

1 rules, policies and guidelines, and adapting our practices to trends and changes in the
2 environmental consulting field.

3 I served as Cardno's Project Manager for the Angelina Solar Project ("Project"). For
4 Angelina Solar, I am responsible for coordinating field efforts for the wetland
5 delineations and habitat assessments, collaboratively drafting and reviewing the
6 Ecological Assessment ("EA"), and providing overall coordination between Open Road
7 and EDR for the application filed for the Project. I am responsible for the staffing,
8 budgeting, invoicing, and quality control of Cardno's work for the Project. I also support
9 several other renewable (both solar and wind) projects in the Mid-west and Eastern states,
10 as well as manage projects with regard to Clean Water Act compliance, specifically,
11 NPDES permit applications for industrial clients in the Northeast.

12 **Q.3. What is your educational and professional background?**

13 **A.3.** I earned a Bachelor's of Science degree in biological oceanography from
14 Millersville University in 2000. I have over 15 years of professional environmental
15 experience which encompasses environmental permitting, ecological & water resources
16 studies, and project management. My areas of expertise include renewable energies,
17 siting and licensing, water resources, fisheries, habitat & wildlife valuation/identification,
18 and soil/sediment evaluation. I have designed, implemented, and/or managed numerous
19 sampling and monitoring programs, including field resource surveys (i.e. wetlands, RTE
20 species habitat), benthic sampling studies, fish sampling studies, sediment
21 characterization studies, aquatic remote sensing/geophysical surveys, and cultural
22 resource studies. Prior to working at Cardno for the past 12+ years, I worked for the
23 URS Corporation for over 2 years in the Water Resources group, primarily involved in

1 permitting and compliance for the power/energy industry under the Clean Water Act
2 Section 316 (a) & (b), Section 401 and Section 402. I worked for the US Environmental
3 Protection Agency (EPA) prior to URS onboard the ocean survey vessel *Peter W.*
4 *Anderson* conducting geophysical surveys of the ocean floor, channel dredging
5 monitoring, reef monitoring, water quality and fishery surveys, as well as criminal
6 investigations.

7 **Q.4. On whose behalf are you offering testimony?**

8 **A.4.** I am testifying on behalf of the Applicant, Angelina Solar I, LLC in support of its
9 application filed in Case No. 18-1579-EL-BGN.

10 **Q.5. What is the purpose of your testimony?**

11 **A.5.** The purpose of my testimony is to describe studies my firm undertook on behalf
12 of the Applicant, to summarize the results of those studies, and to summarize the permits
13 that the Applicant expects to obtain prior to initiating construction in or near surface
14 waters. I will also provide my overall assessment of the potential environmental impacts
15 of the Project.

16 **Q.6. Please describe the studies that you and your firm undertook on behalf of the**
17 **Applicant.**

18 **A.6.** Cardno undertook an EA on behalf of the Applicant, which was attached to the
19 application as Exhibit G. The EA evaluated and summarized potential land use impacts,
20 based on desktop assessment and on-site field studies of ecological resources. The purpose
21 of the EA was: to provide a stream and wetland delineation within the area that the Project
22 will occupy (the “Project Area”) including solar panels, access roads, and collection lines;

1 to map and characterize ecological communities; and to screen for potential occurrence of
2 RTE species.

3 **Q.7. What was your role in the studies conducted for the Application?**

4 **A.7.** My role was to provide senior-level management of the studies including planning,
5 scheduling, organization, and management of the field and desktop investigations, to
6 perform review and quality assurance on the study products (e.g., reports, figures, tables,
7 and written analysis), and to provide communications with the Applicant regarding the
8 studies' progress, results and project implications.

9 **Q.8. What were Cardno's results from the assessment of endangered species in the Project
10 Area?**

11 **A.8.** Cardno's assessment did not identify any State- or Federal-listed threatened or
12 endangered plant or animal species in the Project Area. Based on a review of publicly
13 available data, the Project Area identified in the Application and the surrounding area
14 within a ¼-mile buffer are not expected to provide significant or permanent habitat for
15 these sensitive species or any other RTE species. During Cardno's November 2017 field
16 survey, no RTE species were identified. Due to the lack of adequate habitat in the
17 immediate Project Area for these species, it is likely many of the individuals would opt for
18 higher quality habitat nearby such as Woodland Trails Wildlife Area or Hueston Woods
19 State Park for roosting, foraging and breeding. Angelina Solar has prioritized avoidance
20 measures for sensitive habitats. Such measures include minimizing habitat fragmentation,
21 siting infrastructure in uplands rather than wetlands, and minimizing perennial stream

1 crossings. Based on current Project designs (which include the measures I reference),
2 significant impacts to these habitats are not anticipated.

3 **Q.9. Did you make any findings or observations relating to any aquatic resources?**

4 **A.9.** A total of seven wetlands were delineated during field surveys, for a total of 1.19
5 acres within the Project Area. All wetlands were identified as palustrine emergent
6 wetlands. Four of the wetlands scored poorly on the Ohio Rapid Assessment Methodology
7 (“ORAM”) and were identified as Category 1. The remaining three wetlands were
8 identified as Category 2/Modified 2. None of the wetlands were identified as Category 3,
9 the highest category. Cardno considers five of the wetlands (totaling 0.75 acres) to be
10 subject to federal jurisdictional, based on potential hydrologic connectivity to a potential
11 water of the United States. Importantly, no wetlands will be impacted by Project
12 construction.

13 A total of six waterbodies were delineated during field surveys within the Project Area;
14 four streams and two ditches. Using the Headwater Habitat Evaluation Index (“HHEI”)
15 scoring system, one of the ditches was designated as Primary Headwater Habitat
16 (“PHWH”) Class I, indicating typically ephemeral flow regimes and poorly defined
17 channels and pools that likely had limited ecological value. An additional three waterbodies
18 were designated as PHWH Class II (two streams, one ditch), which generally indicated
19 intermittent flow regimes and moderate development of channel features that could provide
20 ecological value. Two streams, WB-001 and WB-004, were identified as PHWH Class III,
21 the highest category. WB-001 is a perennial, semi-forested segment of Little Four Mile
22 Creek. Similarly, WB-004 is a perennial, semi-forested tributary to Little Four Mile Creek.

1 The installation of the collection lines for the Project will require only one crossing of one
2 stream (WB-004) within the Project Area. In an effort to avoid impacts to this stream, the
3 Applicant is proposing to utilize horizontal directional drill (HDD) technology.

4 During the field surveys, the Cardno team also recorded the presence or absence of
5 freshwater mussels within the field-delineated streams, and Cardno observed no
6 individuals or populations of freshwater mussel species.

7 Based on Cardno's studies and surveys, construction and operation of the Project will not
8 cause any impacts to either wetlands or water bodies.

9 **Q.10. Did you make any findings or observations related to birds or other wildlife?**

10 **A.10.** Yes. The Project would not significantly impact wildlife or wildlife habitat. The
11 Project has been designed to locate the majority of infrastructure within active agricultural
12 land, which only provides habitat for a limited number of wildlife species. The few birds
13 and mammals that may forage within these fields would likely avoid these areas that are
14 being disturbed by construction. On a landscape scale, there is abundant availability of
15 similar agricultural fields within the Project Area and surrounding area that can be used as
16 similar habitat.

17 In addition, the Project Area and ¼-mile buffer are not known to provide significant habitat
18 for sensitive bird species. Due to this lack of adequate habitat in the immediate Project
19 Area, it is likely many of the individuals opt for higher quality habitat nearby such as a
20 Woodland Trails Wildlife Area or Hueston Woods State Park for roosting, foraging and
21 breeding.

22 **Q.11. Will the Project cause a negative impact on surrounding properties from any**
23 **distribution of local wildlife?**

1 **A.11.** No. The Project Area is largely already in use for agriculture, and the change in
2 use resulting from the construction of the Project will not displace wildlife to surrounding
3 properties in numbers that would cause a negative impact. Using deer as a proxy, Cardno
4 evaluated whether development of the Project would increase wildlife population density
5 in areas surrounding the Project. We determined that deer in the surrounding area would
6 increase by less than 5%, or less than 0.01 deer per acre. This slight increase in deer, or in
7 the population of other wildlife potentially displaced by the Project, should not have a
8 negative effect on surrounding properties.

9 **Q.12. What permits related to construction disturbance in or near surface waters need to**
10 **be obtained?**

11 **A.12.** The Project should not impact any wetland areas. Permits need to be obtained
12 prior to construction of the Project in or near surface waters, all of which are related to
13 surface water impacts. Prior to the start of construction, the Applicant currently expects
14 to obtain the following permit:

- 15 • The Ohio NPDES construction storm water general permit, Ohio EPA Permit No.
16 OHC000005.

17 **Q.13. What is the typical process for obtaining the Ohio NPDES permit?**

18 **A.13.** Facility construction will require an Ohio NPDES construction storm water
19 general permit, Ohio EPA Permit No. OHC000005. To obtain this permit, the Applicant
20 must develop a Stormwater Pollution Prevention Plan, and file a Notice of Intent (“NOI”)
21 letter with the Ohio EPA at least 21 days prior to the commencement of construction
22 activities. The NOI and associated fee for the Construction Activities General Permit

1 will be filed at least 21 days prior to commencement of construction activities. The
2 Applicant anticipates full and complete compliance with this permit.

3 **Q.14. What is your overall assessment of the potential environmental impacts of the**
4 **Angelina Solar Project?**

5 **A.14.** Overall, the Angelina Solar Project will have limited environmental impacts. The
6 Project is proposed to be primarily built on land that has already been disturbed
7 seasonally/annually for agriculture. The Project's most significant impact will come from
8 the conversion of land used for agriculture to land used for the solar panel arrays. Angelina
9 Solar has designed the Project to avoid and minimize impacts to wetlands, waterbodies,
10 woodlots, and aquatic and terrestrial wildlife species where possible.

11 **Q.15. Does this conclude your direct testimony?**

12 **A.15.** Yes, it does.

CERTIFICATE OF SERVICE

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Summary: Testimony Direct Testimony of Ryan Rupperecht electronically filed by Mr. MacDonald W Taylor on behalf of Angelina Solar I, LLC