Open Record Exhibit OR-1A

Public Testimony

From: <u>Stephen Shane</u>

To: Louisa Bruce; Maitreyee Sinha

Cc: <u>CPadmin</u>

Subject: FW: [EXTERNAL] No Batteries in Backyards **Date:** Thursday, October 30, 2025 3:09:47 PM

Here's the first one submitted under OR1...

Stephen Shane | Current Planning Section Manager

Washington County Department of Land Use & Transportation Planning and Development Services | Current Planning 155 N First Avenue, Suite 350 MS13 | Hillsboro, OR 97124 (503) 846-8127 direct

The counter lobby is open Monday through Thursday, 8AM to 4PM.

Staff are working in office and remotely throughout the week and are best reached by email.

You can expect a response within three working days.

Please submit planning-related questions to <u>LUTDEV@washingtoncountyor.gov</u>

From: Angela Wade <angela@wadewarehouse.com>

Sent: Thursday, October 30, 2025 2:43 PM

To: Stephen Shane <Stephen Shane@washingtoncountyor.gov>; Maitreyee Sinha

<Maitreyee_Sinha@washingtoncountyor.gov>; Stephen Roberts

<Stephen Roberts@washingtoncountyor.gov>; Tanya Ange

<Tanya Ange@washingtoncountyor.gov>; Board of County Commissioners

<BCC@washingtoncountyor.gov>; rep.nathansosa@oregonlegislature.gov;

sen.janeensollman@oregonlegislature.gov; Sen.LisaReynolds@oregonlegislature.gov

Subject: [EXTERNAL] No Batteries in Backyards

I am writing to express my **strong opposition** to the proposed Blackberry Grove Battery Energy Storage System (BESS) by Jupiter Power at 21393 NW West Union Road in Hillsboro, Oregon.

I urge you to:

- Reject the privately owned Jupiter Power's application for the Blackberry Grove BESS facility.
- Call for the audit to review PGE's involvement in promoting Jupiter Power's application of this privately owned BESS facility due to conflicting interest in funding by BlackRock of both PGE and Jupiter Power. This demands an independent review of PGE's conflict of interest.

• Require transparent, community-informed guidelines for safe and equitable renewable energy siting in Washington County such as Marion County has done which led to their ban of BESS facilities in unincorporated areas due to the risk to farmland and groundwater.

BESS facilities pose serious risks to public safety, local ecosystems, and community well-being. Lithiumion batteries catching fire is a common occurrence, including here in Washington County. These fires release toxic gases and contaminate soil and groundwater. The damage done is gravely amplified when facilities are sited near homes, schools, farms, and wells. As an example, the catastrophic BESS Moss Landing fire in California burned for days, causing 1500 residents to be evacuated and releasing toxic gases and heavy metals that contaminated soil and water up to 46 miles away.

The Blackberry Grove project also introduces potential threats to groundwater and local ecosystems. Over time, chemical leakage from lithium batteries could contaminate wells, and 24-hour noise emissions and lighting would certainly disrupt bird migration, nocturnal insects, and residents living next to it.

If approved, this project would set a precedent for the rest of Oregon. BESS facilities could be sited almost anywhere—putting forests, farms, wildlife, and whole communities at risk.

I support renewable energy. But it must also be safe, just, and community-led. A BESS in a residential or rural area is none of these things. I urge you to prioritize safety, equity, and common sense over corporate profit.

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 From:
 Ben Farley

 To:
 Maitreyee Sinha

 Cc:
 Stephen Roberts

Subject: [EXTERNAL] Case No. L2500161: Jupiter Power "Blackberry Grove" Battery Energy Storage System (BESS)

Washington County

Date: Tuesday, November 11, 2025 10:09:51 AM

Attachments: BESS Objection Testimony - AF-5 Purpose - 11-11-2025.pdf

Ms. Maitreyee Sinha, Washington County Planning Mr. Joe Turner, Hearings Officer Washington County Department of Land Use and Transportation

Re: Jupiter Power "Blackberry Grove" Battery Energy Storage System (BESS) Washington County Case No. L2500161

Ms. Sinha,

I have attached additional testimony to this email to be added to the record.

received from external sources. Contact the ITS Service Desk if you have any questions.

Please confirm receipt.

Grateful,

Ben Farley 503-318-0700 7441 NW 212th Place Hillsboro, OR 97124

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Ben Farley

7441 NW 212th Pl Hillsboro, OR 97124 503BenFarley@gmail.com • 503-318-0700

Date: 11/10/2025

TO:

Maitreyee Sinha, Senior Planner

Washington County Land Use & Transportation — Planning & Development Services

Phone: 503-846-3835

Email: maitreyee sinha@washingtouncountyor.gov

Casefile/Project # L2500161-SU/D/PLA

Subject: Objection to Proposed BESS facility in AF-5 Zone

Property Description: Assessor Map 1N2 14A, Lots 4300 & 4400

Site Size: 9.52 acres

Address: 21393 & 21435 NW West Union Road

Applicant: Blackberry Grove LLC (Kurt Nelson), 1108 Lavaca Street, Ste 110-349, Austin, TX 78701

Owner: Steve & Kelli Bobosky, 21393 NW West Union Road, Hillsboro, OR 97124

Location: North side of NW West Union Rd, between NW Bendemeer Rd and NW Old Pass Rd

Dear Ms. Sinha,

I am submitting this letter to **formally object** to the proposed Battery Energy Storage Facility (BESS) referenced above for the AF-5–zoned properties at **21393 and 21435 NW West Union Road**.

As the discussion surrounding this proposed facility continues, it seems we have become so focused on the details that we've lost sight of the larger picture — the **purpose and intent of the AF-5 Zone**.

As you know, the AF-5 district's purpose, as stated in **Washington County Community Development Code (CDC § 348-2)**, is to "preserve agricultural and forest uses while allowing rural residential living and compatible uses." A utility-scale battery energy storage installation is neither agricultural nor rural residential. It is an **industrial-scale utility facility** that is incompatible with the AF-5 district's stated intent and character.

CDC § 348-1 – Intent and Purpose further provides that:

"The AF-5 District is intended to retain an area's rural character and conserve natural resources while providing for rural residential use in areas so designated by the Comprehensive Plan.

The purpose of this agricultural and forestry district is to promote agricultural and forest uses on small parcels in the rural area, while recognizing the need to retain the character and economic viability of agricultural and forest lands, as well as recognizing that existing parcelization and diverse ownerships and uses exist within the farm and forest area. Residents of rural residential tracts shall recognize that they will be subject to normal and accepted farming and forestry practices."

When you step back and view this area north of West Union Road, you can see that the surrounding properties clearly **fulfill this intent and purpose**. Farming here can occur on both individual and community scales—it does not have to be

commercial to be meaningful. Historic subdivisions such as **Bendemeer (platted 1913)** and **West Union Estates (platted 1947)** were specifically created to support **self-sustained living**, allowing residents to keep livestock and cultivate gardens. Many neighbors still uphold these traditions today. While we are no longer supporting a wartime "victory garden" movement, the same spirit of self-reliance and rural stewardship continues to define this community.

The proposed project's infrastructure—high-voltage equipment, fencing, lighting, access roads, and fire-suppression systems—would introduce permanent industrial impacts, including visual blight, safety concerns, noise, and increased traffic, onto a rural 9.52-acre site. As one of the largest parcels in the area and the gateway to this community, this property holds particular significance; industrial development here would permanently alter the character of the surrounding neighborhood. Simply put, this proposal places a large-scale industrial facility in the heart of a community made up of small rural residential home sites.

The applicant cannot demonstrate that this project meets the County's requirements because it simply does not. An industrial-scale battery facility within a rural community is inherently incompatible with the AF-5 zoning district. It stands in direct opposition to the purpose and intent of the code — to **retain the area's rural and residential character**. If the applicant wishes to pursue such a project, it would be their responsibility and burden to seek a zoning change to an appropriate industrial or utility designation elsewhere.

For these reasons, I respectfully request that Washington County **deny the application**. Approval would conflict with the **purpose and protections** of AF-5 under **CDC § 348**. If we do not uphold the purpose and intent of our zoning codes, we risk undermining the very framework that preserves and defines our communities.

Thank you for your consideration and for upholding the integrity of the AF-5 district.

Sincerely, **Ben Farley**7441 NW 212th Place

Hillsboro, OR 97124

503BenFarley@gmail.com • 503-318-0700

Bendemeer/West Union Acres Neighborhood

BEFORE



AFTER With BESS



PLAT OF BENDEMEER. PAGE 2.

DEDICATION.

ATTEST____

SECRETARY \

KNOW ALL MEN BY THESE PRESENTS THAT THE BENDEMEER INVESTMENT COMPANY, AN OREGON COR-PORATION, IS THE OWNER IN FEE SIMPLE OF THE LANDS SHOWN ON THIS PLAT; AND BY RESOLUTION OF ITS BOARD OF DIRECTORS, CAUSED SAID LANDS TO BE SURVEYED AND PLATTED INTO STREETS, ROADS ALLEYS, TRACTS, BLOCKS AND LOTS, AS SHOWN ON SAID PLAT; AND DO HEREBY SUBMIT FOR APPROVAL AND RECORD SAID PLAT, AND DO HEREBY DEDICATE TO THE USE OF THE PUBLIC FOREVER, ALL STREETS. ROADS AND ALLEYS AS SHOWN ON SAID PLAT; AND DO HEREBY DECLARE SAID PLAT TO BE A PLAT OF BENDEMEER AND HENCEFORTH TO BE 50 KNOWN AND DESIGNATED.

DONE IN PURSUANCE TO RESOLUTION OF THE BOARD OF DIRECTORS OF APRIL 4TH 1913.

BENDEMEER INVESTMENT COMPANY Br J. C. Mille PRESIDENT.

ACHNOWLEDGMENT.

STATE OF OREGON COUNTY OF MULTNOMAH

ON THIS 2 DAY OF Sept. 1913, BEFORE ME APPEARED F.F. SMITH AND J.M. LAWRENCE, BOTH TO ME PERSONALLY KNOWN, WHO BEING FIRST DULY SWORN, DID SAY THAT HE, THE SAID F.F.SMITH IS THE PRESIDENT, AND HE, THE SAID J.M.LAWRENCE IS THE SECRETARY OF THE BENDEMEER INVESTMENT COMPANY; THAT THE SEAL HERETO AFFIXED IS THE CORPORATE SEAL OF SAID CORPORATION; THAT THE ABOVE DEDICATION WAS SIGNED AND SEALED IN BEHALF OF SAID CORPORATION BY AUTHORITY OF ITS BOARD OF DIRECTORS AND SAID F. F. SMITH AND SAID J.M.LAWRENCE ACKNOWLEGED SAID INSTAUMENT TO BE THE FREE ACT AND DEED OF SAID CORPORATION.

IN TESTIMONY WHEREOF, I HAVE HEREUNTO SET MY HAND AND AFFIXED MY OFFICIAL SEAL, THIS, THE DAY AND YEAR FIRST IN THIS, MY CERTIFICATE WRITTEN.

NOTARY PUBLIC IN AND FORSAID COUNTY AND STATE.

AFFIDAVIT.

STATE OF OREGON \ 5.5. COUNTY OF CHOOK

I, ROBERT B. GOULD, BEING FIRST DULY SWORN, DO HEREBY CERTIFY THAT I AM AN EXPERIENCED AND QUALIFIED SURVEYOR; THAT I HAVE CORRECTLY SURVEYED AND MARKED WITH PROPER MONUMENTS THE LANDS REPRESENTED ONTHIS PLAT; THAT AT THE SOUTH-EAST CORNER OF TRACT 59 OF THIS PLAT, I BURIED A STONE 10"x 12"x 18"IN SIZE, WITH A CROSS CUT IN THE TOP, SIX INCHES BELOW GROUND, FOR THE INITIAL POINT OFSAID PLAT, SAID STONE BEING STS 43'20"E. 2160.54 FEET FROM A STONE MONUMENT BURIED UNDER THE ROAD AT THE NORTHWEST CORNER OF THE STEPHEN A HOLCOMB D.L.C. NO. 67, WHICH POINT IS ALSO CORNER NUMBER NO. 2 OF THE WILLIAM MAUZEY D.L.C.NO. 65; THAT THE BOUNDARIES OF ALL TRACTS, LOTS AND BLOCKS IN THIS PLAT ARE INDICATED BY SOLID OF UNBROKEN LINES AND ALL AREAS ARE COMPUTED ACCORDINGLY, THAT ALL ROADS ARE INDICATED BY BROKEN OR SHORT-DASH LINES AND THAT THE FOLLOWING IS A CORRECT DESCRIPTION OF THE LANDS EMBRACED IN SAID PLAT: PORTIONS OF THE WILLIAM MAUZEY D.L.C. NO. 65 AND OF THE STEPHEN A. HOLCOMB D.L.C. NO. 67, PARTICULARLY DESCRIBED AS FOLLOWS; BEGINNING AT THE INITIAL POINT OF THIS PLAT AS ABOVE DESCRIBED; THENCE N. 0°26'39"E. FOR 1165.91 FEET; THENCE 5.89° 03'30" E FOT 128893 FEET; THENCE N.0°35'04"E FOR 2/60.6/ FEET; THENCE N. 90°00' E. FOR 1083.69 FEET; THENCE N. 1º 33'26"W. FOR 66572 FEET; THENCE N. 89°52'40"W. FOR 4578.56 FEET; THENCE S. 27°18'28"W. FOR 359.64 FEET; THENCE S. 18°38' E. FOR 178.90 FEET; THENCE S. 11°22'W. FOR 208.71 FEET; THENCE N. 78°38'W. FOR 238.52 FEET; THENCE S.27°18'28"W. FOR 3289.30 FEET; THENCE 5.89°37'19"E. FOR 1873.03 FEET; THENCE N. 65°23'50"E. FOR 258.24 FEET; THENCE 5.3°30'31"W. FOR 637.27 FEET; THENCE 5.89°52'14"E. FOR 1898.00 FEET TO THE POINT OF BEGINNING, ALL BEING CONTAINED WITHIN SECTIONS 14 AND 15, T.I.N., A.2-W., W.M.

SUBSCRIBED AND SWORN BEFORE ME THIS 13TH DAY OF AUGUST, 191. NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE.

APPROVAL.
EXAMINED AND APPROVED THIS ATT DAY OF Sept 1913.
Gerol Milye
COUNTY SURVEYOR.

TAXES PAID 1901-1912 - Sept 4 1913.

EXAMINED AND APPROVED THIS 1 DAY OF Sept 1913.

appleant Mepuly

EXAMINED AND APPROVED THIS 4 DAY OF Sep 1913.

ATTEST - Sept. 1913

COUNTY COURT.

There 60 born.

CITY OF HILLSBORO, OREGON **ORDINANCE NO. 5014**

Grantor:

VACATION

Grantee:

VACATION

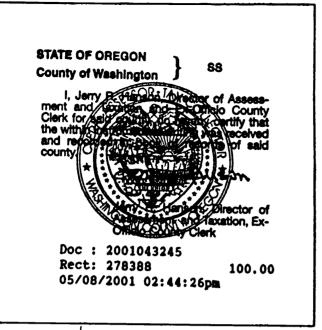
Consideration:

Not Applicable

After Recording, return to:

Attn: Tina Bailey CITY OF HILLSBORO Public Works Department, Engineering Division 123 West Main Street, Suite 250 Hillsboro, Oregon 97123-3999

Mail Stop 60



ORDINANCE NO. <u>5014</u>

AN ORDINANCE VACATING A SECTION OF RIGHT-OF-WAY, IN THE CITY OF HILLSBORO, IN WASHINGTON COUNTY, OREGON.

WHEREAS, on the 17th day of October, 2000 there was filed with the City Council of the City of Hillsboro, Oregon a petition for the vacation of a certain portion of a public street, and

WHEREAS, the City Council has found that the petition had the consent, pursuant to Section 165, Chapter XV of the Amended Charter of the City of Hillsboro, Oregon, of the requisite number of owners in fee simple of the real property fronting on both sides of the street, and on a one hundred foot extension from each terminus of the portions of street sought to be vacated, and that all things necessary to be kept, performed and done have been so kept, performed and done, and

WHEREAS, the City Council has found, pursuant to a public hearing on April 3, 2001 that it will not be prejudicial to the public to vacate the portion of street hereinafter described.

NOW, THEREFORE, THE CITY OF HILLSBORD DOES ORDAIN AS **FOLLOWS:**

Section 1. The following-described sections of street, located in the City of Hillsboro, Oregon, is hereby vacated. Upon the effective date of said vacation, possession of the land shall revert to the owner of record of abutting lots, as required by the Oregon Revised Statutes and the Amended Charter of the City of Hillsboro:

A 60.00 foot wide strip of land as dedicated on the plat of "Bendemeer", a subdivision recorded in the Washington County plat records and located in the southwest one quarter of Section 1 North, Range 2 West of the Willamette Meridian, City of Hillsboro Washington County, Oregon, and being more particularly described as follows:

Beginning at the northwest corner of said Stephen A. Holcumb DCL, thence 20.20 feet left and 39.80 feet right of the following described line: South 85° 56' 37" east 1465.61 feet; thence 30.00 feet left and right of the following described centerline: South 89° 56' 37" east 303.15 feet to the west of the right-of-way line of the Oregon Electric Railway Company, 50.00 feet from the centerline of said right-of-way when measured at right angles to said centerline and the point of termination. The sidelines are subject to lengthening and/or shortening to terminate upon the proper boundaries.

rerdform.doc

PLAT OF

BENDEMEER WASHINGTON COUNTY

OREGON.

SCALE, / INCH = 400 FEET

ROBERT B. GOULD, ENG., 1203-4 YEON BUILDING. PORTLAND, ORE.

PORTLAND, ORE. 1913. 5.252 A. 4.835 A. 4.991A. 4.737A 5.107 A. 6 7.730 A. 908.42 EAST 38 42 65 5.974 A. 4.027 A. 39 5.028A. 5028A. 51 Hatch marked area Vacated - Deed Book 127, Pg. 328 LIRON PIPE MONT. 1. 8.387 A. 8.570A 9.812A. * PTN. VACATED BY 2001043245-

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WEST UNION ACRES

TRACTS 15, 16, 17, 18, A PART OF TRACTS 4, 7, 8, 9, 13 & 14
OF BENDEMEER AND PART OF SECTION 14, TIN, R2W, W.M.
WASHINGTON COUNTY OREGON

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_ d, A. Handy	Ether M Handy
a.W. Handy	-Amelia S. Handy
State of Oregon	
This is to certify that on this 19th day of FEM and for the County of Washington, State of Oregon, F.A. Handy, A.W. Handy, Ethel M. Handy, and Amelia identical persons named in, and who executed the to me that they executed the same freely and roll forth. Witness my hand and official seal this day and	year last above mentioned.
	Motory Public For OFESON.
My Commission expires DEC 4, 1950	Notary Public For Odeson.
State of Oregon County of Washington 5.5.	
I, H.P. Barrows, County Surveyor for Washington January, 1947 I accurately surveyed, subdivided and described tract of land in BENDEMEER and Section I Beginning at the INITIAL POINT, a 2"x 36" iron pipe of the northwest corner of Tract 18 of BENDEMEER, a surveyon, and running thence 5.89°52'40" E 1220.52 fer subdivision; Thence South 741.11 feet to a point Said Tract 15; Thence East 556.11 feet to a point Tract 13; Thence 5.0°35'W. 50.0 feet; Thence West of the N.E. corner of Tract 9; Thence South 30 a point 60 feet east of the easterly Right of Way 5.4°00'30" E. parallel With said Railway 365.2 line of County Road No. 1175; Thence N. 58°09'42" I feet to the easterly boundary line of said Railboundary line 1426.94 feet to the place of begand the attached plat is a true and correct as staked upon the ground with iron pipes at	In the control of and streets the following of the TIN, RZW, W.M., Washington County, Oregon, to with the property of the ground at with the subdivision of record in Washington County, and the N.E. corner of Tract 15 of said to the N.E. corner of the S.E. corner of 40 feet North of the S.E. corner of 895.6 feet to a point 10 feet south 14.35 feet; Thence West 743.6 feet to 16 of the Oregon Electric Failway; Thence 16 feet to a point on the no. Trily W. along said northerly road line 73.84 froad; Thence N. 4°00'30"W along said ginning.
	It Barrows
Subscribed and sworn to before me this 26 th day of	Fiel. 1947.
OREGON	W. a. Supper County Clerk
JANUARY 8. 9.5 F. EART. OVVS 56	
	. ****

KNOW ALL MEN BY THESE PRESENTS:~

That we F.A. Handy, a single person. A.W. Handy, a single person, Ethel M. Handy, a single person, and Amelia S. Handy, widow of C.B. Handy are the owners in fee simple of the lands in BENDEMEER and Section 14, TIN, R2W, W.M. as shown on the annexed plan and more particularly described in the Surveyor's Certificate hereunto attached, and have caused the same to be surveyed and platted into lots and streets as shown on the plat hereunto attached and to be hereby dedicated "WEST UNION ACRES" and that we hereby dedicate all streets and roads as shown thereon to the public for public use forever.

Approved 2-26-47 July Judge

Approved 2-26-47 July Judge

Approved 2-26-47 July July Commissioner

Approved 2-26-47 July July July July Commissioner

Commissioner

Approved 2-25-47 Hillsboro Planning Commission

Approved 2-25-47 Harsent

Approved 2-25-47 Hillsboro Planning Commission

President

Approved 2-25-47 Harsent

County Assessor

County Surveyor

From: <u>Dirk Knudsen</u>

To: <u>Maitreyee Sinha</u>; <u>Stephen Roberts</u>; <u>Louisa Bruce</u>

Subject: [EXTERNAL] Testimony For The Open Record - Casefile L2500161

Date: Tuesday, November 11, 2025 9:42:20 AM **Attachments:** Incompatability of Overhead Power lines.pdf

Hello, Ms. Sinha;

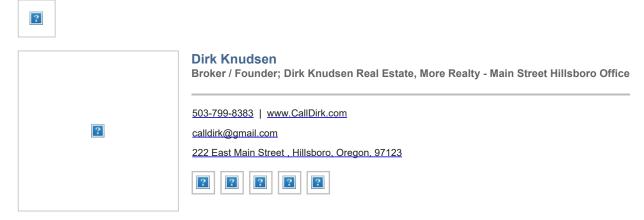
I am including the letter I've attached to the open record regarding the Blackberry Grove / Jupiter Energy BESS. This testimony is relevant to the project design, its incompatibility, and the lack of substantial evidence provided by the applicant to show that the associated power lines/poles/connectors are compatible with the historic residential community of Bendemeer.

The applicant's packet and submission specifically avoided showing any side views, renderings, or visual evidence of any kind regarding the power lines and associated poles and apparatus connecting the BESS to the PGE substation. Therefore, they are hiding factual information or seeking to deceive the staff and the hearings officer, and the record is incomplete.

Thank you, and please confirm your receipt of this testimony.

Gratefully;

Dirk Knudsen



[&]quot;Always turn a negative situation into a positive situation." - Michael Jordan.

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Dirk Knudsen

222 East Main Street Hillsboro, Oregon 97123

November 11, 2025

To:

Ms. Maitreyee Sinha, Washington County Planning
Mr. Joe Turner, Hearings Officer
Washington County Department of Land Use and Transportation

Re: Jupiter Power "Blackberry Grove" Battery Energy Storage System (BESS)
Washington County Case No. L2500161

Subject: Overhead Power Connection Crossing NW West Union Road — Application Incomplete

Dear Ms. Sinha and Mr. Turner,

I am submitting this testimony to express deep concern regarding Jupiter Energy's proposed overhead power connection crossing NW West Union Road to the proposed Battery Energy Storage System (BESS). The applicant has failed to provide any visual renderings, elevations, or side views showing how these overhead power lines and associated apparatus will appear from the public right-of-way and from the front entrance to the historic Bendemeer community.

This omission prevents the County and the public from evaluating compatibility, a key standard for all development in the AF-5 zone, especially when a project is immediately adjacent to an established rural-residential community.

Key Issues:

- 1. The applicant proposes three large overhead wires with connectors and insulators crossing West Union Road to feed the BESS. These types of high-capacity feeder lines typically require poles exceeding 35–45 feet in height, and clearances above roadways of at least 18 feet, resulting in a visual profile far greater than ordinary distribution lines.
- 2. Photographs of similar BESS sites (attached) show that these overhead systems include massive poles, cross-arms, insulators, and heavy conductors—creating an unmistakably industrial look.
- 3. Because this BESS is located at the gateway to Bendemeer, the first impression for residents and visitors will be driving under or beside a structure that looks like an industrial substation. This is not compatible with the surrounding AF-5 zone or the rural character that County planning policies are meant to preserve.
- 4. The applicant's failure to submit any renderings or visual simulations appears to be an intentional omission, leaving the County and the public unable to evaluate the actual visual and aesthetic impact. This omission renders the application incomplete under County standards and inconsistent with the principles of full disclosure and public review.

Request:

I respectfully request that the County deem this application incomplete until the applicant provides:

- Full visual renderings and side-view elevations of the proposed overhead crossing;
- Height and design details for the poles, arms, and connecting hardware;
- An explanation for why underground routing was not proposed; and
- A compatibility statement addressing how this installation complies with AF-5 appearance and rural character standards.

Conclusion:

If approved as shown, the crossing will visually transform the entrance to Bendemeer from a rural-residential approach to an industrial corridor. The BESS project and its overhead power apparatus will project the image of a substation, not a neighborhood gateway. The lack of transparency on this visual issue must not be overlooked.

Attached are six photographs of comparable BESS facilities clearly showing the overhead power poles and connections that typify such installations. These illustrate what the community fears will be imposed upon its entrance without proper disclosure. Each image is labeled:

"Photo of BESS Battery with Associated Power Pole & Connections."

For these reasons, I urge Washington County to hold this application in abeyance until full visual, engineering, and compatibility information is submitted for public review.

Thank you for your time and attention.

Sincerely,

Dirk Knudsen

Hillsboro, Oregon



Photo 1: Photo of BESS Battery with Associated Power Pole & Connections



Photo 2: Photo of BESS Battery with Associated Power Pole & Connections



Photo 3: Photo of BESS Battery with Associated Power Pole & Connections



Photo 4: Photo of BESS Battery with Associated Power Pole & Connections



Photo 5: Photo of BESS Battery with Associated Power Pole & Connections



250 MW Sierra Estrella BESS project in Avondale, AZ; via SRP.

Photo 6: Photo of BESS Battery with Associated Power Pole & Connections

Tuesday, November 11, 2025 1:07:01 PM [EXTERNAL] Additional VIDEO Testimony For The Open Record - Casefile L2500161 Subject: Maitreyee Sinha; Stephen Roberts; Louisa Bruce :OI From:

- sdnis sM

officer review this information -For the record, it is a 2-minute flyover Video of the Bendemmer historic neighborhood. We ask that the hearings

Please put this video file into the permanent record.

Трапк уоп-

Dirk Knudsen'

Please confirm receipt of this email

BATTERY STORAGE 1.mp4



"In order to carry a positive action we must develop here a positive vision." - Dalai Lama.

mistake, please notify the sender immediately and do not disclose the contents to anyone or make copies thereof. IMPORTANT: The contents of this email and any attachments are confidential. They are intended for the named recipient(s) only. If you have received this email by

Hello, Ms. Sinha; On Tue, Nov 11, 2025 at 9:41 AM Dirk Knudsen Mrote:

historic residential community of Bendemeer. by the applicant to show that the associated power lines/poles/connectors are compatible with the This testimony is relevant to the project design, its incompatibility, and the lack of substantial evidence provided I am including the letter I've attached to the open record regarding the Blackberry Grove / Jupiter Energy BESS.

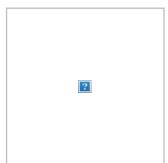
and the record is incomplete. substation. Therefore, they are hiding factual information or seeking to deceive the staff and the hearings officer, of any kind regarding the power lines and associated poles and apparatus connecting the BESS to the PGE The applicant's packet and submission specifically avoided showing any side views, renderings, or visual evidence

Thank you, and please confirm your receipt of this testimony.

Gratefully;

Dirk Knudsen





Dirk Knudsen

Broker / Founder; Dirk Knudsen Real Estate, More Realty - Main Street Hillsboro Office

503-799-8383 | www.CallDirk.com

calldirk@gmail.com

222 East Main Street , Hillsboro, Oregon, 97123



"Always turn a negative situation into a positive situation." - Michael Jordan.

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Cherie Hull

From: LUT Development

Sent: Friday, November 7, 2025 11:13 AM

To: CPadmin

Subject: FW: [EXTERNAL] case file L2500161-SU/D/PLA

Public testimony

From: Helvetia House <helvetiahousemate@gmail.com>

Sent: Wednesday, November 5, 2025 3:41 PM

To: LUT Development < LUTDEV@washingtoncountyor.gov>

Subject: [EXTERNAL] case file L2500161-SU/D/PLA

251030_comment_LUC-107-1-7_re_BESS.pdf

251104_BESS_Hosey_opposition.pdf

Thank you for this opportunity to comment! Faun Hosey, Save Helvetia, 503-730-7382

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SAVE HELVETIA

1:3260 NW Bishop Rd Hillsboro, OR 97124 October 30, 2025

TO Washington County Oregon Hearings Officer

FROM: Save Helvetia, 13260 NW Bishop Rd, Hillsboro, OR 97124

RE: L2500161-SU/D/PLA: Special Use & Development Review for a Public Utility (Battery Energy Storage System) to be Considered for Interpretation by the Washington County Board of Commissioners

ORAL PRESENTATION 10/30, STRONG OPPOSITION TO THE ABOVE APPLICATION

Introduction: The consideration of this application is erroneously placed before the hearings officer as a special/ development review. On the face of the application, it embodies a legislative decision that must start with the Washington County Board of Commissioners. Therefore, it must be denied. The following are relevant findings and reasons for this.

Background and Discussions: Washington County Land Use Code (LUC) explicitly states that the Board of Commissioners may interpret where ambiguity exists as to the meaning of specific provisions (LUC107-1-7). In the case of L2500161-SU/D/PLA staff has inappropriately taken on a legislative role in stating that when a BESS is integrated into the state's electrical grid to provide electricity, it is a public utility. Staff goes on to justify this by referring to ORS 757.005 and to the County's own Land Use Code 403.105 in reference to the characteristics of a public utility.

Based on this, staff has taken upon itself to unilaterally interpret a commercial scale battery energy storage system as public utility. This far exceeds staff's authority and belongs to the Washington County Board of Commissioners per LUC 107-1.7: "The Board of Commissioners may interpret the Community Development Code where ambiguity exists as to the meaning of specific provisions. This interpretation when made shall be used to guide staff and the Review Authority in applying the code to specific situations. The board by ordinance or resolution and order shall develop procedures for implementing this section."

At issue here is the specific definition of a public utility. The BESS as proposed is not currently allowed as such per the Washington County LUC. Regarding this, the LUC reads as follows: "Public Utility 430-105: Any corporation, including municipal or semi-municipal corporation, service district, company, individual, or association that owns or operates any plant or equipment for the conveyance of telegraph or telephone messages, with or without wires; for the transportation of water, gas, or petroleum products by pipeline; for the production, transmission, delivery or furnishing of heat, light, water, or electricity; for the transmission and delivery of television pictures and sound by cables; for the transportation of persons or property by street, railroads or other street transportation or common carriers; for the disposal of sewage; or for the disposal of storm water runoff."

A BESS does not do this. An example of recognition that BESSs are not public utilities, is in Marion County, Oregon Board of Commissioners in June 2025 adopted new code provisions (LA 25-001) it found that a BESS is ancillary to a substation by virtue or it is storing electricity. It does not produce, transmit delivery or otherwise furnish electricity. Therefore, it is not allowed by the county's zoning code. This prohibition did not apply to personal battery storage systems that do not primarily store power for public use or sale.

The fact that the Washington County's Code did not envision these kinds of uses is emphasized by the extensive conditions of approval applied to maintenance and operations to ensure emergency response, safety of neighbors, first responder training, decommissioning, reclamation and hazardous materials disposal. In addition, a release and indemnity agreement is required to hold harmless and indemnify the county from any damages that might occur associated with the BESS.

Conclusion: Whether or not to allow this kind of land use requires legislative action on part of the Board of Commissioners. Therefore, the Hearing's Office must either deny /remand this application and direct staff /applicant to refer it to the Board for further action.

ADDENDUM: NOTES ON LUC 107-1.7 ARE ATTACHED

Save Helvetia is a private non-profit advocacy organization, active since 2010 to protect farm and forestlands in Washington County. We live on Kalapuyan Land. Since 1843, farmers have stewarded the land of Helvetia, contributing food, beauty, and climate security. Since 1973, our land use laws have offered processes to protect Oregon's landscape and values – guarding its farm, forest, and coastal lands while supporting transportation, economic, and urban uses of the land through robust citizen involvement, We organized during the Metro Urban and Rural Reserves planning process, studying lands in and around the Helvetia area, submitting testimonies to Washington County, Metro, and LCDC. We were among the appellants to the Oregon State Court of Appeals, prevailing in our citizen science assertions when the county and Metro had misapplied the law and administrative rules in selecting the urban and rural reserves boundaries.

Respectfully,

Faun Hosey for <u>Save Helvetia</u>
pres@savehelvetia.org

Advancing policies, leaders and actions that protect Helvetia's treasured resources.

Notes BESS WA County 102925

The Board of Commissioners may interpret the community development code where ambiguity exists as to the meaning of specific provisions. This interpretation, when made shall be used to guide staff and the review authority and applying the code to specific situations. The board by ordinance or resolution shall develop procedures for implementing this section. 107 -1-7. The Director may also issue an interpretation Section 217 as to the applicability of the Code ,but not its legislative intent, such as allowed uses but which is also subject to appeal

Washington County's community development code (CDC/Code does not expressly state that a BESS is a permitted land use. The concept of a BESS is recent and zoning ordinances have not been updated to specifically address it as a new form of land use. However, based on the information contained and the application materials, staff finds that a BESS When integrated into the state's electricity grid to provide electricity and grid stability (case file L2050161-SUD/PLA Attachment C Staff Report Page 3 "Services to the Public," As defined in ORS 757.005 and in Code Section 430-105 because of the similarity in nature of use and service provided. The facility proposed will consist of a corporate- owned equipment and structures within an enclosed area for storage and transmission of electricity upon demand at the PGE West Union substation, and thereby the regional electricity grid. This interpretation is consistent with the purpose and underlying policy that provides a basis of this code (Policy 9, Energy Resources Plan). - Section 430-105 is addressed later in this report

Conditions of Approval

2. 3. Evidence of final inspection approval of the right-of-way permit for access on to NW West Union Road and NW Bendemeer Road. (Section 501-9). Evidence of installed fencing (seven-foot-tall green slat fence with one-foot of barbed wire on top), vegetated landscaping augmenting the existing canopy around the perimeter of the subject site, and sound barrier walls (12-foot-tall precast concrete) along the northland east of the facility for noise attenuation as shown on the submitted site plans package. Noise attenuation shall ensure that the facility will not increase ambient sound levels at the property line. (Sections 411 and 423)

VI. Prior to Final Inspection Approval/ Occupancy of the proposed Facility: A. Submit to the Current Planning Services (503-846-8761):

A Maintenance Plan and an Operational Plan that addresses, at a minimum, the following:

- a. A comprehensive safety program for the facility.
- b. Organizational structure and reporting responsibilities.
- c. Ongoing training program for safe and reliable operation.

- d. Clear procedures for operation of the site, including failure detection, alarm responses, and emergency conditions.
- e. Emergency response and emergency action plan, that addresses the safety of neighboring residents.
- f. Plan for first responder training and coordination with the local fire response agencies.

A decommissioning and site reclamation plan that includes (but is not limited to) information regarding the anticipated life of the BESS, manner of restoration of the site, and disposal methods in accordance with applicable local, state and federal regulations.

VIII. Additional Conditions:

- c. The applicant, owner, and/or operator of the BESS shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and/or delay which may because by, or result from, the construction, maintenance, decommissioning, operation, and/or removal of the BESS, or from any act, omission, or neglect of their officers, agents, representatives, or employees. The applicant, owner, and/or operator of the BESS agree to indemnify, hold harmless, and defend County including its officers, employees, agents, and representatives, from and against all claims, demands, causes of action, and suits of any kind or nature, and all expenses incidental to the investigation and defense thereof, including attorney fees and costs, arising out of or based upon damage or injuries to persons or property caused by the errors, omissions, fault, or negligence of their officers.
- j. Any onsite vegetation or other combustible growth must be located at least 30 feet away from the perimeter of the battery enclosure yard and the facility should have a fire resistant and non-combustible base material such as gravel. (Section 207-5)

III. FINDINGS

Background

7. House Bill 4015, effective June 2024, allows establishment of BESS facilities that (a) collect energy from an electric grid or energy generation facility; (b) uses rechargeable batteries to retain and store energy for a set period; and (c) discharges the stored energy to provide electricity as needed. Though the Bill allows the permitting of a BESS through the Energy Facility Siting Council (EFSC), an applicant nonetheless needs to demonstrate compliance with applicable land use standards of the jurisdiction where they are located.

Washington County's Community Development Code (CDC/Code) does not expressly state that a BESS is a permitted land use. The concept of a BESS is recent and zoning ordinances have not been updated to specifically address it as a new form of land use. However, based on the information contained in the application materials, staff finds that a BESS, when integrated into the state's electricity grid to provide electricity and grid stability services to the public, meets the definition of a public utility as defined in ORS 757.005 and in Code Section 430-105 because of the similarity in nature of use and service provided. The facility proposed will consist of corporate-owned equipment and structures within an enclosed area for storage and transmission of electricity upon demand at the PGE West Union substation, and thereby the regional electricity grid. This interpretation is consistent with the purpose and underlying policy that provides the basis of this code standard (Policy 9, Energy Resources, Rural/Natural Resource Plan). Section 430-105 is addressed later in this report.

APPLICANT RESPONSE

III. Public Utility Definition, Farmland & Land Use;

A utility substation distributes electrical power and is an integral part of the power grid for

distribution of electricity to the community and beyond. A utility substation does not generate power but rather regulates flow of electricity used by consumers. A BESS like the Blackberry Grove also consists of transformers, inverters for distribution of electrical power, similar to a utility substation, along with lithium-ion batteries that store the power. Like a utility substation, a BESS does not generate power, but helps to reliably distribute electric energy and regulate its flow temporarily. Upon construction a BESS becomes an integral part of the existing power infrastructure by connecting to a utility substation. A BESS is a public utility as defined in Washington County CDC Section 430-105 to include

'any corporation' or 'company' that 'operates any plant or equipment' 'for the production, transmission, delivery, or furnishing of [...] electricity.' A BESS serves to help grid operators 'regulate' and 'control' the supply of power, and does not generate new electricity.

The project is not proposed on farmland. The property is surrounded by rural residential uses not engaged in commercial farming, and is separated from farmland by public right-

of-way and other properties. The area is designated for urbanization as a Metro 'Urban Reserve'. The property zoning allows a variety of nonfarm uses including 'public utility' and 'power generation'.

Public Utility 430-105: Any corporation, including municipal or semi-municipal corporation, service district, company, individual, or association that owns or operates any plant or equipment for the conveyance of telegraph or telephone messages, with or without wires; for the transportation of water, gas, or petroleum products by pipeline; for the production, transmission, delivery or furnishing of heat, light, water, or electricity; for the transmission and delivery of television pictures and sound by cables; for the transportation of persons or property by street, railroads or other street transportation or common carriers; for the disposal of sewage; or for the disposal of storm water runoff.

Marion County, Oregon has found it to be ancillary to the substation by virtue of it storing electricity. It does not produce, transmit delivery or otherwise furnish electricity.

Marion County, Oregon

Marion County Oregon Code 16 01. 050 Battery Energy Storage Systems

https://www.co.marion.or.us/BOC/Documents/2025%20Current%20Board%20Session/1 0 PW Adopt%20Ordinance Battery%20EnergyStorage%20Systems.pdf

Marion County Oregon prohibits BESS for fire hazard, chemical risks, farmland protection

Marion County Commissioner Comment:

How is a Battery Energy Storage System Different Than Utility Substation?

A commercial battery system is more intensive than other uses in the zones,"such as farming or urban development, said Marion County planning director Brandon Reich. "The issues include fires, releases of gases, chemicals, and metals, potential pollution of air, water, and soil, loss of farmland, increased demands on emergency response, and decommissioning."

Marion County June, 2025

Code applicability

While these facilities are not explicitly referenced in code, there are two existing code provisions that a BESS could be considered depending on available evidence: a utility facility or a power generation facility.

Historically utility facilities have been structures and facilities such as cellular towers, wastewater treatment facilities, and city wells which can be found in urban or rural land including resourced farm and forest zones. These are usually owned by a public entity

and provide regular utility service to customers in an area. While a BESS is connected to the electrical power grid and may be located near a substation, it appears to be ancillary to the grid for substation and not a utility service itself. Without additional evidence and analysis, a commercial BESS cannot be considered a utility facility.

A commercial BESS could also be considered a power generation facility. Power generation involves storing power in some manner that gets converted to electricity for use on the grid, such as water stored at an elevation behind a dam which is used to generate power. However, a BESS stores power previously generated rather than generates new power for the grid. As a result of this process and without additional evidence and analysis a BESS cannot be considered a power generation facility.

At this time there do not appear to be zoning code provisions related to or in Oregon Statute or Oregon Administrative Rules.

Land Use Criteria and Standards

A commercial BESS is a more intensive use than many other uses contemplated in the zoning code. It brings with it potential impacts that could be at least partially mitigated through criteria adopted in the zoning code and standards for development. The potential issues include fires release of gases chemicals and metals potential pollution of air water and soil loss of farmland increased demands on energy response and decommissioning. Future code amendments could adopt criteria and standards for these systems to mitigate potential impacts. These could include code amendments related to setbacks farmland protection, fire system requirements development emergency response plans facility monitoring site development standards decommissioning plans and others.

DECISION

Because battery energy systems are a novel use that are not explicitly allowed by county Code, nor implicitly contemplated in code, and there are no zoning code provisions related to them in Oregon statute or Oregon Administrative Rules, They are not allowed by zoning code at this time without possible future amendments. This prohibition does not apply to personal battery storage systems that do not primarily store power for public use or sale.

Based on the facts and findings aabove, the board approves the amendments to clarify the applicability of existing code provisions related to battery storage systems in the Marion County Urban and Rural Zone Codes Chapter S16 And 17.

TO Washington County Oregon Hearings Officer

FROM: Faun Hosey, 13515 NW Jackson Quarry Rd, Helvetia, OR 97124

RE: L2500161-SU/D/PLA – Special Use & Development Review for a Public Utility (Battery Energy Storage System) to be Considered for Interpretation by the Washington County Board of Commissioners

STRONG OPPOSITION TO THE ABOVE APPLICATION

Thank you for this opportunity to submit additional concerns in opposition to the BESS. Today my concerns are with regard to **Significant Natural Resources including water and habitat** within the jurisdictions of Washington County and Metro.

The proposed site is within the urban reserve area attached to the city of Hillsboro. Within one mile of the proposed site are Holcomb Lake, Holcomb Creek, and Rock Creek. These natural resources are protected by Metro and by Washington County in their Significant Natural Resource codes.

METRO REGIONAL GOVERNMENT

https://www.oregonmetro.gov/sites/default/files/2018/12/03/BendemeerUrbanReserveMetroCodeAnalysis.pdf

"Avoidance of conflict with regionally significant fish and wildlife habitat

"Regionally significant riparian and upland wildlife habitat not constrained by steep slopes or in public ownership covers 91 acres of land mainly along Holcomb Creek, Holcomb Lake and Rock Creek. Additional habitat areas are located along four unnamed tributaries to the two main streams, which divide the reserve area into small developable sections of land. The City of Hillsboro, the expected governing body for the reserve area, has adopted riparian habitat protection measures in compliance with Metro's Title 13 program through the Tualatin Basin Natural Resource Coordinating Committee's protection program. The City will need to adopt upland wildlife habitat protection measures that also comply with Title 13, which does allow for impacts to the habitat areas. A Metro owned open space parcel will provide a high level of protection for some of the habitat along Rock Creek and also limit any transportation connections through that habitat area.

The habitat areas along Holcomb Creek, Holcomb Lake and a portion of Rock Creek that are located along the northern edge of the reserve area are less susceptible to impacts as the land to the north is rural reserve and no transportation connections are needed to the north. The divided nature of the reserve area does make some of the habitat areas along the tributaries more susceptible to impacts due to needed transportation connections. Overall urbanization can occur with moderate to high avoidance of regionally significant riparian and upland habitat depending on the design of the development and the need for east-west transportation connections across the stream corridors."

To illustrate the risks of contamination, short term and long term, in case of toxic fire, its billowing poisonous smoke, and eventual effects on the water table from runoff, I offer this map showing a 2.5 mi area around the proposed BESS site – at the center. With protections in place, features marked here would be considered before siting.



KEY:

Pink & Red - 3 elementary schools, 2 high schools, PCC, the Hillsboro Stadiums, Kaiser Hospital and medical centers, at least 4 churches.

Green - Farms including u-pick, dairies, ranches, nuts, etc) and Large Food Producers (Resers, Beaverton Foods).

Blue is lakes and creeks.

WASHINGTON COUNTY REGULATES new

development to minimize impacts to Significant Natural Resources through our Community Development Code.

https://www.washingtoncountvor.gov/lut/planning/significant-natural-resources-english-only

If the Heritage oak were to be destroyed, mitigation would require the planting of hundreds of young replacement trees of the same species – a generally unreliable effort for habitat.

THE OREGON WHITE OAK TREES

Besides the streams and lake, the EFU water table and centuries-old habitat are at risk – particularly the Oregon White Oak trees measuring 200" circumstance on the proposed site, at the south entrance and on the corner.



The Urban Forest Preservat Authority Amendment Act (UFPAAA) strengthened the existing Urban Forest Preservation Act by further protecting our trees that ho the most significant environmental and social vo The law protects our largest trees, those with a circumfe of at least 44 inches. Protec these trees is important bec our oldest trees are the one provide the most environme health, and social benefits t communities.

As Treekeepers of Washington County have written:

"What difference can one tree make? A lot, if it's a 320-500 year old native Oregon white oak. Oaks are a key element in our region, and the benefits of a large tree are exponentially greater than those of a small tree. Here's what this one tree is providing:

Air Purification

Trees purify pollutants from the air such as ozone, carbon monoxide, and fine particulate matter, but just one oak can absorb up to ten pounds of air pollution in a year, multiplied by the hundreds of years this oak has survived.

Reduce Stormwater Runoff

A single mature oak like this one can absorb tens of thousands of gallons of water each year, preventing flooding and stabilizing soil.

Carbon Sequestration

An oak this size can sequester around 22-48 pounds of carbon dioxide (CO_2) per year, with that rate increasing significantly as it gets larger. This one is estimated to be storing about 17,000 pounds of carbon.

Creating Habitat

At least 250 species of wildlife that breed here and about 500 species of plants have a strong association with Willamette Valley oak habitats. An oak of this size and age provides the same benefits as about 700 2-inch diameter saplings."

The nonprofit group <u>Save Helvetia</u> has researched the occurrence and significance of the Oregon White Oak, and surveyed the area regarding this significant wildlife resource, https://savehelvetia.org/ourcase/white_oak.php

Among hundreds of species dependent on the Oregon white oak for habitat, several are listed as Vulnerable Sensitive Species by the Oregon Department of Fish and Wildlife - facing one or more threats to their populations and/or habitats. These Vulnerable Sensitive Species are:

- Acorn Woodpecker (Melanerpes formicivorus)
- White-breasted Nuthatch (Sitta carolinensis aculeata)
- Western Bluebird (Sialia mexicana)
- Western Gray Squirrel (Sciurus griseus)



Of these, the Acorn Woodpecker, known to be present on the trees on West Union Rd, is listed as a Species of Concern by US Fish & Wildlife Service, http://www.fws.gov/oregonfwo/Species/Lists/Documents/County/WASHINGTON%20COUNTY.pdf

Please, carefully consider these risks and threats to our community and environment. And please deny the proposed BESS in Bendemeer/Helvetia.

Again, thank you for this opportunity to comment.

Respectfully,

Faun Hosey
Save Helvetia
503-730-7382

From: Funk Wise
To: Maitreyee Sinha

Subject: Re: [EXTERNAL] Casefile L2500161-SU/D/PLA

Date: Thursday, November 6, 2025 12:23:07 PM

Attachments: <u>jupiter notes-No3.pdf</u>

Hello Maitreyee.

Please accept this submission regarding the Jupiter BESS. Required conditions of approval.

Thank you.

Kevin b.

On Thu, Oct 30, 2025 at 12:53 PM Maitreyee Sinha < Maitreyee Sinha@washingtoncountyor.gov > wrote:

You can submit it during the Open Record -1 period—a notice will be sent out to all parties on record with the dates to allow for submittal.

It can be sent to me via email.

Thank you,

Maitreyee Sinha | Senior Planner

503-846-3835 maitrevee sinha@washingtouncountyor.gov

The counter lobby is open Monday, Tuesday, Wednesday, and Thursday 8AM to 4PM.

CLOSED FRIDAYS.

Staff are working in office and remotely and are best reached by email.

Please submit planning-related questions to <u>LUTDEV@co.washington.or.us</u>.

Current Planning updates

LUT Services available online

From: Funk Wise < funkwise@gmail.com > Sent: Thursday, October 30, 2025 12:15 PM

To: Maitreyee Sinha < Maitreyee Sinha@washingtoncountyor.gov >; Louisa Bruce

Cc: Media - Funk Wise <funkwise@gmail.com>
Subject: [EXTERNAL] Casefile L2500161-SU/D/PLA
Hello Team,
Can you tell me how I submit requested/required CONDITIONS for approval, should this end up being approved?
Thanks.
Kevin B.
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INFO: Washington County email address has changed from @co.washington.or.us to @washingtoncountyor.gov. Please update my contact information.

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November 6, 2025

Kevin and Ann Babbitt 21295 NW Bendemeer Rd Hillsboro, OR 97124

Maitreyee Sinha, Senior Planner
Washington County Department of Land Use and Transportation
Planning and Development Services
Development Review/Current Planning
155 N 1st Ave #350-13
Hillsboro, Oregon 97124

Casefile/Project# L2500161-SU/D/PLA
Proposed Battery Energy Storage System (BESS)

Subject: Required Conditions of Approval

Dear Maitreyee Sinha,

The purpose of this communication is to provide a list of required conditions, should the project be approved by the hearings officer.

It is requested that the following conditions be placed on the subject Jupiter Batter Storage System and that they apply to any additions to the infrastructure or modifications to the original infrastructure and that they be maintained and enforced in perpetuity for the life of the installation. These conditions need to be met immediately upon operation of the BESS infrastructure:

- 1) No lights will be on unless the site is visited and then the lights must always be focused down and heavily shielded and not be visible about the existing tree line. No continuously illuminated lights are to exist. A minimum of LED and Blue light is to be used, and all efforts are to be made to eliminate light pollution.
- 2) All areas where the infrastructure can be viewed from outside the property must be filled with additional trees.
- 3) All battery containers, housings, and structures must be painted to blend in with foliage (Disney "go-away-green"). They must not be white, or silver, or grey.
- 4) Absolutely ZERO noise & sound (regardless of dB levels) or any audible emissions during normal operating conditions.
- 5) The culverts/pipes running through the berm to the North must be dug up and removed and the barrier between the subject property and any property adjacent to the North will be sealed. Any drainage from the Jupiter BESS property cannot exit onto another private property. This construction and closure to be witnessed by the property owners to the North.



Battery storage containers cannot be WHITE. Must be camouflaged and blend with surrounding foliage with "Go-Away Green" paint.



Battery storage containers cannot be WHITE. Must be camouflaged and blend with surrounding foliage with "Go-Away Green" paint. Bright lights cannot be allowed.



Battery storage containers cannot be WHITE. Must be camouflaged and blend with surrounding foliage with "Go-Away Green" paint.

Sincerely

Kevin C. Babbitt Ann Babbitt From: Katie Gilbertson
To: Maitreyee Sinha
Cc: LUT Development

Subject:[EXTERNAL] Blackberry Grove- Casefile L2500161Date:Wednesday, November 12, 2025 1:02:06 PMAttachments:Casefile L2500161 - lighting and economic.docx

Good afternoon,

Please accept this letter in opposition to the proposed blackberry grove site.

Sincerely Katie Gilbertson

November 12, 2025

Katie Gilbertson 7570 NW 212th Pl Hillsboro, OR 97124

Washington County Planning and Development Services Maitreyee Sinha, Senior Planner 155 N. 1st Avenue, #350-13, Hillsboro, OR 97124

Casefile / Project #: L2500161-SU/D/PLA

Blackberry Grove (BESS) storage

Dear Maitreyee Sinha,

The purpose of this letter is to oppose the Blackberry Grove site with further discussion needed regarding lighting in and around the facility as well as the economic impact of the project.

A couple sections of Attachment C of the Staff Report regarding the lighting of the proposed project are concerning. Below are snippets of the report that need further attention and clarification.

vi. Aesthetics and Property Value Impacts:

"...Lighting at the site will be dark sky compliant and will be shielded and placed in a manner to not cause glare on to neighboring properties."

Section 415 Lighting

"STAFF: Lighting will be installed to provide operations and maintenance personnel with illumination for both normal and emergency conditions. The application sates that permanent motion sensitive dusk-to-dawn security lighting will be installed to illuminate the yard and ingress/egress for security, emergency, and maintenance. All lighting will be shielded and directed downward to minimize potential of impact to adjacent properties and habitat.

Regardless of whether the lighting is motion activated or manually turned on, appropriate trade permits are required prior to installation and all lighting must be installed to prevent spill and glare on to adjoining properties. A condition of approval is recommended requiring compliance with the standards of this section for the facility."

Included in the Preliminary Site Plan for the Proposed Blackberry Grove site is the following Luminaire Schedule:

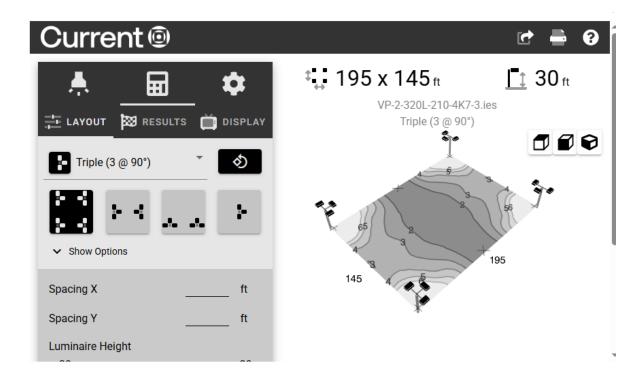
Lumin	naire Sch	hedu	le								
Symbo	ol	Qty	Description	LUM. WATTS	Luminaire	LAMP	MOUNTING	LLF	FIXTURE	NOTES	POLE NO.
					LUMENS		LOCATION		ARRANGEMENT		
	>	48	VP-2-320L-210-4K7-3	210	30000	4000K	POLE	0.90	3 @ 90 DEGREES	MOUNTING HEIGHT AT 30FT	POLES 1-16
	•	2	WCNG WALLCONNECT LED WALLPACK	16	2100	3000K	BUILDING	0.90	@ O DEGREES	MOUNTING HEIGHT AT 10FT	N/A
		8	PREDATOR MEDIUM LED FLOODLIGHT P2 PACKAGE	305	43000	4000K	POLE/STRUCTURE	1	TBD	MOUNTING HEIGHT AT 40FT	POLES 17-18

- 1) 16 poles 30,000 Lumens, 4000K lamp with a fixture arrangement of 3 per pole mounted at 30 Ft height. No indication as to how tall the poles will be.
 - = 48 qty- 30,000 lumens lights on the property (90,000 lumens per pole).
- 2) 2 poles 43,000 Lumens, 4000k lamp with a fixture mounting height at 40 Ft with no fixture arrangement noted but notes 8 qty. No indication as to how tall the poles will be.
 - = 8 qty 43,000 Lumens lights on the property (proposed 172,000 lumens per pole)

Lights being mounted on poles at 30 ft near adjacent properties makes it very difficult to believe that there would be "minimal impact to adjacent properties and habitat" to the surrounding neighborhood. Currently there are no street lights in the Bendemeer neighborhood. Adding 48 – 30,000 lumen and 8 – 43,000 lumen light fixtures to a dark area will definitely have an impact.

According to DarkSky.org (https://darksky.org/), Section 2.0 Lighting Criteria: The light source CCT shall not exceed nominal 3000 K. Therefore, 56 of the 58 proposed light fixtures do not meet the requirements to be dark sky compliant.

Based on the manufacturer's website for the 48 fixtures noted in the preliminary site plan (https://www.currentlighting.com/outdoor-lighting/viper-area-size-2/9606404) with the lumens, watts, number and arrangement, the following light map was provided from the manufacturer:



Nothing in the proposed site plan will help deflect the amount of light this facility will generate and affect the neighboring properties to excess light exposure in a current dark neighborhood. Currently there are four poles on the backwall of the proposed plan that are backed up directly to residential properties. Four other poles are placed on the south side of the back pods. These lights will have an illumination impact when placed 30' up a pole where the wall will only be 12' high. The current trees that are on site will be impacted due to construction and more than likely will die within 5 years leaving every adjacent property susceptible to direct excessive light exposure.

The staff report notes: "All lighting will be shielded and directed downward to minimize potential of impact to adjacent properties and habitat". Directing that much light downward at 30' up and that close to adjacent properties will not minimize potential impact.

There are many factors that deem this project unsuitable for this location with lighting being just one of them. Based on the impact to a residential neighborhood and the change to AF-5 zoning, this proposed project needs to be rejected. I do not object the project/concept itself, I object the location and the process that has happened regarding potential approval.

Economic impact

In regards to the economic impact, it appears to be short sighted as to how great this project is to the Washington County budget. Since there is already going to be rezoning to try to accept

this project, then the county needs to look at other options that can also have an economic impact without disrupting the nature of the Bendemeer neighborhood. The 9+ acre area could be used to increase housing with approximately 8 – 1 acre lots (similar to other properties in the neighborhood). Eight additional residential units could bring in \$8,000 (to start) per lot in property taxes. This \$8,000 is based on my current property tax bill and I live in the Bendemeer neighborhood. That is \$64,000 per year for the first year. Assuming a 3% increase in property taxes each year, over the next 25 years that is equal to \$2.3 million dollars of taxation from that land that will be go towards schools, government and other categories.

Constructions and ancillary jobs to build 8 additional housing units can potentially last a longer time period than just one year. It will have similar impact on the local economy during construction if not more since it will impact more industries (framing/lumber, concrete, electrical, plumbing, roofing, architectural, inspections, interior furnishings). It will also bring more families into the area supporting local businesses and paying income taxes long term vs a couple employees here and there.

All the other economic points Jupiter has made for the property can still apply if this facility was built in an area not zoned AF-5.

Sincerely,

Katie Gilbertson

From: <u>LUT Development</u>
To: <u>Maitreyee Sinha</u>

Subject: FW: [EXTERNAL] RE: case file L2500161-SU/D/PLA - Response to Applicant's Fire Safety info for Jupiter BESS

Facility

Date: Monday, November 10, 2025 12:27:36 PM

Attachments: Response to Applicants Fire Safety info of Jupiter BESS Facility L2500161 - Mei-hui Wang.docx

Importance: High

From: Mei-hui Wang <MeiHuiWang_2025@outlook.com>

Sent: Monday, November 10, 2025 11:59 AM

To: LUT Development <LUTDEV@washingtoncountyor.gov>; Louisa Bruce

<Louisa_Bruce@washingtoncountyor.gov>

Subject: [EXTERNAL] RE: case file L2500161-SU/D/PLA - Response to Applicant's Fire Safety info for

Jupiter BESS Facility

Importance: High

Hi Washington County Department of Land Use planning Staff,

In the attached document, please find my response to Applicant's Fire Safety info for Jupiter BESS Facility L2500161-SU/D/PLA.

Please help include it into the public records for the hearing officer to review.

Please kindly reply with a confirmation of recording. Thank you for your help!

Mei-hui Wang 21727 NW West Union Rd. Hillsboro, OR 97124

meihuiwang 2025@outlook.com



Commonalities Between an "Industrial scale" BESS Facility and a Chemical Factory

Category	Shared Feature
Chemical Processes	Both involve active chemical reactions—BESS during charge/discharge, factories during production.
Thermal Management	Require temperature control to prevent overheating, thermal runaway, or reaction instability.
Hazardous Materials	Contain reactive or flammable substances (e.g., lithium, solvents, gases) that pose fire/explosion risks.
Ventilation & Exhaust	Require ventilation systems to manage heat, gases, and potential leaks.
Process Control Systems	Use automated monitoring and control systems (e.g., BMS in BESS, SCADA in factories) to regulate operations.
Containment within facility/factory	Designed with segregated zones for safety—battery racks/modules in BESS, reactors/storage in factories.
Regulatory Oversight	Subject to environmental, fire, and industrial safety regulations (e.g., NFPA, EPA, OSHA).
Emergency Response Planning	Must have fire suppression, spill containment, and evacuation protocols.

Regulatory and Safety Standards

- BESS: Governed by NFPA 855, UL 9540A, and local fire codes; safety testing is evolving but not yet standardized nationwide.
- Chemical Factory: Subject to OSHA Process Safety Management (PSM), EPA Risk Management Program (RMP), and NFPA codes.
- Shared Need: Both demand compliance with evolving safety regulations, hazard analysis, and community right-to-know transparency.

Process Monitoring and Control Systems

- BESS: Uses Battery Management Systems (BMS) to monitor voltage, temperature, and state-of-charge.
- Chemical Factory: Employs Distributed Control Systems (DCS) or SCADA to manage process variables.
- Commonality: Both rely on real-time monitoring and automated controls to prevent unsafe conditions.

11/13/2025 Mei-Hui Wang

Common Risk of an "Industrial Scale" BESS Facility vs. a Chemical Factory

- Fire and Explosion Risk
 - BESS: Lithium-ion batteries can undergo thermal runaway, leading to fires or explosions.
 - Chemical Factory: Handles flammable chemicals and pressurized systems that can ignite or explode under failure conditions.
 - Shared Risk: Both require specialized fire suppression systems, blast protection, and evacuation protocols.
- Hazardous Materials and Contaminants
 - BESS: Contains electrolytes, binders, and separators that may release toxic substances during fires or leaks—including PFAS and fluoride gases.
 - Chemical Factory: Uses and stores hazardous chemicals that can contaminate air, soil, and water.
 - Shared Risk: Both pose environmental contamination risks and require containment strategies and spill response plans.

Siting Comparison and Community Risk

- BESS: <u>Sited near substations with some near urban areas</u>, raising concerns about proximity to homes, schools, or critical infrastructure. Emerging technology with limited public understanding; emergency responders may lack training.
- Chemical Factory: Typically zoned in industrial areas, except legacy sites may be near residential zones. Chemical Factory: Longstanding awareness of risks, but still requires community engagement and drills. Industrial zoning reduce impact on residents
- Commonality: Both raise land-use planning and community right-to-know issues, especially in environmental justice contexts. Both benefit from public education, clear signage, and coordinated emergency response.

Conclusion

An "Industrial scale" BESS Facility should be sited within an industrial zone like a chemical factory. This will provide a proper buffer for residents to have time to evacuate for an excursion event and contain impact on environments for all living creatures.

11/13/2025 Mei-Hui Wang

Larger scale BESS facility poses higher risk

- Proposed Jupiter BESS on West Union has energy capacity of 400 MWh and power of 100 MW within 200 feet from adjacent residential properties at north/east/west sides.
 - 400 MWh is ~4000 EV batteries and ~12000 gallons of gasoline which is a typical storage capacity of a gas station.
- Based on the BESS list in Jupiter BESS application document "3._Blackberry_BESS_Property_Value_Impact_Analysis[1]", the only large BESS within ~200 feet of adjacent residents is Gambit (Angleton TX) only at east side.

West Union (Jupiter proposed Hilium)



Gambit, (Dashiell Corp, Tesla Megapack)



# Name 0 Claire	City/State Baytown, TX	Acres 9.27	Year Built Proposed	Capacity (MW)		Average Distance Adjoining Home 131	
1 Cane Run	Cane Run, KY	416.8	Proposed	400.0	1190	1,830	No
2 Medway Grid	Medway, MA	10.6	Proposed	250.0	150	N/A	22 ft
3 Diablo	Pittsburg, CA	11.45	2021	200.0	320	361	4 ft
4 Fort Watt	Fort Worth, TX	47.94	Proposed	200.0	515	1,412	N/A
5 Cranberry	Carver, MA	34	2025	150.0	680	N/A	N/A
6 N Central Valley	Stockton, CA	N/A	2023	132.0	N/A	N/A	No
7 Silicon Hill	Pflugerville, TX	N/A	2022	100.0	350	N/A	No
8 Bat Cave	Mason, TX	N/A	2021	100.5	N/A	N/A	No
9 Gambit	Angleton, TX	6.24	2021	100.0	215	243	8ft
10 Chisholm	Ft Worth, TX	21.74	2021	100.0	840	875	No
11 Yadkins EC	Chesapeake, VA	29.34	Proposed	100.0	775	1,609	No
12 Roughneck	W. Columbia, TX	4.55	2021	50.0	1,095	N/A	No
13 Vista	Vista, CA	0.88	2023	40.0	50	98	Yes
14 Outer Cape	Provincetown, MA	N/A	2020	25.0	435	N/A	Yes
15 N. New York Energy	Burke, NY	10.47	2023	20.0	945	945	N/A
16 West Chicago	Chicago, IL	5	2015	20.0	430	450	Yes
17 McHenry	McHenry, IL	2.75	2016	20.0	260	283	No
18 Plumstead	Cream Ridge, NJ	14.39	2019	20.0	155	943	12 ft
19 Rush Springs	Marlow, OK	N/A	2020	10.0	N/A	N/A	No
20 Prospect	W. Columbia, TX	2.3	2019	10.0	400	400	Yes
21 Brazoria	Brazoria, TX	17.58	2020	10.0	130	438	No
22 Churchtown	Pennsville, NJ	3.13	Proposed	10.0	N/A	N/A	No
23 Port Lavaca	Prt Lavaca, TX	1.44	2020	10.0	N/A	N/A	No
24 Magnolia	Houston, TX	0.87	2020	10.0	180	190	Yes
25 Rabbit Hill	Georgtown, TX	5.99	2020	10.0	130	338	Yes
26 Asheville	Asheville, NC	12.36	2020	9.0	130	452	Yes
27 Micanopy	Micanopy, FL	22.5	2022	8.3	605	1,085	No
28 East Hampton	E. Hampton, NY	17.58	2024	5.0	470	733	Yes
29 Montauk Energy	Montauk, NY	1.63	2019	5.0	N/A	N/A	Yes
30 Little Field ESS	Staten Island, NY	0.22	2023	4.3	40	84	Yes
31 Beebe	Wakefield, MA	N/A	2019	3.0	150	N/A	No
32 Ozone Park	Queens, NY	0.35	2018	3.0	30	203	Yes
33 Pomona	Rockland, NY	28.5	2020	N/A	270	1196	No
34 Connolly	Decatur, TX	N/A	2024	125.0	485	661	. No
35 Callisto	Houston, TX	N/A	2024	200.0	685	1,391	N/A

Mei-Hι

From: Mei-hui Wang

To: CPadmin; LUT Director; Louisa Bruce; Maitreyee Sinha; LUT Development

Subject: [EXTERNAL] Case file L2500161-SU/D/PLA - Responses to Applicant's Fire Safety info for Jupiter BESS Facility

Date: Thursday, November 13, 2025 9:32:01 AM

Attachments: Response to Applicants From Fire Link Safety-Executive Summary 04-25-25 L2500161 - Mei-hui Wang.docx

Response to Applicants Fire Safety info of Jupiter BESS Facility L2500161 - Mei-hui Wang.docx

Importance: High

Hi Washington County Department of Land Use planning Staff,

In the two attached documents, please find my responses to Applicant's Fire Safety info for Jupiter BESS Facility L2500161-SU/D/PLA.

Please help include them into the public records for the hearing officer to review.

Please kindly reply with a confirmation of recording. Thank you for your help!

(FYI, the case link for comment is no longer available here.

https://webapps.washingtoncountyor.gov/projects-comment/#top)

Mei-hui Wang 21727 NW West Union Rd. Hillsboro, OR 97124 meihuiwang 2025@outlook.com

Response to Applicant's From_Fire_Link_Safety-Executive_Summary_04-25-25 L2500161-SU/D/PLA

https://www.washingtoncountyor.gov/lut/documents/executive-summary-fire-link-safety-l2500161/download?inline

To: Stephen Roberts, Planning Director
Washington County Department of Land Use & Transportation
Planning and Development Services
155 N 1st Avenue, Suite 350
Hillsboro, Oregon 97124**S**

Re: Rebuttal – Table 1 in the Applicant's summary does not provide adequate data to ensure the safety of the residents around the proposed Jupiter BESS facility on West Union

Dear Director and Planning Staff

Applicant's "From_Fire_Link_Safety-Executive_Summary_04-25-25" provides some environment data of recent BESS fires. However, more details on what the data stand for, such as when and where the environmental samples are collected during the BESS excursion events, are lacking. Upon my request, Jupiter representative provided the air quality report of SDG&E battery fire during the open house event on Oct 7 2025. (A scanned copy is attached below.) In this case, the earliest and nearest environmental data was collected at > 2 hours after the fire started at 262 feet away. In case of proposed Jupiter West Union BESS facility, the nearby residents will be exposed to the "plume" from initial battery overheating and thereafter fire before TVFR can arrive to assess the environmental impact. Unfortunately, the air quality sampling data at the beginning of BESS excursion events are not available in this Applicant's report.



According to EPRI report on air plume modeling (attached below), "Plume" modeling is essential for site selection, emergency planning, and public safety.

- Battery size and chemistry
- State of charge (SOC)
- Ventilation and enclosure design
- Nearby structures and terrain
- Wind speed and direction

• Emission and heat release rates

In fact, Pre-Combustion (Off gassing) Phase has the highest gas release rate. EPRI recommends conservative assumptions, such as 3 modules pre-combustion off-gassing within 60 minutes, to simulate worst-case scenarios.

In conclusion, Applicant's "From_Fire_Link_Safety-Executive_Summary_04-25-25" does not provide adequate air quality analysis for BESS fire to confirm the safety of the proposed Jupiter BESS facility at West Union Rd for the adjacent residents only ~200 feet away. I strongly oppose case L2500161-SU/D/PLA.

EPRI Reference



Respectfully,

Mei-hui Wang 21727 NW West Union Rd. Hillsboro, OR 97124 meihuiwang_2025@outlook.com Nov 13, 2025

Response to Applicant's Fire Safety info for Jupiter BESS Facility L2500161-SU/D/PLA

To: Stephen Roberts, Planning Director
Washington County Department of Land Use & Transportation
Planning and Development Services
155 N 1st Avenue, Suite 350
Hillsboro, Oregon 97124**S**

Re: Rebuttal - Applicants provide NO emergency planning for large-scale BESS fires

Dear Director and Planning Staff

I respectfully submit this petition to express my **strong opposition** to the proposed 400 MWh Battery Energy Storage System (BESS) facility by Jupiter Power LLC, located near NW West Union Road and NW Old Pass Road in Hillsboro. After reviewing the two documents provided by the applicants for fire safety (links attached below), I found it incomplete because it contains NO planning for large scale BESS fires.

https://www.washingtoncountyor.gov/lut/documents/2-465-039-blackberry-grove-bess-fire-safety-approach-rev1-l2500161/download?inline

https://www.washingtoncountyor.gov/lut/documents/2a-465-039-appendix-blackberry-grove-bess-fd-training/download?inline

The proposed BESS location on West Union road has mature trees around perimeter of the property. The BESS containers will be installed within close proximity of these trees. These trees can fall by winter storms like the one in Feb 2021

(https://en.wikipedia.org/wiki/February_13%E2%80%9317,_2021_North_American_winter_storm) Fallen trees can hit multiple containers and fires can erupt from them simultaneously. This can result in a large scale of BESS fire, which will immediately threaten the safety of many adjacent residents within ~200 feet.

Another potential natural disaster is earthquake. Oregon faces a significant risk of a major earthquake in the next 25 years, primarily from the Cascadia Subduction Zone. Scientists estimate there is a 37% chance of a magnitude 8.0+ earthquake in the next 50 years, and a high likelihood that a damaging earthquake will happen at some point in the future. In the event of high magnitude earthquake, multiple BESS containers can be damaged and catch fire at the same time.

https://www.oregon.gov/oem/hazardsprep/pages/cascadia-subduction-

zone.aspx#:~:text=Oregon%20has%20the%20potential%20for,2%20Weeks%20Ready%22%20for%20disasters.

In the event of a large-scale BESS fire, can the residents within ~200 feet be evacuated <u>in</u> time for their safety and health? The applicants have not addressed the concern of a large-scale BESS file, since the safety and health impact will be <u>immediate</u> to the adjacent residents. In addition, in the events of natural disasters, the fire department will be overwhelmed with region wide emergency, so the adjacent residents impacted by a large BESS file behind their backyards are likely left on their own to fight for their own survival.

During Oct 30 public hearing, I have presented the commonality between an industrial scale BESS and a chemical factory (attached below). Jupiter 400 MWh BESS facility should be sited in industrial zone like a chemical factory. Industrial zones are specifically designed to accommodate high-energy operations and are typically equipped with robust safety protocols, buffer zones, and access to trained personnel. Placing BESS in these zones minimizes the risk to nearby homes, schools, and natural habitats

My presentation was included in public testimony exhibits H-7.

https://washco.sharefile.com/share/view/sa123f0042e884139b1d32627697785b9



Respectfully,

Mei-hui Wang 21727 NW West Union Rd. Hillsboro, OR 97124 meihuiwang_2025@outlook.com Nov 10, 2025 From: <u>Lauren Scott</u>

To: Louisa Bruce; Maitreyee Sinha
Subject: FW: NO TO BESS! (1)

Date: Monday, November 3, 2025 3:42:57 PM

I can't tell who was copied in on this one.

Lauren Scott | She/Her

PUBLIC AFFAIRS & COMMUNICATIONS MANAGER

Washington County Land Use & Transportation

Office: 503-846-3853 | Cell: 971-487-7073

www.washingtoncountyor.gov/lut | wc-roads.com

From: Board of County Commissioners < bcc@washingtoncountyor.gov>

Sent: Monday, November 3, 2025 12:40 PM

To: Lauren Scott <Lauren_Scott@washingtoncountyor.gov>

Subject: Fwd: NO TO BESS! (1)

Forwarded message

From: Melanie Myers

Date: Oct. 30, 2025 1:08am

Subject: NO TO BESS!

To: bcc@washingtoncountyor.gov

I'm an extremely concerned resident of Washington County, with an home in Helvetia. I'm furious about the prolific spread of tech-driven, dangerous construction proposals leading to the destruction of Oregon farmland. Not only data centers that are eating up this land and valuable resources, and now proposals for a 12 acre battery field and a 12 acre solar "farm".

The urban growth boundary is there for a reason, and these "utility" loopholes are only exacerbating the destruction of this valuable farm land. There are residents, various schools, churches, farms and small businesses that will be severely affected over time if this activity continues. Health hazards, destruction of valuable resources, property valuations, the list goes on and on. WHEN WILL IT STOP?

<u>Lithium-ion batteries</u> are prone to "thermal runaway" -- a self-sustaining chain reaction causing rapid overheating, fires, and potential explosions. Triggers include manufacturing defects, electrical faults, or external damage. High energy density in modern cells exacerbates this risk, with temperatures exceeding 1,000°C during thermal runaway. Close proximity of battery modules within BESS installations risk fire spread. <u>It is critical to comprehend</u> that lithium-ion battery fires are extremely difficult to put out with water.

Water is used, but only in an attempt to keep adjacent batteries from igniting and adding more fire and potential explosions to the initial fire. The current practice to handle a lithium battery fire is to let it burn itself out (which can take days), while trying to prevent additional battery fire and explosions -- while firefighters are instructed to try to protect themselves from toxic fumes by staying down wind of the billowing clouds of thick black smoke which might be spreading to surrounding buildings a mile or more away! Emergency evacuations or shelter in place instructions are issued, creating upheaval for families, schools, and businesses as well as a nightmare of cleanup tasks.

Please stop ruining Oregon farm land and surrounding communities!

Melanie Myers 13500 NW Bishop Rd Hillsboro, OR 97124 503-720-3738 mellym@me.com From: <u>tsuan-chung Chang</u>

To: CPadmin; LUT Director; Louisa Bruce; Maitreyee Sinha; LUT Development; tsuan-chung Chang

Subject: [EXTERNAL] Case file L2500161-SU/D/PLA - I strongly oppose this BESS project in AF5 Zone surrounded by

residents

Date: Thursday, November 13, 2025 10:34:16 AM

Attachments: Objections to the Proposed BESS in the AF5 Neighborhood-tsuan-chung chang.docx

Hi Washington County Department of Land Use planning Staff,

I strongly oppose the big BESS project in the AF5 Zone surrounded by residents. BESS belongs to the industrial area, not in this neighborhood.

pls consider the true purpose of the county codes, they are to protect county residents' wellbeing, and pls reject this BESS project in our neighborhood

thanks

tsuan-chung chang 21727 NW West Union Rd. Hillsboro, OR 97124 tsuanchungchang@gmail.com

Objections to the Proposed BESS in the AF5 Neighborhood

Safety Risks Associated with BESS

A major concern regarding the Battery Energy Storage System (BESS) proposed for the AF5 neighborhood is the potential danger it presents to residents. With the facility surrounded by homes, the risk of fire or explosion is particularly alarming. Ensuring the safety of the community should be the foremost priority, and locating such infrastructure in a residential area raises significant safety issues.

Mental and Emotional Toll on Residents

The presence of the BESS facility brings ongoing fear and worry for those living nearby. Residents are burdened by the constant anxiety of what could happen, and this stress negatively impacts their overall quality of life. The mental and emotional well-being of the community must be taken into consideration when evaluating this proposal.

Concerns About Private, For-Profit Involvement

There is unease about the possibility of a private, for-profit company gradually entering the local energy market through the BESS project. Residents question what this could mean for future energy costs and the financial impact on the community. The involvement of such a company introduces uncertainty about affordability and accessibility for local families.

Call to Reject the BESS Proposal

It is strongly urged that the BESS proposal for the AF5 Zone, which is surrounded by residential homes, be halted. Allowing this project to move forward could set a precedent, enabling companies like Jupitor to construct similar facilities wherever they choose, regardless of community concerns.

Facilities such as BESS should be located in designated industrial areas, not in neighborhoods like AF5 that are closely surrounded by residences. It is important not to allow private companies to selectively follow regulations that may lead to the detriment of the community. Existing codes indicate that Jupitor is not qualified for this project in the AF5 Zone.

For the well-being of Washington County residents, the proposal for Jupitor's BESS in the AF5 Zone should be rejected.

From: Todd & Becky Baird

To: Maitreyee Sinha

Subject: [EXTERNAL] Testimony For The Open Record - Casefile L2500161

Date: Thursday, November 13, 2025 12:03:28 PM

Attachments: WelcomeToBendemeer final.pdf

Dear Ms. Sinha,

Please submit the attached document into the open record for Casefile L2500161. Would you please acknowledge receipt of this testimony submission.

Thank you, Todd Baird

Welcome to Bendemeer

To: Ms. Maitreyee Sinha, Washington County Planning

Mr. Joe Turner, Hearings Officer

Washington County Department of Land Use and Transportation

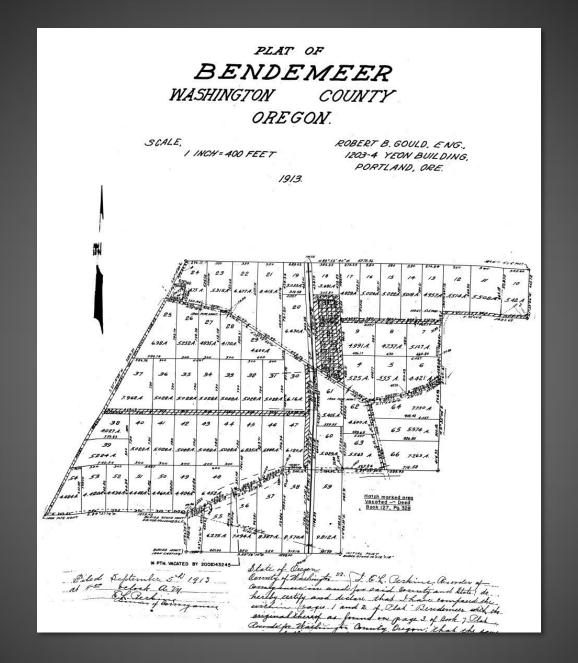
Re: Jupiter Power "Blackberry Grove" Battery Energy Storage System (BESS)

Washington County Case No. L2500161

Submitted by: Todd Baird, 21210 NW Bendemeer Rd., Hillsboro, OR 97124

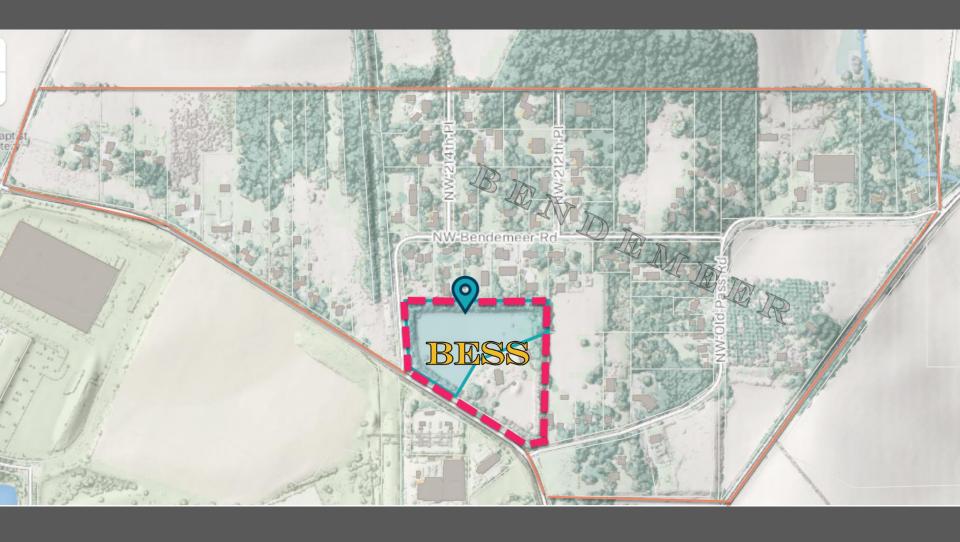
Phone: 503-781-7559, Email: fivebairds@comcast.net

Previously submitted testimony has highlighted incompatibilities between the proposed BESS facility and the Bendemeer community's residential and rural character. This document provides a visual perspective of the Bendemeer neighborhood in the AF-5 Zoning District, in which the property in question forms a key element.



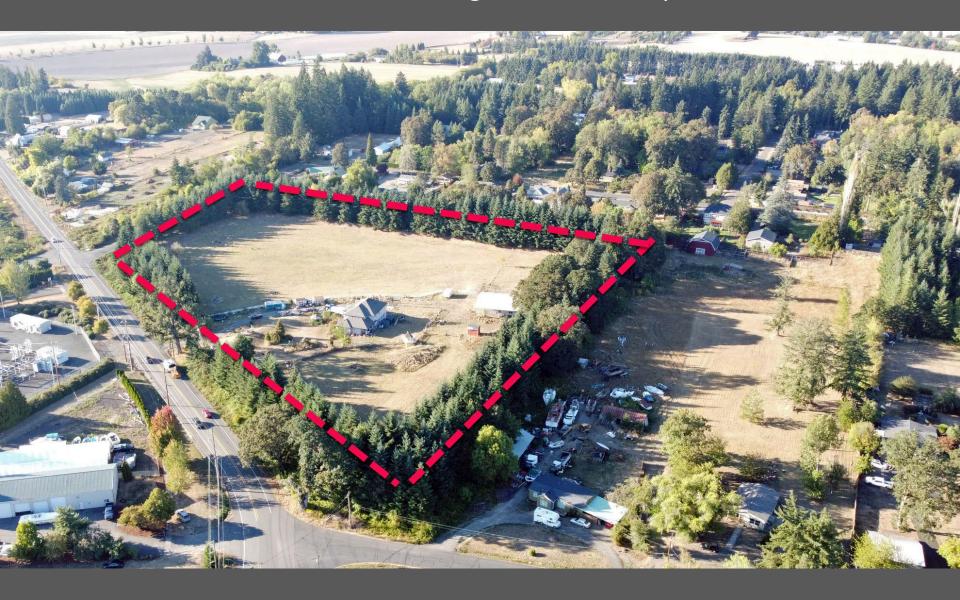
Bendemeer was initially envisioned and platted in 1913

Bendemeer neighborhood today



The proposed BESS facility (noted in red) would take a prominent position here

Bendemeer neighborhood today



The proposed site is the largest property in the Bendemeer neighborhood



Proposed BESS site is currently a welcoming entry to the neighborhood



Entering rural Bendemeer neighborhood from West Union Rd.



Lots have beautiful trees everywhere with spaces for outbuildings



The feel of a rural neighborhood



Beautiful trees and yards on NW 214th Place



Nicely maintained yards line NW 212th Place



Edge of a forest at the end of NW 212th Place



Space for fruit trees, gardens, tree houses, and trampolines



Looking west on NW Bendemeer Rd.



Looking east – neighborhood utility poles are not taller than 35 feet



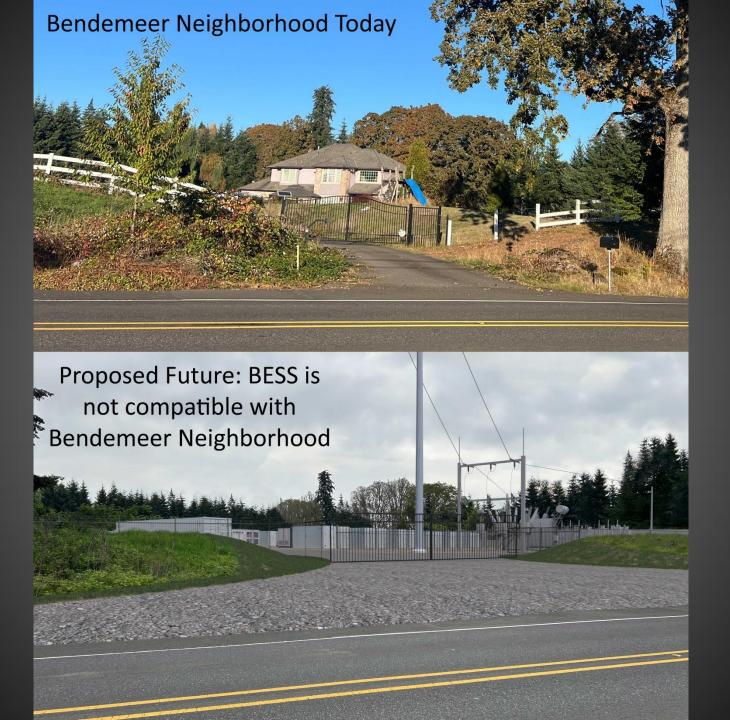
Proposed BESS is just behind where these trees are... across the fence from goats and chickens being raised



Proposed BESS is just behind where these trees are... right in the backyard of longtime neighbors



25 MPH speed sign shows this is recognized as a residential neighborhood



From: <u>Tascha Gamroth</u>
To: <u>Maitreyee Sinha</u>

Subject: [EXTERNAL] PLEASE FORWARD: Additional Comments RE: CASEFILE L2500161-The Assault on Bendemeer

Community, Our Residents, The Urban Reserve Plan & ALL Communities

Date: Thursday, November 13, 2025 3:59:30 PM

To All People Involved in this Blatent Assault of the Peace, Well-Being, Safety & Welfare of Our Community & Property Values, Being Facilitated by Washington County and BLACKROCK CORPORATION (Disguised as "Jupiter"):

As a Washington County Resident & Realtor here of 40 years, I have NEVER been so absolutely appalled, disgusted and ashamed of the egregious acts of the Planning Department as I am today. THIS CASEFILE SHOULD HAVE BEEN A HARD NO from the START! There are a litany of petty, ridiculous things you have rejected in the backyards of the citizens, yet you surreptitiously have been working behind our backs to ILLEGALLY OVERSTEP YOUR AUTHORITY and attempt to sneak through a DIRECT VIOLATION of Our Metro URBAN RESERVE PLAN in FAVOR OF DESTROYING our neighborhoods and threatening the health of our people and animals, the values of our properties, and the well-being of the community as a whole! Who are you working on behalf of-the COMMUNITY or EVIL CORPORATION? You'd better think long and hard on that question, because YOU WILL be tested on it later.

How dare you betray your citizens, the community, Metro, the Urban Reserve Plan and the tax dollars that give you a job! If you were or ARE in support of Corporations destroying Community and Urban Reserve Plan, just keep showing us who you really are, and WE the COMMUNITY will show you who we really are!! The people of today are getting tired of the deception, the corruption, the overstepping and betrayal, and the buck is going to stop here, or all HE** will break loose.

Enough is enough, and NO GASLIGHTING and LAUGHABLE "REDEFINING DEFINITION of UTILITY" is going to keep you safe in enabling your manipulative, money-seeking plan to prevail over the WELL BEING OF THE COMMUNITY!

If you prove yourselves to be in support of everything violating those who support your paychecks, then you need to STRONGLY CONSIDER getting a different job OUTSIDE of this county! Don't you Dare try to promote the evil agenda behind closed doors and betray the people are areas you are SUPPOSED to be supporting, or you will be forced to be accountable for your actions.

YOU HAVE A CHOICE: Change your ways, start working for the CITIZENS, or be exposed and held accountable both personally and professionally.

The fact that you cannot even be honest, accountable and forthright and that your own citizens have to catch you in the ACT of violating the community, overstepping your legal and personal authority is absolutely deplorable. That you do not even feel that you even owe a FACE-to-FACE personal meeting with your citizens and you would prefer to slither behind a Zoom Meeting is Shameful and DULY NOTED.

We are gaining thousands of alliances and are prepared and will fight until all are exposed and will be calling for resignation, firings and sanctioning to all responsible for the DAMAGE you are attempting to impose on the community under your GASLIGHTING shirade.

YOU KNOW that what you are doing is IMMORAL and WRONG. You have time to do the right thing, and I am urging you all to examine your conscience and make your wrongs a right on behalf of the humans whom you have already caused much damage to, financially and emotionally, due to your own agendas.

We will keep going, rally the community, rally the other counties, rally the realtors, the politicians, the Citty, the State, the News, the Papers, All Media, even the Federal Government, if necessary.

You cannot and will not be allowed to set Precedents of this nature. Not here, not now, no longer.

Sincerely,

Tascha Gamroth (on behalf of many)

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From: Gordon Vreugdenhil

To: <u>LUT Development</u>; <u>Maitreyee Sinha</u>

Subject: [EXTERNAL] L2500161-SU/D/PLA comments (submission one)

Date:Thursday, November 13, 2025 10:08:25 AMAttachments:HearingResponse License 20251112.pdf

Please see attached .pdf as written submission one for $\ensuremath{\text{L2500161-SU/D/PLA}}$, Blackberry Grove.

Please acknowledge receipt of this submission.

Gordon Vreugdenhil 7527 NW 212th Pl, Hillsboro OR 97124 misc@gordonv.net 971-506-8154

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To: Washington County Planning and Development Services | Current Planning Maitreyee Sinha, Senior Planner, Casefile / Project #: L2500161-SU/D/PLA 155 N 1st Avenue, #350-13, Hillsboro OR 97124

From: "No Batteries in Backyards" c/o Gordon Vreugdenhil 7527 NW 212th Pl, Hillsboro OR 97124

misc@gordonv.net 971-506-8154

Date: Nov 12, 2025

This letter (submission 2) is in response to testimony provided at the Oct 30, 2025 hearing for the Jupiter application to build the Blackberry Grove battery facility. As a side note, while my (Gordon Vreugdenhil's) background is not in acoustical engineering, I hold an M.Math and Ph.D. in Computer Science and during my career, have spent 13 years participating in IEEE (Institute of Electrical and Electronics Engineers) standards development related to IEEE 1364 and IEEE 1800. As such, I am very aware of the importance of standards compliance and with performing detailed compliance interpretations for standards.

Exhibits

- Exhibit 1: Relevant code comments and comments from Dana Lodico in transcript file GMT20251030-184425_Recording.transcript.vtt from the second part of the hearing on Oct 30, 2025
- **Exhibit 2:** The noise commentary, including the engineering report from Listen Acoustics, submitted by Gordon Vreugdenhil prior to the in person hearing.
- **Exhibit 3**: A BESS noise remediation report from Noise Monitoring Services in California addressing steps taken to manage noise from a BESS installation adjacent to a residential neighborhood.

Code Requirements

We do not agree with the applicant's interpretation of the relationship between Washington County ordinances, Oregon Administrative Rules, and Oregon DEQ. They claimed: "To my knowledge, Washington County has not adopted DEQ's noise standards into its code." (ref 124, Exhibit 1). However, Washington County Ordinances are clear that Oregon Administrative Rules apply within Washington County. In Washington County Ordinances, Chapter 8.24 NOISE CONTROL the following is stated:

8.24.050 Conformity with law.

This chapter shall not in any way be a substitute for, nor eliminate in any way, the necessity for conformity with any and all laws or rules of the state of Oregon or its agencies, nor any ordinance or rule or regulation of the county. (Ord. 548 (Exhibit A(part)), 1999: Ord. 298 § 2 (Exhibit A § 4), 1984)

DEQ's role, or lack thereof, in **enforcement** of noise rules is immaterial. Oregon Administrative Rules still apply, meaning that compliance to OAR 340-035-0035 relating to noise emission is required within Washington County.

DEQ, on its website, is clear:

DEQ is not able to investigate noise complaints as of July 1, 1991 when legislative action was taken to terminate the DEQ Noise Control Program. DEQ rules governing noise remain in place for city, county or municipal government entities to utilize.

Were the state noise regulations rescinded?

No. The state noise regulations remain on the books. Regulated sources of noise are legally responsible for complying with all applicable provisions and standards, even though DEQ no longer investigates noise complaints. [emphasis added]

(https://www.oregon.gov/deq/residential/pages/noise.aspx)

The applicant's development is required to comply with OAR 340-035-0035. The subjective standards in Washington County Chapter 8.24.010 Findings are not **in place of** OAR 340-035-0035, they are **in addition to** OAR 340-035-0035.

As a result of the above, failure to comply with OAR 340-035-0035 requires that the application be denied.

Lack of Compliance with OAR 340-035-0035

Missing Information

- 1. L1 and L10 information is not provided. The applicant commented that "I suppose I could have written them in the report, but, pretty straightforward there." (ref 160-161 in Exhibit 1) The applicant's opinion relating to code requirements is not material -- the L1 and L10 analyses are required by OAR 340-035-0035 and have not been provided.
- 2. Transformer information is not provided. The applicant states "the, transformers are not commonly selected until the final design of the project... But to use a general spectra and determine tonality doesn't really make sense" (ref 163 in Exhibit 1). The applicant then claims to have used a "worst case" set of parameters. Those parameters have not been provided and have not had any tonal analysis performed. Due to the lack of provided parameters, it would be impossible to verify that final transformer selection is, in fact, within the "worst case" the applicant claims. Since the transformer is the loudest component in the installation, an accurate and complete analysis that is compliant to OAR 340-035-0035 must be provided to have confidence in the resulting model. The applicant has failed to provide that.
- 3. The applicant has not addressed the missing tonal and 1/3 octave noise analyses required by OAR 340-035-0035.
- 4. As noted in the engineering report attached to the Exhibit 2, the ambient noise analysis provided by Jupiter does not provide required calibration information for devices used. OAR 340-035-0035 Sound Measurement Procedures Manual (NPCS-1) Chapter 3 requires not only field calibration but also annual laboratory calibration that is traceable to the National Bureau of Standards. No such calibration information was provided.
- 5. Other information is missing as noted in the Exhibit 2, concerns 4, 5, and 6 as required.

Misleading and inconsistent data

1. The applicant repeatedly claims that "worst case" and "conservative" assumptions have been used. However, as noted in the Exhibit 2, concern 9, the graphical sound data and overall model clearly does not include "worst case" information for any of the components. In particular, the transformer "worst case" is stated to be 100dBA but the model shows a maximum transformer level less than 80dBA. A 20 dBA difference is very significant in terms of resulting sound levels. So clearly the model is not "worst case" and will substantially under-represent actual site sound levels. Also see the details in the engineering report Section 3.1 in the Exhibit 2.

It is important to note that the updated noise report (Hearing Exhibit H-4) differs from the original noise report in the sound contour map. Confusingly, the updated noise report is still dated June 4, 2025 with no indication that it is a revised report. In any case, in the revised report, the sound contour map now does include a 10' sound wall on the east side.

However, the scale on the map has removed the color index for levels above 75dBA. This likely means that no sound sources over 80dBA are present. If sound sources above that level are claimed to be included, then the index is incomplete or misleading. Since the sound contours are substantially similar to the prior report, it seems clear that the sound map still does not include the transformer as a 100dBA sound source. So this is certainly still not a worst case analysis and significantly understates the resulting sound levels. Since even the report, with its lower assumptions, is at or within 2dBA of their analyzed permitted levels, a proper worst case analysis would clearly exceed permissible limits.

- 2. As noted in the Exhibit 2, concern 2, the ambient sound analysis does not comply with methodology requirements in NPCS-1 and results in a claim of a higher permissible noise limit than what would be allowed with a proper study.
- 3. The applicant has not addressed concerns about sound levels at second story heights. There is no "limit" to the height at which compliant sound levels are required by OAR 340-035-0035. It is clear that at 16-20' heights, the site will have non-compliant sound levels and that will directly impact adjacent properties. Compliance cannot be arbitrarily limited to a 5' height as the applicant has done.

Other Issues

The applicant stated "It [ISO 9613] also doesn't take into account any trees or foliage, which would, you know, lower the levels a little bit. Doesn't take into account any off-site structures, which would, of course, result in lower levels." (ref 167 in Exhibit 1). Off-site structures clearly cannot be taken into account. The OAR 340-035-0035 3(b) measurement rules relate to sound levels leaving a property, i.e. the sound level at the property line. The reasons for that are clear – you cannot create expectations for sound mitigation on other properties. As a new development, you are required to meet the sound limits by way of mechanisms on your premises.

The addition of a driveway on the west side of the property, without any sound mitigation, presents a direct path for noise to travel to the west to the property under development. The sound level at the property line of the Blackberry Grove project will be well above required limits. At very least a staggered sound wall should be required on the west side in order to allow for the driveway and provide sound attenuation.

The applicant has not addressed sound levels on the south side. While there are no residences on that side, there is frequent bike traffic along West Union and the presence of the transformer close to the road and with no sound mitigation, will create very high sound levels. Oregon requirements do not permit one to have higher limits on boundaries due to the nature of adjacent properties; the limits are determined by the nature of the new development itself. Without sound barriers, the sound levels on the property line on the south side will also exceed permissible limits.

The testimony related to equipment also appears to be inconsistent. In Exhibit 1, ref 162, Ms. Lodico says "transformers are not commonly selected until the final design of the project, as opposed to some of the other equipment where we actually have manufacturer spec data."

Yet in Exhibit 1, ref 172, Ms. Lodico says "We have, you know, we have the equipment specs." when defending the accuracy of the sound model. If ref 162 is accurate, ref 172 cannot be.

Summary

Without full disclosure of all modeling assumptions and equipment specifications, it is impossible for us to formulate specific noise predictions. However, based on the identified issues with methodology and data being provided by Jupiter, it is clear that the site as proposed will far exceed permissible limits from OAR 340-035-0035. The applicant's responses fail to adequately address numerous specific compliance issues, some of which cannot be addressed without further on-site studies.

If Jupiter is confident of compliance, they should have no objection to the addition of a condition to the permit as described in requested condition 13 in the Exhibit 2. While we do not believe that the application can be approved due to the licensing, compliance and data issues, if the hearing officer disagrees, we urgently request that the above condition be required in order to have clear and immediate recourse when noise limits are exceeded.

Related Development

We strongly recommend that the hearing officer review the following article related to noise analysis and mitigation for a BESS installation close to residences in California.

https://www.noisemonitoringservices.com/battery-energy-storage-system-bess-noise-challenges-and-solutions/

This report is included as Exhibit 3. Used with permission from Thomas Corbishley, Principal Consultant, Noise Monitoring Services.

It is important to note that tonal analysis was a critical part of the analysis and required specific actions to resolve. This aligns with OAR 340-035-0035 requirements for tonal information and 1/3 octave analysis. Such analysis has not been provided by Jupiter, which is non-compliant, and introduces substantial risk for tonal sounds above the required limits. In addition, the California site required a 20' sound absorption wall, not merely a 12' concrete wall as proposed by Jupiter. The 12' wall will simply not be sufficient to mitigate 2nd story exposure to non-compliant noise levels.

Gordon Vreugdenhil

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Exhibit 1

Code comments and Dana Lodico comments from transcript file GMT20251030-184425_Recording.transcript.vtt from the second part of the hearing on Oct 30, 2025. Comments 138-177.

120

00:14:27.620 --> 00:14:34.100

Oxbow: The purpose of the... Wall, which itself is set back

121

00:14:34.370 --> 00:14:43.139

Oxbow: Roughly 100 feet from the east and roughly 120 feet from the north, is to ensure that we are going to satisfy,

122

00:14:43.250 --> 00:14:53.659

Oxbow: any applicable standards concerning noise. And I just wanted to clarify, I understand that the opponents disagree with our noise study.

123

00:14:53.850 --> 00:15:03.100

Oxbow: But the criteria in... the adopted code in the CDC referred to the Washington County Noise

124

00:15:03.330 --> 00:15:14.189

Oxbow: limits which are subjective. They're not objective like DEQs are. To my knowledge, Washington County has not adopted DEQ's noise standards into its code.

125

00:15:14.540 --> 00:15:20.259

Oxbow: And while we believe we meet those DEQ's noise standards, I want to be clear that they are not themselves criteria.

[.....]

138

00:16:38.820 --> 00:16:56.309

Dana Lodico: I think I'm... can you, can you hear me? Yeah. Excellent. Dana Ledico, and my address is 1001, Bannock Street, Unit 231, Denver, Colorado, 80204.

139

00:16:59.450 --> 00:17:14.749

Dana Lodico: So, I just wanted to start by saying thank you, Mr. Turner, for, for being here and for listening to, to me and to, the applicant, and also for, the public for just being so engaged. It's just, it's...

140

00:17:14.750 --> 00:17:22.110

Dana Lodico: I always appreciate being involved in a community that's, you know, responsive and engaged in the project process.

141

00:17:22.109 --> 00:17:24.039

Dana Lodico: There were a number of, things.

142

00:17:24.040 --> 00:17:27.280

Joe Turner, Hearings Officer: Ms. Lodico, are you a sound engineer, is that correct?

143

00:17:27.280 --> 00:17:52.209

Dana Lodico: Oh, yes, I'll start, I'm sorry. Thank you. So, I am a sound engineer, yes. So, I, yeah, so I'm a senior acoustician with Dudec. I have my Bachelor's Science in Civil Engineering, Master's in, Acoustics, and I'm currently, getting my PhD, in industrial design. I'm also, I've been working in, professionally in acoustics.

144

00:17:52.210 --> 00:17:54.970

Dana Lodico: It's for more than 25 years.

145

00:17:54.970 --> 00:18:06.569

Dana Lodico: I'm a licensed civil engineer in Colorado and California, and I'm also board certified by the Institute of Noise Control Engineering, and I'll get back to that in just a moment.

146

00:18:06.570 --> 00:18:22.540

Dana Lodico: I have, I don't know, I think 14 journal publications and more than 50 conference proceedings, et cetera, in the field. I'm also the president-elect of the Institute of Noise Control Engineering of the U.S, and vice president of the International Institute of Noise Control Engineering.

147

00:18:22.820 --> 00:18:47.100

Dana Lodico: So that's... that's me. So I, and there's a number of things, and I'm not sure we'll get through them in our 5 minutes, but I'm gonna just, I guess, go forward, and if you have any questions, then we can stop and, you know, continue with written comment after that. So there

were some questions, talking about professional engineering requirement. So, professional engineering license doesn't currently regulate noise control engineering.

148

00:18:47.100 --> 00:19:12.040

Dana Lodico: The state of Oregon previously did offer a professional engineering license in acoustics, but it hasn't been offered since 2015. Instead, acoustics is certified by, board certified by the Institute of Noise Control Engineering, which is a... it's a certification that's similar to the PE, but it also has this... it's basically the same educational, professional experience requirements, and it's also a

149

00:19:12.040 --> 00:19:14.080 Dana Lodico: an 8-hour exam.

150

00:19:14.080 --> 00:19:32.759

Dana Lodico: So, it's... I think the pass rate's, like, 50%. I've had mine since 2009, and you know, I am a registered professional engineer in Colorado and California, but that's not really relevant here. It's kind of an informational purposes. The relevant licensure is the board certification.

151

00:19:32.760 --> 00:19:34.749

Joe Turner, Hearings Officer: Institute of Noise Control, what?

152

00:19:34.750 --> 00:19:47.120

Dana Lodico: Engineering, NCUSA, I-N-C-E dash USA. You can look it up. There's actually... now they also offer... it used... when I took it, you know, 20 years ago, they offered, like.

153

00:19:47.120 --> 00:19:48.719

Joe Turner, Hearings Officer: I just wanted the name, that's okay, go ahead.

154

00:19:48.720 --> 00:20:08.749

Dana Lodico: Yeah, so, yes, so that, okay, so there's that. So the project, is designed to meet the noise ordinances and regulations, as required, you know, by, you know, as, Luke brought up, the county doesn't have quantitative standards, so we did, look at the more conservative standards.

00:20:08.750 --> 00:20:13.299

Dana Lodico: And apply those through, you know, through the state of Oregon, and it does comply with those.

156

00:20:13.300 --> 00:20:23.719

Dana Lodico: There were some questions about the conservative analysis, so the study does assume a, conservative worst-case analysis.

157

00:20:24.500 --> 00:20:36.720

Dana Lodico: First of all, it assumes that equipment is operating at its highest sound level, 24 hours a day. So, which in reality, wouldn't really, you know, occur. Of course, there would be some.

158

00:20:36.720 --> 00:20:47.369

Dana Lodico: Some changing in the operation of the equipment. This study assumes that it's, like, the loudest it could possibly be all the time, 24 hours a day, and as a result.

159

00:20:47.440 --> 00:21:00.679

Dana Lodico: We have applied the L50 limits, which are the most conservative lowest limits. So if it meets the lowest limits, assuming that it's operating 24 hours a day, all the time at the loudest possible operating, you know.

160

00:21:00.680 --> 00:21:10.079

Dana Lodico: a level, then it's also going to meet the less conservative L10 and L1 limits. I suppose I could have written them in the report, but,

161

00:21:10.730 --> 00:21:19.610

Dana Lodico: pretty straightforward there. Other conservative, assumptions that were made in the report, it does assume that

162

00:21:19.670 --> 00:21:41.619

Dana Lodico: every... all of the equipment is tonal. There were some questions about the tonality of the transformers not being included. So we... the, transformers are not commonly selected until the final design of the project, as opposed to some of the other equipment where we actually have manufacturer spec data. So, as a result.

163

00:21:41.620 --> 00:22:06.019

Dana Lodico: we look at kind of just a general spectra for the transformer. I mean, transformers are a really common piece of equipment, so, you know, there's a lot of data out there. But to use a general spectra and determine tonality doesn't really make sense, because it's not a project-specific component. So as a result, what we do is we just assume the worst case, and we just assume it's total.

164

00:22:06.140 --> 00:22:12.640

Dana Lodico: if that makes sense. So that's... that's... Again, very conservative.

165

00:22:12.650 --> 00:22:37.630

Dana Lodico: The other conservative aspects of the report, we did use ISO 9613, as some of the comments mentioned. So ISO, this is essentially just the standard U.S. methodology for calculating industrial noise sources. And what it does is it assumes every single receptor everywhere is downwind from the equipment. So in real life, of course.

166

00:22:37.630 --> 00:22:48.640

Dana Lodico: Obviously, the weather patterns would change, and so, again, sound levels wouldn't necessarily be downwind all the time. But this assumes always. They're always downwind, it's always operating.

167

00:22:49.960 --> 00:23:03.790

Dana Lodico: It also doesn't take into account any trees or foliage, which would, you know, lower the levels a little bit. Doesn't take into account any off-site structures, which would, of course, result in lower levels.

168

00:23:04.450 --> 00:23:18.859

Dana Lodico: it assumes, a ground factor. There was a question in the comments about ground factor of 0.8, which is a fairly soft site, and probably, approximately what it would be,

169

00:23:18.860 --> 00:23:43.850

Dana Lodico: in the current configuration. However, the site, in reality, is going to be covered with crushed gravel, which is actually a very absorbative ground surface. They use it, it's called ballast when you're talking about a railroad source, and they actually use it to reduce noise adjacent to rail. So that, again, that's pretty conservative. The model included barriers on the

170

00:23:43.850 --> 00:24:01.809

Dana Lodico: north and east side, that were 10 foot... feet high. I believe the project at this point is looking at 12-foot walls, so again, this would be, you know, that would result in lower levels than what's in the report. Reflections are included in the modeling. The other,

171

00:24:01.870 --> 00:24:12.130

Dana Lodico: So the model's a three-dimensional model, and it includes topography and all of that, and also the sources themselves are modeled in three dimensions, so they're basically...

172

00:24:12.130 --> 00:24:23.360

Dana Lodico: We have, you know, we have the equipment specs. We can see what they look like, their dimensions, etc, where the noise sources are, and we, like, model them in three dimensions as area sources. Okay.

173

00:24:23.360 --> 00:24:27.080

Joe Turner, Hearings Officer: Timer's running out if you want to wrap up, and you can submit this in writing.

174

00:24:27.080 --> 00:24:34.649

Dana Lodico: Yeah, I can submit this. Are there any particular questions? I mean, I have them all kind of written out in response to what I heard from public comment.

175

00:24:34.650 --> 00:24:38.670

Joe Turner, Hearings Officer: I heard a lot of testimony about noise, and I'm interested to hear the applicant's response.

176

00:24:38.860 --> 00:24:47.640

Dana Lodico: Okay, yeah, sure, I'll just... I'll submit them in writing, and and yeah, and you'll receive them then, I guess. Thank you for your time.

177

00:24:47.640 --> 00:24:48.390

Joe Turner, Hearings Officer: Thank you.

Exhibit 2

The noise commentary, including the engineering report from Listen Acoustics, submitted by Gordon Vreugdenhil prior to the in person hearing.

To: Washington County Planning and Development Services | Current Planning Maitreyee Sinha, Senior Planner, Casefile / Project #: L2500161-SU/D/PLA 155 N 1st Avenue, #350-13, Hillsboro OR 97124

From: "No Batteries in Backyards"
c/o Gordon Vreugdenhil
7527 NW 212th Pl, Hillsboro OR 97124
misc@gordonv.net

971-506-8154

Date: Oct 28, 2025

This letter is in response to the Jupiter application to build the Blackberry Grove battery facility. This letter will address only the Noise report submission from Jupiter. The Noise report, subsequently referred to as "The Report", is a submission from Jupiter that contains a sound analysis performed by Dudek with Dana Lodico, PE, INCE Bd Cert. as the named engineer. An initial analysis of The Report raised numerous substantive concerns which led to hiring an Oregon based sound engineer to review The Report and provide an analysis, subsequently referred to as "The Analysis", of the code compliance and methodology used in The Report. This letter summarizes the findings, raises a few additional concerns, and makes subsequent recommendations. The Analysis in full is provided following this letter.

The following are concerns about The Report.

- 1. The identified engineer providing The Report does not appear to hold an Oregon license. See The Analysis, pg 1.
- 2. The study does not claim that the sound measurements procedures comply with NPCS-1 as required by OAR 340-035-0035 3.a or that measurement locations comply with OAR 340-035-0035 3.b. The Analysis, Sec 2.2 notes several issues with equipment and methodology that may result in significantly higher "baseline" sound levels that are then used to determine the permissible limits. The actual permissible limits are likely lower than those claimed by The Report.
- 3. The modeling metrics are not complete. The Report provides an L50 model only; Oregon rules also require L10 and L1 compliance and there is no evidence that the installation will meet L10 and L1 limits. OAR 340-035-0035 1.b.i; The Analysis, Sec 3.2.
- 4. There is no analysis or statement regarding impulsive sound sources. OAR 340-035-0035 1.d; The Analysis, Sec 3.2.
- 5. The report does not include any information or analysis regarding alarms or other similar sound sources nor does it address length of time alarms might occur. There is no statement that such sources would comply with OAR 340-035-0035 5.b.
- 6. There are three sound sources in the proposed project (see section 3.1 in The Report). However, table 4 and following sections only analyze the BESS and PCS components and omit an analysis of the high voltage transformer. Frequency tonalities for the transformer

- are not provided or analyzed. Since The Report itself (section 3.1) identifies that component as a 100db source which is a louder source than the BESS and PCS components, the omission of the transformer source analysis brings into question the final conclusions regarding modeled sound levels.
- 7. The Report admits tonal hums/whines for some components, but no 1/3-octave receptor analysis is provided as required. The Analysis, Sec 3.1.
- 8. The model in The Report does not comply with requirements of NPCS-1 for receptor placement in the model. The Analysis, Sec 3.1
- 9. The graphical sound data appears inconsistent with provided data. The transformer sound level is indicated by The Report as being 100dBa yet the highest level in the graphical data is 75dBA. There are similar issues with the BESS and PCS components. As a result, the modeled sound levels are significantly below what would be expected. Analysis, Sec 3.1
- 10. The modeling results (Table 5) in The Report are within 2dBA of the permitted limits identified in The Report. Given the methodology issues with determining permitted limits, it is very likely that the actual levels will exceed properly analyzed limits.
- 11. The Report includes only a sound barrier along the north side. The site plan includes a barrier along the east side as well but that is not modeled. The discrepancy in the plans leads to questions about what other site and equipment assumptions might be inconsistent between The Report and the site plan.
- 12. The assumptions in The Report ignore the fact that there is a residential property on the west side, a property currently under development.
- 13. The proposed barrier wall is only 10' tall in the model. The site plan calls for 12' walls. Given that the sound sources are likely to be at least 10' tall, the proposed 12' barriers appear to have inadequate sound protection for second floors of residences. The model only analyzes sound at a 5' height. The sound level at 14-16' (second story window height) above the sound barrier will substantially exceed the required limits. Barrier calculations will also show low performance for a barrier the same height or even lower than the equipment. Therefore, at lower heights the sound will be only partially blocked by the barrier due to diffraction, line of sight, etc. The Analysis, Sec 3.1
- 14. Worst-case scenarios have not been modeled. The Analysis, Sec 3.1
- 15. The modeling uses analysis based on ISO 9613-2. Results based on ISO 9613-2 depend on ground factor (G). The Report discusses "soft vs hard" considerations generally in 1.2.2, but the modeling methodology in 3.1 does not state the G value used. If the model assumes soft ground, it can under-predict sound levels under dry/hard summer conditions. No modeling assumptions have been provided.
- 16. Jupiter has not been forthcoming about the exact components to be used. As a result, there cannot be confidence in the base sound source levels being modeled.
- 17. Neither Jupiter nor the County has committed to measure the actual sound levels following construction and to further mitigate sound levels if the actual sound levels are higher than those modeled. Given the prior concerns, it is certain that the actual sound levels will exceed the model and the overall negative impact on the adjacent properties will be significant.

Requested Actions:

- 1. If the reporting engineer is not licensed in Oregon, deny the application since the sound report should not be accepted at all.
- 2. If the reporting engineer is licensed in Oregon, deny the application based on:
 - a. incomplete noise analysis per Oregon Administrative Rules,
 - b. NPCS-1 non-compliance as required by Oregon Administrative Rules,
 - c. inconsistencies in data between source sound levels and the model, and
 - d. the certainty that noise levels at second story levels will exceed limits and thus are incompatible with AF-5.

If the application is not denied, then

- 1. Require compliance analysis for all aspects of OAR 340-035-0035, including NPCS-1.
- 2. Require a new ambient sound analysis that addresses issues in The Analysis Sec 2.2 and, in particular, during a dry time frame to more properly reflect summer conditions.
- 3. Require L10 and L1 compliance tables along with the L50 tables for each receptor.
- 4. Require receptor modeling at both 5' and 16' heights.
- 5. Require exact equipment specifications for all components and require that to be incorporated in the model.
- 6. Require additional receptor modeling on the east side and on the west side at the location of the property under development.
- 7. Require 1/3-octave tonality modeling.
- 8. Provide full sound barrier specifications; extend protections to the west side.
- 9. Provide all modeling assumptions.
- 10. Run worst-case summer model: fans 100%, concrete bases and reflections from all equipment, dry ground, temperature at 35 Celsius (95 Fahrenheit), maximum charge/discharge rates.
- 11. Release raw data, weather logs, calibration records, and receptor coordinates.
- 12. Given the substantive issues identified during this public review, require notice and public review when a new noise report is provided.
- 13. **Most importantly**, require that Jupiter provide further sound remediation to meet the modeled limits if actual sound levels at either 5- or 16-foot heights exceed the modeled limits both after construction and with any subsequent site modifications. Require that Jupiter perform a study of actual noise levels through an Oregon licensed engineer covering at least two weeks in July and two weeks in August in the first year of site operation and where no equipment is turned off during the study period. If further remediation is needed, require that Jupiter operate the site at no more than 50% of maximum charge/discharge rates until the remediation is complete.

The numerous and substantive compliance issues with Oregon rules and the misleading methodologies used by the report show that the actual site will be substantially noncompliant.

Non-compliant sound levels for directly adjacent residences with second story bedroom windows should not be allowed; that kind of scenario is exactly what Oregon rules and codes are meant to preclude. The existing site plan would result in high industrial noise profiles that are fundamentally incompatible with AF-5 use, thus the application should be denied.

On behalf of "No Batteries in Backyards",

Lordon Vreigderhil

Gordon Vreugdenhil

Acoustical engineering report follows.



October 14, 2025

Mr. Gord Vreugdenhil 7527 NW 212th Pl, Hillsboro 971-506-8154 misc@gordonv.net

Dear Mr. Vreugdenhil,

Per your request I reviewed the June 4, 2025, "Dudek Blackberry Grove Battery Storage Project Acoustic Report" memo. This letter is not an engineering study or a complete peer review but provides my comments and concerns in reading the Dudek study.

Memo Header

The author and engineer of the report is shown as Dana Lodico, PE, INCE Bd Cert. I checked the Oregon OSBEELS license search and did not find Dana Lodico (or any last name Lodico) as a registered Oregon engineer. This licensee status should be clarified by Dudek, as an engineer not licensed in the state and not a registered acoustical engineer is problematic.

Section 1.1 Acoustical Fundamentals

The boilerplate language in this section is typical of a noise study report, and indicates the author is familiar with the basic terminology and metrics used in sound analysis. The examples in section 1.2.2 regarding interpreting ground effects on sound reduction indicate a basic understanding of the differences in ground types but do not indicate how this information was applied to the project. I also noted the section numbers are out of order, placing 1.2.2 in section 1.1 and Oregon is misspelled ("Oregan"), which may indicate a lack of proofreading rigor and possibly oversight if this report was written by another person and reviewed by the PE.

Section 1.2 Noise Regulations

This section correctly indicates Washington County does not have a specific limit to sound levels, but the County does seek to protect noise sensitive units such as the adjacent residences in a relatively quiet environment. The study applies Oregon DEQ /OAR 340 specific limits based on Table 8 using a new commercial source on a previously used site and residential receivers, including L1, L10, and L50 statistical descriptors (Table 8 below).

DEQ State of Oregon Department of Environmental Quality		
	7:00 a.m. – 10:00 p.m.	10:00 p.m. – 7:00 a.m.
L ₅₀ – 55 dBA		L ₅₀ – 50 dBA
L ₁₀ – 60 dBA		L ₁₀ – 55 dBA
L ₁ – 75 dBA		L ₁ – 60 dBA

In addition to the above limits, if the subject site has <u>not</u> been used for commercial or industrial purposes (need to confirm this), the levels created in the new operation <u>also cannot exceed ambient sound levels</u> by more than 10 dBA, using the same L1, L10, and L50 metrics (OAR 340-035-0035 1.b.B.i). This distinction and added criteria are not clarified in the report, but an ambient sound study was conducted, which is a method for verifying actual ambient sound levels. Without a site study, the assumed ambient sound level is 29 dBA, which is very quiet.

Other key metrics which adjust the sound limits to be more restrictive are:

- Octave-Band limits: more specific limits using frequency spectra vs dBA overall sound levels (discussed in section 1.2). (OAR 340-035-0035 1.e.A)
- Discrete tones created by peaks in the 1/3 octave bands (this is discussed in section 1.2): this would be a hard limit requiring additional mitigation unless the levels are below table 10 levels (octave band equivalent) at the receiver (OAR 340-035-0035 1.e.B):

OAR 340-035-0035 Table 10 Median Octave Band Standards For Industrial and Commercial Noise Sources Allowable Octave Band Sound Pressure Levels		
Octave Band Frequency (Hz)	7:00 a.m. – 10:00 p.m.	10:00 p.m. – 7:00 a.m.
31.5	68	65
63	65	62
125	61	56
250	55	50
500	52	46
1000	49	43
2000	46	40
4000	43	37
8000	40	34

• Impulsive noise of 100 dB at night and 80 dB during the day (not discussed in section 1.2) (OAR 340-035-0035 1.d)

I will comment on results for each of these criteria in the Section 3 review below.

Section 2 Existing Conditions

Section 2.2 Sound Monitoring

Site measurements were made February 19-24, 2025. Comments:

- The sound criteria for a new site, previously unused, require an <u>accurate</u> site ambient measurement for comparison with new sound levels to verify compliance with DEQ limits.
- Typically, a noise measurement report will include meteorological information such as humidity, precipitation, wind, temperature, etc. The report indicates this information is located in Appendix A, but it includes none of this information.
- After researching weather records for that area, I found the weather on those days included heavy rain which can add significant noise and can result in higher reported sound levels than actual at the site.
- The selected measurement locations are likely much louder than the average of all neighboring properties. The measurement locations are close to roadways, which were noted as the source of ambient noise. Several likely quieter locations were not measured, such as at the property corner indicated below.



- Sound Measurement Devices
 - The "softdB Piccolo II" sound measurement devices used are very low cost models, leading me to question how accurate they are at approximately 1/10th cost of typical professional sound meters.



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Massive data storage capacity (up to 198, 948 records)

Powerful audio post-processing and spectrum analysis software included

User-friendly interface to manage key instrument settings & functions

 No indication of factory calibration was included in the report, but yearly factory calibration is required per NPCS-1. Accuracy would be in serious question without current factory calibration.

Annual Calibration

Within a year prior to use, each sound level meter, including octave band filter and calibrator, shall receive a laboratory calibration in accordance with the manufacturer's specifications. This calibration shall be traceable to the National Bureau of Standards.

- The Piccolo II devices are placed inside a metal box, with what appears to be the microphone sticking out below.
 - The close microphone proximity to the bottom of the metal box could increase sound levels due to sound reflections adding to the direct sound.
 - Since the measurements were taken in heavy rain, the rain falling on the metal box could be major sound source, leading to inaccurate data.
 - No mention of potential inaccuracies or calculated adjustment for this meter-in-box configuration were offered in the report. It would be good to get a comparison of the levels inside and outside the box to verify levels are not off by 3-6 dBA.

• The data summary should include a table with actual 1-minute intervals, as the graphed data in Appendix A is smoothed between points, potentially leaving out the quietest times.

Section 3 Operational Sound Levels Section 3.1 Methodology

The sound levels were modeled with an industry-standard modeling program, CadnaA, which follows the ISO 9613-2 standard calculation methods. However, a person with no specific training and certification in environmental noise or the specific software program can make significant errors in entering and interpreting data used as the basis for the calculations. For instance, if the actual ground type is not accurately input, the sound reduction over distance can be erroneous. The person who did the modeling should be trained and qualified to run and interpret the software results -- this information should be confirmed by Dudek for the person who did the modeling.

All operations and activities on the site are applicable to the sound limits, but the report says the sound calculations were limited to three equipment types only: BESS, Transformer, and PCS. Furthermore, the actual transformer sound levels are only estimated, not measured or provided by the manufacturer. The electrical switches, transfer, alarms, and any other on-site equipment were not included in the calculation. This may lead to erroneous results for the L1, L10, L50, impulse, octave, and 1/3 octave limits. The sound levels for these other devices and equipment should be listed to prove they are not an issue.

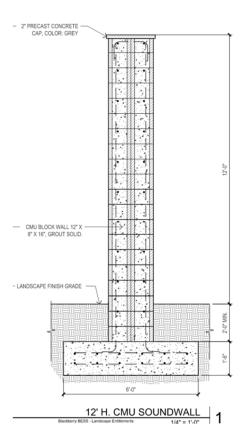
The assumptions used for the equipment operating conditions may not be worst-case. Are 95% fan speed and 7,000 RPM the worst case or the typical case, and how often would it be above these levels? Sound levels can often rise significantly, going from 95% to 100% fan speeds, for instance. Full manufacturer sound data should be provided for review.

Pure tones are noted for the BESS and PCS systems, which triggers the DEQ requirement for 1/3 octave analysis and limits. The 1/3 octave criteria require 1/3 octave data which is not provided in the report, so the graph shown in Figure 2 is erroneous and misleading. The graph uses the octave band data which is not high enough resolution to determine whether or not a tone exists, per the requirement. In any case the report does indicate tones are present. Also, typical transformers "hum" at 120 Hz and other harmonic frequencies, but this is not included in the tonal analysis.

Location of modeled receivers: the receiver locations in the report are not per NPCS-1 and do not include neighboring residential properties to the east and west of the subject property. Zoning of these properties should be clarified as residential or other use, correct distances should be used, and the missing modeled data levels should be included.

Barrier performance and dB reduction calculations rely on the height of the barrier above the top of the equipment to provide significant reduction. The BESS and PCS unit heights are not indicated in the report but in the site package the PCS appears to be approximately 10' tall without any sub-structure/pad. No height information is included for the BESS units. The barrier detail shows a barrier 10' tall maximum (varies with terrain height). Therefore, the barrier may be below the top of the equipment and will therefore have fairly low reduction capability for a receiver at the same height, and almost no effect for an upper story window in a receiver house. The model only looks at receivers 5' above the ground --this does not account for sound to upper story windows on houses.

A barrier is also not shown on the East or West side in the report (but the East side barrier is shown in the site package). The published results on the East side are similar to the North side, but without a barrier and at similar distances. This indicates the barrier provides very little attention.



Modeled/Calculated Results: Without doing a full calculation, a rough rational number check is as follows:

- Source level is 74.5 dBA (sound power) for one BESS unit.
- Source level is 86 dBA (sound power) for one BESS unit.
- For 120 BESS units, the sound level is roughly 95 dBA (sound power)
- For 40 PCS units, the sound level is roughly 100 dBA (sound power)
- Specific distances are not tabulated and no details are provided for the calculation inputs, beyond displaying the modeling results.
- The approximate sound level at the closest property lines with no barrier would likely be much higher than the 43-46 dBA L50 shown on the table.

The graphical sound prediction data seems low. The sound power level of the transformer is 100 dBA, but the graphics below show it at 75 dBA (blue) sound pressure level right at the source and the scale doesn't even go to 100 dBA. Sound levels around the BESS and PCS only show 65 dBA, which is well below the 74-86 dBA source levels.



Propagation within the property would be over hard ground, such as gravel or pavement, but it's not clear if this is in the model. The reflection of hard ground will increase sound levels vs. soft earth. Also reflections off of the large equipment (BESS, etc.) will amplify sound levels in some directions.

Section 3.2 Sound Modeling Results

The L1 and L10 results are not included in the table, so the results are not complete.

The octave band results in Table 5 show levels which are likely to reflect the same calculation and assumption concerns as the dBA levels discussed above. Since these <u>tonal</u> octave band sound levels are very close to the limits, this data must be verified/corrected to compare with the criteria to make sure the frequency data is not above the limits. The report states that the tonal sound will be masked by ambient sound levels, which is not likely true, especially if the source sounds are loud enough.

The ambient octave band levels were not reported, so the calculated octave band data cannot be said to be below the 10 dB increase criteria if the calculations above are incorrect.

Importantly, the 1/3 octave tonal issues of the transformer are not in the analysis and results.

No impulsive sound sources were identified, but it is possible transfer switch equipment could have an impulse event. Also, equipment startup noise could be impulsive and above the normal operational sound levels.

Please feel free to call or email me with any questions.

Thank you,

Tobin Cooley, P.E.

Principal

Listen Acoustics, Inc.

Exhibit 3

[This page otherwise blank; report follows starting on next page]

Original source: https://www.noisemonitoringservices.com/battery-energy-storage-system-bess-noise-challenges-and-solutions

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Over the last few years, a new type of noise source has come to light as a significant environmental noise issue. Battery Energy Storage Systems (BESS) are relatively new to the US, and communities are only just starting to become aware of the noise issues they can create. BESS's are generally large power storage facilities, often comprised of hundreds of battery units the size of shipping containers spread over many acres of land. As Battery Energy Storage Systems are often located close to residential areas, they are becoming an increasing noise problem. Due to the high noise levels produced by BESS equipment, these facilities often require implementation of substantial noise control measures to comply with city noise ordinances.

This article examines the noise issues associated with BESS facilities and the noise control measures available to ensure they comply with local noise limits.

As of writing (in March 2024), we've worked on noise studies for 13 BESS facilities since 2022, mostly located in Southern California and Arizona. We're fast becoming the experts in this specific area of noise control.

Our work has involved sound measurement of equipment, noise modeling and mapping of entire BESS facilities and design and testing of noise mitigation systems for BESS equipment. One particularly challenging project, requiring every noise control measure that could be thrown at it, is presented later in this article.

The function of a BESS facility is to store and release electrical energy as needed. These battery energy storage systems typically consist of rechargeable batteries, power conversion systems, cooling systems and control electronics.

BESS facilities tend to produce high noise levels generated mostly by the compressors and fans in the electrical equipment cooling systems.



The battery units at a BESS site make up the core of the facility

Our field measurements show a wide range of noise levels generated by the cooling systems of BESS equipment. Noise levels tend to range from 70 to 92 decibels when measured 1 meter from the component. Key components and noise sources of a BESS facility include:

- Batteries: Rechargeable battery units are the core of the Battery Energy Storage System. Battery units (often 20 ft. in length and 8 ft in width and height) include cooling systems to maintain optimal operating temperature. The cooling systems use fans and condensing units which can generate noise levels up to 92 dBA at 1 m from the equipment. Fan operations are controlled by an onboard temperature control system. During
 - is may occur at any time of day or night and cause several hours of sustained noise at a constant level. This noise is one and the facility noise levels are held to a more restrictive noise limit.
- · Power Conversion System (PCS): The PCS is an essential component of the BESS as it converts electricity between direct and alternating

currents. There is usually a lower quantity of PCS units than batteries (typically there is one PCS unit for each group of six or eight battery units)
PCS units contain cooling systems with fans that can produce significant noise, in addition to some hum or electronic noise. Our field
measurements show that PCS units can generate noise levels of about 85 decibels when measured 1 m from the equipment.

• Transformers: BESS facilities may have one or two large transformers that produce a constant hum. Typical noise levels for transformers are lower than the batteries and PCS units, producing a level of about 75 decibels at 1 m from the equipment. Again, this noise is generally tonal in nature

With the noise levels outlined above, it's not difficult to see why these facilities can be a nuisance when located near residences. A BESS facility comprising of several hundred battery units can easily produce noise levels over 70 decibels at residences located 100 ft from the site. With typical city noise ordinances requiring compliance with 45 dBA noise limits at night, mitigating these facilities can be a challenge! See below for a case study on one of the more challenging BESS facilities we've worked on.

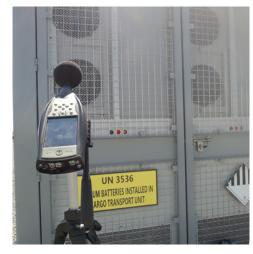
Battery Energy Storage System Noise Case Study

In July, 2022, NMS was retained to conduct a detailed noise study for a new Battery Energy Storage Facility near Los Angeles (for confidentiality purposes, no identifying client or site information is included in this article). The facility consisted of over 300 batteries, over 60 PCS units and two transformers covering about 6 acres of land. Construction of the BESS facility had already started and it had become apparent that potential noise issues had been overlooked during the planning process. Our client, one of the leading renewable energy solutions suppliers in the US, had previously conducted a basic noise analysis for the site but needed help from a firm that could provide more expertise.

The site was adjacent to residences, some with back yards less than 30 feet from the nearest BESS battery units. The previous study had shown noise levels might be 75 dBA at the nearest residences but was considered unreliable as it had not taken into account some factors that could affect noise. The client needed a more detailed noise model and called us for help. With the client being held to a nighttime noise limit of 45 dBA at the residences, some very effective mitigation would be needed.

After discussions with the client, we agreed on a scope of work that would include:

- Specific noise measurements of the battery units and PCS units to obtain data that could be
 used in a detailed noise model of the BESS facility. The noise survey would need to measure
 the sound level, spectral characteristics and directivity of the noise sources.
- Ambient sound measurements at the project site to determine existing background noise levels and determine whether any ambient noise correction to the noise limit could be applied.
- Construction of a detailed 3D model of the site. The model was to include all equipment with
 the source spectrum and directivity characteristics determined as part of our measurements.
 We would also need to account for sound reflections within the site and existing noise barriers
 in the area.
- Design and testing of noise control measures for the battery and PCS units, and re-modelling
 of the site to account for various mitigation scenarios.
- Post-construction noise level measurements to verify compliance with the City's noise limits.



Our detailed noise measurements of a battery unit included obtaining directivity and spectral data.

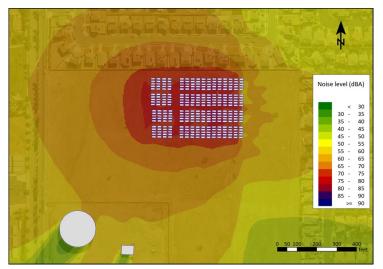
Since construction was already underway, we needed to start work immediately. The urgency was due to that fact that our client needed to immediately understand the noise issue they were going to have to deal with. Any required noise control measures would need to be designed, constructed and installed in time for the facility's commissioning the following year.

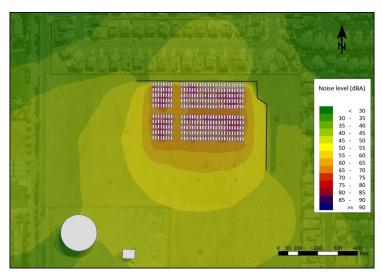
After conducting noise measurements of the equipment and constructing the model, we confirmed that the noise levels would be above 70 dBA at the

nearest residences if no environmental noise control measures were implemented. We also determined that the battery fan noise was tonal in character. This meant a tonal noise correction of 5 dBA would need to be applied to the City's noise limit and therefore a noise limit of 40 dBA would apply at the residences if the tone could not be removed.

The BESS facility site was in a relatively noisy area, with two freeways and a rail yard located within a half mile of it. Unfortunately, even with these noise sources nearby, the ambient background noise level was still not high enough at night to permit an increase to the noise limit.

Our work resulted in 45 iterations of noise modelling for various equipment layouts and mitigation scenarios. We worked closely with our client to discuss potential solutions before performing each modelling iteration. The following images represent the modeling results of the initial unmitigated scenario, and the fully mitigated site.





Predicted noise levels of RESS facility (unmitigated scenario)

Predicted noise levels of BESS facility after incorporating sound control

One key noise control solution was the installation of custom-designed silencers on the battery fan discharge and PCS fan intakes. We brought in a local noise control application firm to work on the project, who constructed prototype silencers for the batteries and PCS units. We performed tests to verify their performance was consistent with our predictions before the same firm constructed silencers for all batteries and PCS units at the site.

The final noise control measures that were implemented were:

- Re-orientation of equipment to direct sound away from the
 residences. The original site layout had batteries oriented with fans
 facing some residences. With fans located only on one end of the
 battery enclosure, this equipment's noise was highly directional.
 Using noise modelling, we were able to quantify the noise reduction
 that would be achieved by rotating equipment 90 degrees and
 demonstrate the efficacy of this solution.
- Installation of a 20-foot-high sound wall between the BESS
 equipment and the nearest residences. The wall installed was a
 Sound Fighter Systems SonaGuard barrier, which is a highperformance acoustically absorptive wall.
- 3. Reduction in battery fan speed. Working closely with the client and battery manufacturer, we performed multiple field noise tests to determine the optimal fan speed for achieving the City's noise limit while maintaining appropriate airflow for cooling requirements. We determined that the battery fans would need to operate at 50% of the maximum speed to achieve the noise limit. This had the added benefit of making the battery fan tone less prominent.
- 4. Custom silencers fitted on all battery fans and PCS intakes and vents. Battery fan silencers consisted of a duct lined with 2-inch acoustically absorptive foam and an acoustic louver mounted on the end. PCS units needed the same type of silencer on the fan intakes in addition to a long duct silencer around the top of the unit into which the vents discharged.
- 5. Installation of acoustically absorbent foam lining the inside PCS air intake cavities. This material was installed to reduce the buildup of sound inside the cavity and further lower the noise escaping through the intake.
- 6. Balancing noise emissions of equipment to mask the battery fan tone. Our noise measurements and modelling revealed that the tone produced by the battery fans could be effectively masked by the broadband PCS intake and vent noise so long as this source was not reduced in level too much. By effectively masking the tone, the 5 dB tonal correction to the City's noise limit could be eliminated. This resulted in a noise limit of 45 dBA at the residences (a tonal noise limit of 40 dBA would probably have been impossible to achieve on this project).

Mitigation included a 20-foot-high sound wall and ducted acoustic louvers on the batteries

Silencers on the PCS units allowed enough broadband noise through them to mask the tone produced by battery unit fans With the above measures installed, the noise levels at the site were reduced by nearly 30 dBA. During the commissioning of the facility in January 2024, we conducted week-long noise compliance monitoring at four residential locations. Verification of noise limit compliance was a challenge in itself. To determine compliance, we needed to analyze sound data obtained during a limited window between 2 am and 6 am, when background noise was lowest. We needed to demonstrate that any noise measured above 45 dBA was not caused by the BESS equipment. Using evidence from a week of data collected with advanced data-logging sound level meters, as well as some early morning site visits, it was possible to verify that the mitigation was performing as designed. We were able to demonstrate the facility complied with the City's 45 dBA nighttime noise requirement.

If you want further advice on battery storage facility noise issues or have already decided to take action and need a noise output tested and analyzed, contact Noise Monitoring Services today on (323) 546-9902. As a company of engineers with advanced degrees in acoustical engineering, we can offer sound measurement and consulting for any noise issue.

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From: Gordon Vreugdenhil

To: <u>LUT Development</u>; <u>Maitreyee Sinha</u>

Subject: [EXTERNAL] L2500161-SU/D/PLA comments (submission two)

Date: Thursday, November 13, 2025 10:08:56 AM

Attachments: <u>HearingResponse 20251112.pdf</u>

Please see attached .pdf as written submission two for $\,L2500161\text{-}SU/D/PLA$, Blackberry Grove.

Please acknowledge receipt of this submission.

Gordon Vreugdenhil 7527 NW 212th Pl, Hillsboro OR 97124 misc@gordonv.net 971-506-8154

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To: Washington County Planning and Development Services | Current Planning Maitreyee Sinha, Senior Planner, Casefile / Project #: L2500161-SU/D/PLA 155 N 1st Avenue, #350-13, Hillsboro OR 97124

From: "No Batteries in Backyards" c/o Gordon Vreugdenhil

7527 NW 212th Pl, Hillsboro OR 97124

misc@gordonv.net 971-506-8154

Date: Nov 12, 2025

This letter (submission 1) is in response to testimony provided at the Oct 30, 2025 hearing for the Jupiter application to build the Blackberry Grove battery facility. As a side note, while my (Gordon Vreugdenhil's) background is not in acoustical engineering, I hold an M.Math and Ph.D. in Computer Science and during my career, have spent 13 years participating in IEEE (Institute of Electrical and Electronics Engineers) standards development related to IEEE 1364 and IEEE 1800. As such, I am very aware of the importance of standards compliance and with performing detailed compliance interpretations for standards.

Exhibits

- Exhibit 1: email between Gordon Vreugdenhil and Danee Koonce of the Oregon State Board of Examiners for Engineering & Land Surveying
- Exhibit 2: Dana Lodico comments from transcript file GMT20251030-184425_Recording.transcript.vtt from the second part of the hearing on Oct 30, 2025. Attached to this submission.
- Exhibit 3: the noise commentary, including the engineering report from Listen Acoustics, submitted by Gordon Vreugdenhil prior to the in person hearing. Attached to this submission.

Licensing

In the Exhibit 2, concern 1, we expressed concern that Ms. Lodica may not be licensed as a professional engineer in the state of Oregon. In Exhibit 1, comment 150, Ms. Lodica testifies:

I am a registered professional engineer in Colorado and California, but that's not really relevant here. It's kind of an informational purposes. The relevant licensure is the board certification.

That claim is entirely incorrect. The following is an excerpt from mail with Danee Koonce of the Oregon State Board of Examiners for Engineering & Land Surveying (OSBEELS); the entirety of the email is found in Exhibit 1.

Oregon Revised Statute (ORS) 672.005 describes engineering work that requires a licensed PE:

672.005 Additional definitions. As used in ORS 672.002 to 672.325, unless the context requires otherwise:

- (1) "Practice of engineering" or "practice of professional engineering" means any of the following when done for others:
- (a) Performing a service or creating an original work requiring engineering education, training and experience.
- (b) In connection with utilities, structures, buildings, machines, equipment, processes, works or projects, whether private or public, applying special knowledge of the mathematical, physical and engineering sciences to services or original works such as:
 - (A) Consultation;
 - (B) Investigation;
 - (C) Evaluation;

[...]

While the INCE/USA Board Certification program serves to distinguish those persons within the organization who have a higher level of educational background and technical knowledge in the field of noise control, it still does not supplant any local (state) requirements that acoustical or noise control work be conducted by a registered Professional Engineer.

As a professional engineer in any jurisdiction, it is incumbent on Ms. Lodico to verify that she is properly certified in a jurisdiction for which she produces work. A simple check with OSBEELS would have made it clear that she was required to either be licensed in Oregon or, under exemption (1) of ORS 672.060 to work "under the supervision and control of and is verified by a registered professional engineer" (exemption 1, clause b). Even under that exception, Ms. Lodico would not be able to represent herself as a professional engineer for the work requiring Oregon licensing. Clause 1, c is clear: "The employee or subordinate does not by verbal claim, sign, advertisement, letterhead or card or in any other way imply that the employee or subordinate is or purports to be a professional engineer or registered professional engineer."

Ms. Lodico's actions demonstrate a disregard for determining and following Oregon rules and her claim that INCE board certification is all that matters in Oregon is, at very least, incorrect.

We have initiated a formal complaint on Nov 4, 2025 with OSBEELS regarding Ms. Lodico's work for the Blackberry Grove Facility.

The OSBEELS process is that they will consider the complaint during their Dec 11, 2025 Law Enforcement Committee meeting to formally determine if the work in question is the result of the practice of engineering. If they determine that it is, they would proceed to a disciplinary phase with Ms. Lodico.

It seems clear that the noise report is the result of the practice of engineering per ORS 672.005. As such, we fully expect OSBEELS to find that the noise report was produced in contravention to ORS 672.005 and proceed to disciplinary actions.

As a result, we request the following from the hearings officer:

Lordon Vrugderlil

- 1) Reject the application due to the noise report being the product of work done in contravention to ORS 672.005.
- 2) If the hearings officer is not convinced that the noise report is the result of the practice of engineering, hold the record open narrowly and allow the OSBEELS determination to be added to the record. If OSBEELS holds that the noise report is the result of the practice of engineering, then ORS 672.005 was violated and proceed as per (1).
- 3) If the hearings officer allows the noise report to stand, then for the purpose of consideration of appeal, clearly document whether the rationale for accepting the noise report is:
 - a. Due to determining that the noise report is not the result of the practice of engineering,
 - b. Due to not having the OSBEELS determination in time to reject the report, or
 - c. Due to some other rationale clearly based on other Oregon statute.

Since the OSBEELS determination will occur a full week before the expected decision from the hearings officer, there is no additional risk to the 150 day timeline by allowing the OSBEELS decision into the record. If the applicant wishes to make an argument that they are not subject to ORS 672.005, they can make that argument pre-emptively during their comment period.

The State of Oregon has clear authority and interest in governing the practice of engineering in Oregon. If work is done in contravention of ORS 672.005, that work must not be permitted as part of the application and, as a result, the application must be denied.

Gordon Vreugdenhil

Exhibit 1

Forwarded Message
Subject:RE: Question regarding practice of engineering in Oregon
Date: Mon, 3 Nov 2025 22:59:37 +0000
From: KOONCE Danee * OSBEELS < Danee. KOONCE@osbeels.oregon.gov >
To: gordon9224@comcast.net <gordon9224@comcast.net></gordon9224@comcast.net>
Hello, Gordon. Thanks for reaching out.
Oregon Revised Statute (ORS) 672.005 describes engineering work that requires a licensed PE:
672.005 Additional definitions. As used in ORS 672.002 to 672.325, unless the context
requires otherwise:
(1) "Practice of engineering" or "practice of professional engineering" means any of the following when done for others:
(a) Performing a service or creating an original work requiring engineering education, training and experience.
(b) In connection with utilities, structures, buildings, machines, equipment, processes, works or projects, whether private or public, applying special knowledge of the mathematical, physical and engineering sciences to services or original works such as:
(A) Consultation;
(B) Investigation;
(C) Evaluation;
(D) Planning;

- (F) Services during construction, manufacture or fabrication for the purpose of ensuring compliance with specifications and design.
 - (c) Surveying to determine area or topography.

(E) Design; and

- (d) Surveying to establish lines, grades or elevations, or to determine or estimate quantities of materials required, removed or in place.
- (e) Surveying required for design and construction layout of engineering and architectural infrastructure.
 - (f) Performing photogrammetric mapping.

Conversely, ORS 672.060 (same link) details the exceptions to licensure requirements.

While the INCE/USA Board Certification program serves to distinguish those persons within the organization who have a higher level of educational background and technical knowledge in the field of noise control, it still does not supplant any local (state) requirements that acoustical or noise control work be conducted by a registered Professional Engineer.

Please feel free to file a formal complaint with our office. Once a complaint is received, the Law Enforcement Committee (of the Board) will first determine whether the work performed is considered the practice of engineering (and requires a licensed PE).

Information on filing a complaint is at the link below:

https://www.oregon.gov/osbeels/rulesstatutes/Pages/Rule-and-Statute-Enforcement.aspx

The link to the complaint form itself is below:

https://online.myosbeels.org/#/submitcomplaint

Please let me know if you have questions.

Thanks,



Danee Koonce

Support Manager

Cell: 971-701-1969

danee.koonce@osbeels.oregon.gov

Oregon State Board of Examiners for Engineering & Land Surveying

Register today for MyOSBEELS

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From: Gordon Vreugdenhil <gordon9224@comcast.net>

Sent: Monday, November 3, 2025 7:57 AM

To: OSBEELS Info * OSBEELS < <u>osbeels.info@osbeels.oregon.gov</u>> **Subject:** Question regarding practice of engineering in Oregon

You don't often get email from gordon9224@comcast.net. Learn why this is important

Hello,

We are interacting with Washington County regarding a land use hearing. The applicant submitted a noise report as part of the application. The professional engineer who is named on the noise report is not licensed in the state of Oregon, but does hold board certification with INCE. The applicant's claim is that INCE certification is sufficient to perform acoustical engineering analysis functions within the state of Oregon. That is surprising to us, so I wanted to follow-up with you and find out if their claim is correct.

If they do require certification, please let me know specific Oregon statute governing that and as well, what the appropriate path would be for filing a formal complaint.

Thanks

Gordon Vreugdenhil 7527 NW 212th Pl, Hillsboro OR, 97124 misc@gordonv.net 971-506-8154

Exhibit 2

Dana Lodico comments from transcript file GMT20251030-184425_Recording.transcript.vtt from the second part of the hearing on Oct 30, 2025. Comments 138-177.

138

00:16:38.820 --> 00:16:56.309

Dana Lodico: I think I'm... can you, can you hear me? Yeah. Excellent. Dana Ledico, and my address is 1001, Bannock Street, Unit 231, Denver, Colorado, 80204.

139

00:16:59.450 --> 00:17:14.749

Dana Lodico: So, I just wanted to start by saying thank you, Mr. Turner, for, for being here and for listening to, to me and to, the applicant, and also for, the public for just being so engaged. It's just, it's...

140

00:17:14.750 --> 00:17:22.110

Dana Lodico: I always appreciate being involved in a community that's, you know, responsive and engaged in the project process.

141

00:17:22.109 --> 00:17:24.039

Dana Lodico: There were a number of, things.

142

00:17:24.040 --> 00:17:27.280

Joe Turner, Hearings Officer: Ms. Lodico, are you a sound engineer, is that correct?

143

00:17:27.280 --> 00:17:52.209

Dana Lodico: Oh, yes, I'll start, I'm sorry. Thank you. So, I am a sound engineer, yes. So, I, yeah, so I'm a senior acoustician with Dudec. I have my Bachelor's Science in Civil Engineering, Master's in, Acoustics, and I'm currently, getting my PhD, in industrial design. I'm also, I've been working in, professionally in acoustics.

144

00:17:52.210 --> 00:17:54.970

Dana Lodico: It's for more than 25 years.

145

00:17:54.970 --> 00:18:06.569

Dana Lodico: I'm a licensed civil engineer in Colorado and California, and I'm also board certified by the Institute of Noise Control Engineering, and I'll get back to that in just a moment.

00:18:06.570 --> 00:18:22.540

Dana Lodico: I have, I don't know, I think 14 journal publications and more than 50 conference proceedings, et cetera, in the field. I'm also the president-elect of the Institute of Noise Control Engineering of the U.S, and vice president of the International Institute of Noise Control Engineering.

147

00:18:22.820 --> 00:18:47.100

Dana Lodico: So that's... that's me. So I, and there's a number of things, and I'm not sure we'll get through them in our 5 minutes, but I'm gonna just, I guess, go forward, and if you have any questions, then we can stop and, you know, continue with written comment after that. So there were some questions, talking about professional engineering requirement. So, professional engineering license doesn't currently regulate noise control engineering.

148

00:18:47.100 --> 00:19:12.040

Dana Lodico: The state of Oregon previously did offer a professional engineering license in acoustics, but it hasn't been offered since 2015. Instead, acoustics is certified by, board certified by the Institute of Noise Control Engineering, which is a... it's a certification that's similar to the PE, but it also has this... it's basically the same educational, professional experience requirements, and it's also a

149

00:19:12.040 --> 00:19:14.080 Dana Lodico: an 8-hour exam.

150

00:19:14.080 --> 00:19:32.759

Dana Lodico: So, it's... I think the pass rate's, like, 50%. I've had mine since 2009, and you know, I am a registered professional engineer in Colorado and California, but that's not really relevant here. It's kind of an informational purposes. The relevant licensure is the board certification.

151

00:19:32.760 --> 00:19:34.749

Joe Turner, Hearings Officer: Institute of Noise Control, what?

152

00:19:34.750 --> 00:19:47.120

Dana Lodico: Engineering, NCUSA, I-N-C-E dash USA. You can look it up. There's actually... now they also offer... it used... when I took it, you know, 20 years ago, they offered, like.

00:19:47.120 --> 00:19:48.719

Joe Turner, Hearings Officer: I just wanted the name, that's okay, go ahead.

154

00:19:48.720 --> 00:20:08.749

Dana Lodico: Yeah, so, yes, so that, okay, so there's that. So the project, is designed to meet the noise ordinances and regulations, as required, you know, by, you know, as, Luke brought up, the county doesn't have quantitative standards, so we did, look at the more conservative standards.

155

00:20:08.750 --> 00:20:13.299

Dana Lodico: And apply those through, you know, through the state of Oregon, and it does comply with those.

156

00:20:13.300 --> 00:20:23.719

Dana Lodico: There were some questions about the conservative analysis, so the study does assume a, conservative worst-case analysis.

157

00:20:24.500 --> 00:20:36.720

Dana Lodico: First of all, it assumes that equipment is operating at its highest sound level, 24 hours a day. So, which in reality, wouldn't really, you know, occur. Of course, there would be some.

158

00:20:36.720 --> 00:20:47.369

Dana Lodico: Some changing in the operation of the equipment. This study assumes that it's, like, the loudest it could possibly be all the time, 24 hours a day, and as a result.

159

00:20:47.440 --> 00:21:00.679

Dana Lodico: We have applied the L50 limits, which are the most conservative lowest limits. So if it meets the lowest limits, assuming that it's operating 24 hours a day, all the time at the loudest possible operating, you know.

160

00:21:00.680 --> 00:21:10.079

Dana Lodico: a level, then it's also going to meet the less conservative L10 and L1 limits. I suppose I could have written them in the report, but,

161

00:21:10.730 --> 00:21:19.610

Dana Lodico: pretty straightforward there. Other conservative, assumptions that were made in the report, it does assume that

162

00:21:19.670 --> 00:21:41.619

Dana Lodico: every... all of the equipment is tonal. There were some questions about the tonality of the transformers not being included. So we... the, transformers are not commonly selected until the final design of the project, as opposed to some of the other equipment where we actually have manufacturer spec data. So, as a result.

163

00:21:41.620 --> 00:22:06.019

Dana Lodico: we look at kind of just a general spectra for the transformer. I mean, transformers are a really common piece of equipment, so, you know, there's a lot of data out there. But to use a general spectra and determine tonality doesn't really make sense, because it's not a project-specific component. So as a result, what we do is we just assume the worst case, and we just assume it's total.

164

00:22:06.140 --> 00:22:12.640

Dana Lodico: if that makes sense. So that's... that's... Again, very conservative.

165

00:22:12.650 --> 00:22:37.630

Dana Lodico: The other conservative aspects of the report, we did use ISO 9613, as some of the comments mentioned. So ISO, this is essentially just the standard U.S. methodology for calculating industrial noise sources. And what it does is it assumes every single receptor everywhere is downwind from the equipment. So in real life, of course.

166

00:22:37.630 --> 00:22:48.640

Dana Lodico: Obviously, the weather patterns would change, and so, again, sound levels wouldn't necessarily be downwind all the time. But this assumes always. They're always downwind, it's always operating.

167

00:22:49.960 --> 00:23:03.790

Dana Lodico: It also doesn't take into account any trees or foliage, which would, you know, lower the levels a little bit. Doesn't take into account any off-site structures, which would, of course, result in lower levels.

168

00:23:04.450 --> 00:23:18.859

Dana Lodico: it assumes, a ground factor. There was a question in the comments about ground factor of 0.8, which is a fairly soft site, and probably, approximately what it would be,

169

00:23:18.860 --> 00:23:43.850

Dana Lodico: in the current configuration. However, the site, in reality, is going to be covered with crushed gravel, which is actually a very absorbative ground surface. They use it, it's called ballast when you're talking about a railroad source, and they actually use it to reduce noise adjacent to rail. So that, again, that's pretty conservative. The model included barriers on the

170

00:23:43.850 --> 00:24:01.809

Dana Lodico: north and east side, that were 10 foot... feet high. I believe the project at this point is looking at 12-foot walls, so again, this would be, you know, that would result in lower levels than what's in the report. Reflections are included in the modeling. The other,

171

00:24:01.870 --> 00:24:12.130

Dana Lodico: So the model's a three-dimensional model, and it includes topography and all of that, and also the sources themselves are modeled in three dimensions, so they're basically...

172

00:24:12.130 --> 00:24:23.360

Dana Lodico: We have, you know, we have the equipment specs. We can see what they look like, their dimensions, etc, where the noise sources are, and we, like, model them in three dimensions as area sources. Okay.

173

00:24:23.360 --> 00:24:27.080

Joe Turner, Hearings Officer: Timer's running out if you want to wrap up, and you can submit this in writing.

174

00:24:27.080 --> 00:24:34.649

Dana Lodico: Yeah, I can submit this. Are there any particular questions? I mean, I have them all kind of written out in response to what I heard from public comment.

175

00:24:34.650 --> 00:24:38.670

Joe Turner, Hearings Officer: I heard a lot of testimony about noise, and I'm interested to hear the applicant's response.

176

00:24:38.860 --> 00:24:47.640

Dana Lodico: Okay, yeah, sure, I'll just... I'll submit them in writing, and and yeah, and you'll receive them then, I guess. Thank you for your time.

177

00:24:47.640 --> 00:24:48.390

Joe Turner, Hearings Officer: Thank you.

Exhibit 3

The noise commentary, including the engineering report from Listen Acoustics, submitted by Gordon Vreugdenhil prior to the in person hearing.

To: Washington County Planning and Development Services | Current Planning Maitreyee Sinha, Senior Planner, Casefile / Project #: L2500161-SU/D/PLA 155 N 1st Avenue, #350-13, Hillsboro OR 97124

From: "No Batteries in Backyards"
c/o Gordon Vreugdenhil
7527 NW 212th Pl, Hillsboro OR 97124
misc@gordonv.net

971-506-8154

Date: Oct 28, 2025

This letter is in response to the Jupiter application to build the Blackberry Grove battery facility. This letter will address only the Noise report submission from Jupiter. The Noise report, subsequently referred to as "The Report", is a submission from Jupiter that contains a sound analysis performed by Dudek with Dana Lodico, PE, INCE Bd Cert. as the named engineer. An initial analysis of The Report raised numerous substantive concerns which led to hiring an Oregon based sound engineer to review The Report and provide an analysis, subsequently referred to as "The Analysis", of the code compliance and methodology used in The Report. This letter summarizes the findings, raises a few additional concerns, and makes subsequent recommendations. The Analysis in full is provided following this letter.

The following are concerns about The Report.

- 1. The identified engineer providing The Report does not appear to hold an Oregon license. See The Analysis, pg 1.
- 2. The study does not claim that the sound measurements procedures comply with NPCS-1 as required by OAR 340-035-0035 3.a or that measurement locations comply with OAR 340-035-0035 3.b. The Analysis, Sec 2.2 notes several issues with equipment and methodology that may result in significantly higher "baseline" sound levels that are then used to determine the permissible limits. The actual permissible limits are likely lower than those claimed by The Report.
- 3. The modeling metrics are not complete. The Report provides an L50 model only; Oregon rules also require L10 and L1 compliance and there is no evidence that the installation will meet L10 and L1 limits. OAR 340-035-0035 1.b.i; The Analysis, Sec 3.2.
- 4. There is no analysis or statement regarding impulsive sound sources. OAR 340-035-0035 1.d; The Analysis, Sec 3.2.
- 5. The report does not include any information or analysis regarding alarms or other similar sound sources nor does it address length of time alarms might occur. There is no statement that such sources would comply with OAR 340-035-0035 5.b.
- 6. There are three sound sources in the proposed project (see section 3.1 in The Report). However, table 4 and following sections only analyze the BESS and PCS components and omit an analysis of the high voltage transformer. Frequency tonalities for the transformer

- are not provided or analyzed. Since The Report itself (section 3.1) identifies that component as a 100db source which is a louder source than the BESS and PCS components, the omission of the transformer source analysis brings into question the final conclusions regarding modeled sound levels.
- 7. The Report admits tonal hums/whines for some components, but no 1/3-octave receptor analysis is provided as required. The Analysis, Sec 3.1.
- 8. The model in The Report does not comply with requirements of NPCS-1 for receptor placement in the model. The Analysis, Sec 3.1
- 9. The graphical sound data appears inconsistent with provided data. The transformer sound level is indicated by The Report as being 100dBa yet the highest level in the graphical data is 75dBA. There are similar issues with the BESS and PCS components. As a result, the modeled sound levels are significantly below what would be expected. Analysis, Sec 3.1
- 10. The modeling results (Table 5) in The Report are within 2dBA of the permitted limits identified in The Report. Given the methodology issues with determining permitted limits, it is very likely that the actual levels will exceed properly analyzed limits.
- 11. The Report includes only a sound barrier along the north side. The site plan includes a barrier along the east side as well but that is not modeled. The discrepancy in the plans leads to questions about what other site and equipment assumptions might be inconsistent between The Report and the site plan.
- 12. The assumptions in The Report ignore the fact that there is a residential property on the west side, a property currently under development.
- 13. The proposed barrier wall is only 10' tall in the model. The site plan calls for 12' walls. Given that the sound sources are likely to be at least 10' tall, the proposed 12' barriers appear to have inadequate sound protection for second floors of residences. The model only analyzes sound at a 5' height. The sound level at 14-16' (second story window height) above the sound barrier will substantially exceed the required limits. Barrier calculations will also show low performance for a barrier the same height or even lower than the equipment. Therefore, at lower heights the sound will be only partially blocked by the barrier due to diffraction, line of sight, etc. The Analysis, Sec 3.1
- 14. Worst-case scenarios have not been modeled. The Analysis, Sec 3.1
- 15. The modeling uses analysis based on ISO 9613-2. Results based on ISO 9613-2 depend on ground factor (G). The Report discusses "soft vs hard" considerations generally in 1.2.2, but the modeling methodology in 3.1 does not state the G value used. If the model assumes soft ground, it can under-predict sound levels under dry/hard summer conditions. No modeling assumptions have been provided.
- 16. Jupiter has not been forthcoming about the exact components to be used. As a result, there cannot be confidence in the base sound source levels being modeled.
- 17. Neither Jupiter nor the County has committed to measure the actual sound levels following construction and to further mitigate sound levels if the actual sound levels are higher than those modeled. Given the prior concerns, it is certain that the actual sound levels will exceed the model and the overall negative impact on the adjacent properties will be significant.

Requested Actions:

- 1. If the reporting engineer is not licensed in Oregon, deny the application since the sound report should not be accepted at all.
- 2. If the reporting engineer is licensed in Oregon, deny the application based on:
 - a. incomplete noise analysis per Oregon Administrative Rules,
 - b. NPCS-1 non-compliance as required by Oregon Administrative Rules,
 - c. inconsistencies in data between source sound levels and the model, and
 - d. the certainty that noise levels at second story levels will exceed limits and thus are incompatible with AF-5.

If the application is not denied, then

- 1. Require compliance analysis for all aspects of OAR 340-035-0035, including NPCS-1.
- 2. Require a new ambient sound analysis that addresses issues in The Analysis Sec 2.2 and, in particular, during a dry time frame to more properly reflect summer conditions.
- 3. Require L10 and L1 compliance tables along with the L50 tables for each receptor.
- 4. Require receptor modeling at both 5' and 16' heights.
- 5. Require exact equipment specifications for all components and require that to be incorporated in the model.
- 6. Require additional receptor modeling on the east side and on the west side at the location of the property under development.
- 7. Require 1/3-octave tonality modeling.
- 8. Provide full sound barrier specifications; extend protections to the west side.
- 9. Provide all modeling assumptions.
- 10. Run worst-case summer model: fans 100%, concrete bases and reflections from all equipment, dry ground, temperature at 35 Celsius (95 Fahrenheit), maximum charge/discharge rates.
- 11. Release raw data, weather logs, calibration records, and receptor coordinates.
- 12. Given the substantive issues identified during this public review, require notice and public review when a new noise report is provided.
- 13. **Most importantly**, require that Jupiter provide further sound remediation to meet the modeled limits if actual sound levels at either 5- or 16-foot heights exceed the modeled limits both after construction and with any subsequent site modifications. Require that Jupiter perform a study of actual noise levels through an Oregon licensed engineer covering at least two weeks in July and two weeks in August in the first year of site operation and where no equipment is turned off during the study period. If further remediation is needed, require that Jupiter operate the site at no more than 50% of maximum charge/discharge rates until the remediation is complete.

The numerous and substantive compliance issues with Oregon rules and the misleading methodologies used by the report show that the actual site will be substantially noncompliant.

Non-compliant sound levels for directly adjacent residences with second story bedroom windows should not be allowed; that kind of scenario is exactly what Oregon rules and codes are meant to preclude. The existing site plan would result in high industrial noise profiles that are fundamentally incompatible with AF-5 use, thus the application should be denied.

On behalf of "No Batteries in Backyards",

Lordon Vreigdenhil

Gordon Vreugdenhil

Acoustical engineering report follows.



October 14, 2025

Mr. Gord Vreugdenhil 7527 NW 212th Pl, Hillsboro 971-506-8154 misc@gordonv.net

Dear Mr. Vreugdenhil,

Per your request I reviewed the June 4, 2025, "Dudek Blackberry Grove Battery Storage Project Acoustic Report" memo. This letter is not an engineering study or a complete peer review but provides my comments and concerns in reading the Dudek study.

Memo Header

The author and engineer of the report is shown as Dana Lodico, PE, INCE Bd Cert. I checked the Oregon OSBEELS license search and did not find Dana Lodico (or any last name Lodico) as a registered Oregon engineer. This licensee status should be clarified by Dudek, as an engineer not licensed in the state and not a registered acoustical engineer is problematic.

Section 1.1 Acoustical Fundamentals

The boilerplate language in this section is typical of a noise study report, and indicates the author is familiar with the basic terminology and metrics used in sound analysis. The examples in section 1.2.2 regarding interpreting ground effects on sound reduction indicate a basic understanding of the differences in ground types but do not indicate how this information was applied to the project. I also noted the section numbers are out of order, placing 1.2.2 in section 1.1 and Oregon is misspelled ("Oregan"), which may indicate a lack of proofreading rigor and possibly oversight if this report was written by another person and reviewed by the PE.

Section 1.2 Noise Regulations

This section correctly indicates Washington County does not have a specific limit to sound levels, but the County does seek to protect noise sensitive units such as the adjacent residences in a relatively quiet environment. The study applies Oregon DEQ /OAR 340 specific limits based on Table 8 using a new commercial source on a previously used site and residential receivers, including L1, L10, and L50 statistical descriptors (Table 8 below).

DEQ State of Oregon Department of Environmental Quality	Allowable Statistical Noise Levels in Any One Hour	
	7:00 a.m. – 10:00 p.m.	10:00 p.m. – 7:00 a.m.
L ₅₀ – 55 dBA		L ₅₀ – 50 dBA
L ₁₀ – 60 dBA		L ₁₀ – 55 dBA
	L ₁ – 75 dBA	L ₁ – 60 dBA

In addition to the above limits, if the subject site has <u>not</u> been used for commercial or industrial purposes (need to confirm this), the levels created in the new operation <u>also cannot exceed ambient sound levels</u> by more than 10 dBA, using the same L1, L10, and L50 metrics (OAR 340-035-0035 1.b.B.i). This distinction and added criteria are not clarified in the report, but an ambient sound study was conducted, which is a method for verifying actual ambient sound levels. Without a site study, the assumed ambient sound level is 29 dBA, which is very quiet.

Other key metrics which adjust the sound limits to be more restrictive are:

- Octave-Band limits: more specific limits using frequency spectra vs dBA overall sound levels (discussed in section 1.2). (OAR 340-035-0035 1.e.A)
- Discrete tones created by peaks in the 1/3 octave bands (this is discussed in section 1.2): this would be a hard limit requiring additional mitigation unless the levels are below table 10 levels (octave band equivalent) at the receiver (OAR 340-035-0035 1.e.B):

OAR 340-035-0035 Table 10 Median Octave Band Standards For Industrial and Commercial Noise Sources Allowable Octave Band Sound Pressure Levels			
Octave Band Frequency (Hz)	7:00 a.m. – 10:00 p.m.	10:00 p.m. – 7:00 a.m.	
31.5	68	65	
63	65	62	
125	61	56	
250	55	50	
500	52	46	
1000	49	43	
2000	46	40	
4000	43	37	
8000	40	34	

• Impulsive noise of 100 dB at night and 80 dB during the day (not discussed in section 1.2) (OAR 340-035-0035 1.d)

I will comment on results for each of these criteria in the Section 3 review below.

Section 2 Existing Conditions

Section 2.2 Sound Monitoring

Site measurements were made February 19-24, 2025. Comments:

- The sound criteria for a new site, previously unused, require an <u>accurate</u> site ambient measurement for comparison with new sound levels to verify compliance with DEQ limits.
- Typically, a noise measurement report will include meteorological information such as humidity, precipitation, wind, temperature, etc. The report indicates this information is located in Appendix A, but it includes none of this information.
- After researching weather records for that area, I found the weather on those days included heavy rain which can add significant noise and can result in higher reported sound levels than actual at the site.
- The selected measurement locations are likely much louder than the average of all neighboring properties. The measurement locations are close to roadways, which were noted as the source of ambient noise. Several likely quieter locations were not measured, such as at the property corner indicated below.



- Sound Measurement Devices
 - The "softdB Piccolo II" sound measurement devices used are very low cost models, leading me to question how accurate they are at approximately 1/10th cost of typical professional sound meters.



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High-precision noise measurements (IEC 61672/ANSI \$1.4 Class 2)

30 dBA to 130 dBZpk dynamic range and 20Hz to 16kHz frequency span

Simultaneous recording of Leq., Lmax, Lmin, Lpeak, and SEL in A, C, and Z weightings

Ln% for a selected weighting, 31.5Hz to 8kHz octave bands and 400 lines FFT

Massive data storage capacity (up to 198, 948 records)

Powerful audio post-processing and spectrum analysis software included

User-friendly interface to manage key instrument settings & functions

 No indication of factory calibration was included in the report, but yearly factory calibration is required per NPCS-1. Accuracy would be in serious question without current factory calibration.

Annual Calibration

Within a year prior to use, each sound level meter, including octave band filter and calibrator, shall receive a laboratory calibration in accordance with the manufacturer's specifications. This calibration shall be traceable to the National Bureau of Standards.

- The Piccolo II devices are placed inside a metal box, with what appears to be the microphone sticking out below.
 - The close microphone proximity to the bottom of the metal box could increase sound levels due to sound reflections adding to the direct sound.
 - Since the measurements were taken in heavy rain, the rain falling on the metal box could be major sound source, leading to inaccurate data.
 - No mention of potential inaccuracies or calculated adjustment for this meter-in-box configuration were offered in the report. It would be good to get a comparison of the levels inside and outside the box to verify levels are not off by 3-6 dBA.

• The data summary should include a table with actual 1-minute intervals, as the graphed data in Appendix A is smoothed between points, potentially leaving out the quietest times.

Section 3 Operational Sound Levels Section 3.1 Methodology

The sound levels were modeled with an industry-standard modeling program, CadnaA, which follows the ISO 9613-2 standard calculation methods. However, a person with no specific training and certification in environmental noise or the specific software program can make significant errors in entering and interpreting data used as the basis for the calculations. For instance, if the actual ground type is not accurately input, the sound reduction over distance can be erroneous. The person who did the modeling should be trained and qualified to run and interpret the software results -- this information should be confirmed by Dudek for the person who did the modeling.

All operations and activities on the site are applicable to the sound limits, but the report says the sound calculations were limited to three equipment types only: BESS, Transformer, and PCS. Furthermore, the actual transformer sound levels are only estimated, not measured or provided by the manufacturer. The electrical switches, transfer, alarms, and any other on-site equipment were not included in the calculation. This may lead to erroneous results for the L1, L10, L50, impulse, octave, and 1/3 octave limits. The sound levels for these other devices and equipment should be listed to prove they are not an issue.

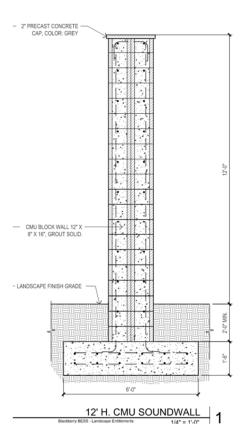
The assumptions used for the equipment operating conditions may not be worst-case. Are 95% fan speed and 7,000 RPM the worst case or the typical case, and how often would it be above these levels? Sound levels can often rise significantly, going from 95% to 100% fan speeds, for instance. Full manufacturer sound data should be provided for review.

Pure tones are noted for the BESS and PCS systems, which triggers the DEQ requirement for 1/3 octave analysis and limits. The 1/3 octave criteria require 1/3 octave data which is not provided in the report, so the graph shown in Figure 2 is erroneous and misleading. The graph uses the octave band data which is not high enough resolution to determine whether or not a tone exists, per the requirement. In any case the report does indicate tones are present. Also, typical transformers "hum" at 120 Hz and other harmonic frequencies, but this is not included in the tonal analysis.

Location of modeled receivers: the receiver locations in the report are not per NPCS-1 and do not include neighboring residential properties to the east and west of the subject property. Zoning of these properties should be clarified as residential or other use, correct distances should be used, and the missing modeled data levels should be included.

Barrier performance and dB reduction calculations rely on the height of the barrier above the top of the equipment to provide significant reduction. The BESS and PCS unit heights are not indicated in the report but in the site package the PCS appears to be approximately 10' tall without any sub-structure/pad. No height information is included for the BESS units. The barrier detail shows a barrier 10' tall maximum (varies with terrain height). Therefore, the barrier may be below the top of the equipment and will therefore have fairly low reduction capability for a receiver at the same height, and almost no effect for an upper story window in a receiver house. The model only looks at receivers 5' above the ground --this does not account for sound to upper story windows on houses.

A barrier is also not shown on the East or West side in the report (but the East side barrier is shown in the site package). The published results on the East side are similar to the North side, but without a barrier and at similar distances. This indicates the barrier provides very little attention.



Modeled/Calculated Results: Without doing a full calculation, a rough rational number check is as follows:

- Source level is 74.5 dBA (sound power) for one BESS unit.
- Source level is 86 dBA (sound power) for one BESS unit.
- For 120 BESS units, the sound level is roughly 95 dBA (sound power)
- For 40 PCS units, the sound level is roughly 100 dBA (sound power)
- Specific distances are not tabulated and no details are provided for the calculation inputs, beyond displaying the modeling results.
- The approximate sound level at the closest property lines with no barrier would likely be much higher than the 43-46 dBA L50 shown on the table.

The graphical sound prediction data seems low. The sound power level of the transformer is 100 dBA, but the graphics below show it at 75 dBA (blue) sound pressure level right at the source and the scale doesn't even go to 100 dBA. Sound levels around the BESS and PCS only show 65 dBA, which is well below the 74-86 dBA source levels.



Propagation within the property would be over hard ground, such as gravel or pavement, but it's not clear if this is in the model. The reflection of hard ground will increase sound levels vs. soft earth. Also reflections off of the large equipment (BESS, etc.) will amplify sound levels in some directions.

Section 3.2 Sound Modeling Results

The L1 and L10 results are not included in the table, so the results are not complete.

The octave band results in Table 5 show levels which are likely to reflect the same calculation and assumption concerns as the dBA levels discussed above. Since these <u>tonal</u> octave band sound levels are very close to the limits, this data must be verified/corrected to compare with the criteria to make sure the frequency data is not above the limits. The report states that the tonal sound will be masked by ambient sound levels, which is not likely true, especially if the source sounds are loud enough.

The ambient octave band levels were not reported, so the calculated octave band data cannot be said to be below the 10 dB increase criteria if the calculations above are incorrect.

Importantly, the 1/3 octave tonal issues of the transformer are not in the analysis and results.

No impulsive sound sources were identified, but it is possible transfer switch equipment could have an impulse event. Also, equipment startup noise could be impulsive and above the normal operational sound levels.

Please feel free to call or email me with any questions.

Thank you,

Tobin Cooley, P.E.

Principal

Listen Acoustics, Inc.

From: <u>CPadmin</u>

To: lhrysyzen@msn.com
Cc: Maitreyee Sinha

Subject: FW: [EXTERNAL] Additional Testimony relating to CASEFILE L2500161-SU/D/PLA

Date:Friday, November 14, 2025 7:52:20 AMAttachments:Testimony in opposition of Casefile L2500161.pdf

Lucila, thank you for your testimony. I am passing this on to Senior Planner Maitreyee Sinha.

Cherie Hull | Administrative Specialist

Pronouns: She/her

Washington County Department of Land Use & Transportation Planning and Development Services | Development Operations 155 N. First Avenue, Suite 350, MS 13

Hillsboro OR 97124 503-846-3629

cpadmin@washingtoncountyor.gov | www.washingtoncountyor.gov/lut

From: Lucy H <l_hrysyzen@msn.com>

Sent: Thursday, November 13, 2025 5:30 PM

To: CPadmin < CPadmin@washingtoncountyor.gov>

Cc: Louisa Bruce <Louisa_Bruce@washingtoncountyor.gov>

Subject: Re: [EXTERNAL] Additional Testimony relating to CASEFILE L2500161-SU/D/PLA

I had just checked email and realized that Ms. Bruce is out of office for most of November. Will my additional testimony still be included for Casefile L2500161-SU/D/PLA?

Although the Zoom recording mentioned sending email of the additional testimony to Ms. Maitreyee Sinha, it doesn't seem her email was provided.

Thank you, Lucila Hrysyzen

Original email to Ms. Bruce dated Wednesday, Nov 12, 2025:

Dear Ms. Bruce,

Please accept additional testimony regarding Case File L2500161-SU/D/PLA. Attached please find the testimony document opposing the Special Use & Development for a BESS at 21393 & 21435 NW West Union Road.

Please notify me soonest if you're not able to open the file or should you have any questions.

From: Louisa Bruce < Louisa_Bruce@washingtoncountyor.gov > Sont: Wednesday, Nevember 13, 2025, 4:00 DN4
Lucy Hrysyzen
Thank you,
You may reach me at email <u>lucila.oh@gmail.com</u> or <u>l_hrysyzen@msn.com</u> .

Sent: Wednesday, November 12, 2025 4:09 PM

To: Lucy H < <u>| hrysyzen@msn.com</u>>

Subject: Automatic reply: [EXTERNAL] Additional Testimony relating to CASEFILE L2500161-

SU/D/PLA

I will be out of the office from Wednesday November 5, 2025 to Friday November 21, 2025. I will return on Monday November 24, 2025. If you need assistance contact CPadmin@washingtoncountyor.gov or 503-846-3629.

Thank You, Louisa

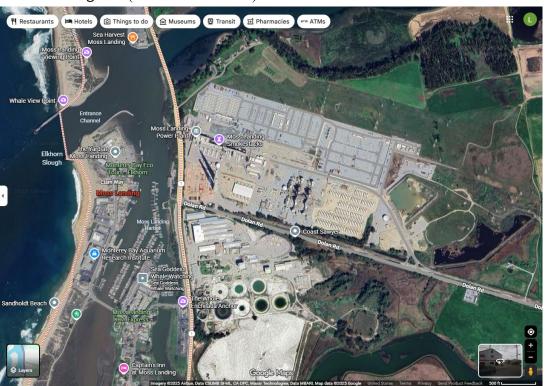
INFO: Washington County email address has changed from @co.washington.or.us to @washingtoncountyor.gov. Please update my contact information.

Additional Testimony in opposition of Casefile L2500161-SU/D/PLA

Lucila O. Hrysyzen 7444 NW 212th Place Hillsboro, OR 97124 Cell: (808) 778-6986

- 1. I agree with prior testimony presented by the No Batteries in Backyards group, the Save Helvetia group, and the Bendemeer Urban Reserve group.
- 2. Public health and safety of all residents within at least 350 feet of the BESS site must be addressed prior to the review and recommendation of approval for the BESS facility proposal.
- 3. In the event of a BESS fire, how is Washington County going to manage and subsidize all displaced residents who currently live within and beyond the BESS isolation zone?
- 4. Opposition to the site location of the BESS is based on best practices stated by the Environmental Protection Agency (EPA) and the International Association of Fire Chiefs (IAFC).
 - a. The EPA states, "set an isolation zone for large commercial BESS that is at least 330 feet, depending on the site."
 - b. The IAFC Bulletin dated August 1, 2022 states, "Compromised lithium-ion batteries can produce significant amounts of flammable gases with potential risk of deflagration and fire... [when] Responding to a venting ESS product evacuate the area... Maintaining a safe distance from the unit involved (large commercial systems, at least 300')."
 - c. It should be noted that the Moss Landing site location and many other BESS facilities exceed this recommendation. The isolation zone ensures minimum health and safety risks to the public. The proposed Jupiter Power BESS site disregards this best practice. Other testimony provided slides showing residences that are within 100 feet of the proposed BESS.
 - d. A Google maps search of Bess facilities in various states shows many BESS sites are in areas with an isolation zone of at least 330 feet, meeting the recommended standard. Note that the snapshots included below have a 200-ft scale in the bottom right of the map. These BESS facilities are not located in residential communities.

i. Moss Landing Site (500 ft scale shown)



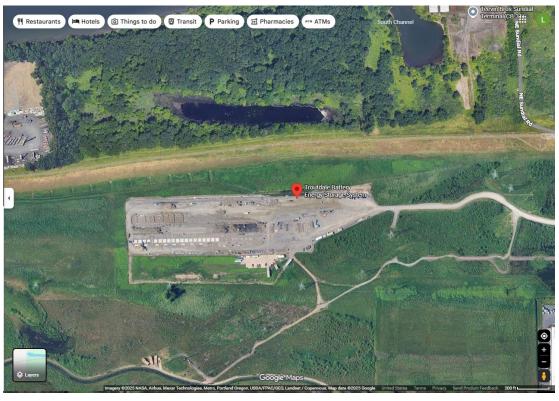
ii. Gateway ESS Facility



iii. Seaside BESS



iv. Troutdale BESS



- e. EPA also recommends that "the emergency response and evacuation plans should be included in a BESS site design."
- f. The staff report cites this should be made available prior to occupancy. This is too late in the process to test and ensure the emergency response and evacuation plans are sound.
- 5. As a resident living within 300 feet of the proposed facility and knowing that (with the exception of West Union Road) Bendemeer and all adjoining roads are single-lane roads, evacuation of all residents in the isolation zone is going to be a challenge. The single-lane roads would make it difficult to efficiently evacuate all residents within 300 feet should a fire incident occur. Exposure to the harmful chemicals is inevitable. Shelter in place is not an option for any of the residents in this area.
- 6. A daycare center is located at the corner of West Union and Cornelius Pass Road, walking distance to the proposed BESS site. What are the evacuation plans for the children? Shelter in place is not an option when located in such close proximity to a BESS facility.
- 7. What are the emergency and evacuation plans when a BESS fire occurs during peak traffic times in and around West Union Road and Cornelius Pass Road?
- 8. Approving the proposal for the BESS location would be premature if a sound and tested emergency and evacuation plan has not been included in the current application, in the initial design, and final design.
- 9. Approving the proposal disregards the aspects of the Washington County Strategic Plan vision that states, "Our residents and visitors are safe and our public safety and justice system is coordinated, balanced, efficient and responsive." Allowing a BESS site to be located on an AF5 land use zone increases risks of harmful emissions affecting the environment immediately surrounding the BESS. All residents and business establishments cannot shelter in place should there be a BESS fire event, that will most likely span several days.
- 10. I am respectfully requesting that the BESS site proposal be denied due to its proximity to residential communities and its harmful impact to everyone's health and safety. An issue that currently doesn't exist for many BESS locations because they exceed the 330 feet isolation zone, and they are located in remote and/or industrial land use zones.