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From the office of Miles F. Schumacher
e-mail address: mschumacher@lynnjackson.com

January 8, 2020

Ms. Patricia Van Gerpen, Executive Director
South Dakota Public Utilities Commission
Capital Building, 1st Floor
500 East Capital Avenue
Pierre, SD 57501-5070

Re: Docket No. EL19-027
Application to the SD PUC for a Facility Permit to Construct
A 300.6 Megawatt Wind Facility

Dear Ms. Van Gerpen:

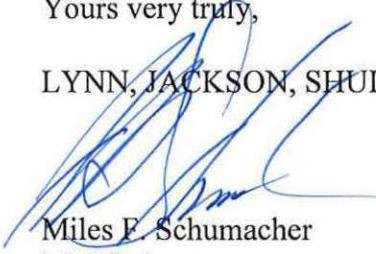
Please find enclosed for filing on the docket the following documents:

1. Rebuttal Testimony of Christopher Ollson;
2. Rebuttal Testimony of Jay Haley (with exhibits);
3. Rebuttal Testimony of Michael Marous;
4. Rebuttal Testimony of Richard Lampeter;
5. Rebuttal Testimony of Sarah Sappington;
6. Rebuttal Testimony of Mark Thompson;
7. Rebuttal Testimony of Tyler Wilhelm; and
8. Certificate of Service.

Please let me know if you have any questions.

Yours very truly,

LYNN, JACKSON, SHULTZ & LEBRUN, P.C.



Miles F. Schumacher
MFS/kab
Enclosures

004267

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE APPLICATION OF
CROWNED RIDGE, LLC II FOR A FACILITIES PERMIT TO
CONSTRUCTION 300.6 MEGAWATT WIND FACILITY**

Docket No. EL19-027

**REBUTTAL TESTIMONY AND EXHIBITS
OF CHRISTOPHER OLLSON**

January 8, 2020

INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Chris Ollson. My business address is 37 Hepworth Crescent, Ancaster, Ontario, Canada.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am the sole proprietor of Ollson Environmental Health Management.

Q. WHAT ARE YOUR RESPONSIBILITIES?

A. I am a consultant to Crowned Ridge Wind, II LLC ("CRW II") on the scientific literature related to sound and shadow/flicker and proper siting of wind turbines to ensure the protection of health of residents.

Q. ARE YOU THE SAME CHRISTOPHER OLLSON WHO SUBMITTED SUPPLEMENTAL TESTIMONY ON SEPTEMBER 20, 2020?

A. Yes.

Q. HAS THIS REBUTTAL TESTIMONY BEEN PREPARED BY YOU OR UNDER YOUR DIRECT SUPERVISION?

A. Yes.

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR REBUTTAL TESTIMONY.

A. The purpose of my rebuttal testimony is to address the testimony of Staff witness Hessler and Intervener witnesses Steven Greber, Amy Rall, Garry Ehlebracht, and Laretta Kranz on health and welfare issues.

HEALTH AND WELFARE

Q. STAFF WITNESS HESSLER (PAGE 5, LINES 6-7) ASSERTS THAT YOUR TESTIMONY IS AN ATTEMPT TO DISMISS ANNOYANCE AS SOMETHING THAT DOES NOT EXIST OR DISMISS AS SOMETHING THAT CANNOT BE QUALIFIED. DO YOU AGREE WITH THIS ASSESSMENT OF YOUR TESTIMONY?

A. I do not agree with Mr. Hessler's assessment and characterization of my testimony. The international literature on living in proximity of wind turbines has universally indicated that there will be a percentage of residents reporting high annoyance living in proximity to wind turbines. This was clearly reported in my Direct Testimony. However, Mr. Hessler appears to have misinterpreted discrete sections on annoyance in my Direct Testimony.

For example, on Hessler Page 4, Lines 6-7, after discussing non-participating landowner annoyance Mr. Hessler incorrectly indicates that I argued that annoyance would be zero for this group of residents. However, this is not the case at all. In my Direct Testimony I was asked how participating landowners with up to 50 dBA of sound at the exterior of their homes would react to the project. On page 10, line 4-7 (Ollson Direct Testimony), I quoted a Health Canada study (Exhibit CO-S-6) "Aggregate annoyance was effectively 0 (i.e., least squares mean – 0.11) among the 100 participants.." The fact that participating landowners do not report annoyance living around wind turbines has been reported in the literature for over two decades. Mr. Hessler has appeared to have confused my testimony on distinguishing between annoyance of participating and non-participating homes.

Mr. Hessler correctly points out that the Health Canada study (Exhibit CO-S-2) that I used to report that the percentage of complaints across sound levels also provides the percentage of noise high annoyance for each sound grouping. This alone indicates that I am not attempting to trivialize reported annoyance for those living around wind projects. I also provided the percentage of visual high annoyance for each sound grouping. I have reproduced the table here:

TABLE IV. Perception of community noise and related variables.

Variable	Wind Turbine Noise (dB)					Overall	CMH p-value ^a
	<25	[25-30]	[30-35]	[35-40]	[40-46]		
Formal complaint ^f	2 (2.4)	2 (2.1)	3 (1.0)	22 (4.2)	6 (2.6)	35 (2.8)	0.2578
Reporting a high (very or extreme) level of annoyance to wind turbine features, n (%)							
Noise	0 (0.0)	2 (2.1)	3 (1.0)	52 (10.0)	32 (13.7)	89 (7.2)	<0.0001
Visual	2 (2.4)	15 (16.0)	17 (5.6)	81 (15.5)	44 (18.9)	159 (12.9)	

I am in no way trying to suggest that there will not be an increase in the percentage of highly annoyed people living in proximity to wind farms. However, the international literature has concluded time and again that the percentage of highly annoyed individuals is not well correlated to sound level, but, rather, it is more tied to the visual aspect of the project and attitude of those towards the project. Table IV above clearly indicates that the percentage of visual highly annoyed is a larger factor than noise. For example, the percentage of visual highly annoyed at 25-30 dBA was 16% and the percentage of noise highly annoyed was 2.1%, while at 40-46 dBA the percentage of visual highly annoyed was 18.9% and only 13.7% noise highly annoyed. Thus, one cannot rely on the percentage of noise highly annoyed to set permitted sound levels for a wind project. Again, this table also shows that complaints are not driven by the percentage of noise highly annoyed, but, instead, that there is no statistical difference between complaints at <25 dBA and those living between 40-46 dBA.

1 Consequently, the peer reviewed scientific literature supports that the percentage
2 of highly annoyed living around wind turbines is more strongly tied to visual cue and
3 attitude and not to the wind turbine sound itself. This is why it is important to review all
4 of the other literature on potential health impacts, sleep disturbance and Quality of Life of
5 those who are reporting annoyance and place it into appropriate context, which I did in
6 my Direct Testimony.

7 Further, Mr. Hessler (page 5, line 1-5) indicates his belief that there would be 49
8 non-participants above 40 dBA for CRW II and states “Those are large numbers and
9 percentages of residents highly annoyed by sound levels...”. However, only a small
10 percentage of these non-participants would potentially be highly annoyed. Mr. Hessler
11 indicates on page 4, line 16-17 that the percentage of highly annoyed between 40-46 dBA
12 would only be 14%. Therefore, for the CRW II project, based on 49 non-participating
13 receptors, this would be at best 7 homes that would experience such levels of annoyance,
14 and that their annoyance would be more tied to visual cue and attitude. On this point, it is
15 important to emphasize that the peer reviewed scientific literature shows that the percent
16 of people who may actually file a complaint on the project would be the same regardless
17 of the permitted sound level. For example, the most recent 2019 paper on wind turbine
18 sound and stress based on United States residents (Exhibit CO-S-10) states “Average
19 annoyance levels of residents near wind farms in Europe and the U.S. were low with the
20 levels for noise similar across both samples, with European levels slightly higher for
21 shadow flicker, lighting and landscape change. In all cases the annoyance levels were
22 comparable to the levels associated with traffic noise.” Therefore, contrary to Mr.
23 Hessler’s observations about my Direct Testimony, I did not avoid the issue of

1 annoyance, but, rather, explained annoyance in the context of the peer reviewed scientific
2 literature.

3 **Q. INTERVENER WITNESS KRANTZ (PAGE 2, LINES 7-8) ASSERTS THAT THE**
4 **LOW FREQUENCY NOISE AND INFRASOUND FROM THE PROJECT IS**
5 **UNWELCOME. WITNESS GREBER (PAGE 3, LINE 27 TO PAGE 4, LINE 5)**
6 **ALSO ASSERTS THAT INFRASOUND AND LOW FREQUENCY NOISE FROM**
7 **THE WIND TURBINES WILL IMPACT SLEEP, REST, AND TOLERANCE**
8 **FROM SOUND THAT IS FELT VERSUS HEARD. DO THE SCIENTIFIC PEER-**
9 **REVIEWED STUDIES SUPPORT THESE ASSERTIONS?**

10 **A.** No. While I agree with Mr. Greber that large cargo vessels can be a source of high levels
11 of low frequency noise and infrasound, these levels are significantly greater than would
12 be found at even the base of a wind turbine. Page 10, Line 15 to Page 12 line 10 of my
13 Direct Testimony discusses the international literature on measured low frequency noise
14 and infrasound emitted from wind turbines. The levels related to wind turbines are so low
15 that they would not impact sleep, rest, or tolerance of those living near the CRW II wind
16 turbines. In addition, the levels of infrasound and low frequency noise emitted from the
17 wind turbines are below a level that would be “felt” by Ms. Kranz or Mr. Greber.

18
19 **Q. EACH OF THE INTERVENER WITNESSES CLAIM THAT THE OPERATION**
20 **OF CRW II WILL SO IMPACT THEIR QUALITY OF LIFE AS THEY WILL**
21 **NOT WISH TO RESIDE IN THEIR CURRENT RESIDENCE. DOES THE**
22 **SCIENTIFIC PEER-REVIEWED STUDIES SUPPORT WHETHER THEIR**
23 **CLAIMS WILL BE REALIZED?**

1 A. No. Again, there will be nothing emitted from the wind turbines (e.g., sound, infrasound,
2 low frequency noise, vibrations, or shadow flicker) that would cause anyone's home in
3 the project area to be unlivable. The international research has clearly demonstrated that
4 wind turbines do not affect local residents quality of life (Ollson Direct Testimony Page
5 12, Line 16 to Page 14, Line 13). At a design goal of 45 dBA for non-participating
6 landowners and significant setback distances to their homes the wind turbines will not
7 impact the Interveners' health, welfare, sleep or quality of life. Therefore, there would be
8 nothing from a scientific basis that would cause them to leave their homes.

9
10 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

11 A. Yes, it does.

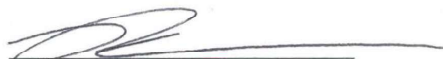
Burlington, Ontario)
Halton County) ss
)

I, Chris Ollson, being duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared testimony and I am familiar with its contents, and that the facts set forth are true to the best of my knowledge, information and belief.


Chris Ollson

Subscribed and sworn to before me this 7th day of Jan
2020.

SEAL


Notary Public

My Commission Expires _____

Benhur Nissan
Barrister & Solicitor
Notary Public and Commissioner of Oaths
in and for the Province of Ontario.
My commission is of unlimited duration.
No legal advice given

Walk-In Notary
4145 North Service Road
Suite 200
Burlington, ON., L7L 6A3
www.walkinnotary.com



**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE APPLICATION OF
CROWNED RIDGE WIND II, LLC FOR A FACILITIES PERMIT TO
CONSTRUCTION 300.6 MEGAWATT WIND FACILITY**

Docket No. EL19-027

**REBUTTAL TESTIMONY AND EXHIBITS
OF JAY HALEY**

January 8, 2020

INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jay Haley. My business address is 3100 DeMers Ave., Grand Forks, ND, 58201.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am a Partner in EAPC Wind Energy and work as a Wind Engineer.

Q. WHAT ARE YOUR RESPONSIBILITIES?

A. My responsibility was to conduct the sound and shadow/flicker studies for Crowned Ridge Wind, II LLC ("CRW II").

Q. ARE YOU THE SAME JAY HALEY WHO SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING ON JULY 9, 2019 AND SUPPLEMENTAL TESTIMONY ON SEPTEMBER 20, 2019?

A. Yes.

Q. HAS THIS REBUTTAL TESTIMONY BEEN PREPARED BY YOU OR UNDER YOUR DIRECT SUPERVISION?

A. Yes.

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR REBUTTAL TESTIMONY.

A. The purpose of my supplemental testimony is to address Staff witness David Hessler.

Q. STAFF WITNESS HESSLER (PAGE 5, LINES 7-11) CLAIMS THAT CRW II MAY BE ABLE TO FURTHER OPTIMIZE SOUND THROUGH THE USE OF 6 ALTERNATIVE TURBINE LOCATIONS 94, 97, 103, 113, 134, AND ALT6.

WHAT, IF ANY, REDUCTIONS IN SOUND OCCUR WITH THE USE OF ALL OF THESE ALTERNATIVE TURBINE LOCATIONS?

A. I have run my model using Mr. Hessler's recommendations and the reductions in sound pressure levels are shown in Exhibit JH-R-1 in Table C-1 (attached).

Q. WHAT ARE THE SOUND REDUCTIONS, IF ANY, ALTERNATIVE TURBINE LOCATIONS CR2-94, 97, 134, AND ALT6 ARE USED AS RECOMMENDED BY WITNESS WILHELM?

A. I ran my model using CR2-94, 97, 134, and ALT6 and relegating turbines CR2-13, 72, 77 and ALT5 to alternative status as I found this combination best optimized the sound impact from CRW II on non-participants. The results are also set forth in Exhibit JH-R-1 so they can be compared to Mr. Hessler's proposal.

Q. WHAT, IF ANY, REDUCTIONS IN SHADOW FLICKER OCCUR WITH THE HESSLER PROPOSAL COMPARED TO CRW II'S PROPOSAL TO USE ALTERNATIVE TURBINE LOCATIONS CR2-94, 97, 134, AND ALT6 INSTEAD OF CR2-13, 72, 77, AND ALT5?

A. The changes in shadow flicker are shown in Exhibit JH-R-2.

Q. WHAT IS THE SOUND AND SHADOW FLICKER IMPACT ON INTERVENERS WITH THE CRW II PROPOSAL?

A. The table of sound and shadow flicker impacts on Intervenorors are shown in Exhibit JH-R-3.

1 Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

2 A. Yes, it does.

3

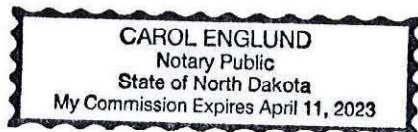
[illegible]

I, Jay Haley, being duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared testimony and I am familiar with its contents, and that the facts set forth are true to the best of my knowledge, information and belief.


Jay Haley

Subscribed and sworn to before me this 8th day of
January, 2020.

SEAL



Carol Englund
Notary Public

Notary Public

My Commission Expires April 11, 2023

Table C-2: Crowned Ridge Shadow Flicker Tabular Results Sorted by Real Case Shadow Flicker Hours/Year

Realistic case shadow results at occupied structures

Results using GE 2.3-116-90 m HH, GE 2.3-116-80 m HH WTG's

UTM NAD83 Zone 14

Codrington County

Receptor ID	Participation Status	Easting (m)	Northing (m)	Elevation AMSL (m)	Hessler Case Shadow (hrs/year)	CRW Case Shadow (hrs/year)	Base Case Shadow (hrs/year)	Distance to Nearest Turbine (ft)
CR1-C10-P	Participant	663,510.00	4,985,195.00	609.0	36:47	38:20	38:20	1,634
CR2-C154-P	Participant	660,684.34	4,967,166.18	588.0	30:00	30:00	30:00	2,041
CR2-C38-NP	Non-P	660,874.00	4,966,929.00	585.5	25:57	25:57	25:57	1,906
CR2-C78-P	Participant	665,273.00	4,983,933.00	609.0	25:17	25:17	25:17	1,919
CR1-C79-NP	Non-P	660,452.00	4,983,750.00	595.9	22:38	22:38	0:00	2,037
CR1-C89-P	Participant	662,062.00	4,982,029.00	584.3	21:39	21:39	21:39	2,165
CR2-C98-NP	Non-P	660,155.00	4,976,007.00	582.8	18:45	18:45	32:22	2,336
CR1-C9-NP	Non-P	665,352.00	4,985,004.00	609.0	18:08	18:08	18:08	2,320
CR2-C27-P	Participant	662,985.00	4,968,167.00	582.0	18:06	18:06	18:06	1,726
CR2-C41-P	Participant	660,770.00	4,975,147.00	596.4	17:22	17:22	17:22	1,532
CR1-C12-NP	Non-P	662,222.00	4,985,736.00	603.0	17:08	17:08	17:08	2,201
CR1-C86-P	Participant	662,086.00	4,982,135.00	585.0	16:51	16:51	16:51	2,306
CR1-C13-NP	Non-P	663,792.00	4,985,785.00	612.0	16:19	18:58	18:58	2,589
CR2-C50-P	Participant	661,252.00	4,976,035.00	597.0	15:36	15:36	19:23	1,873
CR1-C20-P	Participant	663,054.00	4,987,455.00	606.0	14:38	14:38	14:38	2,336
CR2-C97-NP	Non-P	660,093.00	4,976,001.00	583.8	14:19	14:19	29:21	2,188
CR2-C34-P	Participant	663,934.00	4,966,991.00	570.1	14:11	14:11	14:11	2,133
CR2-C70-P	Participant	665,521.00	4,970,518.00	588.9	13:57	13:57	13:57	2,215
CR2-C133-P	Participant	666,992.00	4,967,681.00	571.2	13:37	13:37	13:37	2,500
CR2-C60-P	Participant	662,287.00	4,976,800.00	594.0	12:42	12:42	13:54	3,793
CR2-C54-NP	Non-P	662,636.00	4,976,079.00	597.0	12:36	12:36	12:36	2,287
CR2-C42-NP	Non-P	664,887.00	4,975,388.00	597.0	12:14	12:14	12:14	3,566
CR1-C77-P	Participant	661,915.00	4,983,367.00	591.0	12:12	12:12	7:36	1,654
CR1-C70-NP	Non-P	665,135.00	4,988,293.00	595.9	12:01	12:01	12:01	3,540
CR2-C46-NP	Non-P	660,435.00	4,965,627.00	582.0	10:36	10:36	12:08	2,569
CR1-C12-1-NP	Non-P	662,199.00	4,986,047.00	606.0	10:34	10:34	10:34	2,818
CR2-C71-NP	Non-P	665,411.00	4,970,503.00	586.1	10:14	10:14	10:14	2,529
CR2-C131-NP	Non-P	666,732.00	4,984,987.00	591.0	10:06	10:06	10:06	2,287
CR2-C63-P	Participant	665,528.00	4,977,285.00	612.0	9:49	14:41	14:41	2,185
CR2-C37-NP	Non-P	663,037.00	4,974,496.00	606.0	9:34	9:34	9:34	3,537
CR2-C36-NP	Non-P	660,475.00	4,974,426.00	578.6	8:20	8:20	8:20	2,992
CR2-C115-NP	Non-P	663,555.00	4,980,564.00	575.2	8:18	8:18	8:18	2,520
CR1-C24-NP	Non-P	660,176.00	4,983,887.00	601.1	7:45	7:45	0:00	3,038
CR1-C72-NP	Non-P	665,158.00	4,988,170.00	594.6	7:39	7:39	7:39	3,776
CR2-C16-NP	Non-P	665,418.00	4,966,866.00	567.0	7:30	7:30	7:30	2,756
CR1-C71-NP	Non-P	665,137.00	4,988,378.00	595.6	7:23	7:23	7:23	3,448
CR1-C73-NP	Non-P	663,066.00	4,982,530.00	591.0	6:57	6:57	6:57	3,704
CR1-C29-NP	Non-P	666,572.00	4,988,867.00	575.9	6:54	6:54	6:54	2,457
CR1-C68-P	Participant	662,652.00	4,987,606.00	609.0	6:44	6:44	6:44	2,146

Table C-2: Crowned Ridge Shadow Flicker Tabular Results Sorted by Real Case Shadow Flicker Hours/Year

Realistic case shadow results at occupied structures

Results using GE 2.3-116-90 m HH, GE 2.3-116-80 m HH WTG's

UTM NAD83 Zone 14

Codington County

continued

Receptor ID	Participation Status	Easting (m)	Northing (m)	Elevation AMSL (m)	Hessler Case Shadow (hrs/year)	CRW Case Shadow (hrs/year)	Base Case Shadow (hrs/year)	Distance to Nearest Turbine (ft)
CR1-C78-P	Participant	660,190.00	4,983,788.00	602.3	6:43	6:43	0:00	2,835
CR1-C25-P	Participant	660,189.79	4,983,788.29	602.3	6:43	6:43	0:00	2,838
CR1-C16-NP	Non-P	661,960.00	4,986,288.00	606.0	6:17	6:17	6:17	2,648
CR1-C81-NP	Non-P	660,062.00	4,983,083.00	597.0	6:15	6:15	0:00	3,094
CR2-C26-P	Participant	664,733.00	4,968,915.00	591.0	6:09	6:09	6:09	1,959
CR1-C69-P	Participant	662,685.00	4,987,619.00	609.0	6:05	6:05	6:05	2,185
CR1-C18-P	Participant	663,651.00	4,987,157.00	610.4	5:58	5:58	5:58	3,409
CR2-C47-NP	Non-P	662,200.00	4,975,837.00	594.5	5:56	5:56	9:41	2,821
CR1-C76-NP	Non-P	662,981.00	4,982,580.00	588.3	5:26	5:26	5:26	3,901
CR2-C75-NP	Non-P	664,866.00	4,969,808.00	583.7	5:05	5:05	5:05	4,396
CR2-C57-P	Participant	666,667.00	4,976,162.00	613.8	5:03	5:03	5:03	2,821
CR2-C117-NP	Non-P	664,742.00	4,976,142.00	594.2	4:53	4:53	4:53	3,481
CR2-C116-NP	Non-P	664,640.00	4,976,142.00	591.1	4:50	4:50	4:50	3,533
CR2-C105-NP	Non-P	662,122.00	4,976,029.00	595.3	4:38	4:38	7:46	3,425
CR2-C102-NP	Non-P	662,025.00	4,976,085.00	594.1	4:33	4:33	8:29	3,609
CR2-C103-NP	Non-P	662,046.00	4,976,067.00	594.8	4:32	4:32	8:17	3,547
CR1-C75-NP	Non-P	663,010.00	4,982,658.00	588.0	4:25	4:25	4:25	3,730
CR2-C107-NP	Non-P	662,265.00	4,978,194.00	577.7	4:21	4:21	4:21	4,564
CR2-C61-NP	Non-P	660,630.00	4,976,840.00	582.5	4:15	4:15	12:08	2,402
CR2-C45-P	Participant	664,058.00	4,965,862.00	570.0	4:12	4:12	4:12	3,907
CR1-C87-NP	Non-P	662,628.00	4,982,425.00	585.4	4:09	4:09	4:09	4,258
CR1-C11-P	Participant	664,111.00	4,985,679.00	609.0	3:56	10:27	10:27	1,860
CR2-C76-NP	Non-P	664,747.00	4,969,738.00	584.8	3:53	3:53	3:53	4,560
CR2-C1-NP	Non-P	662,198.00	4,980,622.00	591.0	3:51	3:51	3:51	1,909
CR2-C130-P	Participant	666,727.00	4,966,695.00	591.0	3:42	3:42	3:42	3,350
CR2-C134-NP	Non-P	667,097.00	4,973,011.00	613.0	3:42	3:42	3:42	3,363
CR2-C62-NP	Non-P	666,992.00	4,977,048.00	615.0	3:38	16:54	16:54	3,947
CR2-C129-P	Participant	666,716.00	4,966,751.00	591.0	3:31	3:31	3:31	3,356
CR2-C24-NP	Non-P	661,541.00	4,969,653.00	600.0	3:21	3:21	3:21	3,809
CR2-C65-NP	Non-P	665,217.00	4,977,746.00	609.0	3:07	7:16	7:16	2,139
CR2-C48-NP	Non-P	662,370.00	4,965,588.00	590.3	3:04	3:04	19:13	2,365
CR2-C128-P	Participant	666,636.00	4,966,649.00	589.0	3:00	3:00	3:00	3,671
CR2-C59-P	Participant	664,952.00	4,976,698.00	601.9	2:56	4:30	4:30	1,654
CR1-C28-NP	Non-P	665,429.00	4,988,598.00	590.9	2:43	2:43	2:43	2,831
CR1-C74-NP	Non-P	662,869.00	4,983,122.00	595.7	2:34	2:34	2:34	2,480
CR2-C33-P	Participant	663,878.00	4,967,612.00	576.1	2:28	2:28	2:28	2,999

Table C-2: Crowned Ridge Shadow Flicker Tabular Results Sorted by Real Case Shadow Flicker Hours/Year

Realistic case shadow results at occupied structures

Results using GE 2.3-116-90 m HH, GE 2.3-116-80 m HH WTG's

UTM NAD83 Zone 14

Codington County

continued

Receptor ID	Participation Status	Easting (m)	Northing (m)	Elevation AMSL (m)	Hessler Case Shadow (hrs/year)	CRW Case Shadow (hrs/year)	Base Case Shadow (hrs/year)	Distance to Nearest Turbine (ft)
CR2-C39-NP	Non-P	664,089.00	4,966,486.00	566.2	2:27	2:27	2:27	2,178
CR2-C123-P	Participant	666,146.00	4,966,653.00	579.4	2:13	2:13	2:13	5,216
CR2-C119-NP	Non-P	665,052.00	4,974,682.00	600.0	2:06	2:06	2:06	4,760
CR2-C118-NP	Non-P	665,014.00	4,974,639.00	600.0	1:57	1:57	1:57	4,947
CR2-C132-NP	Non-P	666,857.00	4,985,021.00	588.2	1:47	1:47	1:47	1,883
CR2-C43-NP	Non-P	664,382.00	4,975,544.00	597.0	1:42	1:42	1:42	4,232
CR2-C126-P	Participant	666,389.00	4,966,670.00	585.0	1:40	1:40	1:40	4,455
CR1-C15-NP	Non-P	663,291.00	4,986,026.00	615.0	1:33	2:16	2:16	2,175
CR2-C77-NP	Non-P	663,865.00	4,969,694.00	597.0	1:28	1:28	1:28	4,406
CR1-C85-NP	Non-P	659,706.00	4,981,419.00	588.0	1:22	1:22	1:22	4,819
CR2-C2-NP	Non-P	662,238.00	4,980,604.00	590.9	1:03	1:03	1:03	1,880
CR1-C22-P	Participant	660,755.00	4,984,082.00	594.0	1:01	1:01	1:01	2,375
CR1-C21-P	Participant	660,756.00	4,984,086.00	594.0	1:00	1:00	1:00	2,388
CR2-C23-NP	Non-P	664,069.00	4,969,661.00	594.0	0:58	0:58	0:58	4,439
CR2-C44-NP	Non-P	659,145.00	4,966,062.00	561.4	0:43	0:43	0:43	4,183
CR1-C80-NP	Non-P	659,351.00	4,983,174.00	604.4	0:40	0:40	0:00	5,308
CR1-C23-P	Participant	660,619.00	4,984,078.00	595.8	0:00	0:00	0:00	2,523
CR1-C31-NP	Non-P	665,939.00	4,988,950.00	585.4	0:00	0:00	0:00	2,126
CR1-C4-NP	Non-P	659,744.00	4,984,749.00	606.0	0:00	0:00	0:00	5,981
CR1-C5-NP	Non-P	659,958.00	4,984,794.00	604.8	0:00	0:00	0:00	5,659
CR1-C66-NP	Non-P	659,718.00	4,985,032.00	606.0	0:00	0:00	0:00	5,800
CR1-C67-NP	Non-P	659,789.00	4,985,057.00	606.0	0:00	0:00	0:00	5,791
CR1-C7-NP	Non-P	660,893.00	4,984,861.00	593.2	0:00	0:00	0:00	3,022
CR1-C84-NP	Non-P	659,607.00	4,982,216.00	594.0	0:00	0:00	0:00	5,856
CR1-C88-NP	Non-P	660,156.00	4,980,595.00	570.9	0:00	0:00	0:00	4,045
CR1-C8-P	Participant	660,532.00	4,984,445.00	599.4	0:00	0:00	0:00	3,740
CR2-C100-NP	Non-P	660,592.00	4,972,602.00	591.0	0:00	0:00	0:00	7,057
CR2-C101-NP	Non-P	660,732.00	4,972,807.00	591.0	0:00	0:00	0:00	6,266
CR2-C104-NP	Non-P	662,109.00	4,972,735.00	604.0	0:00	0:00	0:00	6,608
CR2-C106-NP	Non-P	662,165.00	4,972,711.00	604.7	0:00	0:00	0:00	6,749
CR2-C109-NP	Non-P	662,699.00	4,972,874.00	606.0	0:00	0:00	0:00	7,169
CR2-C10-NP	Non-P	665,189.00	4,966,505.00	570.0	0:00	0:00	0:00	2,438
CR2-C112-NP	Non-P	665,928.00	4,972,630.00	603.0	0:00	0:00	0:00	6,575
CR2-C135-NP	Non-P	667,172.00	4,966,196.00	595.2	0:00	0:00	0:00	2,884
CR2-C136-NP	Non-P	667,209.00	4,966,166.00	595.4	0:00	0:00	0:00	2,887
CR2-C137-NP	Non-P	658,951.00	4,979,194.00	568.2	0:00	0:00	0:00	6,555
CR2-C142-NP	Non-P	656,697.00	4,977,269.00	566.9	0:00	0:00	0:00	8,432
CR2-C143-NP	Non-P	657,016.00	4,977,505.00	553.6	0:00	0:00	0:00	7,444

Table C-2: Crowned Ridge Shadow Flicker Tabular Results Sorted by Real Case Shadow Flicker Hours/Year

Realistic case shadow results at occupied structures

Results using GE 2.3-116-90 m HH, GE 2.3-116-80 m HH WTG's

UTM NAD83 Zone 14

Coddington County

continued

Receptor ID	Participation Status	Easting (m)	Northing (m)	Elevation AMSL (m)	Hessler Case Shadow (hrs/year)	CRW Case Shadow (hrs/year)	Base Case Shadow (hrs/year)	Distance to Nearest Turbine (ft)
CR2-C151-NP	Non-P	663,934.00	4,964,475.00	556.1	0:00	0:00	0:00	6,929
CR2-C28-P	Participant	659,208.00	4,968,159.00	572.8	0:00	0:00	0:00	5,630
CR2-C29-NP	Non-P	661,223.00	4,968,144.00	595.2	0:00	0:00	0:00	4,639
CR2-C30-NP	Non-P	659,100.00	4,968,023.00	568.6	0:00	0:00	0:00	5,502
CR2-C31-P	Participant	663,117.00	4,972,923.00	606.0	0:00	0:00	0:00	7,579
CR2-C32-P	Participant	659,469.00	4,967,984.00	575.2	0:00	0:00	0:00	4,678
CR2-C35-NP	Non-P	658,964.00	4,974,334.00	566.8	0:00	0:00	0:00	4,432
CR2-C3-NP	Non-P	664,345.00	4,964,571.00	556.0	0:00	0:00	0:00	7,497
CR2-C40-NP	Non-P	659,189.00	4,974,765.00	578.3	0:00	0:00	1:38	2,841
CR2-C49-NP	Non-P	660,907.00	4,964,846.00	582.0	0:00	0:00	6:36	3,284
CR2-C51-NP	Non-P	662,977.00	4,964,794.00	584.0	0:00	0:00	4:41	4,852
CR2-C52-NP	Non-P	662,688.00	4,964,792.00	585.9	0:00	0:00	14:32	4,846
CR2-C53-NP	Non-P	662,401.00	4,964,782.00	582.0	0:00	0:00	0:00	4,869
CR2-C55-NP	Non-P	660,765.00	4,964,777.00	582.0	0:00	0:00	4:36	3,655
CR2-C56-NP	Non-P	660,759.00	4,964,737.00	582.0	0:00	0:00	4:54	3,786
CR2-C58-NP	Non-P	660,764.00	4,964,686.00	582.0	0:00	0:00	5:51	3,934
CR2-C64-NP	Non-P	660,901.00	4,964,220.00	582.0	0:00	0:00	0:00	5,285
CR2-C66-NP	Non-P	662,396.00	4,963,954.00	582.0	0:00	0:00	0:00	7,231
CR2-C67-NP	Non-P	660,379.00	4,978,592.00	556.1	0:00	0:00	0:00	5,033
CR2-C68-NP	Non-P	662,517.00	4,963,408.00	579.0	0:00	0:00	0:00	8,973
CR2-C69-NP	Non-P	661,701.00	4,978,792.00	564.0	0:00	0:00	0:00	5,171
CR2-C72-NP	Non-P	663,856.00	4,970,488.00	597.0	0:00	0:00	0:00	6,135
CR2-C74-NP	Non-P	660,687.00	4,969,931.00	586.5	0:00	0:00	0:00	6,732
CR2-C79-NP	Non-P	666,869.00	4,984,663.00	587.9	0:00	0:00	0:00	2,703
CR2-C7-NP	Non-P	665,694.00	4,966,179.00	570.0	0:00	0:00	0:00	4,409
CR2-C80-NP	Non-P	664,705.00	4,972,092.00	597.3	0:00	0:00	0:00	7,684
CR2-C86-NP	Non-P	662,880.00	4,971,302.00	603.0	0:00	0:00	0:00	7,208
CR2-C87-NP	Non-P	662,841.00	4,971,294.00	603.0	0:00	0:00	0:00	7,165
CR2-C89-NP	Non-P	662,244.00	4,971,076.00	603.0	0:00	0:00	0:00	6,489
CR2-C91-NP	Non-P	663,938.00	4,970,546.00	597.0	0:00	0:00	0:00	6,457
CR2-C92-NP	Non-P	663,855.00	4,970,535.00	597.0	0:00	0:00	0:00	6,247
CR2-C93-NP	Non-P	659,203.00	4,973,158.00	584.9	0:00	0:00	0:00	7,792
CR2-C94-NP	Non-P	659,202.00	4,973,052.00	583.9	0:00	0:00	0:00	8,133
CR2-C95-NP	Non-P	659,248.00	4,974,054.00	567.0	0:00	0:00	0:00	4,898
CR2-C96-NP	Non-P	659,316.00	4,974,063.00	570.6	0:00	0:00	0:00	4,813
CR2-C99-P	Participant	660,584.00	4,972,570.00	591.0	0:00	0:00	0:00	7,165
CR2-C22-NP	Non-P	661,202.00	4,972,711.00	597.0	0:00	0:00	0:00	6,247
CR2-C90-NP	Non-P	664,088.41	4,970,672.24	594.0	0:00	0:00	0:00	6,863

continued

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Table C-2: Crowned Ridge Shadow Flicker Tabular Results Sorted by Real Case Shadow Flicker Hours/Year

Realistic case shadow results at occupied structures

Results using GE 2.3-116-90 m HH, GE 2.3-116-80 m HH WTG's

UTM NAD83 Zone 14

Deuel County

continued

Receptor ID	Participation Status	Easting (m)	Northing (m)	Elevation AMSL (m)	Hessler Case Shadow (hrs/year)	CRW Case Shadow (hrs/year)	Base Case Shadow (hrs/year)	Distance to Nearest Turbine (ft)
CR2-D111-P	Participant	671,876.00	4,969,006.00	600.0	29:32	29:32	29:32	2,178
CR2-D21-NP	Non-P	669,517.00	4,978,053.00	596.1	28:59	28:59	28:59	1,985
CR2-D53-P	Participant	670,392.00	4,975,925.00	592.8	27:37	27:37	27:37	1,801
CR2-D108-NP	Non-P	670,354.00	4,965,949.00	594.0	25:37	25:37	25:37	2,198
CR2-D131-P	Participant	669,471.00	4,977,139.00	597.5	25:29	25:29	25:29	2,087
CR2-D50-P	Participant	672,015.00	4,967,209.00	602.8	24:57	24:57	24:57	1,965
CR2-D44-NP	Non-P	670,434.00	4,965,956.00	593.8	24:03	24:03	24:03	2,149
CR2-D15-NP	Non-P	674,387.00	4,968,515.00	588.0	24:01	24:01	24:01	2,297
CR2-D18-NP	Non-P	671,540.00	4,976,154.00	582.0	22:04	22:04	22:04	2,201
CR2-D11-NP	Non-P	669,646.00	4,974,534.00	604.4	5:51	5:51	21:54	4,131
CR2-D123-P	Participant	673,527.00	4,967,015.00	596.7	19:44	19:44	19:44	2,441
CR2-D39-P	Participant	668,443.00	4,974,627.00	614.4	18:50	18:50	18:50	1,706
CR2-D71-NP	Non-P	669,402.00	4,979,216.00	588.0	18:30	18:30	16:15	1,975
CR2-D122-P	Participant	673,601.00	4,967,341.00	594.0	18:17	18:17	18:17	1,886
CR2-D105-NP	Non-P	670,348.00	4,963,826.00	611.7	17:56	17:56	17:56	2,821
CR2-D6-P	Participant	668,762.00	4,967,671.00	591.0	17:17	17:17	17:17	2,844
CR2-D30-NP	Non-P	669,549.00	4,974,233.00	611.9	6:03	6:03	17:10	3,953
CR2-D132-NP	Non-P	669,497.00	4,974,128.00	609.0	6:45	6:45	16:49	3,763
CR2-D119-P	Participant	673,378.00	4,965,126.00	602.6	16:30	16:30	16:30	1,932
CR2-D128-NP	Non-P	668,625.00	4,967,652.00	588.0	15:58	15:58	15:58	2,779
CR2-D5-NP	Non-P	668,781.00	4,964,897.00	603.0	15:51	15:51	15:51	1,923
CR2-D124-P	Participant	671,911.00	4,967,745.00	603.0	15:47	15:47	15:47	2,493
CR2-D221-1-NP	Non-P	670,365.59	4,973,541.32	606.0	14:22	14:22	14:22	1,995
CR2-D22-NP	Non-P	668,798.00	4,963,767.00	603.1	14:21	14:21	14:21	2,142
CR2-D64-P	Participant	669,417.00	4,978,434.00	588.0	14:03	14:03	13:32	2,425
CR2-D19-NP	Non-P	668,870.00	4,964,178.00	606.0	13:59	13:59	13:59	2,034
CR2-D17-NP	Non-P	672,023.00	4,969,597.00	597.0	13:45	13:45	13:45	3,343
CR2-D14-NP	Non-P	670,351.11	4,973,543.31	606.0	13:33	13:33	13:33	2,041
CR2-D221-NP	Non-P	670,351.11	4,973,543.31	606.0	13:33	13:33	13:33	2,041
CR2-D130-NP	Non-P	672,080.49	4,973,212.28	591.0	13:27	13:27	13:27	2,260
CR2-D222-NP	Non-P	672,080.49	4,973,212.28	591.0	13:27	13:27	13:27	2,264
CR2-D125-NP	Non-P	670,404.00	4,966,786.00	597.0	13:11	13:11	13:11	3,422
CR2-D83-NP	Non-P	675,891.00	4,966,810.00	579.0	12:25	12:25	12:25	1,929
CR2-D86-NP	Non-P	673,842.00	4,966,875.00	597.0	12:07	12:07	12:07	1,985
CR2-D121-NP	Non-P	674,461.00	4,966,734.00	594.0	12:06	12:06	12:06	2,316
CR2-D176-P	Participant	673,641.00	4,962,583.00	609.0	12:02	12:02	12:02	3,304
CR2-D62-NP	Non-P	669,355.00	4,974,624.00	609.0	5:02	5:02	10:56	3,697
CR2-D38-P	Participant	667,108.00	4,982,083.00	597.0	9:01	5:02	5:02	1,693

Table C-2: Crowned Ridge Shadow Flicker Tabular Results Sorted by Real Case Shadow Flicker Hours/Year

Realistic case shadow results at occupied structures

Results using GE 2.3-116-90 m HH, GE 2.3-116-80 m HH WTG's

UTM NAD83 Zone 14

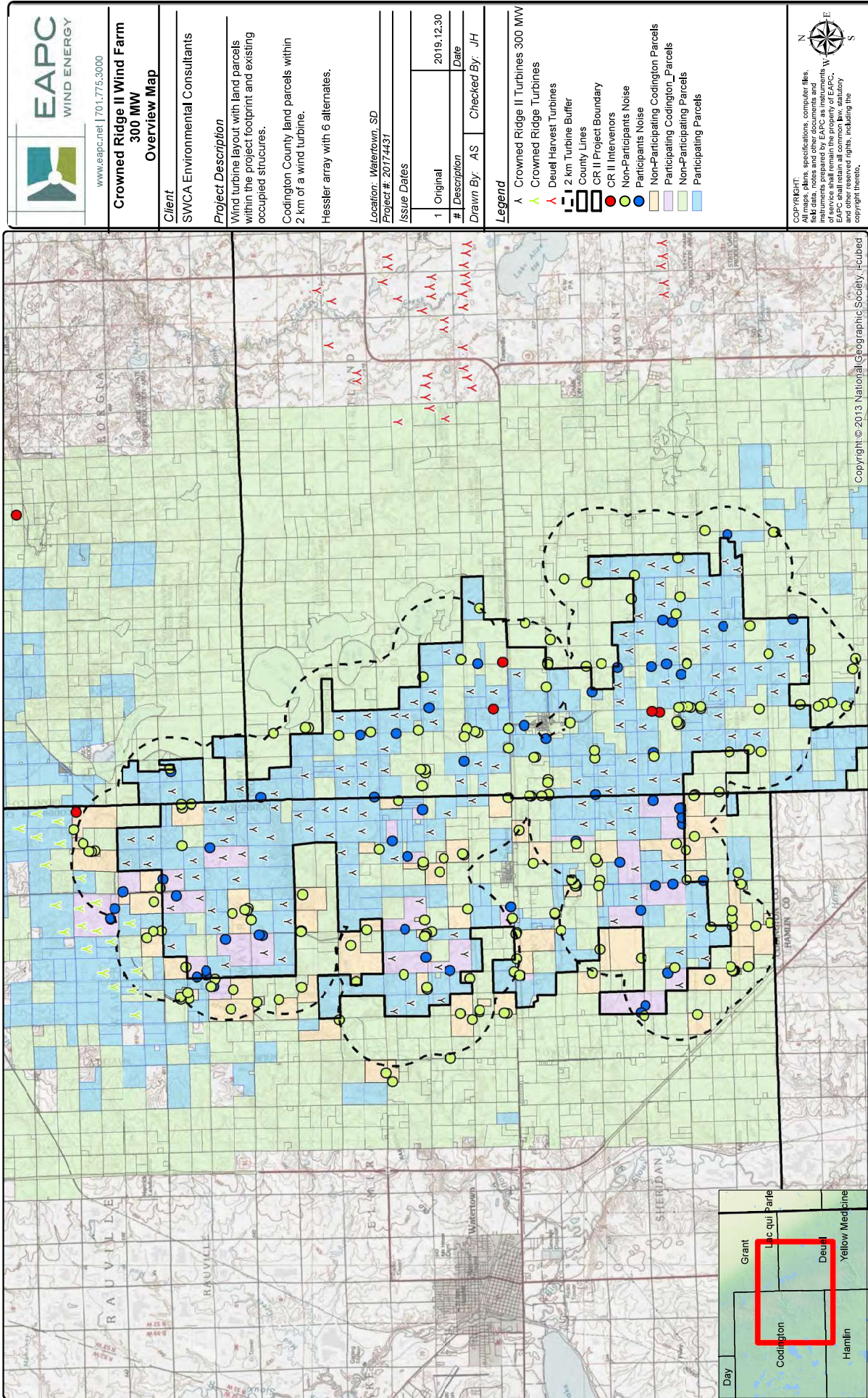
Deuel County

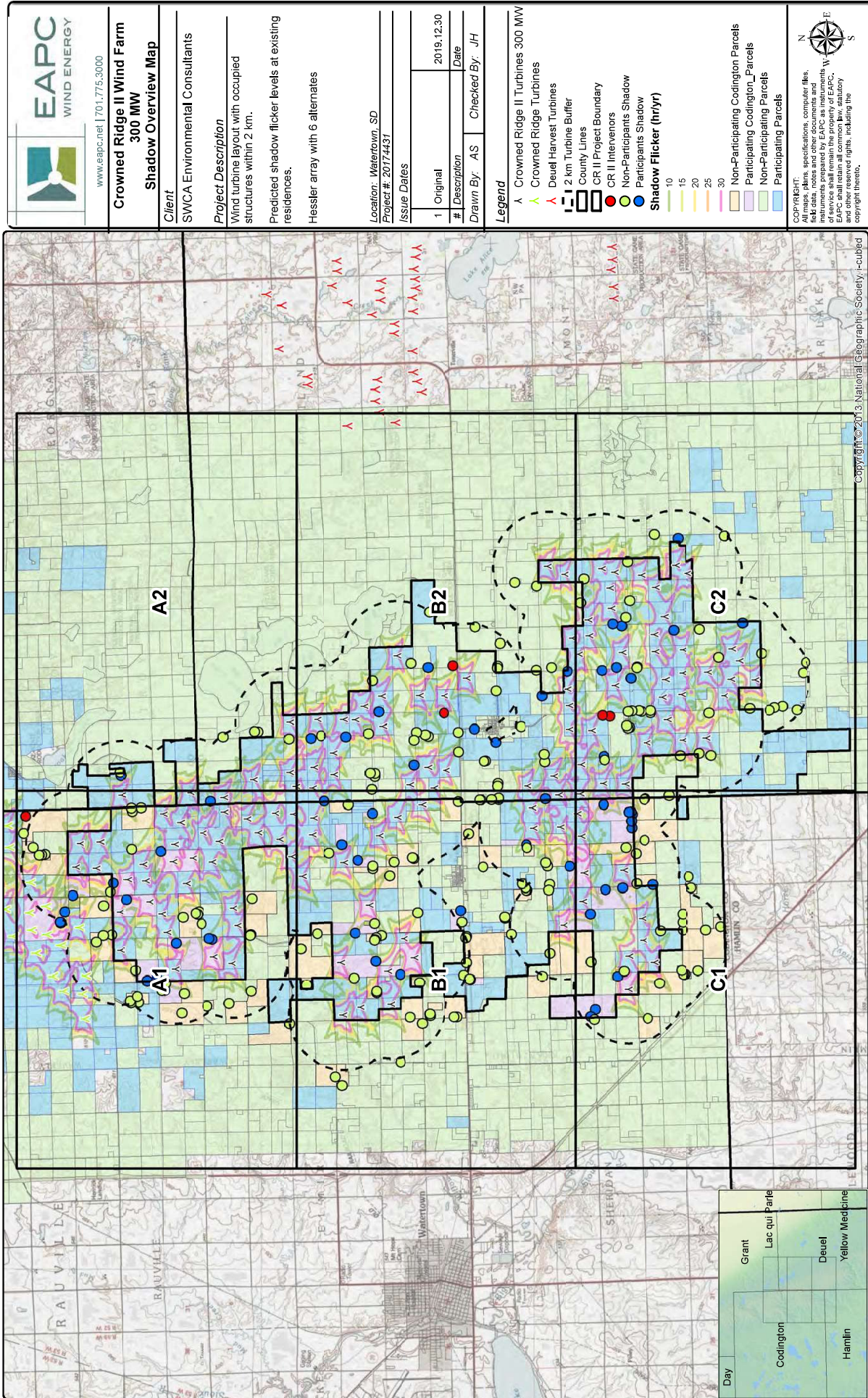
continued

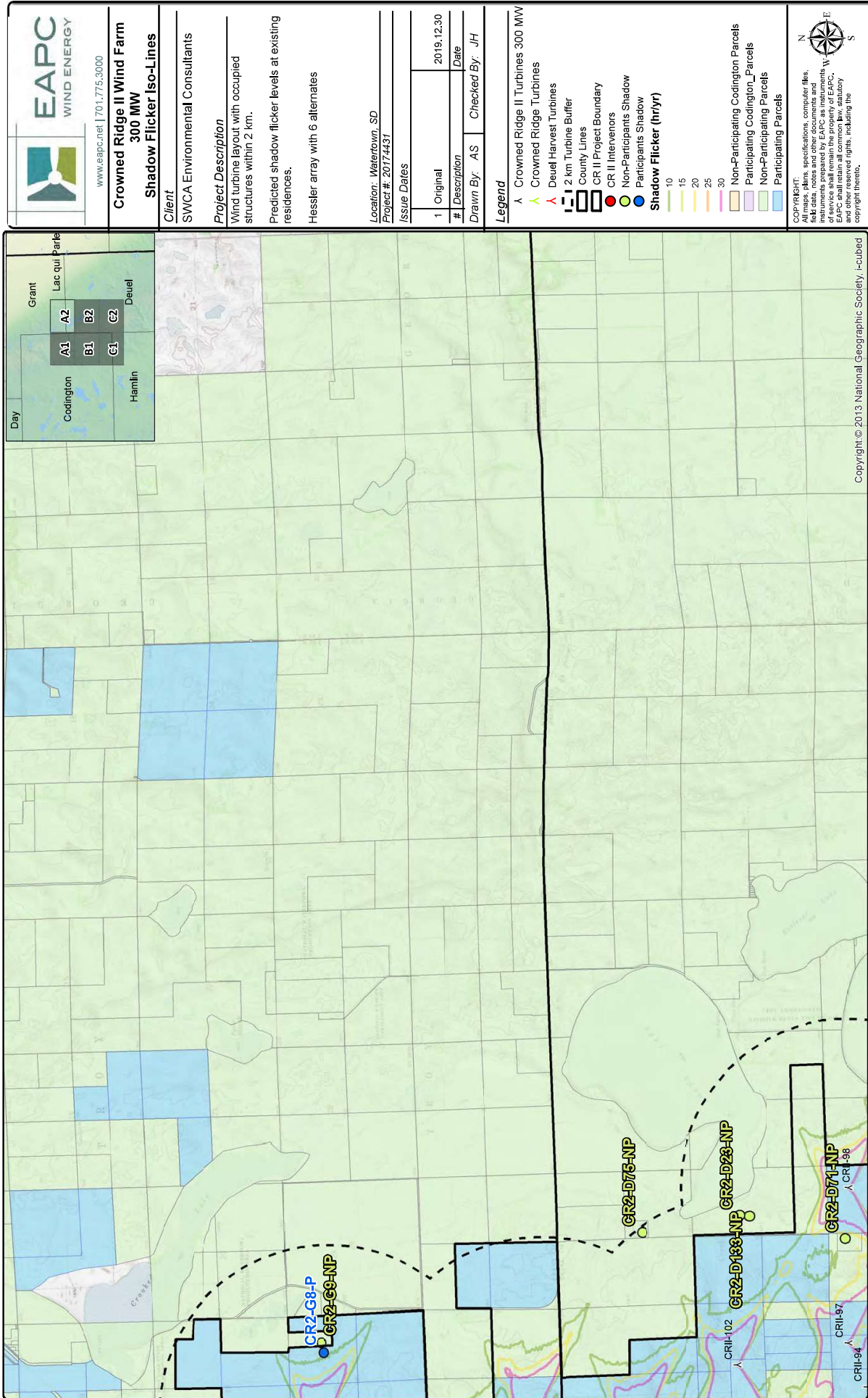
Receptor ID	Participation Status	Easting (m)	Northing (m)	Elevation AMSL (m)	Hessler Case Shadow (hrs/year)	CRW Case Shadow (hrs/year)	Base Case Shadow (hrs/year)	Distance to Nearest Turbine (ft)
CR2-D49-P	Participant	672,024.00	4,974,135.00	583.2	8:42	8:42	8:42	3,537
CR2-D51-NP	Non-P	675,005.00	4,970,131.00	577.8	8:27	8:27	8:27	2,717
CR2-D56-P	Participant	667,119.00	4,977,925.00	612.0	8:10	8:10	8:10	2,110
CR2-D90-NP	Non-P	670,516.00	4,962,327.00	612.0	7:36	7:36	7:36	3,360
CR2-D212-P	Participant	667,211.00	4,969,816.00	608.3	12:55	12:55	12:55	1,686
CR2-D3-NP	Non-P	672,390.00	4,963,482.00	612.0	6:47	6:47	6:47	2,037
CR2-D208-P	Participant	676,741.00	4,964,971.00	579.0	6:43	6:43	6:43	3,205
CR2-D127-NP	Non-P	668,841.00	4,969,858.00	603.0	11:40	11:40	11:40	2,894
CR2-D107-NP	Non-P	670,405.00	4,966,321.00	597.0	6:22	6:22	6:22	3,143
CR2-D77-NP	Non-P	672,044.00	4,966,468.00	600.0	5:58	5:58	5:58	2,444
CR2-D101-NP	Non-P	672,538.00	4,961,910.00	612.8	5:29	5:29	5:29	2,677
CR2-D65-NP	Non-P	670,422.00	4,966,654.00	597.0	5:26	5:26	5:26	3,583
CR2-D16-P	Participant	671,626.00	4,966,693.00	601.7	5:21	5:21	5:21	2,018
CR2-D54-NP	Non-P	672,012.00	4,966,477.00	600.0	5:15	5:15	5:15	2,500
CR2-D104-NP	Non-P	670,443.00	4,961,600.00	613.8	5:06	5:06	5:06	4,058
CR2-D109-NP	Non-P	676,885.00	4,965,806.00	576.0	4:51	4:51	4:51	4,432
CR2-D85-NP	Non-P	669,593.00	4,976,302.00	603.0	4:36	4:36	4:36	1,949
CR2-D129-NP	Non-P	669,645.00	4,973,005.00	606.0	4:30	4:30	4:30	4,682
CR2-D12-NP	Non-P	668,558.00	4,969,840.00	604.7	18:07	18:07	18:07	2,051
CR2-D110-NP	Non-P	670,260.25	4,967,728.02	597.0	3:14	3:14	3:14	2,211
CR2-D220-NP	Non-P	670,260.25	4,967,728.02	597.0	3:14	3:14	3:14	2,211
CR2-D126-NP	Non-P	670,227.27	4,967,454.62	593.3	3:04	3:04	3:04	2,749
CR2-D223-NP	Non-P	670,227.27	4,967,454.62	593.3	3:04	3:04	3:04	2,749
CR2-D20-NP	Non-P	675,261.00	4,968,400.00	579.0	3:00	3:00	3:00	2,313
CR2-D36-NP	Non-P	669,812.00	4,966,746.00	591.0	2:59	2:59	2:59	2,854
CR2-D91-NP	Non-P	667,546.00	4,976,173.00	618.0	2:59	2:59	2:59	4,531
CR2-D120-NP	Non-P	673,401.00	4,964,165.00	609.0	2:19	2:19	2:19	3,110
CR2-D79-NP	Non-P	672,172.00	4,974,737.00	585.0	2:16	2:16	2:16	1,955
CR2-D41-NP	Non-P	670,437.00	4,966,409.00	597.0	2:06	2:06	2:06	3,340
CR2-D115-P	Participant	670,974.00	4,969,938.00	606.0	2:04	2:04	2:04	3,245
CR2-D224-NP	Non-P	669,886.93	4,966,846.04	590.6	1:40	1:40	1:40	3,261
CR2-D46-NP	Non-P	669,797.00	4,966,804.00	591.0	1:23	1:23	1:23	2,972
CR2-D45-NP	Non-P	668,018.00	4,976,064.00	611.5	0:55	0:55	0:55	4,393
CR2-D100-NP	Non-P	668,589.00	4,972,064.00	609.9	0:00	0:00	0:00	4,708
CR2-D103-NP	Non-P	670,588.00	4,961,119.00	615.0	0:00	0:00	0:00	4,606
CR2-D106-NP	Non-P	667,315.00	4,965,297.00	594.0	0:00	0:00	0:00	5,351
CR2-D112-NP	Non-P	667,666.00	4,971,554.00	604.6	0:00	0:00	0:00	3,553
CR2-D113-NP	Non-P	667,774.00	4,971,544.00	606.9	0:00	0:00	0:00	3,537

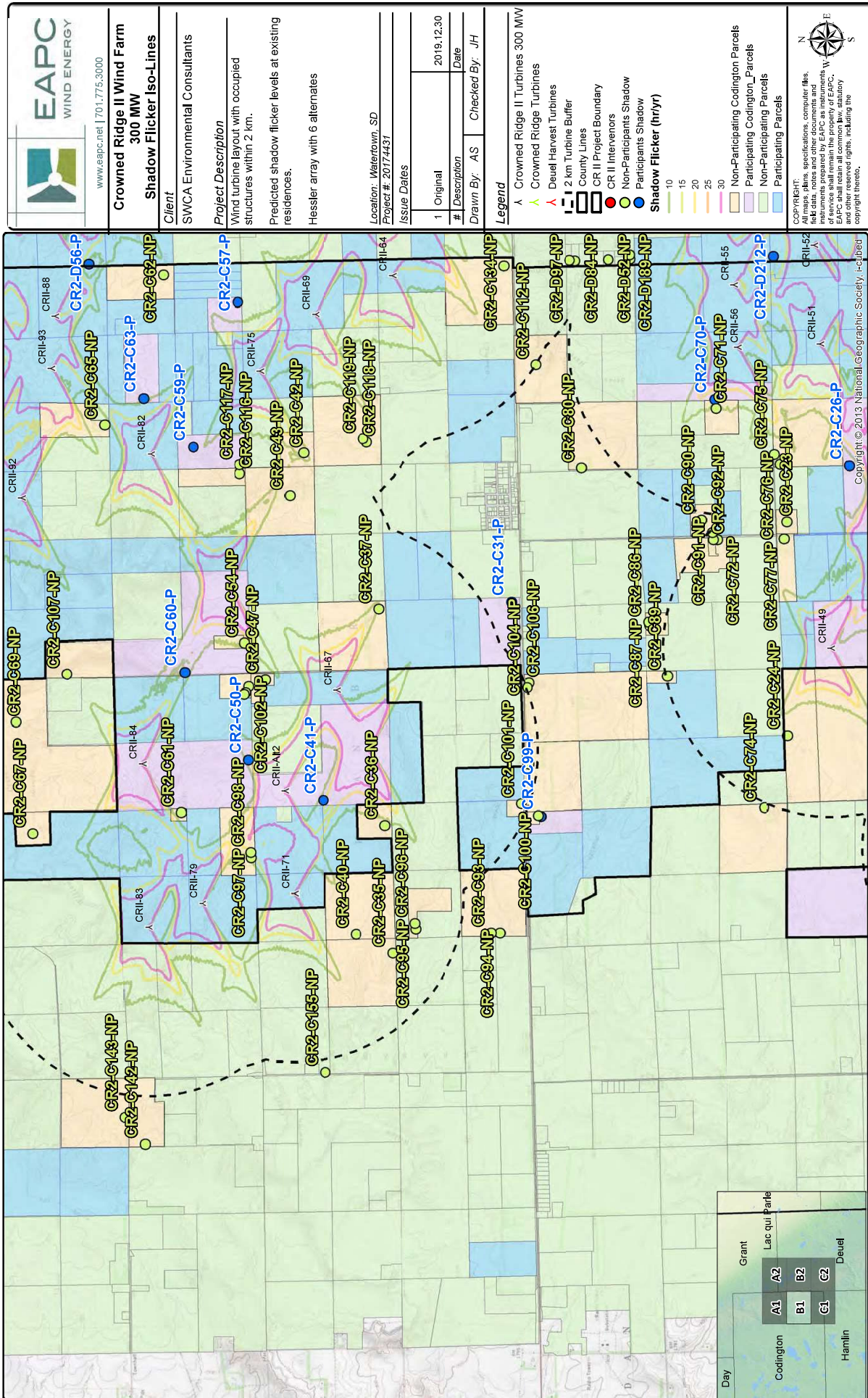
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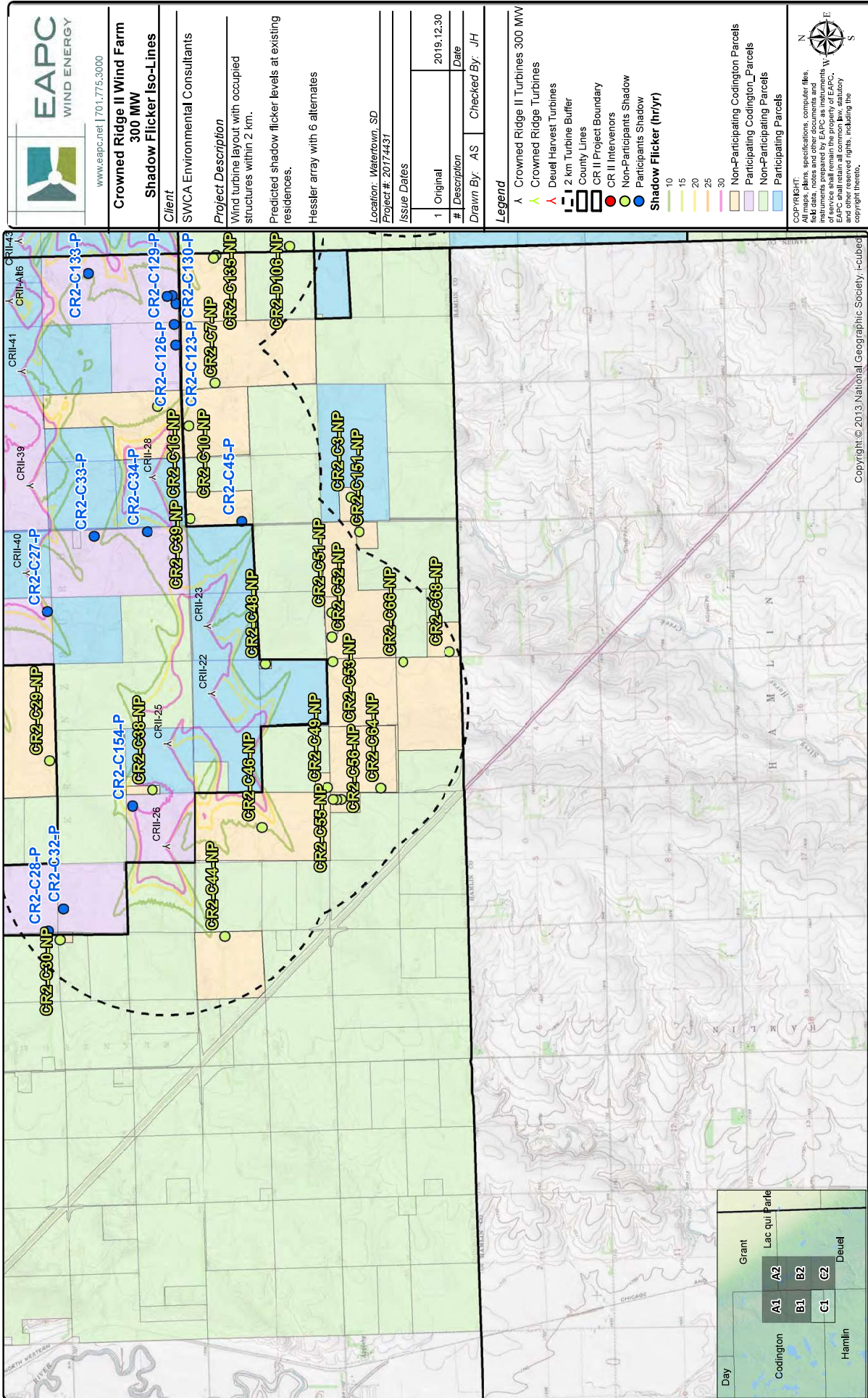
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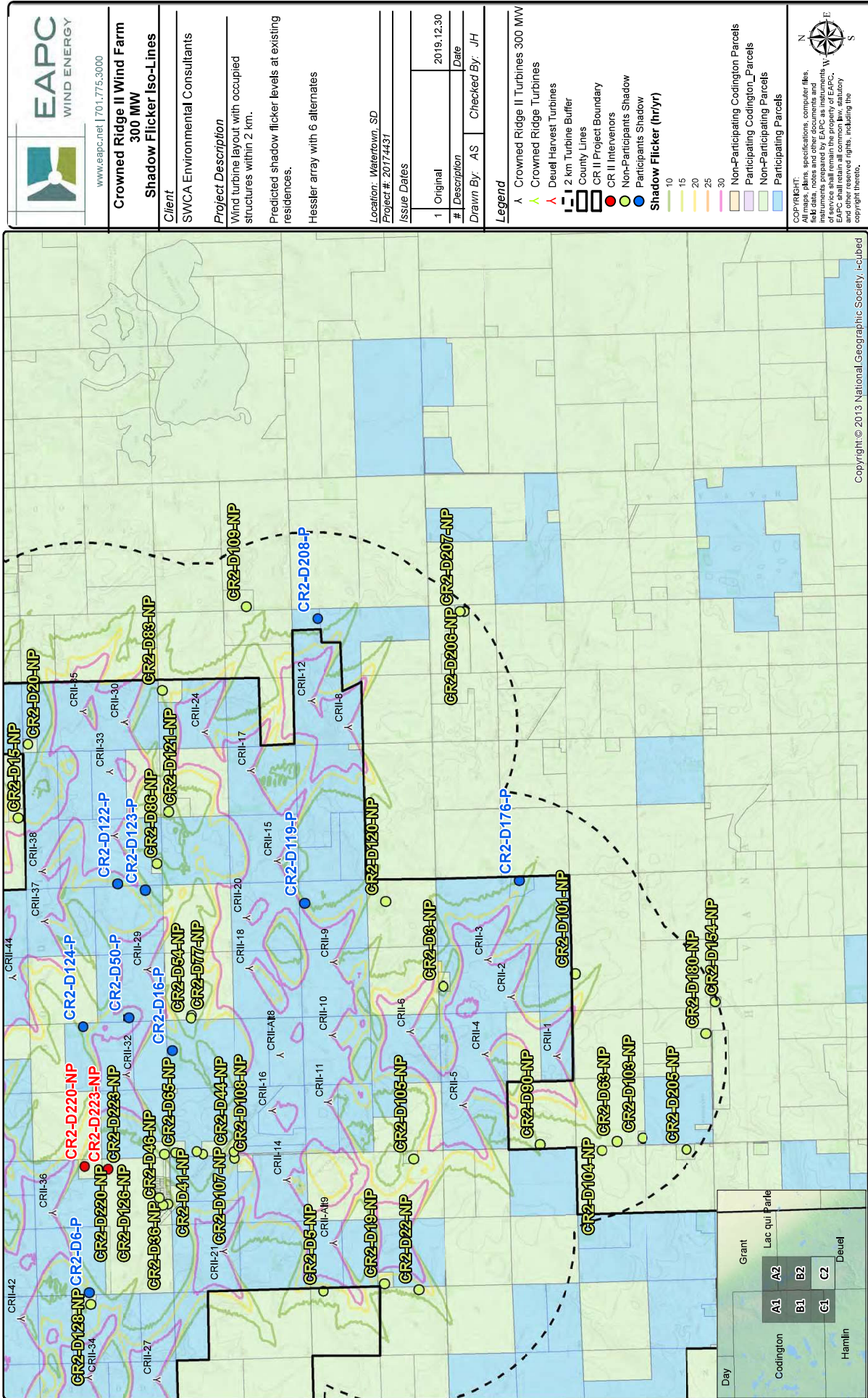


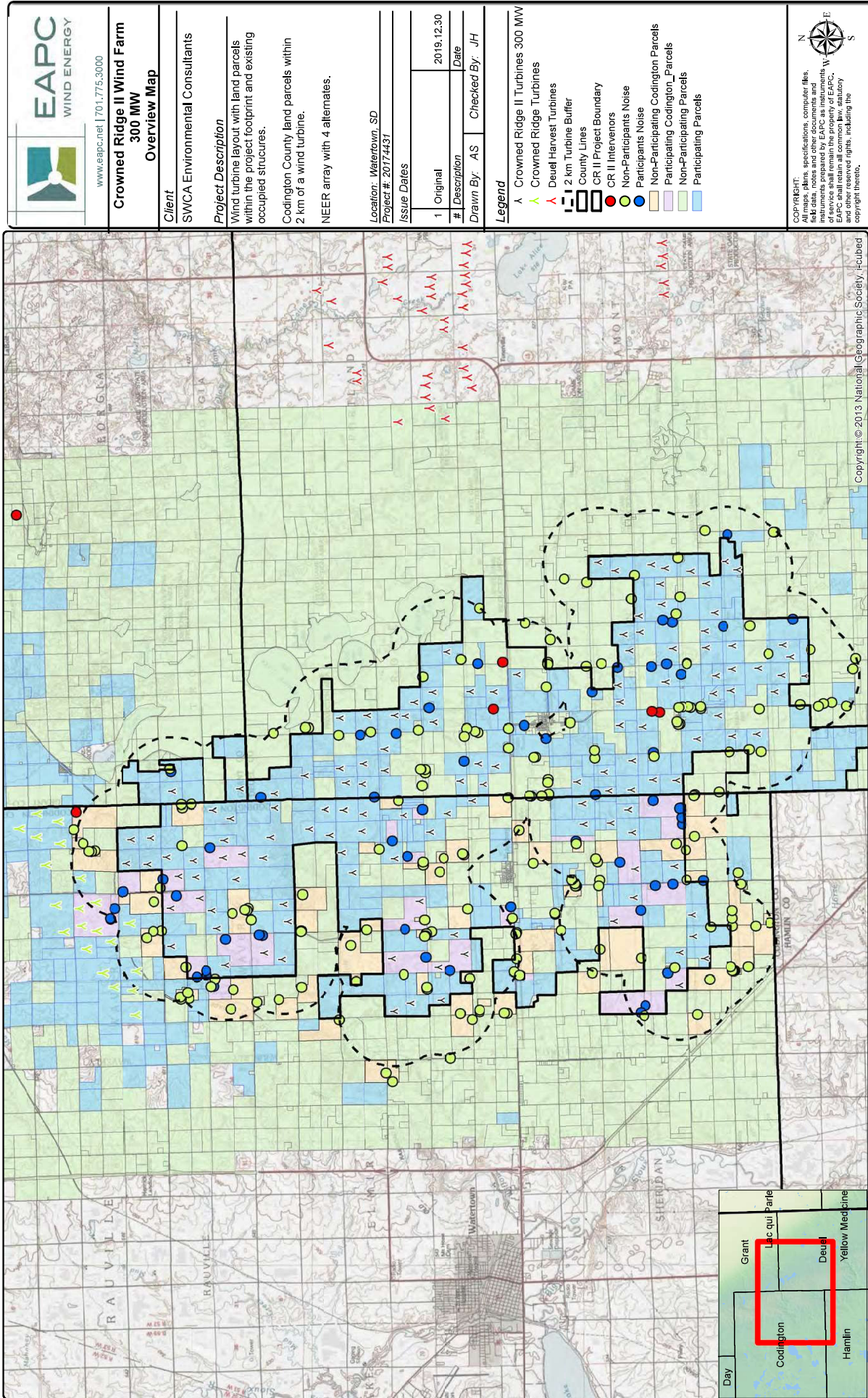




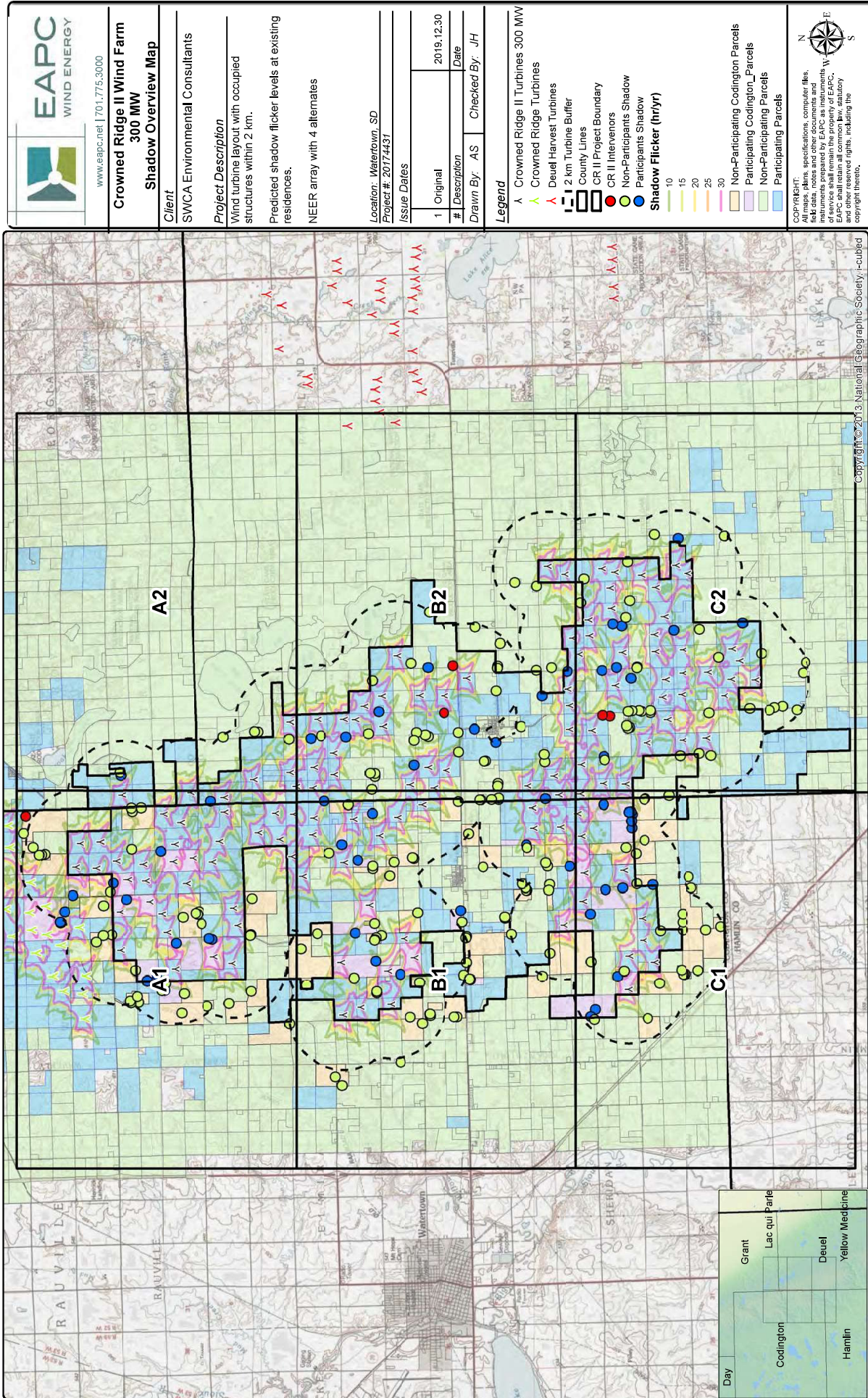


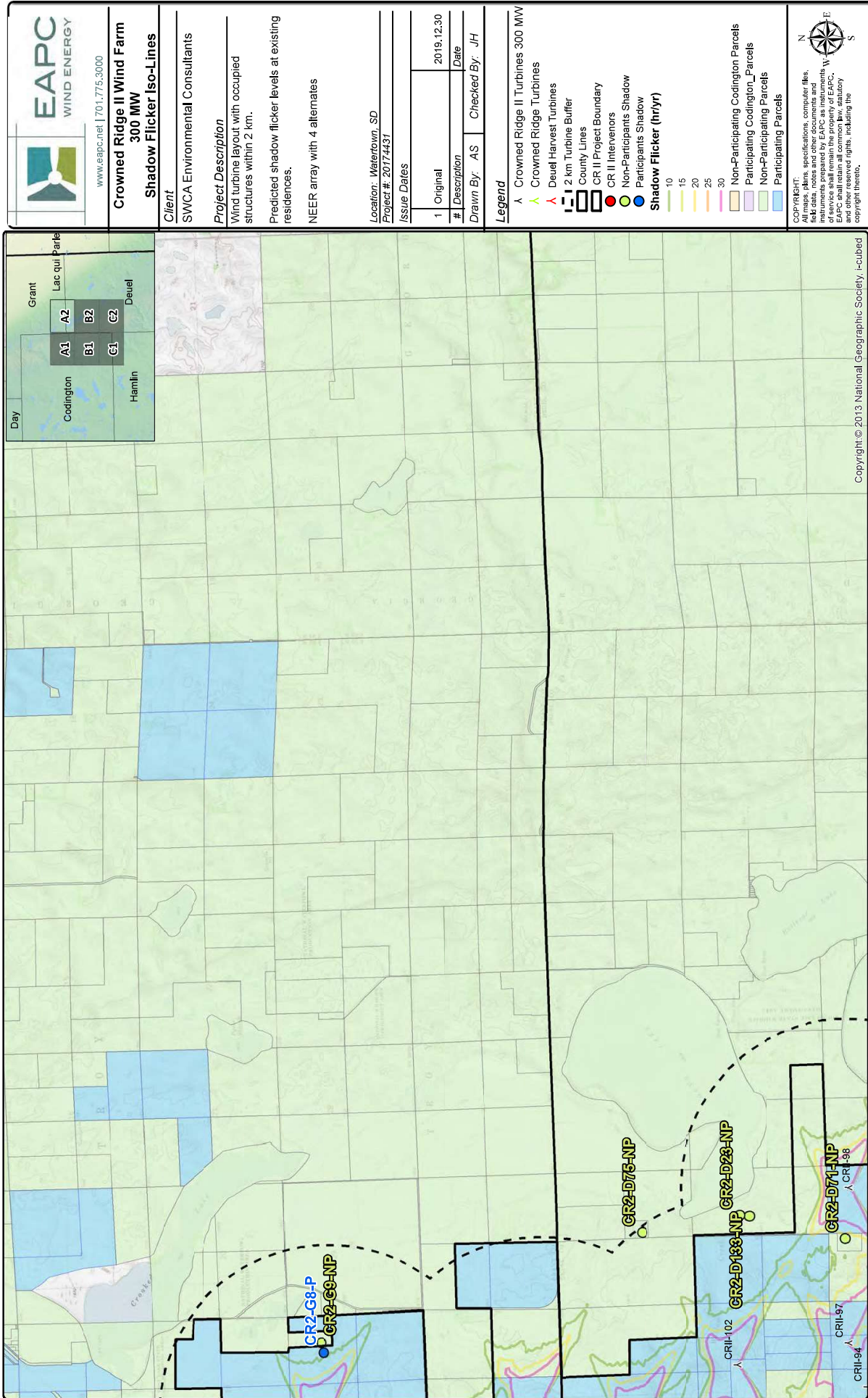


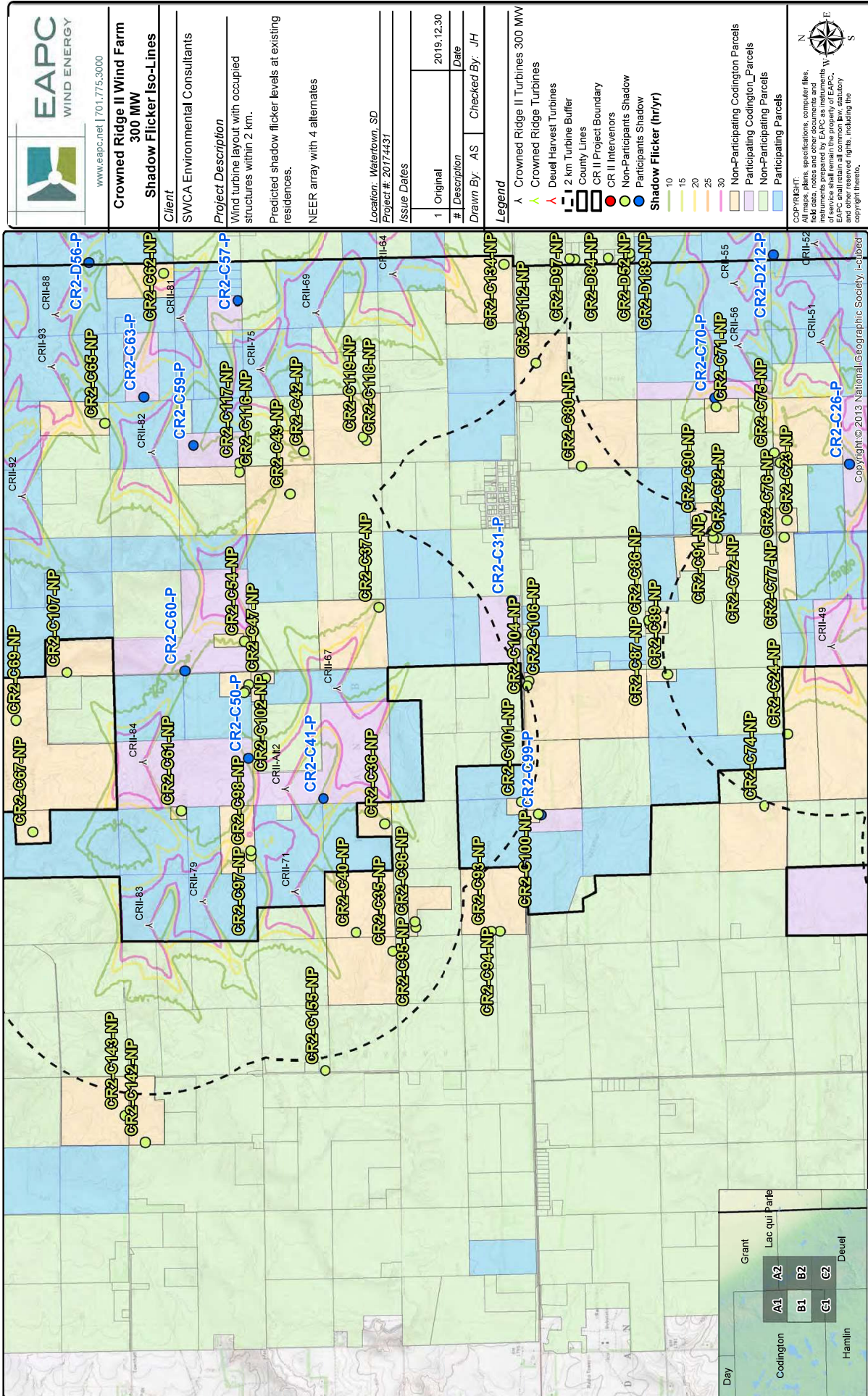


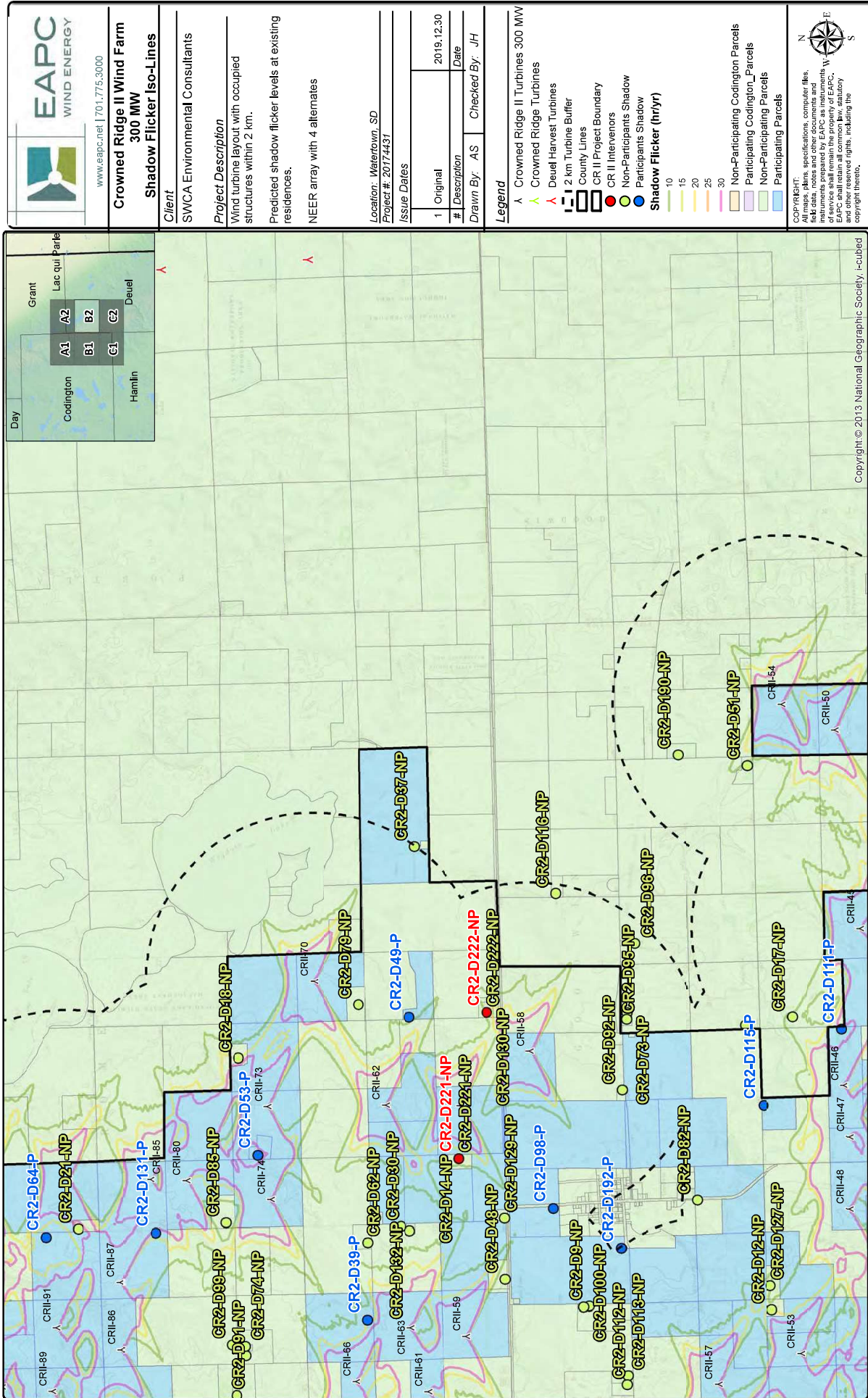


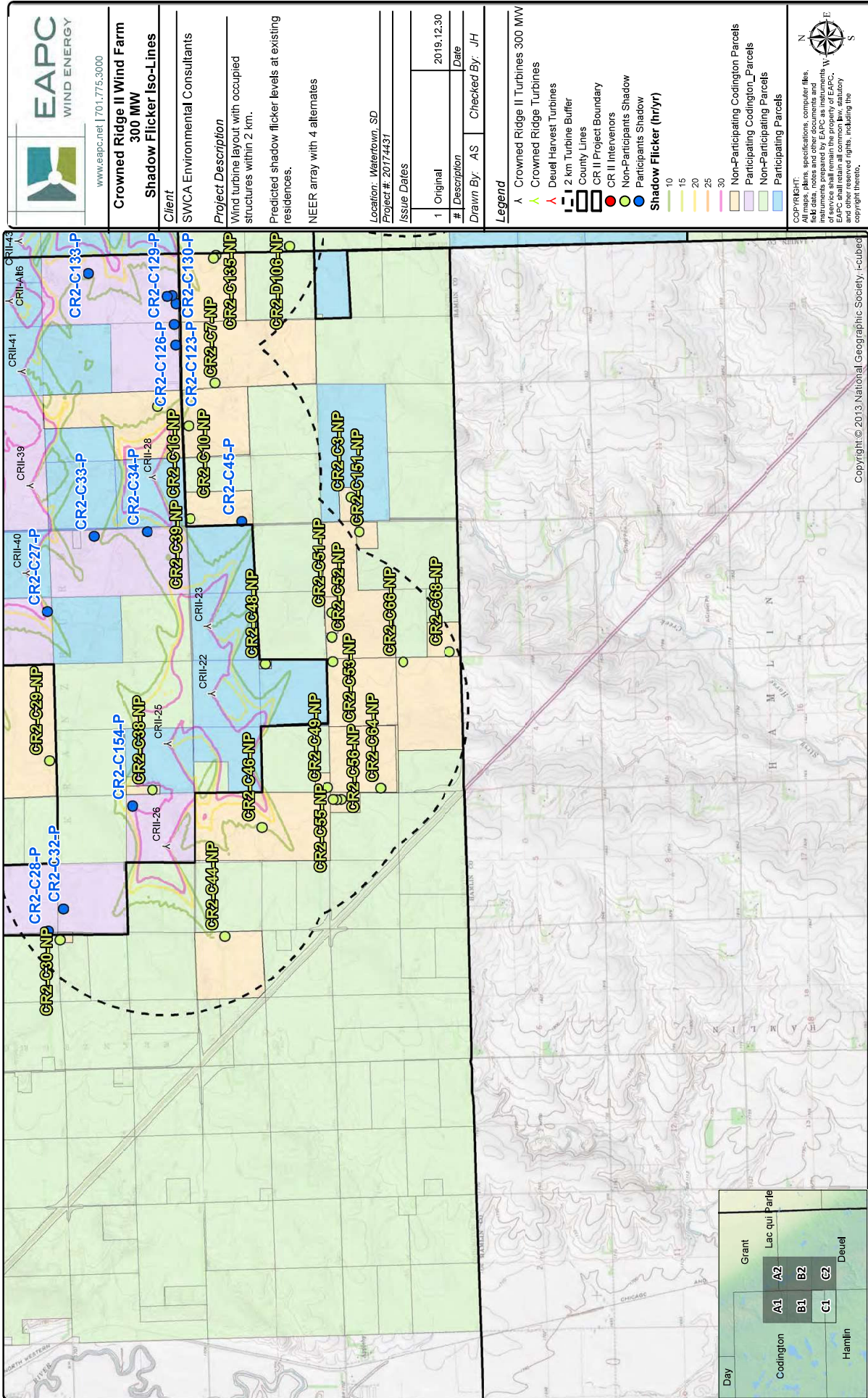
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**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE APPLICATION OF
CROWNED RIDGE WIND II, LLC FOR A FACILITIES PERMIT TO
CONSTRUCTION 300.6 MEGAWATT WIND FACILITY**

Docket No. EL19-027

**REBUTTAL TESTIMONY
OF MICHAEL MAROUS**

January 8, 2020

INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Michael MaRous. I am the owner and president of MaRous & Company.
My business address is 300 South Northwest Highway, Suite 204, Park Ridge, Illinois
60068.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by MaRous & Company as President.

Q. WHAT ARE YOUR RESPONSIBILITIES?

A. I am a consultant to Crowned Ridge Wind II, LLC ("CRW II") on the impact of the CRW
II wind project on property values.

**Q. ARE YOU THE SAME MICHAEL MAROUS WHO SUBMITTED
SUPPLEMENTAL TESTIMONY ON SEPTEMBER 20, 2019?**

A. Yes.

**Q. HAS THIS REBUTTAL TESTIMONY BEEN PREPARED BY YOU OR UNDER
YOUR DIRECT SUPERVISION?**

A. Yes.

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR REBUTTAL TESTIMONY.

A. The purpose of my rebuttal testimony is to address the testimony of Staff witness David
Lawrence, and Intervener witnesses Steven Greber and Amy Rall as they relate to
whether CRW II will impact property values.

1 Q. HAVE YOU REVIEWED THE TESTIMONY AND EXHIBITS OF STAFF
2 WITNESS LAWRENCE?

3 A. Yes. Mr. Lawrence is well respected in South Dakota due to his extensive experience in
4 real estate evaluation in that state.

5
6 Q. DO YOU HAVE ANY COMMENTS ON THE TESTIMONY AND EXHIBITS OF
7 STAFF WITNESS LAWRENCE?

8 A. Mr. Lawrence's Report is well-researched, and includes substantial documentation
9 supporting his conclusion that there will not be a negative impact on property values as a
10 result of CRW II.

11 Q. HAVE YOU REVIEWED THE TESTIMONY OF INTERVENER WITNESSES
12 GREBER AND RALL?

13 A. Yes.

14 Q. DO YOU HAVE ANY COMMENTS ON THE TESTIMONY OF INTERVENER
15 WITNESSES GREBER AND RALL?

16 A. Yes, in contrast to the studies and market analysis completed by myself and Staff witness
17 Lawrence, Intervener witnesses Greber and Rall make broad generalities without any
18 meaningful supporting evidence related to the impact of CRW II on property values. For
19 instance, neither witnesses Greber or Rall provide specific facts and sales transactions,
20 peer-reviewed studies, or a market analysis to support their claims. Therefore, even after
21 reading the testimony of witnesses Greber and Rall, I stand by the conclusion in my
22 Supplemental Testimony that CRW II will not have a negative impact on property values.

1 Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

2 A. Yes, it does.

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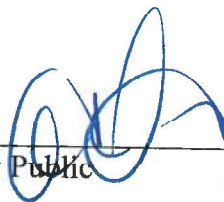
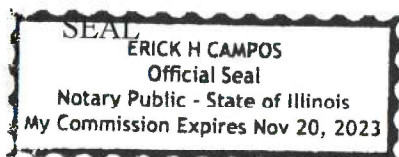
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I, Michael MaRous, being duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared testimony and I am familiar with its contents, and that the facts set forth are true to the best of my knowledge, information and belief.



Michael MaRous

Subscribed and sworn to before me this 2th day of January 2020.



Notary Public

My Commission Expires 11/20/2023

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE APPLICATION OF
CROWNED RIDGE WIND, LLC FOR A FACILITIES PERMIT TO
CONSTRUCTION 300 MEGAWATT WIND FACILITY**

Docket No. EL19-027

**REBUTTAL TESTIMONY
OF RICHARD LAMPETER**

January 8, 2020

INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Richard Lampeter. My business address is 3 Mill & Main Place, Suite 250, Maynard, MA 01754.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed at Epsilon Associates, Inc. ("Epsilon"). I am an Associate at the company and manage the Acoustics Group.

Q. WHAT ARE YOUR RESPONSIBILITIES?

A. My responsibility is to provide advice on sound issues, including post construction sound protocols, for Crowned Ridge Wind, II LLC ("CRW II").

Q. ARE YOU THE SAME RICHARD LAMPETER WHO SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING ON JULY 9, 2019

A. Yes.

Q. HAS THIS REBUTTAL TESTIMONY BEEN PREPARED BY YOU OR UNDER YOUR DIRECT SUPERVISION?

A. Yes.

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR REBUTTAL TESTIMONY.

A. The purpose of my supplemental testimony is to address concerns raised by Staff witness David Hessler.

Q. STAFF WITNESS HESSLER CLAIMS THAT "WIND TURBINE SOUND LEVELS ARE HIGHLY VARIABLE WITH WIND AND ATMOSPHERIC CONDITIONS AND COMMONLY FLUCTUATE BY +/- 5 DBA OR MORE

1 **AROUND THE MODELED SOUND LEVEL, WHICH MAY BE REGARDED AS**
2 **THE LONG-TERM MEAN LEVEL.” DO YOU AGREE WITH THIS**
3 **TESTIMONY?**

4 A. I disagree with this testimony. The modeling parameters used by EAPC Wind Energy for
5 the CRW II sound study mitigates the fluctuation referred to by Mr. Hessler, because it
6 uses reasonable and conservative assumptions, including: (1) a ground attenuation factor
7 of 0.5; (2) an uncertainty factor of two decibels for all wind turbines; (3) all modeled sound
8 sources are assumed to be operating simultaneously and at the design wind speed
9 corresponding to the greatest sound level impacts; (4) the selection of meteorological
10 conditions to minimize atmospheric attenuation in the 500 Hz and 1 kHz octave bands
11 where the human ear is most sensitive; and (5) pursuant to the ISO 9613-2 standard, the
12 use of favorable conditions for sound propagation (a moderate, well developed ground-
13 based temperature inversion as might occur on a calm clear night or equivalently downwind
14 propagation). Based on the combination of these modeling assumptions and parameters,
15 the model yields conservative results which reflect the short-term sound levels for
16 evaluation of the proposed conditions identified in the Proposed Post-Construction Sound
17 Protocol and not a long-term mean level. As such, actual sound levels for an operational
18 wind project are not expected to be +5 dBA as compared to the modeled sound levels. This
19 conclusion is supported by post-construction measurement programs conducted by Epsilon
20 for other wind projects which have found that measured sound levels have met similar
21 regulatory limits for projects and were not +5 dBA compared to the modeled sound levels
22 where the pre-construction modeling analysis followed a similar modeling methodology.

23
24 **Q. STAFF WITNESS HESSLER (PAGES 7-8; EXHIBIT DMH-2) RECOMMENDS**
25 **CERTAIN CHANGES TO THE POST CONSTRUCTION SOUND PROTOCOL**
26 **THAT YOU PROPOSED IN YOUR DIRECT TESTIMONY. DO YOU AGREE**
27 **WITH THE PROPOSED CHANGES?**

28 A. I have no objection to Mr. Hessler’s recommended changes to the post-construction sound
29 protocol I proposed in my Direct Testimony.

1 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

2 **A. Yes.**

STATE OF MASSACHUSETTS

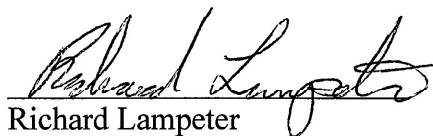
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COUNTY OF MIDDLESEX

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I, Richard Lampeter, being duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared testimony and I am familiar with its contents, and that the facts set forth are true to the best of my knowledge, information and belief.

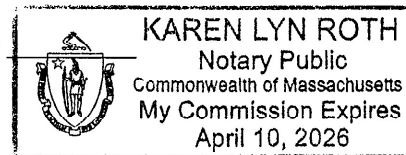

Richard Lampeter

Subscribed and sworn to before me this 8th day of January, 2020.

SEAL


Notary Public

My Commission Expires



**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE APPLICATION OF
CROWNED RIDGE WIND II, LLC FOR A FACILITIES PERMIT TO
CONSTRUCT A 300.6-MEGAWATT WIND FACILITY**

Docket No. EL19-027

**REBUTTAL TESTIMONY
OF SARAH SAPPINGTON**

January 8, 2020

INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Sarah Sappington. I am employed by SWCA Environmental Consultants and am based in the Bismarck, North Dakota office at 116 North 4th Street, Suite 200, Bismarck, North Dakota, 58501.

Q. WHAT IS YOUR JOB AND WHAT ARE YOUR JOB RESPONSIBILITIES?

A. I am the Director of the Bismarck SWCA Office. My team is responsible for environmental permitting and regulatory compliance for many industries and states in the Midwest, including the state of South Dakota for renewable energy projects.

Q. ARE YOU THE SAME SARAH SAPPINGTON WHO SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING ON JULY 9, 2019 AND SUPPLEMENTAL TESTIMONY ON SEPTEMBER 20, 2019?

A. Yes.

Q. HAS THIS TESTIMONY BEEN PREPARED BY YOU OR UNDER YOUR DIRECT SUPERVISION?

A. Yes.

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY.

A. The purpose of my testimony is to address the direct testimony of Staff witnesses David Hessler, Darren Kearney, Hilary Meyer, and Paige Olson on environmental and wildlife issues.

1 Q. STAFF WITNESS HESSLER (PAGE 5, LINES 7-11) CLAIMS THAT CRW
2 II MAY BE ABLE TO FURTHER OPTIMIZE SOUND THROUGH THE
3 USE OF 6 ALTERNATIVE TURBINE LOCATIONS (94, 97, 103, 113, 134,
4 AND ALT6). DO YOU AGREE?

5 A. I have reviewed the alternative turbine locations from an environmental and cultural
6 perspective, the results of which are summarized in Table 1 below. Turbines 103
7 and 113 are located in areas with sensitive cultural sites, and the challenges with
8 constructability of these turbine locations is discussed by witness Mark Thompson.

9
10 **Table 1. Environmental Analysis of Turbines recommended as alternate**
11 **locations by Hessler.**

Turbines recommended as alternate sites to optimize sound	Environmental Constraints Analysis
94	No environmental issues; collection will bore wetland
97	No environmental issues; collection will bore wetland
103	Sensitive cultural sites along collection line and turbine location will be avoided; collection will bore wetland
113	Sensitive cultural sites along collection line and turbine location will be avoided; collection will bore wetland
134	No environmental issues; collection will bore wetland and avoid cultural sites
Alt 6	No environmental issues

12
13 Q. STAFF WITNESS HESSLER (PAGE 5) RECOMMENDS THAT THE
14 ALTERNATIVE TURBINES BE USED INSTEAD OF SOME OF THE 21
15 TURBINE LOCATIONS LISTED IN HIS TABLE. DO YOU HAVE ANY
16 PREFERENCE FROM AN ENVIRONMENTAL OR CULTURAL

**PERSPECTIVE TO WHICH OF THE 21 TURBINE LOCATIONS ARE
REPLACED WITH THE ALTERNATIVE TURBINE LOCATIONS?**

A. I have reviewed the 21 turbine locations from an environmental and cultural perspective, the results are summarized in Table 2, below. Overall, I prefer the use of the locations with non environmental or cultural issues as set forth below.

Table 2. Environmental analysis of Turbines recommended for relocation to alternate sites by Hessler.

Contour Map Enlargement Section	Turbines recommended for relocation to alternate sites	Environmental Constraints Analysis
A1	Alt4	No environmental issues
A1	104	No environmental issues
A1	125	No environmental issues
A1	129	No environmental issues; Access road avoids nearby wetland; collection line will bore wetland
A2	98	No environmental issues; construction corridor avoids nearby wetlands; collection line will bore wetland
A2	102	No environmental issues; will avoid nearby wetland and cultural sites; will avoid raptor nest
B1	72	No environmental issues
B1	77	No environmental issues
B1	81	No environmental issues; construction corridor will avoid wetlands and cultural sites
B2	Alt 5	No environmental issues
B2	53	No environmental issues; construction corridor avoids nearby wetlands; collection line will bore wetland
B2	90 (Unit South of 98)	No environmental issues
C1	13	No environmental issues
C2	3	No environmental issues; construction corridor would avoid nearby wetlands; collection line would bore wetland

C2	6	No environmental issues; construction corridor would avoid nearby wetlands
C2	Alt 9	No environmental issues
C2	7 (Unit South of Alt 9)	No environmental issues; construction corridor avoids nearby wetlands
C2	24	No environmental issues
C2	30	No environmental issues
C2	38	No environmental issues
C2	31 (Unit South of 38)	No environmental issues

It is my understanding that witness Haley reviewed these results and locations to determine how best to address Mr. Hessler's request that Crowned Ridge Wind further optimize the sound impacts of the project.

Q. STAFF WITNESS KEARNY (PAGES 18-19) PROPOSES A CONDITION TO RELATED TO WHOOPING CRANES. DO YOU AGREE WITH THE PROPOSED CONDITION?

A. No, I do not. As noted in Section 11.3.1.2.6 of the application, "The Project Area is approximately 50 miles east of the 95% core migration corridor (as delineated by Pearse et al. 2018a and 2018b) at its closest, indicating that it is relatively less likely for the species to be present within the Project Area than in areas closer to the migration corridor. According to the United States Fish and Wildlife Service ("USFWS") Whooping Crane Tracking Project Database, the closest whooping crane observation is from 1973, approximately 23.5 miles northwest of the Project Area."

As noted in Section 11.3.1.2.6 of the application a "desktop assessment was conducted to identify potentially suitable whooping crane habitat in the Project Area plus a 1-mile buffer. The assessment followed methods outlined in The

1 Watershed Institute's Potentially Suitable Habitat Assessment for the Whooping
2 Crane (The Watershed Institute 2013). In total, 85 wetlands, totaling 2,419.6 acres,
3 scored 12 or higher. The Watershed Institute considers a habitat score of 12 or
4 higher as potential suitable habitat. Twenty-five of these 85 wetlands, totaling 95.0
5 acres, overlapped the Project Area. These wetlands comprise only 0.2% of the total
6 Project Area.

7 In addition to the desktop methods described above, Crowned Ridge Wind
8 II ("CRW II") also routinely checks in with both the USFWS and South Dakota
9 Game Fish and Parks, to determine if any new data is available that suggests
10 migratory corridor is different and has expanded farther east indicating higher risk.
11 Whooping crane data was received from the USFWS on May 31, 2018, January 29,
12 2019, and December 16, 2019. Re-projection of the recent USFWS data shows that
13 the closest whooping crane observation is from 1973, approximately 22.4 miles
14 northwest of the Project Area. On December 13, 2019, SDGFP sent a link to a map
15 of whooping crane observations current to 2008, available on the South Dakota
16 Public Utilities Commission website at:
17 <https://puc.sd.gov/commission/dockets/electric/2019/el19026/JTExh4.pdf>.

18 CRW II compared the data in that map to the newest USFWS data and noted
19 no additional whooping crane observations closer to the Project Area.

20 Based on this information, CRW II's response to Staff Data Request 2-15
21 is still an "appreciate approach," which involves training operations staff to
22 recognize whooping cranes. As part of that training, CRW II will develop a process
23 flow chart for operational curtailment to be triggered if (1) the migratory corridor

1 expands following due diligence outlined above or (2) if whooping cranes are
2 detected within 2 miles of an operating turbine by trained staff. Operations staff
3 will be trained to identify Whooping Cranes annually and will informally monitor
4 for any detections during the course of regular operations duties. The submittal of
5 this approach will be developed in conjunction with SDGFP staff and part of CRW
6 II's pre-operations filing with the Commission.

7 **Q. STAFF WITNESS MAYER (PAGE 8, LINES 2-4) RECOMMENDS THAT**
8 **IF GRASSLAND OR WETLAND ACRES ARE LOST THAT CRW II**
9 **CARRY OUT REPLACEMENT ACTIVITIES IN CLOSE PROXIMITY TO**
10 **THE PROJECT. PLEASE ADDRESS THIS RECOMMENDATION.**

11 **A.** In Section 11.3.2.5 of the Application, CRW II committed to avoid placing
12 structures, or conducting any activity, on USFWS grassland or USFWS
13 wetland/grassland combination easements. In this same section, CRW II committed
14 to re-vegetate disturbed areas to as close to pre-construction conditions as possible
15 in coordination with the landowner and per applicable permit conditions and
16 requirements.

17 In areas where impacts cannot be avoided, temporary impacts will be
18 minimized through construction BMPs as described in the stormwater pollution
19 prevention plan. Where temporary impacts occur, the land will be returned to pre-
20 construction conditions. Additionally, to avoid the spread of noxious weeds, CRW
21 II will use native vegetation (weed-free) seed mixes to revegetate disturbed areas
22 where feasible and pending landowner preferences. During revegetation efforts in
23 potentially suitable Dakota skipper and Poweshiek skipperling habitat, CRW II will

1 use seed mixes that incorporate vegetation that supports these prairie butterfly
2 species.

3 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

4 **A. Yes.**

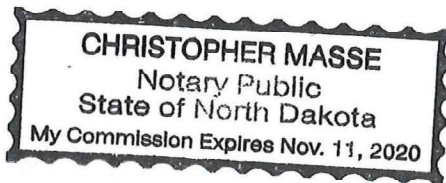
STATE OF NORTH DAKOTA)
) ss
COUNTY OF BURLEIGH)

I, Sarah Sappington, being duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared testimony and I am familiar with its contents, and that the facts set forth are true to the best of my knowledge, information and belief.


Sarah Sappington

Subscribed and sworn to before me this 6th day of Jan
2020.

SEAL




Notary Public

My Commission Expires Nov. 11, 2020

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE APPLICATION OF
CROWNED RIDGE WIND II, LLC FOR A FACILITIES PERMIT TO
CONSTRUCT A 300.6 MEGAWATT WIND FACILITY**

Docket No. EL19-027

REBUTTAL TESTIMONY

OF MARK THOMPSON

January 8, 2019

INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. Mark Thompson, 700 Universe Blvd., Juno Beach FL 33408.

Q. WHAT IS YOUR JOB AND WHAT ARE YOUR JOB RESPONSIBILITIES?

A. I am the Manager of Wind Engineering within the Engineering & Construction ("E&C") organization at NextEra Energy Resources, LLC ("NEER"). As the Manager of Wind Engineering, one of my primary roles is to coordinate or provide support for the development of new wind sites that include underground collector systems, substations, and transmission lines.

Q. ARE YOU THE SAME MARK THOMPSON WHO SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING ON JULY 9, 2019 AND SUPPLEMENTAL TESTIMONY ON SEPTEMBER 20, 2019?

A. Yes.

Q. HAS THIS REBUTTAL TESTIMONY BEEN PREPARED BY YOU OR UNDER YOUR DIRECT SUPERVISION?

A. Yes.

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY.

A. The purpose of my supplemental testimony is to address the testimony of Staff witnesses David Hessler and Darren Kearney.

1 **Q. STAFF WITNESS HESSLER (PAGE 5, LINES 7-11) CLAIMS THAT CRW II**
2 **MAY BE ABLE TO FURTHER OPTIMIZE SOUND THROUGH THE USE OF 6**
3 **ALTERNATIVE TURBINE LOCATIONS (94, 97, 103, 113, 134, AND ALT6). DO**
4 **YOU AGREE?**

5 **A.** I have reviewed the alternative turbine locations and have no issues with
6 relegating turbines 94, 97, 134, and ALT6 to primary status. However, based on
7 cultural setbacks explained in witness Sappington's rebuttal testimony, turbines
8 103 and 113 would be difficult to construct. Therefore, these turbine locations
9 should not be designated as primaries. Delivery trucks with large turbine
10 components, erection cranes, and other equipment must be able to safely
11 maneuver within the construction easement. Turbine locations 103 and 113 do not
12 facilitate safe construction and erection without possible significant impact to
13 cultural sites.

14
15 **Q. ARE THERE OTHER APPROACHES THAT CRW II CAN IMPLEMENT TO**
16 **MITIGATE SOUND OTHER THAN THE MOVEMENT OF TURBINE**
17 **LOCATIONS?**

18 **A.** Yes. Recently General Electric ("GE") developed an Enhanced Power Curve
19 Operation ("EPCO") mode for operating their 2MW – 116 rotor diameter series of
20 turbines. GE expects the use of this operating mode will reduce the sound level by
21 approximately 1.5dBA when compared to the normal operating mode. CRW II
22 will implement the EPCO software option that produces more torque at a lower

1 rpm and slows down the overall speed of the blades which results in a quieter
2 turbine. This software option does not increase the maximum output of the
3 turbine.

4 **Q. STAFF WITNESS KEARNY (PAGE 18) PROPOSES A CONDITION TO**
5 **ADDRESS ICE THROW FROM TURBINES. DO YOU AGREE WITH THE**
6 **CONDITION?**

7 A. Yes, it is the same condition agreed to in Docket No. EL19-003 (Crowned Ridge Wind I).

8 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

9 A. Yes.

10

STATE OF SOUTH DAKOTA)
COUNTY OF Minnehaha) ss
)

I, Mark Thompson, being duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared testimony and I am familiar with its contents, and that the facts set forth are true to the best of my knowledge, information and belief.

MMA Hamp

Mark Thompson

Subscribed and sworn to before me this ____ day of
January 2020.

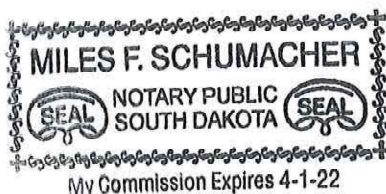
January 2020.



Notary Public

My Commission Expires _____

SEAL



**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE APPLICATION OF
CROWNED RIDGE WIND II, LLC FOR A FACILITIES PERMIT TO
CONSTRUCT A 300.6 MEGAWATT WIND FACILITY**

Docket No. EL19-027

**REBUTTAL TESTIMONY
OF TYLER WILHELM**

January 8, 2019

INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAMES AND BUSINESS ADDRESS.

A. Tyler Wilhelm. My business address is 700 Universe Blvd., Juno Beach, Florida, 33408.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by NextEra Energy Resources, LLC ("NEER") as a Senior Project Manager of Business Development at NEER. I am responsible for the development, permitting, community outreach, regulatory compliance, and meeting the commercial operations date ("COD") for the 300.6 megawatt ("MW") Crowned Ridge Wind II, LLC ("CRW II") wind generation project ("Project").

Q. ARE YOU THE SAME TYLER WILHELM WHO SUBMITTED DIRECT TESTIMONY IN THIS PROCEEDING ON JULY 9, 2019 AND SUPPLEMENTAL TESTIMONY ON SEPTEMBER 20, 2019?

A. Yes.

Q. HAS THIS REBUTTAL TESTIMONY BEEN PREPARED BY YOU OR UNDER YOUR DIRECT SUPERVISION?

A. Yes.

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR REBUTTAL TESTIMONY.

A. The purpose of my rebuttal testimony is to address the direct testimony of Staff witnesses David Hessler, Darren Kearney, Hilary Meyer, and Paige Olson and Intervener witness Garry Ehlebracht.

1 **Q. STAFF WITNESS HESSLER (PAGE 5, LINES 7-11) CLAIMS THAT CRW II MAY**
2 **BE ABLE TO FURTHER OPTIMIZE SOUND THROUGH THE USE OF 6**
3 **ALTERNATIVE TURBINE LOCATIONS (94, 97, 103, 113, 134, AND ALT6). DO**
4 **YOU AGREE?**

5 **A.** Based on the review of these alternative turbine locations as set forth in the testimonies of
6 CRW II witnesses Thompson and Sappington, CRW II agrees to make the following
7 turbine locations 94, 97, 134, and ALT6 primary, and agrees to relegate turbine locations
8 13, 72, 77, and ATL5 to alternative status. The reduction in sound and shadow flicker
9 from these changes is set forth in the rebuttal testimony of CRW II witness Haley, which
10 shows the sound reduction associated with the use of turbine locations 94, 97, 134, and
11 ALT6.

12
13 **Q. STAFF WITNESS KEARNEY (PAGE 14, LINES 23-32) TESTIFIES HE WAS**
14 **UNABLE TO DETERMINE IF TURBINE LOCATION CRWII-64 IS CLOSER THAN**
15 **1 MILE TO THE CITY LIMITS OF KRANZBURG, BECAUSE OF A LACK OF A**
16 **DESCRIPTION OF THE MUNICIPAL BOUNDARY. PLEASE ADDRESS THIS**
17 **CONCERN.**

18 **A.** To determine if turbine location CRWII-64 is closer than 1 mile to the city limits of
19 Kranzburg, CRW II searched for the annexation document to determine when the original,
20 unincorporated lands were included within the municipal boundary of Kranzburg. CRW
21 II visited and met with officials at the offices of the Register of Deeds, Director of
22 Equalization, Treasurer, and Auditor in Codington County and was unable to find any
23 annexation documentation. CRW II also met with officials at the city offices, including

1 the Chairman of the village board, Dale Plunkett, and it was concluded that no records of
2 the annexation exist since the annexation took place between 1900 and 1975, when lands
3 were annexed to accommodate the placement of drill wells to support the city water system.
4 In addition, CRW II reviewed the breakdown of tax bills to understand which properties
5 paid taxes to the city of Kranzburg to help determine the municipal boundary of Kranzburg.
6 The Northwest quarter of Section 1 indicates that taxes are paid to the City of Kranzburg
7 but not to any local Townships, which shows the inclusion of this parcel within the
8 Kranzburg municipal boundary. The opposite is the case for the Northeast quarter of
9 Section 1, which does not pay taxes to the City of Kranzburg, as it only pays taxes to the
10 local Township. Based on this tax information, CRW II concluded that the Northwest
11 Quarter of Section 1 marks the northernmost boundary of Section 1, which is the location
12 utilized to confirm the distance of turbine CRII-64 from the city limit of Kranzburg. CRW
13 II believes the available tax bill breakdown information is the best information in
14 determining the described municipal boundary in place of annexation documents that do
15 not exist at either the county or city offices.

16
17 **Q. STAFF WITNESS KEARNEY (PAGES 21-22) PROPOSES A**
18 **DECOMMISSIONING FINANCIAL ASSURANCE CONDITION BASED ON THE**
19 **UNDERSTANDING THAT NORTHERN STATES POWER COMPANY (NSP)**
20 **WILL PURCHASE CRW II. DO YOU AGREE WITH THE CONDITION?**

21 **A.** Yes, it is consistent with the conditions used on other Commission dockets where NSP was
22 the purchaser of the wind facility.

1 Q. STAFF WITNESS MEYER (PAGE 21) RECOMMENDS THAT CRW II
2 COORDINATE WITH SOUTH DAKOTA GAME, FISH, AND PARKS 60 DAYS
3 PRIOR TO THE START OF CONSTRUCTION TO COORDINATE PUBLIC
4 ACCESS TO WALK-IN AREAS THAT MAY BE TEMPORARILY IMPACTED
5 DUE TO CONSTRUCTION. DO YOU AGREE WITH THIS
6 RECOMMENDATION?

7 A. Yes, we will coordinate if there is a possibility that the Project will make impact to a walk
8 in area. At this time, there is no anticipated impact on such areas.
9

10 Q. STAFF WITNESS OLSON (PAGES 6-8) RECOMMENDS FOUR CONDITIONS
11 RELATED TO CULTURAL RESOURCES. DO YOU AGREE WITH THESE
12 CONDITIONS?

13 A. Yes, these four conditions are the same conditions agreed to in Docket No. EL19-003
14 (Crowned Ridge Wind I).
15

16 Q. INTERVENER WITNESS EHLEBRACHT (PAGE 3, LINES 28-31) TESTIFIED
17 THAT DURING A TELEPHONE CONVERSATION WITH A LAND AGENT
18 ASSOCIATED WITH CRW II, THE LAND AGENT LAUGHED AT HIS
19 REQUEST THAT THE WIND TURBINES SHOULD BE MOVED FURTHER
20 AWAY FROM HIS HOME? HAVE YOU DISCUSSED THIS CONCERN WITH
21 YOUR LAND AGENTS?

1 A. Yes, I have discussed this matter with the land agent. The land agent's laugh was
2 inadvertent in the context of hoping to lighten what he perceived was becoming a heated
3 conversation. After the conversation, the land agent was instructed to not engage further
4 with Mr. Ehlebracht.

5

6 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

7 A. Yes, it does.

1

STATE OF FLORIDA)
) ss
COUNTY OF PALM BEACH)

I, Tyler Wilhelm, being duly sworn on oath, depose and state that I am the witness identified in the foregoing prepared testimony and I am familiar with its contents, and that the facts set forth are true to the best of my knowledge, information and belief.


Tyler Wilhelm

Subscribed and sworn to before me this 6th day of
January 2020.

SEAL


Notary Public

My Commission Expires _____

2



004335

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

IN THE MATTER OF THE APPLICATION)		
BY CROWNED RIDGE WIND II, LLC FOR)		EL19-027
A PERMIT OF A WIND ENERGY)		
FACILITY IN DEUEL, GRANT)	CERTIFICATE OF SERVICE	
AND CODINGTON COUNTIES)		

I hereby certify that true and correct copies of the following documents:

1. Rebuttal Testimony of Christopher Ollson;
2. Rebuttal Testimony of Jay Haley (with exhibits);
3. Rebuttal Testimony of Michael Marous;
4. Rebuttal Testimony of Richard Lampeter;
5. Rebuttal Testimony of Sarah Sappington;
6. Rebuttal Testimony of Mark Thompson; and
7. Rebuttal Testimony of Tyler Wilhelm,

in this matter were served electronically on the parties listed below on the 8th day of

January, 2020, addressed to:

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