trips are expected within any one construction spread. To facilitate traffic and other analyses, the two construction spreads are divided into smaller sections based on similar construction windows and seasonal weather restrictions. Not all construction sections will have the same number of concurrent construction activities, depending on how the construction contractor sequences and executes the Project. Some sections will have fewer daily vehicle trips. For the purposes of the traffic analysis, the spreads are divided into five sections with multi-use areas that could have additive traffic impacts. The sections are assumed to have approximately equal levels of activity. The 1,294 daily one-way trips per spread divided over five sections of more concentrated traffic results in 259 daily one-

ARTICLE 6.6 – PUBLIC STREET STANDARDS

SECTION 6.6.001 - PURPOSE

Upon the request of the La Grande City Council, a variety of street design standards have been reviewed and are now incorporated in the Land Development Code.

SECTION 6.6.002 - CLASS I IMPROVEMENT STANDARDS

This classification will cover those streets that are designed to meet the standards for an expected life of twenty (20) years or more. The attached drawings shall be the minimum standard for those streets in this classification. All streets designated as Federal Aid Urban Streets (F.A.U.) shall be constructed under these design standards. Streets in this designation shall be constructed with sidewalks when at all possible in an effort to increase pedestrian safety. Collector streets are designed to withstand normal trucks of an HS 20 loading. Larger trucks are to utilize Arterial streets where at all possible. This level of development shall be the ultimate goal for all streets within the City of La Grande.

Possible means of financing available for this Class shall be methods A, B, C, D, E, F, G, and H in Section 6.6.006.

A. Advantages

1. The construction life is extended to a period above other City standards.
2. The visible aesthetics in relationship to having curbs and a blacktop surface with landscaping or concrete driveways and a sidewalk is generally appealing to the public.
3. Easy maintenance for the Public Works Department for cleaning and minor repair.
4. Storm sewer drainage is confined within the bounds of the curbs during minor flooding periods.
5. Parking is restricted to a solid barrier, that being the curb; this restricts parking in the area on the back side of the curb and confines travel to the street surface.
6. Defined areas for possible cross walks, signs, power poles, and other utilities that are restricted to the outside areas behind the curbs.
7. It allows for a wide range of financing methods and is to City standards for a ten (10) year Bancroft bonding.
8. Provides a dust free surface.

B. Disadvantages

1. The extreme high level of cost that is incurred with this type of development.

SECTION 6.6.003 - CLASS II IMPROVEMENT LEVEL

Streets constructed in this classification shall be constructed to the same standards as Class I Streets with the exception of the form of drainage system. These streets shall meet the standards as shown on the attached drawing. This level of construction shall be only utilized in substitution for Class I Streets when it is determined by the City Council at the recommendation of the City Engineer or Engineering Superintendent, that an adequate drainage system cannot be installed for a Class I Street.

Table 6. Construction Vehicle Trips per Day per Construction Spread

Construction Crew Type	Construction Vehicles					
	Light Construction Vehicles			Heavy Construction Vehicles		
	Number of Pickups/ Mechanic Trucks (per day)	Number of One-way Trips on Public Roads (per day)	Total One-way Trips (per day)	Number of Other Vehicles	Number of One-way Trips on Public Roads (per day)	Total One-way Trips (per day)
Substation Construction	20	2	40	5	2	10
ROW Clearing	9	4	36	5	4	20
Roads/ Pad Grading	9	4	36	9	2	18
Foundations	9	2	18	5	8	40
Tower Lacing (assembly)	27	2	54	0	0	0
Tower Setting (erection)	20	2	40	0	0	0
Wire Stringing	9	4	36	9	4	36
Restoration	3	2	6	0	0	0
Blasting	5	4	20	0	0	0
Material Delivery	20	8	160	12	2	24
Mechanic and Equipment Mgmt.	5	6	30	0	0	0
Refueling	0	0	0	5	4	20
Dust Control	0	0	0	5	4	20
Construction Inspection	5	8	40	0	0	0
Concrete Testing	5	4	20	0	0	0
Environmental Compliance	9	6	54	0	0	0
Surveyors	5	3	30	0	0	0
Totals	—	—	620	—	—	188

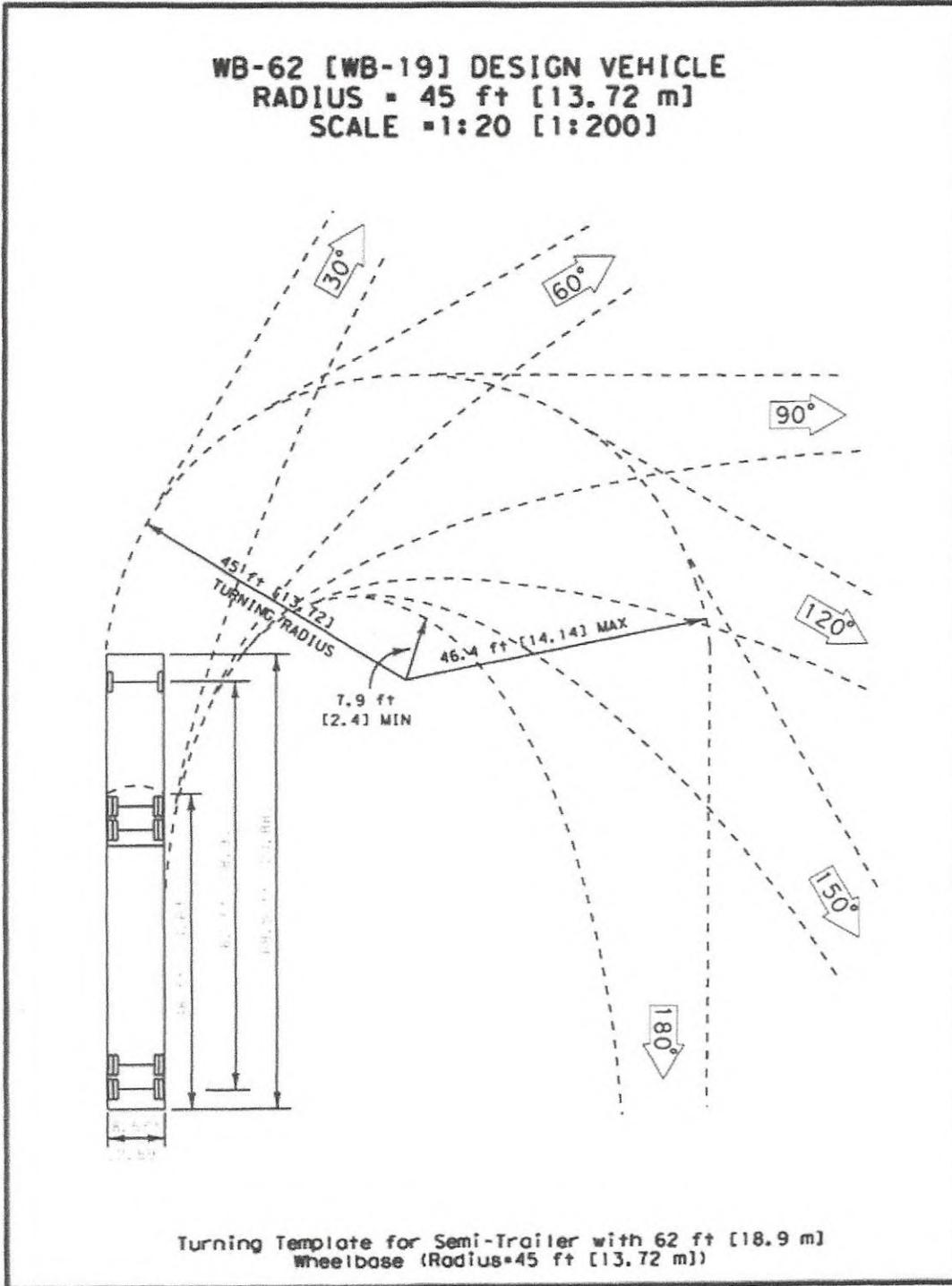


Figure 7-4. Turning Template for Semi-Trailer with 62 ft [18.9 m] Wheelbase, (not to scale). Click [here](#) to see a PDF of the image.

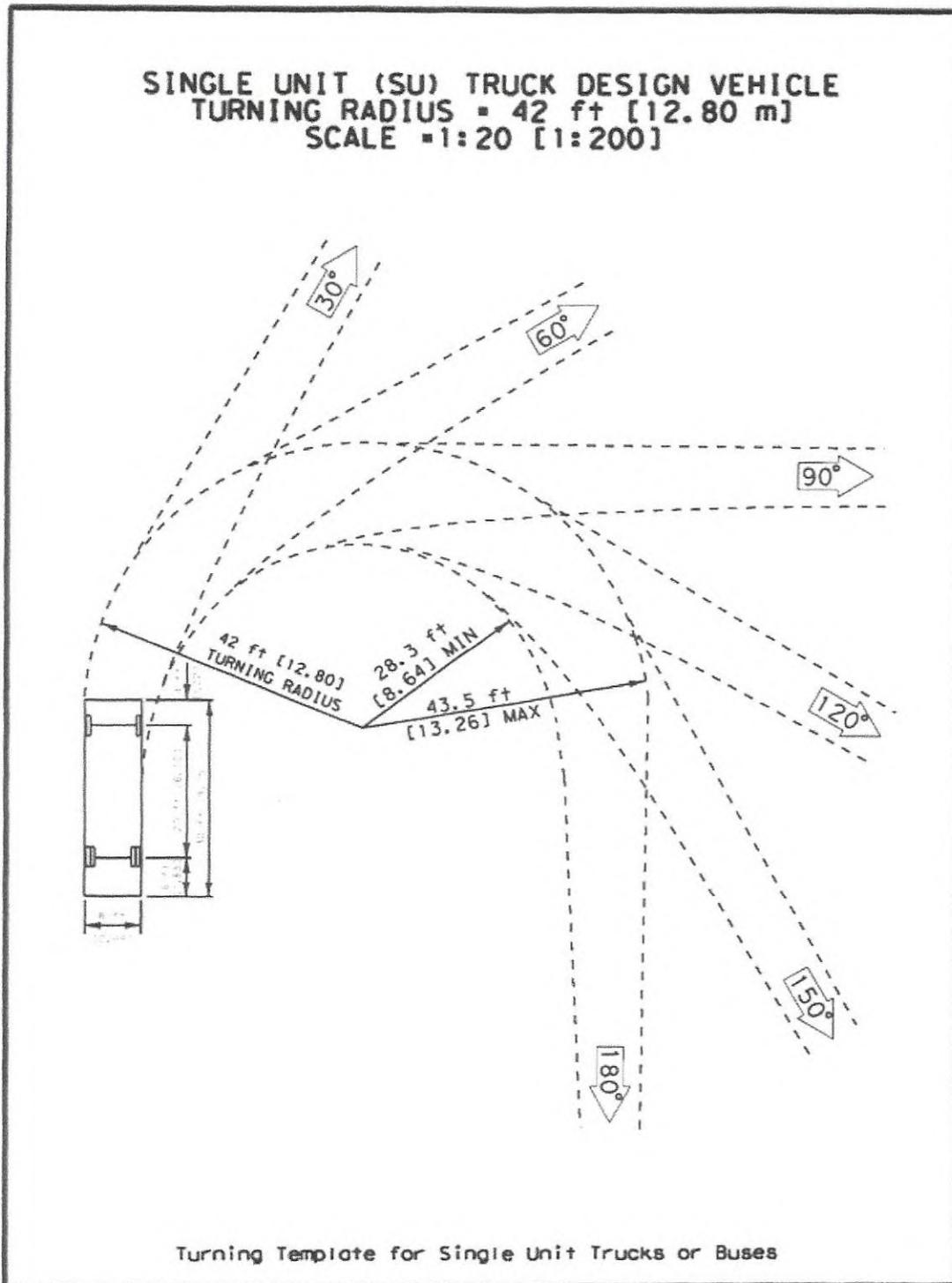


Exhibit 15

**CITY OF LA GRANDE
ORDINANCE NUMBER 3077
SERIES 2009**

AN ORDINANCE CONTROLLING VEHICULAR AND PEDESTRIAN TRAFFIC, PARADES AND PROCESSIONS AND ISSUANCE OF PERMITS; PROVIDING PENALTIES; AND REPEALING ORDINANCE NUMBER 2845, SERIES 1993; ALL AMENDING ORDINANCES AND ALL OTHER ORDINANCES OR PARTS OF ORDINANCES IN CONFLICT HEREWITH; AND DECLARING AN EFFECTIVE DATE

THE CITY OF LA GRANDE ORDAINS AS FOLLOWS:

Section 1. This Ordinance may be cited as the City of La Grande Uniform Traffic Ordinance.

Section 2. APPLICABILITY OF STATE TRAFFIC LAWS.

Oregon Revised Statutes, Chapter 153, and the Oregon Vehicle Code, ORS Chapter 801 and 822, as now constituted, are adopted by reference. Violation of an adopted provision of those chapters is an offense against the City.

Section 3. DEFINITIONS

In addition to those definitions contained in the Oregon state Motor Vehicle Code, the following words or phrases, except where the context clearly indicates a different meaning, shall mean:

a. Alley

A street or highway primarily intended to provide access to the rear or side of lots or buildings in urban areas and not intended for through vehicular traffic.

b. Bicycle

A bicycle is a vehicle that:

1. Is designed to be operated on the ground on wheels;
2. has a seat or saddle for use of the rider;
3. is designed to travel with not more than three (3) wheels in contact with the ground;
4. is propelled exclusively by human power; and,
5. has every wheel more than fourteen inches (14") in diameter or two (2) tandem wheels, either of which is more than fourteen inches (14") in diameter.

c. Bicycle Lane

That part of the highway, adjacent to the roadway, designated by official signs or markings for use by persons riding bicycles, except as otherwise specifically provided by law.

d. Bicycle Path

A public way, not part of a highway, which is designated by official signs or markings for use by persons riding bicycles, except as otherwise specifically provided by law.

e. Block

The part of one side of a street lying between the two (2) nearest cross streets.

f. Central Business District

a. City Regulation of Special Movement of Oversized Load

The applicant shall submit an application to the City Manager or designee, showing the terminal points of the purported movement; the proposed route; the nature of the movement requested, including the weight and dimensions of the vehicle, load, machine, building, or structure to be moved; the time, date and duration of the proposed movement.

b. Special Movement Permit

A permit shall be required to move any vehicle, structure, or load on, or to access a street when, after preparation for movement, the vehicle, structure or load exceeds fourteen feet (14') in height, requires the use of guy wires, or could result in the blockage of a street. An approved application may serve as a permit, and a copy of the approved application shall be provided to the applicant.

Section 17. TRUCK ROUTES

- a. It shall be unlawful for any person, firm, or corporation to use, drive or operate any vehicle or combination of vehicles with a gross weight of 26,000, pounds or more upon any street of the City of La Grande, Oregon, except upon posted truck routes.
- b. Any vehicle with a gross weight over 26,000, pounds specifically picking up deliveries or making deliveries to any business or residence located on a street that is not a truck route will be exempted if the vehicle is driven from the truck route to the destination in the shortest, most direct, and safest route.
- c. The use of Jacob brakes shall not be allowed within the city limits of La Grande, Oregon.
- d. Truck routes will be posted as follows:
 1. Walnut street north from the city limits to C Avenue;
 2. C Avenue east from Walnut Street to Gekeler Avenue;
 3. Gekeler Avenue east to the city limits;
 4. 12th street south from Gekeler Avenue to the city limits;
 5. 2nd Street south from the city limits to Adams Avenue;
 6. Monroe Avenue east from Spruce Street to Highway 82;
 7. Jackson Avenue east from Spruce Street, and
 8. Spruce Street south from the city limits to Monroe.

Section 18. IMPOUNDMENT AND DETENTION OF VEHICLES

- a. Whenever a vehicle is placed in a manner or location that constitutes an obstruction to traffic or a hazard to public safety, a police officer or enforcement officer shall order the owner or operator of the vehicle to remove said vehicle. If the vehicle is unattended, the officer or enforcement officer may cause the vehicle to be towed and stored at the owner's expense. The owner shall be liable for the costs of towing and storing, notwithstanding that the vehicle was parked by another or that the vehicle was initially parked in a safe manner but subsequently became an obstruction or hazard.

I have read the attached letter regarding the use of the Modelaire/Hawthorne Loop and it expresses my concerns and my request to abandon the plan to use this residential loop for the project. As one of the undersigned I strongly oppose our community being used as a primary access point to build this transmission line. Furthermore, I oppose the current proposed preferred route close to the city limits of La Grande because it impacts in various other ways the daily lives of many residents of our community.

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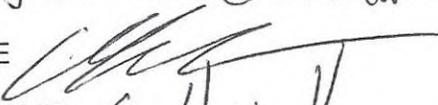

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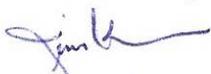
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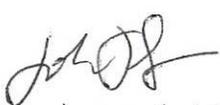
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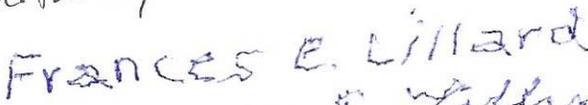
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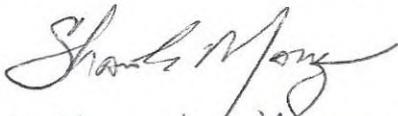
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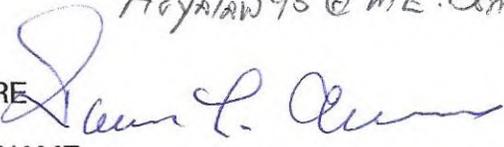
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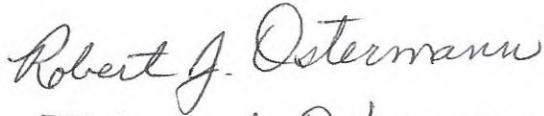
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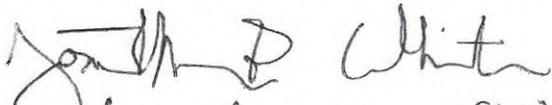
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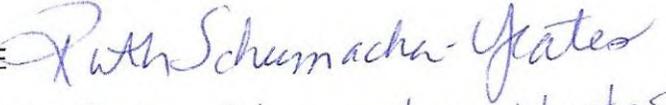
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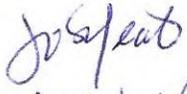
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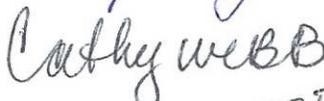
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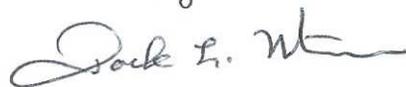
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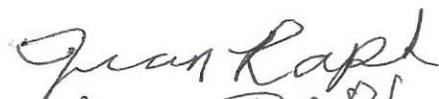
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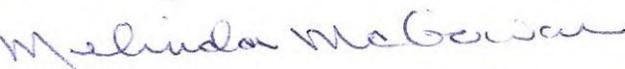
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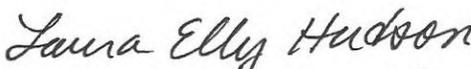
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