

# Palmyra Planning Board Meeting Minutes

Date: 9/13/2022

**I. Call to order and flag salute** – *The meeting was called to order by the Chair at 6:00 p.m. – flag salute.*

## **II. Roll call**

*Planning Board Members present: Chair Dave Leavitt, Vice-Chair Billy Boulter, Gary Beem, Corey Dow  
Diane White, Secretary*

*Selectmen: Vondell Dunphy, Herbert Bates*

*Others present: Aimee Young (Plymouth Engineering)*

**III. Correspondence** – *none*

## **IV. Process Land Use Permit Applications**

a) Brent Frost – Subdivision Application Review – refer to ATTACHMENT A

*Billy noted that the applicant has provided additional information (pages 75 – 79) which includes the applicants response to the meeting on August 23<sup>rd</sup>, a letter to the fire chief requesting approval, earthwork contractor letter stating that he has certification and will provide it, elevation of a similar building to what they will construct., Pages 80 – 83 were submitted this evening and includes: certificate in erosion and sediment control practices from Brent Newhouse who will be the contractor doing the earthwork, a letter regarding financing from TD Bank and Seaboard Valley Credit Union, and a letter from DEP dated 9/12 (the letter states that they cannot begin until DEP has given final approval).*

*Billy reviewed open items from the Subdivision Application Checklist (Attachment A):*

### **COMPLETENESS ITEMS OUTSTANDING**

1. Mylar to be provided at the end of review.
2. Larger scale provided on plan C3. Does not show residential lot on one side. Aimee said she could show this on a Google Earth copy because this was not surveyed. Planning Board agreed that this was not required.
4. Date added to C1.
5. Lot area added to C1.
7. Change map legend to indicate correctly for wetland—done.
11. Revise the plan to indicate the dimension of the road and parking area—added to C1. Billy said that since there is no slope, he is ok with the cross section as indicated on C2. Parking areas will be paved. Billy asked that this be shown on the C1 legend and also on the map legend.
14. Place for conditions added to C1.
17. HHE-200 in progress—open.
25. NRPA Permit is in progress—open.
26. A drawing of similar buildings with elevations provided
- 34 ii. Letter from Fire Chief pending—in progress.
  - v. Driveway entrance permit Conditions of Approval added to C1.

*Motion made by Billy that the application for Frost Development is complete for the purpose of scheduling a public hearing. Open items for completeness: 11, 17, 25, 34ii. The motion was seconded by Dave. Passed 4-0.*

*The public hearing is scheduled for October 11th.*

*Town Office to notify the applicant in writing the approval of the Planning Board to hold a public hearing. Four items pending for completeness.*



Continue review for compliance:

- 38. HHE-200 - open
- 41. Well and septic – applicant has stated that the location of the well and septic meet the standards of the State of Maine Subsurface Wastewater Disposal rules. The Planning Board accepted the explanation.
- 48. Erosion control measures. Complete.
- 49. Contractor certification – provided.
- 53. Geotextile fabric – added to C2. 10 x 15 turnaround added to the end of the road. Waiting for Fire Chief approval. Open pending Fire Chief Approval of turnaround. [not discussed at the meeting, but required for compliance was the last sentence in ITEM 53 regarding adding a note on C2 referencing gravel specifications].
- 61. HHE-200 – open
- 67. NRPA Permit – pending
- 74. NRPA Permit – pending
- 76. Letters from financing authority. Applicant has provided two letters—TD Bank and Seabacoos Valley Credit Union. Complied.
- 91. Stormwater management information – Waiting for NRPA Permit.
- 92 and 94. Same as 91.
- 99, 100 & 101. Statement from Newport Fire Chief—pending.

**V. Announcements – none**

**VI. Reports**

- a) Secretary's Report 8/23/2022 – Motion made by Billy to accept as amended—Seconded by Dave. Approved 4-0.
- b) CEO Report – Report of permits issued by CEO provided.  
Billy noted that they still have not received a report of requested information on status of approved permit conditions.  
Item C to be added: Status of list of conditions provided to CEO.

**VII. Old Business**

- a) Shoreland Zoning Ordinance – CEO Analysis – awaiting recommendation from the CEO.
- b) Progress update: search for additional Planning Board members - no update
- c) Solar Array – Email sent to Travis from Dave on August 22nd asking for a status update on the Solar Farm. Travis forwarded it to Adam Farkes the next day. Adam Farkes responded with answers to Dave's questions. Also included is a Solar Farm Sound/Noise Report Attachments 1 & 2).
- d) Joshua Johnson (Palmyra Redemption Center) would like to add a storage building. If under 100 sf no permit is required. Also not needed if something is pulled in on wheels. Billy stated that if there are no wheels, a permit is needed. Dave said that he would advocate for an abbreviated review if they are going to add something. Billy suggested that he copy the previous application and provide a new site plan.
- e) Email sent by Billy regarding the entrance at Tractor Supply. The entrance is noncompliant with what was approved by the Planning Board for Hometown Health Center. This may be something done by Tractor Supply. The Board would like feedback from the CEO.

**VIII. New Business – none**

**IX. Adjournment**

6:32 pm – motion made by Billy at adjourn—seconded by Dave. Approved 4-0.

Respectfully Submitted  
Diane White

NEXT MEETING - 9/27/2022



## ATTACHMENT A

### BRENT FROST SUBDIVISION Meeting 8.23.22

Pass out Table of Contents for the applicant's binder  
 Right to appear: reference application deed pg. 21-22 - **MOTION** by Billy that the applicant has right to appear  
 before the Planning Board to submit this application - Dave seconded - approved 4-0.

OPEN ITEM
APPROVED CRITERIA

### REVIEW APPLICATION FOR COMPLETENESS

NO.	DESCRIPTION
1	Mylar to be provided at end of review.
2	The scale is 1:20, less than required but ok - need to see adjoining lots with larger scale - applicant to provide a plan showing adjacent lots.
3	Received
4	Add DATE
5	Add LOT AREA - provide plan showing adjacent lots.
6	None of these are on the property.
7	Change MAP LEGEND of WETLAND to what is shown on C1.
8	There are no internal lot lines for this property.
9	Found on pg. 17.
10	Property does not have any rights-of-way or easements.
11	Revise plan to indicate dimensions of the road and parking areas. Per the plan, roadway is 15' wide. Aimee explained that they want a single lane road (because of the small size of the project). Dave commented: waste disposal service had an issue with Chris Cookson's subdivision regarding driving down the road to collect trash; this may be a consideration. Provide cross section of roadway; delete PAVED PARKING SECTION on C2 since roadway to have gravel surface. Dave said that there is another ordinance for subdivision roads.
12	Located on C1.
13	Property is not in a Shoreland Zoning District.
14	Add place on C1 for CONDITIONS.
15	Found on C1.
16	PB assumes that applicant must provide the quality and quantity of water for his renters in the well to be installed.

*Frost Subdivision*



NO.	DESCRIPTION
17	Applicant to provide HHE-200.
18	Stormwater Management Plan found on pgs. 46-52.
19	Aimee explained that they will keep the roadway and grass at the same elevation and no ditching will be needed. They are trying to keep the wetland disturbance at a minimum.
20	PB accepts applicant response in application, pg. 4. Some areas have been cleared but will be allowed to grow back.
21	Found on pg. 41-44.
22	Found on pg. 24-30.
23	Wetlands located on C1. Erosion and Sediment Control Plan on pages 41-44.
24	Billy stated that this is a different type of subdivision (no separation of property). He does not believe a performance guarantee is necessary. Dave mentioned that the ordinance states "shall". He asked Billy if he is proposing that this requirement be waived. Dave said that someone may come before the town to accept the road. He asked other board members how they feel about a performance guarantee. Dave stated that this will deviate from the ordinance.
	<b>Motion by Billy "A performance guarantee for the road is not required (for this application)"</b>
	<b>Dave seconded - approved 4-0.</b>
25	NRPA Permit is in process
26	Dave said he is unclear about the stories and number of units to be built. Aimee said they are single story duplexes (6 units total). Discussion on formal plans. Billy said that at a minimum, he would like the elevations shown.
27	Performance Guarantee - see #24 above
28	Performance Guarantee - see #24 above
29	Performance Guarantee - see #24 above
30	Performance Guarantee - see #24 above
31	Performance Guarantee - see #24 above
32	See #24 for applicant stating responsibility for long term maintenance.
33	PB determined escrow fees are not required at this time but may be required upon review for compliance.
34	PB determined no additional studies are required at this time but reserves the right to request if an issue is discovered in compliance review.
	<b>SIGNED STATEMENTS FROM THE FOLLOWING PUBLIC OFFICIALS [Article 5-Section3e]</b>
i.	Newport Water District is not involved.
ii.	Fire Chief letter is required stating that the design for the roadway is adequate for fire protection.
iii.	Newport Sanitary District is not involved.



NO.	DESCRIPTION
iv.	Applicant has Scott E. Braley, Professional Engineer as the designer.
v.	Applicant has received a Driveway/Entrance Permit found on pages 34-35. The name on the permit is Franklin Maker Jr. (dated March 13, 2020). Brent explained that Frank Maker is the former owner, who sold it to Chris Cookson. Brent bought the property from Chris. Applicant to verify the location of 1,600' from the Detroit Town Line and locate on C1. Billy asked that the Standard Conditions and Approval listed be provided. Aimee explained that these are shown on page 2. Driveway must be level with the roadway from edge of pavement. Billy did not see this on the plan. Aimee explained that this is compliant according to the plan. Dave said that there are requirements for a turn around, minimum road widths, etc.. To be discussed under compliance. Applicant to show on C1 the requirement for vegetation to be maintained at a height of 2' or less as indicated on the permit. Aimee will fix the plan so it shows being tied into Route 11. Center of driveway is marked on pavement (note on permit) - driveway is not being paved. Aimee questioned if the marking is required on Route 100.
vi.	None other requested.
	Billy made motion that the application is not complete - Dave seconded - discussion: Dave stated that a public hearing will be scheduled within 20 days after completeness of the application is approved.
	Motion approved 4-0.
	<b>PLANNING BOARD CONTINUED WITH REVIEW FOR COMPLIANCE</b>
35	<b>CRITERIA SECTION 1 APPROVED</b> - item b found on pgs. 37-39.
36	<b>CRITERIA SECTION 2 APPROVED</b> - applicant will provide well on site to meet the needs of the renter's.
37	<b>CRITERIA SECTION 3 OPEN due to #38/41 below</b>
38	Applicant to provide HHE-200.
39	Applicant is providing a well.
40	Newport Water District is not involved.
41	Billy noted that the well is downhill from the septic. Aimee explained that this was the only location where they can put the septic (must be 200' from the septic system). If the septic system is functioning properly, there will be no concerns. Billy asked for a statement from whoever does their HHE (engineer) stating there will be no issues with septic being uphill from the well.
42	PB assumes water supply will be adequate since applicant is renting units.
43	Newport Water District is not involved.
44	Property will not have a public water supply system.
45	<b>CRITERIA SECTION 4 OPEN due to #48/49 below</b>
46	Erosion Control Plan information is found on pages 41-44. Billy stated that he did not see any soil barriers. He would like this indicated on the plan (where it will be located).



NO.	DESCRIPTION
47	Erosion Control Plan information is found on pages 41-44.
48	Applicant to show temporary and erosion control measure on C1.
49	Applicant to provide document on contractor certification.
50	<b>CRITERIA SECTION 5 OPEN due to # 53</b>
51	C1 and C2 have Professional Engineer Scott E. Braley stamp.
52	PB assumes MDOT Driveway/Entrance Permit is evidence of compliance.
53	Applicant to add GEOTEXTILE material below the aggregate subbase course of gravel. Discussion involving traffic access on this road. The applicant must provide means for delivery vehicles and other vehicles to get in and out safely. Dave said a place to turn is needed because this is a dead end road. Billy, Gary, and Corey said it is more of a driveway (because there will be only 3 buildings) and they do not consider it a dead end road (therefore the road standards do not apply). Applicant to redesign end of the driveway for safe turn around of delivery or emergency vehicles. Applicant to remove PAVED PARKING SECTION on C2. Applicant to add note on C2 at "GRAVEL ROAD SECTION" that the gravel meets the specifications for aggregate sub-base course as contained in the current edition of The Standard Specifications for Highways and Bridges of the State of Maine Department of Transportation.
54	Noted.
55	Project is not a mobile home park.
56	Project does not have parking lots.
57	Project does not have individual lots.
58	Access is to Route 11.
59	<b>CRITERIA SECTION 6 OPEN due to #61 below</b>
60	Newport Sanitary District not involved.
61	Applicant to provide HHE-200.
62	Newport Sanitary District not involved.
63	<b>CRITERIA SECTION 7 IS APPROVED</b>
64	Individual renters are responsible to remove their own trash.
65	Individual renters are responsible to remove their own trash.
66	<b>CRITERIA SECTION 8 OPEN due to #67 below</b>
67	NRPA Permit to be reviewed for any requirements to mitigate or manage impact to wetlands.
68	None of these conditions are on this property.
69	Site is not designated as a significant archeological or historic site.
70	Property is not designated as a Maine Natural Area.
71	Property is not located in any of these areas.
72	<b>CRITERIA SECTION 9 OPEN due to #74 below</b>



NO.	DESCRIPTION
73	No other ordinances are involved with this subdivision.
74	NRPA Permit has not been received.
75	<b>CRITERIA SECTION 10 OPEN due to #76 below</b>
76	Applicant to provide financial documentation from financing authority.
77	Applicant has hired Plymouth Engineering to provide the design for this project and information has been provided in the application.
78	<b>CRITERIA SECTION 11 IS APPROVED</b>
79	Wetlands have been identified on C1.
80	There are no waterbodies involved with this project.
81	<b>CRITERIA SECTION 12 IS APPROVED</b>
82	PB determined that the additional requirement of water for this site would not significantly impact the quantity of water available for adjacent sites.
	<b>Motion by Billy to waive the requirement for the applicant to hire a geologist (due to the scope of the project) - seconded by Dave - approved 4-0.</b>
83	<b>CRITERIA SECTION 13 IS APPROVED</b>
	Property is not in a flood plan area based upon information found on page 32.
84	<b>CRITERIA SECTION 14 OPEN waiting for information from the NRPA Permit</b>
85	<b>CRITERIA SECTION 14-A IS APPROVED</b>
86	Property is not in "Farmland".
87	Property is not adjacent to property enrolled in the Maine Farm, Open Space or Tree Growth programs.
88	Property is not located adjacent to a working rural landscape.
89	<b>CRITERIA SECTION 15 IS APPROVED</b>
	All requirements are n/a for this application.
90	<b>CRITERIA SECTION 16 IS OPEN due to #91/92/94 below</b>
91	Stormwater management information is provided in pages 46-52. Decision on this # to be delayed until the NRPA Permit is reviewed. This should be in on the 18th (per Almee).
92	Stormwater management information is provided in pages 46-52. Decision on this # to be delayed until the NRPA Permit is reviewed.
93	Project does not have detention ponds.
94	Waiting for NRPA Permit comments.
95	<b>CRITERIA SECTION 17 IS APPROVED</b>
96	Property is not within the direct watershed of a great pond.
97	<b>CRITERIA SECTION 18 IS APPROVED</b>
	Property does not cross municipal boundaries.



NO.	DESCRIPTION
98	<b>CRITERIA SECTION 19 IS APPROVED</b>
	Land is not subject to liquidation harvesting.
	<b>CRITERIA SECTION 20 IS APPROVED</b>
	PB is not aware of any amendments to Title 30-A, Section 4404.
	<b>FIRE PROTECTION IS OPEN due to all 3 items below</b>
99	Applicant to provide signed statement from the Newport Fire Chief.
100	Applicant to provide signed statement from the Newport Fire Chief.
101	#51 above addresses applicant to redesign access for fire protection. Fire Chief letter to address if there is an adequate water supply for fire protection.

Next PB meeting is 9/13/22 therefore applicant has until 8/30/22 to submit requested information for application completeness.



**From:** Dave Leavitt <dleavitt@palmyratown.org>  
**Date:** July 21, 2022 at 12:23:30 PM EDT  
**To:** Travis Gould <tg.travisgould@gmail.com>  
**Subject:** Solar Farm

Travis , would you please ask the Solar Farm folks for a written response to these questions on the solar farm :

1. What is the source of the delay and what is the current date to complete the following :

A. Tree screen planting

Tree screening scheduled for completion within the next 2-4 weeks. Reason for delay is subcontractor availability and drought conditions in Maine (did not want to plant trees during the dry weeks)

B .Tree straightening ( seems like the longer this goes the harder it will be to accomplish )

Tree straightening scheduled for completion within the next 2-4 weeks. This work will be completed when tree planting is completed.

C. Dead tree replacement

Tree replacement scheduled for completion within the next 2-4 weeks. This work will be completed when tree planting is completed.

D. Sound testing

Sound testing completed and emailed on July 27<sup>th</sup>.

There may be other open issues , but every time I drive past , the tree issues stand out as needing attention .

Thanks in advance Travis .

ATTACHMENT 1

9/13/22  
minutes



From: Dave Leavitt <dleavitt@palmyratown.org>

Date: Mon, Aug 22, 2022 at 1:58 PM

Subject: Open Solar Farm Permit Conditions

To: Travis Gould <tg.travisgould@gmail.com>

Cc: Brian Barrows <brian@palmyratown.org>, Palmyra Town Office <palmyratown@roadrunner.com>

Travis, it has been about a month since you forwarded our email below to the Solar Farm Management Team. If they responded, can you please advise? If they never responded, can you please reach out to them again?

It seems reasonable to expect the courtesy of a timely reply to our inquires. Thanks in advance.

We have additional questions for them as well:

E. If they have not started up, What is the exact cause of the delays in starting up?

Project is in operation.

F. If they haven't started up, What is the current schedule for start up?

Please see what you can discover about the status of the open Solar Farm issues itemized in these two emails, as well as any other open/ pending Permit Conditions which you may be tracking. Again, Thanks in advance Travis.

Sent from my iPhone

Begin forwarded message:

2

From: travis gould <tg.travisgould@gmail.com>

Sent: Tuesday, August 23, 2022 12:32 PM

To: Adam Farkes <afarkes@bnrg.ie>

Subject: Fwd: Open Solar Farm Permit Conditions

Hello Adam

Can you respond to this email as soon as you can. Thank you



**From:** travis gould <[tg.travisgould@gmail.com](mailto:tg.travisgould@gmail.com)>  
**Sent:** Tuesday, August 30, 2022 12:43 PM  
**To:** Adam Farkes <[afarkes@bnrg.ie](mailto:afarkes@bnrg.ie)>  
**Subject:** Re: Open Solar Farm Permit Conditions

Hello Adam

Thank you for your update to the screening. Can you forward me the sound testing results, I can not find it.  
Have a good day.

On Tue, Aug 23, 2022 at 3:43 PM Adam Farkes <[afarkes@bnrg.ie](mailto:afarkes@bnrg.ie)> wrote:

Hi Travis,

See comments below in red.

1

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**From:** travis gould <[tg.travisgould@gmail.com](mailto:tg.travisgould@gmail.com)>  
**Sent:** Tuesday, August 30, 2022 1:07 PM  
**To:** Town of Palmyra  
**Subject:** Fwd: Open Solar Farm Permit Conditions  
**Attachments:** image001.jpg; 2022 .7. 12 12186.010 noise survey Palmyra Solar dbk mds-smt2.pdf

----- Forwarded message -----

**From:** Adam Farkes <[afarkes@bnrg.ie](mailto:afarkes@bnrg.ie)>  
**Date:** Tue, Aug 30, 2022, 12:58 PM  
**Subject:** RE: Open Solar Farm Permit Conditions  
**To:** travis gould <[tg.travisgould@gmail.com](mailto:tg.travisgould@gmail.com)>

Travis,

The noise study is attached.

Adam









# HALEY WARD.

ENGINEERING | ENVIRONMENTAL | SURVEYING

July 12, 2022

Mr. Adam Farkes  
BD Solar Palmyra  
622 Congress Street, Suite 202  
Portland, ME 04101

**Re: Limited Noise Survey | BD Solar Palmyra, LLC | U.S. Route 2 | Palmyra, Maine**

Dear Mr. Farkes:

On June 29, 2022, Haley Ward, Inc. (Haley Ward) completed a limited noise survey at the BD Solar Palmyra, LLC (BD Solar) Solar Farm located on US Route 2 in Palmyra, Maine (Site). The goal of the survey was to measure "noise levels from any continuous, regular, or frequent sources of sound" originating from the Site at the property boundaries in accordance with the Town of Palmyra commercial development review ordinance (Article 8, Section 7.B. Noise).

## OBSERVATIONS

The Site consists of approximately 25.6 developed acres used as a solar farm which includes ground mounted photovoltaic (PV) arrays, associated electrical inverters and transformers, equipment pads, an access road, and a perimeter fence to prevent unauthorized access to the equipment. Observed sound sources from inside the fenced area include transformers and power inverters.

The Site is located between US Route 2 to the north and Interstate 95 to the south. The Site is adjacent to a cellular tower property to the east and a farm field to the west. An access road is located on the west side of the fenced area with two separate gates, identified as Gate 1 and Gate 2, which allow access to the installation. A personnel access gate is present on the southern portion of the fence. The north and west portions of the fence are covered with mesh screening to provide visual screening. Trees have been planted along the north, east, and west property boundaries to provide additional

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ATTACHMENT 2

One Merchants Plaza, Suite 701, Bangor, ME 04401  
T: 207.989.4824 | [HALEYWARD.COM](http://HALEYWARD.COM)

9/13/22  
minutes







screening for the fenced in area. The south portion of the fence line has existing forested land to provide screening.

At the time the noise survey was completed, background highway traffic noise was observed at the Site with the more predominant traffic noise coming from the direction of Interstate 95. The level of traffic noise was dependent on types and numbers of vehicles passing the Site at any given time.

Weather conditions were mostly sunny with light breezes from the south, southwest (from the direction of Interstate 95) with temperatures in the upper 70s to low 80s. Solar altitude was approximately at peak for the day.

## MEASUREMENTS

Using a calibrated 3M Soundpro DL-2 sound level meter (SLM) (S/N BGL040004) equipped with a windscreen to limit interference from wind noise, Haley Ward measured sound pressure levels at various locations at the Site. Prior to and following the survey, Haley Ward field calibrated the SLM to 114.0 decibels A scale (dBA) at the individual frequencies of 1000 Hertz (Hz) and 250 Hz using a 3M AC-300 acoustic calibrator (S/N AC300004858). Measurements were taken using the "slow" response setting and were at least four feet from the ground. Measurements were also taken while positioning the SLM towards the Site's solar arrays.

Traffic noise from both US Route 2 and Interstate 95 was observed during the measurements. Individual vehicles passing the Site on US Route 2 temporarily increased measurements by approximately 10 dBA which immediately dissipated once the vehicles had passed. Traffic noise from Interstate 95 was more continuous during the measurement period.

**Table 1** below is a summary of the sound measurements taken at various locations at the Site.



# HALEY WARD.

ENGINEERING | ENVIRONMENTAL | SURVEYING

July 12, 2022

Mr. Adam Farkes  
BD Solar Palmyra  
622 Congress Street, Suite 202  
Portland, ME 04101

**Re: Limited Noise Survey | BD Solar Palmyra, LLC | U.S. Route 2 | Palmyra, Maine**

Dear Mr. Farkes:

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## OBSERVATIONS

The Site consists of approximately 25.6 developed acres used as a solar farm which includes ground mounted photovoltaic (PV) arrays, associated electrical inverters and transformers, equipment pads, an access road, and a perimeter fence to prevent unauthorized access to the equipment. Observed sound sources from inside the fenced area include transformers and power inverters.

The Site is located between US Route 2 to the north and Interstate 95 to the south. The Site is adjacent to a cellular tower property to the east and a farm field to the west. An access road is located on the west side of the fenced area with two separate gates, identified as Gate 1 and Gate 2, which allow access to the installation. A personnel access gate is present on the southern portion of the fence. The north and west portions of the fence are covered with mesh screening to provide visual screening. Trees have been planted along the north, east, and west property boundaries to provide additional

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One Merchants Plaza, Suite 701, Bangor, ME 04401  
T: 207.989.4824 | [HALEYWARD.COM](https://www.haleyward.com)







**TABLE 1**  
**SUMMARY OF SOUND MEASUREMENTS**  
**BD SOLAR, LLC, PALMYRA, MAINE**

Location	Average Measurement decibels (dBA)	Approx. Distance to Nearest Property Boundary (feet)	Observations
Gate 2 facing West	49	150	Away from solar arrays
Gate 2 facing East	50	150	Toward solar arrays
Gate 2 facing North	51	150	Toward US Route 2
Gate 2 facing South	52	150	Toward I-95
West Property Boundary @ Gate 2	54	0	Breezy, US Route 2 traffic noise
West Property Boundary between Gates 1 and 2	51	0	Breezy, US Route 2 traffic noise
West Property Boundary: Gate 1	52	0	Breezy, US Route 2 traffic noise
North Property Boundary at NW corner @ US Route 2	51	0	Breezy, US Route 2 traffic noise
North Property Boundary: Center @ US Route 2	58	0	US Route 2 traffic noise, Breezy
East Property Boundary at NE corner @ US Route 2	58	0	US Route 2 traffic noise
East Fence Line: Middle	49	100	Quiet, low traffic noise
East Fence Line: North	52	100	Breezy, US Route 2 traffic noise
South Fence Line: East End	54	20	Breezy, I-95 noise
South Fence Line: Middle East	54	50	Breezy, I-95 noise
South Fence Line: Middle West	52	50	Breezy, I-95 noise
South Fence Line: West	52	75	Breezy, I-95 noise

## DISCUSSION

The Town of Palmyra commercial development review ordinance (Article 8, Section 7.B.) states, in part, "the maximum permissible noise from any continuous, regular, or frequent source of sound within a development shall be no more than fifty dBA" during the day. Measurements recorded above fifty dBA are due to US Route 2 and Interstate 95 midday traffic noise which were the primary and dominant noise sources, especially along the boundaries closest to either highway.



Average noise measurements include all sources of sound regardless of their source. Background traffic noise, caused by friction between road and tires, air disturbance from motion, and engine noise, has an additive effect on reported average noise levels. Measurements were observed to increase by approximately ten dBA when traffic was passing by at the US Route 2 property boundary. Interstate 95 traffic noise was observed to be a consistent and continuous during the measurements, adding approximately three to nine dBA to the measurements, depending on the measurement location. The traffic noise from Interstate 95 was observed to be more noticeable due to the wind direction from the south, southwest. Background traffic noise sources are included in the reported average measurements.

The transformer and power inverter sounds associated with the PV arrays were inaudible outside of the north, south, and east fence lines. The transformer and power inverter sounds were slightly audible at Gate 2 along the west fence line which is at the location of the transformers for the Site and more than 150 feet from the nearest property boundary.

Equipment sound levels decline with distance following the "inverse square law" which is a reduction of approximately six dB of sound per doubling of distance from the source. For example, an equipment sound measurement of 68 dB three feet from the source would reduce to 35 dB at 150 feet away from the source if there are no other interfering sounds or noise sources.

At the fence line of the solar array field, sound from the transformers and power inverters were below existing background sound levels based on sound measurements at the source. The transformer and power inverter sounds were not perceptible at property boundaries. The layout of the solar panels was observed by sound measurement to act as sound barriers to the north and south due to the positioning of the panels.

## **CONCLUSION**

Based on the evaluation of sound measurements collected at the Site including measurement of the noise producing equipment located within the Site boundaries and the evaluation of the surrounding background traffic noise from I-95 and US Route 2, the transformer and power inverter equipment in operation do not emit noise which exceed 50 dBA at the property boundaries during peak solar operation hours or 45 dBA at night.





Average noise measurements include all sources of sound regardless of their source. Background traffic noise, caused by friction between road and tires, air disturbance from motion, and engine noise, has an additive effect on reported average noise levels. Measurements were observed to increase by approximately ten dBA when traffic was passing by at the US Route 2 property boundary. Interstate 95 traffic noise was observed to be a consistent and continuous during the measurements, adding approximately three to nine dBA to the measurements, depending on the measurement location. The traffic noise from Interstate 95 was observed to be more noticeable due to the wind direction from the south, southwest. Background traffic noise sources are included in the reported average measurements.

The transformer and power inverter sounds associated with the PV arrays were inaudible outside of the north, south, and east fence lines. The transformer and power inverter sounds were slightly audible at Gate 2 along the west fence line which is at the location of the transformers for the Site and more than 150 feet from the nearest property boundary.

Equipment sound levels decline with distance following the "inverse square law" which is a reduction of approximately six dB of sound per doubling of distance from the source. For example, an equipment sound measurement of 68 dB three feet from the source would reduce to 35 dB at 150 feet away from the source if there are no other interfering sounds or noise sources.

At the fence line of the solar array field, sound from the transformers and power inverters were below existing background sound levels based on sound measurements at the source. The transformer and power inverter sounds were not perceptible at property boundaries. The layout of the solar panels was observed by sound measurement to act as sound barriers to the north and south due to the positioning of the panels.

## **CONCLUSION**

Based on the evaluation of sound measurements collected at the Site including measurement of the noise producing equipment located within the Site boundaries and the evaluation of the surrounding background traffic noise from I-95 and US Route 2, the transformer and power inverter equipment in operation do not emit noise which exceed 50 dBA at the property boundaries during peak solar operation hours or 45 dBA at night.







Haley Ward appreciated the opportunity to provide a limited noise survey for the BD Solar Palmyra installation. If you have questions or need further information, please feel free to contact either of the undersigned at (207) 989-4824.

Sincerely,

Haley Ward, Inc

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