Horse Heaven Wind Project EFSEC Review
Data Request No. 5 (received November 5, 2021) – Response Package No. 1 (November 23, 2021)

The following table provides Scout's responses to EFSEC's Data Request Number 5 dated 11/5/21.

Data Request 5 Item ID	Application Section	Item	Question or Information Request.	Applicant Response *(bold text indicates response conclusion and Applicant commitments, including commitments to provide supplemental materials).*
Habitat-2	3.4 Habitat, Vegetation, Fish, & Wildlife 3.5 Wetlands	2021 Botany and Habitat Survey Report	Provide information on the location of the wetland identified in close proximity to the Micrositing Corridor (identified as a Class IV wetland requiring a 40-ft. buffer per the Benton Co. Critical Areas Ordinance) and the field data associated with the wetland noted in the 2021 habitat surveys.	**The "Wetlands and Other Waters Delineation Report for the Horse Heaven Wind Farm Project" dated December 2020 and Amended August 2021 contains details on page 7 concerning the wetland found outside of the micrositing corridor.** Attachment Habitat-2 contains the extracted figure from the Wetlands and Other Waters Delineation Report showing the wetland in question, as well as the USACE data sheet and field data for this wetland.
Noise-2	4.1.1 Noise	Baseline noise levels.	Baseline analysis for more populated areas will need to be addressed in the DEIS, be that measured baseline or assumed/calculated baseline levels. Provide baseline noise levels and indicate if these were measured or calculated. Supplemental Data Request received November 15, 2021: 1) Collect baseline measurements in the field associated with three (3) polygons (A1, A2, & A3). There are 3 suggested monitoring locations within each polygon that may be useful field locations based on road access and proximity to populated areas. 2) Collect the baseline measurements as similar as reasonably possible in equipment, duration, and setup used for the original baseline study.	**A comprehensive ambient sound survey documenting existing conditions for those noise sensitive receptors (NSRs) located closest to and expected to be most impacted by the Project was completed and submitted as part of the Horse Heaven Wind Project EFSEC application. In addition, Monitoring Location 4 was situated at a residence along Finley Road in Kennewick, Washington, and therefore, the ambient sound levels collected at Monitoring Location 4 could be used to estimate baseline conditions for the more populated areas in Kennewick and Finley.** Scout is currently assessing the feasibility of obtaining landowner authorizations to conduct the additional requested baseline measurements and will provide a supplemental response to the November 15 request separately. The other area that could be defined as "more populated" near the Project is Benton City. In the absence of ambient measurement data, baseline sound levels for Benton City were estimated using a method published by the Federal Highway Administration (FHWA) in its Transit Noise and Vibration Impact Assessment (FHWA 2006). That document presents the general assessment of existing noise exposure based on the population density per square mile and proximity to area sound sources such as roadways and rail lines. According to the U.S. Census Bureau, Benton City has a population density of 1,464.40 persons per square mile. In addition, Interstate 82 (I-82) runs north of the Project in proximity to Benton City. Table 1 below provides the estimated baseline sound levels for Benton City based on population density and distance to I-82. **Table 1. Estimated Baseline Sound Levels for Benton City NSRs** **Average Sound Level (dBA)** / **L_{eq} (Day)**: **50** / **L_{eq} (Evening)**: **45** / **L_{eq} (Night)**: **40** / **L_{dn}**: **50** As presented in the EFSEC application, the Project successfully demonstrated compliance with Washington Administrative Code (WAC) 173-60 at all NSRs including the areas that are more populated. These populated areas would generally be considered Class A Environmental Designation for Noise Abatement (EDNA) because they are places where people live and sleep. Therefore, the applicable nighttime limit prescribed under WAC 173-60-040 would be 50 A-weighted decibels (dBA) since the Project is considered a Class C sound source.

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				The limits given in Washington's noise regulations are not prescribed relative to existing ambient sound conditions but are prescribed as absolute numerical decibel levels, which only apply to the Project sound contribution at NSRs. The limits are independent of the existing acoustic environment; therefore, an ambient sound survey is not requisite to determine conformance. **Because modeled sound levels resulting from Project operation in these more populated areas would be 40 dBA or lower, the Project would comply with WAC 173-60-040.** Additionally, even though irrelevant to establishing compliance, the incremental increase resulting from adding the modeled Project sound levels to the estimated nighttime ambient level of 40 dBA would be 3 dBA.
Noise-4	4.1.1 Noise	Construction noise levels. Noise sensitive receptors (NSRs).	Attachment Noise-4 from Data Request No. 3, dated July 22, stated that "*For the purposes of the construction noise analysis for those NSRs located within the Project lease boundary it was assumed that equipment would be positioned at the closest wind turbine generator (WTG) relative to each NSR*". What distance was assumed for construction features other than wind turbines (e.g. solar panels)? Why were only wind turbine generator locations considered?	The construction of the Project may cause short-term, but unavoidable, noise impacts that could be loud enough at times to temporarily interfere with speech communication outdoors and indoors with windows open. Noise levels resulting from the construction activities are challenging to quantify accurately because noise levels would vary significantly depending on several factors such as the type and age of equipment, specific equipment manufacturer and model, the operations being performed, and the overall condition of the equipment and exhaust system mufflers. **Construction activities and resulting noise levels associated with wind turbine generator (Turbine) construction were presented in Attachment Noise-4 from the response to Data Request No. 3, submitted to EFSEC on August 18, 2021, to present "worst-case" anticipated construction noise impacts at NSRs located within the Project Lease Boundary and NSRs located within 1 mile of the Project Lease Boundary. Construction noise impacts associated with construction of other Project features (i.e., substations, solar facilities, BESS facilities) are expected to be less than construction noise impacts associated with Turbine construction.** In addition, as stated in Attachment Noise-4 from Data Request No. 3, WAC 173-60-050 clearly states the following: *"3) The following shall be exempt from the provisions of WAC 173-60-040, except insofar as such provisions relate to the reception of noise within Class A EDNAs between the hours of 10:00 p.m. and 7:00 a.m."* *"(a) Sounds originating from temporary construction sites as a result of construction activity."* Project construction of both Turbines and other features will not occur between 10:00 p.m. and 7:00 a.m.; therefore, compliance with the WAC noise limits is not required.
Noise-9	4.1.1 Noise	Octave band data.	Provide the acoustic model inputs from Cadna.	**Please see Attachment Noise-9, which provides the octave band sound power level data inputs for the Horse Heaven Wind Project acoustic modeling analysis. Table 1 in Attachment Noise-9 provides the octave band sound power level data for the substation transformers; Table 2 provides the octave band sound power level data for the solar and battery energy storage system (BESS) equipment; while Table 3 provides the octave sound power level data that can legally be disclosed for the Turbines (see below for details regarding what data can legally be released).** General Electric (GE) has authorized the release of data for their 2.82-127 Turbine, but not for the other GE Turbine models at this time. The Siemens Gamesa (SG) 6.0-170

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				Turbine data also can be provided. These data are representative of the range of sound levels from Turbine types under consideration, and the 2.82 megawatt (MW) Turbine sound emissions represent the loudest of the GE model Turbines under consideration. Although GE has opted to keep the other Turbine data confidential at present, the 2.82 MW data represent the highest sound emissions for sub-500-foot Turbines (i.e., Turbine Option 1) presented in the ASC, and can be used to demonstrate the Project's compliance with WAC 173-60. The Applicant can commit to providing sound specifications for the final selected Turbine model(s) during the final design process to demonstrate that the selected Turbine and final layout also comply with WAC 173-60.
Surface Water and Wetlands-3	3.3.2 Natural Environment Water Impacts 3.3.3 Natural Environment Water Mitigation Measures	Surface water runoff.	Provide some basic information regarding the approximate frequency of panel washng, amount of water used per panel, time of year (dry season, wet season), and distribution/concentration of water that would reach the ground. This will assist EFSEC to determine whether there is any potential for erosion or sediment mobility. We understand that there are a number of measures that can be implemented to address potential erosion issues; however, it would also be good to understand the potential for erosion and for needing BMPs associated with panel washing.	**This issue was addressed in a previous data response (i.e., per our response to "Surface Water and Wetlands-5" in EFSEC Data Request #2 on August 16, 2021). In that previous response, we said:** *Panel washing is not expected to generate runoff from the site or cause erosion. Estimated water use across all three solar areas is 2,025,000 gallons per year (Section 2.6 of the ASC). Conservatively assuming that one-third of this amount would be used even at the smallest area (Sellards Road, 1,935 acres), an estimated 675,000 gallons of water may be used during panel washing at this site. If all of this water were to run off from panels and none of it evaporated, the depth of water on the ground would be 0.012 inch across this area. This amount of water would easily infiltrate into the ground around the panels and is not likely to run off to surface water bodies.* *Runoff also could occur due to rainfall on the site. Because the overall contours of the project site would not change significantly from current contours, stormwater runoff generally would follow current patterns during operations. Erosion and sediment control during operations and maintenance would consist of revegetating the area following construction to facilitate infiltration of stormwater that may run off of Project infrastructure. There would be ample space between the solar panel rows (generally at least twice the panel height in between rows, to minimize shading of panels when tilted) and infiltration could occur in this space as well as underneath the panels.* **The frequency with which panel washing would be conducted during operation is unknown, as solar panel manufacturers currently do not recommend routine washing of panels; however, periodic washing may be needed to optimize performance. If needed during operations, the solar modules could be washed once per year. If panels at the Project are washed, it is anticipated that up to 0.5 gallon would be required per module on average.** Water for panel washing would be trucked to the site from a municipal or private source. Solar panel wash water would not contain additives and would be allowed to infiltrate into the ground surface at and near the point of application and would not be discharged into nearby water bodies. **If required, the washing of solar panels is not expected to have any effect on streams or wetlands, or to erosion or sediment mobility because of the small amount of water required for these actions. Panel wash water would drip off panels in quantities small enough to quickly infiltrate into the ground and would not be expected to run off in sufficient quantity to travel over the surface to nearby stream channels.** Furthermore, no surfactants would be added to panel wash water in order to prevent these materials from entering nearby waterbodies.

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Vegetation-10	3.4 Habitat, Vegetation, Fish, & Wildlife	2021 Botany and Habitat Survey Report.	What is the confidence in the accuracy of the vantage-point habitat notes/surveys for the approximately 604-acrea (including approximately 595 acres of agricultural land, 6 acres non-native grassland, and 3 acres shrub-steppe) area not yet field verified and will surveys be completed prior to construction?	**The majority of this 604-acre area was visible from public roads. Between roadside viewing and desktop review of aerial imagery dated April 2021, we determined that approximately 595 acres of this 604-acre area consists of agricultural land.** The other 9 acres consists of non-native grassland and shrub-steppe habitat; however, **if project-related disturbances will occur in these areas based on the final design, preconstruction surveys will be conducted to verify habitat and final habitat impact calculations.**
Wildlife-19	3.4 Habitat, Vegetation, Fish, & Wildlife 4.2.6 Agricultural Crops/Animals	Wildlife Habitat	Clarify whether domesticated farm animals currently graze in the project area. If not, would the inclusion of this activity under the turbines alter the available habitat for wildlife?	**Grazing currently does or could occur in some portions of the Project area.** The ASC currently contains detailed descriptions and analysis of how construction and operation of the Project would affect the available habitat for wildlife (see Section 3.4 of the ASC).
Wildlife-28	3.4 Habitat, Vegetation, Fish, & Wildlife	Figure 1 of attachment for Data Request No. 2 Wildlife-20 response that includes terrestrial wildlife linkages ad connectivity (references Arid Lands Initiative 2014).	Has the Applicant characterized and quantified the potential effects to habitat connectivity, albeit that most of the turbines are located away from the priority core area or high linkage area?	**This is addressed in Section 3.4.1.3 of the ASC, as well as in our response to a previous data request from EFSEC (i.e., per "Wildlife-14" as part of response to EFSEC Data Request #2 provided on August 16, 2021).** As discussed in the ASC: *There is some potential for migrating waterfowl, shorebirds, and waterbirds to use the available habitat seasonally as stopover habitats; however, given the limited amount of such habitat, use is not expected to be substantial, and the Project is not anticipated to be used as a concentrated migration pathway.* *The Project is not located within a migration route for big game species (WDFW 2020a). Although the Project provides low habitat value to mule deer (e.g., due to the extent of agricultural and developed land, which covers 75 percent of the Project Lease Boundary), one Least-Cost Path (LCP) modeled by the Washington Wildlife Habitat Connectivity Working Group (WHCWG 2012, 2013) passes through the Project along a north-south route west of and parallel to Highway 395. This LCP connects HCAs at the Hanford Site and Rattlesnake Hills in Washington to a HCA in Oregon between Pendleton and Heppner. This LCP falls outside the Solar Siting Areas but passes through the Micrositing Corridor. WDFW is currently working to identify migratory corridors through research of mule deer movement; however, these are currently prioritized in the East Slope Cascades and East Columbia Gorge Mule Deer Management Zones (MDMZ) and not the Columbia Plateau MDMZ (WDFW 2020l), where the Project occurs.* ***As the Project is not located within a migration route for big game species, impacts to big game migration routes are not anticipated from the Project.*** *Although the Micrositing Corridor overlaps with one LCP modeled by WHCWG (2012, 2013), the Project Lease Boundary in general provides low value habitat to mule deer and is unlikely to support large migrations of mule deer despite this modeled linkage. The modeled LCP that passes through the Project does not overlap with the fenced solar arrays (or the larger Solar Siting Areas), which are primarily located on agricultural and disturbed lands. This LCP is designated as low centrality; centrality is a measure of how important a habitat area or linkage is for keeping the overall connectivity network connected (WHCWG 2013). Therefore, construction and operation of the Project is not anticipated to constitute a barrier to deer movement.*

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				Per our previous data responses: *Please see Johnson and O'Neil (2001) for primary habitat associations. Connectivity within the Horse Heaven Hills will be maintained through minimization of fencing around solar arrays within the north/south connection including set-backs of Turbines and associated infrastructure from the escarpment where the east/west connection is located. Turbines and associated infrastructure (excluding O&M building) are unfenced, allowing open access and movement to all wildlife.*
Wildlife-29	3.4 Habitat, Vegetation, Fish, & Wildlife	Avoidance and Minimization Construction and Operational Impacts	Was the potential change in habitat use by placing perching material (i.e poles) near the canyons considered? Please provide any information on this subject. Have alternative methods of crossing canyons or draws been considered? If yes, what are they and how feasible are they?	**The Project layout was designed to minimize the number of overhead features. The relatively few places where overhead features are contemplated were specifically selected to minimize the overall environmental impact. Electrical transmission poles and associated lines do not represent a novel feature on the landscape.** An assortment of different pole configurations is present along roads and property lines throughout the Project, and well as along canyons in the general area. Elevated electrical structures range from wooden monopole low-voltage distribution systems which service residential buildings and farming operations to metal high-voltage transmission lines that bisect the middle of the Project (e.g., BPA 230 kV) and adjacent to the Project (e.g., 500 kV to the west of the Project). Furthermore, there are currently existing elevated electrical structures within (i.e., spanning perpendicular or aligned parallel) or adjacent to canyons in this area. These include Zintel Canyon, Fourmile Canyon, Nine Canyon, Johnson Butte, Bofer Canyon, Webber Canyon, and various other unnamed canyons and draws located throughout the Project Area. These raised structures adjacent to and spanning canyons provide perching substrate that could be used by raptors and corvids for hunting purposes. Suspending the Project's proposed electrical lines across canyons as opposed to burying these lines was selected as the preferred crossing methods in these areas as it would have the least effect to the adjacent natural resources. Burying lines in these steep canyon areas would result in increased soil disturbance, increased erosion risks, potential landslides, and increased impacts to waterbodies and wetlands potentially found at the base of these canyons/draws. As a result, such a modification to the Project's design (i.e., burying the lines) would result in greater impacts to soils, water quality, and biological resources than the proposed crossing method of suspending the lines in these areas. Specific areas were identified that Scout committed to re-review to determine if any additional modifications may be warranted to further reduce such exposure. The results of this effort will be documented in accordance with the EFSEC/WDFW habitat mitigation discussions that are currently in progress.

References

FHWA (Federal Highway Administration). 2006. FHWA Roadway Construction Noise Model User's Guide, FHWA-HEP-05-054, January.

Johnson, D. H., and T. A. O'Neil. 2001. Wildlife-Habitat Relationships in Oregon and Washington. Oregon State University Press, Corvallis. 736 pp.

WDFW. 2020a. Priority Habitats and Species database query results. Provided by WDFW February 18, 2020.

WDFW. 2020l. 2020 Washington Action Plan For Implementation of Department of the Interior Secretarial Order 3362: "Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors".

WHCWG (Washington Wildlife Habitat Connectivity Working Group). 2012. Washington Connected Landscapes Project: Analysis of the Columbia Plateau Ecoregion. Washington Department of Fish and Wildlife, and Washington Department of Transportation, Olympia, WA.

WHCWG. 2013. Columbia Plateau Ecoregion Connectivity Analysis Addendum: Habitat Connectivity Centrality, Pinch-points, and Barriers/Restoration Analyses. Washington's Department of Fish and Wildlife, and Department of Transportation, Olympia, WA.

Attachment Habitat-2

Horse Heaven Wind Project

SCOUT CLEAN ENERGY

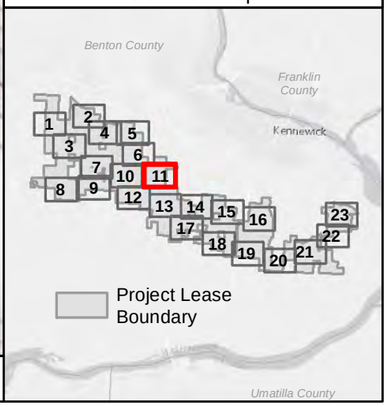
Figure A-4
Field Delineated WOUS/WOS
Map 11 of 23

BENTON COUNTY, WA

- Project Study Area Boundary
- Photo Point Location w/Direction
- Sample Site
- Ephemeral Stream
- Wetland

TETRA TECH

Reference Map



1:12,000 WGS 1984 UTM Zone 11N

0 0.25 0.5 1 Miles

NOT FOR CONSTRUCTION

R:\PROJECTS\HORSE_HEAVEN_6430\WETLANDS\MAPS\PROJECT_STUDY_AREA_DELINEATED_WATERS_MAPBOOK_ADDENDUM.mxd

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Arid West Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Horse Heaven Hills | City/County: Benton County | Sampling Date: 5/11/21
Applicant/Owner: Horse Heaven Hills, LLC | State: OR | Sampling Point: E10w
Investigator(s): Jessica Taylor | Section, Township, Range: Section 31, T07N, R30E
Landform (hillside, terrace, etc.): valley | Local relief (concave, convex, none): concave | Slope (%): 30
Subregion (LRR): LRR B | Lat: 46.140656 | Long: -119.349764 | Datum: UTM11
Soil Map Unit Name: Ritzville Silt Loam, 30-65 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? **Yes** X **No** ____

Remarks:
This site is in a valley bottom. There is a spring with a well in it underneath a tree (visible in Google Earth orthoimagery). Historical photos, also on Google Earth imagery, show the area with a livestock watering trough and cattle onsite.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus balsamifera*	45	Yes	FAC
2.			
3.			
4.			
	45	=Total Cover	
Sapling/Shrub Stratum (Plot size: 30 feet)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 15 feet)			
1. *Leymus cinereus*	10	No	FAC
2. *Equisetum arvense*	90	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	100	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
		=Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	145	x 3 =	435
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	145 (A)		435 (B)

Prevalence Index = B/A = 3.00

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index is ≤3.0[1]
___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes** X **No** x

Remarks:
Vegetation is not currently being grazed by cattle, the stand of Great Basin Wildrye was very dense around the edges of the wetland.

SOIL

Sampling Point: E10w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 2/2	100					Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Iron-Manganese Masses (F12) **(LRR D)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: bedrock

Depth (inches): 12

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Soils had a slight hydrogen sulfide smell and felt mucky.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No x	Depth (inches): ___
Water Table Present?	Yes ___	No x	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Attachment Noise-9

Table 1. Modeled Octave Band Sound Power Level for Substation Transformers

Substation	Transformer MVA Rating	Number of Trans-formers	Octave Band Sound Power Level (dBA) by Frequency (Hz)									Broad-band (dBA)
			31.5	63	125	250	500	1000	2000	4000	8000	
HH-East Substation	120 MVA	1	58	78	90	92	98	95	91	86	77	101
	250 MVA	1	71	91	103	105	111	8	104	99	90	113
	192 MVA	1	66	86	98	100	106	103	99	94	85	109
	137 MVA	1	64	84	96	98	104	101	97	92	83	107
HH-West (34.5 to 230kV) [250 MW Wind]	120 MVA	1	58	78	90	92	98	95	91	86	77	101
	147MVA	1	64	84	96	98	104	101	97	92	83	107
HH-West (34.5 to 230kV) [250 MW Solar]	120 MVA	1	58	78	90	92	98	95	91	86	77	101
	192 MVA	1	66	86	98	100	106	103	99	94	85	109
HH-West (230 to 500kV)-Sellards Road	187 MVA	4; MAX 3 running at once	66	86	98	100	106	3	99	94	85	108
HH-West (230 to 500kV)-County Well Road	187 MVA	4; MAX 3 running at once	66	86	98	100	106	3	99	94	85	108

Table 2. Modeled Octave Band Sound Power Level for Solar and BESS Equipment

Equipment	Octave Band Sound Power Level (dBA) by Frequency (Hz)									Broadband (dBA)
	31.5	63	125	250	500	1000	2000	4000	8000	
Inverter/Transformer Block	75	83	90	91	90	87	82	75	68	96
BESS[1]	54	64	71	77	80	79	78	73	64	85

Table 3. Modeled Octave Band Sound Power Level for Wind Turbines

Turbine	Octave Band Sound Power Level (dBA) by Frequency (Hz)								Broadband (dBA)
	63	125	250	500	1000	2000	4000	8000	
Option 1 - GE 2.82	92.6	98.0	100.6	104.2	105.5	102.1	94.1	76.0	110.0
Option 1 - GE 3.03	--	--	--	--	--	--	--	--	--
Option 2 - GE 5.5	--	--	--	--	--	--	--	--	--
Option 2 - SG 6.0	86.5	93.4	96.1	97.9	101.8	99.9	93.3	83.0	106.0