



Shadow Flicker Assessment

**To support a planning application for the repowering of Bears Down
Wind Farm.**

Bears Down Wind Farm, Trevilledor Cross, Newquay, TR8 4HQ

July 2025

Contents

Executive Summary..... 2

1. Introduction..... 3

2. Risks and Shadow Flicker Effects..... 4

3. Planning and Shadow Flicker..... 5

4. Methodology..... 8

5. Predicted Impacts..... 10

6. Mitigation Measures..... 12

7. Conclusion..... 13

Appendix A..... 14

Appendix B..... 48

Appendix C..... 54

Tables

Table 1: Proposed Turbine Locations..... 8

Table 2: Summary of merged shadow times on each property for the proposed turbines 10

Appendices

- Appendix A: Detailed listing of shadow flicker events for all houses and all respective turbines causing flicker
- Appendix B: Graphical Output of Shadow Flicker Events
- Appendix C: Map Showing Modelled Properties

Executive Summary

A shadow flicker assessment has been prepared to support the planning application for the repowering of the Bears Down wind farm with 4 wind turbines, up to 150m to tip height on Land at Bears Down Wind Farm, Trevilledor Cross, Newquay, TR8 4HQ.

Under certain combinations of geographical position and time of day, the sun may pass behind the rotor of a wind turbine and cast intermittent shadow over neighbouring properties, an effect known as 'shadow flicker'. It can occur inside buildings where the flicker appears through a narrow window or opening.

Guidance on the potential impact of shadow flicker recommends considering effects up to a distance of ten times the rotor diameter of the proposed wind turbine. The application is based on a candidate turbine with a rotor diameter of 136m. As such, a distance of 1,360m from the turbine was considered and modelled.

The assessment identified 24 residential properties within the test area of 1,360m. Of these 24 properties, 21 could theoretically experience shadow flicker at some point annually. The assessment concludes that 5 of the identified properties could theoretically experience shadow flicker over the threshold of acceptability. Property 20 could experience a theoretical maximum of up to 215.4 hours of flicker a year. This is the maximum amount of shadow flicker that could potentially be experienced by the assessed properties.

T1 has been removed from this version of the planning application, reducing the potential shadow flicker effect and removing 186 properties from the theoretically impacted area.

The model does not consider varied weather conditions - or screening by trees, hedges, or other buildings. These features are expected to greatly reduce potential shadow flicker effects to the surrounding properties. Moreover, the model considers the worst-case scenario whereby the windows of the property are directly facing the wind turbine and assumes that weather throughout the year will be clear and sunny. Considering common UK winter weather conditions and unmodelled screening effects, the predicted levels of shadow flicker will be greatly reduced.

Research into the effects of shadow flicker has shown that with this wind turbine model, the flicker effect does not occur at frequencies that may cause human health problems¹.

¹ Epilepsy Society: Wind Turbines and photosensitive epilepsy. Accessed via: <https://epilepsysociety.org.uk/about-epilepsy/epileptic-seizures/seizure-triggers/photosensitive-epilepsy/wind-turbines-and#:~:text=Photosensitive%20epilepsy%20affects%20up%20to,effect%20of%20'shadow%20flicker'> (Accessed 10th February 2022).

1. Introduction

The Applicant is seeking planning permission from Cornwall Council for the approval of a repowering scheme consisting of 4 wind turbines, with a tip height of up to 150m on Land at Bears Down Wind Farm, Trevilledor Cross, Newquay, TR8 4HQ. The site is centred on National Grid Reference X: 190170, Y: 067702 at an elevation of approximately 161m AOD (Above Ordnance Datum). This location is surrounded by open agricultural landscape type, comprising a variety of agricultural fields used for arable crop farming and animal grazing. Immediately to this south of the proposed site sits an existing wind turbine development.

Under certain combinations of geographical position and time of day, the sun may pass behind the rotor of the proposed wind turbines and cast intermittent shadows over neighbouring properties. When the turbine blades rotate, the shadow flicks on and off; the effect is known as 'shadow flicker'. It only occurs inside buildings where the flicker appears through a narrow window or opening.

2. Risks and Shadow Flicker Effects

Concerns have been expressed that the stroboscopic effects of shadow flicker may induce epilepsy or similar symptoms. The effects of light flicker on humans concerning shadow flicker from wind turbines has been reviewed by Clarke² and more recently by Brinckerhoff³. Both references conclude that the frequencies capable of triggering epilepsy and general disturbance lies between 2.5Hz and 3Hz. Epilepsy affects approximately one in every 600,000 people in the UK with only 3% of those having photosensitive epilepsy which can be triggered by flickers as low as 2Hz⁴.

The proposed turbine model has a rated speed of 14 revolutions per minute (rpm). Given the turbine will have three blades, the frequency at which the blade will pass a particular point will be on the order of 42 times a minute which equates to 0.7 flashes per second (hertz). This is substantially lower than the 2.5 and 3Hz frequency range generally thought to induce photosensitive epilepsy. As a result, the issue of photosensitive epilepsy is not considered further in this assessment as there are no predicted adverse health effects.

² Clarke, A. D. A Case of Shadow Flicker/Flashing: Assessment and Solution, British Wind Energy Association Annual Conference 1981

³ Brinckerhoff, P. Update of UK Shadow Flicker Evidence Base, Department of Energy and Climate Change, 2016.

⁴ Epilepsy Society: Wind Turbines and photosensitive epilepsy. Accessed via: <https://epilepsysociety.org.uk/about-epilepsy/epileptic-seizures/seizure-triggers/photosensitive-epilepsy/wind-turbines-and#:~:text=Photosensitive%20epilepsy%20affects%20up%20to,effect%20of%20'shadow'%20flicker> (Accessed 10th February 2022).

3. Planning and Shadow Flicker

In September 2023, the UK Government published the new National Planning Policy Framework (NPPF). The NPPF makes it clear that the purpose of the planning system is to contribute to the achievement of sustainable development.

The NPPF replaces most of the existing Planning Policy Statements (PPS's) and Planning Policy Guidance (PPG's) and a number of Planning Circulars with a single policy document. However, whilst the policies in the NPPF are material considerations for the near future, existing policies and guides continue to carry significant weight in their existing form.

Planning for Renewable Energy - A Companion Guide to PPS22 (2004), provided the following guidance on the subject of shadow flicker:

“Under certain combinations of geographical position and time of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off; the effect is known as ‘shadow flicker’. It only occurs inside buildings where the flicker appears through a narrow window or opening. The seasonal duration of this effect can be calculated from the geometry of the machine and the latitude of the site. although problems caused by shadow flicker are rare, for sites where existing development may be subject to this problem, applicants for planning permission for wind turbine installations should provide an analysis to quantify the effect. A single window in a single building is likely to be affected for a few minutes at certain times of the day during short periods of the year. The likelihood of this occurring and the duration of such an effect depends upon:

- *The direction of the residence relative to the turbine(s);*
- *The distance from the turbine(s);*
- *The turbine hub-height and rotor diameter;*
- *The time of year;*
- *The proportion of day-light hours in which the turbines operate;*
- *The frequency of bright sunshine and cloudless skies (particularly at low elevations above the horizon); and,*
- *The prevailing wind direction.*

Only properties within 130 degrees either side of north, relative to the turbines can be affected at these latitudes in the UK - turbines do not cast long shadows on their southern side.

The further the observer is from the turbine the less pronounced the effect will be. There are several reasons for this:

- There are fewer times when the sun is low enough to cast a long shadow;*
- When the sun is low it is more likely to be obscured by either cloud on the horizon or intervening buildings and vegetation; and,*
- The centre of the rotor's shadow passes more quickly over the land reducing the duration of the effect.*

At a distance, the blades do not cover the sun but only partly mask it, substantially weakening the shadow. This effect occurs first with the shadow from the blade tip, the tips being thinner in section than the rest of the blade. The shadows from the tips extend the furthest and so only a very weak effect is observed at distance from the turbines.

Shadow flicker can be mitigated by siting wind turbines at sufficient distance from residences likely to be affected. Flicker effects have been proven to occur only within ten rotor diameters of a turbine. Therefore, if the turbine has 80m diameter blades, the potential shadow flicker effect could be felt up to 800m from a turbine.

Around 0.5% of the population is epileptic and of those around 5% are photo-sensitive. Of photo-sensitive epileptics less than 5% are sensitive to the lowest frequencies of 2.5-3Hz, the remainder are sensitive only to higher frequencies. The flicker caused by wind turbines is equal to the blade passing frequency. A fast moving three-bladed machine will give rise to the highest levels of flicker frequency. These levels are well below 2Hz. The new generation of wind turbines is known to operate at levels below 1Hz.

Turbines can also cause flashes of reflected light, which can be visible for some distance. It is possible to ameliorate the flashing but it is not possible to eliminate it. Careful choice of blade colour and surface finish can help reduce the effect. Light grey semi-matt finishes are often used for this. Other colours and patterns can also be used to reduce the effect further (see "The influence of Colour on the Aesthetics of Wind Turbine Generators" - ETSU W/14/00533/00/00)".

“At a distance of 10 rotor diameters a person should not perceive a wind turbine to be chopping through sunlight, but rather as an object with the sun behind it”⁵.

Further to this, published by the Department of Energy and Climate Change, the Renewable Energy National Planning Policy Statement EN-3, guidance states:

“The intensity of the shadow of the rotating blades from the turbines at distances from such buildings of 10 rotor diameters and beyond is sufficiently diminished so as to have no significant impact on occupied buildings”⁶

Another recently published report by the Department of Energy and Climate Change, ‘Update of UK Shadow Flicker Evidence Base’ states:

“On health effects and nuisance of the shadow flicker effect, it is considered that the frequency of the flickering caused by the wind turbine rotation is such that it should not cause a significant risk to health. Mitigation measures by which have been employed to operational wind farms such as turbine shut down strategies, have proved very successful, to the extent that shadow flicker cannot be considered to be a major issue in the UK”.

Furthermore, the report also highlights the best practice guidance implemented by the Northern Ireland Department of the Environment (2009) which:

“Recommends that shadow flickering at neighbouring offices and dwellings within 500m should not exceed 30 hours per year or 30 minutes per day”⁷.

The guidance references a survey undertaken by Predac, a European Union Sponsored organisation that promotes best practice in energy use and supply.

⁵ Onshore Wind: Shadow Flicker. Accessed via: <https://webarchive.nationalarchives.gov.uk/ukgwa/20090609022927/http://www.berr.gov.uk/energy/sources/renewables/planning/onshore-wind/shadow-flicker/page18736.html> (Accessed 10th February 2022).

⁶ Department of Energy & Climate Change: National Policy Statement for Renewable Energy (EN-3). Accessed via: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/37048/1940-nps-renewable-energy-en3.pdf (Accessed 10th February 2022).

⁷ Department of Energy and Climate Change, Update of UK Shadow Flicker Evidence Base. Accessed via: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/48052/1416-update-uk-shadow-flicker-evidence-base.pdf (Accessed 11th February 2022)

⁸ Planning Policy Guidance Note, PPS 22, Department of the Environment (2004)

4. Methodology

The seasonal duration of shadow flicker can be calculated from the geometry of the candidate wind turbine and the latitude and topography of the potential site⁸.

Assessment of the potential shadow flicker from the proposed turbine has been undertaken using Resoft Windfarm®, an industry-standard software package widely used for the design and assessment of wind farms.

The software does not consider any screening between the houses and turbine and assumes perfect clear weather conditions when any possible shadow flicker effects will be at their worst. Furthermore, Resoft Windfarm does not consider daylight savings time, so this should be applied to any listing data within this report.

Shadow strength decreases with distance from the source and is generally accepted that shadow flicker becomes insignificant at distances greater than 10 times the turbine rotor diameter. The candidate turbine selected for this study has an 82m hub height and a rotor diameter of 136m. The shadow flicker effects beyond the distance of 1,360m can be considered insignificant. In total, 24 properties were identified within the study area.

Ordnance survey 1:10k scale mapping was used to identify buildings in the search area. A representative sample of these sites has been used in this assessment. Properties 19 and 24 represent caravan sites. The theoretical extent of shadow flicker from the proposed wind turbine was then calculated at all properties within 1,360m.

The locations of the turbine used for the analysis is given in **Table 1** below.

Table 1: Proposed Turbine Locations.

Turbine	Easting	Northing
T2	190085	67724
T3	190317	67396
T4	190482	67727
T5	190670	67470

As standard industry practice dictates, it has been assumed that each house within the study area has a window of 1m x 1m, located at the nearest point of the house to the turbine and

positioned at a height-to-centre of 2m above ground level directly facing the proposed wind turbine. This allows for the consideration of 4 windows per receptor facing turbines T2, T3, T4 and T5 respectively. Ordnance Survey and Google Earth software have been used to identify residential addresses and the location of the properties. This will have the effect of creating a worst-case scenario.

In addition, the Applicant has conducted a desktop study to map clusters of vegetation within the range of potential shadow flicker, which may provide additional screening to limit the potential of shadow flicker occurring. This used the most recently available images in Google Earth and consisted of highlighting any significant vegetation within 1,360m radius of the proposed development, e.g., trees and hedgerows.

A previous application for this development involved 5 turbines. The removal of T1 from the planning application has resulted in a significant reduction in potential shadow flicker, removing 186 properties from the theoretically affected area.

5. Predicted Impacts

The summarised results of the modelling are presented in **Table 2** below.

Table 2: Summary of merged shadow times on each property from all 4 proposed turbines. Properties that theoretically could experience shadow flicker for over 30 minutes a day or 30 hours a year are marked with a (*) symbol.

House	Easting	Northing	Day Per Year	Max Hours/Day	Mean Hours/Day	Total Hours
1	188881	68335	38	0.43	0.32	12.3
2	188897	68323	36	0.44	0.35	12.5
3	188895	68297	36	0.44	0.35	12.5
4	188894	68277	36	0.44	0.35	12.4
5	188901	68258	36	0.45	0.35	12.5
6	188913	68245	36	0.45	0.36	12.8
7	188931	68226	36	0.46	0.37	13.1
8	188889	68217	36	0.45	0.34	12.3
9	188869	68236	34	0.44	0.35	12
10	188840	68222	36	0.43	0.32	11.5
11	188826	68205	34	0.43	0.34	11.4
12	189026	67748	74	0.53	0.38	28.1
13*	189443	66833	41	0.37	0.26	10.5
14	191124	66729	0	0	0	0
15	191939	67550	23	0.44	0.37	8.6
16	191949	67530	24	0.44	0.37	8.9
17*	191231	68337	124	0.85	0.66	82.4
18	190572	68605	25	0.32	0.26	6.5
19	190431	68493	32	0.43	0.34	10.9
20*	190395	68145	115	2.58	1.87	215.4
21*	189831	68478	68	0.56	0.49	33.1
22	190081	68663	0	0	0	0
23	190058	68717	0	0	0	0
24*	189149	67683	85	0.6	0.43	36.8

The model shows that 21 properties within the study area could theoretically receive shadow flicker in excess of the 30 hours per year threshold, while 5 properties may experience shadow flicker for over 30 minutes on any day. The analysis showcases the theoretical maximum shadow flicker and is based on a worst-case scenario, which assumes sunny weather conditions all year round and does not take into account common UK winter weather conditions (cloud cover, wind speed, and direction), or any screening between the houses and turbines. In the UK, bright sunshine is typically known to occur for only 30% of daylight hours per annum.

No other properties would encounter over 30 hours of shadow flicker per annum - outside of this test area, any shadow flicker will be sufficiently diminished so that no significant impacts will occur.

The occurrence of shadow flicker is only possible during the operation of the wind turbine (i.e., when the rotor blades are turning) and when the sky is clear enough to cast shadows. It is therefore important to consider the following facts when making an assessment:

- Climatic conditions dictate that the sun is not always shining. Cloud cover/ mist, and fog at all other times obscure the sun and prevent shadow flicker occurrences. It is considered that weather conditions could reduce actual occurrence of shadow flicker by at least half, compared to calculated levels.
- Objects such as trees or walls may surround windows and obscure the view of the turbine and hence prevent shadow flicker.
- During operation, the turbine rotors automatically orientate themselves to face the prevailing wind direction. This means the turbine rotors will not always be facing the affected window. Very little of the blade movement would be visible during such occurrences and therefore the potential for shadow flicker is reduced.
- The turbine will not operate for 100% of daylight hours. During periods of very low wind speed, very high wind speed or maintenance related shutdowns, the rotors do not turn. During such periods shadow flicker is not possible.

6. Mitigation Measures

Minimising any potential effects of shadow flicker on neighbouring properties has been considered in the positioning of the proposed wind turbines by maximising the distance of the proposed development site from the existing properties. In addition, monitoring and mitigating measures will be put in place to address any potential effects of shadow flicker which may arise.

The desk study analysis has indicated that clusters of vegetation present in the vicinity of the affected properties could provide additional screening to limit the potential of shadow flicker occurring. The vegetation is located between the identified affected houses and the proposed wind turbines as well as, sporadically throughout the site.

For those dwellings where shadow flicker could occur intermittently, a shadow flicker mitigation programme will be installed into the turbines (on commissioning) to ensure that all impacts could be eliminated in the presence of conditions that would cause shadow flicker. This is achieved by installing light meters on the wind turbine and programming the turbine to switch off during potential shadow flicker occurrences that have been pre-determined - this programme can be initiated at any time during the operational life of the proposed wind turbines and will be initiated upon the receipt of valid complaints.

7. Conclusion

The shadow flicker assessment concludes that 21 of the properties considered in the assessment may experience shadow flicker, with 4 properties experiencing beyond the widely recognised 30-hour annual limit.

It is important to note that all shadow flicker values given are the theoretical maximum hours of shadow flicker that will be experienced. The modelling calculations take no account of weather conditions (cloud cover, wind speed, and direction) or screening by trees or hedges, which can be expected to greatly reduce potential shadow flicker effects.

Furthermore, the proposed turbines will have an installed shadow flicker mitigation programme which will allow shutdown in the event of shadow flicker, effectively nullify any shadow flicker impact.

Importantly, the research evidence shows that shadow flicker does not occur at frequencies which may cause human health problems⁸.

If any shadow flicker effects were to be logged during operation of the wind turbines, several mitigation measures could be employed to diminish them - including the planting of trees and shrubs to provide screening or programming the turbines to switch off during potential shadow flicker occurrences - ensuring all shadow flicker impact is eliminated.

⁸ Epilepsy Society: Wind Turbines and photosensitive epilepsy. Accessed via: <https://epilepsysociety.org.uk/about-epilepsy/epileptic-seizures/seizure-triggers/photosensitive-epilepsy/wind-turbines-and#:~:text=Photosensitive%20epilepsy%20affects%20up%20to,effect%20of%20'shadow'%20flicker> (Accessed 10th February 2022).

Appendix A

Detailed listing of shadow flicker events for all houses and all respective turbines causing flicker.

House 1: Easting 188881, Northing 68335

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
1	190085	67724	37	08:14:21	08:15:45	00:01:24	20.67
1	190085	67724	38	08:09:21	08:18:53	00:09:32	79.97
1	190085	67724	39	08:04:05	08:20:46	00:16:41	100
1	190085	67724	40	08:02:43	08:22:08	00:19:26	100
1	190085	67724	41	08:01:40	08:23:10	00:21:30	100
1	190085	67724	42	08:00:52	08:23:59	00:23:07	100
1	190085	67724	43	08:00:15	08:24:34	00:24:19	100
1	190085	67724	44	07:59:48	08:24:58	00:25:10	100
1	190085	67724	45	07:59:30	08:25:12	00:25:42	100
1	190085	67724	46	07:59:20	08:25:15	00:25:55	100
1	190085	67724	47	07:59:20	08:25:09	00:25:49	100
1	190085	67724	48	07:59:28	08:24:52	00:25:24	100
1	190085	67724	49	07:59:46	08:24:25	00:24:38	100
1	190085	67724	50	08:00:15	08:23:45	00:23:29	100
1	190085	67724	51	08:00:58	08:22:51	00:21:53	100
1	190085	67724	52	08:01:56	08:21:40	00:19:43	100
1	190085	67724	53	08:03:18	08:20:04	00:16:45	100
1	190085	67724	54	08:05:22	08:17:46	00:12:24	73.27
1	190085	67724	55	08:10:10	08:12:52	00:02:42	3.37
1	190085	67724	290	07:40:51	07:46:34	00:05:43	14.71
1	190085	67724	291	07:36:50	07:50:02	00:13:12	83.2
1	190085	67724	292	07:34:37	07:51:51	00:17:13	100
1	190085	67724	293	07:33:02	07:53:04	00:20:02	100
1	190085	67724	294	07:31:49	07:53:55	00:22:06	100
1	190085	67724	295	07:30:54	07:54:32	00:23:38	100
1	190085	67724	296	07:30:12	07:54:56	00:24:44	100
1	190085	67724	297	07:29:42	07:55:09	00:25:27	100
1	190085	67724	298	07:29:23	07:55:14	00:25:51	100
1	190085	67724	299	07:29:14	07:55:09	00:25:55	100
1	190085	67724	300	07:29:15	07:54:57	00:25:42	100
1	190085	67724	301	07:29:26	07:54:36	00:25:10	100
1	190085	67724	302	07:29:47	07:54:06	00:24:19	100
1	190085	67724	303	07:30:19	07:53:27	00:23:08	100
1	190085	67724	304	07:31:04	07:52:37	00:21:33	100

1	190085	67724	305	07:32:04	07:51:35	00:19:31	100
1	190085	67724	306	07:33:25	07:50:15	00:16:50	100
1	190085	67724	307	07:38:30	07:48:28	00:09:58	82.98
1	190085	67724	308	07:43:30	07:45:34	00:02:04	24.65

House 2: Easting 188897, Northing 68323

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
1	190085	67724	38	08:10:40	08:17:53	00:07:13	63.29
1	190085	67724	39	08:05:25	08:20:01	00:14:36	100
1	190085	67724	40	08:02:37	08:21:31	00:18:54	100
1	190085	67724	41	08:01:29	08:22:38	00:21:10	100
1	190085	67724	42	08:00:36	08:23:31	00:22:55	100
1	190085	67724	43	07:59:55	08:24:10	00:24:15	100
1	190085	67724	44	07:59:24	08:24:38	00:25:14	100
1	190085	67724	45	07:59:02	08:24:55	00:25:53	100
1	190085	67724	46	07:58:50	08:25:02	00:26:12	100
1	190085	67724	47	07:58:45	08:24:59	00:26:14	100
1	190085	67724	48	07:58:50	08:24:46	00:25:56	100
1	190085	67724	49	07:59:04	08:24:23	00:25:19	100
1	190085	67724	50	07:59:28	08:23:48	00:24:19	100
1	190085	67724	51	08:00:05	08:22:59	00:22:55	100
1	190085	67724	52	08:00:56	08:21:56	00:21:00	100
1	190085	67724	53	08:02:06	08:20:31	00:18:25	100
1	190085	67724	54	08:03:48	08:18:35	00:14:47	100
1	190085	67724	55	08:06:37	08:15:32	00:08:54	35.99
1	190085	67724	290	07:38:12	07:48:23	00:10:11	47.17
1	190085	67724	291	07:35:21	07:50:47	00:15:26	100
1	190085	67724	292	07:33:27	07:52:16	00:18:49	100
1	190085	67724	293	07:32:02	07:53:19	00:21:17	100
1	190085	67724	294	07:30:57	07:54:03	00:23:06	100
1	190085	67724	295	07:30:07	07:54:34	00:24:27	100
1	190085	67724	296	07:29:30	07:54:53	00:25:23	100
1	190085	67724	297	07:29:04	07:55:03	00:25:59	100
1	190085	67724	298	07:28:49	07:55:04	00:26:15	100
1	190085	67724	299	07:28:43	07:54:56	00:26:13	100
1	190085	67724	300	07:28:48	07:54:40	00:25:52	100
1	190085	67724	301	07:29:02	07:54:16	00:25:14	100
1	190085	67724	302	07:29:27	07:53:43	00:24:16	100
1	190085	67724	303	07:30:03	07:52:59	00:22:57	100
1	190085	67724	304	07:30:52	07:52:05	00:21:13	100
1	190085	67724	305	07:31:58	07:50:58	00:18:59	100
1	190085	67724	306	07:34:34	07:49:31	00:14:56	100

1	190085	67724	307	07:39:49	07:47:29	00:07:40	66.42
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House 3: Easting 188895, Northing 68297

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
1	190085	67724	40	08:06:47	08:14:50	00:08:03	70
1	190085	67724	41	08:01:09	08:16:53	00:15:44	100
1	190085	67724	42	07:58:59	08:18:19	00:19:20	100
1	190085	67724	43	07:57:51	08:19:24	00:21:33	100
1	190085	67724	44	07:56:58	08:20:14	00:23:16	100
1	190085	67724	45	07:56:17	08:20:51	00:24:34	100
1	190085	67724	46	07:55:46	08:21:16	00:25:29	100
1	190085	67724	47	07:55:25	08:21:30	00:26:05	100
1	190085	67724	48	07:55:13	08:21:34	00:26:21	100
1	190085	67724	49	07:55:09	08:21:27	00:26:18	100
1	190085	67724	50	07:55:15	08:21:11	00:25:56	100
1	190085	67724	51	07:55:30	08:20:43	00:25:13	100
1	190085	67724	52	07:55:56	08:20:04	00:24:07	100
1	190085	67724	53	07:56:35	08:19:10	00:22:35	100
1	190085	67724	54	07:57:30	08:18:00	00:20:30	100
1	190085	67724	55	07:58:47	08:16:27	00:17:40	100
1	190085	67724	56	08:00:41	08:14:17	00:13:36	87.64
1	190085	67724	57	08:04:18	08:10:27	00:06:09	16.8
1	190085	67724	288	07:36:13	07:44:24	00:08:11	29.91
1	190085	67724	289	07:32:50	07:47:16	00:14:26	99.19
1	190085	67724	290	07:30:44	07:48:55	00:18:11	100
1	190085	67724	291	07:29:12	07:50:03	00:20:51	100
1	190085	67724	292	07:28:01	07:50:50	00:22:49	100
1	190085	67724	293	07:27:06	07:51:23	00:24:17	100
1	190085	67724	294	07:26:25	07:51:44	00:25:19	100
1	190085	67724	295	07:25:55	07:51:55	00:25:59	100
1	190085	67724	296	07:25:36	07:51:56	00:26:20	100
1	190085	67724	297	07:25:27	07:51:49	00:26:21	100
1	190085	67724	298	07:25:29	07:51:33	00:26:04	100
1	190085	67724	299	07:25:40	07:51:09	00:25:28	100
1	190085	67724	300	07:26:02	07:50:35	00:24:33	100
1	190085	67724	301	07:26:36	07:49:52	00:23:16	100
1	190085	67724	302	07:27:23	07:48:57	00:21:34	100
1	190085	67724	303	07:28:26	07:47:49	00:19:22	100
1	190085	67724	304	07:30:25	07:46:21	00:15:56	100
1	190085	67724	305	07:35:58	07:44:20	00:08:22	72.01

House 4: Easting 188894, Northing 68277

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
1	190085	67724	41	08:06:39	08:10:59	00:04:20	43.24
1	190085	67724	42	08:00:53	08:13:31	00:12:38	100
1	190085	67724	43	07:56:55	08:15:11	00:18:16	100
1	190085	67724	44	07:55:36	08:16:23	00:20:47	100
1	190085	67724	45	07:54:36	08:17:19	00:22:43	100
1	190085	67724	46	07:53:49	08:17:59	00:24:11	100
1	190085	67724	47	07:53:13	08:18:29	00:25:16	100
1	190085	67724	48	07:52:47	08:18:46	00:25:59	100
1	190085	67724	49	07:52:30	08:18:53	00:26:23	100
1	190085	67724	50	07:52:22	08:18:49	00:26:27	100
1	190085	67724	51	07:52:24	08:18:36	00:26:12	100
1	190085	67724	52	07:52:35	08:18:11	00:25:36	100
1	190085	67724	53	07:52:56	08:17:35	00:24:38	100
1	190085	67724	54	07:53:30	08:16:45	00:23:15	100
1	190085	67724	55	07:54:19	08:15:40	00:21:21	100
1	190085	67724	56	07:55:27	08:14:14	00:18:47	100
1	190085	67724	57	07:57:06	08:12:17	00:15:11	100
1	190085	67724	58	07:59:50	08:09:16	00:09:26	40.19
1	190085	67724	287	07:32:27	07:43:21	00:10:54	53.99
1	190085	67724	288	07:29:40	07:45:37	00:15:57	100
1	190085	67724	289	07:27:47	07:47:03	00:19:17	100
1	190085	67724	290	07:26:21	07:48:03	00:21:41	100
1	190085	67724	291	07:25:15	07:48:44	00:23:29	100
1	190085	67724	292	07:24:24	07:49:12	00:24:48	100
1	190085	67724	293	07:23:46	07:49:28	00:25:42	100
1	190085	67724	294	07:23:20	07:49:35	00:26:15	100
1	190085	67724	295	07:23:03	07:49:32	00:26:28	100
1	190085	67724	296	07:22:58	07:49:20	00:26:23	100
1	190085	67724	297	07:23:02	07:49:00	00:25:58	100
1	190085	67724	298	07:23:17	07:48:31	00:25:14	100
1	190085	67724	299	07:23:43	07:47:52	00:24:10	100
1	190085	67724	300	07:24:21	07:47:03	00:22:42	100
1	190085	67724	301	07:25:14	07:46:01	00:20:47	100
1	190085	67724	302	07:26:26	07:44:43	00:18:18	100
1	190085	67724	303	07:30:14	07:43:01	00:12:47	100
1	190085	67724	304	07:35:53	07:40:30	00:04:37	44.93

House 5: Easting 188901, Northing 68258

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
1	190085	67724	42	08:05:23	08:08:36	00:03:13	35.97
1	190085	67724	43	07:59:26	08:11:20	00:11:54	99.05
1	190085	67724	44	07:55:01	08:13:05	00:18:04	100
1	190085	67724	45	07:53:38	08:14:20	00:20:42	100
1	190085	67724	46	07:52:34	08:15:17	00:22:43	100
1	190085	67724	47	07:51:45	08:15:59	00:24:15	100
1	190085	67724	48	07:51:06	08:16:29	00:25:23	100
1	190085	67724	49	07:50:38	08:16:47	00:26:09	100
1	190085	67724	50	07:50:19	08:16:54	00:26:35	100
1	190085	67724	51	07:50:10	08:16:52	00:26:42	100
1	190085	67724	52	07:50:10	08:16:38	00:26:29	100
1	190085	67724	53	07:50:19	08:16:14	00:25:55	100
1	190085	67724	54	07:50:39	08:15:38	00:24:59	100
1	190085	67724	55	07:51:11	08:14:50	00:23:39	100
1	190085	67724	56	07:51:57	08:13:46	00:21:49	100
1	190085	67724	57	07:53:02	08:12:22	00:19:19	100
1	190085	67724	58	07:54:36	08:10:29	00:15:53	100
1	190085	67724	59	07:57:06	08:07:39	00:10:33	50.31
1	190085	67724	286	07:30:10	07:42:07	00:11:57	64.95
1	190085	67724	287	07:27:34	07:44:13	00:16:39	100
1	190085	67724	288	07:25:44	07:45:34	00:19:50	100
1	190085	67724	289	07:24:21	07:46:30	00:22:10	100
1	190085	67724	290	07:23:16	07:47:09	00:23:54	100
1	190085	67724	291	07:22:26	07:47:35	00:25:09	100
1	190085	67724	292	07:21:48	07:47:49	00:26:01	100
1	190085	67724	293	07:21:22	07:47:54	00:26:32	100
1	190085	67724	294	07:21:07	07:47:49	00:26:43	100
1	190085	67724	295	07:21:02	07:47:36	00:26:34	100
1	190085	67724	296	07:21:07	07:47:14	00:26:07	100
1	190085	67724	297	07:21:22	07:46:43	00:25:20	100
1	190085	67724	298	07:21:49	07:46:01	00:24:12	100
1	190085	67724	299	07:22:29	07:45:09	00:22:40	100
1	190085	67724	300	07:23:23	07:44:04	00:20:41	100
1	190085	67724	301	07:24:38	07:42:42	00:18:04	100
1	190085	67724	302	07:28:54	07:40:53	00:11:59	99.12
1	190085	67724	303	07:34:42	07:38:09	00:03:27	37.16

House 6: Easting 188461, Northing 68081

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
1	190085	67724	43	08:01:58	08:09:10	00:07:13	64.66
1	190085	67724	44	07:55:44	08:11:21	00:15:37	100
1	190085	67724	45	07:53:21	08:12:51	00:19:31	100
1	190085	67724	46	07:52:06	08:13:57	00:21:51	100
1	190085	67724	47	07:51:08	08:14:48	00:23:40	100
1	190085	67724	48	07:50:23	08:15:25	00:25:02	100
1	190085	67724	49	07:49:48	08:15:49	00:26:01	100
1	190085	67724	50	07:49:24	08:16:02	00:26:39	100
1	190085	67724	51	07:49:08	08:16:05	00:26:57	100
1	190085	67724	52	07:49:02	08:15:58	00:26:56	100
1	190085	67724	53	07:49:05	08:15:40	00:26:35	100
1	190085	67724	54	07:49:18	08:15:11	00:25:54	100
1	190085	67724	55	07:49:42	08:14:31	00:24:49	100
1	190085	67724	56	07:50:18	08:13:36	00:23:18	100
1	190085	67724	57	07:51:10	08:12:25	00:21:15	100
1	190085	67724	58	07:52:24	08:10:52	00:18:28	100
1	190085	67724	59	07:54:11	08:08:44	00:14:32	98.9
1	190085	67724	60	07:57:23	08:05:14	00:07:51	26.98
1	190085	67724	285	07:30:34	07:40:26	00:09:51	42.82
1	190085	67724	286	07:27:29	07:42:59	00:15:30	100
1	190085	67724	287	07:25:26	07:44:31	00:19:05	100
1	190085	67724	288	07:23:55	07:45:35	00:21:40	100
1	190085	67724	289	07:22:43	07:46:19	00:23:36	100
1	190085	67724	290	07:21:48	07:46:49	00:25:01	100
1	190085	67724	291	07:21:06	07:47:07	00:26:01	100
1	190085	67724	292	07:20:35	07:47:15	00:26:40	100
1	190085	67724	293	07:20:15	07:47:13	00:26:58	100
1	190085	67724	294	07:20:05	07:47:03	00:26:57	100
1	190085	67724	295	07:20:06	07:46:43	00:26:37	100
1	190085	67724	296	07:20:17	07:46:15	00:25:58	100
1	190085	67724	297	07:20:39	07:45:38	00:24:59	100
1	190085	67724	298	07:21:13	07:44:50	00:23:37	100
1	190085	67724	299	07:22:01	07:43:49	00:21:49	100
1	190085	67724	300	07:23:06	07:42:35	00:19:29	100
1	190085	67724	301	07:25:22	07:40:58	00:15:37	100
1	190085	67724	302	07:31:25	07:38:44	00:07:19	65.01

House 7: Easting 188476, Northing 68078

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
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1	190085	67724	44	07:59:38	08:08:24	00:08:46	77.38
1	190085	67724	45	07:53:10	08:10:26	00:17:15	100
1	190085	67724	46	07:51:36	08:11:51	00:20:16	100
1	190085	67724	47	07:50:23	08:12:55	00:22:32	100
1	190085	67724	48	07:49:26	08:13:43	00:24:17	100
1	190085	67724	49	07:48:41	08:14:17	00:25:36	100
1	190085	67724	50	07:48:07	08:14:40	00:26:32	100
1	190085	67724	51	07:47:43	08:14:51	00:27:08	100
1	190085	67724	52	07:47:28	08:14:53	00:27:25	100
1	190085	67724	53	07:47:22	08:14:44	00:27:22	100
1	190085	67724	54	07:47:26	08:14:24	00:26:59	100
1	190085	67724	55	07:47:39	08:13:54	00:26:15	100
1	190085	67724	56	07:48:03	08:13:12	00:25:09	100
1	190085	67724	57	07:48:40	08:12:16	00:23:36	100
1	190085	67724	58	07:49:33	08:11:03	00:21:31	100
1	190085	67724	59	07:50:47	08:09:28	00:18:42	100
1	190085	67724	60	07:52:35	08:07:18	00:14:43	99.75
1	190085	67724	61	07:55:47	08:03:47	00:07:59	27.51
1	190085	67724	284	07:29:23	07:39:29	00:10:07	44.36
1	190085	67724	285	07:26:16	07:42:01	00:15:45	100
1	190085	67724	286	07:24:13	07:43:34	00:19:21	100
1	190085	67724	287	07:22:40	07:44:38	00:21:58	100
1	190085	67724	288	07:21:27	07:45:22	00:23:55	100
1	190085	67724	289	07:20:30	07:45:52	00:25:22	100
1	190085	67724	290	07:19:47	07:46:10	00:26:24	100
1	190085	67724	291	07:19:15	07:46:18	00:27:04	100
1	190085	67724	292	07:18:53	07:46:17	00:27:24	100
1	190085	67724	293	07:18:42	07:46:07	00:27:25	100
1	190085	67724	294	07:18:41	07:45:48	00:27:07	100
1	190085	67724	295	07:18:50	07:45:20	00:26:30	100
1	190085	67724	296	07:19:10	07:44:43	00:25:32	100
1	190085	67724	297	07:19:42	07:43:55	00:24:13	100
1	190085	67724	298	07:20:28	07:42:56	00:22:28	100
1	190085	67724	299	07:21:30	07:41:42	00:20:13	100
1	190085	67724	300	07:22:58	07:40:09	00:17:11	100
1	190085	67724	301	07:29:14	07:38:02	00:08:47	77.01

House 8: Easting 188889, Northing 68217

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover

1	190085	67724	45	08:00:35	08:01:12	00:00:38	18.83
1	190085	67724	46	07:54:01	08:04:35	00:10:34	83.93
1	190085	67724	47	07:49:07	08:06:30	00:17:23	100
1	190085	67724	48	07:47:35	08:07:51	00:20:15	100
1	190085	67724	49	07:46:25	08:08:50	00:22:25	100
1	190085	67724	50	07:45:30	08:09:33	00:24:04	100
1	190085	67724	51	07:44:47	08:10:03	00:25:16	100
1	190085	67724	52	07:44:15	08:10:21	00:26:06	100
1	190085	67724	53	07:43:54	08:10:28	00:26:34	100
1	190085	67724	54	07:43:42	08:10:24	00:26:42	100
1	190085	67724	55	07:43:39	08:10:09	00:26:30	100
1	190085	67724	56	07:43:47	08:09:43	00:25:56	100
1	190085	67724	57	07:44:05	08:09:05	00:25:00	100
1	190085	67724	58	07:44:36	08:08:14	00:23:39	100
1	190085	67724	59	07:45:21	08:07:07	00:21:46	100
1	190085	67724	60	07:46:27	08:05:40	00:19:13	100
1	190085	67724	61	07:48:02	08:03:42	00:15:41	100
1	190085	67724	62	07:50:38	08:00:44	00:10:07	45.99
1	190085	67724	283	07:24:54	07:36:43	00:11:49	63.47
1	190085	67724	284	07:22:13	07:38:50	00:16:37	100
1	190085	67724	285	07:20:20	07:40:11	00:19:51	100
1	190085	67724	286	07:18:54	07:41:06	00:22:12	100
1	190085	67724	287	07:17:47	07:41:44	00:23:57	100
1	190085	67724	288	07:16:56	07:42:08	00:25:12	100
1	190085	67724	289	07:16:17	07:42:20	00:26:04	100
1	190085	67724	290	07:15:49	07:42:23	00:26:34	100
1	190085	67724	291	07:15:32	07:42:15	00:26:43	100
1	190085	67724	292	07:15:26	07:41:59	00:26:33	100
1	190085	67724	293	07:15:31	07:41:33	00:26:03	100
1	190085	67724	294	07:15:46	07:40:58	00:25:12	100
1	190085	67724	295	07:16:13	07:40:12	00:23:58	100
1	190085	67724	296	07:16:55	07:39:14	00:22:19	100
1	190085	67724	297	07:17:52	07:38:02	00:20:10	100
1	190085	67724	298	07:19:12	07:36:30	00:17:18	100
1	190085	67724	299	07:24:01	07:34:26	00:10:25	82.29
1	190085	67724	300	07:30:19	07:30:55	00:00:35	18.4

House 9: Easting 188869, Northing 68236

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
1	190085	67724	45	07:56:48	08:05:09	00:08:21	67.13

1	190085	67724	46	07:50:57	08:07:16	00:16:19	100
1	190085	67724	47	07:49:20	08:08:42	00:19:22	100
1	190085	67724	48	07:48:07	08:09:45	00:21:39	100
1	190085	67724	49	07:47:10	08:10:32	00:23:23	100
1	190085	67724	50	07:46:26	08:11:05	00:24:39	100
1	190085	67724	51	07:45:53	08:11:25	00:25:32	100
1	190085	67724	52	07:45:30	08:11:34	00:26:04	100
1	190085	67724	53	07:45:17	08:11:32	00:26:15	100
1	190085	67724	54	07:45:14	08:11:19	00:26:06	100
1	190085	67724	55	07:45:20	08:10:56	00:25:35	100
1	190085	67724	56	07:45:38	08:10:20	00:24:42	100
1	190085	67724	57	07:46:08	08:09:31	00:23:24	100
1	190085	67724	58	07:46:52	08:08:26	00:21:35	100
1	190085	67724	59	07:47:56	08:07:02	00:19:06	100
1	190085	67724	60	07:49:28	08:05:07	00:15:39	100
1	190085	67724	61	07:51:59	08:02:15	00:10:15	48.28
1	190085	67724	284	07:25:52	07:37:41	00:11:49	64.72
1	190085	67724	285	07:23:14	07:39:46	00:16:31	100
1	190085	67724	286	07:21:24	07:41:05	00:19:40	100
1	190085	67724	287	07:20:01	07:41:59	00:21:58	100
1	190085	67724	288	07:18:56	07:42:36	00:23:40	100
1	190085	67724	289	07:18:06	07:42:59	00:24:53	100
1	190085	67724	290	07:17:29	07:43:11	00:25:42	100
1	190085	67724	291	07:17:04	07:43:12	00:26:09	100
1	190085	67724	292	07:16:49	07:43:04	00:26:16	100
1	190085	67724	293	07:16:45	07:42:47	00:26:03	100
1	190085	67724	294	07:16:51	07:42:21	00:25:29	100
1	190085	67724	295	07:17:09	07:41:44	00:24:35	100
1	190085	67724	296	07:17:39	07:40:57	00:23:18	100
1	190085	67724	297	07:18:23	07:39:57	00:21:34	100
1	190085	67724	298	07:19:25	07:38:43	00:19:18	100
1	190085	67724	299	07:20:51	07:37:07	00:16:16	100
1	190085	67724	300	07:26:35	07:34:52	00:08:18	66.28

House 10: Easting 188840, Northing 68222

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
1	190085	67724	46	07:57:55	07:58:36	00:00:41	16.02
1	190085	67724	47	07:51:07	08:02:04	00:10:57	81.75

1	190085	67724	48	07:46:59	08:03:58	00:16:58	100
1	190085	67724	49	07:45:28	08:05:16	00:19:48	100
1	190085	67724	50	07:44:19	08:06:14	00:21:55	100
1	190085	67724	51	07:43:25	08:06:55	00:23:30	100
1	190085	67724	52	07:42:44	08:07:22	00:24:38	100
1	190085	67724	53	07:42:14	08:07:37	00:25:23	100
1	190085	67724	54	07:41:54	08:07:40	00:25:46	100
1	190085	67724	55	07:41:45	08:07:32	00:25:48	100
1	190085	67724	56	07:41:45	08:07:13	00:25:28	100
1	190085	67724	57	07:41:56	08:06:43	00:24:46	100
1	190085	67724	58	07:42:20	08:05:59	00:23:40	100
1	190085	67724	59	07:42:56	08:05:01	00:22:04	100
1	190085	67724	60	07:43:51	08:03:44	00:19:53	100
1	190085	67724	61	07:45:10	08:02:02	00:16:52	100
1	190085	67724	62	07:47:12	07:59:37	00:12:25	73.78
1	190085	67724	63	07:52:31	07:54:03	00:01:32	1.1
1	190085	67724	282	07:25:32	07:32:09	00:06:37	19.73
1	190085	67724	283	07:21:41	07:35:23	00:13:42	90.84
1	190085	67724	284	07:19:25	07:37:05	00:17:40	100
1	190085	67724	285	07:17:47	07:38:12	00:20:25	100
1	190085	67724	286	07:16:31	07:38:58	00:22:26	100
1	190085	67724	287	07:15:33	07:39:27	00:23:55	100
1	190085	67724	288	07:14:48	07:39:44	00:24:56	100
1	190085	67724	289	07:14:16	07:39:49	00:25:33	100
1	190085	67724	290	07:13:55	07:39:45	00:25:49	100
1	190085	67724	291	07:13:46	07:39:31	00:25:45	100
1	190085	67724	292	07:13:47	07:39:07	00:25:20	100
1	190085	67724	293	07:13:59	07:38:33	00:24:34	100
1	190085	67724	294	07:14:24	07:37:48	00:23:24	100
1	190085	67724	295	07:15:03	07:36:51	00:21:48	100
1	190085	67724	296	07:15:59	07:35:40	00:19:41	100
1	190085	67724	297	07:17:17	07:34:08	00:16:51	100
1	190085	67724	298	07:21:20	07:32:03	00:10:42	79.5
1	190085	67724	299	07:27:52	07:28:23	00:00:31	15.01

House 11: Easting 188826, Northing 68205

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
1	190085	67724	48	07:51:12	07:57:36	00:06:25	48.39
1	190085	67724	49	07:44:53	08:00:01	00:15:08	100
1	190085	67724	50	07:43:06	08:01:34	00:18:28	100

1	190085	67724	51	07:41:46	08:02:40	00:20:54	100
1	190085	67724	52	07:40:44	08:03:28	00:22:44	100
1	190085	67724	53	07:39:57	08:04:00	00:24:04	100
1	190085	67724	54	07:39:21	08:04:19	00:24:58	100
1	190085	67724	55	07:38:57	08:04:27	00:25:30	100
1	190085	67724	56	07:38:42	08:04:22	00:25:40	100
1	190085	67724	57	07:38:38	08:04:07	00:25:29	100
1	190085	67724	58	07:38:45	08:03:40	00:24:55	100
1	190085	67724	59	07:39:03	08:02:59	00:23:57	100
1	190085	67724	60	07:39:35	08:02:06	00:22:31	100
1	190085	67724	61	07:40:23	08:00:55	00:20:32	100
1	190085	67724	62	07:41:32	07:59:21	00:17:48	100
1	190085	67724	63	07:43:18	07:57:11	00:13:53	94.82
1	190085	67724	64	07:46:36	07:53:30	00:06:54	21.76
1	190085	67724	281	07:21:26	07:30:52	00:09:26	41.23
1	190085	67724	282	07:18:19	07:33:22	00:15:03	100
1	190085	67724	283	07:16:17	07:34:50	00:18:33	100
1	190085	67724	284	07:14:46	07:35:49	00:21:03	100
1	190085	67724	285	07:13:36	07:36:28	00:22:52	100
1	190085	67724	286	07:12:42	07:36:52	00:24:11	100
1	190085	67724	287	07:12:01	07:37:04	00:25:03	100
1	190085	67724	288	07:11:32	07:37:05	00:25:33	100
1	190085	67724	289	07:11:15	07:36:56	00:25:41	100
1	190085	67724	290	07:11:09	07:36:37	00:25:28	100
1	190085	67724	291	07:11:14	07:36:08	00:24:54	100
1	190085	67724	292	07:11:31	07:35:29	00:23:57	100
1	190085	67724	293	07:12:01	07:34:37	00:22:36	100
1	190085	67724	294	07:12:47	07:33:32	00:20:45	100
1	190085	67724	295	07:13:52	07:32:10	00:18:18	100
1	190085	67724	296	07:15:25	07:30:23	00:14:57	100
1	190085	67724	297	07:21:40	07:27:43	00:06:03	45.79

House 12: Easting 189026, Northing 67748

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
1	190085	67724	80	06:44:26	06:51:08	00:06:42	17.13
1	190085	67724	81	06:39:56	06:55:01	00:15:05	91.44
1	190085	67724	82	06:37:18	06:57:04	00:19:46	100
1	190085	67724	83	06:35:17	06:58:26	00:23:08	100

1	190085	67724	84	06:33:41	06:59:25	00:25:43	100
1	190085	67724	85	06:32:23	07:00:07	00:27:43	100
1	190085	67724	86	06:31:20	07:00:34	00:29:15	100
1	190085	67724	87	06:30:28	07:00:50	00:30:22	100
1	190085	67724	88	06:29:47	07:00:55	00:31:08	100
1	190085	67724	89	06:29:16	07:00:50	00:31:35	100
1	190085	67724	90	06:28:54	07:00:36	00:31:42	100
1	190085	67724	91	06:28:42	07:00:13	00:31:31	100
1	190085	67724	92	06:28:39	06:59:41	00:31:02	100
1	190085	67724	93	06:28:46	06:58:59	00:30:13	100
1	190085	67724	94	06:29:03	06:58:07	00:29:03	100
1	190085	67724	95	06:29:33	06:57:03	00:27:30	100
1	190085	67724	96	06:30:16	06:55:46	00:25:30	100
1	190085	67724	97	06:31:16	06:54:12	00:22:55	100
1	190085	67724	98	06:32:41	06:52:15	00:19:34	100
1	190085	67724	99	06:34:46	06:49:38	00:14:53	83.41
1	190085	67724	100	06:38:48	06:45:10	00:06:22	14.13
1	190085	67724	245	06:33:45	06:47:00	00:13:15	64.63
1	190085	67724	246	06:30:49	06:49:15	00:18:26	100
1	190085	67724	247	06:28:40	06:50:43	00:22:02	100
1	190085	67724	248	06:26:58	06:51:44	00:24:47	100
1	190085	67724	249	06:25:33	06:52:28	00:26:55	100
1	190085	67724	250	06:24:22	06:52:57	00:28:35	100
1	190085	67724	251	06:23:23	06:53:14	00:29:51	100
1	190085	67724	252	06:22:34	06:53:21	00:30:47	100
1	190085	67724	253	06:21:55	06:53:18	00:31:23	100
1	190085	67724	254	06:21:24	06:53:05	00:31:41	100
1	190085	67724	255	06:21:03	06:52:44	00:31:41	100
1	190085	67724	256	06:20:50	06:52:13	00:31:23	100
1	190085	67724	257	06:20:47	06:51:34	00:30:47	100
1	190085	67724	258	06:20:54	06:50:44	00:29:50	100
1	190085	67724	259	06:21:11	06:49:43	00:28:32	100
1	190085	67724	260	06:21:41	06:48:30	00:26:48	100
1	190085	67724	261	06:22:27	06:47:01	00:24:34	100
1	190085	67724	262	06:23:32	06:45:14	00:21:42	100
1	190085	67724	263	06:25:06	06:42:59	00:17:53	100
1	190085	67724	264	06:27:33	06:39:49	00:12:16	58.71
2	190317	67396	59	07:29:57	07:39:59	00:10:02	48.33
2	190317	67396	60	07:27:07	07:42:25	00:15:19	100
2	190317	67396	61	07:25:11	07:43:55	00:18:44	100
2	190317	67396	62	07:23:44	07:44:56	00:21:12	100
2	190317	67396	63	07:22:37	07:45:37	00:22:59	100
2	190317	67396	64	07:21:45	07:46:02	00:24:17	100
2	190317	67396	65	07:21:07	07:46:13	00:25:06	100
2	190317	67396	66	07:20:40	07:46:11	00:25:31	100

2	190317	67396	67	07:20:24	07:45:58	00:25:33	100
2	190317	67396	68	07:20:20	07:45:32	00:25:12	100
2	190317	67396	69	07:20:28	07:44:53	00:24:26	100
2	190317	67396	70	07:20:49	07:44:01	00:23:12	100
2	190317	67396	71	07:21:26	07:42:53	00:21:27	100
2	190317	67396	72	07:22:22	07:41:24	00:19:02	100
2	190317	67396	73	07:23:48	07:39:25	00:15:36	100
2	190317	67396	74	07:26:14	07:36:27	00:10:13	49.06
2	190317	67396	270	07:11:50	07:15:16	00:03:26	5.35
2	190317	67396	271	07:06:46	07:19:30	00:12:45	78.18
2	190317	67396	272	07:04:15	07:21:20	00:17:05	100
2	190317	67396	273	07:02:26	07:22:28	00:20:01	100
2	190317	67396	274	07:01:03	07:23:12	00:22:09	100
2	190317	67396	275	06:59:57	07:23:38	00:23:41	100
2	190317	67396	276	06:59:07	07:23:51	00:24:44	100
2	190317	67396	277	06:58:29	07:23:51	00:25:22	100
2	190317	67396	278	06:58:03	07:23:39	00:25:36	100
2	190317	67396	279	06:57:49	07:23:17	00:25:28	100
2	190317	67396	280	06:57:47	07:22:44	00:24:57	100
2	190317	67396	281	06:57:58	07:21:59	00:24:01	100
2	190317	67396	282	06:58:22	07:21:01	00:22:39	100
2	190317	67396	283	06:59:03	07:19:48	00:20:45	100
2	190317	67396	284	07:00:05	07:18:15	00:18:10	100
2	190317	67396	285	07:01:39	07:16:13	00:14:34	100
2	190317	67396	286	07:04:18	07:13:05	00:08:47	36.45

House 13: Easting 189443, Northing 66833

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
2	190317	67396	152	04:44:47	04:45:16	00:00:29	39.44
2	190317	67396	153	04:43:28	04:46:48	00:03:20	63.8
2	190317	67396	154	04:42:29	04:48:15	00:05:46	86.8
2	190317	67396	155	04:41:44	04:49:38	00:07:54	100
2	190317	67396	156	04:41:08	04:50:56	00:09:48	100
2	190317	67396	157	04:40:39	04:52:09	00:11:30	100
2	190317	67396	158	04:40:15	04:53:18	00:13:03	100
2	190317	67396	159	04:39:57	04:54:23	00:14:26	100
2	190317	67396	160	04:39:42	04:55:23	00:15:41	100
2	190317	67396	161	04:39:31	04:56:20	00:16:49	100
2	190317	67396	162	04:39:23	04:57:13	00:17:49	100
2	190317	67396	163	04:39:18	04:58:01	00:18:43	100
2	190317	67396	164	04:39:16	04:58:46	00:19:30	100
2	190317	67396	165	04:39:16	04:59:27	00:20:11	100

2	190317	67396	166	04:39:18	05:00:04	00:20:45	100
2	190317	67396	167	04:39:23	05:00:37	00:21:15	100
2	190317	67396	168	04:39:29	05:01:07	00:21:38	100
2	190317	67396	169	04:39:36	05:01:33	00:21:56	100
2	190317	67396	170	04:39:46	05:01:55	00:22:09	100
2	190317	67396	171	04:39:57	05:02:13	00:22:16	100
2	190317	67396	172	04:40:09	05:02:28	00:22:19	100
2	190317	67396	173	04:40:23	05:02:39	00:22:16	100
2	190317	67396	174	04:40:39	05:02:46	00:22:07	100
2	190317	67396	175	04:40:56	05:02:49	00:21:53	100
2	190317	67396	176	04:41:14	05:02:49	00:21:34	100
2	190317	67396	177	04:41:34	05:02:44	00:21:10	100
2	190317	67396	178	04:41:56	05:02:36	00:20:40	100
2	190317	67396	179	04:42:19	05:02:23	00:20:04	100
2	190317	67396	180	04:42:44	05:02:06	00:19:22	100
2	190317	67396	181	04:43:11	05:01:45	00:18:34	100
2	190317	67396	182	04:43:40	05:01:20	00:17:39	100
2	190317	67396	183	04:44:12	05:00:50	00:16:38	100
2	190317	67396	184	04:44:46	05:00:16	00:15:29	100
2	190317	67396	185	04:45:24	04:59:37	00:14:13	100
2	190317	67396	186	04:46:05	04:58:53	00:12:48	100
2	190317	67396	187	04:46:51	04:58:05	00:11:14	100
2	190317	67396	188	04:47:41	04:57:11	00:09:30	100
2	190317	67396	189	04:48:37	04:56:12	00:07:35	100
2	190317	67396	190	04:49:43	04:55:08	00:05:25	83.37
2	190317	67396	191	04:51:02	04:53:59	00:02:57	60.36
2	190317	67396	192	04:52:42	04:52:44	00:00:01	36.04

House 14: Easting 191124, Northing 66729

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
There are no shadows cast on the windows of this house from any of the turbines.							

House 15: Easting 191939, Northing 67550

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
4	190670	67470	79	17:52:07	18:17:53	00:25:46	100
4	190670	67470	80	17:51:30	18:17:55	00:26:25	100
4	190670	67470	81	17:51:04	18:17:45	00:26:41	100

4	190670	67470	82	17:50:50	18:17:24	00:26:34	100
4	190670	67470	83	17:50:46	18:16:51	00:26:06	100
4	190670	67470	84	17:50:53	18:16:06	00:25:14	100
4	190670	67470	85	17:51:13	18:15:08	00:23:55	100
4	190670	67470	86	17:51:49	18:13:55	00:22:06	100
4	190670	67470	87	17:52:44	18:12:22	00:19:38	100
4	190670	67470	88	17:54:08	18:10:23	00:16:15	100
4	190670	67470	89	17:56:23	18:07:31	00:11:08	57.23
4	190670	67470	254	17:50:33	17:57:45	00:07:11	23.04
4	190670	67470	255	17:46:45	18:00:50	00:14:06	94.15
4	190670	67470	256	17:44:23	18:02:29	00:18:06	100
4	190670	67470	257	17:42:37	18:03:32	00:20:55	100
4	190670	67470	258	17:41:13	18:04:15	00:23:02	100
4	190670	67470	259	17:40:06	18:04:41	00:24:35	100
4	190670	67470	260	17:39:12	18:04:52	00:25:40	100
4	190670	67470	261	17:38:31	18:04:52	00:26:21	100
4	190670	67470	262	17:38:00	18:04:40	00:26:40	100
4	190670	67470	263	17:37:39	18:04:17	00:26:38	100
4	190670	67470	264	17:37:29	18:03:44	00:26:14	100
4	190670	67470	265	17:37:31	18:02:59	00:25:27	100

House 16: Easting 191949, Northing 67530

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
4	190670	67470	80	17:55:01	18:20:15	00:25:13	100
4	190670	67470	81	17:54:19	18:20:22	00:26:02	100
4	190670	67470	82	17:53:49	18:20:16	00:26:27	100
4	190670	67470	83	17:53:30	18:19:59	00:26:29	100
4	190670	67470	84	17:53:22	18:19:32	00:26:10	100
4	190670	67470	85	17:53:24	18:18:52	00:25:28	100
4	190670	67470	86	17:53:39	18:17:59	00:24:21	100
4	190670	67470	87	17:54:08	18:16:53	00:22:44	100
4	190670	67470	88	17:54:55	18:15:28	00:20:33	100
4	190670	67470	89	17:56:06	18:13:41	00:17:35	100
4	190670	67470	90	17:57:56	18:11:15	00:13:19	84.36
4	190670	67470	91	18:01:42	18:06:53	00:05:10	11.97
4	190670	67470	253	17:52:08	18:02:44	00:10:36	51.49
4	190670	67470	254	17:49:10	18:04:59	00:15:50	100
4	190670	67470	255	17:47:06	18:06:21	00:19:15	100
4	190670	67470	256	17:45:30	18:07:15	00:21:45	100
4	190670	67470	257	17:44:14	18:07:50	00:23:36	100
4	190670	67470	258	17:43:13	18:08:09	00:24:56	100
4	190670	67470	259	17:42:24	18:08:15	00:25:51	100

4	190670	67470	260	17:41:48	18:08:10	00:26:22	100
4	190670	67470	261	17:41:21	18:07:53	00:26:32	100
4	190670	67470	262	17:41:05	18:07:26	00:26:21	100
4	190670	67470	263	17:41:00	18:06:47	00:25:47	100
4	190670	67470	264	17:41:07	18:05:56	00:24:49	100

House 17: Easting 191231, Northing 68337

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
1	190085	67724	32	16:50:02	16:54:38	00:04:36	9
1	190085	67724	33	16:46:27	16:58:28	00:12:01	64.28
1	190085	67724	34	16:44:34	17:00:36	00:16:02	100
1	190085	67724	35	16:43:12	17:02:11	00:18:59	100
1	190085	67724	36	16:42:10	17:03:25	00:21:15	100
1	190085	67724	37	16:41:22	17:04:23	00:23:01	100
1	190085	67724	38	16:40:44	17:05:09	00:24:25	100
1	190085	67724	39	16:40:15	17:05:43	00:25:28	100
1	190085	67724	40	16:39:54	17:06:08	00:26:14	100
1	190085	67724	41	16:39:41	17:06:23	00:26:42	100
1	190085	67724	42	16:39:36	17:06:29	00:26:53	100
1	190085	67724	43	16:39:38	17:06:26	00:26:48	100
1	190085	67724	44	16:39:47	17:06:13	00:26:26	100
1	190085	67724	45	16:40:04	17:05:50	00:25:46	100
1	190085	67724	46	16:40:30	17:05:16	00:24:46	100
1	190085	67724	47	16:41:07	17:04:30	00:23:23	100
1	190085	67724	48	16:41:57	17:03:28	00:21:31	100
1	190085	67724	49	16:43:05	17:02:09	00:19:05	100
1	190085	67724	50	16:44:39	17:00:23	00:15:44	100
1	190085	67724	51	16:47:03	16:57:44	00:10:41	52.57
1	190085	67724	293	16:18:44	16:28:18	00:09:33	41.42
1	190085	67724	294	16:15:51	16:30:53	00:15:02	100
1	190085	67724	295	16:13:57	16:32:30	00:18:33	100
1	190085	67724	296	16:12:32	16:33:38	00:21:06	100
1	190085	67724	297	16:11:28	16:34:30	00:23:02	100
1	190085	67724	298	16:10:38	16:35:08	00:24:30	100
1	190085	67724	299	16:10:00	16:35:34	00:25:34	100
1	190085	67724	300	16:09:33	16:35:51	00:26:18	100
1	190085	67724	301	16:09:15	16:35:59	00:26:45	100
1	190085	67724	302	16:09:06	16:36:01	00:26:54	100
1	190085	67724	303	16:09:06	16:35:54	00:26:48	100
1	190085	67724	304	16:09:15	16:35:39	00:26:25	100
1	190085	67724	305	16:09:32	16:35:17	00:25:45	100
1	190085	67724	306	16:09:59	16:34:47	00:24:48	100

1	190085	67724	307	16:10:36	16:34:08	00:23:33	100
1	190085	67724	308	16:11:24	16:33:20	00:21:55	100
1	190085	67724	309	16:12:26	16:32:18	00:19:52	100
1	190085	67724	310	16:13:46	16:31:00	00:17:14	100
1	190085	67724	311	16:15:33	16:29:18	00:13:45	85.38
1	190085	67724	312	16:18:15	16:26:42	00:08:27	30.66
2	190317	67396	1	15:24:08	15:47:52	00:23:44	100
2	190317	67396	2	15:24:33	15:48:23	00:23:50	100
2	190317	67396	3	15:24:58	15:48:54	00:23:56	100
2	190317	67396	4	15:25:23	15:49:24	00:24:01	100
2	190317	67396	5	15:25:48	15:49:52	00:24:03	100
2	190317	67396	6	15:26:15	15:50:18	00:24:04	100
2	190317	67396	7	15:26:41	15:54:40	00:27:58	100
2	190317	67396	8	15:27:09	15:55:02	00:27:53	100
2	190317	67396	9	15:27:38	15:55:23	00:27:44	100
2	190317	67396	10	15:28:09	15:55:41	00:27:32	100
2	190317	67396	11	15:28:41	15:55:56	00:27:14	100
2	190317	67396	12	15:29:15	15:56:07	00:26:52	100
2	190317	67396	13	15:29:51	15:56:15	00:26:24	100
2	190317	67396	14	15:30:30	15:56:19	00:25:49	100
2	190317	67396	15	15:31:11	15:56:18	00:25:06	100
2	190317	67396	16	15:31:56	15:56:11	00:24:15	100
2	190317	67396	17	15:32:46	15:55:59	00:23:13	100
2	190317	67396	18	15:33:42	15:55:40	00:21:58	100
2	190317	67396	19	15:34:45	15:55:13	00:20:28	100
2	190317	67396	20	15:35:57	15:54:34	00:18:36	100
2	190317	67396	21	15:37:23	15:53:40	00:16:17	100
2	190317	67396	22	15:39:10	15:52:23	00:13:12	76.33
2	190317	67396	23	15:41:43	15:50:19	00:08:36	31.27
2	190317	67396	321	15:17:22	15:20:56	00:03:34	5.25
2	190317	67396	322	15:13:56	15:24:48	00:10:52	50.38
2	190317	67396	323	15:12:18	15:26:55	00:14:36	94.42
2	190317	67396	324	15:11:13	15:28:31	00:17:18	100
2	190317	67396	325	15:10:26	15:29:50	00:19:24	100
2	190317	67396	326	15:09:51	15:30:57	00:21:06	100
2	190317	67396	327	15:09:27	15:31:56	00:22:29	100
2	190317	67396	328	15:09:10	15:32:49	00:23:38	100
2	190317	67396	329	15:09:01	15:33:36	00:24:36	100
2	190317	67396	330	15:08:56	15:34:20	00:25:23	100
2	190317	67396	331	15:08:57	15:34:59	00:26:03	100
2	190317	67396	332	15:09:02	15:35:37	00:26:35	100
2	190317	67396	333	15:09:10	15:36:11	00:27:01	100
2	190317	67396	334	15:09:22	15:36:43	00:27:21	100
2	190317	67396	335	15:09:36	15:37:13	00:27:37	100
2	190317	67396	336	15:09:53	15:37:41	00:27:48	100

2	190317	67396	337	15:10:13	15:38:09	00:27:55	100
2	190317	67396	338	15:10:35	15:34:38	00:24:03	100
2	190317	67396	339	15:10:59	15:35:03	00:24:04	100
2	190317	67396	340	15:11:25	15:35:28	00:24:03	100
2	190317	67396	341	15:11:52	15:35:52	00:23:59	100
2	190317	67396	342	15:12:21	15:36:16	00:23:55	100
2	190317	67396	343	15:12:50	15:36:39	00:23:49	100
2	190317	67396	344	15:13:21	15:37:02	00:23:42	100
2	190317	67396	345	15:13:52	15:37:26	00:23:34	100
2	190317	67396	346	15:14:24	15:37:50	00:23:26	100
2	190317	67396	347	15:14:56	15:38:14	00:23:18	100
2	190317	67396	348	15:15:28	15:38:39	00:23:11	100
2	190317	67396	349	15:16:01	15:39:04	00:23:03	100
2	190317	67396	350	15:16:33	15:39:30	00:22:57	100
2	190317	67396	351	15:17:05	15:39:56	00:22:52	100
2	190317	67396	352	15:17:37	15:40:24	00:22:47	100
2	190317	67396	353	15:18:08	15:40:52	00:22:44	100
2	190317	67396	354	15:18:39	15:41:21	00:22:42	100
2	190317	67396	355	15:19:09	15:41:50	00:22:41	100
2	190317	67396	356	15:19:39	15:42:20	00:22:42	100
2	190317	67396	357	15:20:08	15:42:51	00:22:44	100
2	190317	67396	358	15:20:36	15:43:23	00:22:47	100
2	190317	67396	359	15:21:03	15:43:55	00:22:52	100
2	190317	67396	360	15:21:30	15:44:28	00:22:57	100
2	190317	67396	361	15:21:57	15:45:00	00:23:04	100
2	190317	67396	362	15:22:23	15:45:33	00:23:11	100
2	190317	67396	363	15:22:48	15:46:07	00:23:18	100
2	190317	67396	364	15:23:13	15:46:39	00:23:26	100
2	190317	67396	365	15:23:38	15:47:12	00:23:34	100
3	190482	67724	1	15:56:09	16:05:56	00:09:47	29.15
3	190482	67724	2	15:55:22	16:07:40	00:12:17	46.58
3	190482	67724	3	15:54:45	16:09:14	00:14:28	65.45
3	190482	67724	4	15:54:14	16:10:41	00:16:27	85.75
3	190482	67724	5	15:53:46	16:12:03	00:18:16	100
3	190482	67724	6	15:53:22	16:13:21	00:19:59	100
3	190482	67724	7	15:53:01	16:14:37	00:21:36	100
3	190482	67724	8	15:52:41	16:15:49	00:23:08	100
3	190482	67724	9	15:52:24	16:16:58	00:24:35	100
3	190482	67724	10	15:52:08	16:18:05	00:25:56	100
3	190482	67724	11	15:51:55	16:19:08	00:27:13	100
3	190482	67724	12	15:51:43	16:20:07	00:28:25	100
3	190482	67724	13	15:51:32	16:21:04	00:29:32	100
3	190482	67724	14	15:51:23	16:18:02	00:26:39	100
3	190482	67724	15	15:51:16	16:18:53	00:27:37	100
3	190482	67724	16	15:51:11	16:19:40	00:28:30	100

3	190482	67724	17	15:51:07	16:20:25	00:29:18	100
3	190482	67724	18	15:51:05	16:21:06	00:30:01	100
3	190482	67724	19	15:51:05	16:21:43	00:30:38	100
3	190482	67724	20	15:51:07	16:22:17	00:31:10	100
3	190482	67724	21	15:51:11	16:22:48	00:31:36	100
3	190482	67724	22	15:51:18	16:23:14	00:31:57	100
3	190482	67724	23	15:51:26	16:23:37	00:32:10	100
3	190482	67724	24	15:51:38	16:27:51	00:36:14	100
3	190482	67724	25	15:51:52	16:28:05	00:36:14	100
3	190482	67724	26	15:52:09	16:28:14	00:36:06	100
3	190482	67724	27	15:52:29	16:28:19	00:35:50	100
3	190482	67724	28	15:52:52	16:28:18	00:35:25	100
3	190482	67724	29	15:53:20	16:28:11	00:34:52	100
3	190482	67724	30	15:53:50	16:27:58	00:34:08	100
3	190482	67724	31	15:54:25	16:27:39	00:33:14	100
3	190482	67724	32	15:55:05	16:27:12	00:32:07	100
3	190482	67724	33	15:55:52	16:26:37	00:30:45	100
3	190482	67724	34	15:56:47	16:25:54	00:29:07	100
3	190482	67724	35	15:57:50	16:24:59	00:27:09	100
3	190482	67724	36	15:59:06	16:23:51	00:24:45	100
3	190482	67724	37	16:00:38	16:22:25	00:21:47	100
3	190482	67724	38	16:02:35	16:20:31	00:17:56	100
3	190482	67724	39	16:05:22	16:17:47	00:12:25	52
3	190482	67724	305	15:36:18	15:45:46	00:09:28	29.67
3	190482	67724	306	15:32:58	15:49:06	00:16:09	89.37
3	190482	67724	307	15:30:50	15:51:16	00:20:25	100
3	190482	67724	308	15:29:15	15:52:54	00:23:39	100
3	190482	67724	309	15:28:00	15:54:14	00:26:14	100
3	190482	67724	310	15:26:59	15:55:20	00:28:20	100
3	190482	67724	311	15:26:12	15:56:16	00:30:05	100
3	190482	67724	312	15:25:33	15:57:06	00:31:33	100
3	190482	67724	313	15:25:03	15:57:48	00:32:46	100
3	190482	67724	314	15:24:40	15:58:25	00:33:45	100
3	190482	67724	315	15:24:23	15:58:56	00:34:33	100
3	190482	67724	316	15:24:12	15:59:23	00:35:11	100
3	190482	67724	317	15:24:06	15:59:46	00:35:39	100
3	190482	67724	318	15:24:05	16:00:05	00:35:59	100
3	190482	67724	319	15:24:09	16:00:21	00:36:11	100
3	190482	67724	320	15:24:18	16:00:33	00:36:15	100
3	190482	67724	321	15:24:31	16:00:43	00:36:12	100
3	190482	67724	322	15:24:49	15:56:54	00:32:05	100
3	190482	67724	323	15:25:10	15:56:59	00:31:49	100
3	190482	67724	324	15:25:35	15:57:01	00:31:26	100
3	190482	67724	325	15:26:04	15:57:02	00:30:58	100
3	190482	67724	326	15:26:36	15:56:59	00:30:24	100
3	190482	67724	327	15:27:12	15:56:56	00:29:44	100

3	190482	67724	328	15:27:51	15:56:51	00:28:59	100
3	190482	67724	329	15:28:34	15:56:43	00:28:09	100
3	190482	67724	330	15:29:19	15:56:34	00:27:15	100
3	190482	67724	331	15:30:08	15:56:23	00:26:15	100
3	190482	67724	332	15:30:59	16:00:07	00:29:07	100
3	190482	67724	333	15:31:54	15:59:52	00:27:59	100
3	190482	67724	334	15:32:51	15:59:36	00:26:45	100
3	190482	67724	335	15:33:51	15:59:19	00:25:27	100
3	190482	67724	336	15:34:55	15:58:59	00:24:04	100
3	190482	67724	337	15:36:01	15:58:37	00:22:36	100
3	190482	67724	338	15:37:10	15:58:14	00:21:03	100
3	190482	67724	339	15:38:23	15:57:48	00:19:24	100
3	190482	67724	340	15:39:40	15:57:20	00:17:40	99.79
3	190482	67724	341	15:41:01	15:56:50	00:15:49	78.69
3	190482	67724	342	15:42:27	15:56:14	00:13:47	58.98
3	190482	67724	343	15:44:01	15:55:33	00:11:31	40.69
3	190482	67724	344	15:45:48	15:54:40	00:08:52	23.83
3	190482	67724	345	15:48:02	15:53:19	00:05:17	8.4
3	190482	67724	365	15:57:38	16:03:17	00:05:39	9.61
4	190670	67470	1	14:44:20	14:59:49	00:15:30	79.66
4	190670	67470	2	14:45:39	14:59:25	00:13:46	62.22
4	190670	67470	3	14:47:12	14:58:46	00:11:33	43.33
4	190670	67470	4	14:49:11	14:57:40	00:08:28	23.01
4	190670	67470	5	14:52:52	14:54:51	00:01:59	1.25
4	190670	67470	340	14:37:09	14:41:48	00:04:39	6.83
4	190670	67470	341	14:35:15	14:44:36	00:09:21	28.1
4	190670	67470	342	14:34:18	14:46:27	00:12:09	47.96
4	190670	67470	343	14:33:43	14:47:56	00:14:13	66.4
4	190670	67470	344	14:33:21	14:49:12	00:15:51	83.42
4	190670	67470	345	14:33:09	14:50:20	00:17:11	98.99
4	190670	67470	346	14:33:05	14:51:22	00:18:17	100
4	190670	67470	347	14:33:06	14:52:18	00:19:12	100
4	190670	67470	348	14:33:12	14:53:10	00:19:58	100
4	190670	67470	349	14:33:22	14:53:58	00:20:36	100
4	190670	67470	350	14:33:36	14:54:43	00:21:07	100
4	190670	67470	351	14:33:53	14:55:24	00:21:31	100
4	190670	67470	352	14:34:14	14:56:03	00:21:50	100
4	190670	67470	353	14:34:37	14:56:40	00:22:03	100
4	190670	67470	354	14:35:03	14:57:13	00:22:11	100
4	190670	67470	355	14:35:32	14:57:45	00:22:13	100
4	190670	67470	356	14:36:03	14:58:13	00:22:11	100
4	190670	67470	357	14:36:36	14:58:39	00:22:03	100
4	190670	67470	358	14:37:13	14:59:03	00:21:50	100
4	190670	67470	359	14:37:51	14:59:23	00:21:32	100
4	190670	67470	360	14:38:33	14:59:40	00:21:07	100

4	190670	67470	361	14:39:18	14:59:54	00:20:36	100
4	190670	67470	362	14:40:06	15:00:04	00:19:59	100
4	190670	67470	363	14:40:57	15:00:10	00:19:13	100
4	190670	67470	364	14:41:53	15:00:11	00:18:17	100
4	190670	67470	365	14:42:55	15:00:06	00:17:11	99.21

House 18: Easting 190572, Northing 68605

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
1	190085	67724	1	14:28:48	14:38:39	00:09:50	30.48
1	190085	67724	2	14:30:57	14:37:25	00:06:28	13.07
1	190085	67724	343	14:18:48	14:26:09	00:07:21	16.87
1	190085	67724	344	14:17:45	14:28:07	00:10:22	33.89
1	190085	67724	345	14:17:10	14:29:38	00:12:29	49.48
1	190085	67724	346	14:16:50	14:30:55	00:14:05	63.61
1	190085	67724	347	14:16:40	14:32:02	00:15:22	76.29
1	190085	67724	348	14:16:38	14:33:02	00:16:24	87.5
1	190085	67724	349	14:16:42	14:33:56	00:17:15	97.23
1	190085	67724	350	14:16:51	14:34:46	00:17:55	100
1	190085	67724	351	14:17:05	14:35:31	00:18:27	100
1	190085	67724	352	14:17:22	14:36:13	00:18:50	100
1	190085	67724	353	14:17:44	14:36:51	00:19:07	100
1	190085	67724	354	14:18:09	14:37:26	00:19:17	100
1	190085	67724	355	14:18:37	14:37:57	00:19:20	100
1	190085	67724	356	14:19:08	14:38:26	00:19:17	100
1	190085	67724	357	14:19:43	14:38:51	00:19:08	100
1	190085	67724	358	14:20:21	14:39:12	00:18:51	100
1	190085	67724	359	14:21:02	14:39:30	00:18:28	100
1	190085	67724	360	14:21:48	14:39:44	00:17:56	100
1	190085	67724	361	14:22:37	14:39:53	00:17:16	97.67
1	190085	67724	362	14:23:31	14:39:57	00:16:26	87.97
1	190085	67724	363	14:24:31	14:39:55	00:15:25	76.8
1	190085	67724	364	14:25:37	14:39:45	00:14:08	64.14
1	190085	67724	365	14:26:53	14:39:25	00:12:32	50

House 19: Easting 190431, Northing 68493

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
1	190085	67724	1	14:02:48	14:21:39	00:18:51	98.57
1	190085	67724	2	14:04:06	14:21:16	00:17:11	81.18

1	190085	67724	3	14:05:35	14:20:42	00:15:07	62.34
1	190085	67724	4	14:07:20	14:19:49	00:12:29	42.06
1	190085	67724	5	14:09:39	14:18:23	00:08:43	20.36
1	190085	67724	339	13:57:51	14:00:35	00:02:44	1.98
1	190085	67724	340	13:54:50	14:04:27	00:09:36	24.67
1	190085	67724	341	13:53:33	14:06:36	00:13:03	45.97
1	190085	67724	342	13:52:45	14:08:18	00:15:32	65.86
1	190085	67724	343	13:52:13	14:09:44	00:17:30	84.34
1	190085	67724	344	13:51:53	14:10:59	00:19:07	100
1	190085	67724	345	13:51:40	14:12:08	00:20:27	100
1	190085	67724	346	13:51:35	14:13:10	00:21:35	100
1	190085	67724	347	13:51:35	14:14:07	00:22:32	100
1	190085	67724	348	13:51:40	14:14:59	00:23:19	100
1	190085	67724	349	13:51:49	14:15:49	00:23:59	100
1	190085	67724	350	13:52:02	14:16:34	00:24:32	100
1	190085	67724	351	13:52:19	14:17:17	00:24:58	100
1	190085	67724	352	13:52:39	14:17:56	00:25:18	100
1	190085	67724	353	13:53:02	14:18:33	00:25:32	100
1	190085	67724	354	13:53:27	14:19:07	00:25:40	100
1	190085	67724	355	13:53:56	14:19:38	00:25:43	100
1	190085	67724	356	13:54:27	14:20:07	00:25:40	100
1	190085	67724	357	13:55:01	14:20:33	00:25:32	100
1	190085	67724	358	13:55:37	14:20:56	00:25:19	100
1	190085	67724	359	13:56:17	14:21:16	00:24:59	100
1	190085	67724	360	13:56:59	14:21:33	00:24:34	100
1	190085	67724	361	13:57:44	14:21:46	00:24:02	100
1	190085	67724	362	13:58:33	14:21:55	00:23:22	100
1	190085	67724	363	13:59:25	14:22:00	00:22:35	100
1	190085	67724	364	14:00:22	14:22:01	00:21:39	100
1	190085	67724	365	14:01:24	14:21:55	00:20:32	100

House 20: Easting 190395, Northing 68145

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
1	190085	67724	1	14:26:06	15:21:13	00:55:07	100
1	190085	67724	2	14:26:25	15:21:52	00:55:28	100
1	190085	67724	3	14:26:42	15:22:31	00:55:49	100
1	190085	67724	4	14:26:59	15:23:10	00:56:11	100
1	190085	67724	5	14:27:15	15:23:48	00:56:33	100
1	190085	67724	6	14:27:31	15:24:26	00:56:56	100
1	190085	67724	7	14:27:46	15:25:04	00:57:18	100
1	190085	67724	8	14:28:00	15:25:41	00:57:41	100
1	190085	67724	9	14:28:15	15:26:17	00:58:02	100

1	190085	67724	10	14:28:29	15:26:52	00:58:23	100
1	190085	67724	11	14:28:43	15:27:27	00:58:44	100
1	190085	67724	12	14:28:57	15:27:59	00:59:03	100
1	190085	67724	13	14:29:11	15:28:31	00:59:20	100
1	190085	67724	14	14:29:25	15:29:01	00:59:36	100
1	190085	67724	15	14:29:40	15:29:30	00:59:50	100
1	190085	67724	16	14:29:55	15:29:56	01:00:02	100
1	190085	67724	17	14:30:10	15:30:21	01:00:11	100
1	190085	67724	18	14:30:26	15:30:44	01:00:18	100
1	190085	67724	19	14:30:42	15:31:04	01:00:22	100
1	190085	67724	20	14:30:59	15:31:23	01:00:23	100
1	190085	67724	21	14:31:18	15:31:38	01:00:21	100
1	190085	67724	22	14:31:37	15:31:52	01:00:15	100
1	190085	67724	23	14:31:57	15:32:02	01:00:05	100
1	190085	67724	24	14:32:19	15:32:10	00:59:51	100
1	190085	67724	25	14:32:42	15:32:14	00:59:32	100
1	190085	67724	26	14:33:07	15:32:15	00:59:09	100
1	190085	67724	27	14:33:33	15:32:13	00:58:40	100
1	190085	67724	28	14:34:01	15:32:07	00:58:07	100
1	190085	67724	29	14:34:31	15:31:58	00:57:27	100
1	190085	67724	30	14:35:03	15:31:44	00:56:41	100
1	190085	67724	31	14:35:38	15:31:26	00:55:48	100
1	190085	67724	32	14:36:15	15:31:04	00:54:49	100
1	190085	67724	33	14:36:55	15:30:37	00:53:42	100
1	190085	67724	34	14:37:38	15:34:01	00:56:23	100
1	190085	67724	35	14:38:24	15:33:25	00:55:01	100
1	190085	67724	36	14:39:14	15:32:43	00:53:29	100
1	190085	67724	37	14:40:09	15:31:54	00:51:45	100
1	190085	67724	38	14:41:09	15:30:58	00:49:50	100
1	190085	67724	39	14:42:15	15:29:55	00:47:40	100
1	190085	67724	40	14:43:28	15:28:42	00:45:14	100
1	190085	67724	41	14:44:50	15:27:20	00:42:30	100
1	190085	67724	42	14:46:22	15:25:44	00:39:22	100
1	190085	67724	43	14:48:09	15:23:53	00:35:45	100
1	190085	67724	44	14:50:15	15:21:42	00:31:27	100
1	190085	67724	45	14:52:49	15:18:59	00:26:11	100
1	190085	67724	46	14:56:17	15:15:23	00:19:07	71.54
1	190085	67724	47	15:03:04	15:08:26	00:05:22	5.54
1	190085	67724	298	14:28:05	14:43:40	00:15:35	46.91
1	190085	67724	299	14:23:54	14:47:41	00:23:47	100
1	190085	67724	300	14:20:57	14:50:29	00:29:32	100
1	190085	67724	301	14:18:37	14:52:43	00:34:06	100
1	190085	67724	302	14:16:39	14:54:35	00:37:55	100
1	190085	67724	303	14:14:59	14:56:11	00:41:12	100
1	190085	67724	304	14:13:31	14:57:36	00:44:05	100
1	190085	67724	305	14:12:14	14:58:51	00:46:37	100

1	190085	67724	306	14:11:07	14:59:59	00:48:51	100
1	190085	67724	307	14:10:08	15:00:59	00:50:52	100
1	190085	67724	308	14:09:15	15:01:55	00:52:40	100
1	190085	67724	309	14:08:29	15:02:45	00:54:17	100
1	190085	67724	310	14:07:49	15:03:32	00:55:43	100
1	190085	67724	311	14:07:14	15:00:18	00:53:04	100
1	190085	67724	312	14:06:44	15:00:58	00:54:14	100
1	190085	67724	313	14:06:18	15:01:35	00:55:17	100
1	190085	67724	314	14:05:56	15:02:09	00:56:13	100
1	190085	67724	315	14:05:38	15:02:40	00:57:02	100
1	190085	67724	316	14:05:25	15:03:09	00:57:45	100
1	190085	67724	317	14:05:15	15:03:36	00:58:22	100
1	190085	67724	318	14:05:08	15:04:01	00:58:53	100
1	190085	67724	319	14:05:06	15:04:24	00:59:19	100
1	190085	67724	320	14:05:06	15:04:46	00:59:40	100
1	190085	67724	321	14:05:09	15:05:06	00:59:57	100
1	190085	67724	322	14:05:16	15:05:25	01:00:09	100
1	190085	67724	323	14:05:25	15:05:42	01:00:18	100
1	190085	67724	324	14:05:36	15:05:59	01:00:22	100
1	190085	67724	325	14:05:51	15:06:14	01:00:23	100
1	190085	67724	326	14:06:07	15:06:29	01:00:21	100
1	190085	67724	327	14:06:26	15:06:42	01:00:16	100
1	190085	67724	328	14:06:47	15:06:56	01:00:09	100
1	190085	67724	329	14:07:10	15:07:08	00:59:59	100
1	190085	67724	330	14:07:34	15:07:21	00:59:46	100
1	190085	67724	331	14:08:01	15:07:32	00:59:32	100
1	190085	67724	332	14:08:29	15:07:44	00:59:15	100
1	190085	67724	333	14:08:58	15:07:56	00:58:57	100
1	190085	67724	334	14:09:29	15:08:07	00:58:38	100
1	190085	67724	335	14:10:01	15:08:19	00:58:18	100
1	190085	67724	336	14:10:34	15:08:31	00:57:57	100
1	190085	67724	337	14:11:08	15:08:43	00:57:35	100
1	190085	67724	338	14:11:42	15:08:55	00:57:13	100
1	190085	67724	339	14:12:18	15:09:08	00:56:50	100
1	190085	67724	340	14:12:54	15:09:21	00:56:28	100
1	190085	67724	341	14:13:30	15:09:36	00:56:06	100
1	190085	67724	342	14:14:06	15:09:50	00:55:44	100
1	190085	67724	343	14:14:43	15:10:06	00:55:23	100
1	190085	67724	344	14:15:20	15:10:23	00:55:03	100
1	190085	67724	345	14:15:57	15:10:40	00:54:43	100
1	190085	67724	346	14:16:33	15:10:59	00:54:25	100
1	190085	67724	347	14:17:10	15:11:18	00:54:09	100
1	190085	67724	348	14:17:46	15:11:39	00:53:54	100
1	190085	67724	349	14:18:21	15:12:01	00:53:40	100
1	190085	67724	350	14:18:56	15:12:24	00:53:29	100
1	190085	67724	351	14:19:30	15:12:49	00:53:19	100

1	190085	67724	352	14:20:03	15:13:14	00:53:11	100
1	190085	67724	353	14:20:35	15:13:41	00:53:06	100
1	190085	67724	354	14:21:07	15:14:09	00:53:03	100
1	190085	67724	355	14:21:37	15:14:39	00:53:01	100
1	190085	67724	356	14:22:07	15:15:09	00:53:03	100
1	190085	67724	357	14:22:35	15:15:41	00:53:06	100
1	190085	67724	358	14:23:02	15:16:13	00:53:11	100
1	190085	67724	359	14:23:28	15:16:47	00:53:19	100
1	190085	67724	360	14:23:53	15:17:22	00:53:28	100
1	190085	67724	361	14:24:17	15:17:57	00:53:40	100
1	190085	67724	362	14:24:40	15:18:34	00:53:53	100
1	190085	67724	363	14:25:02	15:19:11	00:54:08	100
1	190085	67724	364	14:25:23	15:19:48	00:54:25	100
1	190085	67724	365	14:25:43	15:20:26	00:54:43	100
3	190482	67724	1	10:54:42	12:08:09	01:13:27	100
3	190482	67724	2	10:55:17	12:08:31	01:13:14	100
3	190482	67724	3	10:55:52	12:08:52	01:12:59	100
3	190482	67724	4	10:56:28	12:09:11	01:12:43	100
3	190482	67724	5	10:57:04	12:09:29	01:12:25	100
3	190482	67724	6	10:57:41	12:09:46	01:12:05	100
3	190482	67724	7	10:58:18	12:10:01	01:11:42	100
3	190482	67724	8	10:58:57	12:10:14	01:11:18	100
3	190482	67724	9	10:59:35	12:10:26	01:10:50	100
3	190482	67724	10	11:00:15	12:10:35	01:10:20	100
3	190482	67724	11	11:00:56	12:10:43	01:09:47	100
3	190482	67724	12	11:01:38	12:10:48	01:09:11	100
3	190482	67724	13	11:02:20	12:10:51	01:08:31	100
3	190482	67724	14	11:03:05	12:10:52	01:07:47	100
3	190482	67724	15	11:03:50	12:10:50	01:06:59	100
3	190482	67724	16	11:04:37	12:10:45	01:06:08	100
3	190482	67724	17	11:05:25	12:10:37	01:05:12	100
3	190482	67724	18	11:06:16	12:10:26	01:04:11	100
3	190482	67724	19	11:07:08	12:10:12	01:03:04	100
3	190482	67724	20	11:08:03	12:09:55	01:01:51	100
3	190482	67724	21	11:09:00	12:09:33	01:00:33	100
3	190482	67724	22	11:10:00	12:09:07	00:59:07	100
3	190482	67724	23	11:11:03	12:08:37	00:57:34	100
3	190482	67724	24	11:12:10	12:08:02	00:55:52	100
3	190482	67724	25	11:13:20	12:07:22	00:54:02	100
3	190482	67724	26	11:14:35	12:10:00	00:55:25	100
3	190482	67724	27	11:15:56	12:09:40	00:53:44	100
3	190482	67724	28	11:17:22	12:08:40	00:51:18	100
3	190482	67724	29	11:18:52	12:07:32	00:48:39	100
3	190482	67724	30	11:20:31	12:06:14	00:45:43	100
3	190482	67724	31	11:22:19	12:04:45	00:42:25	100

3	190482	67724	32	11:24:21	12:03:01	00:38:40	100
3	190482	67724	33	11:26:39	12:00:58	00:34:19	100
3	190482	67724	34	11:29:24	11:58:28	00:29:04	100
3	190482	67724	35	11:32:53	11:55:12	00:22:20	79.5
3	190482	67724	36	11:38:16	11:49:59	00:11:44	21.65
3	190482	67724	309	11:06:25	11:21:12	00:14:46	34.28
3	190482	67724	310	11:01:53	11:25:48	00:23:55	90.98
3	190482	67724	311	10:58:46	11:28:58	00:30:12	100
3	190482	67724	312	10:56:20	11:31:31	00:35:11	100
3	190482	67724	313	10:54:18	11:33:40	00:39:22	100
3	190482	67724	314	10:52:34	11:35:34	00:42:59	100
3	190482	67724	315	10:51:04	11:37:16	00:46:12	100
3	190482	67724	316	10:49:45	11:38:48	00:49:03	100
3	190482	67724	317	10:48:35	11:40:13	00:51:38	100
3	190482	67724	318	10:47:31	11:41:32	00:54:01	100
3	190482	67724	319	10:46:34	11:38:49	00:52:15	100
3	190482	67724	320	10:45:44	11:39:58	00:54:14	100
3	190482	67724	321	10:45:00	11:41:03	00:56:02	100
3	190482	67724	322	10:44:21	11:42:04	00:57:42	100
3	190482	67724	323	10:43:48	11:43:02	00:59:14	100
3	190482	67724	324	10:43:19	11:43:57	01:00:39	100
3	190482	67724	325	10:42:54	11:44:50	01:01:56	100
3	190482	67724	326	10:42:33	11:45:41	01:03:08	100
3	190482	67724	327	10:42:16	11:46:29	01:04:14	100
3	190482	67724	328	10:42:02	11:47:16	01:05:15	100
3	190482	67724	329	10:41:51	11:48:01	01:06:10	100
3	190482	67724	330	10:41:44	11:48:45	01:07:02	100
3	190482	67724	331	10:41:39	11:49:28	01:07:49	100
3	190482	67724	332	10:41:37	11:50:09	01:08:32	100
3	190482	67724	333	10:41:38	11:50:49	01:09:11	100
3	190482	67724	334	10:41:41	11:51:28	01:09:47	100
3	190482	67724	335	10:41:46	11:52:06	01:10:20	100
3	190482	67724	336	10:41:53	11:52:43	01:10:50	100
3	190482	67724	337	10:42:02	11:53:20	01:11:17	100
3	190482	67724	338	10:42:14	11:53:56	01:11:42	100
3	190482	67724	339	10:42:27	11:54:31	01:12:05	100
3	190482	67724	340	10:42:41	11:55:06	01:12:25	100
3	190482	67724	341	10:42:58	11:55:41	01:12:43	100
3	190482	67724	342	10:43:15	11:56:15	01:12:59	100
3	190482	67724	343	10:43:35	11:56:48	01:13:14	100
3	190482	67724	344	10:43:55	11:57:22	01:13:27	100
3	190482	67724	345	10:44:17	11:57:55	01:13:38	100
3	190482	67724	346	10:44:39	11:58:27	01:13:48	100
3	190482	67724	347	10:45:03	11:58:59	01:13:57	100
3	190482	67724	348	10:45:28	11:59:32	01:14:04	100
3	190482	67724	349	10:45:53	12:00:04	01:14:11	100

3	190482	67724	350	10:46:20	12:00:35	01:14:16	100
3	190482	67724	351	10:46:47	12:01:07	01:14:20	100
3	190482	67724	352	10:47:15	12:01:38	01:14:23	100
3	190482	67724	353	10:47:43	12:02:09	01:14:26	100
3	190482	67724	354	10:48:12	12:02:39	01:14:27	100
3	190482	67724	355	10:48:42	12:03:10	01:14:28	100
3	190482	67724	356	10:49:12	12:03:39	01:14:28	100
3	190482	67724	357	10:49:42	12:04:09	01:14:26	100
3	190482	67724	358	10:50:13	12:04:37	01:14:24	100
3	190482	67724	359	10:50:45	12:05:06	01:14:21	100
3	190482	67724	360	10:51:16	12:05:34	01:14:17	100
3	190482	67724	361	10:51:48	12:06:01	01:14:12	100
3	190482	67724	362	10:52:21	12:06:27	01:14:06	100
3	190482	67724	363	10:52:54	12:06:53	01:13:59	100
3	190482	67724	364	10:53:27	12:07:18	01:13:51	100
3	190482	67724	365	10:54:00	12:07:41	01:13:41	100
4	190670	67470	1	10:28:55	11:00:24	00:31:29	100
4	190670	67470	2	10:29:53	11:00:24	00:30:31	100
4	190670	67470	3	10:30:54	11:00:20	00:29:26	100
4	190670	67470	4	10:31:59	11:00:10	00:28:12	100
4	190670	67470	5	10:33:08	10:59:55	00:26:47	100
4	190670	67470	6	10:34:24	10:59:33	00:25:08	100
4	190670	67470	7	10:35:48	10:59:02	00:23:14	100
4	190670	67470	8	10:37:21	10:58:21	00:20:59	100
4	190670	67470	9	10:39:09	10:57:24	00:18:16	80.72
4	190670	67470	10	10:41:18	10:56:05	00:14:47	52.24
4	190670	67470	11	10:44:14	10:53:58	00:09:44	22.41
4	190670	67470	334	10:25:11	10:34:31	00:09:20	20.51
4	190670	67470	335	10:22:57	10:37:28	00:14:30	50.18
4	190670	67470	336	10:21:33	10:39:36	00:18:03	78.53
4	190670	67470	337	10:20:33	10:41:21	00:20:48	100
4	190670	67470	338	10:19:49	10:42:52	00:23:04	100
4	190670	67470	339	10:19:15	10:44:14	00:24:59	100
4	190670	67470	340	10:18:50	10:45:28	00:26:38	100
4	190670	67470	341	10:18:32	10:46:36	00:28:04	100
4	190670	67470	342	10:18:21	10:47:39	00:29:19	100
4	190670	67470	343	10:18:14	10:48:39	00:30:25	100
4	190670	67470	344	10:18:11	10:49:34	00:31:23	100
4	190670	67470	345	10:18:12	10:50:26	00:32:14	100
4	190670	67470	346	10:18:17	10:50:50	00:32:33	100
4	190670	67470	347	10:18:25	10:48:06	00:29:41	100
4	190670	67470	348	10:18:37	10:48:51	00:30:14	100
4	190670	67470	349	10:18:51	10:49:34	00:30:43	100
4	190670	67470	350	10:19:08	10:50:14	00:31:06	100
4	190670	67470	351	10:19:27	10:50:53	00:31:25	100

4	190670	67470	352	10:19:49	10:51:29	00:31:40	100
4	190670	67470	353	10:20:14	10:52:04	00:31:50	100
4	190670	67470	354	10:20:40	10:52:37	00:31:57	100
4	190670	67470	355	10:21:08	10:53:08	00:31:59	100
4	190670	67470	356	10:21:39	10:53:37	00:31:58	100
4	190670	67470	357	10:22:12	10:54:05	00:31:53	100
4	190670	67470	358	10:22:46	10:54:30	00:31:44	100
4	190670	67470	359	10:23:23	10:54:54	00:31:31	100
4	190670	67470	360	10:24:01	10:55:15	00:31:13	100
4	190670	67470	361	10:24:42	10:55:34	00:30:52	100
4	190670	67470	362	10:25:25	10:55:50	00:30:25	100
4	190670	67470	363	10:26:10	10:56:04	00:29:54	100
4	190670	67470	364	10:26:58	10:56:15	00:29:17	100
4	190670	67470	365	10:27:49	11:00:19	00:32:31	100

House 21: Easting 189831, Northing 68478

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
3	190482	67724	1	09:05:13	09:37:34	00:32:20	100
3	190482	67724	2	09:05:44	09:37:59	00:32:15	100
3	190482	67724	3	09:06:15	09:38:24	00:32:09	100
3	190482	67724	4	09:06:47	09:38:47	00:32:00	100
3	190482	67724	5	09:07:19	09:39:09	00:31:49	100
3	190482	67724	6	09:07:53	09:39:29	00:31:36	100
3	190482	67724	7	09:08:27	09:39:47	00:31:20	100
3	190482	67724	8	09:09:02	09:40:03	00:31:01	100
3	190482	67724	9	09:09:39	09:40:17	00:30:38	100
3	190482	67724	10	09:10:17	09:40:28	00:30:10	100
3	190482	67724	11	09:10:58	09:40:36	00:29:38	100
3	190482	67724	12	09:11:40	09:40:41	00:29:01	100
3	190482	67724	13	09:12:25	09:40:42	00:28:17	100
3	190482	67724	14	09:13:13	09:44:36	00:31:23	100
3	190482	67724	15	09:14:04	09:44:28	00:30:25	100
3	190482	67724	16	09:14:59	09:44:16	00:29:17	100
3	190482	67724	17	09:15:59	09:43:57	00:27:58	100
3	190482	67724	18	09:17:05	09:43:31	00:26:26	100
3	190482	67724	19	09:18:19	09:42:57	00:24:38	100
3	190482	67724	20	09:19:43	09:42:12	00:22:29	100
3	190482	67724	21	09:21:20	09:41:12	00:19:52	100
3	190482	67724	22	09:23:18	09:39:51	00:16:32	90.9
3	190482	67724	23	09:25:58	09:37:51	00:11:54	46.64
3	190482	67724	24	09:31:25	09:32:55	00:01:30	0.72
3	190482	67724	322	08:59:36	09:10:58	00:11:22	42.28

3	190482	67724	323	08:57:21	09:13:30	00:16:09	86.12
3	190482	67724	324	08:55:51	09:15:24	00:19:33	100
3	190482	67724	325	08:54:44	09:16:56	00:22:13	100
3	190482	67724	326	08:53:53	09:18:16	00:24:23	100
3	190482	67724	327	08:53:13	09:19:26	00:26:13	100
3	190482	67724	328	08:52:42	09:20:29	00:27:46	100
3	190482	67724	329	08:52:19	09:21:26	00:29:06	100
3	190482	67724	330	08:52:03	09:22:18	00:30:15	100
3	190482	67724	331	08:51:52	09:23:06	00:31:15	100
3	190482	67724	332	08:51:45	09:19:55	00:28:10	100
3	190482	67724	333	08:51:43	09:20:38	00:28:54	100
3	190482	67724	334	08:51:45	09:21:18	00:29:33	100
3	190482	67724	335	08:51:50	09:21:56	00:30:05	100
3	190482	67724	336	08:51:59	09:22:32	00:30:33	100
3	190482	67724	337	08:52:10	09:23:07	00:30:57	100
3	190482	67724	338	08:52:23	09:23:40	00:31:17	100
3	190482	67724	339	08:52:39	09:24:13	00:31:33	100
3	190482	67724	340	08:52:57	09:24:45	00:31:47	100
3	190482	67724	341	08:53:17	09:25:16	00:31:58	100
3	190482	67724	342	08:53:39	09:25:46	00:32:07	100
3	190482	67724	343	08:54:02	09:26:16	00:32:14	100
3	190482	67724	344	08:54:26	09:26:46	00:32:20	100
3	190482	67724	345	08:54:51	09:27:15	00:32:24	100
3	190482	67724	346	08:55:18	09:27:44	00:32:26	100
3	190482	67724	347	08:55:45	09:28:13	00:32:28	100
3	190482	67724	348	08:56:13	09:28:42	00:32:30	100
3	190482	67724	349	08:56:41	09:29:12	00:32:30	100
3	190482	67724	350	08:57:10	09:29:41	00:32:31	100
3	190482	67724	351	08:57:39	09:30:10	00:32:31	100
3	190482	67724	352	08:58:09	09:30:40	00:32:31	100
3	190482	67724	353	08:58:39	09:31:09	00:32:31	100
3	190482	67724	354	08:59:08	09:31:39	00:32:31	100
3	190482	67724	355	08:59:38	09:32:09	00:32:31	100
3	190482	67724	356	09:00:08	09:32:39	00:32:31	100
3	190482	67724	357	09:00:38	09:33:09	00:32:31	100
3	190482	67724	358	09:01:08	09:33:39	00:32:31	100
3	190482	67724	359	09:01:38	09:34:09	00:32:31	100
3	190482	67724	360	09:02:08	09:34:38	00:32:31	100
3	190482	67724	361	09:02:37	09:35:08	00:32:31	100
3	190482	67724	362	09:03:07	09:35:37	00:32:30	100
3	190482	67724	363	09:03:37	09:36:06	00:32:29	100
3	190482	67724	364	09:04:06	09:36:34	00:32:27	100
3	190482	67724	365	09:04:36	09:37:01	00:32:25	100
4	190670	67470	1	09:13:21	09:37:58	00:24:37	100
4	190670	67470	2	09:14:03	09:38:12	00:24:09	100

4	190670	67470	3	09:14:48	09:38:24	00:23:36	100
4	190670	67470	4	09:15:35	09:38:32	00:22:57	100
4	190670	67470	5	09:16:25	09:38:37	00:22:12	100
4	190670	67470	6	09:17:18	09:38:38	00:21:20	100
4	190670	67470	7	09:18:16	09:38:34	00:20:18	100
4	190670	67470	8	09:19:18	09:38:24	00:19:06	100
4	190670	67470	9	09:20:27	09:38:06	00:17:39	100
4	190670	67470	10	09:21:45	09:37:39	00:15:54	100
4	190670	67470	11	09:23:17	09:36:58	00:13:42	78.58
4	190670	67470	12	09:25:10	09:35:56	00:10:45	47.48
4	190670	67470	13	09:27:53	09:34:02	00:06:09	15.38
4	190670	67470	332	09:07:44	09:12:45	00:05:01	10.11
4	190670	67470	333	09:05:29	09:15:39	00:10:09	42.14
4	190670	67470	334	09:04:15	09:17:31	00:13:16	73.2
4	190670	67470	335	09:03:27	09:18:59	00:15:33	100
4	190670	67470	336	09:02:54	09:20:15	00:17:22	100
4	190670	67470	337	09:02:32	09:21:22	00:18:51	100
4	190670	67470	338	09:02:17	09:22:23	00:20:05	100
4	190670	67470	339	09:02:10	09:23:18	00:21:09	100
4	190670	67470	340	09:02:07	09:24:10	00:22:02	100
4	190670	67470	341	09:02:09	09:24:58	00:22:49	100
4	190670	67470	342	09:02:15	09:25:43	00:23:28	100
4	190670	67470	343	09:02:24	09:26:26	00:24:02	100
4	190670	67470	344	09:02:36	09:27:08	00:24:32	100
4	190670	67470	345	09:02:51	09:27:47	00:24:57	100
4	190670	67470	346	09:03:08	09:28:26	00:25:18	100
4	190670	67470	347	09:03:27	09:29:03	00:25:36	100
4	190670	67470	348	09:03:47	09:29:38	00:25:51	100
4	190670	67470	349	09:04:10	09:30:13	00:26:04	100
4	190670	67470	350	09:04:33	09:30:48	00:26:14	100
4	190670	67470	351	09:04:59	09:31:21	00:26:22	100
4	190670	67470	352	09:05:25	09:31:53	00:26:29	100
4	190670	67470	353	09:05:52	09:32:17	00:26:24	100
4	190670	67470	354	09:06:21	09:29:00	00:22:40	100
4	190670	67470	355	09:06:50	09:29:31	00:22:41	100
4	190670	67470	356	09:07:20	09:30:00	00:22:40	100
4	190670	67470	357	09:07:51	09:30:29	00:22:38	100
4	190670	67470	358	09:08:23	09:34:45	00:26:22	100
4	190670	67470	359	09:08:55	09:35:21	00:26:25	100
4	190670	67470	360	09:09:29	09:35:47	00:26:18	100
4	190670	67470	361	09:10:03	09:36:12	00:26:09	100
4	190670	67470	362	09:10:38	09:36:36	00:25:57	100
4	190670	67470	363	09:11:15	09:36:58	00:25:43	100
4	190670	67470	364	09:11:52	09:37:19	00:25:27	100
4	190670	67470	365	09:12:31	09:37:38	00:25:07	100

House 22: Easting 190081, Northing 68663

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
There are no shadows cast on the windows of this house from any of the turbines.							

House 23: Easting 190058, Northing 68717

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
There are no shadows cast on the windows of this house from any of the turbines.							

House 24: Easting 189149, Northing 67683

Turbine	Easting	Northing	Day	Start Time	End Time	Duration	% Cover
1	190085	67724	86	06:34:23	06:37:35	00:03:11	3.42
1	190085	67724	87	06:28:17	06:43:04	00:14:47	76.89
1	190085	67724	88	06:25:17	06:45:28	00:20:11	100
1	190085	67724	89	06:23:02	06:47:05	00:24:03	100
1	190085	67724	90	06:21:14	06:48:16	00:27:02	100
1	190085	67724	91	06:19:44	06:49:09	00:29:25	100
1	190085	67724	92	06:18:29	06:49:49	00:31:19	100
1	190085	67724	93	06:17:27	06:50:16	00:32:49	100
1	190085	67724	94	06:16:35	06:50:33	00:33:58	100
1	190085	67724	95	06:15:52	06:50:41	00:34:49	100
1	190085	67724	96	06:15:19	06:50:40	00:35:22	100
1	190085	67724	97	06:14:53	06:50:32	00:35:39	100
1	190085	67724	98	06:14:36	06:50:16	00:35:41	100
1	190085	67724	99	06:14:26	06:49:53	00:35:27	100
1	190085	67724	100	06:14:25	06:49:22	00:34:57	100
1	190085	67724	101	06:14:32	06:48:43	00:34:12	100
1	190085	67724	102	06:14:47	06:47:57	00:33:09	100
1	190085	67724	103	06:15:12	06:47:01	00:31:49	100
1	190085	67724	104	06:15:48	06:45:56	00:30:08	100
1	190085	67724	105	06:16:36	06:44:39	00:28:03	100
1	190085	67724	106	06:17:39	06:43:09	00:25:29	100

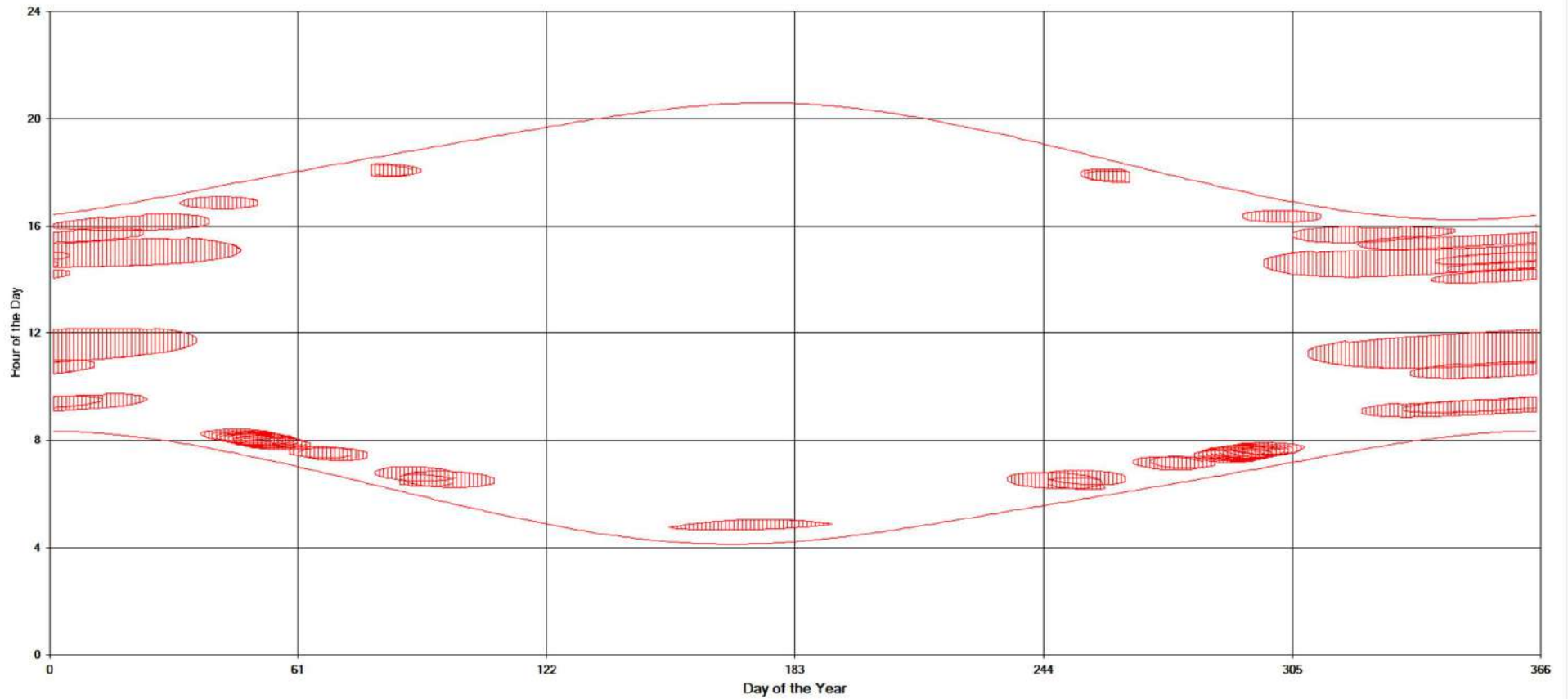
1	190085	67724	107	06:19:02	06:41:19	00:22:16	100
1	190085	67724	108	06:20:56	06:38:59	00:18:04	100
1	190085	67724	109	06:23:51	06:35:42	00:11:51	44.16
1	190085	67724	235	06:28:04	06:38:40	00:10:36	34.76
1	190085	67724	236	06:24:25	06:41:42	00:17:17	98.09
1	190085	67724	237	06:21:57	06:43:36	00:21:39	100
1	190085	67724	238	06:19:59	06:44:58	00:24:58	100
1	190085	67724	239	06:18:23	06:45:59	00:27:36	100
1	190085	67724	240	06:17:01	06:46:45	00:29:45	100
1	190085	67724	241	06:15:50	06:47:19	00:31:29	100
1	190085	67724	242	06:14:50	06:47:42	00:32:53	100
1	190085	67724	243	06:13:58	06:47:56	00:33:58	100
1	190085	67724	244	06:13:14	06:48:01	00:34:47	100
1	190085	67724	245	06:12:38	06:47:58	00:35:21	100
1	190085	67724	246	06:12:09	06:47:48	00:35:39	100
1	190085	67724	247	06:11:47	06:47:29	00:35:42	100
1	190085	67724	248	06:11:33	06:47:03	00:35:30	100
1	190085	67724	249	06:11:26	06:46:29	00:35:03	100
1	190085	67724	250	06:11:27	06:45:46	00:34:19	100
1	190085	67724	251	06:11:37	06:44:55	00:33:18	100
1	190085	67724	252	06:11:56	06:43:54	00:31:58	100
1	190085	67724	253	06:12:26	06:42:42	00:30:15	100
1	190085	67724	254	06:13:09	06:41:16	00:28:07	100
1	190085	67724	255	06:14:08	06:39:36	00:25:28	100
1	190085	67724	256	06:15:29	06:37:34	00:22:05	100
1	190085	67724	257	06:17:22	06:34:59	00:17:37	100
1	190085	67724	258	06:20:29	06:31:10	00:10:41	38.96
2	190317	67396	61	07:29:01	07:33:37	00:04:36	8.96
2	190317	67396	62	07:24:22	07:37:51	00:13:29	81.4
2	190317	67396	63	07:21:53	07:39:53	00:17:59	100
2	190317	67396	64	07:20:03	07:41:14	00:21:11	100
2	190317	67396	65	07:18:38	07:42:11	00:23:33	100
2	190317	67396	66	07:17:30	07:42:50	00:25:20	100
2	190317	67396	67	07:16:37	07:43:15	00:26:38	100
2	190317	67396	68	07:15:55	07:43:26	00:27:31	100
2	190317	67396	69	07:15:25	07:43:26	00:28:01	100
2	190317	67396	70	07:15:05	07:43:14	00:28:09	100
2	190317	67396	71	07:14:55	07:42:51	00:27:56	100
2	190317	67396	72	07:14:57	07:42:18	00:27:21	100
2	190317	67396	73	07:15:09	07:41:32	00:26:22	100
2	190317	67396	74	07:15:35	07:40:33	00:24:58	100
2	190317	67396	75	07:16:16	07:39:18	00:23:02	100
2	190317	67396	76	07:17:16	07:37:43	00:20:26	100
2	190317	67396	77	07:18:46	07:35:38	00:16:52	100
2	190317	67396	78	07:21:12	07:32:38	00:11:26	55.86

2	190317	67396	266	07:08:29	07:14:47	00:06:18	16.16
2	190317	67396	267	07:04:07	07:18:22	00:14:15	88.96
2	190317	67396	268	07:01:35	07:20:11	00:18:35	100
2	190317	67396	269	06:59:43	07:21:21	00:21:38	100
2	190317	67396	270	06:58:14	07:22:08	00:23:54	100
2	190317	67396	271	06:57:03	07:22:38	00:25:35	100
2	190317	67396	272	06:56:07	07:22:55	00:26:48	100
2	190317	67396	273	06:55:22	07:22:59	00:27:37	100
2	190317	67396	274	06:54:49	07:22:53	00:28:04	100
2	190317	67396	275	06:54:27	07:22:36	00:28:10	100
2	190317	67396	276	06:54:15	07:22:10	00:27:55	100
2	190317	67396	277	06:54:15	07:21:33	00:27:18	100
2	190317	67396	278	06:54:26	07:20:45	00:26:19	100
2	190317	67396	279	06:54:49	07:19:45	00:24:55	100
2	190317	67396	280	06:55:29	07:18:30	00:23:02	100
2	190317	67396	281	06:56:27	07:16:59	00:20:32	100
2	190317	67396	282	06:57:52	07:15:02	00:17:10	100
2	190317	67396	283	07:00:03	07:12:20	00:12:17	66.18
3	190482	67724	86	06:22:08	06:40:37	00:18:29	100
3	190482	67724	87	06:20:41	06:42:33	00:21:52	100
3	190482	67724	88	06:19:33	06:43:05	00:23:31	100
3	190482	67724	89	06:18:41	06:43:21	00:24:40	100
3	190482	67724	90	06:18:01	06:43:25	00:25:23	100
3	190482	67724	91	06:17:34	06:43:16	00:25:42	100
3	190482	67724	92	06:17:18	06:42:57	00:25:39	100
3	190482	67724	93	06:17:14	06:42:26	00:25:13	100
3	190482	67724	94	06:17:21	06:41:44	00:24:23	100
3	190482	67724	95	06:17:42	06:40:49	00:23:07	100
3	190482	67724	96	06:18:18	06:39:39	00:21:21	100
3	190482	67724	97	06:19:14	06:38:10	00:18:56	100
3	190482	67724	98	06:20:38	06:36:13	00:15:35	100
3	190482	67724	99	06:22:57	06:33:23	00:10:25	49.46
3	190482	67724	245	06:22:14	06:30:26	00:08:12	29.58
3	190482	67724	246	06:18:50	06:33:09	00:14:19	97.68
3	190482	67724	247	06:16:39	06:34:39	00:18:01	100
3	190482	67724	248	06:14:59	06:35:38	00:20:39	100
3	190482	67724	249	06:13:40	06:36:15	00:22:35	100
3	190482	67724	250	06:12:37	06:36:37	00:23:59	100
3	190482	67724	251	06:11:47	06:36:45	00:24:58	100
3	190482	67724	252	06:11:09	06:36:41	00:25:32	100
3	190482	67724	253	06:10:41	06:36:26	00:25:45	100
3	190482	67724	254	06:10:25	06:35:59	00:25:35	100
3	190482	67724	255	06:10:19	06:35:23	00:25:03	100
3	190482	67724	256	06:10:26	06:34:33	00:24:07	100
3	190482	67724	257	06:10:46	06:33:30	00:22:44	100

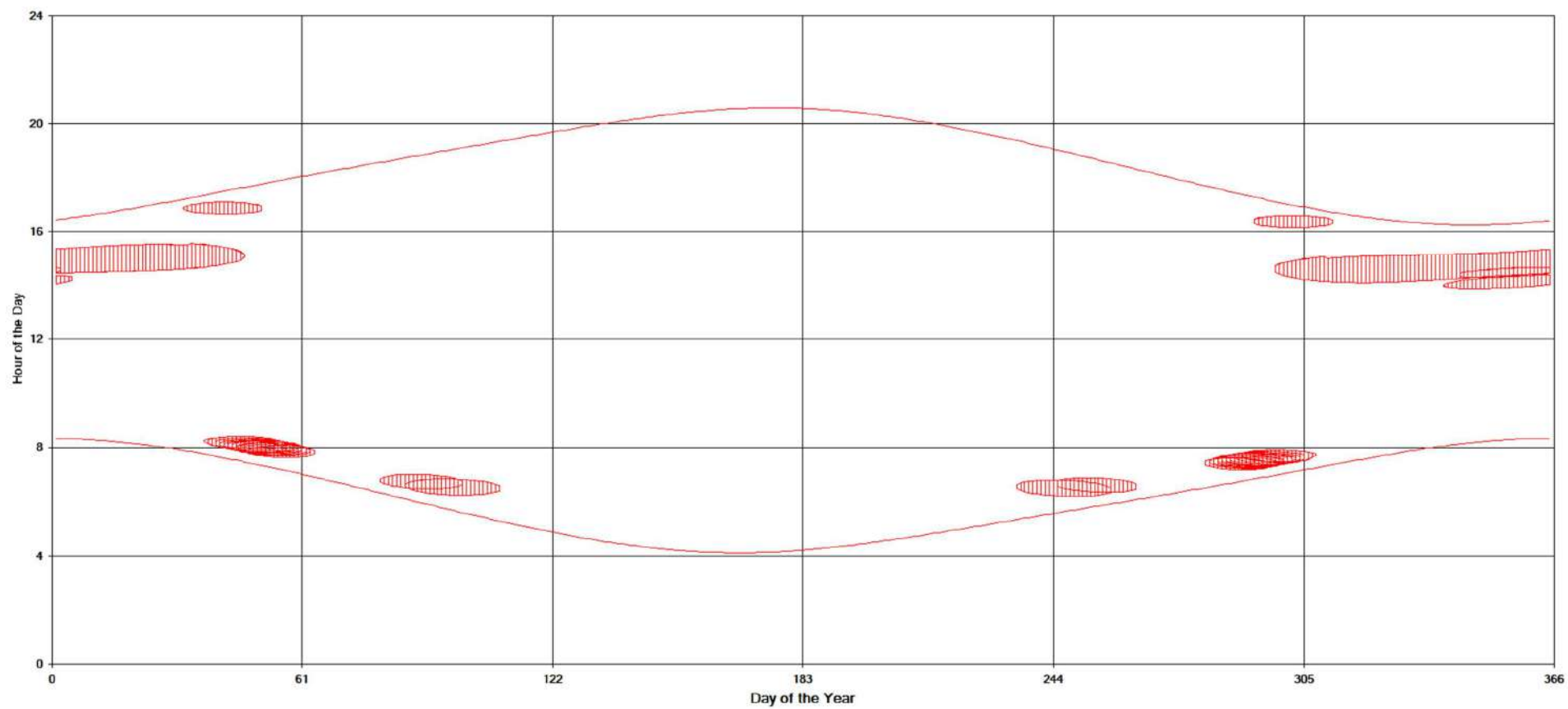
3	190482	67724	258	06:11:22	06:32:10	00:20:48	100
3	190482	67724	259	06:12:22	06:13:09	00:00:47	100

Appendix B - Graphical Output of Shadow Flicker Events

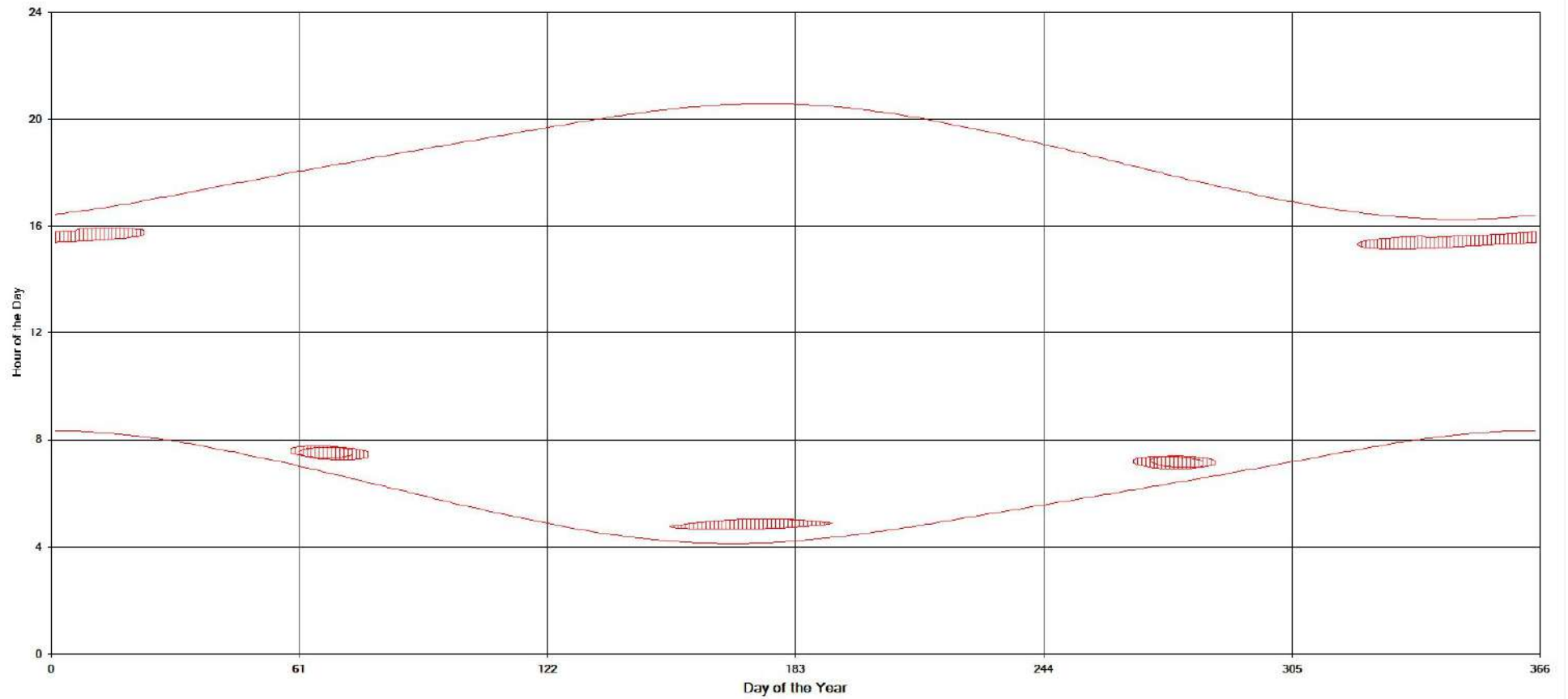
Shadow Times On All Houses From All Turbines



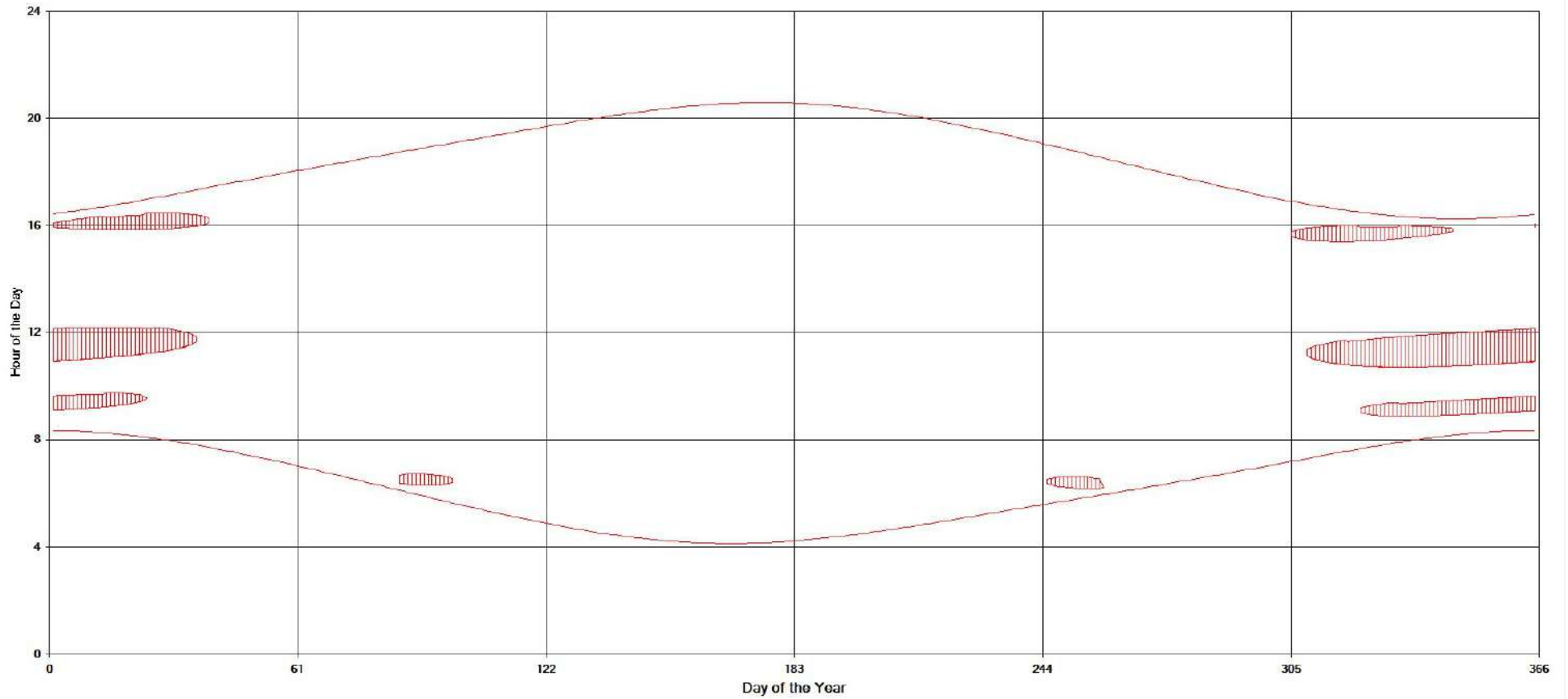
Shadow Times On All Houses From T2



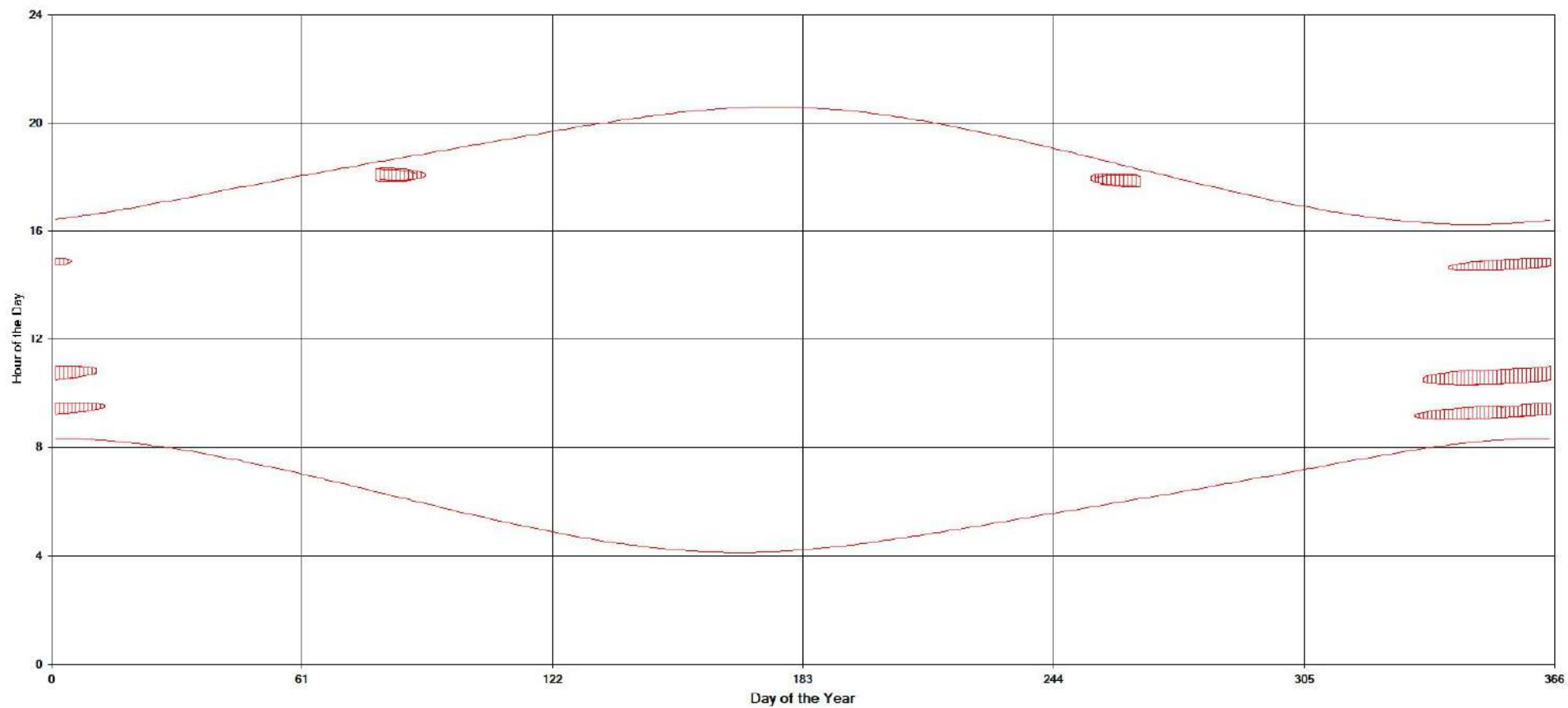
Shadow Times On All Houses From T3



Shadow Times On All Houses From T4



Shadow Times On All Houses From T5



CleanEarth PR3765 Shadow Flicker Assessment for repowering of 16 wind turbines with 4 wind turbines, Land At Bears Down Farm.

Appendix C - Map showing modelled properties

