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Organizer of the proposed economic activity

UAB „Biržų vėjas“



Proposed economic activity:

CONSTRUCTION AND OPERATION OF A WIND FARM OF UP TO 35 WIND TURBINES PLANNED BY BIRŽŲ VĖJAS, UAB IN NEMUNĖLIO RADVILIŠKIS AND PAROVĖJA WARDS OF BIRŽAI DISTRICT MUNICIPALITY IN PANEVĖŽYS COUNTY

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THE PEA IS PRESUMED AS BEING IN THE OVERRIDING PUBLIC INTEREST AND IN THE INTEREST OF PUBLIC SAFETY

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Text Annex 1 contains a summary of qualifications and experience of the authors of the EIA Report and copies of their qualifications documents.

ABBREVIATIONS USED IN THE TEXT

Abbreviation	Meaning of the abbreviation
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
EU	European Union
GDPR	General Data Protection Regulation
GHG	Greenhouse gas
GIS	Geographical Information System
LHS	Lithuanian Hydrometeorological Service
MoC	Ministry of Culture
MoE	Ministry of Environment of the Republic of Lithuania
MoH	Ministry of Health of the Republic of Lithuania
MoI	Ministry of the Interior of the Republic of Lithuania
NF	Natural framework
NPHC	National Public Health Centre under the MoH
PEA	Proposed economic activity
PHIA	Public Health Impact Assessment
RES	Renewable energy sources
RL	Republic of Lithuania
RLPC	River, Lake and Pond Cadastre of the Republic of Lithuania
SAC	Special Area of Conservation
SPZ	Sanitary protection zone
SRIS	Protected Species Information System
STAA	State Protected Areas Authority under the MoE
WHO	World Health Organisation
WindPRO	Mathematical model designed for the modelling of noise and shadow flicker caused by wind turbines
WTor WPP	Wind turbine or Wind power plant
ŽGR	Register of the Underground Sphere

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1. INTRODUCTION

Biržų vėjas, UAB intends to construct and operate a wind farm of up to 35 WTs in the territories of the Nemunėlio Radviliškis and Parovėja Wards of the Biržai District Municipality in the Panevėžys County. The proposed activity will include the construction of grounds and access roads for the servicing of the WTs, other infrastructure required for the conduct of the proposed economic activity (an underground power cable network, a transformer substation) and the construction and operation of 35 WTs.

The activity proposed by Biržų vėjas, UAB – the construction and operation of a wind farm of up to 35 WTs in the territories of the Nemunėlio Radviliškis and Parovėja Wards of the Biržai District Municipality (the 'PEA') is on the list of activities contained in Annex 1 to the Republic of Lithuania Law on the Environmental Impact Assessment of Proposed Economic Activities (the 'EIA Law') [1] and falls within paragraph 3.10 'Construction of Wind Power Plants', subparagraph 3.10.2 'On land, when 7 or more wind power plants are to be constructed and the distance from them to the wind power plants already completed, under construction or planned to be constructed is 5 km or shorter (as measured between the tower axis centres), or when this figure and the distance are reached including the ones already completed, under construction or planned to be constructed', therefore, an assessment of the PEA's impact on the environment must be made (the 'EIA').

Wind farm operations is an activity that is presumed as being in the overriding public interest and in the interest of public safety, i. e. the proposed economic activity that is intended for the production of energy from renewable energy installations within the meaning of Commission Recommendation (EU) 2022/822 of 18 May 2022 on speeding up permit-granting procedures for renewable energy projects and facilitating power purchase agreements (Article 2(16) of the EIA Law).

Biržų vėjas, UAB and Sweco Lietuva, UAB concluded an agreement for the EIA of the PEA: under the agreement, Sweco Lietuva, UAB undertook to prepare a notice of commencement of the EIA, prepare the EIA Report, obtain approvals on the prepared documents from the EIA stakeholders, inform the public about the documents, and submit them to the EPA for consideration and decision on the PEA feasibility.

In July 2022, Sweco Lietuva, UAB prepared the Notice of Commencement of the EIA, presented it for public consultation and submitted to the EIA stakeholders and the EPA according to set procedures. Information on all the comments and proposals received from members of the public, the EIA stakeholders and the EPA is provided in Text Annex 2.

This EIA Report on the Construction and Operation of a Wind Farm of up to 35 WTs Planned by Biržų vėjas, UAB in the Territories of the Nemunėlio Radviliškis and Parovėja Wards of the Biržai District Municipality in the Panevėžys County (the 'EIA Report') has been prepared in accordance with the Republic of Lithuania Law on the Environmental Impact Assessment of Proposed Economic Activities [1], the Procedure for Environmental Impact Assessments of Proposed Economic Activities (the 'Procedure') [2], the Republic of Lithuania Law on Energy from Renewable Sources [3], and other relevant legal acts and regulations, information provided by the PEA Organiser, and results of analyses carried out during the EIA (Text Annexes 5 and 6).

While no WT location alternatives have been identified in the EIA Report, however, a number of options of the WT technical parameters (A, B and C) are being considered. Potential impact of selecting each of these options upon the environment and public health is assessed and compared including a comparison with Option 0.

In March 2022 – February 2023, researchers of Media ir aplinkos projektai, VšĮ carried out in situ observations of hatching, migrating and flocking birds as well as bats in the PEA territory and its environs (Text Annexes 5 and 6). Results and conclusions of the observations were used in making the assessments and preparing the EIA Report (some WT locations were adjusted on receipt of these results and conclusions at an early stage (for more details, see Section 4.6).

Having regard to the initial assessment results as well as comments received from the EIA stakeholders in the EIA Report approval process, the PEA Organiser decided to withdraw four WTs (N1, N6, N11, N17). The EIA Report has been adjusted according to these changes.

Main purposes of the EIA of the PEA:

- to determine, describe and assess the PEA‘s potential impact, both direct and indirect, on the following components of the environment: soil, surface and interior of the earth, air, water, climate, landscape and biological diversity, with the focus on species of Community importance and natural habitats as well as other species protected under the Republic of Lithuania Law on Protected Fauna, Flora and Fungi, material assets, immovable cultural heritage sites, and the interaction between all these elements;
- to determine, describe and assess the potential impact, both direct and indirect, of biological, chemical and physical factors arising from the PEA on public health and on the interaction between the components of the environment and public health;
- to determine the PEA‘s potential impact on the aforesaid components of the environment and public health in terms of the PEA‘s sensitivity to potential extreme events and/or emergencies;
- to identify measures to be implemented in order to avoid/reduce significant negative impact on the environment and public health, to repair any damage caused, or to compensate for the impact if possible;
- to determine whether the PEA complies, having regard to its type, scope, place and/or impact on the environment, with the environmental protection, public health, immovable cultural heritage protection, fire safety and civil safety legislation, and whether the PEA will produce a significant negative impact on the aforesaid components of the environment and public health as well as interaction thereof.

Stages of the EIA process:

- Preparing and publicising the Notice of Commencement of the EIA; obtaining and evaluating comments, proposals and conclusions on the said Notice from the public and the EIA stakeholders;
- Assessing the PEA‘s environmental impact and preparing the EIA Report;
- Publicising the EIA Report and presenting it to the public, obtaining and evaluating comments and proposals received from the public, obtaining approvals on the EIA Report

from the EIA stakeholders, obtaining approval on the EIA Report from the EPA and its decision on the PEA's feasibility.

Participants in the EIA process:

- PEA Organiser: Biržų vėjas, UAB
- Author of the EIA documentation for the PEA: Sweco Lietuva, UAB
- The public;
- EIA stakeholders:
  - ✓ Biržai District Municipal Administration
  - ✓ Panevėžys Department of the National Public Health Centre under the MoH;
  - ✓ Panevėžys Fire Rescue Board under the Fire Safety and Rescue Department of the MoI;
  - ✓ Panevėžys-Utena Territorial Office of the Cultural Heritage Department under the MoC;
  - ✓ State Protected Territories Authority under the MoE;
  - ✓ Lithuanian Geodetic Survey under the MoE.
- Evaluating authority: EPA.

Procedures for the public involvement in the EIA process

The public participates in the PEA's EIA process in accordance with the EIA Law [1] and the Procedure for Environmental Impact Assessments of Proposed Economic Activities [2].

Procedures for the public involvement include:

- Notice of Commencement of the EIA;
- Public presentation of the EIA Report; and
- Informing the public about the EPA's decision on the PEA.

Publicity procedures for the Notice of Commencement of the EIA and the EIA Report:

- the public will be informed about the availability of the Notice of Commencement of the EIA and the EIA Report for familiarisation by placing notices in publications, on notice boards in municipal and ward offices, and online;
- a public meeting for the presentation of the EIA Report will be organised.

2. BACKGROUND

2.1 Details of the PEA Organiser

Name of the company	Biržų vėjas, UAB
Address, telephone and fax	J. Janonio a. 5, 41170 Biržai
Name and job title of the contact person	Evaldas Losis Director tel. +370 610 25533 email: evaldas@rdg.lt

2.2 Details of the entity preparing the environmental impact assessment documentation for the PEA

Name of the company	Sweco Lietuva, UAB
Address, telephone and fax	Ozo g.12A-1, 08200 Vilnius tel. +370 5 262 2621 email: info@sweco.lt website: www.sweco.lt
Name and job title of the contact person	Vytautas Belickas Head of Environmental Protection and Planning Division tel. +370 699 83628 email: vytautas.belickas@sweco.lt

2.3 PEA title, purpose and implementation time limits

PEA title	Construction and operation of up to 35 WTs planned by Biržų vėjas, UAB in the territories of Nemunėlio Radviliškis and Parovėja Wards of Biržai District Municipality
Project stage	Environmental impact assessment of the PEA
PEA location	Nemunėlio Radviliškis and Parovėja wards, Biržai District Municipality, Panevėžys County
Capacity and power:	Total rated power of the wind farm – up to 262.50 MW. Rated power per WT – up to 7.5 MW (technical option ‘maximum‘).
Estimated term of operation of the PEA facilities	up to 35 years

3. INFORMATION ABOUT THE PEA

3.1 PEA location

3.1.1 PEA location in terms of territorial administrative units/parts thereof and residential areas

The PEA is being planned in the central part of Biržai district municipality. Up to 29 WTs are planned to be constructed and operated in privately owned land plots of Nemunėlio Radviliškis and Parovėja wards of the municipality, with the construction of the necessary infrastructure (a transformer substation, underground power cables, service grounds, access roads etc.). The WT tower height will be up to 180 m, overall height with the raised turbine blade – up to 270 m. Up to 7.5 MW wind turbines are being planned.

Implementation of the PEA (the WTs and their service infrastructure) is planned in the territories of the following villages of the Biržai district municipality of the Panevėžys county: in Nemunėlio Radviliškis ward - Nemunėlio Radviliškis village, Spingučiai village, Kočėnai village, Leitiškiai village, Svidžiai village, Jasiškiai village, Velykionys village, Kiauliškiai village, Jokūbiškis village, Nausėdžiai village, Padvariečiai village, Parupė village and Juljanava village; in Parovėja ward – Zasiškiai village, or parts of these territories. The EIA report examines three options of the transformer substation locations: T1 in Paberžiai village, T2 – Pitiškiai village, and T3 – Vinkšniniai village in Parovėja ward (Figure 3.1.1.1).

Power cables between the WTs and to the transformer substation are planned to be laid in the territories of the following villages/farmsteads of Biržai district municipality of Panevėžys county: in Parovėja ward – Lapakrita village, Pladiškis farmstead, Apušynė village, Skultiškiai village, Kraniškis village, Latveliai village, Starklizdis village, Strazdiškis farmstead, Zasiškiai village, Daukniškiai village, Olšynė village, Užušiliai village, Mažutiškiai village, Medeikiai village, Migdoliškiai village, Peleniškiai village, Paberžiai village, Parovėja village, Pitiškis village, Vinkšniniai village; in Nemunėlio Radviliškis ward – Bliūdžiai village, Bobėnai village, Jasiškiai village, Jokūbiškis village, Juljanava village, Kiauliškiai village, Kočėnai village, Kraukliai village, Leitiškiai village, Naujikai village, Nausėdžiai village, Nemunėlio Radviliškis village, Padvariečiai village, Parupė village, Spingučiai village, Svidžiai village, Šilagala village and Velykionys village, or parts of these territories (Figure 3.1.1.1).

Wind turbines nearest to the Biržai city boundary are planned at 13.0 km north of the boundary (WT N26) and nearest to the Pasvalys city boundary – at 33.9 km to the north-east of the boundary (WT N26). The nearest settlements are located at the distance of 1.1 km from the WT being planned. Alternative WT locations planned would be: TP1 – at the distance of 7.6 km, TP2 – 3.3 km, and TP3 – 4.9 km from the Biržai city boundary. The PEA installations do not fall either within territories of cultural heritage sites and their safety zones or protected areas and Natura 2000 sites and their safety zones, and do not border such territories/areas.

Geographical and administrative locations of the PEA installations are shown in Figure 3.1.1.1 and Graphic Annex 1.

No WT location alternatives are considered within the scope of the EIA for the PEA. The PEA Organiser decided to abandon construction of four WTs (N1, N6, N11, N17) based on the results of initial assessment and comments received from the EIA stakeholders during the EIA Report‘s

approval process. Therefore, adjustments have been made to the PEA Report. Figure 3.1.1.1 shows the locations of the WTs including those the construction of which was abandoned by the PEA Organiser.

Locations of some WTs have been adjusted having regard to the results of annual observations of birds and bats in the PEA territory and its environs (for more details, see Section 4.6) and conclusions of the initial noise dispersion modelling (for more details, see Section 4.10).

The PEA EIA process involved examination and assessment of alternative technical solutions (see Section 4.12) and impact-reducing measures.

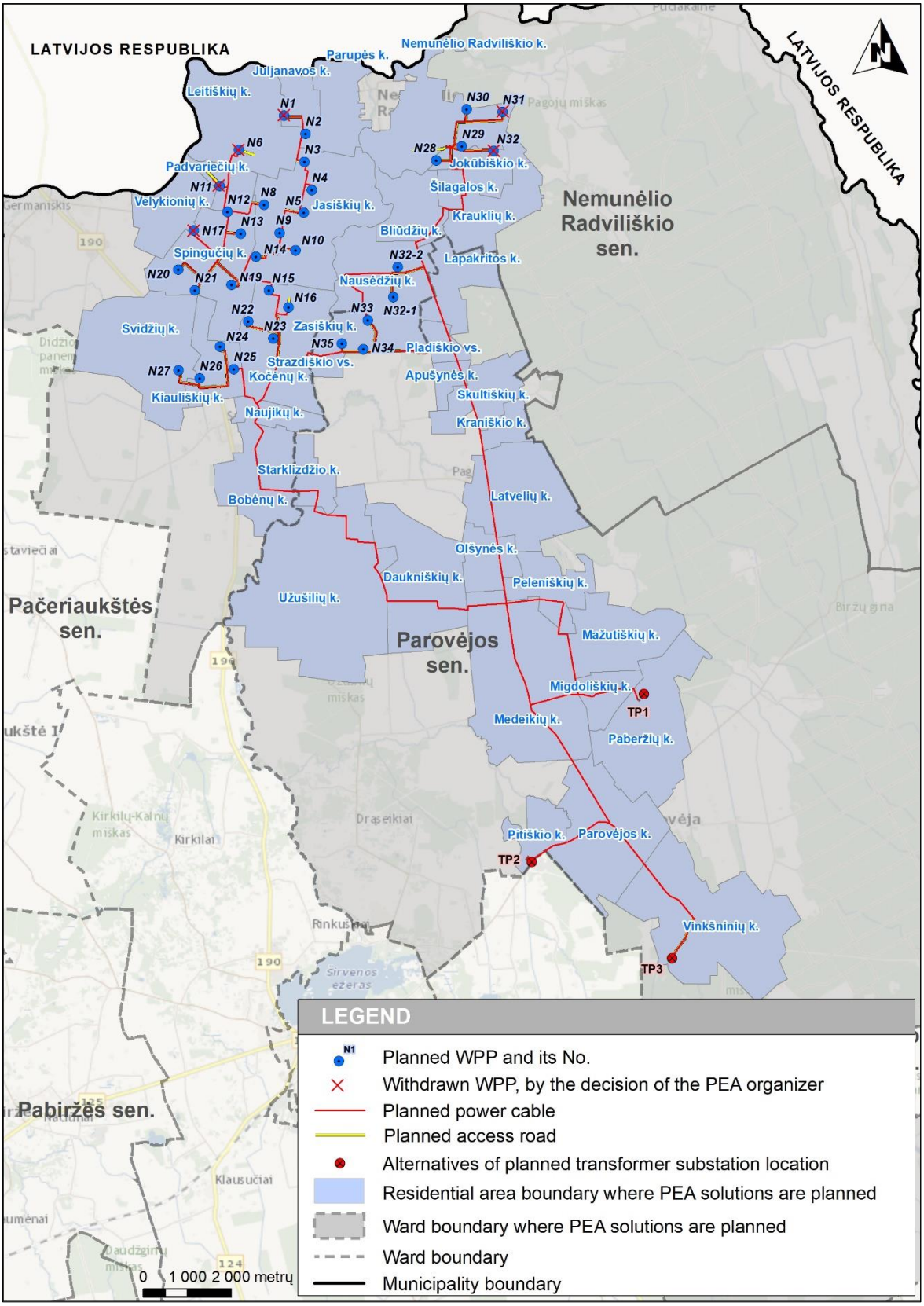


Figure 3.1.1.1. Geographic and administrative situation of the PEA installations

Coordinates of the WT and TS locations are specified in Table 3.1.1.1 below.

Table 3.1.1.1. Coordinates of conventional centres of the WT and TS being planned

Item No	PEA installation	LKS 94 coordinates (conventional centre)*	
		X	Y
1	N1***	545429	6251194
2	N2	545926	6250780
3	N3	545896	6250138
4	N4	546072	6249494
5	N5	545883	6248975
6	N6***	544400	6250414
7	N8	544979	6249159
8	N9	545330	6248515
9	N10	545698	6248113
10	N11***	543962	6249591
11	N12	544141	6248992
12	N13	544443	6248494
13	N14	544794	6247974
14	N15	545084	6247205
15	N16	545531	6246809
16	N17***	543368	6248568
17	N19	544234	6247330
18	N20	543009	6247672
19	N21	543391	6247200
20	N22	544610	6246488
21	N23	545186	6246098
22	N24	543972	6245918
23	N25	544286	6245398
24	N26	543502	6245186
25	N27	543025	6245373
26	N28	548911	6250172
27	N29	549492	6250491
28	N30	549603	6251337
29	N31	550427	6251277
30	N32	550222	6250390
31	N32-1	547926	6247047
32	N32-2	548034	6247730
33	N33	547343	6246514
34	N34	547242	6245857
35	N35	546755	6245984
36	TP1**	553626	6237982
37	TP2**	551020	6234250
38	TP3**	554339	6231984

* - Slight adjustment of the WT location coordinates is possible in the course of preparation of technical designs for the installations.

** - An optimal WT location will be proposed on completion of the assessment.

*** - The PEA Organiser has decided to abandon construction of these WT during the assessment.

3.1.2 Compliance of the PEA solutions with approved territorial planning documents

A list of valid general (integrated) and special territorial planning documents (TPDs) and other documents relevant to the PEA territory and its nearest environs is provided in Table 3.1.2.1.

Table 3.1.2.1. List of valid general (integrated) and special territorial planning and other documents

Item No	Description	Document whereby the TPD was approved
Integrated TPDs – master plans		
1.	Master plan of the territory of the Republic of Lithuania (MP of the Republic of Lithuania)	Resolution of the Government of the Republic of Lithuania No 789 of 29 September 2021 'Regarding approval of the master plan of the territory of the Republic of Lithuania'.
2.	Amendment to the master plan of Biržai district municipality ('Amendment to the Biržai District MP')	Decision of the Biržai District Council No T-153 of 30 April 2021 'Regarding approval of the amendment to the master plan of Biržai district municipality'.
Special TPDs		
3.	Panevėžys County Forest Management Scheme	Order of the Minister of the Environment of the Republic of Lithuania No D1-737 of 15 December 2021 'Regarding approval of the forest management scheme for Panevėžys County'
4.	Land management scheme for forests in the territory of the Biržai district municipality	Decision of the Biržai District Council No T-276 of 22 December 2006 'Regarding approval of the land management scheme for forests in the territory of Biržai district municipality
5.	Amendment to the plan for the development of water supply and waste management infrastructure of Biržai district municipality	Decision of the Biržai District Council No T-211 of 26 August 2021 'Regarding approval of the amendment to the plan for the development of water supply and waste management infrastructure of Biržai district municipality
Other plans		
6.	Map of Territories of the Republic of Lithuania in Which Design and Construction of Wind Turbines (Tall Structures) Can Be Restricted approved by Order of the Chief Commander of the Lithuanian Armed Forces No V-217 of 15 February 2016 'Regarding approval of the map of territories of the Republic of Lithuania in which design and construction and wind turbines (tall structures) can be restricted'.	
7.	Republic of Lithuania Law on Energy from Renewable Sources (the 'Law on Energy from Renewable Sources')	

Master Plan of the Republic of Lithuania

According to Chapter II, Section 6, p. 309, of the MP of the Republic of Lithuania, farms of power plants operating on RES are to be developed in the territory of Lithuania.

The development of the power plants operating on RES requires ensuring adequate capacities of Lithuania's energy system and the electricity system balancing and reserving services as well as other services to be provided also by producers of energy from RES (Chapter II, Section 6, p. 311).

Chapter II, Section 6, p. 350, 351 and 356 of the MP of the Republic of Lithuania contain the following provisions on the development of wind and solar power plants in relation to the visual and aesthetic protection of landscapes:

'350. On a national level, the landscape's aesthetic potential (picturesqueness) is formed by its visual expressiveness, dominant features, diversity of landscape components, panoramic overview, and its perceived value in public opinion. Based on features of landscape's visual structure, areas and localities requiring enhanced protection in terms of the country's visual aesthetic potential are determined (the 'enhanced protection landscape areas'), and the following specific visual protection requirements are applied to them (see drawings Landscape Formation and Ecological Balance; Cultural Policy and Recreation):

350.1. any solar power plants planned must not exceed installed capacity of 500 kW in the enhanced protection landscape areas), except a wind turbine constructed in a farmstead or at existing farm buildings;

350.3. in any assessments of impact on landscape, seek to preserve the most visually expressive landscape structures (see Landscape Types AI, AII and BI in p. 61 of Annex 5 'National Landscape Management Plan' to the MP of the Republic of Lithuania), existing type of landscape and natural processes, and to ensure protection against visual pollution. In lower-level territorial planning documents, regulations on the protection of the territories' visual and aesthetic potential are established, areas with aesthetic potential and valuable features of landscape are adjusted etc.

351. The following criteria must be applied in assessments of potential visual pollution: changes in land use, visual aspect, impact on valuable features of landscape (including those that are perceived as valuable in public opinion), valuables of nature and culture as well as components thereof, possibility of overviewing them, panoramas, value and use of recreational resources, and impact on biological diversity.

356. In the drawing up of territorial/strategic planning and landscape formation documents, analyse landscape characteristics and processes affecting them and the perceived value of landscape in public opinion, and identify long-term measures to preserve and manage valuable and/or picturesque landscape, either natural or cultural. Provisions on landscape protection and management aimed at ensuring the protection of natural and cultural values (including visual protection) and the ecological balance of a territory are detailed in special plans for protected areas and/or master plans of municipalities as well as other territorial planning/strategic plans.

By Resolution of the Government of the Republic of Lithuania No 789 of 29 September 2021 'Regarding approval of the master plan of the territory of the Republic of Lithuania', the Government of the Republic of Lithuania invalidated its Resolution No 1531 of 12 December 2012 'Regarding approval of the master plan of the territory of Panevėžys County' as amended.

Amendments to the master plan of the territory of the Biržai District Municipality

According to the Main Drawing of the Amendment to the Biržai District MP, all the WTs and transformer substations being planned fall within non-urban territories, i. e. functional areas of agricultural territories (Figure 3.1.2.1).

In accordance with Articles 13(1) and 20(3) of the Republic of Lithuania Law Amending Articles 2, 3, 5, 6, 11, 13, 14, 20(1), 20(2), 22, 30, 32, 48, 49 and 51 of the Law No XI-1375 and Adding Articles 13(1) and 20(3) to this Law enacted on 8 July 2022, wind turbines (including hybrid power plants) can be constructed in non-urban areas and areas not being urbanised provided that the territory‘s main purpose and main land use are not changed. According to p. 28 of Order of the Ministry of the Environment No D1-7 of 2 January 2014 ‘Regarding approval of the territorial planning standards‘, in all functional zones, the use of engineering infrastructure corridors and all types of use of common-use spaces and greenery areas are permitted, as well as other uses of the territory provided that the relevant activity does not give rise to a negative impact on the environment of the main (dominant) activity.

According to the Main Drawing of the Amendment to the Biržai District MP, part of the WTs (N2, N3, N8, N9, N12, N13, N14, N19, N21, N22, N24, N25, N26, N27, N30, N31, N32 and N34) fall within the boundaries of the natural framework. WT N21 is closest to the boundary of the North Lithuania karst region, the distance to the boundary being 25 m, whereas the distance between N20 and the boundary is 35 m. WT N2 is at the distance of 1060 m from the boundary of a recreational area.

According to the Main Drawing of the Amendment to the Biržai District MP, part of the WTs (N2, N3, N12, N13, N14, N20, N21, N29, N30, N31 and N32) fall within the border zone, and WT N19 is on the boundary of the border zone. In accordance with the general provisions of the Amendment to the Biržai District MP, any activities in the territories intended for the protection of the border (border zone) and not related to the border protection must be coordinated with the State Border Guard Services under the Ministry of the Interior of the Republic of Lithuania. A border regime will apply to the border zone during temporary renewal of checks at the EU‘s internal border. Legal regimes for the border and the border zone are established in the Law on the Border of the Republic of Lithuania and Its Protection. Construction, reconstruction and erection in the border zone of structures and installations the height of which is 30 m from the ground or higher must be coordinated with the State Border Guard Services under the Ministry of the Interior (Law on Aviation, Article 10).

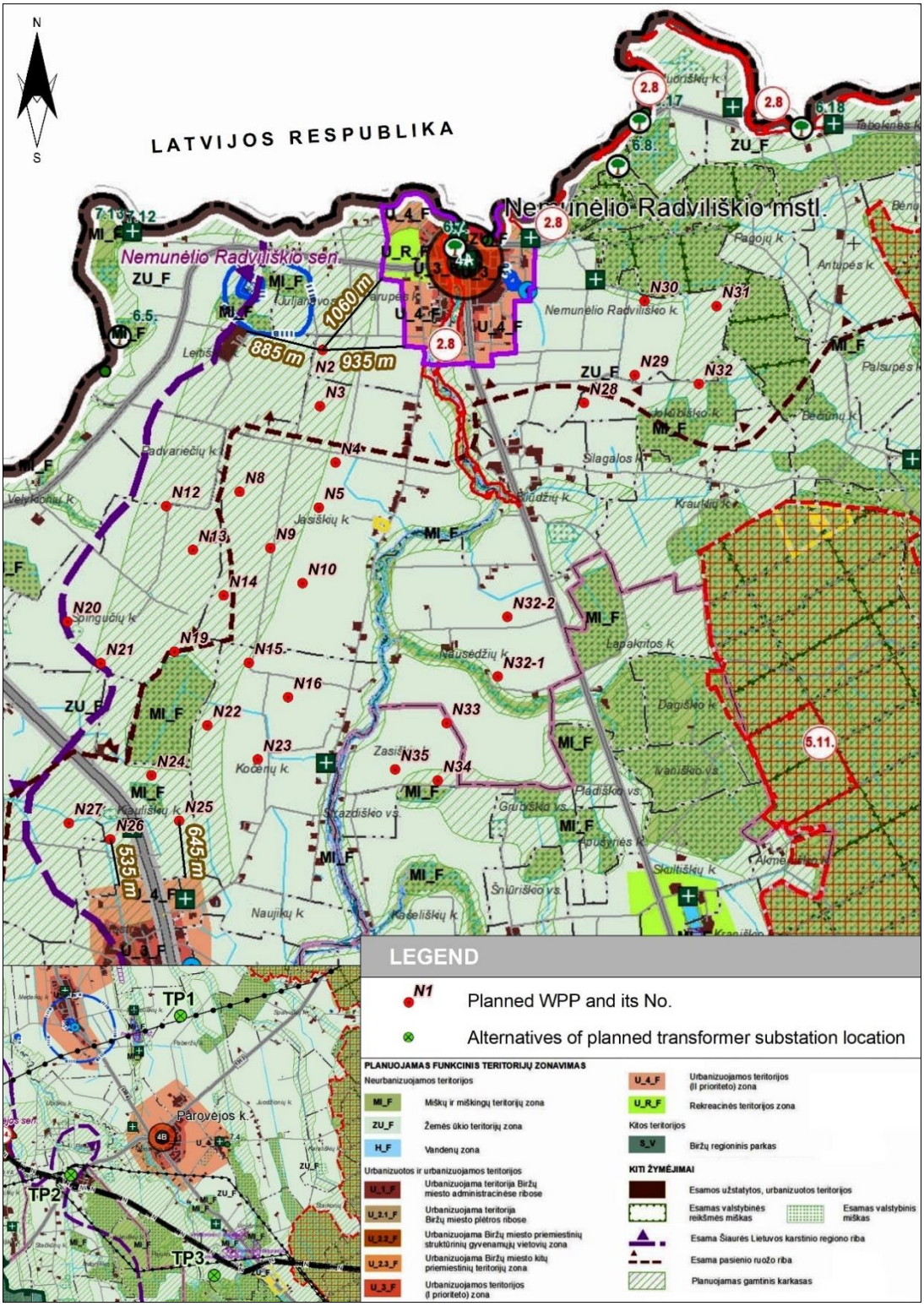


Figure 3.1.2.1. Extract from the Main Drawing of the Amendment to the Biržai District MP (*Source: Amendment to the Biržai District MP)*

Principles of development of wind power plants and other energy sources are set for in Section 9.8 ‘Renewable Energy Sources‘ of Chapter 9 ‘Development of Engineering Infrastructure‘ of the Main Drawing of the Amendment to the Biržai MP.

According to the MP of the Republic of Lithuania, the National Policy Strategy of Lithuania and the Strategic Development Plan of Biržai Municipality, a target has been set to achieve that, by 2050, renewable energy sources must account for 80% of the energy consumed by the energy (electricity, heat etc.) sector and transport. Optimisation of the intensity of use of both renewable and non-renewable sources is promoted to ensure sustainable use of territories and protection of their regeneration and geoecological potential. Effective creation and implementation of structures to help reduce carbon dioxide emissions, increase energy efficiency and encourage the use of energy from RES is promoted. Development of RES in the electricity, heat and transport sectors including increasing the share of electricity producers (in both houses and blocks of flats) to 30% of total number of electricity consumers is promoted, along with the continued implementation and upgrading of installations operating on biofuel. In the transport sector, the objective is to increase the use of electric vehicles and maintain the production of first-generation biofuels and the production and use of second-generation biofuels.

Principles of WT development in the territory of Biržai district municipality i

The WT farm will be developed in the territory of Biržų district municipality in accordance with the Republic of Lithuania Law on Energy from Renewable Sources, having regard to Order of the Chief Commander of the Lithuanian Armed Forces No V-217 of 15 February 2016 ‘Regarding approval of the Map of Territories of the Republic of Lithuania in Which Design and Construction of Wind Turbines (Tall Structures) Can Be Restricted‘, other legal acts and documents governing construction of wind power plants, and the Amendment to the Biržai MP. According to the aforesaid map, areas have been identified in the northern part of Biržai district in which the WT locations can be approved provided that the producer of energy from RES and the Lithuanian Armed Forces will conclude an agreement on compensation for part of investments and other expenditure for the national security functions. According to the aforesaid map, all the WTs being planned fall within the territories where WT locations can be approved subject to conditions (Figure 3.1.2.2) and there are no places in the Biržai District where WT design and construction works would be prohibited. To select most suitable locations for the WT construction, lower-level territorial planning documents must be prepared, with a more detailed evaluation of the location‘s suitability. On completion of detailed evaluations of suitability and/or should the Chief Commander of the Lithuanian Armed Forces change (increase or reduce) the restrictions set in the map, such restrictions will be applied to the construction/reconstruction of high-rise buildings and WTs in the municipal territory without changing the solutions provided in the master plan.

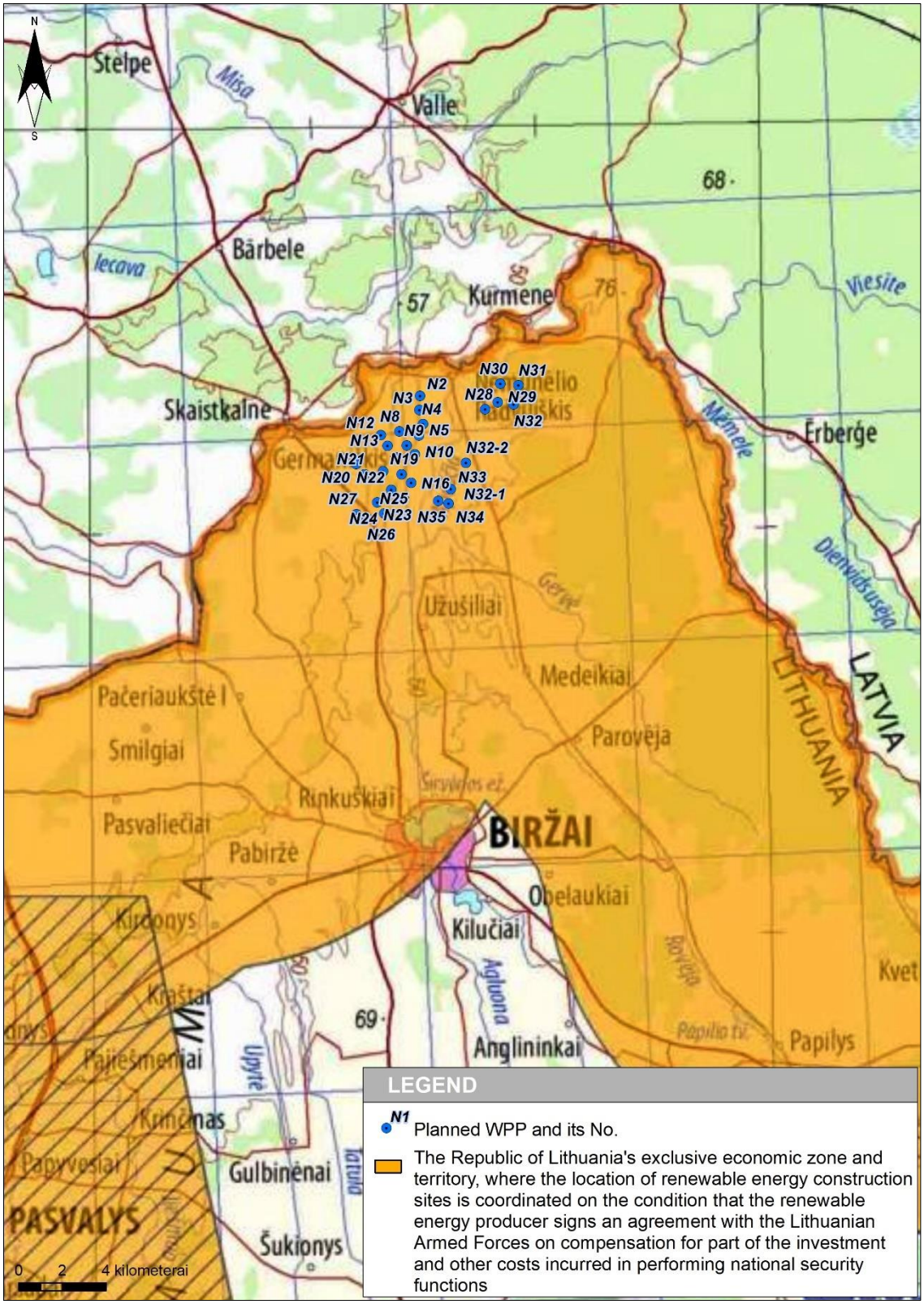


Figure 3.1.2.2. Extract from the Map of territories of the Republic of Lithuania where design and construction and wind turbines (tall structures) can be restricted (*Source: Map of territories of the Republic of Lithuania where design and construction and wind turbines (tall structures) can be restricted*)

However, in no circumstances construction of WTs is allowed in:

- territories where WT design and construction works are prohibited by Order of the Chief Commander of the Lithuanian Armed Forces No V-217 of 15 February 2016;
- a regional park and within a 2 km distance from its buffer safety zones (unless the park's management regulations state otherwise);
- territory of the North Lithuania karst region where construction of structures is prohibited by law;
- other protected areas and within a 1 km distance from them and their buffer safety zones (unless longer distances are provided for by the law);
- high probability snow melting and flood territories;
- cultural heritage sites and their safety zones;
- natural heritage sites and their safety zones;
- forests, gardens, bogs and surface water bodies;
- aerodrome safety zones;
- mineral resource deposit areas where detailed preliminary explorations have been completed, and ;
- functional zones or urban areas and areas under urbanisation plus within the radius of 500 m around them;
- recreational areas and within the radius of 500 m around them;
- areas at electricity transmission lines and within the radius of 150 m around them (unless longer distances are provided for by the law);
- in selecting locations for the WT construction, minimal horizontal distances set in the Rules for the Installation and Development of Main Gas Pipelines must be maintained, and approval for the construction must be obtained from the relevant company if the planned construction site falls within the boundaries of the main gas pipeline territory;
- territories where construction of WTs is not permitted according to the law.

It is reasonable to select areas with minimum greenery as wind strength is determined, among other factors, also by coarseness of the ground surface, whereas large amounts of plants and numerous tall structures weaken the wind strength in the near-surface layers. An optimal case would be prevailing agricultural lands in the territory being planned. Using the same territory for both agriculture and wind power plants is a rational solution.

Specific locations and distances from protected areas and their buffer safety zones, Natura 2000 sites and urban areas should be adjusted or set by lower-level planning documents while meeting

statutory requirements for hygiene (public health). Notably, in accordance with the Republic of Lithuania Law on Energy from Renewable Sources, it is not mandatory to set locations for WT in territorial planning documents. WF locations must be coordinated with the Civil Aviation Authority (since 4 August 2020 – Transport Competencies Agency, Transporto kompetencijų agentūra, VšĮ).

Preparation of engineering infrastructure development plans providing for areas for the allocation of wind and/or solar power plants must take the National Landscape Management Plant approved by Order of the Minister of Environment No D1-703 of 2 October 2015 into account. Notably, according to this plan, its solutions have priority in deciding on the feasibility of economic development (e. g. development of engineering networks and transport routes, use of RES etc.) in terms of landscape.

The PEA is not contrary to the Amendment to the Biržai District MP currently in effect.

Panevėžys County Forest Management Scheme

According to the Panevėžys County Forest Management Scheme, only part of the WT being planned (N9 and N15), and no transformer substations, fall within priority areas where planting of forests is permitted (Figure 3.1.2.3).

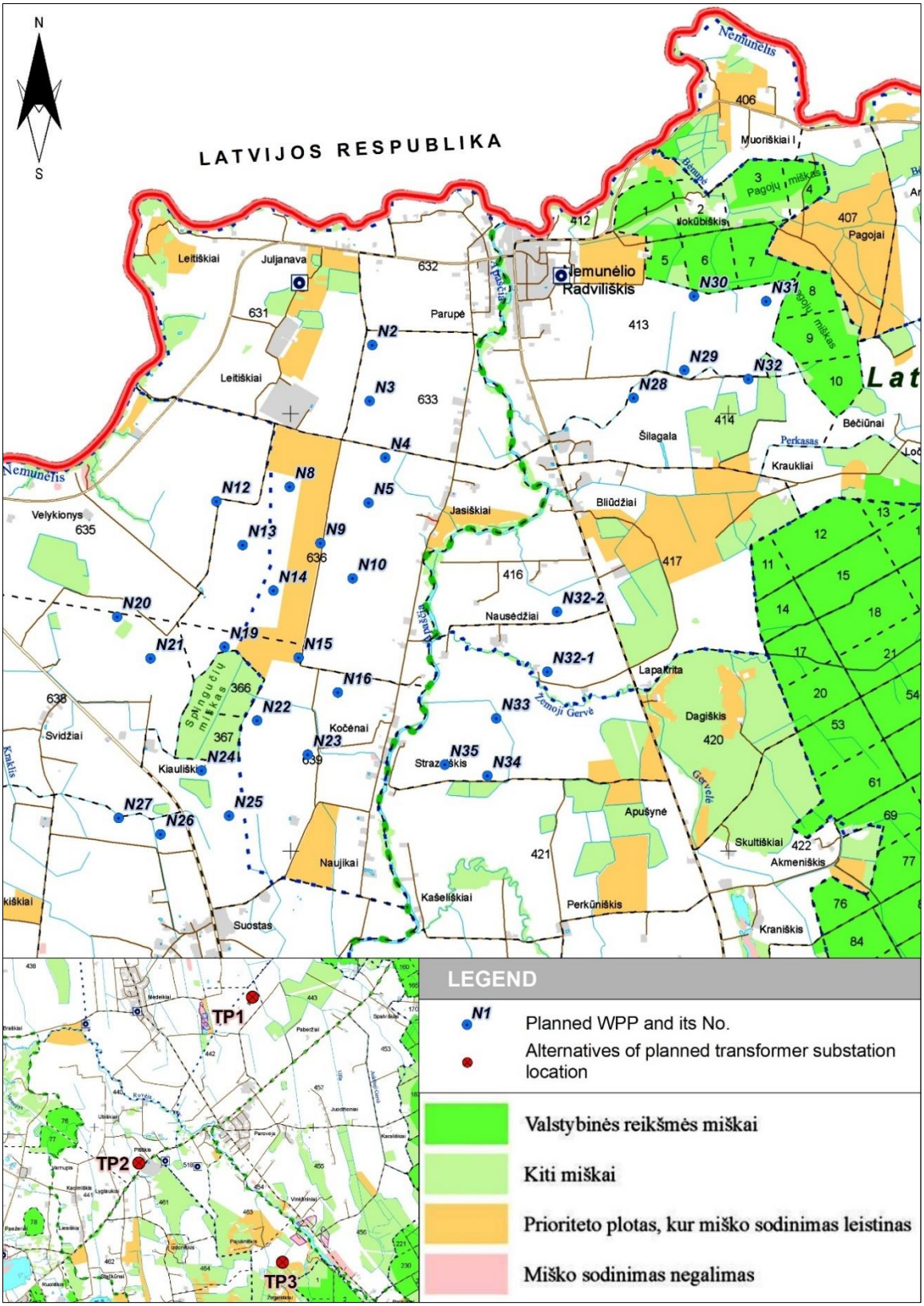


Figure 3.1.2.3. Extract from the Panevėžys County Forest Management Scheme (*Source: Panevėžys County Forest Management Scheme*)

Land management scheme for forests in the territory of Biržai district municipality

According to the Land management scheme for forests in the territory of Biržai district municipality, only part of the WT being planned (N9 and N15), and no transformer substations, fall within priority areas where planting of forests is permitted (Figure 3.1.2.4).

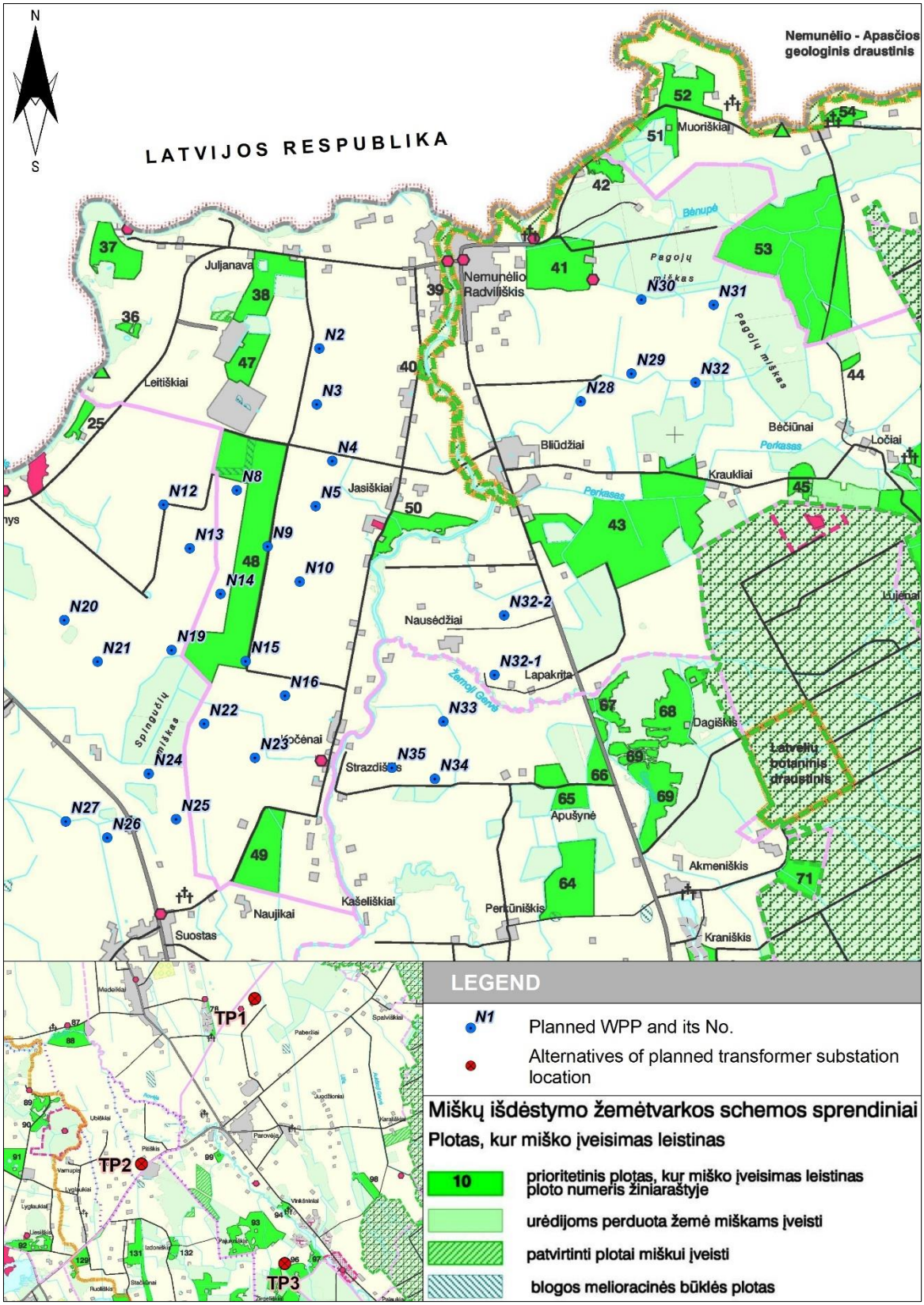


Figure 3.1.2.4. Extract from the Land management scheme for forests in the territory of Biržai district municipality (*Source: Land management scheme for forests in the territory of Biržai district municipality*)

Amendment to the plan for the development of water supply and waste management infrastructure of Biržai district municipality

According to the Main Drawing of the Amendment to the plan for the development of water supply and waste management infrastructure of Biržai District Municipality, the PEA locations do not fall within the Public Drinking Water Supply and Wastewater Management (PDWSWM) territories that are subject to infrastructure development lines II or III (Figure 3.1.2.5).

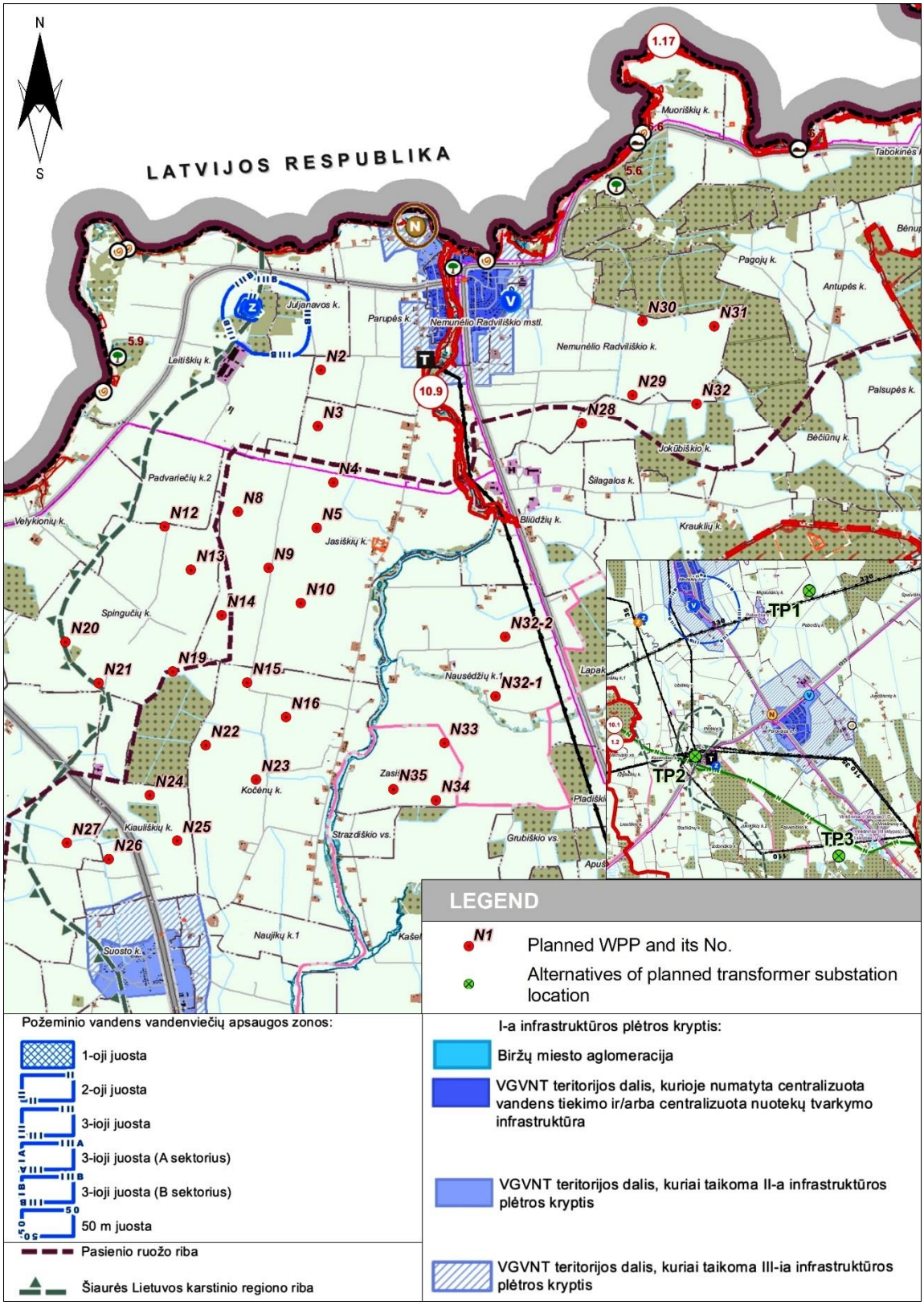


Figure 3.1.2.5. Extract from the Main Drawing of the Amendment to the plan for the development of water supply and waste management infrastructure of Biržai District Municipality (*Source: Plan for the development of water supply and waste management infrastructure of Biržai District Municipality*)

Republic of Lithuania Law on Energy from Renewable Energy Sources

Articles 13(1) and 20(3) of the Draft Law Amending Articles 2, 3, 5, 6, 11, 13, 14, 20(1), 20(2), 22, 30, 32, 48, 49 and 51 of the Law No XI-1375 and Adding Articles 13(1) and 20(3) to the Law on Energy from Renewable Sources introduce amendments to Article 49 of the Law on Energy from Renewable Sources that lays down the requirements for the design and construction of production installations operating on RES.

WTs (including WTs forming part of a hybrid power plant) can be constructed, subject to consent of the land plot owner and without changing the main purpose and method of land use, in non-urban territories and territories that are not being urbanised (except territories where such construction is not permitted according to territorial planning documents in effect and other legal acts).

Where WTs are constructed in agricultural land plots, the land use according to its main purpose and method of use must be ensured. Responsibility for the use of the land plot according to the main purpose and method of use rests with the land plot owners and other users unless the land owner's consent states otherwise.

There is no requirement for providing for WTs in territorial planning documents.

WTs with installed capacity exceeding 30 kW must be constructed in a way that ensures that the shortest distance between the central axis of the tower and garden cottages, residential buildings, hotels, cultural buildings, schools (secondary and vocational schools, higher educational establishments), kindergartens, buildings for scientific/educational purposes, buildings for informal education, buildings for recreational, medical treatment, sports and religious purposes, special-purpose buildings related to accommodation of people (army barracks, imprisonment institutions), or premises having the aforesaid purposes in structures of other types, and recreational areas is at least the height of the WT tower multiplied by 4 (hereinafter referred to as the 'distance'). Provided that owners of the buildings do not object, and such no-objection is confirmed in writing, WT with installed capacity exceeding 30 kW can be constructed within a shorter distance.

Should it be established, on completion of procedures for the assessment of impact on the environment and/or public health by proposed WT with installed capacity exceeding 30 kW, that public health protection requirements are complied with in some of the land plots falling within the said distance, then it is permissible to construct new buildings/fit out premises for the aforesaid purposes and to plan new recreational areas in such land plots situated nearer to the WFs, however, not nearer than the distance specified in the territory with restrictions on construction.

Any person intending to engage in the generation of electricity using a WT with installed capacity exceeding 30 kW must notify such intention, by a signed-for registered letter, to the owners of the land plots and buildings located within the distance equal to the WT's tower height, or within the territory in which compliance with the public health requirements will not be ensured, if such territory is larger than the territory covered by the WT tower height (the 'territory with construction restrictions').

An impact on landscape by the proposed economic activity is deemed to be insignificant provided that WT taller than 30 m are not constructed in the most valuable landscape areas and are not constructed within the distance the length of which is obtained by equalling one metre of the WT height (the tower height) to 10 m of the distance to the nearest panoramic overview point in the most valuable landscape areas. Landscape areas identified as areas under special protection in the MP of the Republic of Lithuania as well as particularly expressive landscape complexes are considered to be the most valuable landscape areas. The list of the most valuable areas' overview points identified in the most valuable landscape areas is approved by the Minister of Environment.

Conclusion: *The PEA location has been selected in accordance with the solutions contained in local and higher-level general and special territorial planning documents (TPDs). In the area selected for the WTs, the PEA is permissible having regard to the economic activities permitted according to the aforesaid TPDs. The PEA is not contrary to the TPDs in effect. According to the map approved by Order of the Chief Commander of the Lithuanian Armed Forces No V-217 of 15 February 2016 'Regarding approval of the Map of Territories of the Republic of Lithuania in Which Design and Construction of Wind Turbines (Tall Structures) Can Be Restricted', all the WTs being planned fall within territories in which the WT locations will be approved provided that the producer of energy from RES and the Lithuanian Armed Forces will conclude an agreement on compensation for part of investments and other expenditure for the national security functions*.

3.1.3 Information about the existing and future right of possession, use or disposal of land plots

Implementation of the PEA will cover 35 private land plots the details of which are provided in Table 3.1.3.1 below. The land plots are located in two wards of Biržai District Municipality of Panevėžys County: Nemunėlio Radviliškis ward – Nemunėlio Radviliškis village, Spingučiai village, Kočėnai village, Leitiškiai village, Svidžiai village, Jasiškiai village, Velykionys village, Kiauliškiai village, Jokūbiškis village, Nausėdžiai village, Padvariečiai village, Parupė village and Juljanava village; in Parovėja ward – Zasiškiai village, or parts of these territories, with the formation of individual land plots (up to ~ 0.3 ha) in each of them. The EIA report examines three options of the transformer substation locations: T1 in Paberžiai village, T2 – Pitiškiai village, and T3 – Vinkšniniai village in Parovėja ward.

Article 49(3) of the Law on Energy from Renewable Sources states that 'wind farms can be constructed, subject to consent of the land plot owner and without changing the main purpose and method of land use, in non-urban territories and territories that are not being urbanised (except territories where such construction is not permitted according to territorial planning documents in effect and other legal acts).'

As of the date of this report, the purpose of the land plots in which the construction and operation of the WT sis being planned, is 'agricultural', and the method of land use 'unspecified/other plots of agricultural land'. The current special conditions for the land use in effect for the land plots earmarked for the PEA are listed in Table 3.1.3.1; the boundaries of the land plots are shown in Figures 3.1.3.1 - 3.1.3.3. There are no structures in the parts of the land plots where the WT grounds are being planned.

The land plots to be used for the PEA are owned by individuals and legal entities. Separate (up to ~0.3 ha) grounds will be formed for the WT construction and operation in the 31 uninhabited

private land plots, with the requisite infrastructure. The parts of the land plots are rented for the PEA under long-term lease agreements with the owners of the land plots (Table 3.1.3.1). The land adjacent to the WT being planned have no structures, and arable land and meadows prevail.

Copies of extracts from documents on the land plots, issued by VĮ Registrų centras, are provided in Text Annex 3.

Table 3.1.3.1. Land plots and/or parts thereof where construction and operation of up to 31 WTs and transformer substations is planned

Item No	Cadastre No	WT and TS	Total land plot area, ha	Purpose	Legal facts (related to the PEA Organiser)	Address	Special conditions for land use
1	3638/0001:70 Nemunėlio Radviliškio k.v.	N2	2.4536 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Parupės k.	Reclaimed lands and land reclamation structures' safety zones (Chapter VI, Section 2); sanitary safety zones of buildings where farmed animals are kept, with or without adjacent manure and slurry accumulation installations (Chapter IV, Section 1); road safety zones (Chapter III, Section 2).
2	3638/0001:368 Nemunėlio Radviliškio k.v.	N3	4.0530 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Jasiškių k.	Reclaimed lands and land reclamation structures' safety zones (Chapter VI, Section 2); sanitary safety zones of buildings where farmed animals are kept, with or without adjacent manure and slurry accumulation installations (Chapter IV, Section 1); road safety zones (Chapter III, Section 2). Restriction under the Temporary Law on Acquisition of Agricultural Land: changing the main land use is prohibited for 5 years.
3	3638/0003:117 Nemunėlio Radviliškio k.v.	N4	2.1400 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Jasiškių k.	Reclaimed lands and land reclamation structures' safety zones (Chapter VI, Section 2); sanitary safety zones of buildings where farmed animals are kept, with or without adjacent manure and slurry accumulation installations (Chapter IV, Section 1); road safety zones (Chapter III, Section 2).
4	3638/0003:89 Nemunėlio Radviliškio k.v.	N5	12.0000 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Jasiškių k.	Reclaimed lands and land reclamation structures' safety zones (Chapter VI, Section 2); sanitary safety zones of buildings where farmed animals are kept, with or without adjacent manure and slurry accumulation installations (Chapter IV, Section 1); road safety zones (Chapter III, Section 2).
5	3638/0003:189 Nemunėlio Radviliškio k.v.	N8	43.8743 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Jasiškių k.	Reclaimed lands and land reclamation structures' safety zones (Chapter VI, Section 2); sanitary safety zones of buildings where farmed animals are kept, with or without adjacent manure and slurry accumulation installations (Chapter IV, Section 1); road safety zones (Chapter III, Section 2).
6	3638/0003:72 Nemunėlio Radviliškio k.v.	N9	5.7000 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Jasiškių k.	Reclaimed lands and land reclamation structures' safety zones (Chapter VI, Section 2); sanitary safety zones of buildings where farmed animals are kept, with or without adjacent manure and slurry accumulation installations (Chapter IV, Section 1); road safety zones (Chapter III, Section 2).
7	3638/0003:46 Nemunėlio Radviliškio k.v.	N10	14.2000 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Jasiškių k.	Reclaimed lands and land reclamation structures' safety zones (Chapter VI, Section 2);
8	3610/0003:51 Germaniškio k.v.	N12	10.0300 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Spingučių k.	Reclaimed lands and land reclamation structures' safety zones (Chapter VI, Section 2); sanitary safety zones of buildings where farmed animals are kept, with or without adjacent manure and slurry accumulation installations (Chapter IV, Section 1); road safety zones (Chapter III, Section 2).
9	3610/0003:154 Germaniškio k.v.	N13	25.1596 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Spingučių k.	Reclaimed lands and land reclamation structures' safety zones (Chapter VI, Section 2); sanitary safety zones of buildings where farmed animals are kept, with or without adjacent manure and slurry accumulation installations (Chapter IV, Section 1); road safety zones (Chapter III, Section 2).
10	3638/0003:76 Nemunėlio Radviliškio k.v.	N14	10.1217 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Jasiškių k.	Reclaimed lands and land reclamation structures' safety zones (Chapter VI, Section 2);
11	3638/0003:57 Nemunėlio Radviliškio k.v.	N15	4.4700 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Kočėnų k.	Reclaimed lands and land reclamation structures' safety zones (Chapter VI, Section 2);
12	3638/0003:10 Nemunėlio Radviliškio k.v.	N16	9.0004 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Kočėnų k., Apaščios g. 1	Reclaimed lands and land reclamation structures' safety zones (Chapter VI, Section 2); electical grids safety zones (Chapter III, Section 4).
13	3610/0003:86 Germaniškio k.v.	N19	17.3399 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Spingučių k.	Reclaimed lands and land reclamation structures' safety zones (Chapter VI, Section 2); Restriction under the Temporary Law on Acquisition of Agricultural Land: changing the main land use is prohibited for 5 years.
14	3610/0003:33 Germaniškio k.v.	N20	32.0000 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Spingučių k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); surface water bodies' safety zones (Chapter VI, Section 7); electical grids safety zones (Chapter VI, Section 2)
15	3610/0003:149 Germaniškio k.v.	N21	5.0297 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Spingučių k.	Reclaimed lands and land reclamation structures' safety zones (Chapter VI, Section 2). Restriction under the Temporary Law on Acquisition of Agricultural Land: changing the main land use is prohibited for 5 years.
16	3638/0003:164 Nemunėlio Radviliškio k.v.	N22	22.3100 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Kočėnų k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); surface water bodies' safety zones (Chapter VI, Section 7); reclaimed lands and land reclamation structures' safety zones (Chapter VI, Section 2); road safety zones (Chapter III, Section 2).

Item No	Cadastre No	WT and TS	Total land plot area, ha	Purpose	Legal facts (related to the PEA Organiser)	Address	Special conditions for land use
17	3638/0003:50 Nemunėlio Radviliškio k.v.	N23	9.7800 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Kočėnų k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); surface water bodies‘ safety zones (Chapter VI, Section 7); reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2).
18	3610/0003:89 Germaniškio k.v.	N24	27.1166 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Kiauliškių k.	Reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2). Restriction under the Temporary Law on Acquisition of Agricultural Land: changing the main land use is prohibited for 5 years.
19	3610/0003:52 Germaniškio k.v.	N25	3.3600 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Kiauliškių k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); surface water bodies‘ safety zones (Chapter VI, Section 7); reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2).
20	3610/0004:50 Germaniškio k.v.	N26	46.3802 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Kiauliškių k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); surface water bodies‘ safety zones (Chapter VI, Section 7); reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2); road safety zones (Chapter III, Section 2).
21	3610/0004:31 Germaniškio k.v.	N27	8.1900 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Svidžių k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); surface water bodies‘ safety zones (Chapter VI, Section 7); reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2).
22	3638/0004:149 Nemunėlio Radviliškio k.v.	N28	3.0300 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Jokūbiškio k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); surface water bodies‘ safety zones (Chapter VI, Section 7); reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2).
23	3638/0002:231 Nemunėlio Radviliškio k.v.	N29	3.0000 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Nemunėlio Radviliškio k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); surface water bodies‘ safety zones (Chapter VI, Section 7); reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2).
24	3638/0002:464 Nemunėlio Radviliškio k.v.	N30	2.9216 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Nemunėlio Radviliškio k.	Reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2).
25	3638/0002:4 Nemunėlio Radviliškio k.v.	N31	18.9300 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Nemunėlio Radviliškio k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); surface water bodies‘ safety zones (Chapter VI, Section 7); reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2).
26	3638/0004:71 Nemunėlio Radviliškio k.v.	N32	10.9200 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Jokūbiškio k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); surface water bodies‘ safety zones (Chapter VI, Section 7); forest land (Chapter VII, Section 3); reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2).
27	3638/0003:162 Nemunėlio Radviliškio k.v.	N32-1	8.900 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Nausėdžių k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); surface water bodies‘ safety zones (Chapter VI, Section 7); reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2); safety zones of electronic communications infrastructure of electronic communication networks (Chapter III, Section 11)
28	3638/0003:13 Nemunėlio Radviliškio k.v.	N32-2	6.5032 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Nemunėlio Radviliškio sen., Nausėdžių k.	Reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2); electical grids safety zones (Chapter III, Section 4).
29	3630/0001:5 Medeikių k.v.	N33	8.6000 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Parovėjos sen., Zasiškių k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); surface water bodies‘ safety zones (Chapter VI, Section 7); reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2).
30	3630/0001:6 Medeikių k.v.	N34	14.900 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Parovėjos sen., Zasiškių k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); surface water bodies‘ safety zones (Chapter VI, Section 7); reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2).
31	3630/0001:17 Medeikių k.v.	N35	36.4400 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Parovėjos sen., Zasiškių k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); surface water bodies‘ safety zones (Chapter VI, Section 7); reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2).
32	3650/0001:30 Parovėjos k.v.	TP1	20.0500 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Parovėjos sen., Paberžių k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2); electical grids safety zones (Chapter III, Section 4).
32.1	3650/0001:36 Parovėjos k.v.	TP1	12.7800 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Parovėjos sen., Paberžių k.	Shore safety zones of surface water bodies (Chapter VI, Section 8); reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2); electical grids safety zones (Chapter III, Section 4).
33	3683/0008:137 Užušilių k.v.	TP2	0.6254 ha	Other	Lease agreement for a part of the land plot	Biržų r. sav., Parovėjos sen., Pitiškio k. 1A	Electrical grids safety zones (Chapter III, Section 4);
34	3650/0005:59 Parovėjos k.v.	TP3	5.1656 ha	Agricultural	Lease agreement for a part of the land plot	Biržų r. sav., Parovėjos sen., Vinkšninių k.,	Shore safety zones of surface water bodies (Chapter VI, Section 8); surface water bodies‘ safety zones (Chapter VI, Section 7); reclaimed lands and land reclamation structures’ safety zones (Chapter VI, Section 2); electical grids safety zones (Chapter III, Section 4); safety zones of main gas pipelines and petroleum product pipelines (Chapter III, Section 5).

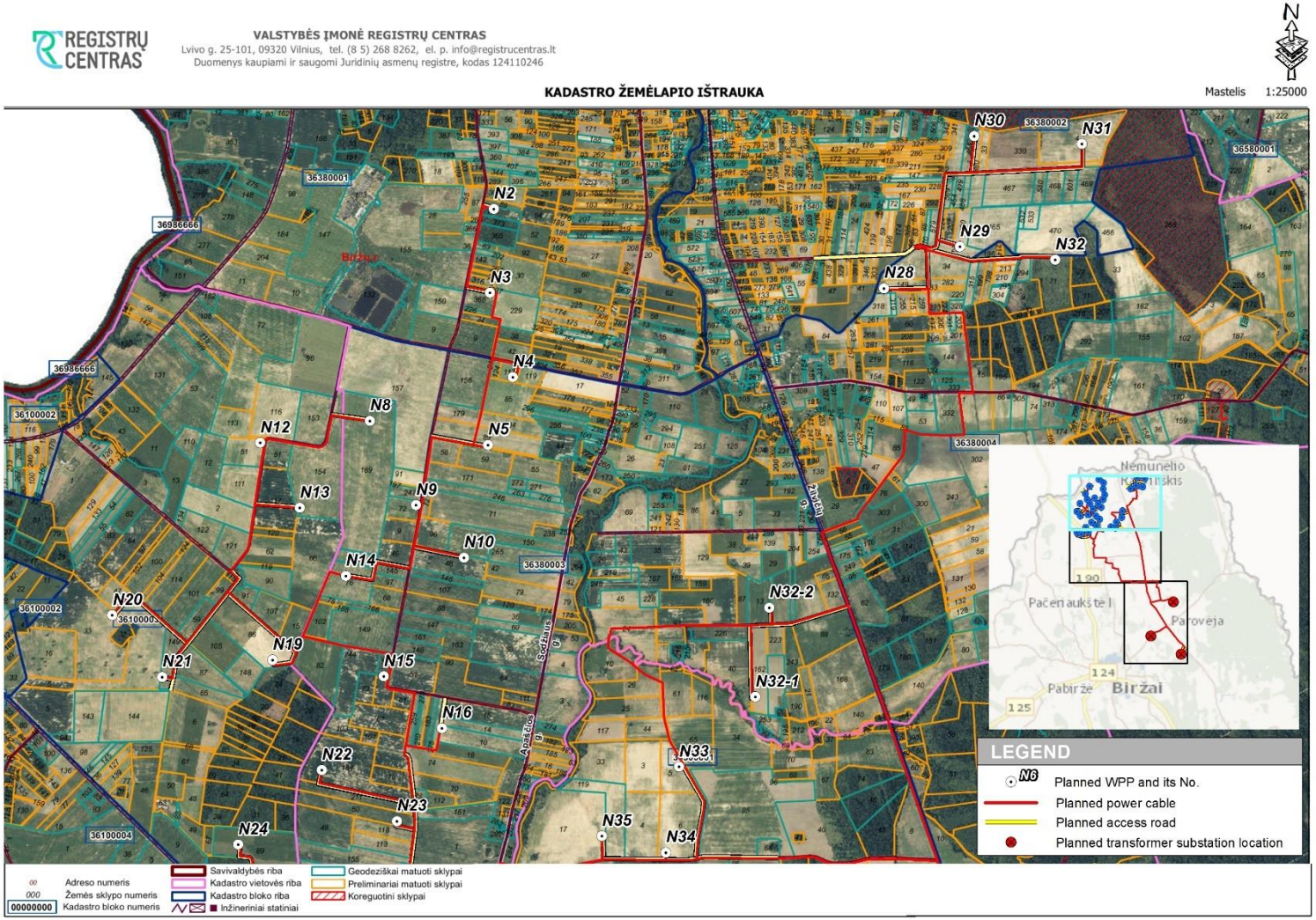


Figure 3.1.3.1. Extract from the Immovable Property Cadastre with the PEA locations marked (Part I)

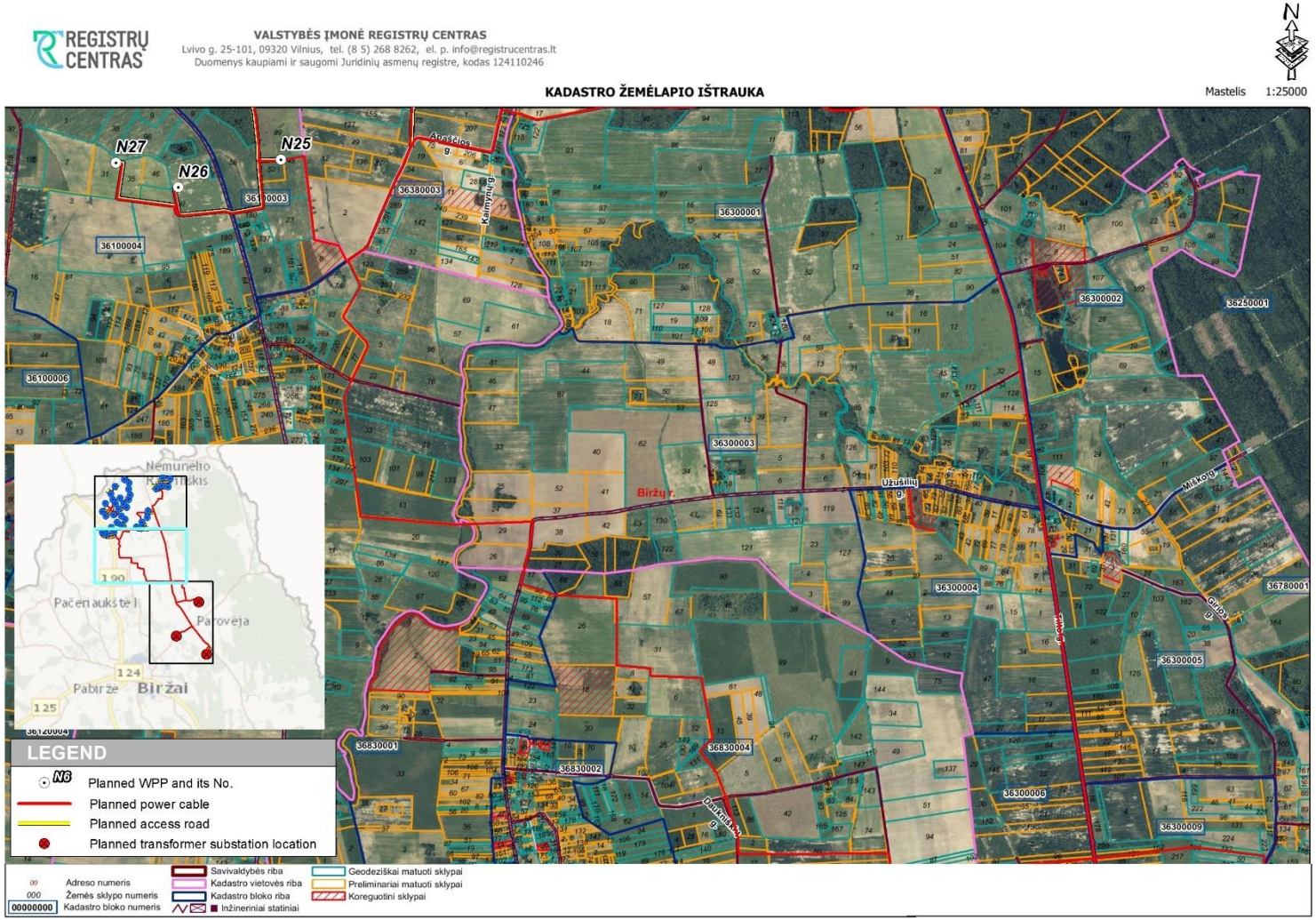


Figure 3.1.3.2. Extract from the Immovable Property Cadastre with the PEA locations marked (Part II)

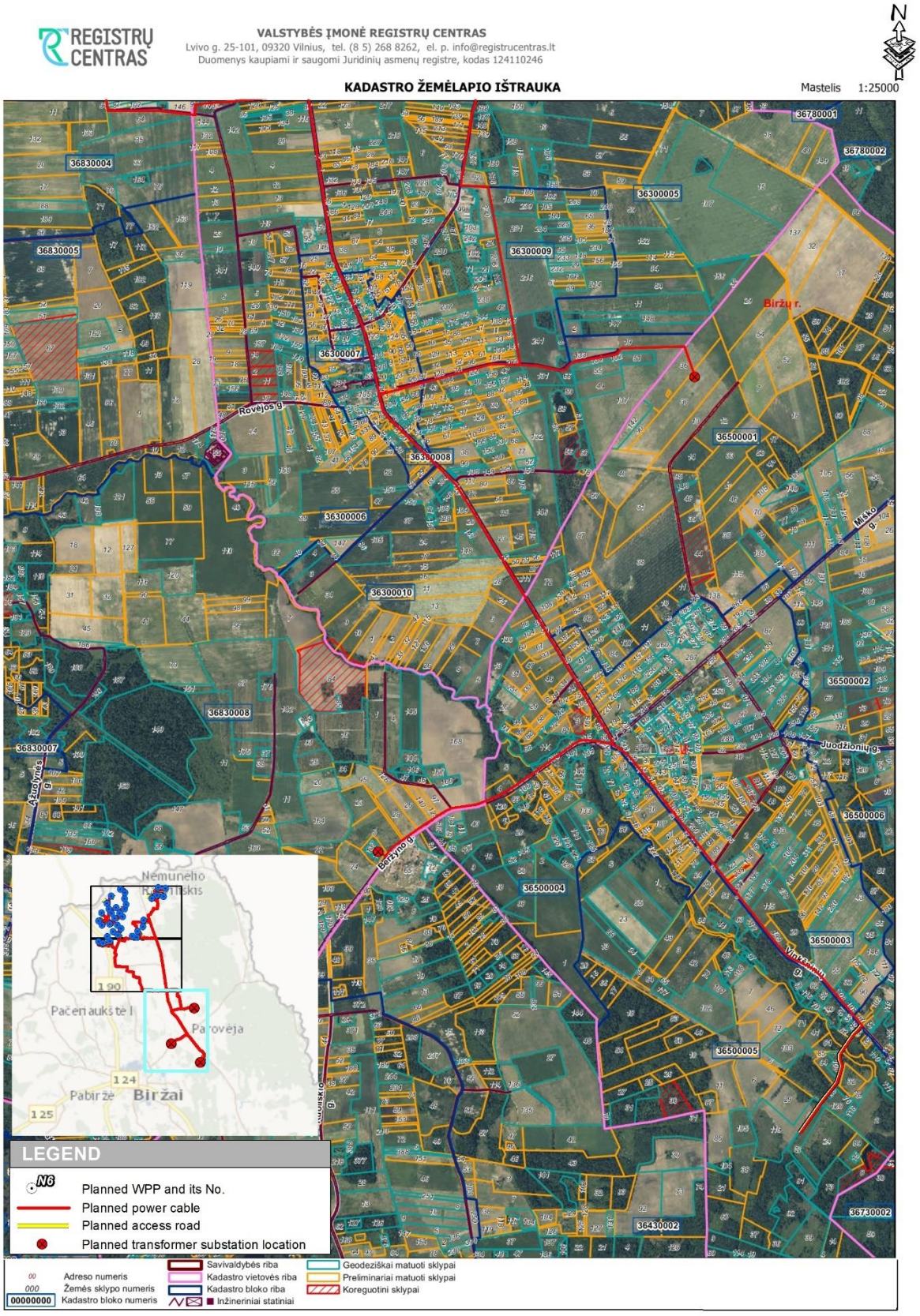


Figure 3.1.3.3. Extract from the Immovable Property Cadastre with the PEA locations marked (Part III)

3.1.4 Areas adjacent to the PEA area

The land plots earmarked for the construction and operation of the PEA installations are situated in territories used for agricultural purposes – cultivation of various crops and cattle grazing (Figures 3.1.4.1–3.1.4.4).



Figure 3.1.4.1. View of the PEA area (where WTs N28–N32 are planned) from Paslupė village



Figure 3.1.4.2. View of the PEA area (where WTs N20, N21, N19, N24 and N22 are planned) from country road No 190



Figure 3.1.4.3. View of the PEA area (where WTs N3, N4 and N5 are planned) from a local road



Figure 3.1.4.4. View of the PEA area (where WTs N12, N13 and N14 are planned) from country road No 1305

Notably, as of the date of this report, no activities analogous to the PEA are carried out by other economic operators at the PEA location or in adjacent areas, i. e. there are no WTs in operation or under construction and there are no analogous projects for which the EIA procedures would have been completed, i. e. the EPA would have issued a positive screening conclusion or a decision on the feasibility of the proposed activity. Based on the information published on the EPA's website [4], other economic operators are planning analogous activities in the territory of the Biržai District Municipality, and EIA screening and EIA procedures are underway (the EPA has not adopted a positive decision in any of such cases except one – three WTs intended to be constructed and operated by Bionalis, UAB in the Biržai District Municipality: in Rindaugai and Purviškių I villages of the Nemunėlio Radviliškis ward and in Legailiai village of the Pačeriaukštė ward). Such planned activities are as follows:

- Stalita, UAB plans up to 6 WTs in the land plots in Užušiliai, Daukniškiai and Braškiai villages of the Parovėja ward of the Biržai District Municipality; address of the construction project: land

plots (cadastre No 3683/0004:26, 3683/0004:90, 3683/0004:38, 3683/0004:89, 3683/0005:153).

- Aušrinis, UAB plans up to 6 WTs in the land plots in Padvariečiai, Leitiškiai and Jasiškiai villages of Parovėja ward of the Biržai District Municipality; address of the construction project: land plots (cadastre No 3638/0001:155, 3610/0003:96, 3638/0003:157, 3638/0003:91, 3638/0003:68).
- Bionalis, UAB plans the construction and operation of 3 WTs in Nausėdžiai village of Nemunėlio Radviliškis ward of the Biržai District Municipality (land plot cadastre No 3630/0001:85).
- Bionalis, UAB plans the construction and operation of 3 WTs in Rindaugai and Purviškiai I villages of Nemunėlio Radviliškis ward and Legailiai village of Pačeriaukštė ward of the Biržai District Municipality (on 4 December 2023, the EPA issued a EIA screening decision No (30-2)-A4E-12104 stating that an EIA is not mandatory). The distance between the PEA location and these three WTs would be over 18.6 km, without any interaction or aggregate impact (Figure 3.1.4.1).
- Sunly Land, UAB plans up 27 WFs in the Biržai District Municipality: in Jasiškiai and Nausėdžiai villages of Nemunėlio Radviliškis ward and Kašeliškiai village, Daukniškiai village, Dreiviškiai village, Grubiškis farmstead, Medeikiai village, Olšynė village, Paberžiai village, Pagervė village, Perkūniškis village, Pladiškis farmstead, Šniūriškis farmstead, Ubiškiai village and Užušiliai village of Parovėja ward.

Biržų vėjas, UAB intends to construct two more WT farms in Širvėna, Vabalninkas and Parovėja wards of the Biržai District Municipality. EIA procedures have been completed for the construction and operation of up to 73 WTs in Širvėna and Vabalninkas wards of Biržai District Municipality, and on 22 May 2024 EPA issued a positive decision No (30-2)-A4E-6590 on the EIA report and the feasibility of the proposed economic activity. The location of this projected WT farm is 22 km south of the PEA location being considered in this EIA Report.

EIA procedures are underway for a wind farm of up to 37 WTs being planned by Biržų vėjas, UAB in Parovėja and Nemunėlio Radviliškis wards (a notice of commencement of EIA was published, an EIA report was prepared, publicity procedures were completed, approvals from the EIA stakeholders were received, and the EIA report was submitted to the EPA for evaluation).

The distance from WTs N26 and N25 being planned under this EIA Report to WT P1 forming part of the WT farm of 37 WTs in Parovėja and Nemunėlio Radviliškis ward would be about 1.8 km, and the distance to WT N26 being planned by Bionalis, UAB – 2.0 km (Figure 3.1.4.5).

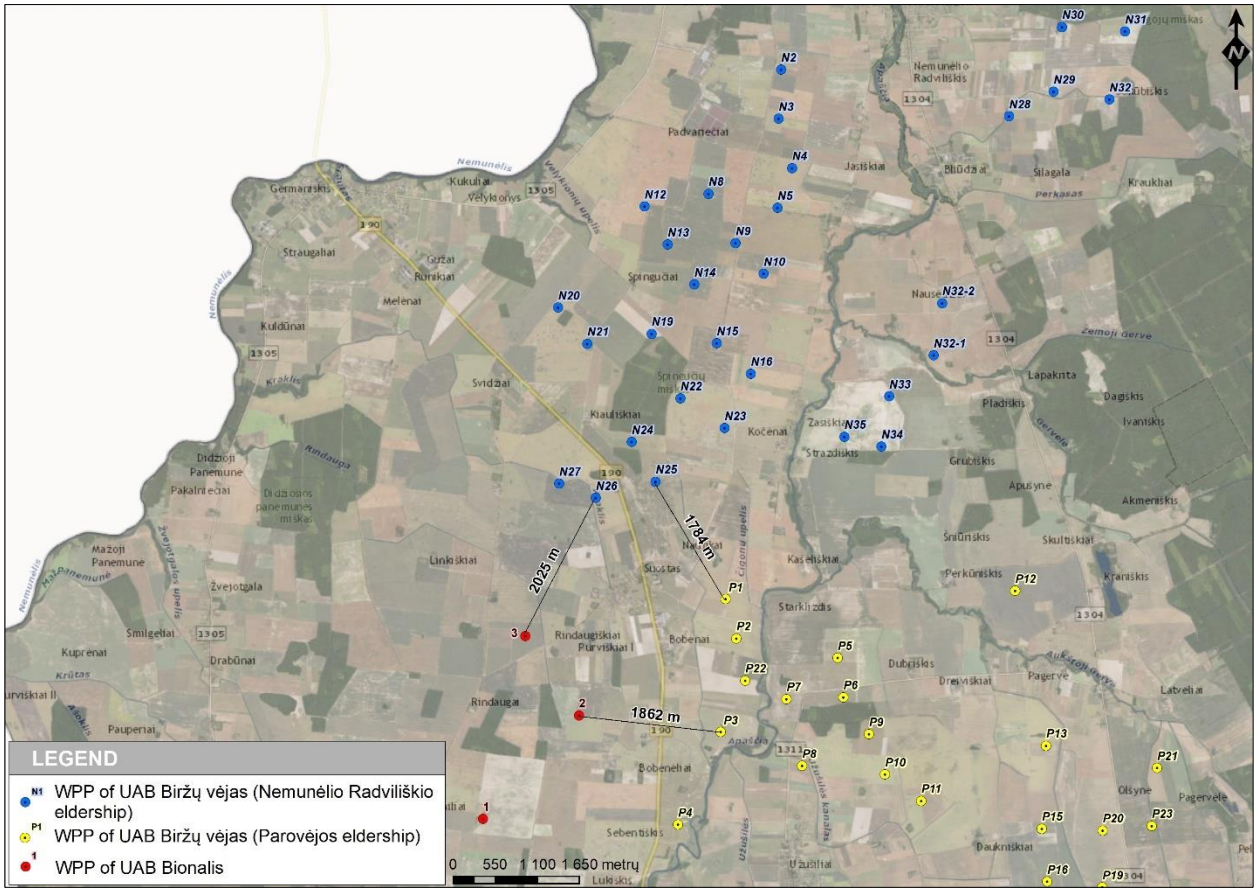


Figure 3.1.4.5. Wind farms being planned in the areas adjacent to the PEA

The PEA is being planned at a distance from larger urban areas or areas under urbanisation, i. e. recreational, residential, public and industrial/warehousing areas. Rather densely inhabited areas closest to the PEA installation include Kočėna, Naujikai, Nausėdžiai, Nemunėlio Radviliškis, Jasiškiai, Strazdiškiai, Svidžiai, Velykionys and Bliūdžiai.

According to the Map of Planned Territories (https://tpdris.lt/), the PEA is being planned at a distance (more than 1 km) from residential areas the territorial planning of which is still underway or for which it has been completed (the residential areas have been registered) (Figure 3.1.4.2). No detailed territorial plans have been approved in the PEA area or adjacent areas (within the radius of 1 km) in which construction of residential buildings would be planned (Figure 3.1.4.6).

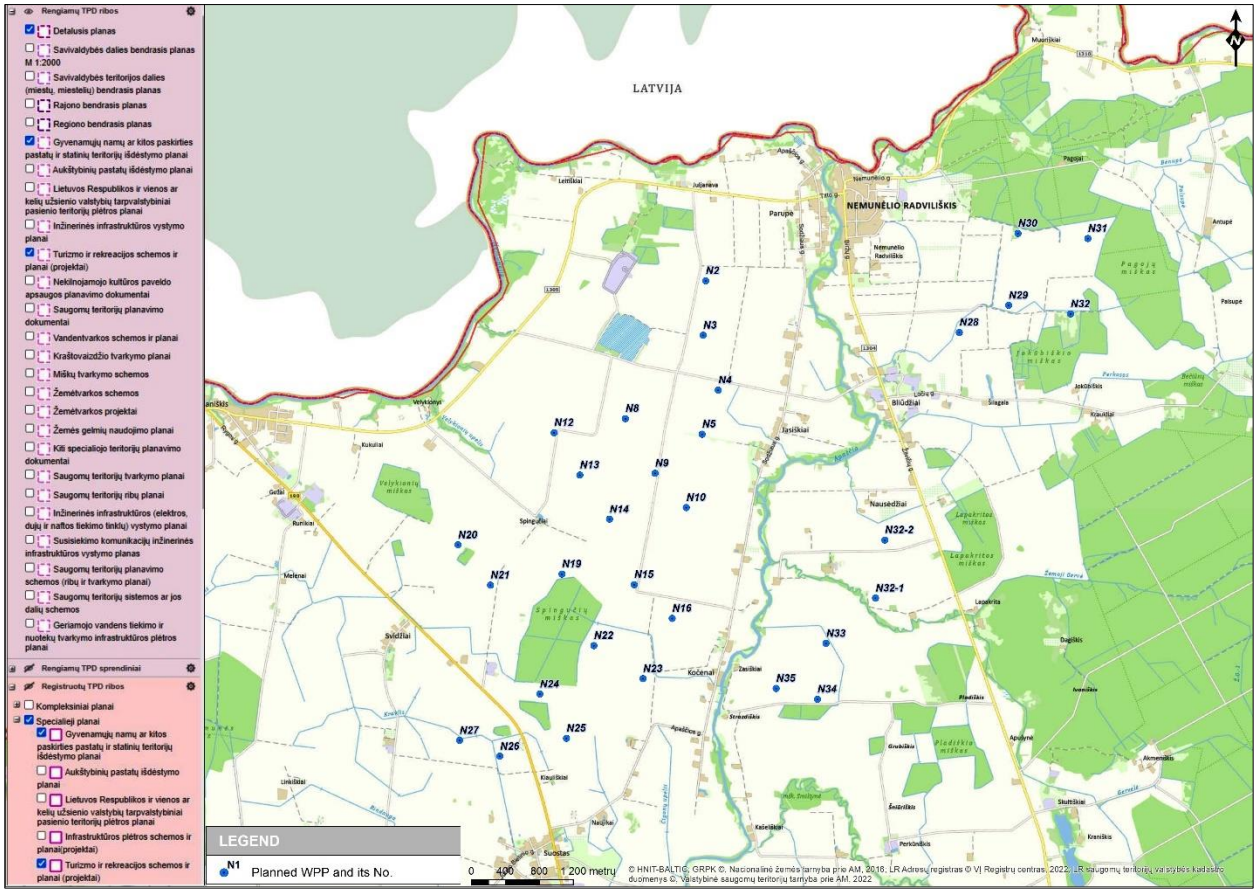


Figure 3.1.4.6. Extract from the Information System for the State Supervision over the Preparation of Territorial Planning Documents and the Territorial Planning Process of the Republic of Lithuania (TPDRIS) (https://map.tpdris.lt/tpdris-gis/index.jsp?action=tpdrisPortal), with the WTs marked, 2024

The nearest residential buildings are individual farmsteads at the distance of 118-1343 m from the WTs being planned. Information on the nearest residential environment and the distances is provided in Table 3.1.4.1 below as well as Graphic 2 of higher resolution

Table 3.1.4.1. Residential environment (residential buildings) nearest to the WTs and TS being planned

Item No	Address of residential buildings	Distance to the nearest WT being planned
1	Apaščios g. 10, Kočėnai	702 m NW of N35
2	Apaščios g. 12, Kočėnai	696 m NW of N35
3	Apaščios g. 14, Kočėnai	684 m W of N35
4	Apaščios g. 15, Kočėnai	767 m E of N25
5	Apaščios g. 16, Kočėnai	698 m W of N35
6	Apaščios g. 18, Kočėnai	978 m SE of N23
7	Apaščios g. 2, Kočėnai	973 m E of N16
8	Apaščios g. 20, Kočėnai	899 m SE of N25
9	Apaščios g. 22, Kočėnai	857 m SE of N25
10	Apaščios g. 4, Kočėnai	723 m SE of N16
11	Apaščios g. 5, Kočėnai	739 m W of N35

Item No	Address of residential buildings	Distance to the nearest WT being planned
12	Apaščios g. 6, Kočėnai	731 m SE of N16
13	Apaščios g. 7, Kočėnai	745 m W of N35
14	Apaščios g. 8, Kočėnai	736 m SE of N16
15	Apaščios g. 8A, Kočėnai	727 m NW of N35
16	Apaščios g. 9, Kočėnai	739 m SE of N23
17	ID1 (address not assigned), Nemunėlio Radviliškis	698 m NW of N30
19	Kaimynų g. 2, Kočėnai	995 m NW of N23
20	Naujikų k. 2, Naujikai	1076 m S of N25
21	Naujikų k. 3, Naujikai	970 m S of N25
22	Nausėdžiai 2A, Nausėdžiai	526 m N of N32-2
23	Nausėdžiai 4, Nausėdžiai	916 m W of N32-2
24	Nausėdžiai 6, Nausėdžiai	663 m NW of N32-1
25	Nausėdžiai 8, Nausėdžiai	118 m W of N32-1
26	Nausėdžiai 9, Nausėdžiai	472 m SE of N32-1
27	Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	1103 m NW of N28
28	Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	1343 m E of N2
29	Sodžiaus g. 11, Jasiškiai	829 m NE of N4
30	Sodžiaus g. 12, Jasiškiai	862 m SE of N4
31	Sodžiaus g. 13, Jasiškiai	824 m NE of N4
32	Sodžiaus g. 14, Jasiškiai	818 m SE of N5
33	Sodžiaus g. 15, Jasiškiai	806 m NE of N4
34	Sodžiaus g. 16, Parupė	1138 m NE of N2
35	Sodžiaus g. 17, Jasiškiai	797 m SE of N4
36	Sodžiaus g. 19, Jasiškiai	805 m SE of N4
37	Sodžiaus g. 23, Jasiškiai	820 m SE of N4
38	Sodžiaus g. 25, Jasiškiai	826 m SE of N4
39	Sodžiaus g. 27, Jasiškiai	835 m SE of N4
40	Sodžiaus g. 29, Jasiškiai	842 m SE of N4
41	Sodžiaus g. 31, Jasiškiai	852 m SE of N4
42	Sodžiaus g. 33, Jasiškiai	860 m E of N4
43	Sodžiaus g. 4, Jasiškiai	1059 m NE of N5
44	Sodžiaus g. 45, Jasiškiai	837 m SE of N5
45	Sodžiaus g. 47, Jasiškiai	800 m E of N10
46	Sodžiaus g. 49, Jasiškiai	739 m SE of N10
47	Sodžiaus g. 51, Jasiškiai	935 m NE of N16
48	Sodžiaus g. 7, Jasiškiai	935 m NE of N4
49	Strazdiškis 1, Strazdiškis	677 m SW of N35
50	Svidžiai 15, Svidžiai	849 m W of N27
51	Svidžiai 16, Svidžiai	918 m N of N27
52	Svidžiai 17, Svidžiai	902 m SW of N21
53	Upės g. 1, Jasiškiai	1001 m SE of N4
54	Upės g. 3, Jasiškiai	1038 m SE of N4
55	Upės g. 5, Jasiškiai	1083 m SE of N4
57	Žilvičių g. 2, Bliūdžiai	1042 m SW of N28

Buildings for public purposes that are nearest to the WTs include the Holy Cross Exaltation Church in Suostas village (at the distance of 1.0 km from WT N26), St Mary Magdalene Chapel in Germaniškis village (at the distance of 3.5 km from WT N20), and St Virgin Mary Church in Nemunėlio Radviliškis village (at the distance of 2.1 km from WT N2). Other nearest public buildings are at distances exceeding 10 km. Alternative location for TP1 is nearest to public

buildings; Biržai District Medeikiai primary school would be 2.7 km away from it. The highest concentration of buildings for public purposes is within the territory of Biržai town (Figure 3.1.4.7).

Information on public buildings that are nearest to the WTs being planned is provided in Table 3.1.4.2 and Figure 3.1.4.5.

Table 3.1.4.2. List of public buildings that are nearest to the WTs being planned

Item No	Description	Address	Distance to the nearest WT being planned, km
1	Holy Cross Exaltation Church in Suostas village	Suosto k. Nemunėlio Radviliškio sen. Biržų r.	1.0
2	St Mary Magdalene Chapel in Germaniškis village	Germaniškio k. Biržų r.	3.5
3	St Virgin Mary Church in Nemunėlio Radviliškis village	Biržų g. 1, Nemunėlio Radviliškis	2.1

An overview scheme of the PEA location and installations is provided in Graphic Annex 1, and more detailed information on the PEA solutions in terms of surface water bodies – Section 4.1, protected fauna and flora species – Section 4.6, protected areas – Section 4.7, and cultural heritage sites – Section 4.9.

There are no dangerous facilities entered in the RL List of Dangerous Installations in Which Quantities of Dangerous Substances are Equal to or Exceed Set Qualification Quantities with Higher- or Lower-Level Requirements Applied in the territory of the Biržai District Municipality and the PEA Area.

The PEA area does not fall within and does not border any contaminated area as determined by means of ecogeological investigations (see Figure 4.4.1.6).

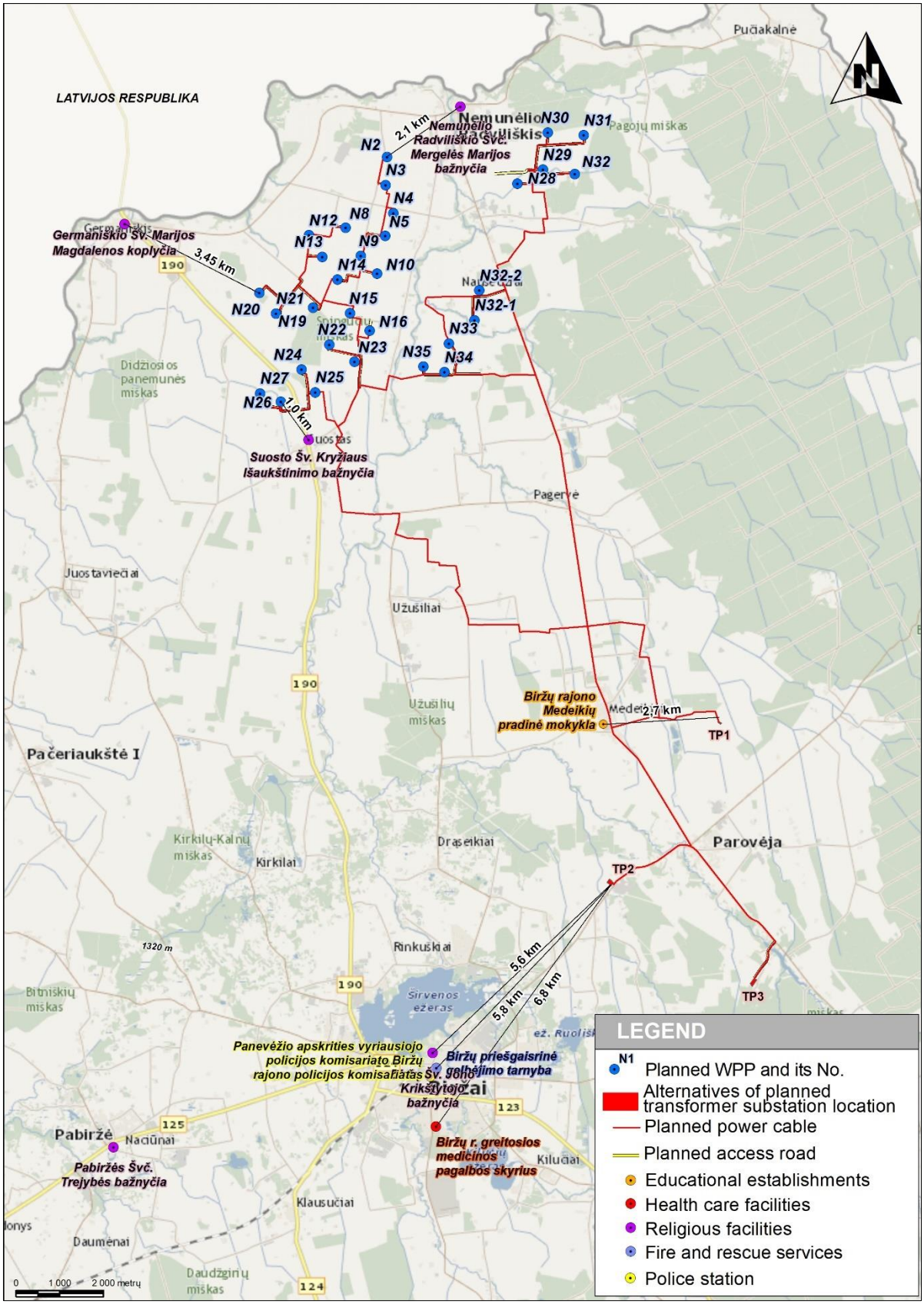


Figure 3.1.4.7. Buildings for public purposes that are nearest to the WTs being planned

3.2 Physical and Technical Characteristics of the PEA

3.2.1 Description of the PEA implementation stages

Estimated stages of the PEA implementation (construction, installation and operation) are specified in Table 3.2.1.1.

Table 3.2.1.1. Stages of construction, installation and operation of the PEA installations

Stage No	Description of the stage	Duration of the stage
I	EIA and obtaining a decision on the PEA feasibility	12 months
II	Preparing technical/working designs for WTs and obtaining approvals thereon; obtaining construction permits	6-12 months
III	Construction of the WT farm and installation of requisite infrastructure	approx. 6 - 24 months from the issue of the construction permit
IV	Operation of the WT farm	up to 35 years*
V	WT dismantling and recultivation of the area	approx. 6 - 24 months

* - the term may be extended as needed and having regard to technical considerations

Stage I. EIA and obtaining a decision on the PEA feasibility

The EIA procedure for the PEA is underway, the purpose of which is to determine, describe and assess a potential PEA impact - direct and indirect, secondary, summary, short-, medium- and long-term, permanent and temporary - on public health and individual components of the environment as well as on the interaction between these components and between the components and public health. It is estimated that the stage will be completed by the end of 2023.

Stage II. Preparing technical/working designs for WTs and obtaining approvals thereon; obtaining construction permits

On receipt of the EPA‘s positive decision on the PEA feasibility, technical designs for the WTs will be prepared and engineering-geological and geotechnical investigations of the sites earmarked for the WT construction will be conducted.

Stage III. Construction of the WT farm and installation of requisite infrastructure

On receipt of the construction permit, works for the construction of the WT farm will be started. Sequence of the WT construction and infrastructure installation works:

- Building of access roads to the intended WT locations or reinforcing existing roads (installing road surfaces required for heavy-weight vehicles, culverts and roadside ditches);
- Formation of WT construction sites;
- Installation of foundations for WTs (pole drilling, foundation casting);
- Construction and installation of WTs (equipment delivery, installation and adjustment);
- Installation of engineering networks (underground power cables) and connection to the electrical grid at points specified by the grid operator; construction and installation of WTs.

Stage IV. Operation of the WT farm

The WTs will be controlled and operated remotely by means of modern communications (as described earlier), therefore, on-site work can only be required for preventive maintenance or in cases of technical failures or emergencies.

Stage V. WT dismantling and recultivation of the area

Useful service life of the WTs: up to 35 years. The WT can be replaced or liquidated thereafter. Should it be decided to liquidate any WT or the WT farm in its entirety, the WTs will be dismantled and removed for storage or recycling. Ground surface on the sites will be levelled, with the maximum restoration to the previous condition. Access roads, unless they will be used for other purposes, will also be dismantled and the surface restored to previous condition.

The WTs useful life can be extended by proper maintenance and renovation of structures/installations, compliance with manufacturers‘ recommendations, and replacement of worn out parts.

There are no restrictions on agricultural activities in the areas adjacent to the WTs.

3.2.2 Physical characteristics of the PEA

Biržų vėjas, UAB intends to construct and operate up to 31 WTs in land plots with separate engineering infrastructure. Models of the WTs and their technical parameters were analysed by the PEA Organiser in previous PEA planning stages, and it has been decided to select WT models of three types for assessment (Table 3.2.2.1). These models are considered as options A, B and C in terms of potential VE technology and technical parameters. In case maximum Option C, WTs of up to 7.5 MW are planned, diameter of the rotor with blades up to 180 m, tower height up to 180 m, WT height to the highest point of the structure up to 270 m, noise level up to 109.0 dBA. Total rated power of the WT farm will not exceed 262.50 MW.

Main technical characteristics of the three types of the WT models analysed and assessed under this EIA are provided in Table 3.2.2.1. These three types are considered as technical Options A, B and C. Technical specifications of the WT models under consideration as Options A and B are provided in Text Annex 4.

The PEA involves construction of up to 31 WTs (with their service grounds and access roads), installation of requisite infrastructure (underground power cables etc.) and WT operation.

Allocation of WTs and TS, access roads and underground power cables is shown in the layouts contained in Graphic Annex 2.

Table 3.2.2.1. Technical parameters of the WTs being planned, by technical alternatives

WT parameters	WT manufacturer and model*		
	A	B	C
	Enercon, E-160 EP5	Vestas, V172-7,2	Prospective WT
Power per WT, MW	Up to 5,56	Up to 7,2	Up to 7,5
Diameter of the rotor with blades, m	Up to 160	Up to 172	Up to 180
Number of blades	3	3	3
Tower height, m	Up to 120	Up to 166	Up to 180
Overall WT height with raised blade (highest point of the structure), m	Up to 200	Up to 252	Up to 270
Noise level as declared by the manufacturer, dBA	106,8	106,9	109,0
Total number of WTs	29	29	29
Overall WT power, MW	Up to 161,24	Up to 208,8,2	Up to 217,5

* - Should the supply of WT models in the market change, other models are also possible, with parameters up to: overall WT height – up to 270 m, diameter of the rotor with blades – up to 180 m, tower height - up to 180 m, power per WT – up to 7.5 MW, emitted noise level – up to 109.0 dBA. Such technological WT options must not exceed the maximum impact as determined by this EIA. The PEA Organiser, having assessed the WT models and their technical parameters in previous PEA planning stages (6 models in all: Siemens SG6.6-170, Enercon E-160 EP5, Enercon E-175 EP, Vestas V4172-7,2, Nordex N175/6.X, prospective WT), has decided on an assessment of the WT models of three characteristic types (smallest and lowest capacity, medium height and capacity, tallest and highest capacity) (Table 3.2.2.1).

Coordinates of the WT to be assessed under the EIA of the PEA (in the LKS-94 system of co-ordinates) are provided in Table 3.1.1.1.

Information on the PEA infrastructure to be installed

Most land plots in which the PEA is being planned are used for agricultural activities and are not adapted for the PEA from engineering point of view. There are no engineering infrastructure networks there except a land reclamation system, district roads and roads of local significance.

Access roads

In the PEA implementation, maximum use of existing local roads (or sections thereof) is intended, upon reinforcement and/or renovation is necessary; where there is no access to the planned WT site – sections of an access road will be built. It is estimated that approx. 18.5 km roads of access to the WTs and the TS will have to be reconstructed/built in Options TP1 and TP2, or approx. 20.5 km in Option TP3. The information will be updated during preparation of technical designs for the structures. Technical characteristics of the access roads planned must allow traffic of heavy-weight construction machinery and vehicles carrying large-dimension WT components. Road surfaces will be prepared by compacting soil and covering it with sand-gravel and crushed dolomite layers. In the PEA implementation process, access roads will be used only for the WT installations‘ maintenance and repair works. New road sections can be built in private land plots and/or on public land upon coordination with the National Land Authority and the land plot owners, on receipt of their written consents, according to procedures prescribed by the Lithuanian law.

Locations of the WT grounds, access roads, underground power cables and TS are shown in Figure 3.1.1.1. There may be slight adjustments to these locations during the preparation of technical designs.

Underground power cables

The PEA requires installation of underground power cables between the WTs and the TS. It is estimated that in the case of installation of transformer substation T1, approx. 64.1 km of cables will be required, in the case of T2 – approx. 63.2 km, and in the case of T3 – approx. 66.2 km. The figures will be updated during the preparation of technical designs. Underground power cables will be laid near existing roads or, if needed, they will cross private land plots and public land. Sections of underground power cables laid in public land will be agreed with the National Land Authority and road owners/managers if the cables would be planned in safety zones of roads of national significance. Underground power cables will be laid in private land plots subject to obtaining of the land plot owners' consents in accordance with the Law on Special Conditions of Land Use [5].

Transformer substation

Three location options for the transformer substation are considered and assessed in the EIA Report: T1 (priority option) – in Paberžiai village, Parovėja ward, T2 – Pitiškiai village, Parovėja ward, and T3 – Vinkšniniai village, Parovėja ward (Figure 3.1.1.1).

Transformer substation T1 is planned to be constructed at the distance of approx. 10.2 km to the south-east from WT N34, in the territory of Paberžiai village in Parovėja ward, and connect it to the 330 kV overhead line Aizkraukle—Panevėžys. A land plot ID No 3650-0001-0030 will be either bought or leased for this purpose (part of the land plot; a procedure for land use by co-owners is in place) and/or an adjacent land plot, ID No 3650-0001-0036 (Figure 3.2.2.1) will be used for a subsequent formation of a plot for the TS by performing statutory territorial planning procedures. It is estimated that up to 3.0 ha will be required for the TS (allowing for potential future development), with part of this area occupied by TS structures and equipment. A TS building with a control panel and a switchboard as well as requisite engineering networks, an access road and a fence will be constructed. Artificial surface (concrete slabs or asphalt) will be installed at the TS building and entrance; multi-annual grass will be sown over the remaining territory. TS technical parameters and data will be detailed and updated during the preparation of the technical design for the structure.

If Option T2 is selected, the WTs being planned will be connected to LITGRID AB's 110 kV transformer substation located in a land plot ID No 4400-0322-3447, in Pitiškiai village, Parovėja ward, Biržai District Municipality (Figure 3.2.2.2).

If Option T2 is selected, the TS would be constructed in a land plot leased by Biržų vėjas, UAB under a lease agreement, ID No 4400-0101-6340, in Vinkšniai village, Parovėja ward, Biržai District Municipality (Figure 3.2.2.3).

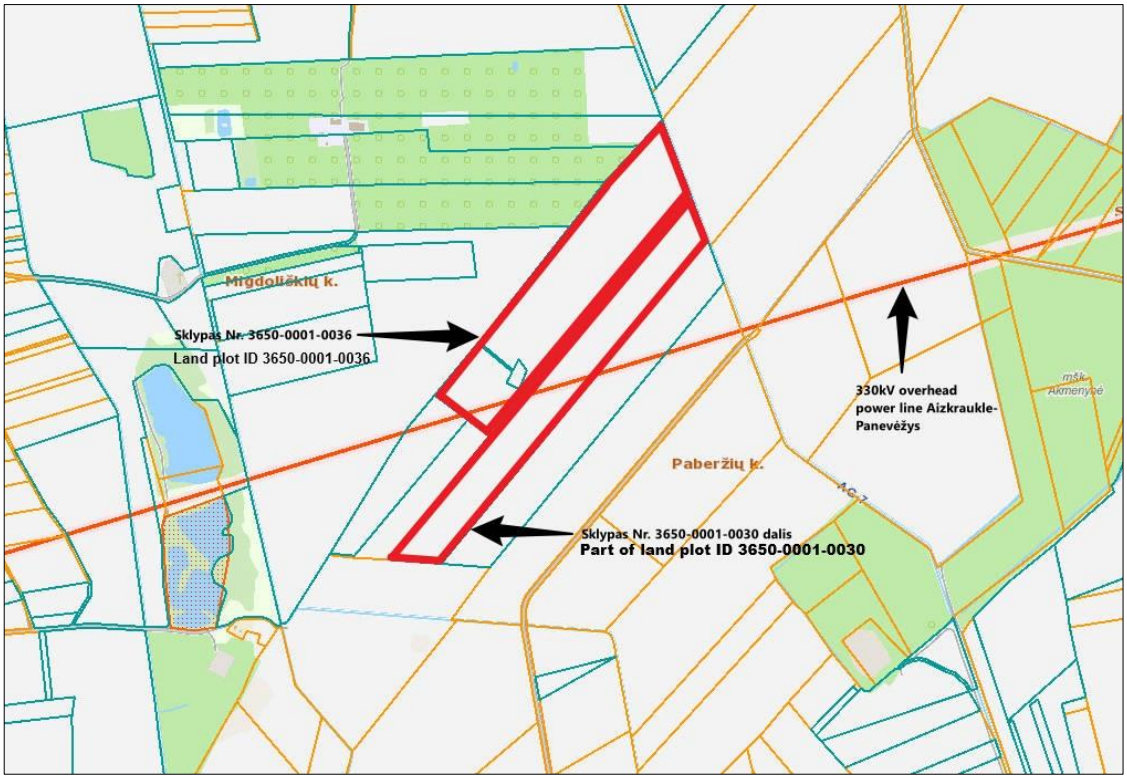


Figure 3.2.2.1. Preliminary location of TP1

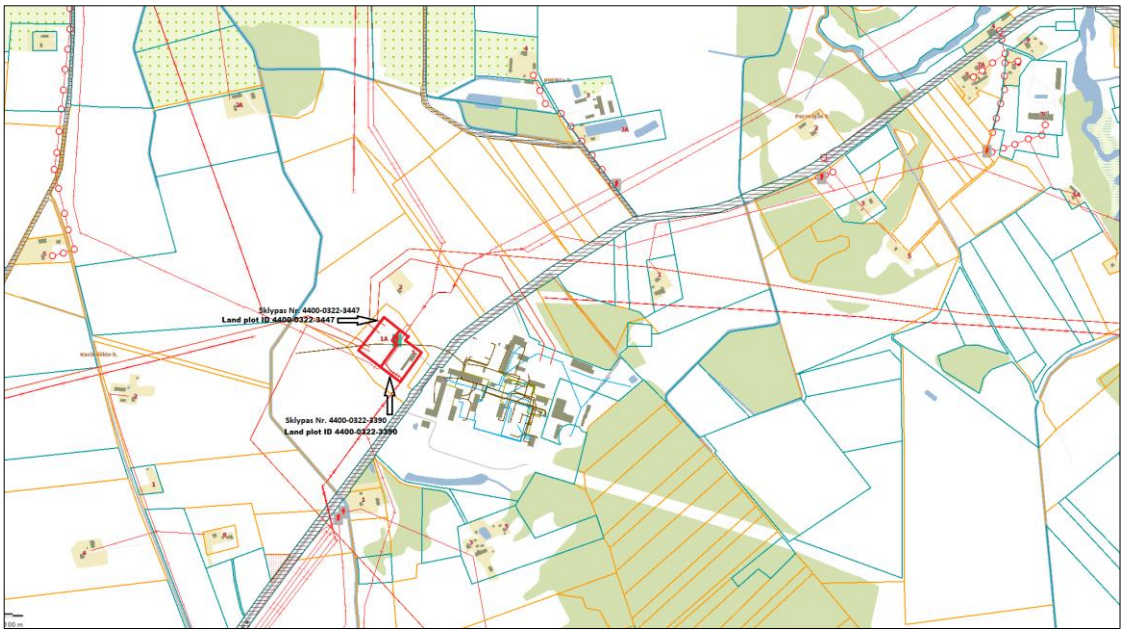


Figure 3.2.2.2. Preliminary location of TP2

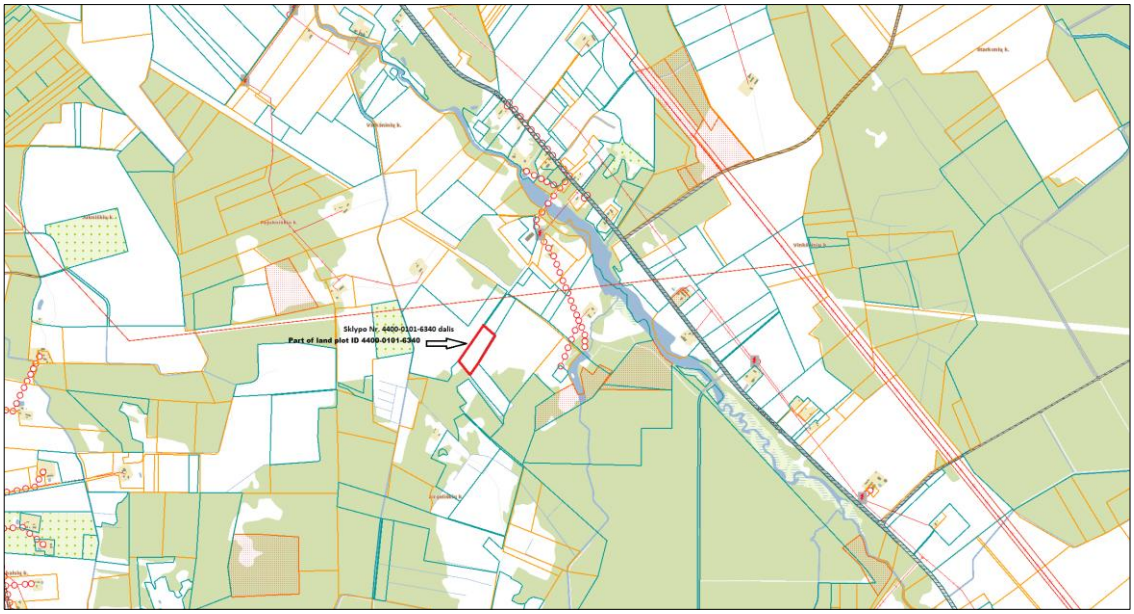


Figure 3.2.2.3. Preliminary location of TP3

Land reclamation systems

The aim is to preserve existing land reclamation systems and equipment in the PEA area during the WT construction, and if such systems and equipment are damaged or destroyed, they will be repaired/restored on completion of construction works according to designs for the reconstruction of land reclamation structures.

No other engineering systems such as water supply, sewerage, heat supply etc. networks will not be installed in the PEA area as there will be no need for them.

3.2.3 Information on production and maximum capacity

PEA production: electricity.

Maximum PEA capacity: power per WT – up to 7.5 MW, total capacity of power of the WT farm will not total up to 232.5 MW (under PEA Option C).

3.2.4 Information on energy consumption

Despite the fact that a wind turbine itself generates electrical energy, electricity is required for its operation and security. Electricity for the WTs will be supplied from the grid. The exact wind farm's electricity requirement will be determined in the technical design phase.

3.2.5 Information on the use and storage of materials and chemical substances and preparations

Raw materials and materials

Metal structures – finished products, prefabricated reinforced concrete/pile foundations and other equipment will be delivered to the construction site for installation.

Furthermore, construction materials will be used in the WT construction and infrastructure installation process (metal/reinforcement materials, concrete and wood for the foundation; sand, gravel, crushed stone, reinforced concrete or plastic culverts etc. – for road building). The exact requirement for materials for construction will be determined in the technical design phase, upon evaluation of local geological-hydrogeological, engineering geological and geotechnical conditions, WT manufacturer‘s technological requirements, and actual conditions.

Transformer (insulating) oil and other consumables will be used in the operation of the WTs.

No use or storage of raw materials, chemicals and preparations (including dangerous chemical substances/preparations), radioactive substances, and hazardous/non-hazardous waste is planned. Transformer oil required for the operation of the TS equipment will be filled on site during the transformer installation for a term specified in the technical documentation.

Fuel (diesel fuel, petrol and liquefied natural gas) will be used for the vehicles and mechanisms required in the construction and operation periods. Actual fuel requirement will be identified in the WT design stage.

Natural resources

The PEA is based on the use of an inexhaustible meteorological resources – wind (horizontal movement of atmospheric air masses) which is converted into electrical energy for delivery to consumers. No other natural resources (water, earth interior, soil, biological diversity) will be used in the PEA processes.

3.2.6 Information on waste

It is anticipated that generation of waste will be minimal in all stages – WT construction and installation, operation (electricity generation), and termination of activities.

Small quantities of metal and mixed construction waste can be generated in the WT construction and installation stage. The waste will be put into designated containers and removed for further processing under contracts with waste managers. Details on waste generation – specific waste types, quantities, codes etc. will be known in the technical design preparation phase.

No direct generation of waste (hazardous, non-hazardous, radioactive) during operation of the wind farm is anticipated, only sporadic waste generation during repairs/reconstruction or maintenance. Such waste would be transferred to waste management companies on the State Waste Managers Register, for recovery.

Should the owners of the installations decide to discontinue the WT operation on expiry of its term, the WT would be dismantled and transferred for recovery according to the Lithuanian law.

The WTs will be dismantled (into component structures) and removed to storage or recovery/recycling locations. All the dismantling waste suitable for recycling and further use (approx. 96%) – metal structures, motor components, recyclable plastic etc. – would be recycled. All these wastes are non-hazardous. The blades would be recycled or, if no efficient recycling technologies would exist at the moment of dismantling, they would be put to temporary storage

in an area owned or leased by the PEA Organiser. Blades that are not in use constitute non-hazardous waste (they are made of fiberglass), and can be adapted to other uses (such as noise suppression barriers, pedestrian bridges, cement components etc.).

On dismantling of the WT, its reinforced concrete foundation will be dismantled by breaking down the concrete until the desired particle size is achieved, either on site or at another construction waste management location, and by separating and taking the metal reinforcement apart. Both types of waste (waste codes: concrete 17 01 01, metal 17 04 05) are non-hazardous and are suitable for recycling/recovery. On agreement with the owner, the reinforced concrete piles can remain in the ground, the excavation is backfilled, soil is placed and levelled on the surface, with the site restored to its previous condition to a maximum extent. Underground cables will be dismantled and removed for recycling (waste code: cables 17 04 11). Excavation sites will be backfilled and levelled.

Unless earmarked for other uses, the access roads will also be dismantled, unnecessary soil will be removed and the site restored to its previous condition.

Any waste generated by the PEA will be managed in accordance with the Law on Waste Management [6], Construction Waste Management Regulations [7] and Waste Management Regulations [8].

3.2.7 Information on the PEA technology

Description of the PEA: generation of electricity from renewable wind energy resources and its delivery to the electricity transmission grid operated by Litgrid AB.

Technology:

The PEA process consists of two main stages:

- generation of electricity by the WT; and
- supply/transmission of the electricity to the power transmission system.

The WT being planned will generate 33 kV electricity. The electricity produced by the WTs will be transmitted, through an underground electrical cable, to the TS being planned, where the electricity will be transformed into 110 kV or 330 kV and afterwards delivered to the electricity transmission grid.

A basic diagram of a WT and a general view of WTs are provided in Figures 3.2.7.1 and 3.2.7.2.

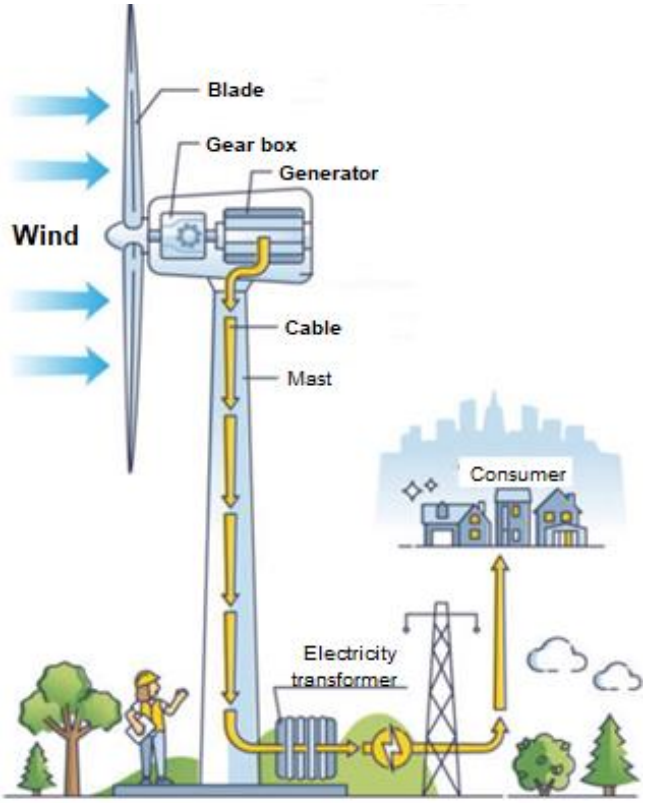


Figure 3.2.7.1. A basic diagram of the wind turbine technology [9]



Figure 3.2.7.2. General view of wind turbines

Main WT components:

- the foundation;
- the shaft;
- the stator and the rotor with the generator; and
- the blades.

Foundation

The foundation is the connection between the tower and the ground, bearing all the static and dynamic loads. Foundations must always be optimally round in shape as:

- loads are distributed evenly irrespective of the wind direction;
- such type of foundation is economical as it requires smaller amounts of concrete and reinforcement;
- the foundation is installed under the ground with a load allowing to increase its stability;
- the round shapes prevents foundation from shifting or tilting.

Tower

The tower height of the WTs being planned will be up to 180 m (depending on the selected technological option). The tower can be constructed of steel and/or concrete elements. The tower contains WT servicing and maintenance equipment (a meteorological station, a transformer, control cabinets).

The steel tubular tower is made of a number of sections interconnected by a stress-relieving L-flange. Shorter steel towers are mounted on the foundation by means of a so-called foundation basket consisting of threaded steel bolts arranged in a double circular array and set into concrete (Figure 3.2.7.3). After the foundation is prepared, the bottom section of the tower (Figure 3.2.7.4) is placed on the protruding bolts, followed by placing of the washers and tightening of the nuts. A similar foundation design is planned for the PEA.



Figure 3.2.7.3. Bottom section of the tower mounted on the foundation



Figure 3.2.7.4. A foundation for a steel tower

Stator, rotor with the generator and blades

The stator of a WT is installed directly on top of the tower together with a gearbox that allows turning it against the wind. In addition, the gearbox transfers the loads on the stator to the entire tower.

The stator consists of the ring-shaped generator and the rotor (Figure 3.2.7.5). These two components are mounted directly on top of the tower, and their rotating speed is the same. As the stator does not have drives or other quickly rotating parts, energy losses between the rotor and the generator and noise emissions are low; oil quantities required for the lubrication of parts are small.



Figure 3.2.7.5. A stator of a WT

Wind blowing to the blades cause rotation of the rotor which is connected directly to the ring-shaped generator by means of a drive (Figure 3.2.7.6). The operating principle of the multipole generator (Figure 3.2.7.7) resembles that of a synchronous machine with the direct drive which enables the turning of the stator against the wind. This drive also transfers the loads received by the stator to the entire tower.



Figure 3.2.7.6. A single-drive rotor with a generator

Due to a low rotating speed and large generator diameter, operating temperatures are very low and their fluctuations insignificant. Therefore, mechanical wear of the generator is low as well.



Figure 3.2.7.7. A multipole ring-shaped generator

Each of the three blades of the rotor (Figure 3.2.7.8) is equipped with an automatic turning system. It limits the speed of the rotation in order to maintain nominal power, with instantaneous responding to the changing wind speed. The rotor can be stopped without any mechanical brakes – by adjusting the blade angle to a certain position.

Due to the technology described above, the blades are resistant to both turbulence and accumulation of dirt on the front edge of the blade. Special-purpose coating of the blades protects them against external factors such as solar radiation, moisture and chemical impact.



Figure 3.2.7.8. A blade of a wind turbine

Systems:

- safety systems: shutdown and protection from lightning discharge;
- control system.

Shutdown system

The WT rotor starts turning when the wind speed is ~2,5 m/s, and must be stopped when the wind speed reaches ~28-34 m/s. The WT comes to the full stop after the rotor blades are turned to a position in which a wind gust is unable to move them due to an aerodynamic situation. The rotor can never be fully stopped even after stopping the WT – it always rotates freely at a very low speed. Only when the rotor is turning idly the shaft can be subjected to additional loads (on activation of a mechanical brake) and the rotor will be stopped. This is only done in an emergency. This is done by an additional emergency brake, however, it will not work before the rotor is slowed down by the blade drive and idle rotation starts. In the event of a failure of the main brake unit, the emergency mode is triggered: energy is supplied to the blade control drive, and the emergency mechanical brake is applied if necessary.

Lightning protection system

WT manufacturers have designed an efficient protection of WTs against all forms of lightning discharge. Corners and ends of the blades are covered with aluminium profile which is connected with the aluminium ring at the points of the blades attachment to the rotor (Figure 3.2.7.9). The lightning discharge is absorbed by the aluminium profiles and is conducted down the tower to the foundation in the ground.

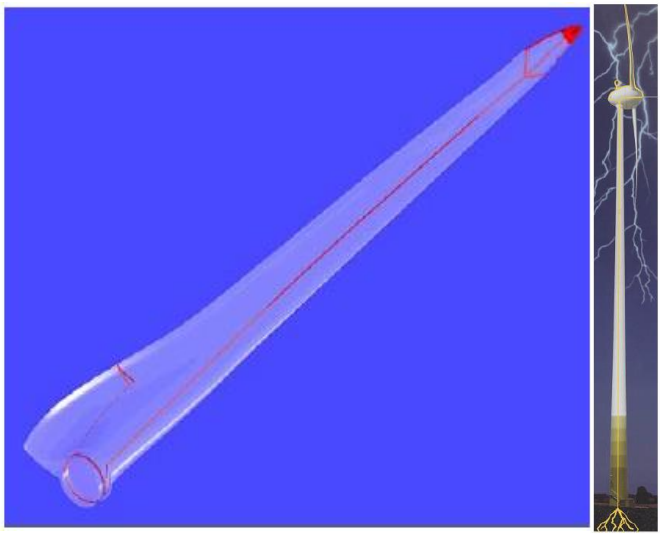


Figure 3.2.7.9. Protection of the blade and the entire WT against the lightning discharge

Control system

All the WTs are controlled remotely by a microprocessor. It sets all requisite commands to the WT control elements based on the information received from sensors such as wind speed, wind direction etc. A comprehensive monitoring system guarantees safety of the WT. The system measures the loads received during the WT operation and adjusts the rotor speed and the blade turning angle depending on changing wind conditions. For example, if the nominal wind speed exceeds set limits, the blades are turned so that the rotor turning speed is in line with the set nominal wind speed. When the wind speed exceeds 28 m/s, the storm control system does not stop the WT abruptly - the generated electrical power is evenly reduced by turning the blades at a certain angle. The stator turning control system starts operating before reaching the 'start' wind speed of 2.5 m/s. The weathervane on the stator (Figure 3.2.7.10) measures the wind direction and speed continuously. If the deviation between the rotor axis and the wind direction is too large, the stator is turned to the relevant position. The stator can adapt to the wind conditions independently even in the event of a failure of this system.



Figure 3.2.7.10. A wind sensor (meteorological station) of the WT

All the safety-related functions (rotor speed, temperature, loads, vibration) are monitored by an electronic information system. In the event of its failure its functions are taken over by a mechanical security system. Should the sensor report a serios problem, the WT is stopped immediately. The WT is also equipped with a lighting system that warns flight apparatuses about a potential obstacle at night or in situations of poor visibility.

4. POTENTIAL IMPACT OF THE PEA UPON COMPONENTS OF THE ENVIRONMENT. IMPACT MITIGATING MEASURES

4.1 Water

4.1.1 Description of current situation

The following rivers are large surface water bodies nearest to the WT sites being planned: Apaščia (42010540), Nemunėlis (42010001), Velykionių stream, A-1 (42010636), Kraklis (42010720), A-2 (42010664), and Žemoji gervė (42010653). Detailed information on distances between the WTs and the nearest water bodies is provided in Table 4.1.1.1 and Figure 4.1.1.1. Planned locations of intersections of the power cables and/or newly built access roads are described in Table 4.1.3.1.

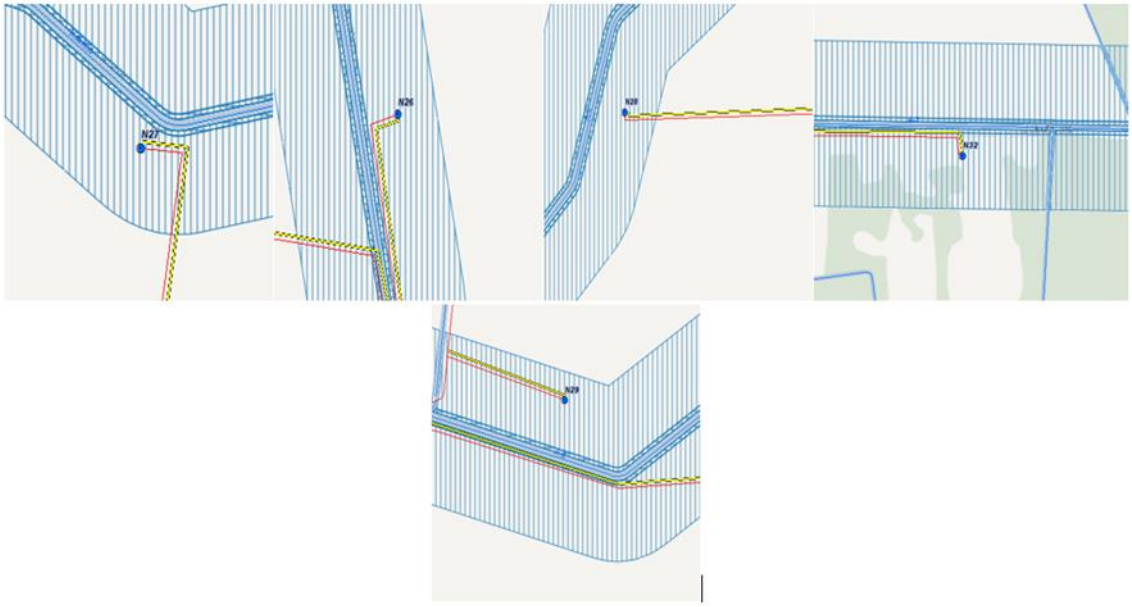


Figure 4.1.1.1. WT sites falling within the safety zones of surface water bodies [10]

Table 4.1.1.1. Surface water bodies nearest to the WT installations and distances to them [10]

Item No	WT No	Distance between the WT and nearest water body, m	Distance between the WT and the shore safety belt of the surface water body, m	Distance between the WT and the safety zone of the surface water body, m	Type of surface water body	Name and ID of the surface water body
1	N2	589	-	-	land reclamation canal	-
2	N3	1343	1333	1150	river	Apaščia (42010540)
3	N4	210	-	-	land reclamation canal	-

Item No	WT No	Distance between the WT and nearest water body, m	Distance between the WT and the shore safety belt of the surface water body, m	Distance between the WT and the safety zone of the surface water body, m	Type of surface water body	Name and ID of the surface water body
4	N5	402	-	-	land reclamation canal	-
5	N8	1205	-	-	land reclamation canal	-
6	N9	1203	1193	1003	river	Apaščia (42010540)
7	N10	840	830	641	river	Apaščia (42010540)
8	N12	597	-	-	rivulet	Velykionys stream
9	N13	1017	-	-	river	Velykionys stream
10	N14	1755	1745	1555	river	Apaščia (42010540)
11	N15	524	-	-	land reclamation canal	-
12	N16	323	-	-	land reclamation canal	-
13	N19	57	-	-	land reclamation canal	-
14	N20	115	-	-	land reclamation canal	-
15	N21	567	-	-	land reclamation canal	-
26	N22	145	-	-	land reclamation canal	-
17	N23	160	-	-	land reclamation canal	-
18	N24	105	-	-	land reclamation canal	-
19	N25	326	321	226	river	A-1 (42010636)
20	N26	49	44	within the safety zone	river	Kraklis (42010720)
21	N27	30	25	within the safety zone	river	Kraklis (42010720)
22	N28	49	44	within the safety zone	river	A-2 (42010664)
23	N29	65	60	within the safety zone	river	A-2 (42010664)
24	N30	79	-	-	land reclamation canal	-
25	N31	186	-	-	land reclamation canal	-
26	N32	33	27	within the safety zone	river	A-2 (42010664)
27	N32-1	152	142	52	river	Žemoji gervė (42010653)
28	N32-2	212	-	-	land reclamation canal	-

Item No	WT No	Distance between the WT and nearest water body, m	Distance between the WT and the shore safety belt of the surface water body, m	Distance between the WT and the safety zone of the surface water body, m	Type of surface water body	Name and ID of the surface water body
29	N33	41	-	-	land reclamation canal	-
30	N34	181	-	-	land reclamation canal	-
31	N35	490	480	290	river	Apaščia (42010540)

* - The WT being planned fall within the safety zones of these rivers according to the Procedure for the Setting of Safety Zones and Shore Safety Belts of Surface Water Bodies, version in effect since 1 January 2023 [11]

According to the Cadastre of Rivers, Lakes and Ponds of the Republic of Lithuania (RLPC) [10], the planned wind turbines N26, N27, N28, N29 and N32 fall within the safety zones of surface water bodies (A-1, A2, Kraklis), however, none of the WTs falls within the shore safety belts of the water bodies (Figure 4.1.1.1). In case of alternative WT locations, only one wind turbine TP1 falls within the safety zone of a surface water body but no alternative location falls within the shore safety belts of the water bodies.

According to the Flood Hazard and Risk Maps [the Flood Hazard and Risk Map], the PEA area does not fall within any flood risk/hazard area (with high/medium/low probability). The nearest territory where there is a flood risk/hazard is at the distance of 620 m from WT N35 (Figure 4.1.1.3).

In all the land plots where the WTs are being planned, except land plot No 3638/0001:147 in Nemunėlio Radviliškis k.v., special land use conditions apply: protection of reclaimed land and land reclamation structures.

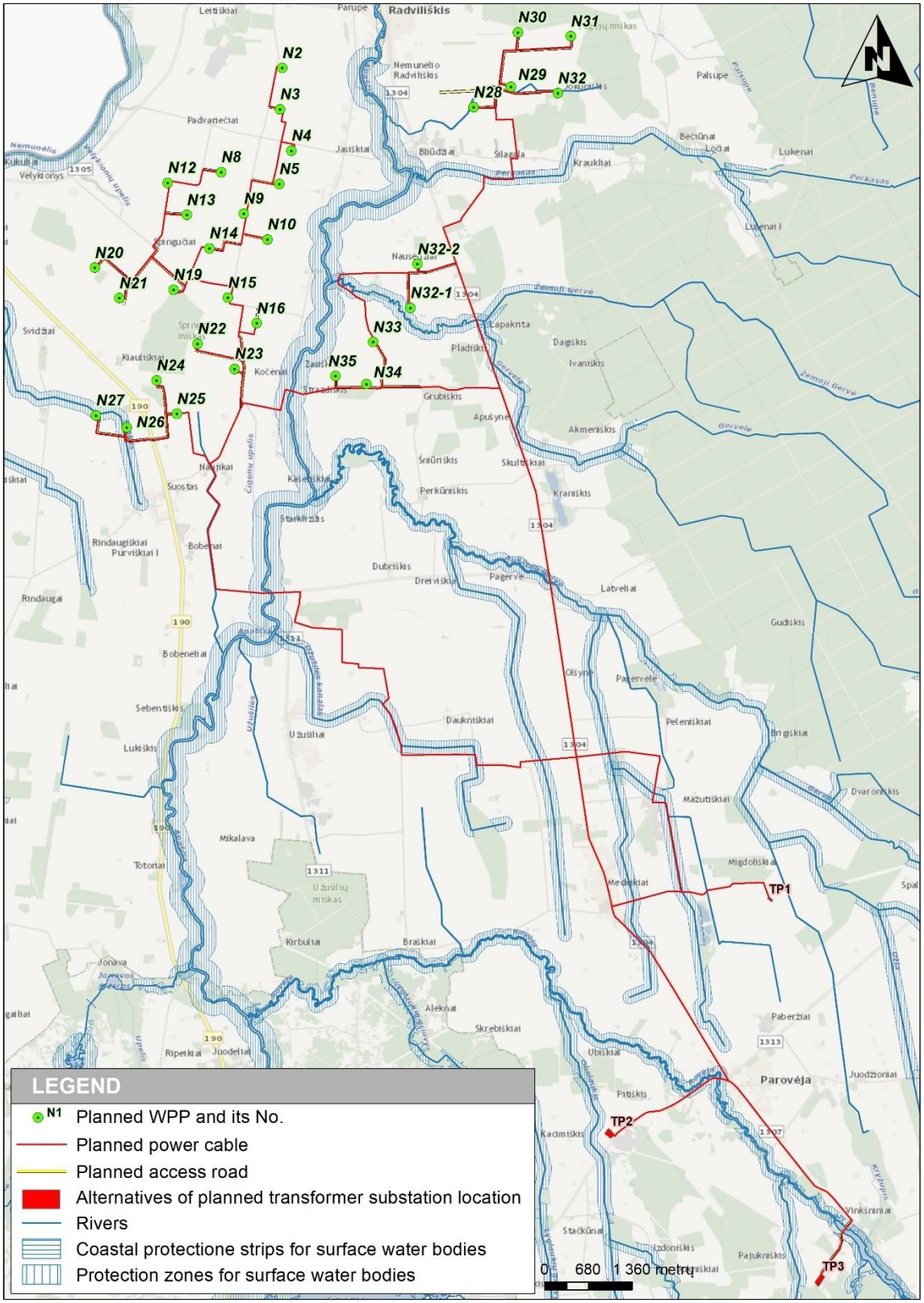


Figure 4.1.1.2. Cadastre of Rivers, Lakes and Ponds of the Republic of Lithuania (RLPC) with the PEA location marked

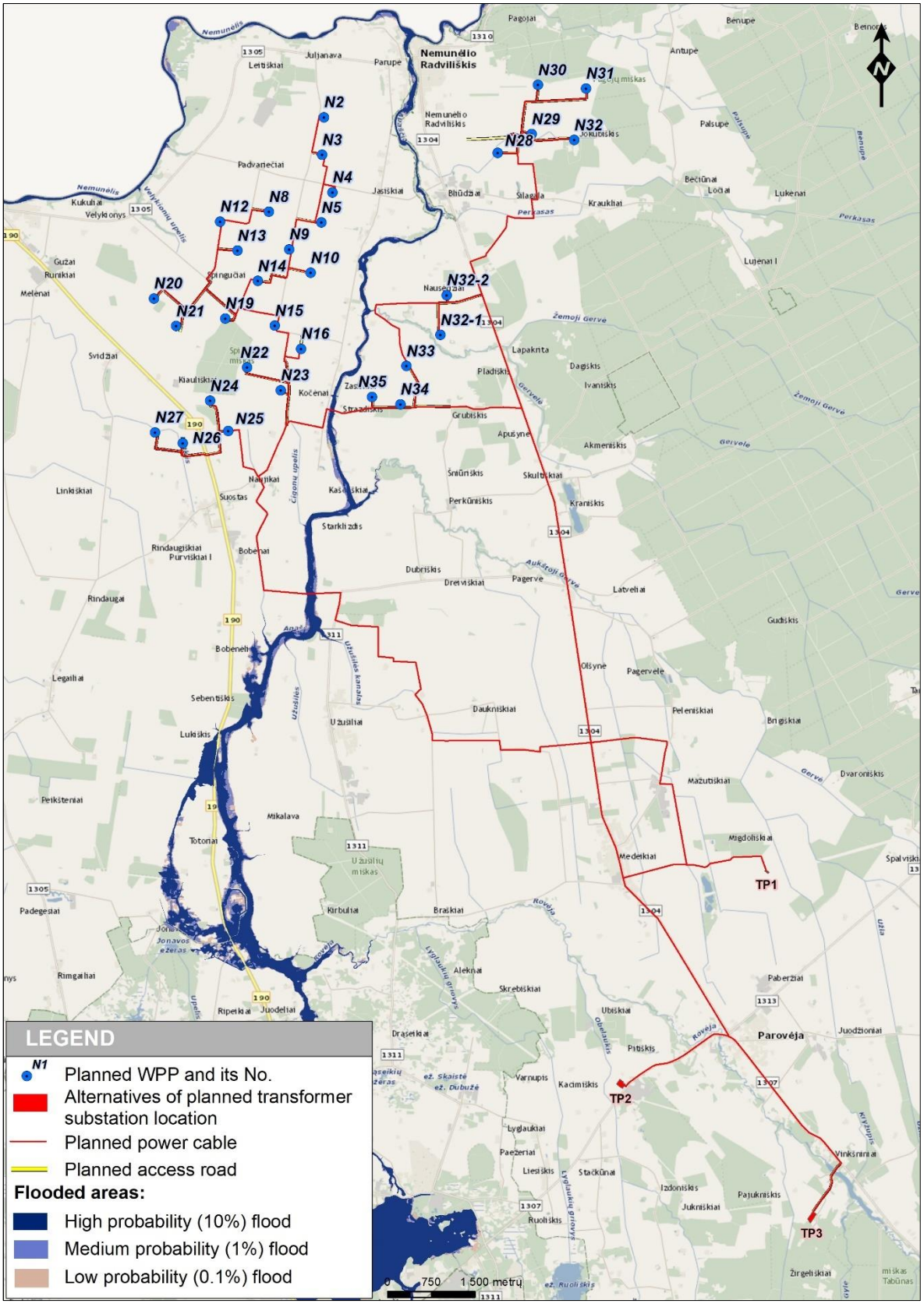


Figure 4.1.1.3. Flood Hazard and Risk Map with the PEA location marked

4.1.2 Anticipated significant impact

As already shown in Section 4.1.1, distances between the WT being planned and nearest surface water bodies vary between 52 m (Žemoji gervė river) and 1555 m (Apaščia river). Wind turbines N26, N27, N28, N29 and N32 being planned fall within the river safety zones but none of the WTs falls within safety belts of surface water bodies (Figure 4.1.1.1).

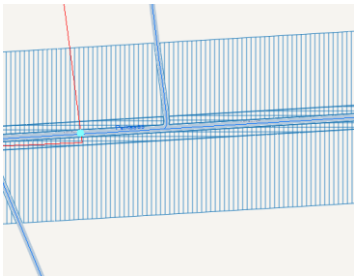
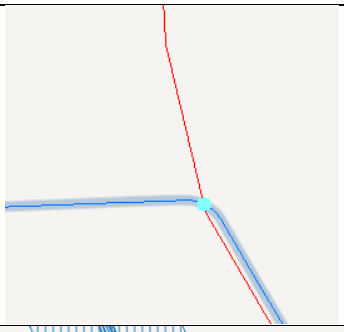
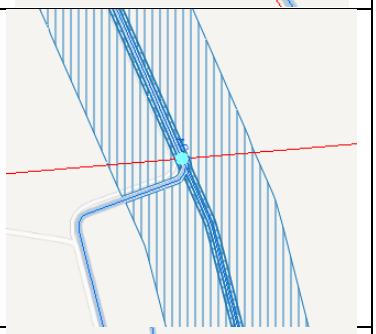
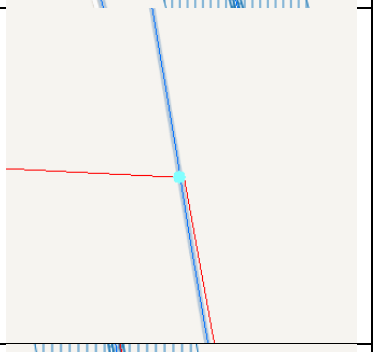
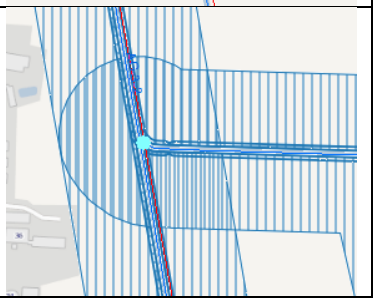
According to the Procedure for the Setting of Safety Zones and Shore Safety Belts of Surface Water Bodies, the safety zone for rivers under 50 km long is 100 m from the water body boundary, and 200 m for rivers 50 km long or longer [11]. In accordance with Article 99 of the RL Law on the Special Conditions for Land Use, construction of engineering structures within safety zones of surface water bodies is not prohibited.

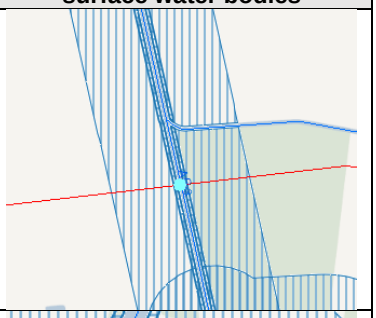
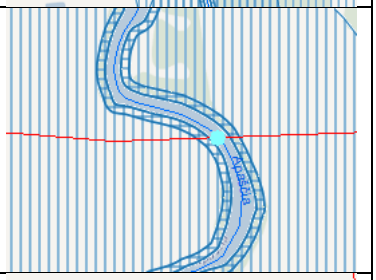
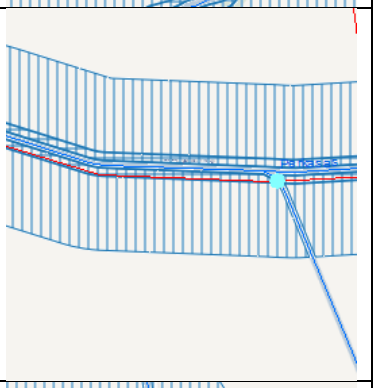
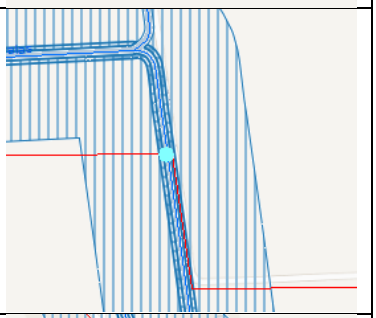
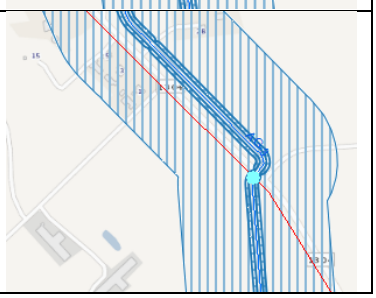
It is prohibited, in the shore safety belts of surface water bodies, to conduct earth works, change the shoreline, terrain and earth surface, and construct installations other than those specified in Article 100 of the RL Law on the Special Conditions for Land Use, except cases of 'construction and/or installation of waterworks, water measuring stations, installations and structures for water taking/discharge into water bodies, ground water wellfields, information signs and stands, pedestrian paths, **roads and engineering networks crossing the safety belt of a surface water body**, bridges, footbridges in farmsteads or next to them, port and harbour structures, and – at inland waterways - fuel filling stations and/or their structures for internal waterway vehicles.'

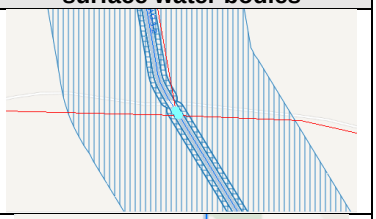
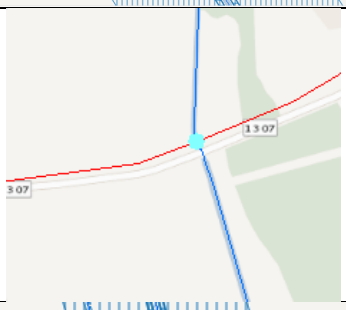
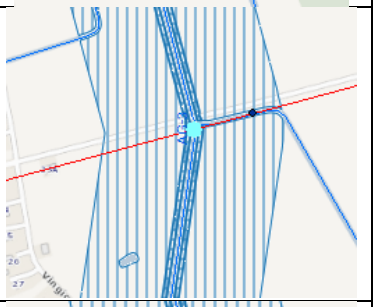
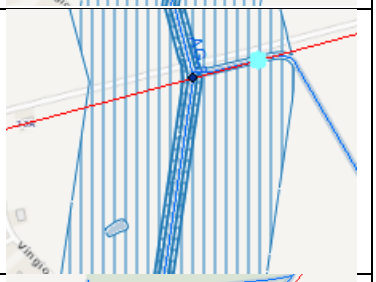
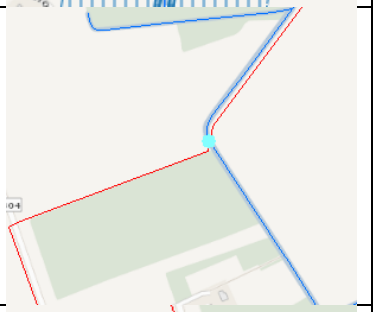
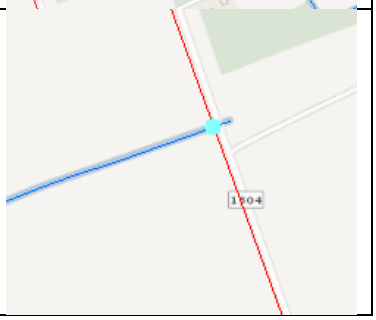
Crossing surface water bodies and their safety zones and shore safety belts is unavoidable when constructing underground power cables, reconstructing existing roads and/or building new road sections. It is estimated that the cable lines will cross surface water bodies at 38 points (Table 4.1.2.1). Notably, the PEA can be implemented at intersection points No 5, 6, 11, 13, 14, 26, 29 and 30 only if location Option TP1 is selected, at intersection points No 10 and 27- only if Option TP2 is selected, and at intersection point No 28 – only if Option TP3 is selected. It is planned that, at the points of crossing of the surface water bodies, the power cables will be laid by the trenchless method, by drilling the bottom of the water body, with the drilling equipment placed beyond the boundaries of the water body's shore safety belt. Where construction of a new road for access to the WT will be required across a water body, culverts (across land reclamation canals) and/or bridges (across rivers) will be constructed; details will be provided during the preparation of technical designs. The construction works will always involve temporary damage to the bed of the water body as well as a section of the shore safety belt.

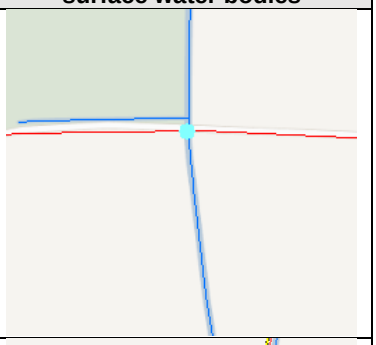
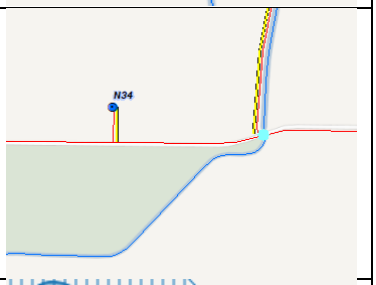
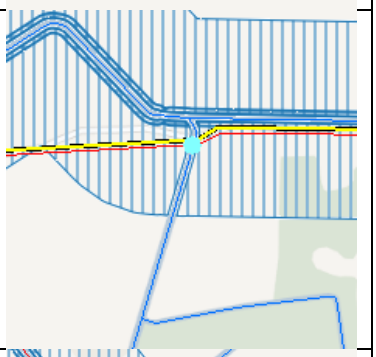
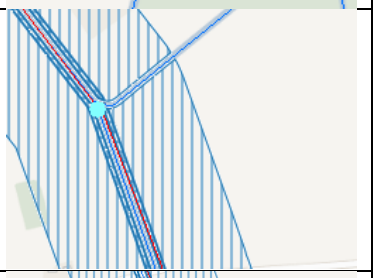
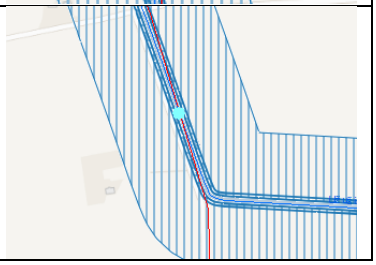
Planned locations of the power cable line and/or access roads to the WTs and the TS as well as the surface water bodies are shown in Figure 4.1.1.2. Intersections of the power cable line and/or access roads to the WTs with the surface water bodies are described in Table 4.1.2.1.

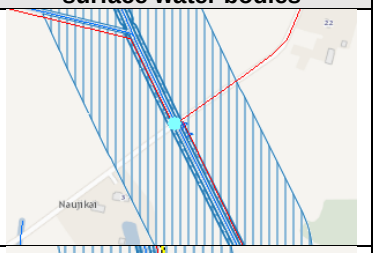
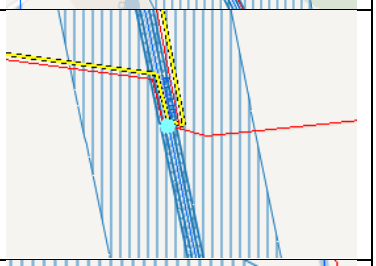
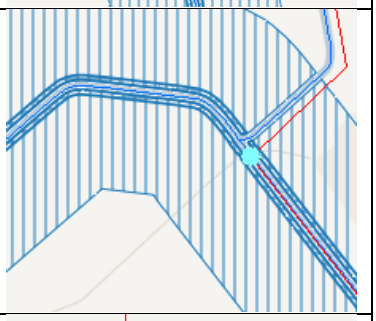
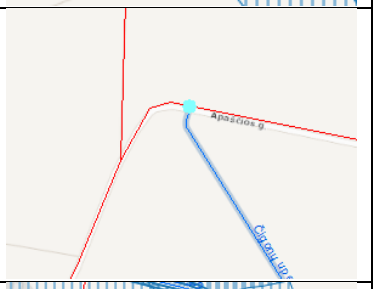
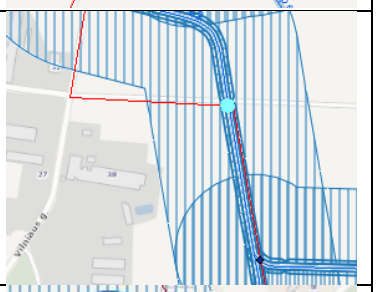
Table 4.1.2.1. Surface water bodies crossed by the engineering infrastructure required for the PEA

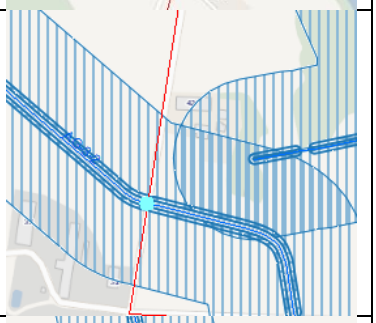
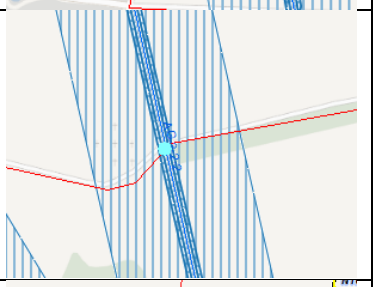
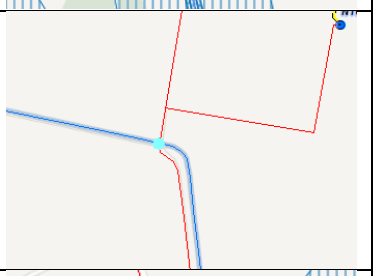
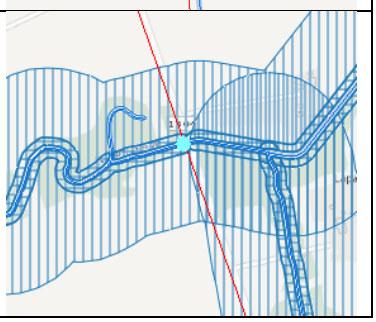
Intersection No	Intersection coordinate (WGS-84)	Type of surface water body	Name and ID of surface water body	Graphic representation of the PEA intersections with surface water bodies
1	X:549524 Y:6249066	river	Perkasas	
2	X:547269 Y:6246717	land reclamation canal	-	
3	X:549950 Y:6240007	river	AG-1	
4	X:547498 Y:6241433	land reclamation canal	-	
5	X:551943 Y:6239136	river	AG-3-2-2	

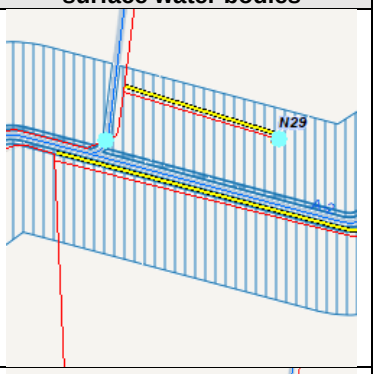
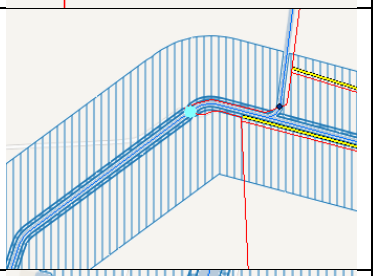
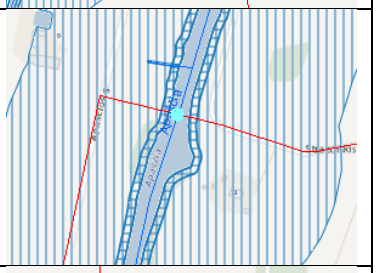
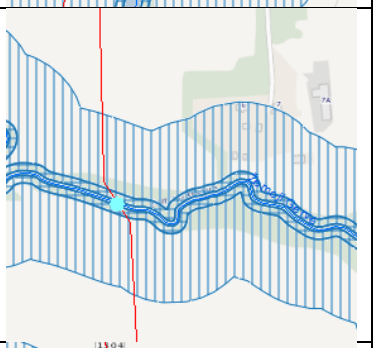
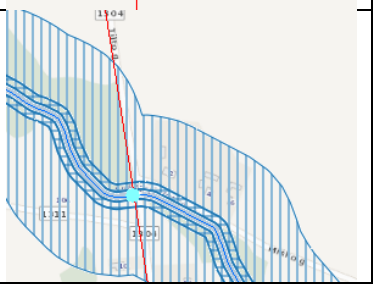
Intersection No	Intersection coordinate (WGS-84)	Type of surface water body	Name and ID of surface water body	Graphic representation of the PEA intersections with surface water bodies
6	X:551018 Y:6240113	river	AG-3	
7	X:545750 Y:6242613	river	Apaščia	
8	X:549408 Y:6249050	land reclamation canal	-	
9	X:548927 Y:6240095	canal	Užušilė canal	
10	X:551635 Y:6237054	river	AG-3	

Intersection No	Intersection coordinate (WGS-84)	Type of surface water body	Name and ID of surface water body	Graphic representation of the PEA intersections with surface water bodies
11	X:552155 Y:6237963	river	AG-3-2	
12	X:551878 Y:6234577	land reclamation canal	-	
13	X:551408 Y:6237824	river	AG-3	
14	X:551477 Y:6237842	land reclamation canal	-	
15	X:548710 Y:6248421	land reclamation canal	-	
16	X:548490 Y:6248144	land reclamation canal	-	

Intersection No	Intersection coordinate (WGS-84)	Type of surface water body	Name and ID of surface water body	Graphic representation of the PEA intersections with surface water bodies
17	X:548989 Y:6245809	land reclamation canal	-	
18	X:547488 Y:6245812	land reclamation canal	-	
19	X:549943 Y:6250403	land reclamation canal	-	
20	X:547611 Y:6240721	canal	Užušilė canal	
21	X:547740 Y:6240358	canal	Užušilė canal	

Intersection No	Intersection coordinate (WGS-84)	Type of surface water body	Name and ID of surface water body	Graphic representation of the PEA intersections with surface water bodies
22	X:544792 Y:6244620	river	A-1	
23	X:543489 Y:6244981	river	Kraklis	
24	X:547490 Y:6240880	canal	Užušilė canal	
25	X:545371 Y:6245562	rivulet	Čigonai stream	
26	X:551901 Y:6239340	river	AG-3-2	
27	X:552733 Y:6235048	river	Rovėja	

Intersection No	Intersection coordinate (WGS-84)	Type of surface water body	Name and ID of surface water body	Graphic representation of the PEA intersections with surface water bodies
28	X:554678 Y:6232681	river	Rovėja	
29	X:551715 Y:6239489	land reclamation canal	AG-3-2	
30	X:552546 Y:6237972	river	AG-3-2-2	
31	X:545243 Y:6246621	land reclamation canal	-	
32	X:548946 Y:6246855	land reclamation canal	Žemoji Gervė	

Intersection No	Intersection coordinate (WGS-84)	Type of surface water body	Name and ID of surface water body	Graphic representation of the PEA intersections with surface water bodies
33	X:549296 Y:6250491	river		
34	X:549157 Y:6250484	river	A-2	
35	X:546077 Y:6245755	river	Apaščia	
36	X:547194 Y:6247278	river	Žemoji Gervė	
37	X:550100 Y:6242770	river	Aukštoji Gervė	

All works of construction/installation of the WTs and requisite engineering infrastructure must be conducted without violating the hydrological conditions of the nearby surface water bodies. Physical parameters of the surface water bodies will remain unaffected.

The majority of the area which the PEA will be implemented has been reclaimed by means of public land reclamation systems and equipment. The PEA implementation works may damage the existing land reclamation systems which will have to be restored or reconstructed on completion of the works. Reclaimed areas where the land reclamation systems are located and which fall within the territory of potential PEA impact are shown in Figure 4.1.2.1. The largest impact on the reclaimed areas and reclamation systems would be produced in the construction phase. Consequences of such impact are directly related to the damaged land reclamation structures and the need for their restoration/reconstruction. Such restoration/reconstruction must ensure proper and efficient reclamation of the territory without giving rise to a threat of its flooding/soaking.

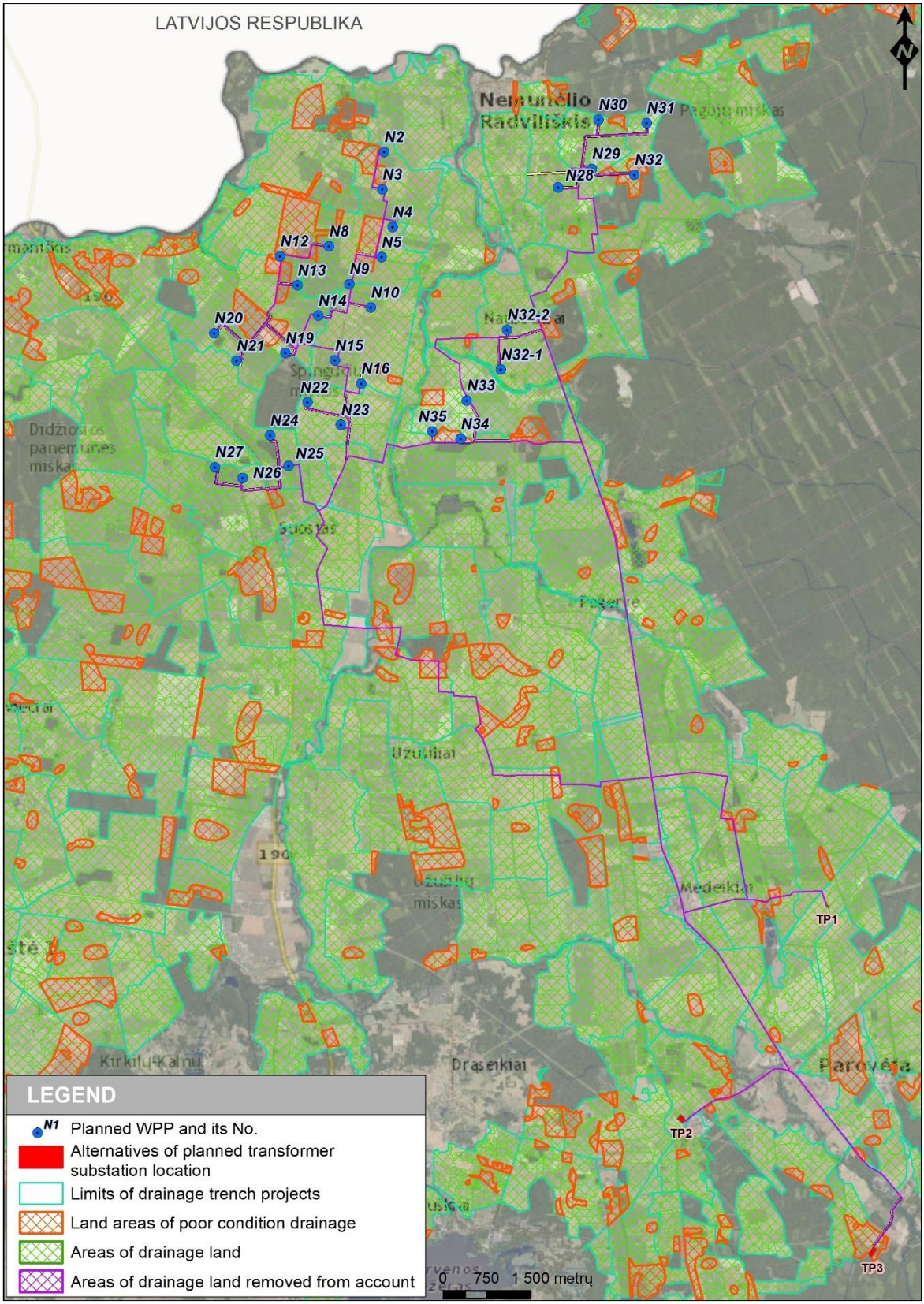


Figure 4.1.2.1. Areas of reclaimed land where reclamation systems are in place

Reconstruction and restoration of damaged land reclamation systems is governed by the RL Law on Land Reclamation [13]. According to this law, preparation of a technical design for structures must be accompanied by preparation of designs for the removal and/or reconstruction of land reclamation structures and/or common-use collectors that detail the solutions planned and identify specific measures to avoid, reduce and/or compensate for the impact upon surface water bodies. All the land reclamation system reconstruction works must be organised in accordance with 1.05.01:2005 'Designing of land reclamation structures' [14], MTR 1.12.01:2008 'Rules for the maintenance of land reclamation structures' [15] and MTR 2.02.01:2006 'Land reclamation structures. Main requirements' [16].

It is expected that proper and timely restoration of any damaged land reclamation systems and installation of new systems will ensure that the impact on the relevant areas will be minimal.

No water will be used during the operation of the PEA installations. No domestic wastewater or industrial wastewater will be generated, only surface run-off (from rain and melting snow) is possible. Surface run-off will not be collected from the surfaces of the PEA area: part of it will soak into the ground, and part will flow to adjacent areas and/or (by existing slopes) – into nearest surface water bodies. Surface run-off quantities will not be significant.

Implementation of the PEA will not involve any use or storage of dangerous chemical substances, stationary combustion installations, and constant intensive traffic flows.

Conclusion: *Five sites of the WTs being planned fall within safety zones of surface water bodies; none of the WT sites fall within shore safety belts of surface water bodies. During the construction of the PEA facilities (laying of underground power cables and building of access roads to the WTs and the TS), surface water bodies may be crossed at 27 to 37 places depending on the selection of the TS location. Power cables will be laid by the trenchless method beneath the bottom of surface water bodies. No underground or surface water resources will be used in the PEA, and no generation of industrial or domestic wastewater is expected. During the periods of construction and operation, non-polluting surface runoff will occur; it will move away across the ground or will soak into the ground. No dangerous chemical substances will be used and stored during the PEA implementation.*

During the periods of construction and operation of the PEA installations, no significant negative impact on surface waters is expected irrespective of the options selected, provided that identified measures to avoid and reduce impact are implemented. Potential impact to the PEA on surface water bodies is considered to be a direct impact (at places of intersections with water bodies and places where land reclamation systems would be damaged), however, the impact will be temporary (during construction), of little importance in the construction phase, and insignificant in the operation phase. The impact on surface water bodies would be similar in all the PEA options.

4.1.3 Measures to avoid, reduce and/or compensate for a significant negative impact

The following measures to avoid, reduce and/or compensate for a significant negative impact are planned:

- proper selection of sites for the storage of construction materials and/or removed soil and the storage of construction machinery as well as temporary vehicle parking lots (at a distance from

shore safety belts of surface water bodies and maintaining a distance of minimum 25 m to the shore of the nearest water body);

- new culverts must be calculated and designed in such a way that proper parameters of the watercourse bed, the bed slope and the flowrate are maintained, and no flooding occurs;
- maximum protection of land reclamation systems and installations within the PEA implementation area and/or their proper restoration, with the preparation of designs for the removal and/or reconstruction of land reclamation structures and/or common use collectors and carrying out of the works under such designs;
- using construction machinery and vehicles that comply with environmental protection and technical requirements in the PEA construction phase.

4.2 Ambient Air and Climate

4.2.1 Description of current situation

According to the system of climatic regions of Lithuania [17], the PEA area falls within the Mūša-Nevėžis subdistrict of the Middle Lowlands district. The average annual air temperature is +6.5 - 7.0 °C. July is the warmest month: the average temperature in July is +17.4 – 18.1°C. January is the coldest month, with the average temperature varying between -3.6 and -3.1°C ribose. The annual precipitation in the area concerned amounts to 560-700 mm precipitation. Snow cover remains for 75-90 days during a year on average. Duration of the solar radiation is 1750-1850 hours/year. The main factors and processes that determine such climatic characteristics include the adiabatic air descending from adjacent highlands, poor conditions for water flow over flat surfaces, and excessive moisture content of soil.

Wind and sunshine are the meteorological phenomena most relevant to the PEA. Duration of the sunshine is important in the assessment of the impact of the shadowing caused by the WT blades' rotation in the nearest residential environment. The PEA efficiency and operating conditions are directly dependent on the wind parameters. According to the data from annual observations of the LHS, the wind speed in the PEA area, at the height of 10 m, is 3.0 – 3.5 m/s, and 4.5 – 5.0 m/s at the height of 50 m (Figures 4.2.1.1 and 4.2.1.2).

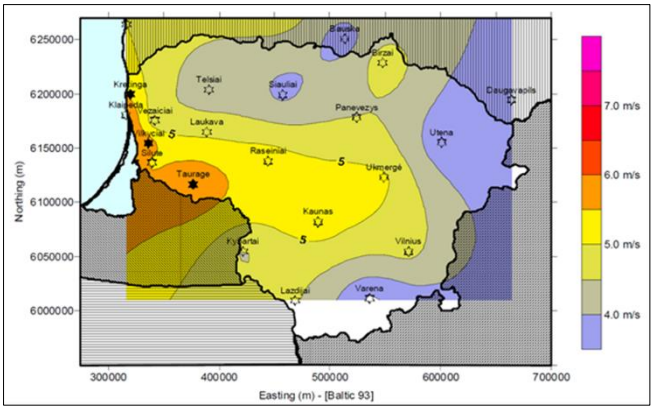


Figure 4.2.1.1. Wind map of Lithuania (at the height of 50 m) [18]

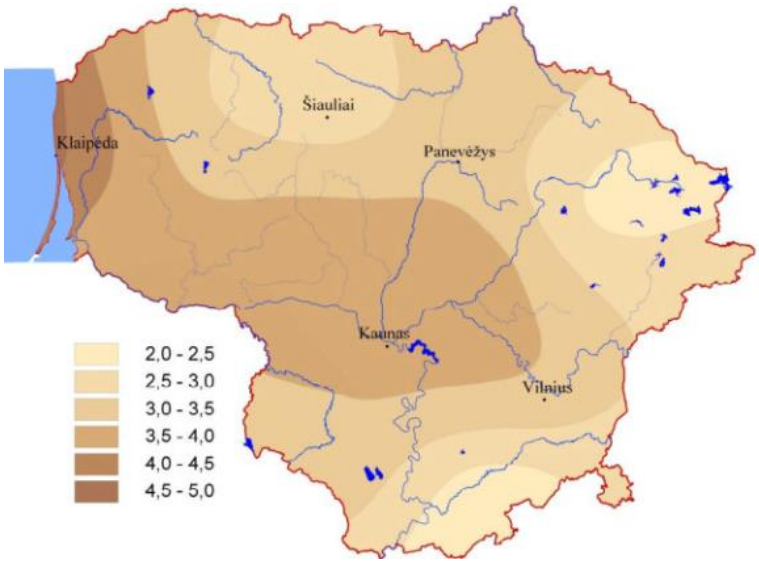


Figure 4.2.1.2. Annual average distribution of wind in Lithuania in 1981-2010 (at the height of 10 m) [18]

Ruggedness of the terrain has a significant impact upon the wind speed. Both natural and artificial obstacles on the surface of the earth – such as hills, forests, individual trees, buildings, engineering structures etc. may change the movement of air masses and its direction and create circular or turbulent air flows, as a result of which the amount of energy carried by the air masses decreases.

According to the results of investigations into wind conditions in various regions of Lithuania, conducted by the Renewable Resources and Efficient Energy Laboratory under the Lithuanian Energy Institute [18], in the territory of Biržai District Municipality the wind speed reaches 4.22 m/s or more at the height of 50 m, wind power density is 90 W/m^2, with the prevailing southwest direction of the winds (Figure 4.2.1.3).

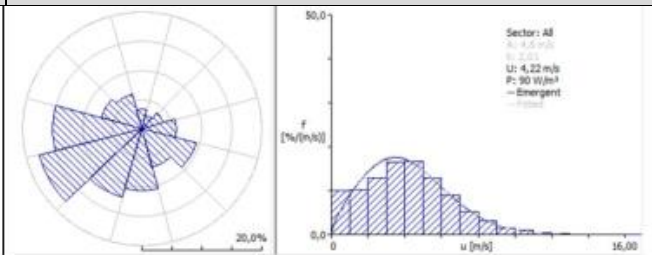
Municipality	**Met. station**	**Weibull distribution**	**Av. wind speed, m/s**	**Wind power density, W/m^2**
Pasvalio r. Biržų r. Kupiškio r. Rokiškio r.	Biržai		4,22	90

Figure 4.2.1.3. Average wind speed and wind power density at the height of 50 m above the surface in the Biržai district municipality (Weibull distribution function and wind rose) [18]

While Lithuania so far is considered to be among the states least affected by climate change, warming of the climate is starting to produce an impact on Lithuania's water resources, landscape, ecosystems and biodiversity, ambient air quality, public health, waste management, forestry, agriculture and other areas. Disastrous consequences of climate change that are taking place globally have an indirect economic impact on Europe including Lithuania [19].

All gases that trap heat in the atmosphere could be considered as the gases creating the greenhouse effect. However, it has been agreed that, in Annex A to the Kyoto Protocol to the United National Framework Convention on Climate Change, greenhouse gases include only carbon dioxide (CO_2), methane (CH_4), nitrous suboxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6), and since 2012 also nitrogen trifluoride (NF_3). They are called greenhouse gases because their amounts in the atmosphere are rapidly increasing due to human economic activities.

In 2020, carbon dioxide emissions into the atmosphere accounted for 68% of total greenhouse gas emissions. Amounts of other gases are much smaller: methane accounted for 14%, nitrous suboxide 16%, and fluorinated greenhouse gases for approx. 2%. To sum up the greenhouse gas emission trends during three decades since 1990, a significant progress was made in implementing the objectives and tasks set in the climate change area in the National Strategy of the Climate Change Management Policy and other strategic documents. Compared with 1990, greenhouse gas emissions were reduced by 58% (excluding land use, land purpose change and forestry sector) [20].

In 2021, 20.3 m tonnes of greenhouse gases were emitted into the atmosphere in Lithuania, which is an approx. 0.5% increase on year-on-year basis [21]. In 2021, the energy sector (30 %) and the transport sector (30 %) accounted for the largest shares in the total amount of the emissions, followed by agriculture (21 %), industry (14 %) and waste management (4 %) [22] (Figure 4.2.1.4).

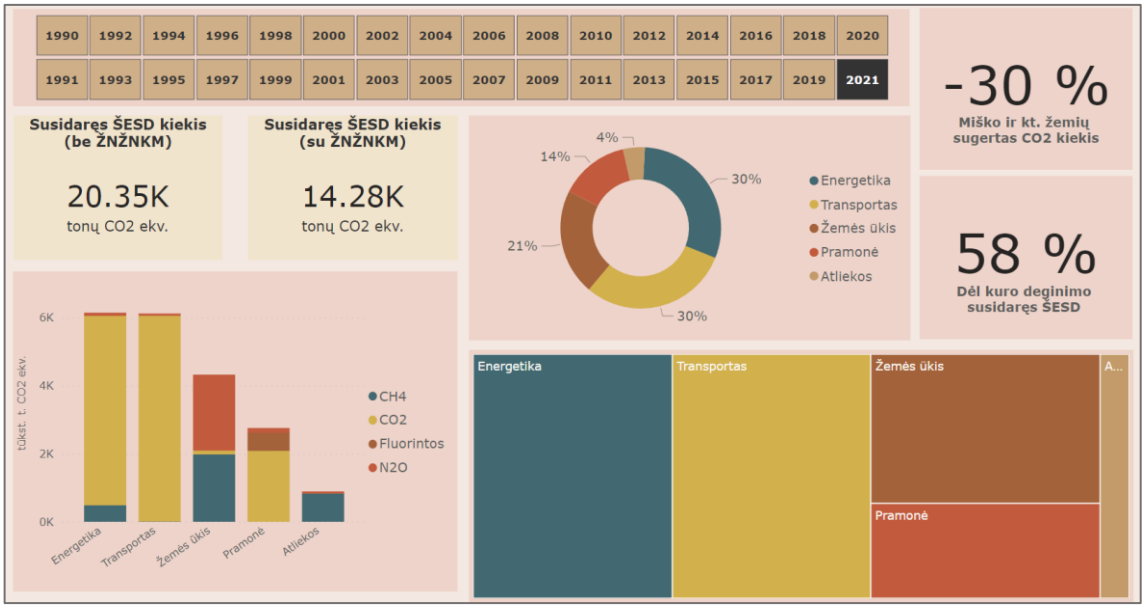


Figure 4.2.1.4. Distribution of greenhouse gas emissions in Lithuania in 2021 by sector (%) [22]

While greenhouse gas emissions have been decreasing in many sectors of the economy in 2020, (transport (- 0.2 %), agriculture (- 4.0 %), industry (- 5.9 %), waste (- 4.2 %),), the overall increase in the GG emissions in Lithuania has been determined by a significant increase in the energy sector (+7.6 %), in particular in the co-generation of heat and electricity, households and enterprises due to growing use of fossil fuels (Figure 4.2.1.5).

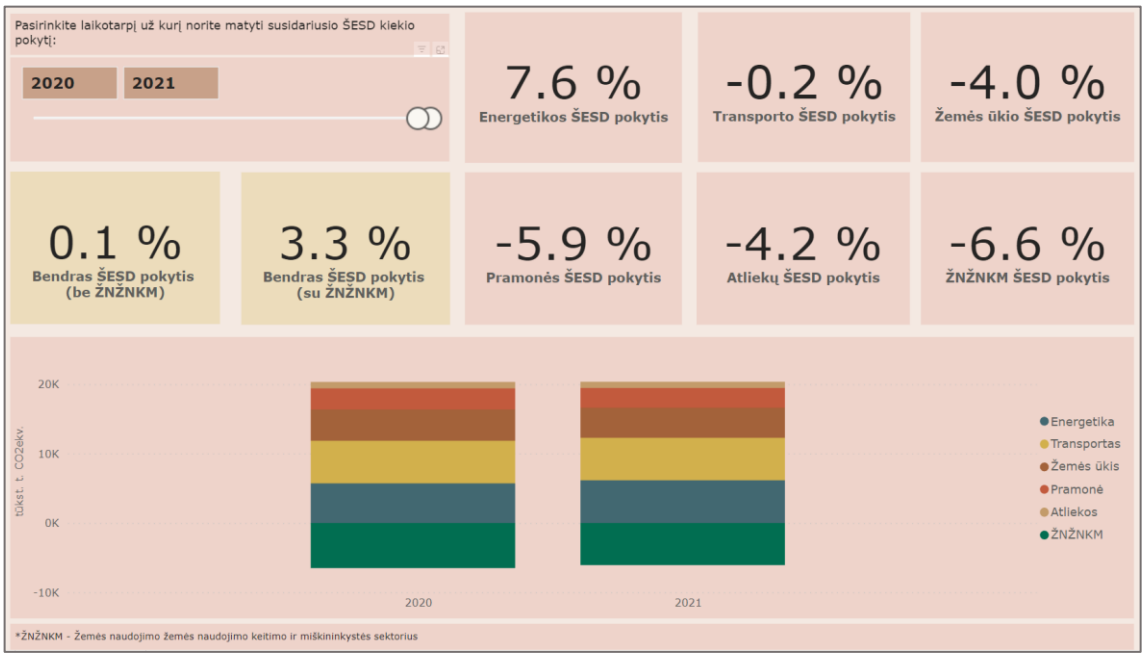


Figure 4.2.1.5. Change in greenhouse gas emissions in 2020-2021 [22]

In 2021, 6.1 million tonnes of CO_2e were absorbed in Lithuania, which is an almost 2 % increase compared with 2019, mainly due to the accumulation of carbon (0.8 m tCO_2e) – forests 6.5 m tCO_2e, multiannual meadows 0.8 m tCO_2e, and timber 0.8 m tCO_2e [21].

As greenhouse gases have an accumulation effect, reducing their emissions is crucial for the stopping of climate change. Greenhouse gas emissions arise from combustion of fossil fuels which is driven by the need for energy. Energy amounts is not a problem for the Earth; the question is how to convert it into the most desirable forms of energy, i. e. thermal energy and electricity. Hydro, solar, wind, high/low tide power plants generate electricity without greenhouse gas emissions [23].

Air pollution. Background pollution of ambient air in the PEA area was determined in accordance with the '*Guidance on the Use of Background Air Pollution Data for the Assessment of the Impact of Economic Activities on Ambient Air*' [24]. There are no air quality monitoring stations within the distance of 2 km from the PEA location. According to information provided on the website of the Environmental Protection Agency, no indicative ambient air quality assessments have been made in the areas adjacent to the PEA area during the past five years. The EPA has not performed any air pollution modelling in the adjacent areas.

Background pollution data on relatively clean Lithuanian rural areas are applicable to the PEA area. Based on the information provided on the EPA website, background pollution data on relatively clean rural areas of Panevėžys region for 2021 are as follows:

- solid particles (KD_{10}) – 9.9 μg/m^3;
- solid particles ($KD_{2,5}$) – 6.5 μg/m^3;
- nitrogen dioxide – 4,1 μg/m^3;
- nitric oxides – 5.8 μg/m^3;
- sulphur dioxide – 3.3 μg/m^3;
- carbon monoxide – 200 μg/m^3;
- benzene – 0.91 μg/m^3;
- ozone – 48 μg/m^3.

4.2.2 Anticipated significant impact

No significant negative impact on ambient air and climate is anticipated in the PEA facilities' operation phase. On the contrary, use of wind energy for electricity generation (instead of fossil fuels) is an important factor in resolving such environmental problems as greenhouse effect and acid rains. According to publicly available information, 1 kWh of electricity produced by a wind turbine enables to avoid the formation and emission to the environment of approximately: CO_2 – 850 g, SO_2 – 2.9 g, NO_x – 2.6 g, dust – 0.1 g, slag and volatile ash – 550 g [25].

A minimal impact on ambient air and climate is possible during the infrastructure and PEA facilities construction/installation works due to emissions from internal combustion engines of vehicles and machinery. Mobile air pollution sources (heavy and/or light vehicles) will emit carbon monoxide (CO), nitric oxides (NOx), volatile organic compounds (VOC) and solid particles (SP).

Estimation of emissions has been made using Tier1 algorithm provided in EMEP/EEA Emission Inventory Guidebook 2016 update 2019, Non-road Mobile Sources and Machinery; this methodology is included on the list of methodologies for the estimation of emissions into the atmosphere approved by Order of the Minister of Environment of the Republic of Lithuania No 395 of 13 December 1999 '*Regarding methodologies for the determination of taxable pollutant quantities for entities that do not keep mandatory accounting for pollutant emissions into the environment*' [26]. The algorithm is based on the estimation of the pollutant quantities based on fuel consumption in internal combustion engines of vehicles and machinery.

Approximate requirements for equipment for the construction of one WT and their operating hours:

- bulldozer – 20 hours;
- excavator – 32 hours;
- crane – 24 hours,

- tip-up lorry – 32 hours,
- lorry – 16 hours

The diesel fuel requirement for the construction of one WT, calculated according to average fuel costs, is approx. 2.3 t. Pollutant quantities emitted into ambient air, calculated according to the emission factors provided in Table 3-1 of the Non-road Mobile Sources and Machinery, are provided in Table 4.2.2.1.

Table 4.2.2.1. Pollutant quantities emitted during the WT construction (including access roads and electric power cable installation works)

Pollutant	Emission factor g/t fuel	Fuel used for the construction of a WT, t	1 WT	31 WT
			Emissions, t	
Carbon monoxide	10774	2.3	0.025	0.768
Volatile organic compounds	3377		0.008	0.241
Nitric oxides	32629		0.075	2.326
Solid particles	2104		0.005	0.150
Total			0.112	3.485

Results of the calculations provided in Table 4.2.2.1 show that air pollutant emissions generated by heavyweight vehicles during the construction/installation of engineering infrastructure and later – the WTs will be minimal. The relatively small emissions quantity will be extended in time (during construction works only) and will not changes background air pollution levels. An increase in air pollution will be temporary (until the end of the infrastructure installation and WT construction works) and of local character. Cars used by employees used for the WT periodic maintenance during the WT operation period will have no significant impact on the ambient air quality either.

Conclusion: *Wind energy resources in the territory being planned are sufficient for the electricity generation in wind farms. Generation of electricity from renewable wind energy will have a significant positive impact on the reduction of greenhouse gas emissions. In all its phases, the PEA will not generate significant air pollution, and no negative impact on ambient air is anticipated.*

Potential impact of the PEA on ambient air and climate is considered to be direct, temporary, adverse and insignificant during the construction period (due to pollutant emissions from the vehicles and machinery used in the construction period), and indirect, long-term and significantly positive – in the operation period (electricity resources produced satisfy part of the demand for these resources and reduce pollution and greenhouse gas emissions from other installations for electricity generation and other economic activities that use fossil fuel). In this respect, the greatest positive impact on ambient air and climate would be produced by implementation of Option C of the PEA.

4.2.3 Measures to avoid, reduce and/or compensate for significant negative impact

A small number of vehicles and their temporary manoeuvring in the territory during construction or periodic maintenance of the WTs will not significantly change current air quality, therefore, no measures to reduce the impact on ambient air are being planned.

4.3 Soil

4.3.1 Description of current situation

Plains prevail in Biržai District (98.1 %), with hilly terrain accounting for just 1.9 % of the territory. Gleyic Cambisols and gleyic Luvisols account for the largest part of farmland; in the intensive karst area, automorphous Luvisols prevail. According to TDV-96 classification, turf gleyic (36.2 %), turf podzolic gleyic (20.9 %) and gleyic podzolic (14.1 %) soils prevail. Sandy soils (44.4 %) and loams (41.6 %) prevail in farmland. Soils in the Biržai District Municipality are characterised by a neutral reaction [27]

Farmland prevails in the PEA area, covered with fertile topsoil. It is used as arable land and for pastures. There is no accurate information on the thickness of topsoil in the PEA area; it is estimated that it can vary between 0.2 m and 0.5 m.

4.3.2 Anticipated significant impact

Construction of a wind turbine normally requires up to 0.3 ha. Prior to starting construction works, soil layer will be removed/pushed away in the large part of that area. Soil layer will also be removed/pushed away from the TS constriction site and at places of access road building and underground cable laying in trenches. It is estimated that total area of excavated/removed/susceptible soil layer on the WT construction sites may be between 38.2 and 50.0 ha (approx. 9.3 ha – on WT construction, road building and cable laying sites, approx. 33.3 ha – in the case of selecting T1 transformer substation, approx. 33.1 ha – in the case of T2 transformer substation, and approx. 35.7 ha in the case of T3 transformer substation); soil removal depth up to 0.2-0.3 m. On completion of construction of the WTs and installation of requisite infrastructure, the removed soil will be used for the site management works in the WT areas and access road areas. In part of the affected territory (the territory built up with WTs and TS, access road areas and WT grounds) totalling approx. 18.0 ha, the soil layer will not be reinstated throughout the PEA operation period.

No dangerous chemical substances will be used/stored during implementation of the PEA. No significant negative impact on soil is anticipated either during construction of WTs and requisite infrastructure (grounds, road sections, underground power cables and TS) or in the operation phase.

Conclusion: *Construction and operation of the PEA facilities will not produce any significant impact on soil. Some temporary physical impact on soil is possible only in the construction phase. Soil will be removed for the entire period of the PEA operation in the area of approx. 18 ha where structures and roads will be built.*

Irrespective of the selected option, no significant impact on soil is anticipated during construction and operation of the PEA facilities provided that measures to avoid and reduce impact are implemented as stated below. Potential PEA impact on soil is characterised as direct impact (at places where PEA solutions will be implemented and soil layer will be removed/damaged), short-term and temporary in part of the area (only during construction), long-term in part of the built-up area (throughout the operation phase), adverse and of little significance in the construction phase and insignificant in the operation phase. Impact on soil would be similar in all the options.

4.3.3 Measures to avoid, reduce and/or compensate for significant negative impact

The following measures to avoid, reduce and/or compensate for significant negative impact are provided for:

- prior to starting implementation of the PEA, provide for in the technical designing stage and implement in the construction stage the works of temporary **removal and storage of the fertile soil** layer on the construction site; on completion of construction works, the removed and stored soil will be used for the restoration/recultivation of affected areas and site management works in accordance with Resolution of the Government of the Republic of Lithuania No 1116 of 14 August 1995 'Regarding recultivation of damaged areas and preservation of fertile soil layer' [28] and Construction Technical Regulation STR 1.06.01:2016 'Construction Works. Supervision over Construction of a Structure;
- where the PEA is planned in a territory where economic activities involving the use of dangerous substances were previously/are currently carried out, **preliminary ecogeological investigations** in accordance with the Regulations for Ecogeological Investigations [29] must be carried out. Should it be established that soil contamination exceeds set limits, remediation works must be carried out in the territory in accordance with LAND 9-2009 'Environmental Protection Requirements for Remediation of Areas Contaminated with Petroleum Products [30] and 'Environmental Protection Requirements for Remediation of Areas Contaminated with Chemical Substances' [31].

4.4 Underground Sphere

4.4.1 Description of current situation

Geological conditions

Quaternary deposits occur on the surface of the Biržai District territory. The deposits are not thick, with the thickness varying between several tens of centimetres and 20 m, usually not exceeding 10–15 m, and just 0.5–2.5 m in river valleys and between rivers [32]. The quaternary deposits in the territory of Biržai district and town consist of gasogenous deposits and sediments of Žemaitija and Medininkai till of Žeimena suite of Mid-Pleistocene, karst formations and glacigenous depsits and sediments not classified to a greater detail of Upper Nemunas suite pf Upper Pleistocene, fluvioglacial, limnoglacial, glacigenous and alluvial deposits and sediments of the Baltic till of the Upper Nemunas suite as well as Holocene alluvial, proluvial, deluvial, limnic and biogenic deposits and sediments, and karstic, solifluxial and technogenous formations [32] (Figure 4.4.1.1.).

Quaternary deposits are mostly formed of moraine sandy loam and sandy soil of Baltija and Grūda stages of last glaciation. Moraine deposits of various age at some places are divided of thin interstage aquaglacial deposits – interlayers and lenses of sand of varying coarseness, sometimes sand with gravel. In the valleys of Mūša, Lėvuo, Tatula, Nemunėlis and other rivers, moraine sediments are often washed out. Here karstic rocks of Tatula suite are covered only by sandy alluvial deposits; sometimes they are uncovered at the bottom of the river valleys (e. g. in Nemunėlis river valley at Padvariečiai village of Biržai district).

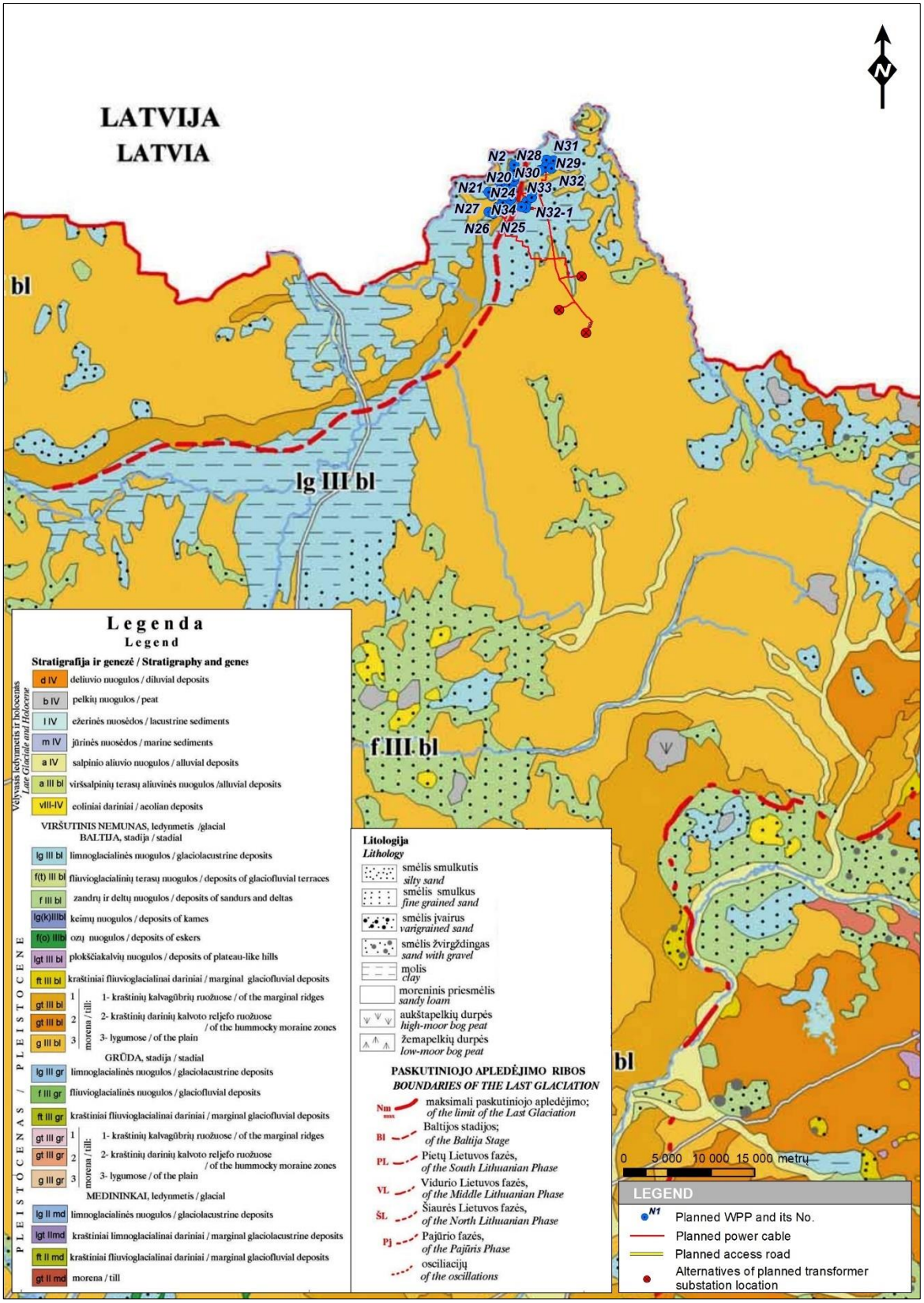


Figure 4.4.1.1. Distribution of quaternary deposits in the PEA area

According to information provided on the LGS website [33], the PEA area borders the North Lithuania karstic region in the west. Due to dissolution of gypsum, underground hollows form in the area; karstic landforms can be found on the land surface, and new forms appear. Karstic phenomena prevail in Biržai, Pasvalys, Panevėžys and Radviliškis districts of North Lithuania (these district account for over 10% of Lithuania's territory), whereas 29,400 ha in Biržai and Pasvalys districts are considered as intensive karst areas.

Even no WTs are planned to be constructed in the aforesaid karst area, part of them (N20 and N21) would be at the distance of 25-31 m from the boundary of karstic area with low activity (Figure 4.4..1.2). WTs N26 and N27 are being planned nearest to the highly active karst areas: at the distance of 831 m and 500 m, respectively.

Article 108 of RL Law on the Special Conditions for Land Use, it is prohibited in the karst region of North Lithuania: <...> to carry out economic activities without assessing their impact on surface water and groundwater (this applies to economic activities for which procedures of assessment of the proposed activity's impact on the environment must be performed in accordance with the Law on the Assessment of Proposed Economic Activity's Impact on the Environment; constructing structures before obtaining results of engineering geological and geotechnical activities that must be conducted and registered according to set procedures <...> [12].

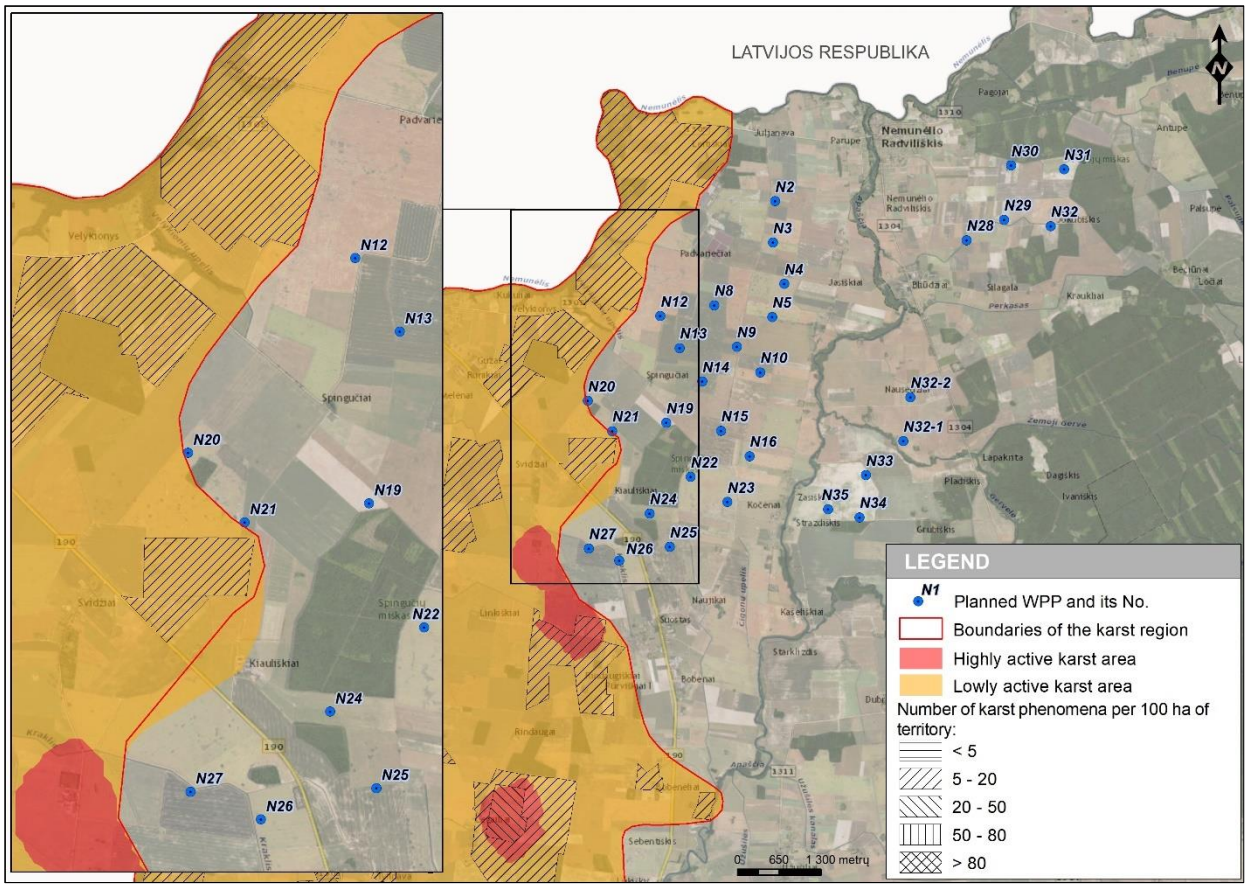


Figure 4.4.1.2. PEA location with respect to the Northern Lithuania karstic region

Deposits underlying the Quaternary deposits

Beneath the quaternary deposits, Upper Devonian suite deposits (Įstras, Pamūšis and Tatula) occur in the larger part of the district. In the PEA area, beneath the quaternary deposits there is Tatula deposit (D_3t) 15-45 m thick (Figure 4.4.1.3) which is not homogenous and consists of rhythmically layered lagoon rocks; the thinnest layer (15–20 m) is found where gypsum has dissolved [34]. Tatula deposit (D_3t) is divided into three parts: upper Nemunėlis (D_3t^{nm}) layer which contains gypsum, middle Kirdonys (D_3t^{kd}) layer and lower Pasvalys (D_3t^{ps}) layer. Nemunėlis layer forms the upper part of Tatula suite, its thickness is highly variable and depends on the features of the rocks beneath it, structural characteristics of the layers, and the degree of their dissolution and weathering [32]. Rocks of the Nemunėlis layer consists of dolomite powder (at places clayey) and gypsum. Dolomite interlayers with thickness varying between 0.05 and 0.3 m, sometimes 0.5 m and thicker, as well as residual domerite rocks occur in the dolomite powder layer. Ordinary gypsum and selenite are found in the layers. Gypsum is usually with an admixture of dolomite. Thickness of the gypsum layers is 0.2-2.0 m. Beneath Nemunėlis layer, there is Kirdonys layer (prevailing thickness approx. 5 m) consisting of clayey domerite, with rare dolomitic clay interlayers up to 0.5-1 m thick, and thin gypsum-selenite layers. Pasvalys layer underlying Kirdonys layer is from 5 m to 9-10 m thick, sometimes up to 20 m. It consists of layers of the following rocks: gypsum with dolomite, gypsum, dolomite with gypsum, dolomite, domerite, domerite with gypsum, residual domerite, dolomite powder and dedolomite.

Great lithological variety of rocks in Nemunėlis and Pasvalys layers, numerous interchanging rock layers, and low resistance of the rock to dissolution and weathering processes provide conditions for the latter processes to take place.

Hydrogeological conditions

The following aquifers have been identified in the hydrogeological cross-section of North Lithuania karst region‘s active water circulation area occurring above the Mid Devonian Narva regional aquiclude: groundwater aquifer, artesian quaternary intermorainal and artesian prequaternary Įstras–Tatula, Kupiškis–Suosa and Šventoji–Upininkai aquifers and complexes [32]. Karst processes and phenomena are mostly affected by the water in quaternary deposits and in the prequartery Įstras–Tatula and Kupiškis–Suosa aquifers. Groundwater is accumulated in the present bog deposits and alluvial, Upper Pleistocene alluvia, fluvioglacial and limnoglacial deposits (peat, sand and gravel) as well as in the upper part of moraine loams and sandy soil with fissures. Water occurs at depts up to 5 m, with filtration coefficient values between 0.05 – 2 m/d. Intermorainal water is contained by deposits (sand and gravel) of melting of the Baltija, Baltija–Grūda and Grūda–Medininkai glacier that form sporadically occurring water-bearing interlayers and lenses. They are 5–7 m thick. Such is only slightly pressurised and its piezometric surface settles at the depth of 1.5–3 m. Įstras–Tatula aquifer consists of the Įstras suite dolomite with fissures and caverns as well the Tatula suite gypsum, gypsum with dolomite, dolomite, 46 domerite and dedolomite with karstic features. The aquifer is 50 m thick. Water is pressurised, with the water head usually not exceeding 10–15 m but sometimes reaching 20–22 m. In the north-eastern part of the karstic region (north-west from Biržai), where the quaternary deposits are thin, water of this aquifer is not pressurised. Piezometric levels of the aquifer are usually at

the depth of 4–8 m from the land surface; water shoots out of the wells in the valleys of Apaščia, Įstras, Lėvuo, Mūša and other rivers. Mineralisation of water in Įstras-Tatula aquifer is up to 2.4 g/l. If there is no gypsum in the cross-section of the aquifer, then mineralisation of water does not exceed 1 g/l. Water is aggressive towards gypsum. Sulphatic aggressiveness toward concrete is characteristic of the karstic water of Įstras–Tatula aquifer.

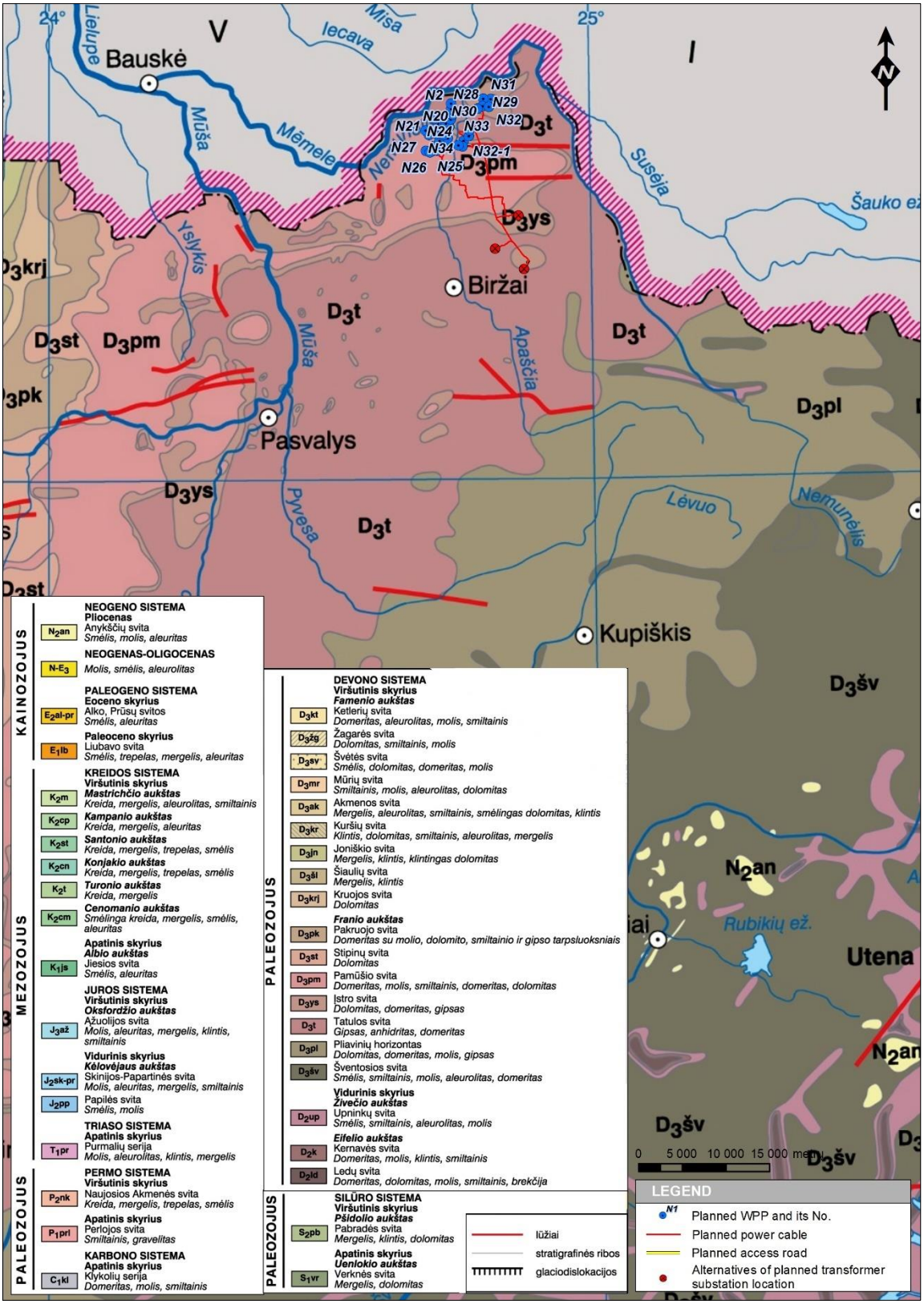


Figure 4.4.1.3. Distribution of postquatenary deposits in the PEA area

Kupiškis–Suosa aquifer consists of dolomite with fissures and caverns, with interlayers of domerite and gypsum with karst features (Suosa suite). The aquifer is usually 20–23 m thick. The water is pressurised, with the water head varying between 9–10 m to 65–75 m above the top. The piezometric level of the water is usually settled at the depth of 2–6 m from the land surface, and water shoots out of some wells in the river valleys. Freshwater prevails (mineralisation 0.3-0.4 g/l), and at places were gypsum dominates the cross-section or filtration from Įstras–Tatula aquifer above occurs, water is mineralised (mineralisation 2.4–2.5 g/l). Thus the area is characterised by a high groundwater and artesian water level in quaternary deposits, high water heads, good filtration parameters of the rocks confining the aquifers, aggressiveness of karstic water toward Portland cement concrete of normal density etc. Karst changes conditions for the surface water and groundwater circulation enabling surface water to get into the aquifers easily and to activate the dissolution and washing out of the rocks. Infiltration of contaminated surface water into underground layers is a particularly dangerous phenomenon [32].

PEA area in relation to mineral resources and wellfields

According to the information in the Register of Underground Resources (RUR), there are no mineral resources‘ deposits that have been explored in detail and/or being exploited, and no freshwater or mineral water wellfields in the PEA area and in its nearest environs (within the radius of up to 0.5 km).

Mineral resources‘ deposits that are nearest to the PEA area (according to GEOLIS database):

- Paberžiai II gravel deposit (reg. No 1762) that has been explored in detail, located in Parovėja ward, Biržai District Municipality, Panevėžys County – at the distance of 3.3 km southeast of WT N34.

Groundwater wellfields that are nearest to the PEA area (GEOLIS database):

- Biržų bekonas UAB‘s wellfield (Biržai District) (reg. No 2411), located in Leitiškiai village, Nemunėlio Radviliškis ward, Biržai District Municipality, Panevėžys County – at the distance of 1.08 km northwest of WT N2 (Figure 4.4.1.4 and Graphic Annex 1).

Individual freshwater extraction wells (GEOLIS data base) are shown in Figure 4.4.1.4.

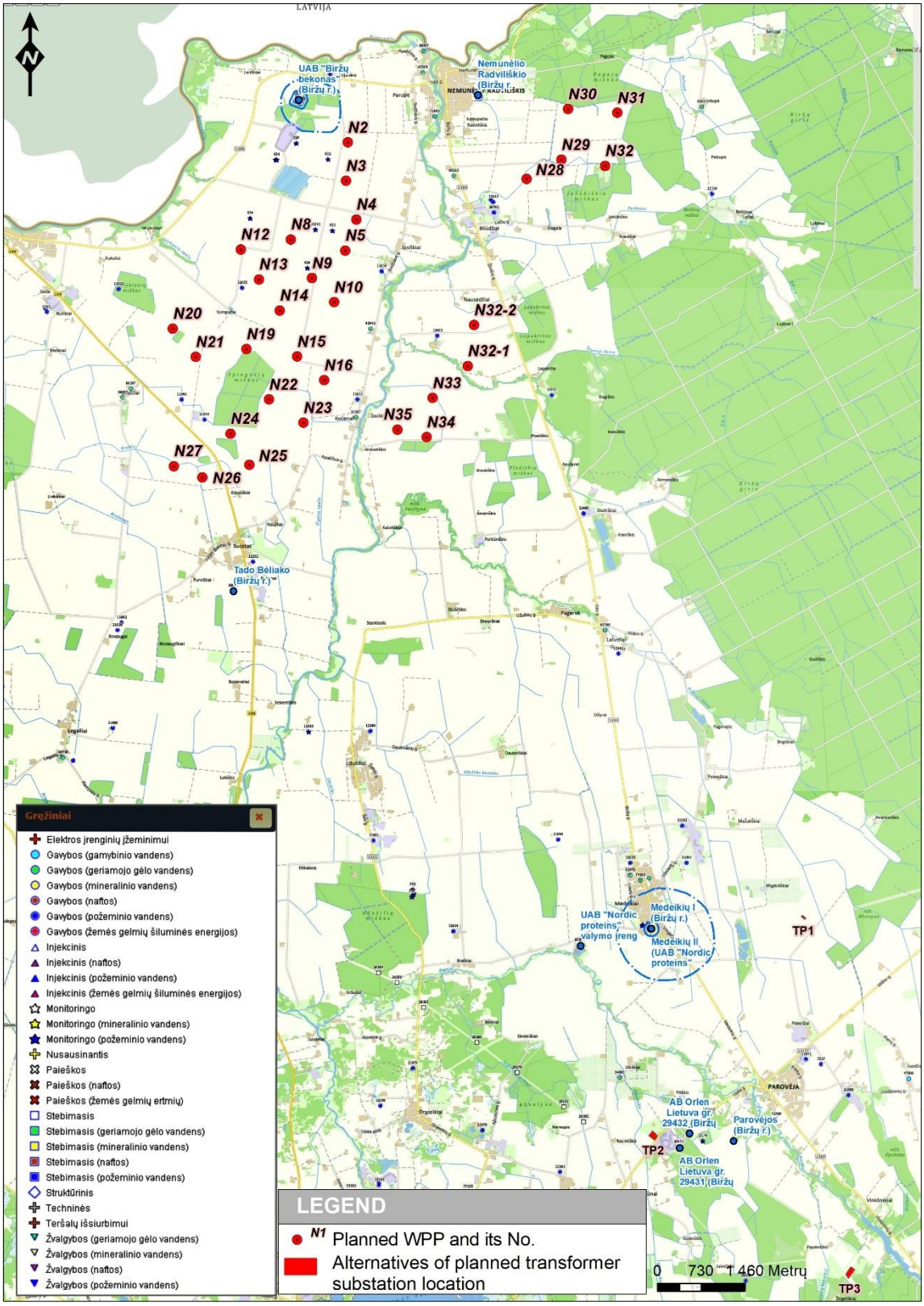


Figure 4.4.1.4. Locations of individual freshwater extraction wells in relation to the WTs being planned

Groundwater wellfields and mineral resource deposits that are nearest to the PEA area are shown in Graphic Annex 1.

Geotopes closest to the PEA location are shown in Figure 4.4.1.5. No PEA facility falls within the geotope areas. The following objects would be nearest to the PEA facilities being planned:

- Tabokinė escarpment – 2669 m, NE;
- Muoriškiai escarpment – 2099 m, N;
- Nemunėlio Radviliškis escarpment – 1872 m, NW;
- Leitiškiai gypsum escarpment / Leitiškiai stone – 2551 m, NW;
- Velniapilis rock – 1647 m, NW;
- Medeikiai stone – 8034 m, SE.

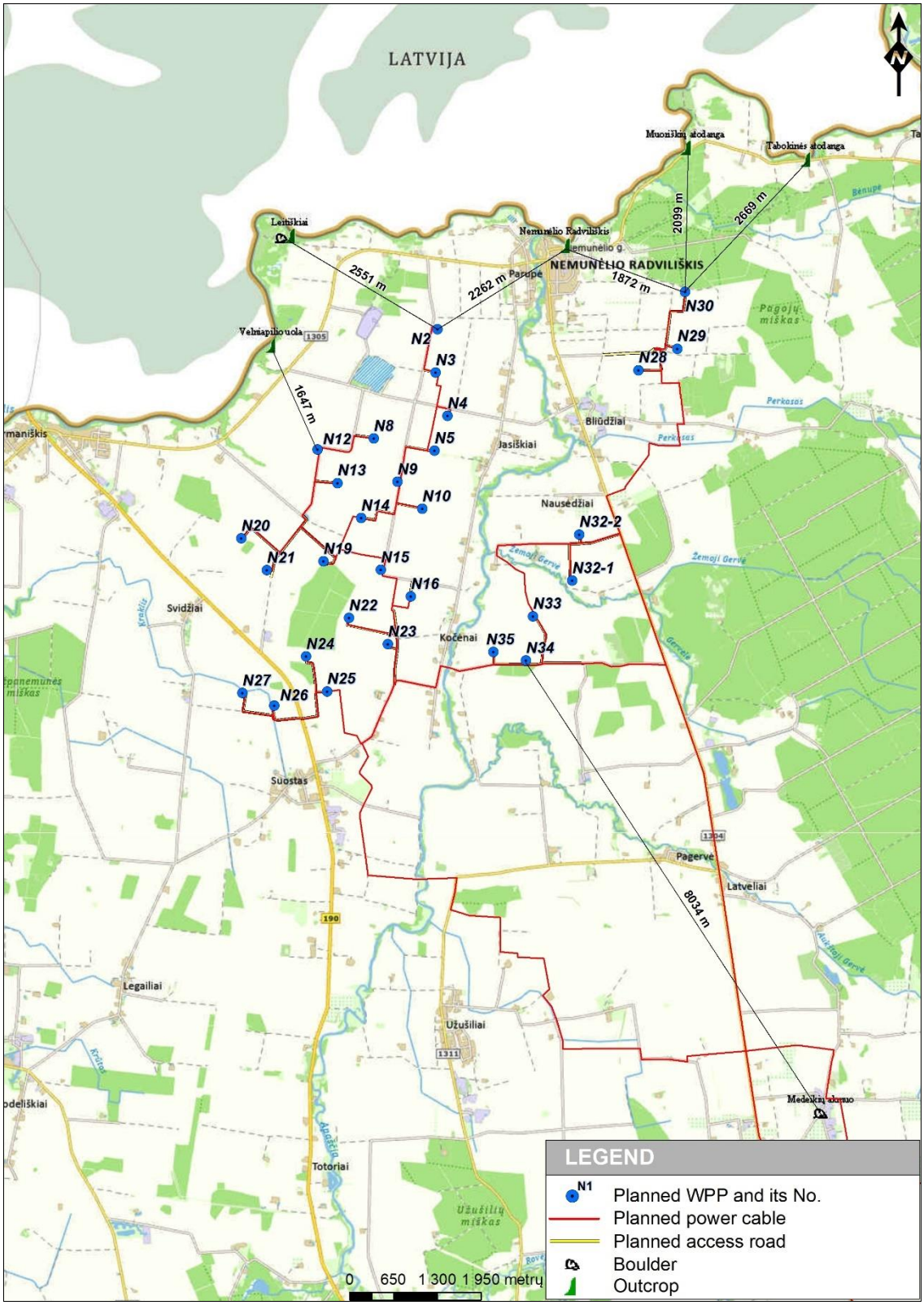


Figure 4.4.1.5. Geotopes nearest to the PEA area (GEOLIS database)

Potential geological environment pollution (contamination) sources ('PPS') nearest to the PEA area are shown in Figure 4.4.1.6. No PEA facility falls within the PPS territory. The nearest PPS would be:

- PPS No 181 – warehouse at the distance of 144 m from WT N5 being planned;
- PPS No 2053 – landfill at the distance of 4.3 m from the underground power cable being planned;
- PPS No 2068 – landfill at the distance of 248 m from the underground power cable being planned;
- PPS No 194 – warehouse at the distance of 206 m from the underground power cable being planned;
- PPS No 1989 – cattle farm at the distance of 223 m from the underground power cable being planned.

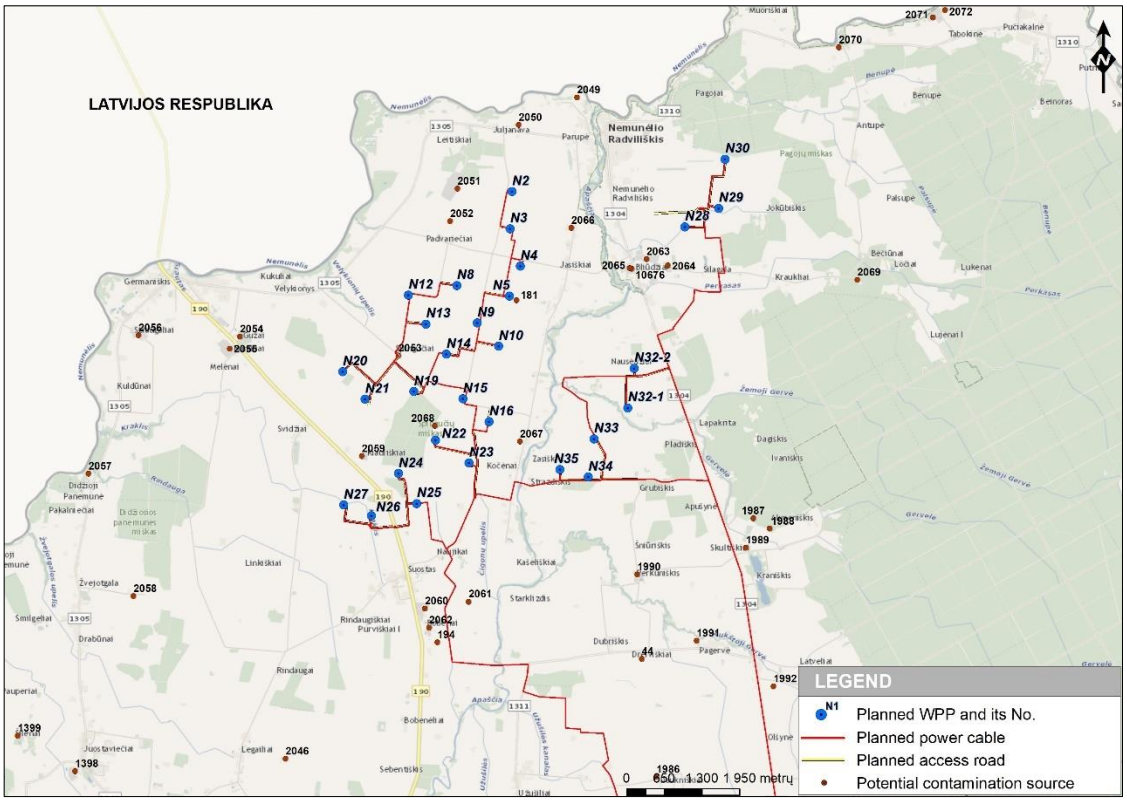


Figure 4.4.1.6. Potential geological environment pollution sources nearest to the PEA area (GEOLIS database)

4.4.2 Anticipated significant impact

The wind turbines and their operation are not classified as facilities that produce a negative impact on the structure of the underground or underground natural resources. No dangerous substances will be used in the PEA, and no hazardous waste will be generated.

Construction of the WTs will require works below the surface of the ground. For the installation of foundations of a WT, a temporary excavation of a 3 m deep pit up to 260 m^2 in area will be needed (approx. 780 m^3 of soil would be excavated). Pile foundations approx. 20-40 m deep are planned to be installed (the exact depth will be determined in the technical design process. Considering the maximum number of WTs to be constructed (up to 31), underground works will be performed in the area of up to 9,100 m^2, with approx. 27,300 m^3 of soil to be excavated.

The WTs being planned (high-rise structures) would be installed in area adjacent to the karstic region of Noth Lithuania and characterised by complicated conditions geologically-hydrogeologically and geotechnically. Such conditions do not impose restrictions on the implementation of the PEA but additional measures will be required (such as detailed engineering geological investigations, eliminating any risk of pollutants‘ penetrating groundwater layers, and other technical solutions).

Considering the hydrogeological conditions in the PEA area, there is a risk of damage to/uncovering of the groundwater layer and interlayer artesian aquifers as well as flooding of the construction site and its nearest environs. Therefore, prior to starting the works, detailed investigations of local geological and hydrogeological conditions are needed in the structures‘ technical design phase, and optimal solutions for lowering the water level and insulation of the aquifers have to be selected.

The risk of chemical contamination is minimal provided that the works are performed according to environmental, safety at work, and hygiene regulations.

Any soil that will be excavated in excess of the design soil quantity and remains unused will be used for the installation of the WT sites and levelling of terrain for the access road building purposes.

Conclusion: *The WTs being planned (high-rise structures) would be installed in area adjacent to the karstic region of North Lithuania and characterised by complicated conditions geologically-hydrogeologically and geotechnically. As the WT foundations will be installed at the depth of up to forty metres, there is a risk of damage to/uncovering of the groundwater layer and interlayer artesian aquifers as well as flooding of the construction site and its nearest environs. Therefore, prior to starting the works, detailed investigations of local geological and hydrogeological conditions are needed in the structures‘ technical design phase, and optimal solutions for lowering the water level and insulation of the aquifers have to be selected.*
The PEA will produce a direct impact on the underground sphere (earthworks on 35 sites will reach deep underground layers) that will include the soil layer; the impact will be long-term (in part of the territory, structure of the upper geological layer will be changed permanently), of low significance, and negative (the impact is of a small scope and without significant adverse effects). The PEA solutions being planned will not have a significant negative impact on the regions beneath the land surface during normal operation provided that the planned impact avoidance, mitigation and compensation measures (see Section 4.4.3) are timely implemented.

If such measures are implemented, no negative impact is anticipated in both PEA construction and operation phases irrespective of which option is selected. The impact on the underground

will be direct (at specific places of the PEA implementation), short-term and temporary in parts of the area (only during construction), negative, and of low significance in the construction phase and insignificant in the operation phase. The impact will be similar irrespective of the option selected.

4.4.3 Measures to avoid, reduce and/or compensate for significant negative impact

The following measures to avoid, reduce and/or compensate for a significant negative impact are planned:

- Prior to starting implementation of the PEA, **detailed engineering geological and geotechnical investigations** are required in the technical design phase in accordance with Lithuanian Construction Technical Regulations STR 1.04.02:2011 'Engineering geological and geotechnical investigations' [35] and STR 1.04.03:2012 ''Engineering geological and geotechnical investigations in the karst region of North Lithuania" [36], identifying potential risk areas and providing for the necessary technical solutions to avoid/manage the threat of undesirable geological phenomena in the construction and operation phases and to justify technical parameters of the structures;
- **optimal purposeful use of excavated and lithologically suitable soil**, using it the building of access roads and WT grounds, with the maximum reduction of the soil being disposed of (during construction);
- The PEA facilities do not fall within contaminated areas that have been identified by means of ecogeological investigations, however, should it be found, in the PEA implementation process, that economic activities involving the use of dangerous substances was or is being carried out in the territory and/or that pollution of the regions beneath the land surface exceeds set limits as determined by investigations, **ecogeological investigations** will be required in the technical design phase in accordance with the 'Regulation on Ecogeological Investigations' [29]. If pollution levels exceeding set limits are determined, remediation woks must be carried out in the territories according to LAND 9-2009 'Environmental Protection Requirements for Remediation of Areas Contaminated with Petroleum Products [30] and 'Environmental Protection Requirements for Remediation of Areas Contaminated with Chemical Substances' [31]

4.5 Landscape

4.5.1 Description of current situation

According to the map of Lithuania's terrain, the PEA area falls within the northern part of the Mid-Lithuania Lowlands; the lowlands reach the Linkuva hill ridge in the northwest. Maximum width of the lowlands is about 100 km, absolute height in the middle 50-60 m, in the west 35-40 m. The territory in which the WTs will be constructed is characterised by an agrarian landscape with some forests and a river valley; the absolute height varies between 43 m and 54 m above the sea level.

Based on the information provided in the *Study into the Diversity of the Spatial Structure of Landscape of the Republic of Lithuania and Identification of Its Types* (the 'Study') [37], the WTs are planned in a territory, which, according to its physiomorphotope structure, covers four

landscape types: L‘s/d-bl/4>, G/d/4>, L‘s/b/4> and L‘s/b-e/2>. Four wind turbines - N11, N17, N20 and N21 fall within type L‘s/d-bl/4> landscape characterised by clayey plains with sand. Culturally, the landscape is of agrarian type, with aspen and grey alder prevailing in the forest stand. WTs N29-N32 fall within type L‘s/b-e/2> landscape characterised by clayey plains with sand. It is a woody agrarian landscape with prevailing birch and fir-tree. WTs N28, N32-2, N32-1, N33, N35 and N34 fall within type L‘s/b/4> - an agrarian landscape of clayey plains with sand; birch prevails in the forest stand. Al the remaining wind turbines and the three transformer substation options fall within landscape type G/d/4> - a moraine hillock landscape. It is an agrarian landscape with prevailing aspen. The allocation of the WTs being planned in these territories is shown in Figure 4.5.1.1.

According to the Study [37] and provisions on the visual-aesthetic potential of landscape in the National Landscape Management Plan, in terms of the visual structure the PEA area is classified as landscape types V0H0-d and V0H3-d. WT N31 falls within a territory of type V0H0-d visual structure. Landscape of type V0H0-d is characterised by plain terrain without expressed vertical partition, with videotopes on the same level. Closed spaces that cannot be seen through are characteristic of the horizontal visual structure of the landscape. There are no distinctive vertical or horizontal dominants. The remaining WTs fall within the territory of type V0H3-d visual landscape structure. This type is characterised by a landscape without expressed vertical partition, with various see-through levels The horizontal visual structure is characterised with good overview opportunities. All the three TS location options also fall within the territory of type V0H3-d visual landscape structure (Figure 4.5.1.2).

According to the Landscape Management Drawing forming part of the Master Plan of Biržai District Municipality and the Landscape Management Zones Drawing of the National Landscape Management Plan of the Republic of Lithuania, the WTs being planned fall within the landscape management zones of three types (a3L‘‘, ma3L‘‘ and a6L‘‘). Overall, the landscape is classified as Type *am* territories, i. e. agrarian landscape with forests (*am*), with *a* meaning agrarian and *ma* meaning agrarian landscape with forests. Natural framework type – clayey plains (L‘) and clayey undulating/silty plains (L‘‘). Land use type – sustainable (3) and intensive (6). The allocation of the WTs being planned is provided in Figure 4.5.1.3.

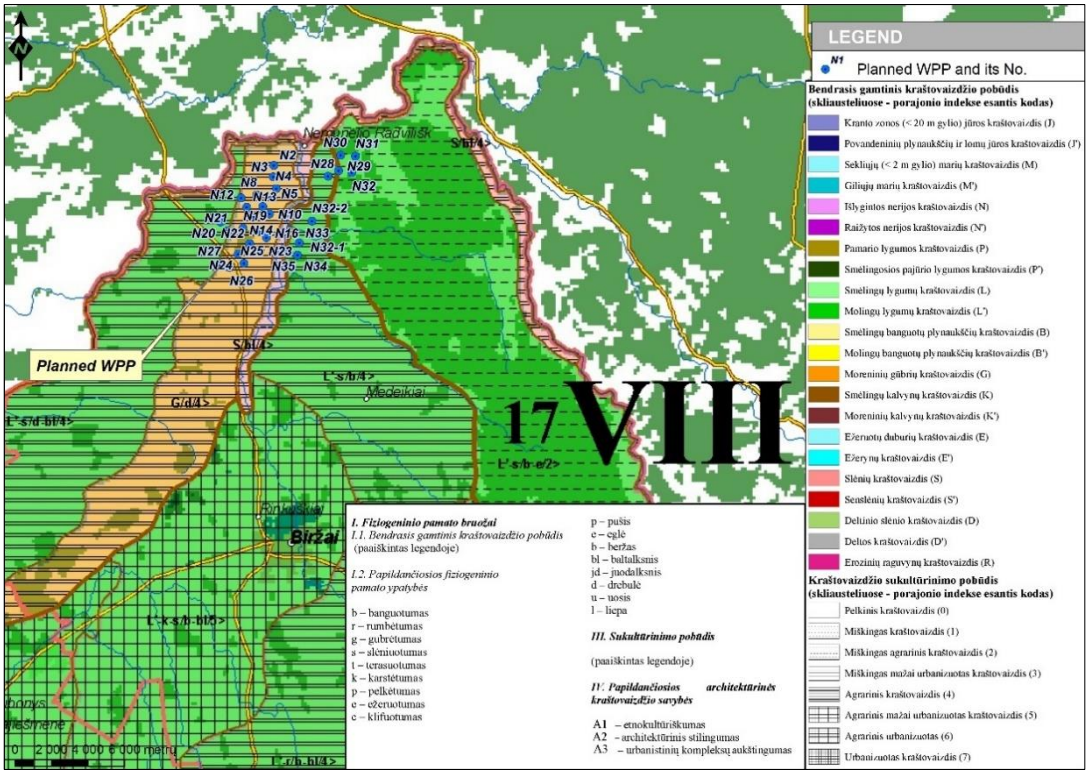


Figure 4.5.1.1. An extract from the Map of Physiomorphotopes of Lithuania's Landscape with the PEA location marked

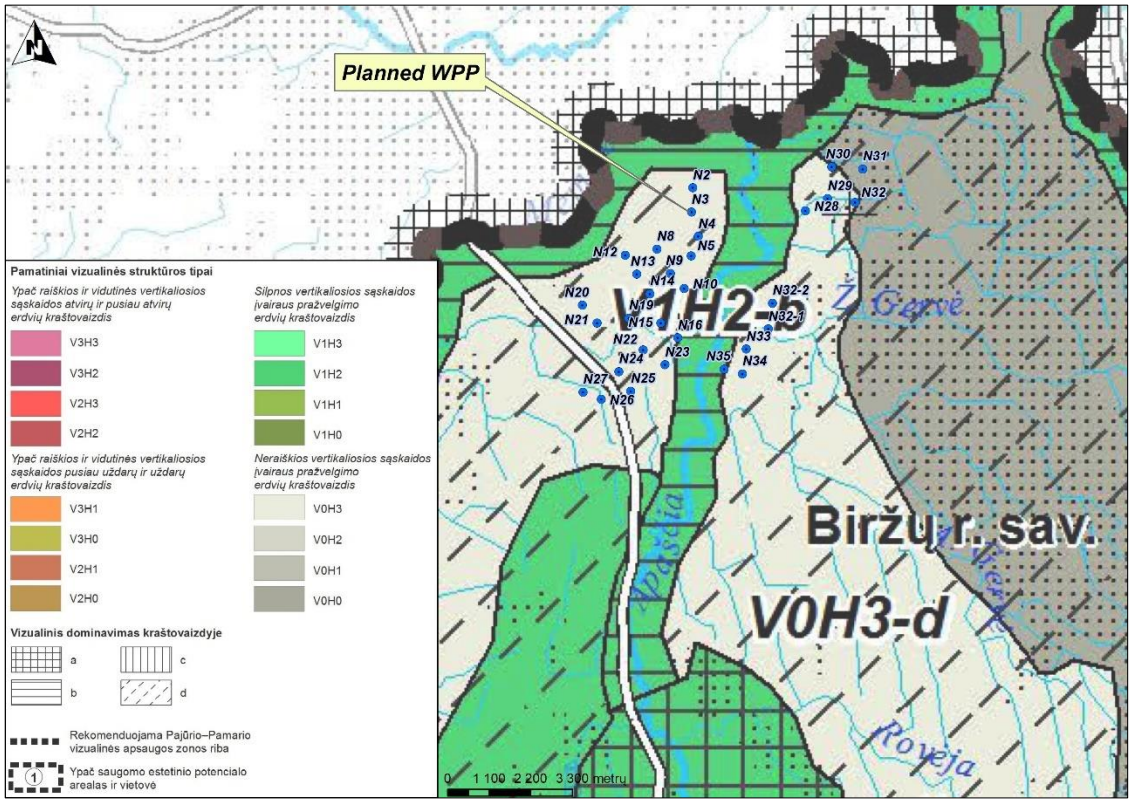


Figure 4.5.1.2. An extract from the Map of Visual Aesthetic Potential of Lithuania's Landscape with the PEA location marked

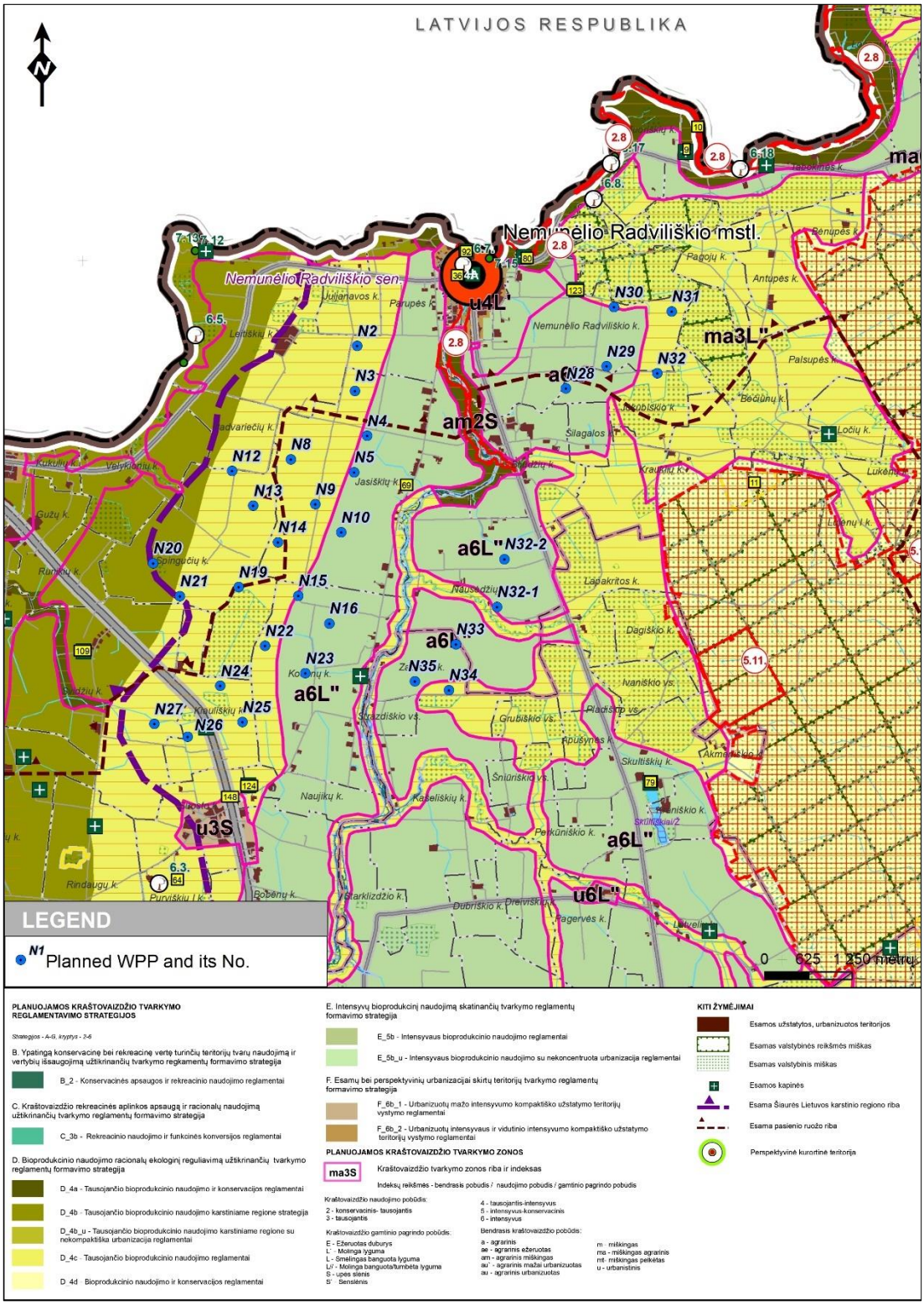


Figure 4.5.1.3. Extract from the Landscape Management Drawing forming part of the Master Plan of Biržai District Municipality with the PEA location marked

According to the Landscape Management Zones Drawing of the National Landscape Management Plan of the Republic of Lithuania, the PEA facilities fall within territories *a3G, am2S* and *a6L*. *a3G* are agrarian landscape territories with the characteristic sustainable landscape use type. In terms of nature, such landscape is a sandy undulating plain. *am2S* are agrarian territories with forests, with the conservational-sustainable landscape use. In terms of nature, the landscape is a river valley. *a6L* are territories with agrarian landscape characterised by an intensive landscape use. In terms of nature, these are clayey undulating rough plains. The allocation of the planned WTs in this area is provided in Figure 2.3.1.5. The TS options are located in *ma6L", a3L"* and *a6L"* territories.

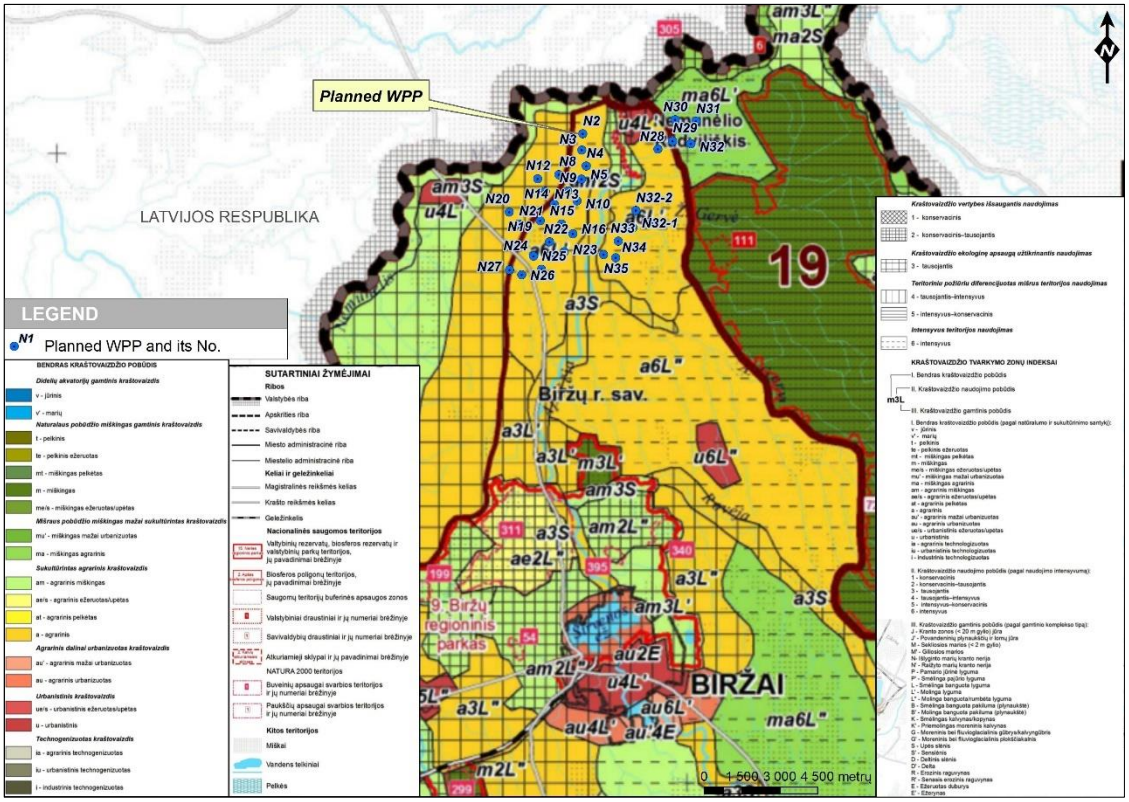


Figure 4.5.1.4. An extract from the Landscape Management Zones Drawing of the National Landscape Management Plan of the Republic of Lithuania with the PEA location marked

According to the Drawing of Landscape Management Regulatory Directions of the National Landscape Management Plan of the Republic of Lithuania, the PEA location falls within the territories of two landscape management directions (4c and 5). Part of the WTs being planned fall within the territory of regulations promoting sustainable use for bioproduction (4c). A strategy for rational ecological management of bioproduction use is applied in these ecological compensation territories (Figure 4.5.1.5). Other WTs being planned are in the territory of management regulations that promote an intensive use for bioproduction (E) (5). In this territory, priority is given to intensive bioproduction use and meeting of production interests. The allocation of the WTs being planned in these territories is provided in Figure 4.5.1.5. The TS options fall within the territories of two landscape management directions (4b and 5).

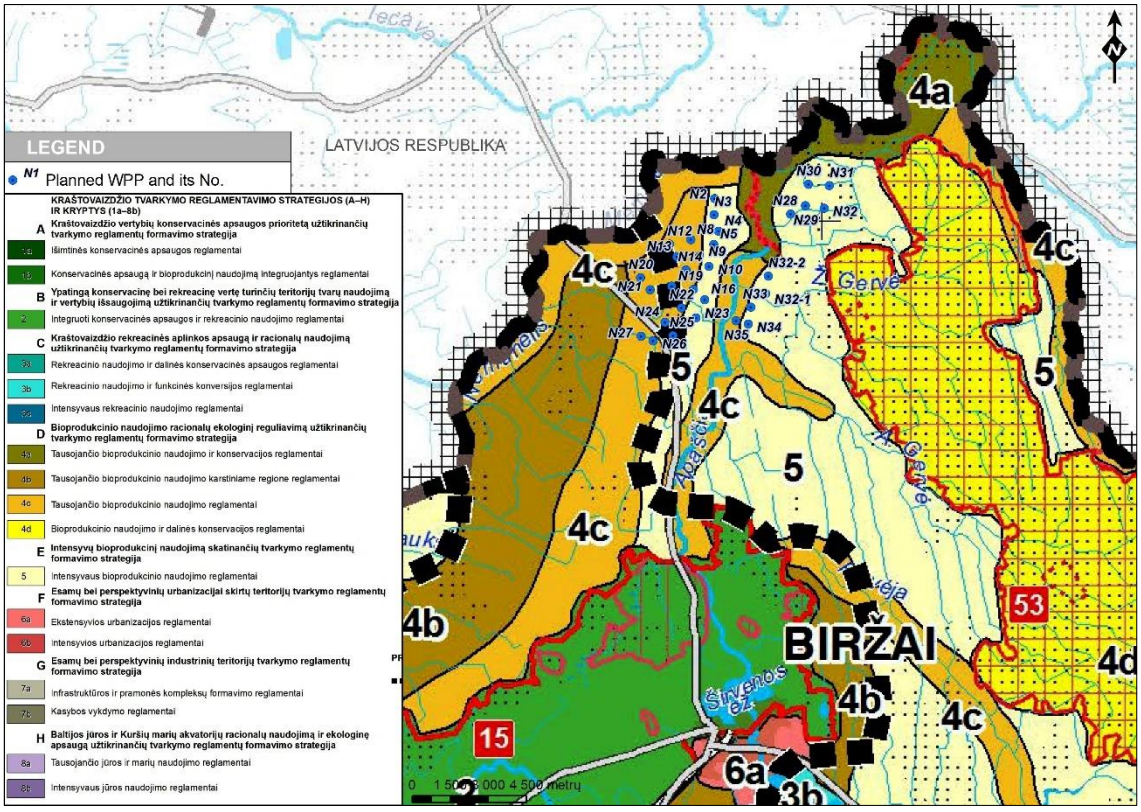


Figure 4.5.1.5. An extract from the Drawing of Landscape Management Directions of the National Landscape Management Plan of the Republic of Lithuania with the PEA location marked

Natural framework: According to the Natural Framework Drawing forming part of the Corrections to the Master Plan of Biržai District Territory, 18 WTs being planned fall within the territories of the natural framework in the district's territory including three WTs (N30, N31, N32) – in the territories of the internal stabilisation areas of regional importance, and fourteen WTs (N2, N3, N8, N9, N12, N13, N14, N19, N21, N22, N24, N25, N26, N27) – in the territories of the geoecological divide of regional importance (Figure 4.5.1.6).

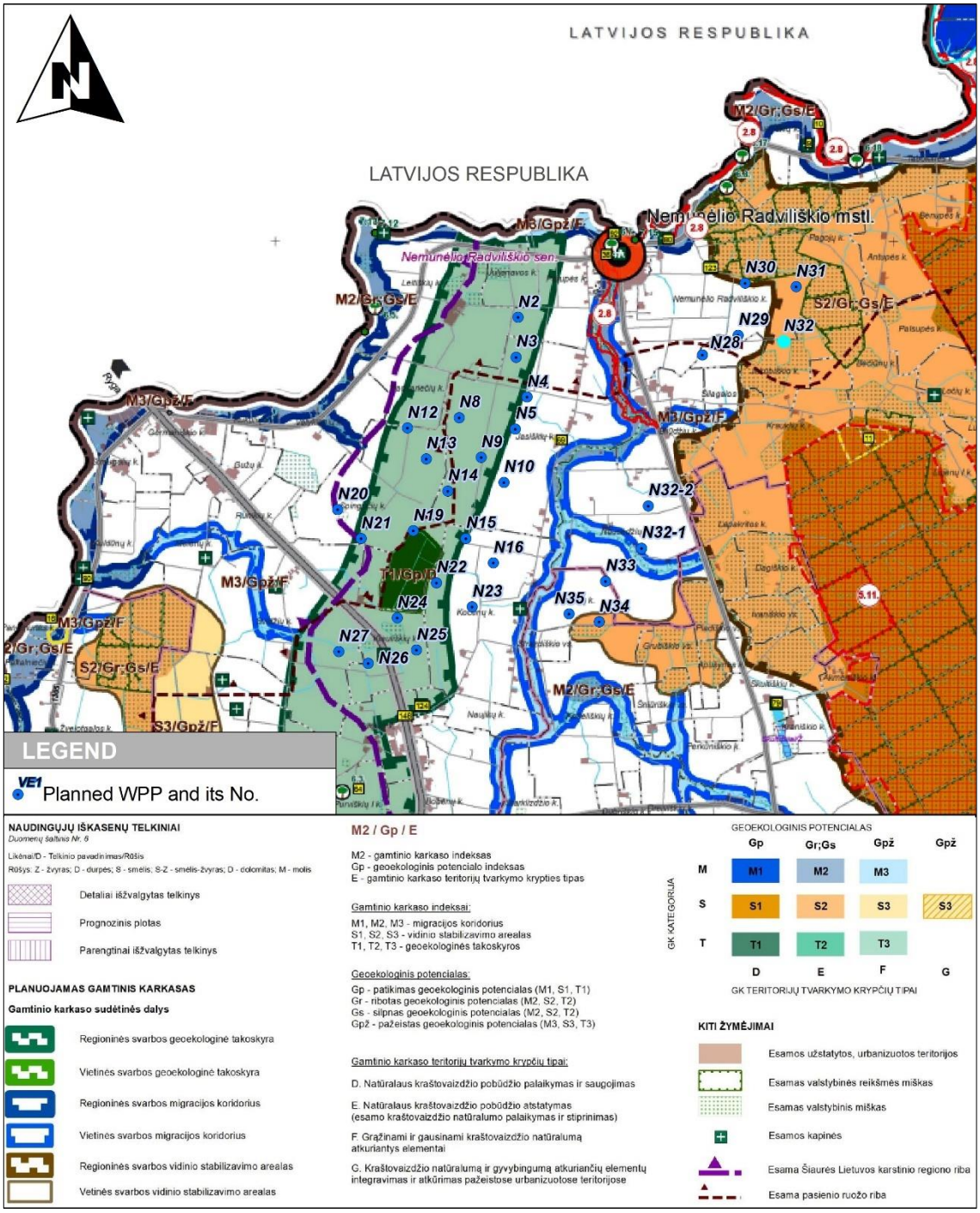


Figure 4.5.1.6. Extract from the Natural Framework Drawing forming part of the Corrections to the Master Plan of Biržai District Territory with the planned WT locations marked

Due to a sufficiently long distance between the locations planned for the WT installation, small land area occupied by each WT (up to 0.3 ha) and the current land use (agricultural land), the construction of the wind farm will not change the essential functions of the existing natural framework, and the circulation of substances currently taking place in the rivers and their valleys, forests and meadows of Biržai District Municipality near which the PEA is being planned will

continue to take place along with the operation of the wind farm. However, having regard to the type of the PEA, its impact in terms of the natural framework is linked to the making of fauna (birds and bats) migration between different natural ecosystems more difficult.

Part of the WTs being planned fall within the natural framework territories of Biržai District Municipality. It is important to note that the need for the land surface for construction depends on the foundations design which will be selected having regard to prevailing geological conditions and technical parameters of the WT model. It is estimated that installation of a WT including a ground for tis servicing will cover up to 0.3 ha. Build-up density has been assessed for each WT that falls within the NF territories in Biržai District Municipality and for each land plot part of which falls within the NF territories even though the WT site itself does not fall within them, having regard to p. 11 of the Natural Framework Regulations approved by Order of the Minister of Environment No D1-96 of 14 February 2007: 'Build-up density of land plots that fall within the natural framework and are used for other purposes shall be limited to 30 percent of the area'.

On assessment of all the WT options being planned and the relevant areas falling within the natural framework territories of Biržai District Municipality, one may conclude that implementation of the PEA will not be contrary to the Natural Framework Regulations (Table 4.5.1). In order to reduce potential negative impact on the natural framework territories of Biržai District Municipality, the area used for the WT installation must not exceed the maximum areas specified.

Table 4.5.1. Areas occupied by the WTs being planned that fall within the natural framework territories of Biržai District Municipality and land plot build-up density

WT No	Land plot area, ha	Land plot area falling within the NF territory, ha	Build-up density of the area occupied by the WT within the land plot, %	Maximum permissible build-up area, ha
N2	2.4536	2.4536	12.2269	0.7361
N3	4.0530	4.0530	7.4019	1.2159
N8	43.8743	43.8743	0.6838	13.1623
N9	5.7000	5.7000	5.2632	1.7100
N12	10.0300	10.0300	2.9910	3.0090
N13	25.1596	25.1596	1.1924	7.5479
N14	10.1217	10.1217	2.9639	3.0365
N19	17.3399	17.3399	1.7301	5.2020
N21	5.0297	5.0297	5.9646	1.5089
N22	22.3100	12.800	1.3447	6.6930
N24	27.1166	27.1166	1.1063	8.1350
N25	3.3600	3.3600	8.9286	1.0080
N26	46.3802	46.3802	0.6468	13.9141
N27	8.1900	8.1900	3.6630	2.4570
N30	2.9216	0.8660	10.2683	0.8765
N31	18.9300	18.9300	1.5848	5.6790

N32	10.9200	10.9200	2.7473	3.2760

Based on these data, one may conclude that potential impact of the PEA on the natural framework territories will be insignificant. Having regard to the natural framework formation trends and current land uses (agricultural land), integrity of the natural framework will not be damaged by the installation of the WTs. The relevant land plots are currently being used for agricultural activities and such land use will not be changed.

4.5.2 Anticipated significant impact

According to Article 49(18) of the RL Law on Energy from Renewable Sources [39], 'an impact of proposed economic activity on landscape shall be **deemed to be insignificant if wind turbines taller than 30 metres are not constructed in the most valuable landscape areas and are not constructed within the distance the length of which is obtained by equalling one metre of the WT height (the tower height) to 10 m of the distance to the nearest panoramic overview point in the most valuable landscape areas**. The most valuable landscape areas are the landscape territories under particular protection as defined in the Master Plan of the Territory of the Republic of Lithuania and landscape complexes of particular expressiveness. The list of most valuable panoramic overview points identified within the most valuable landscape areas is approved by the Minister of Environment.'

It is stated in p. 101[1] of Annex 1 to the Procedure for the Assessment of the Proposed Economic Activity Impact on the Environment that an assessment of wind turbines on landscape must be based on the aforesaid Article 49(18) of the RL Law on Energy from Renewable Sources [39]: 'In assessing the impact of extraordinary structures taller than 30 metres (hereinafter referred to as the 'tall structures'), **except wind turbines, the criteria for determining the significance of their impact on landscape are set forth in Article 49(18) of RL Law on Energy from Renewable Sources**, on the visual aesthetic potential of landscape, significant impact of the tall structures is determined having regard to.... <....>".

Sensitive, important and valuable or priority landscape places are identified in accordance with the National Landscape Management Plan approved by Order of the Minister of Environment No D1-703 of 2 October 2015, using landscape maps.

Sensitivity of a landscape of a locality is also determined in accordance with the Natural Framework Regulations approved by Order of the Minister of Environment No D1-96 of 14 February 2007 (current summary version since 28/10/2017) that identify valuable places of the natural framework (geokelological divides, internal stabilisation areas, migration corridors) and specify applicable restrictions on activities.

As already stated, the PEA consists of constructing and operating, in privately-owned land plots in the Nemunėlio Radviliškis ward of the Biržai District Municipality, up to 35 wind turbines, and installing infrastructure required for their operation (a transformer substation, underground power cables for transmission of electricity, service grounds, access roads etc.). The height of the WT tower will be up to 180 m, whereas total WT height with the raised blade – up to 270 m (if maximum Option C is selected).

The WTs being planned and the infrastructure facilities required for their operation do not fall within areas of visual aesthetic potential under special protection and do not contradict the regulations of the National Landscape Management Plan. A valuable landscape area nearest to the PEA facilities is at the distance of 32.8 km from the nearest WT (N34), and the nearest point for overviewing most valuable landscape panoramas is at the distance of 39.1 km from the nearest WT being planned (Figure 4.5.2.1), i. e. the distance is longer than the WT tower height x 10 (180 m x 10 = 1800 m) as stated in Article 49(18) of the RL Law on Energy from Renewable Sources [39] based on which **the impact of the PEA on landscape is considered to be insignificant.**

Distances between the WTs being planned and the most valuable landscape panoramic overview points are provided in Table 4.5.2.1.

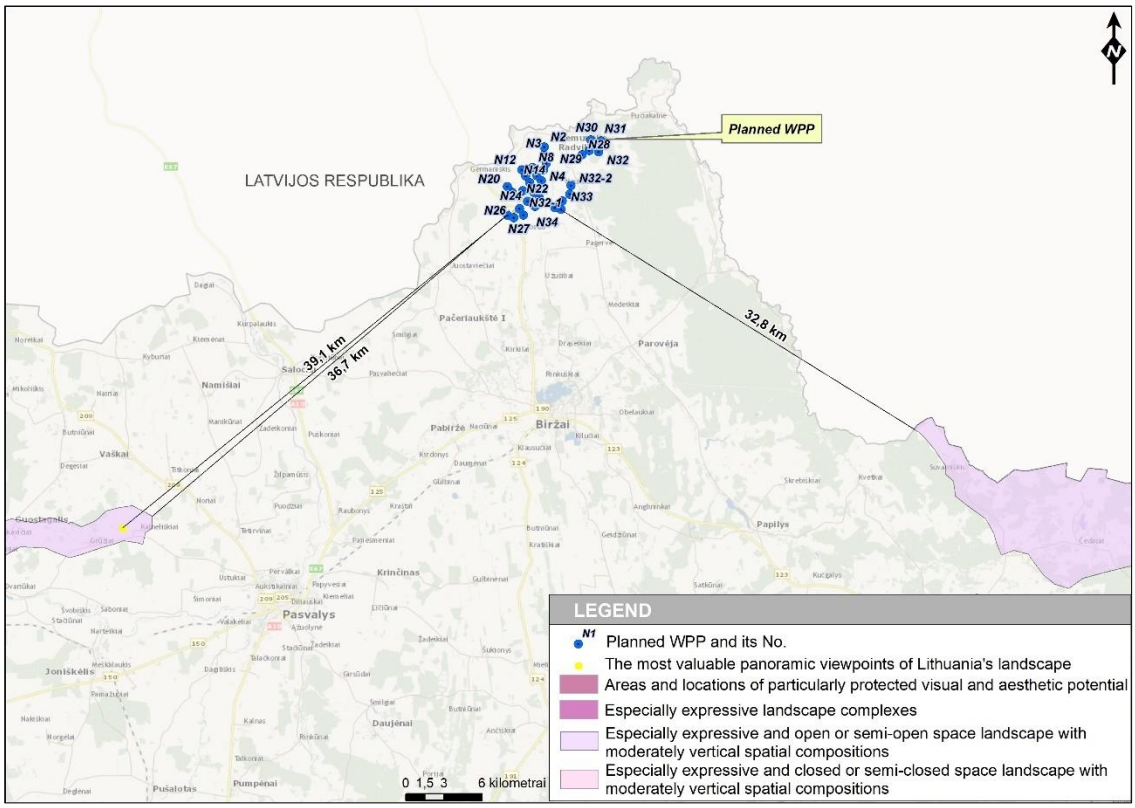


Figure 4.5.2.1. Allocation of the WTs being planned with respect to the most valuable landscape areas

Table 4.5.2.1. Most valuable landscape panoramic overview points nearest to the PEA area

Coordinates		Most valuable landscape overview point	Distance to the nearest WT
X	Y		
512656	6220670	Velniakalnis	39.1 km

PEA impact on the natural framework areas

As already mentioned in Section 4.5.1, 18 wind turbines fall within the limits of the natural framework territory according to the MP, including three WTs \(N30, N31, N32) – into internal stabilisation areas of regional importance and fourteen WTs (N2, N3, N8, N9, N12, N13, N14, N19, N21, N22, N24, N25, N26, N27) into the geoecological divide areas of regional importance.

In assessing the PEA impact on the natural framework areas, it should be pointed out that the PEA solutions (construction and operation of wind turbines) are spot objects allocated at certain distances and they do not occupy large areas making the latter densely built up areas. The PEA will not restrict the current land use. No dangerous substances will be used in the PEA, and no air pollutants, waste or contaminated water will be generated. The PEA uses wind as a renewable natural source for the generation of electricity, thus producing a significant positive impact on ambient air and climate considering the amount of fossil fuels would be needed for the production of the same amount of electricity. The PEA is not being planned in forest areas, and no sites of Community importance and habitats of protected plant species fall within the PEA area. The PEA can only have an impact on a certain part of fauna species (birds and bats); the potential impact and measures to avoid or reduce it are described in Sections 4.6.2-4.6.3 of this Report. The PEA will not produce any significant negative impact on other types of fauna (mammals (except bats), invertebrates, amphibians, reptiles and fish), and will not restrict their migration.

The majority (15) of the WTs being planned fall within the areas of the *Geoecological divide of regional importance*. Considering the PEA aspects described above, and the assessed potential impact upon surface water bodies, soil and the underground regions, the PEA will not have a significant negative impact on the areas of the geoecological divide of regional importance provided that the impact avoidance and reduction measures specified in Sections 4.1.3, 4.3.3 and 4.4.3 are applied. Three of the WTs being planned would be in the territories of the geosystems' internal stabilisation areas that are characterised as capable of changing the lateral discharge or other natural migration flows and are also important in terms of biological diversity: tracts of forests and groups of trees and shrubs, natural meadows, bogs and other valuable ecotopes of large geosystems. PEA solutions and activities are planned mainly in agricultural lands that have been reclaimed and the PEA will not change the territory's lateral discharge; according to the assessment provided in Section 4.6.2, the PEA area does not include forests, habitats of Community importance and protected plant species habitats, therefore, the impact on flora is considered to be insignificant provided that the impact avoidance and reduction measures referred to in Section 4.6.3 are applied.

If the planned measures to avoid and reduce the negative impact are applied, the PEA impact on the natural framework areas would be insignificant.

Conclusion. *The WTs being planned and the infrastructure facilities required for their operation do not fall within areas of visual aesthetic potential under special protection and do not contradict the regulations of the National Landscape Management Plan. A valuable landscape area nearest to the PEA facilities is at the distance of 36.7 km from the nearest WT (N27), and the nearest point for overviewing most valuable landscape panoramas is at the distance of 39.1 km from the*

nearest WT being planned, i. e. the distance is longer than the WT tower height x 10 (180 m x 10 = 1800 m) as stated in Article 49(18) of the RL Law on Energy from Renewable Sources [39] based on which the impact of the PEA on landscape is considered to be insignificant.

4.5.3 Measures to avoid, reduce and/or compensate for significant negative impact

Planned measures to reduce the impact on landscape and protected natural territories:

- WT allocation in the land plots without damaging cultural heritage and safety zones of protected natural areas;
- WT construction sites and internal access road routes selected so that forests and groups of trees and shrubs are preserved;
- in order to reduce the impact on landscape, the WTs will be painted in light colours; it is recommended that the lower part of the tower is painted green and non-glossy paint is used so that reflections are avoided;
- removed soil layers will be preserved and used later for restoring the affected land areas;
- electrical cable lines are planned in a way that forest cutting is avoided, and small forest stands and/or individual trees in the fields are preserved.

4.6 Biological Diversity

4.6.1 Description of current situation

Flora and mushrooms (according to the Protected Species Information System, SRIS). At present the PEA area (land plots earmarked for the WT construction) is used for agricultural purposes. Fields with agricultural crops prevail, and there is not much natural flora at places where the WT will be constructed. Individual trees or tree groups and shrub clusters grow in the river valleys, on the shores of land reclamation canals, and roadsides.

According to the information contained in SRIS, habitats of protected plant species have been registered in the environs of the PEA area. Information about these protected plant species is provided in Table 4.6.1.1 and Graphic Annex 8.

According to the SRIS data received on 16 May 2023 under a data provision agreement between the State Protected Areas Service under the Ministry of Environment and ‘Sweco Lietuva‘ of 28 October 2022, the PEA facilities (WTs and the engineering infrastructure intended for their operation) will not fall within the habitats of protected plant species and will not border them (Graphic Annex 8). The habitat of a protected plant nearest to the PE facilities – Tartarian Hemlock Parsley (*Conioselinum tataricum*), a perennial herbaceous plant belonging to the family *Apiaceae*, is at the distance of approx. 1.4 km SW of WT N28.

Table 4.6.1.1. Protected flora and fungi species registered in the SRIS that are found in the environs of the PEA area and their habitats

Species	Brief characteristics	
Least pouncewort (*Lejeunea cavifolia*)	Stem monoecious liverwort. Stem 0.9–1.3 mm wide and 1–2 cm long, pinniform, irregularly ramified. Leaves are divided into lobe and lobule. Syncaryohytes rarely found. Grows in light green or yellowish green mats; sometimes individual stems can be found inserted between other moss on old deciduous tree trunks. Grows in shady places of humid microclimate. Sensitive to changes (moisture and light levels) in the microclimate of the habitat, therefore, both cutting of old leaf-bearing trees and excessive thinning of the stands are detrimental to this plant. Survives on remaining old tree trunks for a short time only. The main reason for the disappearance of this species is the reduction of areas of suitable habitats. Least Pouncewort is listed in the Red Book of Lithuania.	 Nuotraukos autoriai Mindaugas Ryla, Ilona Jukonienė
Dichodontium moss (*Dichodontium pellucidum*)	Green moss. Stem upright, height 2–8 cm. Leaves frayed or bent, twisted, up to 2.5 mm long, ovoid, with a roughly serrated top. Grows in light green wide lawns. Syncaryohytes rarely found. Mostly vegetative propagation by means of embryo sacs growing on rhizoids or stem parts. Grows in humid or wet habitats, mainly near rivulets or in them on stones or rocks washed by the water; can also be found on sand. Substrate reaction almost neutral or slightly acidic. Listed in the Red Book of Lithuania.	 Nuotraukos autoriai – Mindaugas Ryla, Ilona Jukonienė
Dot lichen (*Arthonia leucopellaea*)	Crustose lichen with a thin grey, sometimes purplish thallus that sometimes resembles a cobweb. If the thallus is cut or rubbed, a slightly orange shade is revealed. Grows on old black alder and fir-tree trunks in old boggy forests. Threatened mainly by clear cutting of forests. Listed in the Red Book of Lithuania.	 Nuotraukos autorė – Jurga Motiejūnaitė

Species	Brief characteristics	
Tartar hemlock-parsley (*Conioselinum tataricum*)	Perennial herbaceous plant. Stem can reach 1.50 m in height, is round and bare. Leaves – double/triple pinniform, shiny, with a widely ovular contour, bent at branches. Characteristic large inflated axils. Soft shade flowers. Blossoms in July-August. Inflorescence up to 10 cm in diameter. Semi-photofilous plant, likes humid soils rich in nutrients and carbonates. Found under shrubs on river shores and on the outskirts of forests; may grow on limy escarpments. As shrublands enlarge, areas suitable for habitats are reduced. Listed in the Red Book of Lithuania.	 Nuotraukos autorė – Kristin Vigander
Early marsh-orchid (*Dactylorhiza incarnata*)	Perennial herbaceous plant of family *Ochidaceae*. Faceted stem, light green leaves without maculation. Blossoms in May-July. Grows in humid, wet and boggy meadows.	 Nuotraukos autorius – G. Sidabrienė
Greater butterfly-orchid (*Platanthera chlorantha*)	Perennial herbaceous plant of *Ochidaceae* family. Inflorescence 20-25 cm long, with greenish white flowers that are almost unscented. Blossoms in May-July. Grows in deciduous and mixed forests, on the outskirts of forests, and meadows.	 Nuotraukos autorė - G. Sidabrienė
Fungi		
Coral tooth fungus (*Hericium coralloides*)	Large, approx. 10–40 cm wide and tall, distinctive appearance, heavily branched and resembles a coral. Mycothalluses are soft and white when young, they become yellowish or brownish and brittle as they age. The fruiting body consists of a multitude of narrow branches growing off the short stem, with teeth 0.5–1 cm long. Easily recognised due to its appearance, it is hard to mix it with other fungi. Annual mycothalluses grow in the autumn. Destroys wood – a saprotroph that grows on large decaying deciduous trees, on moist trunks or fallen trees, in deciduous and mixed forests. In Lithuania mainly found on large rotting birches. Listed in the Red Book of Lithuania.	 Nuotraukos autorė – Reda Iršėnaitė

Forests. The WTs being planned and the requisite engineering infrastructure (access roads and sections thereof, underground lines for the electricity transmission to the grids, and TS) will not fall within forest areas (forest land).

Private forests and forests of national importance prevail in the environs of the PEA area. The nearest forest of national importance is at the distance of about 0.08 km north of WT N30.

According to farming purposes, farming regime and main functional purpose, forests classified as Group IV (economic forests) prevail in the PEA area and adjacent areas. WTs N19, N34 and N32 would be nearest to them (the distances are approx. 0.06 km, 0.07 km and 0.12 km).

There are also small areas of protective (Group III) forests in the environment of the PEA facilities: WT N20 being planned is at the distance of 0.09 km in the SE direction.

Areas of special-purpose forests (Group II) are at the distance of 0.18 – 0.66 km from the WTs being planned. There are no forests classified as reserves (Group I) in the vicinity of the PEA facilities (Figure 4.6.1.1).

Distances (up to 300 m) between the WTs being planned and the nearest forests are provided in Table 4.6.1.2.

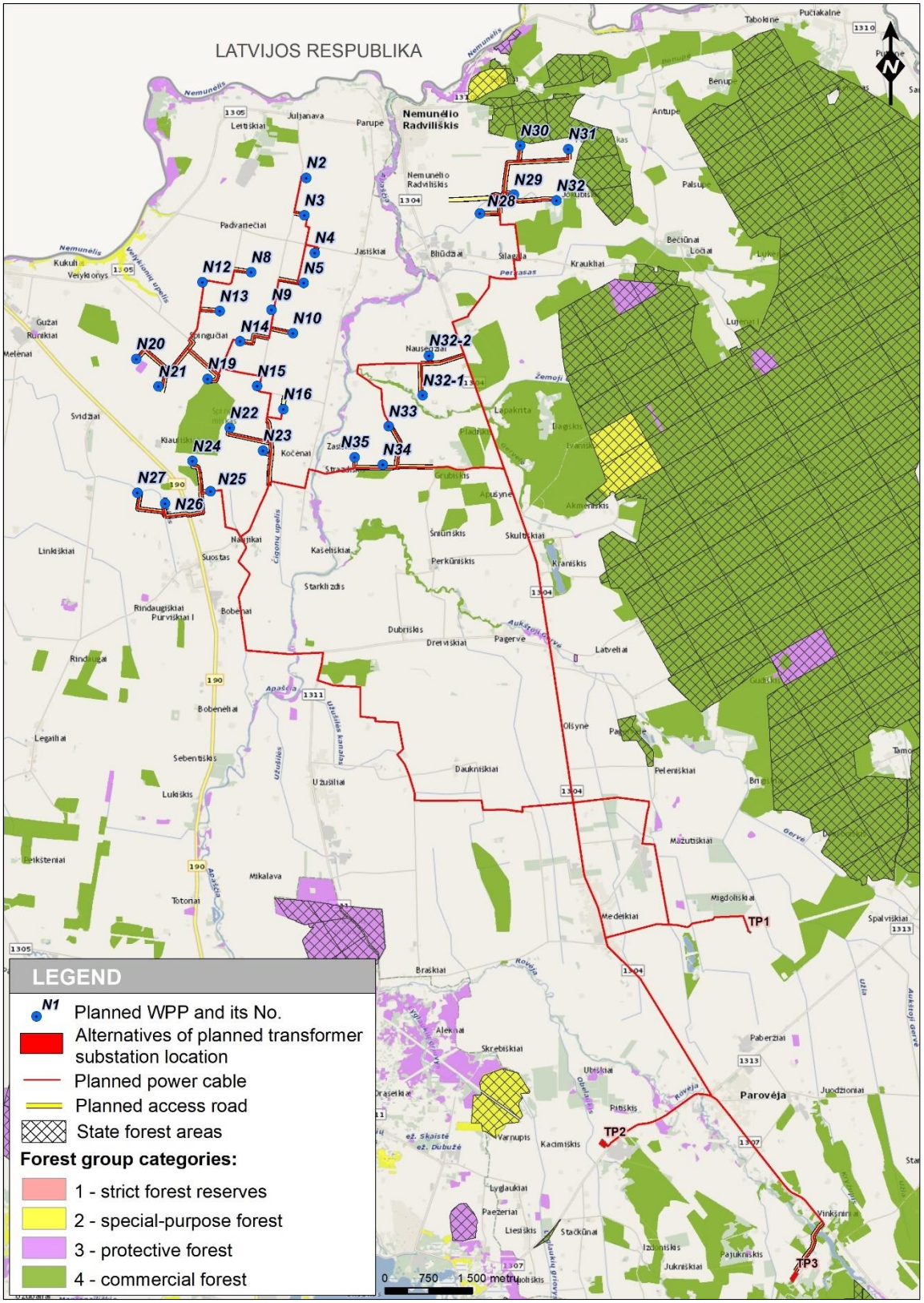


Figure 4.6.1.1. Positions of the PEA facilities and the requisite engineering infrastructure in relation to forests and forest groups

Table 4.6.1.2. Distances (up to 300 m) between the WTs being planned and the nearest forests

WT No	Distance between the WT and the nearest forest area (up to 300 m), m	Size of the forest area nearest to the WT
N19	55	Over 50 ha
N20	91	Less than 50 ha
N22	138	Over 50 ha
N24	95 129	Less than 50 ha Over 50 ha
N25	220	Less than 50 ha
N26	237	Less than 50 ha
N30	77	Over 50 ha
N31	183	Over 50 ha
N32	122	Over 50 ha
N32-1	123	Less than 50 ha
N34	67	Less than 50 ha
N35	214	Less than 50 ha

Natural heritage sites

Positions of the PEA facilities and the requisite engineering infrastructure in relation to natural heritage sites are provided in Figure 4.6.1.2. The nearest protected botanical heritage site is the Nemunėlio Radviliškis Limetree (ID No 0310505050057) at the distance of 1.6 km NW/N of the planned WT N30 location.

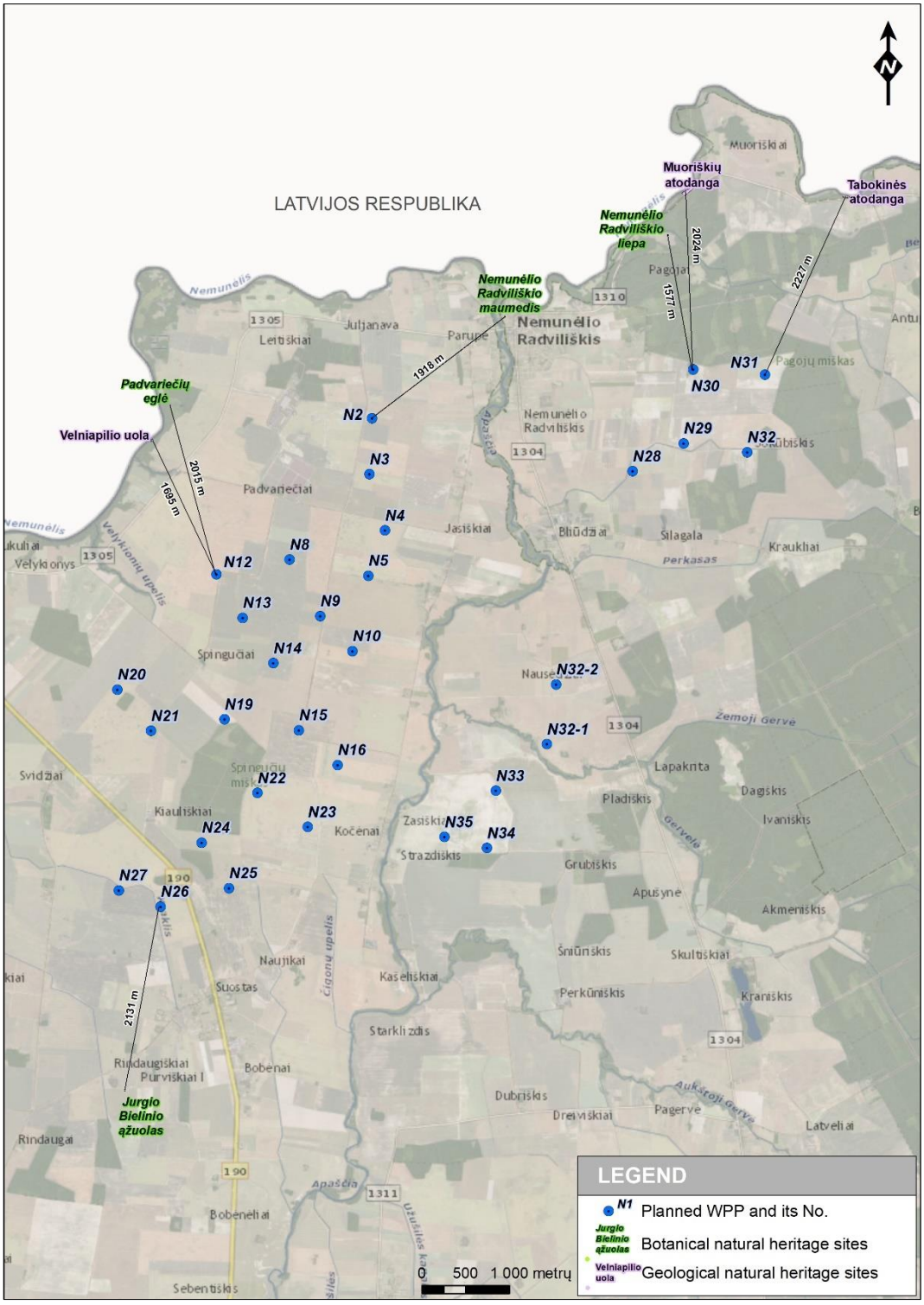


Figure 4.6.1.2. Positions of the PEA facilities and the requisite engineering infrastructure in relation to natural heritage sites

Fauna (according to SRIS information). According to information stored in the Protected Species Information System (SRIS), quite a lot of protected fauna species habitats have been registered in the environs of the PEA area (Table 4.6.1.3, Tex Annexes 5 and 6, Graphic Annex 8). Graphic Annex 8 shows that the planned engineering infrastructure will be installed near, or at some places will cross, habitats of otters (*Lutra lutra*) (*indications of activity – traces recorded*) as registered in SRIS. Furthermore, white storks (*Ciconia ciconia*) and an adult lesser spotted eagle (*Clanga pomarina*) hunting over meadows were seen in the PEA area, near the engineering infrastructure routes planned, and have been recorded in the SRIS data base.

Habitats of protected fauna species found in the PEA environs and registered in SRIS are listed in Table 4.6.1.3 and Graphic Annex 8; detailed data on the birds and bats are provided in Text Annexes 5 and 6.

Detailed data from bird life observations and investigations are provided in the Final Report on Annual (Spring, Summer, Autumn and Winter) Observations of Bird Life and Migration in Nemunėlio Radviliškis ward of Biržai District Municipality where Biržų vėjas UAB plans to construct a wind farm (Text Annex 5), and data from bat life observations and investigations – in the Final Report on the Assessment of the Impact of the Proposed Economic Activity on Bats (*Chiroptera*) in Nemunėlio Radviliškis ward of Biržai District Municipality (Text Annex 6).

Table 4.6.1.3. Habitats of protected fauna species as registered in SRIS

Species	Brief characteristics	
Large pelt beetle (*Peltis grossa*)	Body of adult beetles is 11–19 mm long, wide, flat, brown, dark brown or black in colour, with numerous indentations on top that all together form a rough and wrinkly surface structure. Forewings have three longitudinal facets each. Scrutelum at the base is the same width as the forewings at the shoulders. Short antennas, with the last three segments much larger than others and form a prolonged lump. Lives in forests of various types, mainly in humid ones. Larvae develop in deciduous and coniferous wood damaged by Polyporus fungi for two or three years. Adult beetles emerging from chrysalis in summer are active in the dark, and in the daytime can be found under the bark that has come off trees or the bottom side of the mycothallus of polyporus fungi. Listed in the Red Book of Lithuania.	 Nuotraukos autorius – Romas Ferenca
Mannerheim's Oxyporus (*Oxyporus mannerheimii*)	A small beetle, 7−9 mm long, with short elytra. Feeds on the fleshy tissues of mushrooms, particularly bolete mushrooms where both adults and larvae feed. Presence is indicated by small holes in mushroom caps. Likes light forests with not much shubbery and underwood: 50–70 year old forests prevail but also 30–100 year old. Protected all over Europe.	 Foto D. Šilinis

Species	Brief characteristics	
Scarce fritillary (*Euphydryas maturna*)	Medium size butterfly. Wingspan ranges between 38–50 mm. Flies from June until the beginning of July. Lays eggs in bright sunlight on the leaves of ashtrees. Caterpillars live under a common cover, with ash leaves rolled into a shelter by means of silk threads. Winter in a robust nest within the leaf-litter. In spring, caterpillars spread around, with only few remaining on the feeding plant. Most feed on various herbaceous plants. Caterpillars transform to chrysalis on herbaceous plants and shrubs. Live in humid deciduous forests – where ashtrees grow. Require a mosaic forest habitat with su open woodland. Listed in the Red Book of Lithuania.	 Nuotraukos autorius – Povilas Ivinskis
False heath fritillary (*Melitaea diamina*)	Medium size butterfly. Wingspan ranges between 36–42 mm. An indicative species of open humid habitats, most often found in boggy meadows overgrown with shrubs, at the edges of bogs, in the swaths of humid deciduous forests, along forest roads and ditches. Adult butterflies fly from the end of May until the beginning of July. Caterpillars at first live together, covering the leaves on which they feed with cobweb threads. Caterpillars transform to chrysalis on such leaves not far from the land surface. The fritillary is threatened by overgrowth of their open habitats with shrubs or by planting of forests as well as by land reclamation and intensive agriculture. Listed in the Red Book of Lithuania.	 Nuotraukos autorius – Giedrius Švitra
White stork (*Ciconia ciconia*)	White stork is a bird of an agrarian landscape, living in close vicinity to people, near boggy places and water bodies. A species that is found in Lithuania very frequently, and the population is large – it is estimated that there are about 20,000 hatching couples (2016); the density is probably the highest in Europe. A very large bird, with a long bead, long legs and long neck. The whole body is white, only the wings are black. The beak and the legs are red. The lower part of the chin without feathers and red. Wings of the young are black with a shade of brown. The beak and the legs are dark brown but the second down cover appears after two weeks. The body of a white stork is 100–115 cm long, height 100–125 cm, wingspan 155–217 cm, weight 2.3–4.5 kg. Males are larger than females on average. Most of the white storks ringed in Lithuania winter in Eastern Africa. White stork is the national bird of Lithuania.	

Species	Brief characteristics	
Black stork (*Ciconia nigra*)	A large bird with feathers of metallic black colour on the upper part of the body and wings, white underside, red beak and legs. A monogamous bird. Returns from its wintering places to Lithuania at the end of March – beginning of April. Usually settles down in large tracts of forests: humid mixed or dry corniferous forests, near bogs or water bodies. Makes a large nest at the height of 12-15 m and lines it with green moss. Incubates once in a year, and the female lays up to five eggs. Sensitive to human interference. Listed in the Red Book of Lithuania.	 Nuotraukos autorė – Dalia Račkauskaitė
White-backed woodpecker (*Dendrocopos leucotos*)	Lives in the valleys of rivulets flowing in the woods, in wet birth and black alder forests with abundant dry trees and rotting trunks. Makes hollows in the trunks of rotten birches, black alders and willow trees in the first half of April. Lays four eggs on average on the soft rot layer and incubates for about two weeks. Juveniles are fed by both the male and the female. Lives predominanty on insect larvae and beetles.	
Commoin merganser (*Mergus merganser)*	A bird of the *Anseriformes* order. Found throughout Lithuania. A large bird with a windspan of 78–94 cm. A female can be distinguished from a male by the head: females have a brown head with a crest, and males have a black shiny head without a crest. Feeds on fish, molluscs and crustaceans; water insects are the main food for the young.	 didžiojo dančiasnapio patinas © Selemonas Paltanavičius
Eurasian hobby (*Falco subbuteo*)	A small bird of prey. Monogamous bird. The longest known lifespan living wild in nature is 15 years. Lives in forests of various type and size as well as in groves occurring in an open landscape. Does not build nests but occupies nests left by corvid birds, mainly ravens, on the trees or electriity tranmission lines. Sometimes incubates in nests left by other birds of prey such as white-tailed eagles. At breeding places, threatened mainly by intensive agriculture and use of pesticides which reduces the open areas for birds and insects on which the hobby feeds. Listed in the Red Book of Lithuania.	 Nuotraukos autorius – Eugenijus Drobelis

Species	Brief characteristics	
Osprey (*Pandion haliaetus*)	Medium-sized eagle, with plumage of the upper part of the body and wings greyish-brownish; lower part of the body white. Monogamous bird. Starts breeding in the third year of life; longest known lifespan – 32 years. Appears in Lithuania at the end of March. Settles predominantly in bogs within coniferous forests or on the shores of lakes. Builds nests in old trees near lakes, bog islands, on the shores of boggy lakes, on individual old trees growing in clear-cut areas. Nests are usually built on the tallest tree of the forest stand, on top of the tree crown. Incubates once in a year. The female lays from 1 to 4 eggs, with splotches of reddish-brown. The osprey is piscivorous, it catches fish on the surface of water bodies of various size. Can fly over ten kilometres for food. Returns to the same nesting places year after year, sometimes using the same nest. Migration starts in August. Listed in the Red Book of Lithuania.	 Nuotraukos autorius – Marius Čepulis
Lesser spotted eagle (*Clanga pomarina*)	Medium-size eagle, with plumage of the upper and lower part of the body and wings varying between light brown and dark brown. Monogamous bird. Starts breeding in the fourth or fifth year of life; longest known lifespan 26 years. Appears in Lithuania at the end of March – beginning of April. Lives in forests of various types, near agricultural land. Chooses nesting places in mature trees of various types and builds nests of branches on fir trees, oaks, birches and black alders. Nests are usually at the height of 15 m from the ground surface, with green branches inside, replenished throughout the breeding season. Usually one juvenile survives in the hatch as the other one perishes early due to aggressiveness of the older one. Feeds on minor mammals, in particular voles, birds and amphibians. The eagle is threatened by clear cutting of forests. Listed in the Red Book of Lithuania.	 Nuotraukos autorius – Marius Karlonas
Common buzzard (*Buteo buteo*)	The body is 53 cm long, body mass about 800 g. Brown back, striped tail, underside whitish, brown-streaked. Incubates in forests of various types, returning to same places every year. Hunts while flying in circles; freezes up in the air while observing its prey, then heads straight down to it. Feeds on murine rodents, squirrels, shrews, birds and their juveniles, reptiles and amphibia.	

Species	Brief characteristics	
Eurasean goshawk (*Accipiter gentilis*)	A medium-large bird of prey. Plumage of the upper part of the body and wings greyish-bluish in colour; the underside and underwings white with narrow black transverse stripes. A monogamous bird. Adults are settled birds. They settle in forests of various types, mainly in large tracts of forests. Builds nests at the height of approx. 15 m from the ground. In spring, lines the nest with branches. Feeds on birds of various size, mainly forest birds. During breeding, sensitive to disturbances in nesting places and their environs. Goshawks are caught and destroyed in order to protect poultry. Listed in the Red Book of Lithuania.	 Nuotraukos autorius – Vytautas Knyva
Common kingfisher (*Alcedo atthis*)	A small bird (of a size of a common sparrow) distinguished by a very bright plumage and a long dark beak (longer than the head). Shiny green-blue colour in the upper part (crown, back, upper tail, wings, tail) prevails, with lighter spots; the underside and the ear patches are bright brown. Legs short and red. Makes the nest in a burrow excavated by both birds of the pair in a vertical bank of the river, lake etc. Sometimes can settle at the distance of up to 1 km from the water. The burrows are dug at some height above the water, up to 1 m deep. The nest cavity is unlined but soon accumulates a litter of fish remains and cast pellets. Usually lays four to seven eggs and the incubation lasts about 20 days; the juveniles can stay in the nest for up to 4 weeks. More than one brood may be reared in a season. Feeds almost exclusively on small fish, searching for prey from a branch of a tree above the water or another convenient place. During breeding, protects its territory by fighting with other kingfishers. Listed in the Red Book of Lithuania.	 Nuotraukos autorė – Dalia Račkauskaitė
Common quail (*Coturnix coturnix*)	The smallest bird in the order Galliformes. The body is about 17 cm long, body mass about 100 g. Light brown in colour, with black and grey spots and longitudinal streaks. Breast yellowish brown, belly whitish. Lives in open areas – fields, meadows and arable land. Can run quickly, flies rarely except migration. Feeds on animal and plant food. A polygamous bird. Abundance of the population is negatively affected by early haymaking (especially with large machinery) and heavy use of chemicals in agriculture.	 © S. Karalius © LOD www.birdlife.lt
Grey-headed woodpecker (*Picus canus*)	A settled bird that can roam within short distance only. Recognisable by greyish green colours and red forehead. Incubates in tree hollows chiselled by the bird itself in trees or dry trunks; prefers aspens. Likes to make burrows in anthills; feeds predominantly on red wood ants and other insects. Protection of anthills is of particular importance for this species, in particular during economic activities in forests. Listed in the Red Book of Lithuania.	 Nuotraukos autorius – Armandas Naudžius

Species	Brief characteristics	
Eurasian pygmy owl (*Glaucidium paserinum*)	Smallest owl species in Lithuania. Starts breeding in the first year of life. Lifespan – about six to seven year. Typical habitats include large tracts of mixed and corniferous forests but can settle also in small isolated forests. Feeds mainly on small forest birds and rodents. In winter can be found in open spaces, near human settlements. Threatened mainly by forest cutting during the breeding period. Listed in the Red Book of Lithuania.	 Nuotraukos autorius – Kęstutis Čepėnas
Ural owl (*Strix uralensis*)	A large owl – about 50 cm long when pervhed. Feathers ligh grey, with dark brown longitudibal streaks. Reaches sexual maturity in the first year of life. Settled bird. Settles in large tracts of forests and bogs. Incubates in forests of various types and humidity. Owls do not build nesks themselves, thei incubate in old tree hollows and rotten trunks, also occupy nests of birds of prey but do not line them with branches. One brood is reared in a year. The male feeds the femal during the hatching. Feeds mainly on small mammals, in particular voles, and small forest birds. Listed in the Red Book of Lithuania.	 Nuotraukos autorė – Dalia Račkauskaitė
Mountain hare (*Lepus timidus*)	Smaller and lighter than the grey hare, and is disntinguished by its white fur in winter. Summer fur is greyish or brownish. Black ear tips, with a white band seen at the front edge. Short ears – barely reach the nose when bent. Lives in larger forsts with raised bogs and clear-cut areas. Feeds on shoots, small branches and bark of birches, junipers, aspens, willows and other trees, blueberry and foxberry stems, grass and winter annuals. Threatened mainly by the increasing number of oredators and diminishing areas of suitable habitats. Listed in the Red Book of Lithuania.	 Nuotraukos autorius – Vitalijus Stirkė
Eurasian lynx (*Lynx lynx*)	Most characteristic features – short tail with a black tip, triangular ears with tufts of hair at the end, and short body flattened on the sides. Long and strong legs; hind legs are longer than the forelegs. Grey, brownish and white fur; dark spots are brighter in summer. Weight up to 30 kg. In nature, can live until the age of seventeen years. Lives in large mixed forests. Roe-deers account for approx. 90% of lynx's food, and murine rodents, beavers, hares, racoon dogs – for the remaining 10%. Threatened by lack of suitable habitats, high degree of forest fragmentation, disturbances and competition on the part of other predators, such as wolves, in feeding. Listed in the Red Book of Lithuania.	 Nuotraukos autorius – Vitalijus Stirkė

Species	Brief characteristics	
Eurasian otter (*Lutra lutra*)	Mammal of prey of the family *Mustelidae*. Long and slender body 55–80 cm long. Males weigh about 9.5 kg, females about 6.5 kg. Muscular tail 28–46 cm long. Dark brown dense, almost impermeable fur, silvery underbelly. Flat head, short muscular neck, small ears. Ear openings and nostrils close when the otter dives Short legs, with webbed feet. Otters are good swimmers and divers. Feed mainly on fish, also rodents, birds, amphibians, crustaceans and insects.	
Common pipistrelle (*Pipistrellus pipistrellus*)	The smnallest bat in Lithuania. Body length 38 – 45 mm, body mass 4 – 7 g. Fur light brown (yellowish brownish). The underside is much lighter in colour – brownish yellowish. Starts flyign 20 – 30 min. after sunset, sometimes before sunset. Flies quickly and erratically, often at man‘s height. Feeds near water bodies, in parks, on the outskirts of forests.	
Daubenton's bat (*Myotis daubentonii*)	A bat species quite widespreas in Lithuania. Likes lake areas but sometimes roams further away from the water. In summer, the bats live either separately or in groups in the hollows of trees, wooden bird boxes, in cracks of wooden buildings. Breeding colonies are found in attics and hollows of wooden houses, in large hollows of old trees. Hiding places are usually located in the shade, at humid places. Winter in basements with temperatures above zero. Many of these animals are founds in warm and humid wintering places in the teriological reserves of Kaunas and the Paneriai tonnel in Vilnius. The species is protected by the Berne Convention.	
Spinned loach (*Cobitis taenia*)	The spinned loach belongs to the family *Cobitidae* of wish. Widespread in Eurasia. Body up to 12 cm long (mainly loaches 5–8 cm long are caught), mass up to 10 g. Wormlike body, yellowish or light grey in colour; spotted back and tail fins; rows of dar spots on the sides. 3 pairs of barbels around the mouth. Under the eyes there is a two-pointed spike. The air bladder is within a solid bone capsule. Lives in clean, slightly silty rivers, flow-through lakes and ponds. Likes to dig into silt or sand. Feeds on benthic invertebrates and plants. Spawns in April-May on plants.	

Species	Brief characteristics	
European bullhead (*Cottus gobio*)	The European bullhead belongs to the family *Cottidae*. Bare body. Back and sides brownish or grey in colour with numerous dark spots and streaks. Underside light in colour. Fins (except the pelvic fin) are also spotted. The side line extends along the middle of the body until the tail fin base. Head flat and wide. Eyes large and closely set. Lives in torrential rivulets of Lithuania, hides under the stones. The male digs a small hole and later guards the eggs produced by the female.	 Paprastasis kūjagalvis (*Cottus gobio*)

Fauna (according to WEDTIB project). In 2015-2017, the Lithuanian Ornithologists Society and partners – the Coastal Research and Planning Institute and the Lithuanian Energy Institute implemented a project 'Wind Energy Development and Territories Important for Biodiversity' ('WEDTIB project') [43]. Field studies into breeding, wintering and accumulation sites and migration routes most important for birds and bats as well a targeted investigation in Natura 2000 territories were conducted, a database was created, and territories important for the conservation of biodiversity, sensitive territories and conflict territories in terms of wind energy development were identified.

Sensitivity of the PEA territory in terms of bats. The planned PEA area was not studied in detail in terms of bats during the WEDTIB project. According to the territories' sensitivity maps compiled, all the 31 wind turbines being planned fall within an area where data are not sufficient for determining sensitivity in terms of bats (Figure 4.6.1.3).

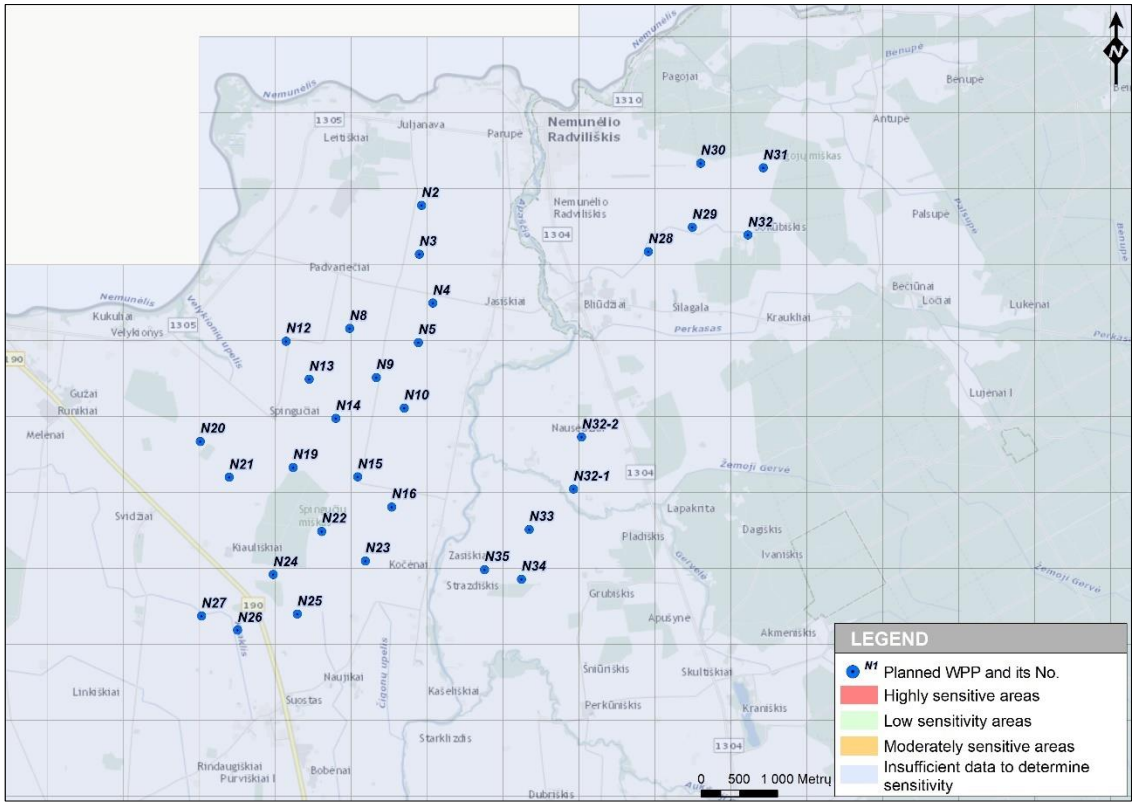


Figure 4.6.1.3. Map of the territory‘s sensitivity in terms of bats, with the locations of the planned WTs marked (based on WEDTIB project)

Sensitivity of the PEA territory in terms of birds. Experts of Media ir aplinkos projektai, VšĮ have established that, according to the database of the WEDTIB project, accumulations of incubating, wintering or migrating birds were recorded in the PEA area or near it. According to the territory sensitivity maps compiled during the WEDTIB project, the PEA area falls within territories of medium or low sensitivity in terms of incubating birds (Figure 4.6.1.4), territories of medium or low sensitivity in terms of migrating or wintering birds (Figure 4.6.1.5), and territories of medium or low sensitivity in terms of birds in general (Figure 4.6.1.6).

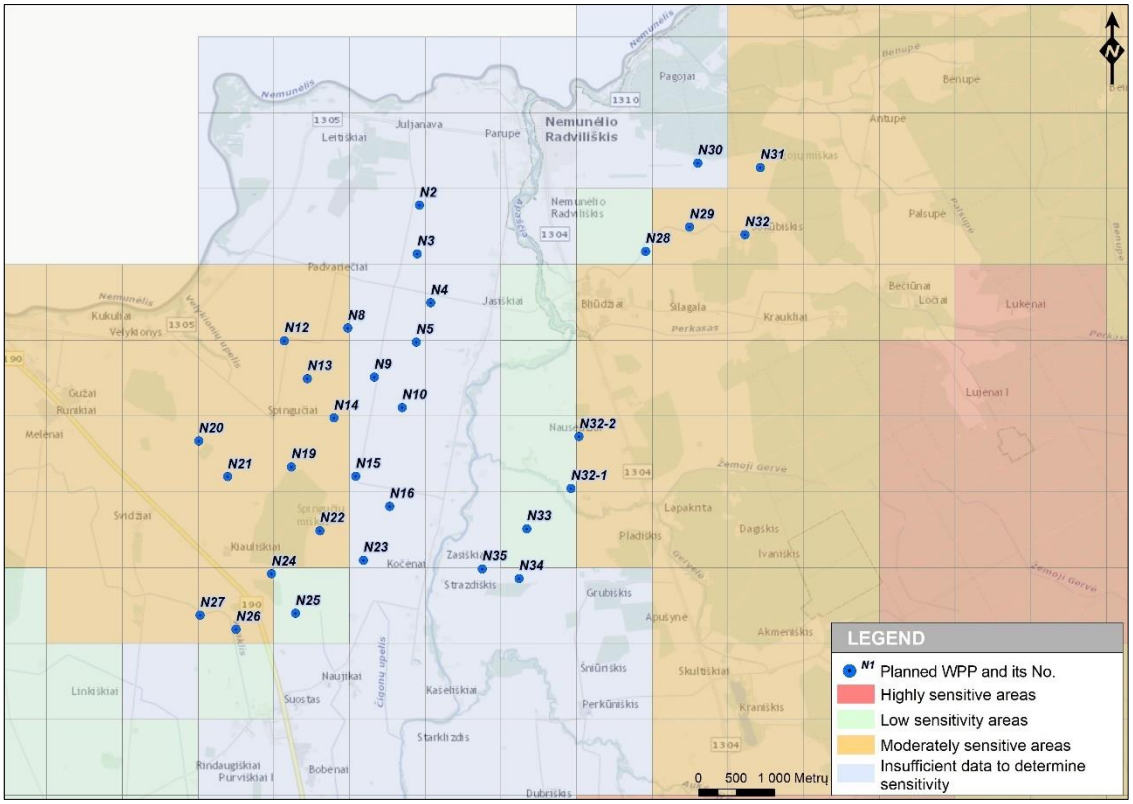


Figure. 4.6.1.4. Map of sensitivity of territories in terms of incubating birds, with the planned WT locations marked(based on WEDTIB project)

Sensitivity of the PEA territory in terms of incubating birds. According to information in section 'Territories sensitive in terms of incubating birds 1x1 km' of WEDTIB database, locations of wind turbines N8, N12, N13, N14, N19, N20, N21, N22, N24, N26, N27, N29, N31, N32 and N32-2 fall within territories of medium sensitivity in terms of incubating birds. The PEA area in which these WTs are being planned is classified as a territory of medium sensitivity due to the common crane (*Grus grus*) and/or the lesser spotted eagle (*Clanga pomarina*) and/or the corn crake (*Crex crex*) and/or the common buzzard (*Buteo buteo*). Locations of the wind turbines N32-1, N25 and N33 fall within territories of low sensitivity in terms of incubating birds, whereas WTs N2, N3, N4, N5, N9, N10, N15, N16, N23, N30, N31, N34 ir N35 – within territories with insufficient data for determining sensitivity. More detailed information is provided in Text Annex 5.

Sensitivity of the PEA territory in terms of migrating and wintering birds. According to information in section 'Migrating birds - Territories sensitive in terms of migrating and wintering birds 1x1 km' of WEDTIB database, the PEA area falls within territories of medium or low sensitivity.

Locations of WT N2, N3, N4, N5, N9 and N10 being planned fall within territories of medium sensitivity in terms of migrating and wintering birds, and the remaining WTs would be within territories of low sensitivity in this respect (Figure 4.6.1.5).

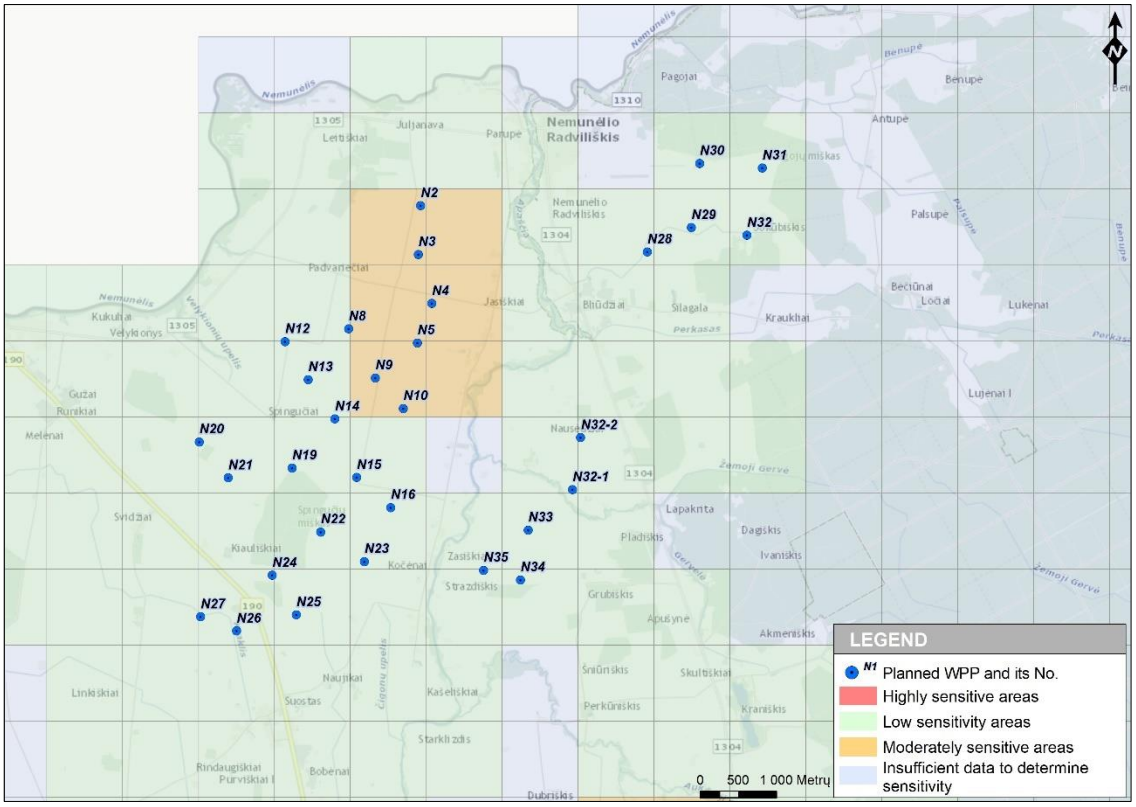


Figure 4.6.1.5. Map of sensitivity of territories in terms of migrating and wintering birds, with the planned WT locations marked (based on WEDTIB project)

According to the WEDTIB maps of sensitivity of territories, locations of WTs N15, N16, N23, N25, N28, N30, N32-1, N33, N34 and N35 fall within territories of low sensitivity in terms of birds (overall assessment), whereas the remaining WT locations are within territories of medium sensitivity in this respect (Figure 4.6.1.6).

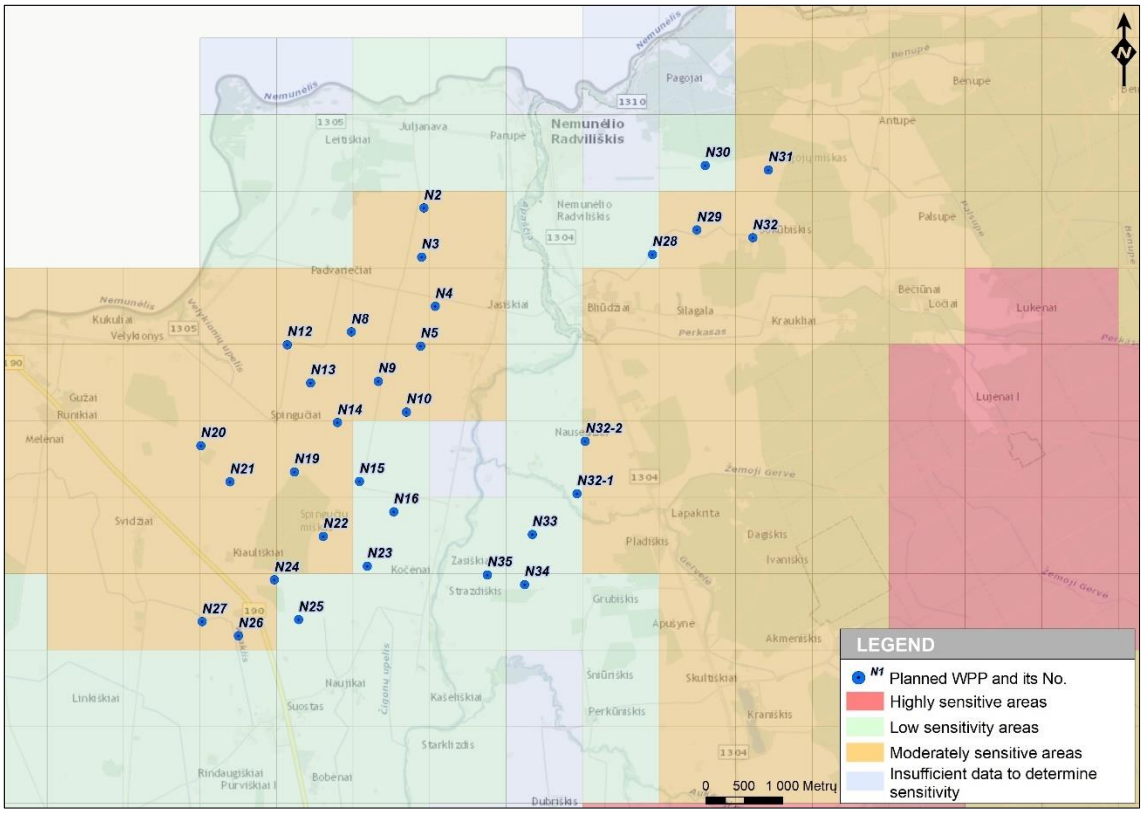


Figure 4.6.1.6. Map of sensitivity of territories in terms of birds (summary map), with the planned WT locations marked (based on WEDTIB project)

Fauna (according to in situ investigations conducted in 2022–2023). Sweco Lietuva, UAB engaged Media ir aplinkos projektai, VšĮ to conduct seasonal observations of bird and bat life (migration, incubation, breeding, nutrition, rest and roosting etc.) in the planned wind farm in the Nemunėlio Radviliškis and Parovėja wards in the Biržai District Municipality and their environs. Reports prepared by experts are provided in Text Annexes 5 and 6.

Investigation methodology

Bat observations were conducted in calm weather, without strong wind or rain, at the temperature not lower than 7° C (was over 10º C during the observations). The observations took place on 25 May, 12 and 22 June, 14 and 27 July, 8 and 20 August, 3 and 15 September, and 6 October 2022. Bat activity was recorded by means of portable ultrasonic sensors Pettersson D-240X and EchoMeter Touch 2 PRO. Juvenile rearing and adult nutrition were recorded overnight in May – July 2022.

Bat migration was recorded by means of the ultrasonic sensors in August – first decade of October, during dark hours, including various elements of landscape: tree belts, shores of water bodies, shrubbery, meadows etc.

Transect counts were made while walking and recording all the bats found. Point counts were made at selected points by recording all the bats found during 10 minutes. Bat recording data are provided in Text Annex 6.

Bird observations were conducted in the territories of Nemunėlio Radviliškis and Parovėja wards in Biržai District Municipality where construction of the wind farm is planned. The purpose of the investigations was to determine species of birds incubating and migrating in these territories, population size, and potential impact of the PEA on the bird populations. Tasks of the investigations:

- conduct investigations of incubating birds in the territory of the wind farm being planned;
- conduct investigations of the birds of prey and white and black storks feeding in the territory of the wind farm being planned;
- conduct investigations of migrating birds;
- study bird accumulations and assess habitats in terms of formation of the accumulations;
- assess potential threats to the birds that incubate, migrate or feed in the territory after the wind farm is constructed;
- assess potential threats to the birds that incubate, migrate or feed in the territory posed by all the wind farms nearby.

Observations of species of birds passing by, bird accumulations and feeding places for birds of prey were conducted from constant points. Observations from constant points allow to assess potential impact of the PEA on the passing bird species that incubate further away from the WTs and record the species that fly by, feed in and migrate within the area of impact of the PEA. Observations aimed at determining places of feeding and passing of birds of prey, birds of the stork family and other birds sensitive to the WT impact were conducted from various places. These places were selected in a way that enables an overview of the largest possible area of the wind farm being planned, having regard to the birds‘ routes and feeding places. Selection of the observation points also took account of the locations of landscape objects such as forests, hills, WTs being planned. All the birds of prey were observed from these points and recorded. The experts‘ report (Text Annex 5) present summarised cartographic materials with the birds‘ flight trajectories, feeding and rest places, nests and other sites marked.

The following bird investigation databases were consulted and overviewed for the purposes of this investigation: database of the Protected Species Information System (SRIS) managed by the Ministry of Environment (28 July 2009 until 28 November 2022), GPS Tracking of Storks, Cranes and Birds of Prey Breeding in Northern and Eastern Europe (data from 21 September 2014 until 17 May 2022), eBird Observation Dataset (EOD) (data from 24 May 2004 until 17 May 2022), iNaturalist database (data from 9 July 2005 until 17 May 2022), data set from the project ‘Wind Energy Development and Territories Important for Biodiversity‘ (‘WEDTIB project‘) (data until 2017). These data supplemented the information on the PEA area and adjacent areas as well as usual, rare and protected incubating and migrating birds.

Distribution of bats in the PEA area. On completion of bat investigations in the PEA area by means of the transect and point count methods, seven species of bats were found: serotine bat (*Eptesicus serotinus*), northern bat (*Eptesicus nilssoni*), parti-coloured bat (*Vespertilio murinus*), common noctule (*Nyctalus nactula*), Nathusius' pipistrelle (*Pipistrellus nathusi*), common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*Pipistrellus pygmaeus*).

According to the results of the investigations conducted in 2022, Nathusius' pipistrelle (93 counts), northern bat (100 counts) and common noctule (75 counts) prevailed in the PEA area. The first

two were most abundant in both breeding and migration periods. The northern bat is a local species, either wintering or near migrant, therefore, part of the counts should not be classified as migration counts.

Distribution of bird migration in the PEA area. Bird observations have shown that the PEA area is not very important for the migration of birds; no significant migration flows are observed here.

According to the reports of investigations conducted in the PEA and adjacent areas as well as the databases referred to above, 106 bird species were observed including 20 bird species listed in the Red Book of Lithuania – the list was approved by Order of the Minister of Environment of the Republic of Lithuania No 504 of 13 October 2003 'Regarding approval of the List of Protected Fauna, Flora and Fungi of the Republic of Lithuania and 21 bird species included in Annex I to Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds.

In the PEA area and adjacent areas, the taiga bean goose (*Anser fabalis*) and the greater white-fronted goose (*Anser albifrons*) were observed during migrations: their flying from place to place and their accumulations: approx. 245 taiga bean geese were observed at the distance of 0.654 km from the location of WT N27 being planned, and flying of 50 individual white-fronted geese and approx. 250 individual barnacle geese at the height of 20 m over the place of WT N5 being planned. During migrations, geese's flying between places were observed all over the area of the wind farm being planned. Geese usually avoid wind farms and either fly past them or choose feeding areas further away from WTs. Distances between the WTs being planned exceed 500 m, which, in the opinion of the observers, does significantly worsen conditions for the geese flying between places.

Whooper swans (*Cygnus cygnus*) were frequently seen in the territory of the wind farm being planned; the largest wedge of swans observed was a group of 16 swans in the incubation period and 12 swans during migration; an accumulation of 37 swans was seen in the autumn at the distance of 0.14 km from WT N17 being planned (during preparation of this assessment report, the PEA Organiser decided to abandon WT N17). Mute swans (*Cygnus olor*) were seen frequently in the territory as well; the largest wedge observed during the investigations – 7 individuals flying in the incubation period; an accumulation of 23 mute swans was observed during the incubation period at the distance of 0.265 km from the location of WT N13 being planned. There are no lakes, ponds or other open water bodies in the PEA area. Swans can incubate in backwaters of Apaščia river where they were observed during the investigations as well as on 10 July 2020 according to *Inaturalist* database.

During migrations, rooks (*Corvus frugilegus*) did not form large flying flocks and accumulations in the PEA area and its environs; they were seen mainly in the southern part of the wind farm being planned. The largest observed were a group of 40 rooks flying and an accumulation of approx. 110 rooks.

Researchers did not find colonies of the great cormorant (*Phalacrocorax carbo*) in the PEA area and adjacent territories; there are no lakes or ponds in the PEA area. No cormorants were recorded in the PEA area in the period of migrations.

Birds of prey feed in large territories during migrations and do not have any specific places; they were observed throughout the PEA area. The wind farm being planned should not pose a significant threat to part of these birds during feeding as they fly quite low, however, longer journeys, territorial flights and gliding take place at high altitudes, therefore, in the opinion of the researchers, WTs can pose a direct threat. Migration of birds of prey in the territory of the wind farm being planned is not intense, therefore, it should not pose a great direct threat to these birds in the period of migrations. Detailed data on ornithological observations are provided in Text Annex 5.

Suitability of the PEA area for the formation of spring and autumn accumulations of birds. In the observers' opinion, due to the lack of larger water bodies in the PEA area, no accumulations are formed there by birds in the orders *Anseriformes, Podicipediformes, Gaviiformes* and *Suliformes*, therefore, the PEA impact upon them would be minimal. Birds of prey did not form accumulations in the PEA area and its environs either. Accumulations of the European golden plover (*Pluvialis apricaria*) were observed in the PEA area in autumn: the largest of them include about 1,400 birds at the distance of 0.27 km from WT N12 being planned; about 1,200 birds – at WT N15 being planned, at the distance of 0.13 km; and about 1,200 birds in the adjacent area. More birds of this species were seen in the central part of the wind farm being planned. According to information from the WEDTIB project, when the minimum golden plovers' accumulation size is 100 birds and the maximum 500 birds, and the minimum accumulation size of the northern lapwing (*Vanellus vanellus*) is 100 birds and the maximum 500 birds, then the accumulation sites of migrating northern lapwings at WT N29 and N2 being planned can be classified as territories of medium sensitivity and the golden plovers' accumulation sites at WT N12 and N15 can be classified as territories of low sensitivity. Birds tend to choose ploughed fields or low-height hardy cereal crops where they have good feeding conditions. Formation of accumulations of the European golden plovers and the northern lapwing is largely determined by existing land use.

Based on the data from the ornithological observations, one may conclude that the PEA area is not very important for the formation of accumulations and feeding of migrating geese and northern lapwings as, during migrations, large accumulation form in the areas with large water bodies and are determined by existing land use. The PEA area is not important for the migration of birds and no large migration flows are formed there. Detailed data on ornithological observations are provided in Text Annex 5.

Birds of prey in the territory of the wind farm being planned

Despite excellent vision, good manoeuvring ability and flying in favourable weather conditions, birds of prey remain among the bird species that are most prone to fatal collisions with wind turbines. Raptors are characterised by low reproductive levels, their populations are not large as compared with passerines, therefore, such bird death can have a significant impact upon the raptors' populations. Apart from local birds of prey that incubate in the environs of the wind farm being planned, also birds that have flown from further away for feeding or non-incubating birds were observed in the territory concerned. The attractiveness of the wind farm area to birds of prey is medium in terms of feeding. No large flocks of raptors were observed during migrations; they migrate either in small groups or individually. Species that were seen most often in the PEA area include the Eurasian sparrowhawk (*Accipiter nisus*), common buzzard (*Buteo buteo*), western

marsh harrier (*Circus aeruginosus*), lesser spotted eagle (*Clanga pomarina*), and Montagu's harrier (*Circus pygargus*). During migrations and wintering periods, the rough-legged buzzard (*Buteo lagopus*), hen harrier (*Circus cyaneus*) and merlin (*Falco columbarius*) were observed passing by or hunting. During migrations, birds of prey feed in large areas and do not have any specific ones, and they were observed throughout the PEA area. The wind farm being planned should not pose a significant threat to part of these birds during feeding as they fly quite low, however, longer journeys, territorial flights and gliding take place at high altitudes and then wind turbines can pose a direct threat.

Lesser spotted eagles were observed in the PEA area and its environs in abundance. According to experts, 5 to 7 couples can incubate in these areas. Larger numbers of lesser spotted eagles were seen in the eastern part of the wind farm area, on the outskirts of the Biržai Wood; a couple was observed flying near the Nemunėlis river at the Latvian border where there is a larger wood behind the river.

According to the data in SRIS, the lesser spotted eagles has a number of passages in the Biržai wood. In the early planning phase, locations of WT N31 and N32 fell within a 2 km radius from the lesser spotted eagles‘ nests (according to SRIS) where the wind farm‘s impact can be significant. On checking sites No AQUPOM002610, No AQUPOM060294 and No AQUPOM087004 recorded in the SRIS, it has been established that the forest was cleared and the nests were destroyed (Figure 4.6.1.7).



Figure 4.6.1.7. Location of the lesser spotted eagle‘s site recorded in SRIS, site No AQUPOM060294

Checking of the SRIS site No AQUPOM060612 as part of the observations has revealed that the nest is in a good condition (Figure 4.6.1.8).



Figure 4.6.1.8. Location of the lesser spotted eagle‘s site recorded in SRIS, site No AQUPOM060612

Frequent flights of lesser spotted eagles were observed near the WTs N31 and N32 being planned. The distance from WT N32 to the Biržai Wood (*Biržų giria*) – a special protection area (SPA) under the European ecological network Natura 2000 is 1.7 km, and from WT N31 – approx. 1.9 km, however, this distance is not sufficient to protect birds of the Biržai Wood SPA (black storks, lesser spotted eagles etc.).

Based on data from the ornithological observations, location of WT N34 being planned falls within the feeding area of the lesser spotted eagle, however, nest location is not known. The lesser

spotted eagle was observed feeding near WT N34 being planned: on 16 and 22 April 2022, 16 May 2022 and 6 June 2022.

Based on data from the ornithological observations, locations of WT N18 and N19 being planned fall within the feeding area of the lesser spotted eagle, however, nest location is not known. The lesser spotted eagle was observed feeding near WT N18 and N19 being planned on: 23 May 2022, 5 June 2022, 13 and 24 July 2022, and 2 and 23 August 2022.

Northwest of the wind farm being planned, in the territory of Latvia, there is *Skaistkalnes karsta kritenes* SPA. The distance to this SPA from WT N6 is 1.14 km and from WT N11 being planned – from 1.33 km (during preparation of this Report, the PEA Organiser abandoned planning of WTs N6 and N11). Lesser spotted eagles are protected and incubate in this SPA; they fly to the wind farm area being planned for feeding. The lesser spotted eagle was observed near the aforesaid WTs N6 and N11 on 5 June 2022 and 9 and 16 August 2022.

Birds of prey did not form accumulations in the PEA area and the adjacent areas; no large flocks of birds of prey migrating over the PEA were observed – only individual birds (Text Annex 5).

More detailed data on the ornithological observations are provided in Text Annex 5.

Having regard to comments on the EIA Report received from SPAA under the MoE, on 8-10 November 2024, the ornithologists searched for nests in Velykionys and Spingučiai forests once again. No nests were found in the Velykionys forest; a common buzzard‘s nest was found on the western outskirts of Spingučiai forest (the nest about 40 cm wide, made on thin branches, see Figure 4.6.1.9). No more nests were found in this forest (except for one common raven nest).



Figure 4.6.1.9. Nest of a common buzzard in Spingučiai forest (8-10 November 2024)

4.6.2 Anticipated significant impact

Flora. The WTs being planned and the engineering structure to be installed (access roads and sections thereof, underground lines for the supply of electricity to the distribution network) will not fall within protected plant species' sites and forest areas (Figure 4.6.1.1, Graphic Annex 6). Engineering networks required for the PEA will be constructed near existing roads and across private and/or public land plots.

At present the larger part of the PEA area (land plots earmarked for the WT construction) is used for agricultural purposes. Fields with agricultural crops prevail. Individual trees or tree groups and shrub clusters grow in the river valleys and roadsides.

According to SRIS, the habitat of a protected plant nearest to the PE facilities – Tartarian hemlock parsley (*Conioselinum tataricum*), a perennial herbaceous plant belonging to the family *Apiaceae*, is at the distance of approx. 1.4 km SW of WT N28. No significant negative impact on plants is anticipated in all phases of the PEA.

Fauna. An essential risk factor – the probability of birds' and bats' collisions with the WTs has been identified. Sensitivity of the PEA territory in terms of bats' and birds' incubation places and flight trajectories (migration routes) has been assessed during in situ observations.

Impact on bats

It has been established, by bat observations, that locations of WTs N19, N22, N24, N30, N31 and N32 being planned are within the distance of 200 m (+ blade length) from the forest; WTs N26, N27, N28, N29, N32 and N32-1 being planned – within the distance of 200 m (+ blade length) from water bodies, i. e. potential bat habitats, therefore, these WTs can produce a negative impact on bats. To avoid this potential negative impact, it is recommended to move the aforesaid WTs by at least 200 m (+ blade length) from the forests and/or water bodies, or to apply the measures to avoid, reduce and/or compensate for negative impact as specified in Section 4.6.3.

If the recommended impact mitigation measures (Section 4.6.3) are implemented upon construction of the wind farm, its negative impact on bats during their breeding and migration periods would be insignificant.

As mentioned in Section 3.1.4 'Areas adjacent to the PEA area', the PEA Organiser plans another wind farm (37 WFs) in the Parovėja and Nemunėlio Radviliškis wards adjacent to the wind farm concerned. An assessment of the potential impact of these two wind farms upon bats, it has been established that there can be a slight combined negative impact on bats. The nearest planned WT of the Parovėja wind farm (P1) would be at the distance of approx. 1.8 km from WT N25 of the Nemunėlio Radviliškio wind farm, and the nearest planned WT (N26) would be at the distance of 2 km from WT N3 planned by Bionalis, UAB (Figure 3.1.4.1). Notably, the PEA area has not been designated as a territory important for the breeding and migration of bats (WEDTIB project, (VENBIS, 2017).

As opposed to birds, bats almost do not use vision during migrations – they use ultrasonic signals and most often fly in the dark along 'green corridors' (except seaside): riverbeds, land reclamation

canals overgrown with woody plants, forest outskirts etc., avoiding large spaces and, at the same time, wind turbines. Therefore, one may state that while the PEA will slightly worsen breeding, feeding and seasonal flying (migration) conditions in the area concerned, the impact would be insignificant subject to implementation of the measures to mitigate the negative impact (Section 4.6.3).

Regarding aggregate impact of the wind farms being planned:

Impact on birds

On completion of bird observations of 2022–2023, it has been established that:

- The attractiveness of the wind farm area to birds of prey is medium in terms of feeding. The impact of the wind farm can be significantly negative for birds of certain rare and protected species (lesser spotted eagle, hobby) that incubate in the PEA area.

- WTs can have a negative impact of low significance on most bird specifies observed in the environment of the wind farm being planned: white stork, black stork, grey heron, greater white-fronted goose, taiga bean goose, mute swan, whooper swan, corn crake, northern lapwing, European golden plover, Eurasian curlew, black-headed gull, common crane, common buzzard, western marsh harrier, Montagu's harrier, common kestrel, common wood pigeon and stock dove, i. e. worsen conditions for their flying between places, migration and nutrition.

- The PEA area is not very important for the formation of accumulations and feeding of migrating geese and northern lapwings as, during migrations, their accumulations are determined by existing land use and/or presence of larger water bodies in he area. The PEA area is not important for the migration of these species, and no large migration flows are formed here.

As described in Section 3.1.4 ‘Areas adjacent to the PEA area‘, the PEA Organiser plans another wind farm (37 WFs) in the Parovėja and Nemunėlio Radviliškis wards adjacent to the wind farm concerned. An assessment of the potential impact of these two wind farms upon birds, it has been established that there can be a significant combined negative impact on birds (lesser spotted eagle and black stork). Biržai Wood, a Natura 2000 SPA is situated near the PEA area. It was founded for the purpose of conservation of the wood‘s ecosystem, in particular, preservation of populations of the black stork (*Ciconia nigra*), lesser spotted eagle (*Clanga pomarina*), hazel grouse (*Bonasia bonasia*), crane (*Grus grus*), Ural owl (*Strix uralensis*), Eurasian pygmy owl (*Glaucidium passerinum*) and grey-headed woodpecker (*Picus canus*) in the territory. An inventory taken in the Biržai Wood in 2012–2014 has established 26 nests of the lesser spotted eagle (Kamarauskaitė A. et al., 2019). None of the locations of the WTs planned in the Nemunėlio Radviliškis ward falls within the safety zones established for the lesser spotted eagles‘ nests (within 2 km from the nests).

There is a Natura 2000 SPA *Skaistkalnes karsta kritenes* in the territory of Latvia adjacent to the wind farm being planned in Nemunėlio Radviliškis ward (for the protection of the lesser spotted eagle (*Clanga pomarina*), red-breasted flycatcher (*Ficedula parva*) and Eurasian three-toed woodpecker (*Picoides tridactylus*)). Two locations of the wind farm being planned (WT N6 and

WT N11) fall within the safety zone of SPA *Skaistkalnes karsta kritenes* (within the distance of 2 km) and while there is no information about nests, the lesser spotted eagle has been observed near these two locations (during preparation of this Report, the PEA Organiser decided to abandon planning of WTs N1, N6, N11 and N17).

No black storks were noticed in the PEA area during the investigations. In order to protect black storks and lesser spotted eagles, and having regard to ornithologists‘ recommendations according to which WTs N31 and N32 would be too close to Natura 2000 SPA Biržai Wood, the PEA Organiser abandoned the plan to construct WTs N31 and N32. This will reduce the risk of potential negative impact on the protected birds in SPA Biržai Wood and make their flights to feeding places safer.

According to SRIS data, a nest of the black stork (SRIS site No RAD-CICNIG114594) is within Natura 2000 SPA Biržai Wood and Latveliai botanical reserve, at the distance of 4.0 km from the nearest wind turbine – WT N34, and 3.4 km from a wind turbine P12 of another wind farm being planned by Biržų vėjas, UAB in Parovėja ward. A negative aggregate impact on the black storks couple incubating in the said nest could be produced also by other wind turbines being planned in this nearby wind farm (P12, N32-1, N32-2 and N33) on the black storks‘ way toward the Apaščia river and other feeding habitats. Measures to avoid and/or reduce the potential negative impact must be implemented at WTs N32-1, N32-2, N33, N34 and N35 (see Section 4.6.3) that would ensure safer flights of black storks toward the Apaščia River and the Aukštoji Gervė river and eliminate threats for them while gliding over Natura 2000 SPA Biržai Wood. Considering that two black storks‘ couples incubate at the intersection of the PEA area and SPA Biržų Wood, the ornithologists have recommended that WTs N31 and N32 should not be planned as they fall within the safety zone of SPA Biržų Wood which is 2 km wide (the PEA Organiser took this recommendation into consideration and excluded WTs N31 and N32 from its plans), and that potential negative impact avoidance and/or reduction measures should be applied in respect pf WTs N32-1, N32-2 and N33 (see Section 4.6.3).

Figure 4.6.2.1 shows approximate migration routes of the black storks to which GPS transmitters were attached in Estonia and which crossed the territories of the wind farms being planned. The routes were determined by the ornithologists who have carried out the observations. In 2012-2023, the black storks with the GPS transmitters did not cross the PEA area during their migrations. In 2011, out of 6 black storks with the GPS transmitters (Pirsu), only one crossed the PEA area, at the locations of WTs N31 and N32 (which have been abandoned).

The ornithologists have established that the migrating black storks with the GPS transmitters attached in Estonia most often flew over the area of another wind farm being planned by Biržų vėjas, UAB – in Parovėja ward adjacent to the PEA area and over Biržai Wood, the Natura 2000 SPA. As already mentioned, planning of N31 and N32 was abandoned by recommendation of the ornithologists.

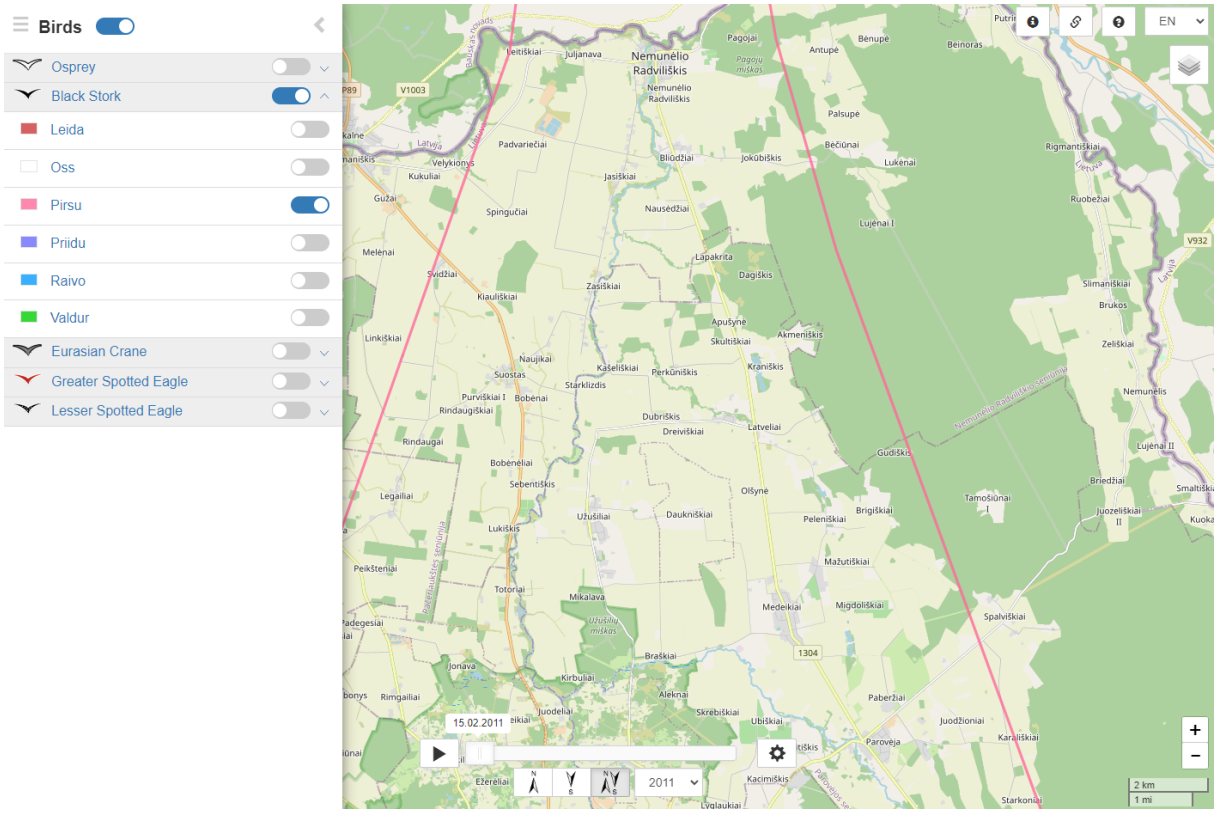


Figure 4.6.2.1. Trajectory of the black stork's (Pirsu) crossing the areas of the wind farm being planned (source: https://birdmap.5dvision.ee/EN/2011/allseasons/?line=1&track=0&speed=1)

Locations of the wind turbines planned by Bionalis UAB are sufficiently far away from the black storks' nests (more than 13.1 km), therefore, no significant negative impact is anticipated. It is estimated that the aggregate impact on migrating black storks by all the wind farms being planned will be insignificant provided that the planned measures to avoid and/or reduce the negative impact are implemented.

In the ornithologists' opinion, locations of the wind turbines planned by Bionalis UAB are sufficiently far away (more than 9.2 km) from the lesser spotted eagles' nests, therefore, no significant impact on these birds is anticipated.

In assessing the aggregate impact on incubating lesser spotted eagles by all the wind farms being planned, it is anticipated that it will be insignificant provided all the identified measures to avoid and/or reduce the impact are implemented (see Section 4.6.3).

Figures 4.6.2.2 and 4.6.2.3 show the approximate migration paths of the lesser spotted eagle and the greater spotted eagle to which GPS transmitters were attached in Estonia and which crossed the territories of the wind farms being planned.

In 2023, out of 12 lesser spotted eagles and 5 greater spotted eagles with the GPS transmitters only one lesser spotted eagle (Jaana) crossed the PEA area during their migrations. The lesser spotted eagle (Jaana) flew past the Biržai Wood where locations of WTs N31 and N32 had been planned (and abandoned later).

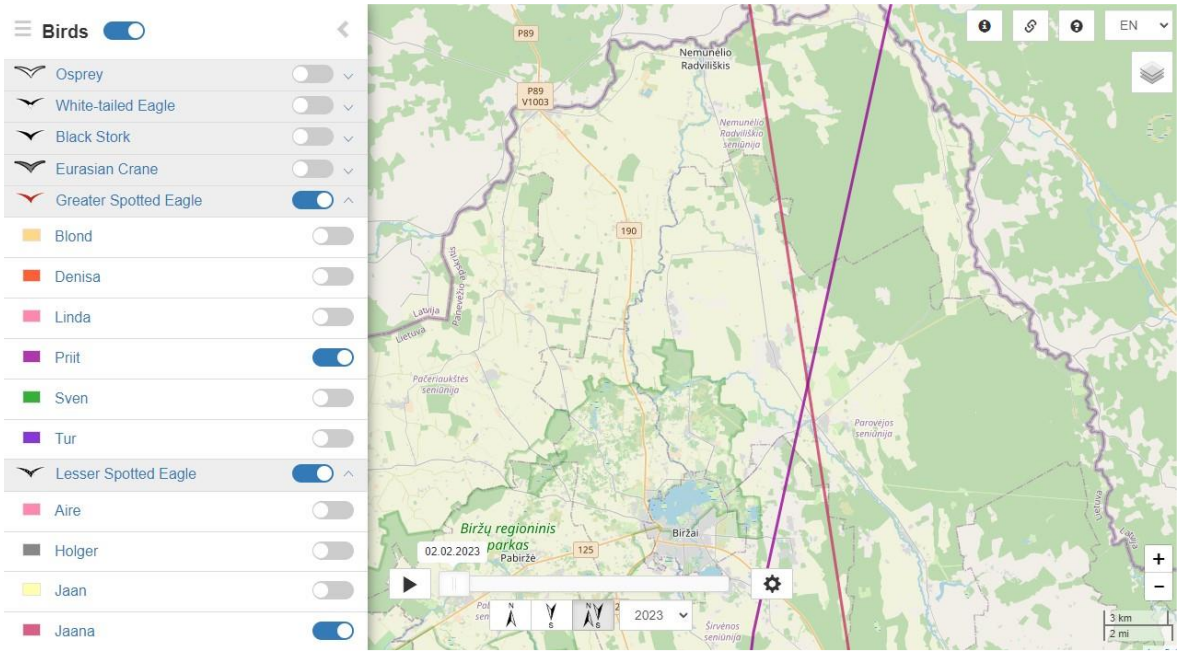


Figure 4.6.2.2. Trajectories of the greater spotted eagle's (Priit) and the lesser spotted eagle's (Jaana) crossing the areas of the wind farm being planned, 2023 (source https://birdmap.5dvision.ee/EN/2023/allseasons/?line=1&track=0&speed=1)

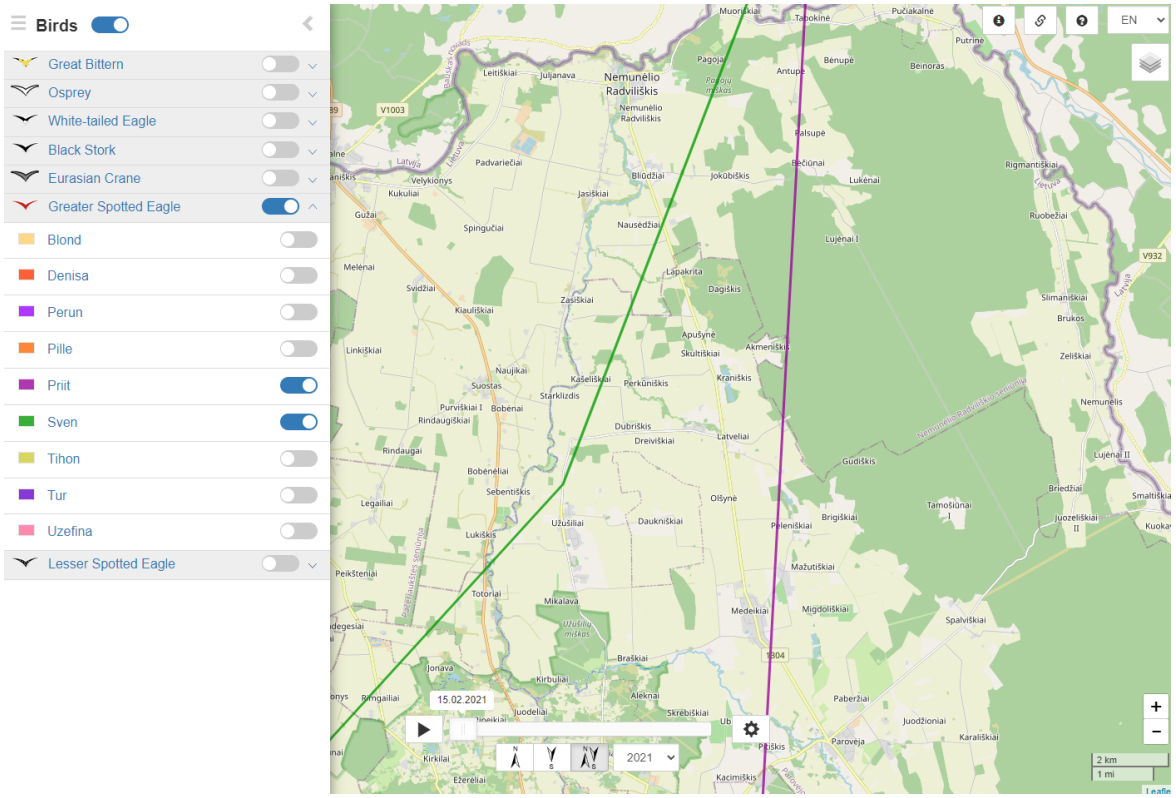


Figure 4.6.2.3. Trajectories of the greater spotted eagle's (Priit) and the greater spotted eagle's (Jaana) crossing the areas of the wind farm being planned, 2021 https://birdmap.5dvision.ee/EN/2021/alls)easons/?line=1&track=0&speed=1)

In 2021, out of 9 greater spotted eagles and 8 lesser spotted eagles with the GPS transmitters two greater spotted eagles (Sven and Priit) crossed the PEA area at locations of WTs N29, N30, N32-1 and N32-2 during their migrations. In 2012-2013, 2015-2020 and 2022, none of the 6 greater spotted eagles and 8 lesser spotted eagles with the GPS transmitters crossed the area of the wind farm being planned.

To sum up the results of the ornithological analysis, migrating greater spotted eagles and lesser spotted eagles with the GPS transmitters attached in Estonia most often flew over the locations of WTs N31, N32, N30, N29, N28, N32-1 and N32-2 on the outskirts of the Biržai Wood. Therefore, the ornithologists recommended that WTs N31 and N32 should be abandoned, and measures to avoid and/or mitigate the negative impact should be implemented at the other WTs listed above.

To assess the aggregated impact of all the wind farms being planned on the migrating lesser and greater spotted eagles, one may state that the impact would be insignificant if all the planned measures to avoid and/or mitigate the negative impact are implemented (see Section 4.6.3).

Flocks of common cranes were observed throughout the area of the wind farm being planned; the largest accumulation included 200 birds. In the adjacent wind farm being planned, common cranes were seen flocking in greater abundance during migrations in the eastern part, however, they were observed in its other areas as well. In the ornithologists‘ opinion, no significant aggregate impact by the PEA is anticipated as there are no areas in the PEA territory where significant accumulations of cranes have been observed.

Birds of the order Passerines were not characterised by abundance and large flows in the PEA area, therefore, no additional impact mitigation measures are proposed. The PEA area is located in the continental area where bird migration flows are not significant. Considering the flying heights, it has been concluded that the PEA will not produce a significant negative impact on the birds of this order. Aggregate impact on the passerines of all the wind farms planned would be insignificant.

Reports on the bird and bat observations are provided in Text Annexes 5 and 6.

4.6.3 Measures to avoid, reduce and/or compensate for significant negative impact

Flora. Measures to avoid, reduce and/or compensate for significant negative impact by the PEA are described in Subsection 4.5.3 ‘Measures to avoid, reduce and/or compensate for significant negative impact‘ of Section 4.6 ‘Landscape‘.

Fauna. Measures being planned in order to avoid, reduce and/or compensate for the PEA‘s negative impact on birds and bats are described in Tables 4.6.3.1 and 4.6.3.2 and shown in Figure 4.6.3.1.

Table 4.6.3.1. List of measures to avoid and/or reduce the negative impact of the PEA on bats

Item No	WT No	Impact	Measures
1	N2	None	
2	N3	None	

Item No	WT No	Impact	Measures
3	N4	None	
4	N5	None	
5	N8	None	
6	N9	None	
7	N10	None	
8	N12	None	
9	N13	None	
10	N14	None	
11	N15	None	
12	N16	None	
13	N19	The WT's location is within the distance of 200 m from the forest (+blade length)	Stopping of the WT[1]
14	N20	The WT's location is within the distance of 200 m from the forest (+blade length)	Stopping of the WT [1]
15	N21	None	
16	N22	The WT's location is within the distance of 200 m from the forest (+blade length)	Stopping of the WT [1]
17	N23	None	Stopping of the WT [1]
18	N24	The WT's location is within the distance of 200 m from the forest (+blade length)	Stopping of the WT [1]
19	N25	The WT's location is within the distance of 200 m from the forest (+blade length)	Stopping of the WT [1]
20	N26	The WT's location is within the distance of 200 m from a water body (+blade length)	Stopping of the WT [1]
21	N27	The WT's location is within the distance of 200 m from a water body (+blade length)	Stopping of the WT [1]
22	N28	The WT's location is within the distance of 200 m from a water body (+blade length)	Stopping of the WT [1]
23	N29	The WT's location is within the distance of 200 m from a water body (+blade length)	Stopping of the WT [1]
24	N30	The WT's location is within the distance of 200 m from the forest (+blade length)	Stopping of the WT [1]
25	N31	The WT's location is within the distance of 200 m from the forest (+blade length)	Planning of the WT was abandoned
26	N32	The WT's location is within the distance of 200 m from a water body and forest (+blade length)	Planning of the WT was abandoned

[1] The WTs will be equipped with an efficient system for the automated identification of bats which will stop the VW in critical cases (if > 3 flights per minute are recorded). The measure will be applied in dark periods from 30 April until 1 October.

Item No	WT No	Impact	Measures
27	N32-1	The WT's location is within the distance of 200 m from a water body (+blade length)	Stopping of the WT [1]
28	N32-2	Stopping of the WT [1]	
29	N33	Stopping of the WT [1]	
30	N34	The WT's location is within the distance of 200 m from the forest (+blade length)	Stopping of the WT [1]
31	N35	The WT's location is within the distance of 200 m from the forest (+blade length)	Stopping of the WT [1]
	All WTs	Seeking not to attract more insects and bats that feed on them	No additional lighting, only lighting necessary to ensure aircraft safety[2]

Compensatory measure:

In order to create safer conditions for bats during the day, it is proposed that, during their migration periods, a compensatory measure to reduce the negative impact is proposed: raising special boxes 'bat houses' (of standard type). Their locations must be at the distance of at least 30 km from the boundaries of the wind farm being planned. At least 90 bat houses are recommended, 3 per tree, at 30 locations.

Table 4.6.3.2. List of measures to avoid and/or reduce the negative impact of the PEA on birds

Item No	WT No	Impact	Measures
1	N2	None	
2	N3	None	
3	N4	None	
4	N5	None	
5	N8	Flights of the lesser spotted eagle were observed west of the WT being planned	Instal an early bird detection and WT shutdown system
6	N9	None	
7	N10	None	
8	N12	Flights of the lesser spotted eagle were observed west of the WT being planned	Instal an early bird detection and WT shutdown system
9	N13	Falls within the hobby's nest safety zone	Instal an early bird detection and WT shutdown system
10	N14	None	
11	N15	None	
12	N16	None	
13	N19	Falls within the hobby's nest safety zone; flights of the lesser spotted eagle and common	Instal an early bird detection and WT shutdown system

[2] Lighting of the wind farm or towers of individual WTs, or extending the period when the lights on the WTs are switched on for the aircraft safety purposes increases the possibility that the light will attract insects and also bats that feed on them. Lighting fixtures with periodically flickering red lights are installed on wind turbines for aircraft safety. If the periodicity of flickering of the lights as stated in the WT operating documents is maintained, no insects and bats are attracted.

Item No	WT No	Impact	Measures
		kestrel have been frequently observed	
14	N20	Falls within the hobby‘s nest safety zone	Instal an early bird detection and WT shutdown system
15	N21	Falls within the hobby‘s nest safety zone	Instal an early bird detection and WT shutdown system
16	N22	None	
17	N23	None	
18	N24	None	
19	N25	None	
20	N26	None	
21	N27	None	
22	N28	Falls within the distance of 3 km from the boundary of Natura 2000 SPA Biržai Wood which is important for the protection of the black stork	Stop operation of the WT in the daylight in the birds‘ incubating and juvenile rearing period (20 March – 31 August)
23	N29	Falls within the distance of 3 km from the boundary of Natura 2000 SPA Biržai Wood which is important for the protection of the black stork	Stop operation of the WT in the daylight in the birds‘ incubating and juvenile rearing period (20 March – 31 August)
24	N30	Falls within the distance of 3 km from the boundary of Natura 2000 SPA Biržai Wood which is important for the protection of the black stork	Stop operation of the WT in the daylight in the birds‘ incubating and juvenile rearing period (20 March – 31 August)
25	N31	Falls within the distance of 2 km from the boundary of Natura 2000 SPA Biržai Wood which is important for the protection of the lesser spotted eagle and the black stork; aggregate impact possible	Planning of this WT has been abandoned
26	N32	Falls within the distance of 2 km from the boundary of Natura 2000 SPA Biržai Wood which is important for the protection of the lesser spotted eagle and the black stork; aggregate impact possible	Planning of this WT has been abandoned
27	N32-1	Falls within the distance of 3 km from the boundary of Natura 2000 SPA Biržai Wood which is important for the protection of the black stork; aggregate impact possible	Stop operation of the WT in the daylight in the birds‘ incubating and juvenile rearing period (20 March – 31 August)
28	N32-2	Falls within the distance of 3 km from the boundary of Natura 2000 SPA Biržai Wood which is important for the protection of the black stork; aggregate impact possible	Stop operation of the WT in the daylight in the birds‘ incubating and juvenile rearing period (20 March – 31 August)

Item No	WT No	Impact	Measures
29	N33	Aggregate impact possible	Set up an early bird detection and WT shutdown system
30	N34	Falls within lesser spotted eagles' feeding areas	Set up an early bird detection and WT shutdown system
31	N35	Aggregate impact possible	Set up an early bird detection and WT shutdown system

Prior to commencement of the PEA, a programme on monitoring of birds and bats in the territory must be prepared and approval on it obtained from the EPA in accordance with the '*Description of the Criteria for Significant Negative Impact of Wind Farms on Birds and Bats and the Requirements for the Application of Measures to Prevent and Reduce the Significant Negative Impact on Bird and Bats and for Investigations'*.

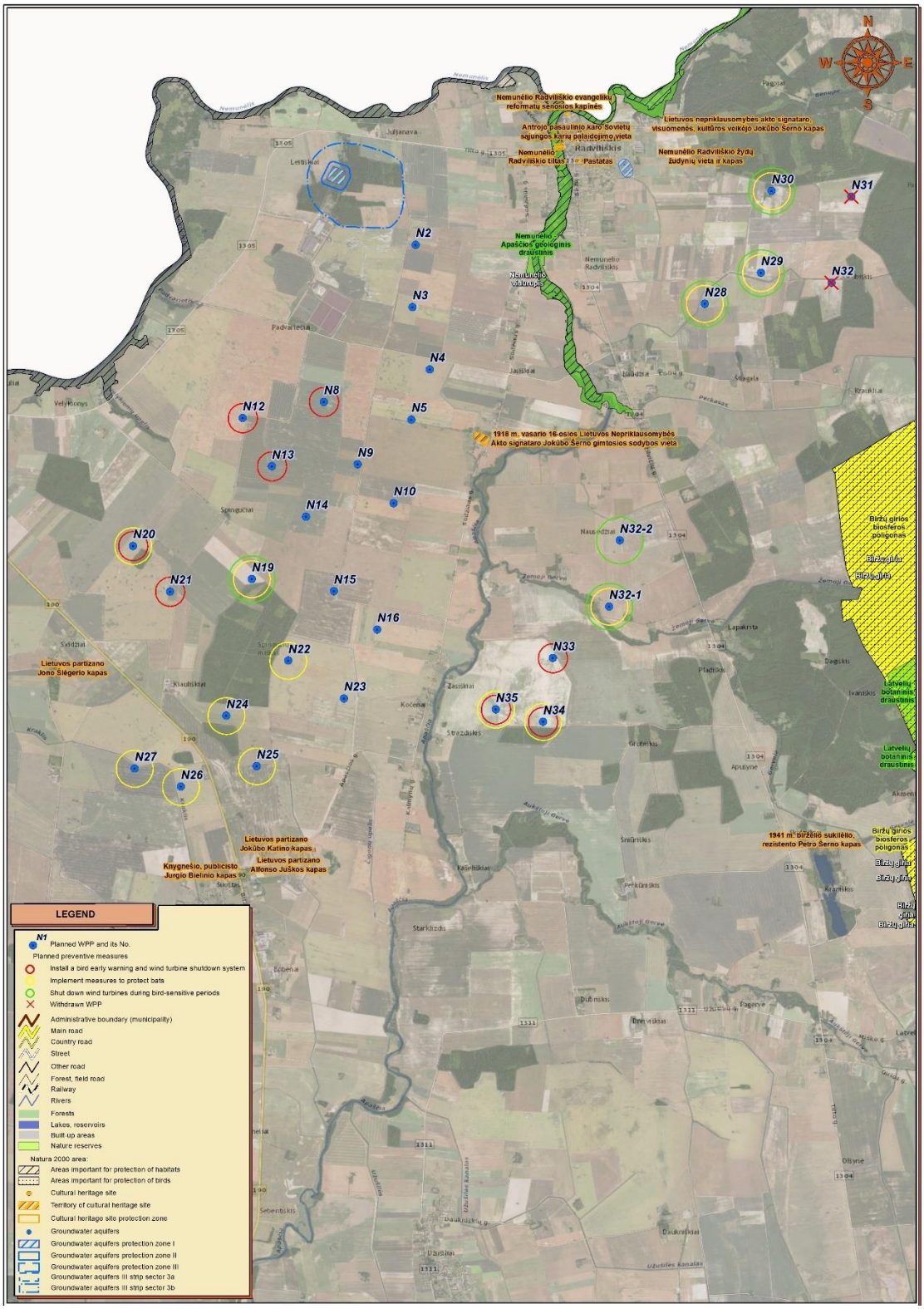


Figure 4.6.3.1. Schematic representation of the planned measures to avoid and reduce the PEA's negative impact on birds and bats

Conclusion: *No significant negative impact on plants in the PEA area is anticipated. There is no protected flora at the locations of the WTs being planned.*

Seven bat species have been identified in the PEA area and its environs on completion of annual observations of bats. Locations of WTs N19, N22, N24, N30, N31 and N32 are within the distance of 200 m (+ blade length)from the forest; locations of WTs N26, N27, N28, N29, N32 and N32-1 being planned are within the distance of 200 m (+ blade length) from the water bodies, i. e. potential bat habitats. These WTs can produce a negative impact on bats, therefore, it is necessary to apply the measures to avoid, reduce and/or compensate the negative impact as stated in Subsection 4.6.3 of this Report.

Taking into account the ornithologists' recommendations for the protection of the black stork and the lesser spotted eagle, as locations of WTs N31 and N32 would be too close to SPA Biržai Wood, a Natura 2000 area, he PEA Organiser has abandoned planning of the aforesaid WTs in the stage of obtaining approvals for this Report. According to conclusions on ornithological observations of Media ir aplinkos projektai, VšĮ's experts, operation of some of the WTs in the PEA area may have an impact on life of birds of prey (such as the lesser spotted eagle and the hobby) and the black stork, therefore, it is necessary to apply the measures to avoid, reduce and/or compensate the negative impact as stated in Subsection 4.6.3 of this Report. Having regard to the experts' recommendations and comments and proposals received from the State Protected Areas Authority under the Ministry of Environment concerning SPA Biržai Wood, measures to avoid, reduce and/or compensate for the PEA's negative impact on birds and bats are planned as described in Section 4.6.3 and shown in Figure 4.6.3.1.

Provided that measures to avoid, reduce and/or compensate for the aggregate impact of the two wind farms (a wind farm of up to 37 WTs planned by Biržų vėjas, UAB in Parovėja and Nemunėlio Radviliškis wards in Biržai District Municipality and three WTs planned by Bionalis UAB in Nemunėlio Radviliškis ward in Biržai District Municipality) are implemented, the aggregate negative impact upon the black stork, the lesser spotted eagle and other birds would be insignificant.

Sites of protected fauna and flora species as recorded in the SRIS must not be damaged during the installation of the engineering infrastructure required for the WT operation. Only temporary local disturbance of animals' life is allowed during construction works (after the source of disturbance ceases to exist, the animals usually return to the previous place of living). Provided that experts' recommendations are complied with and all the planned measures to avoid and reduce potential negative impact are implemented during the PEA facilities' construction and operation, no significant negative impact on biodiversity is anticipated.

4.7 Protected Areas

4.7.1 Description of current situation

The wind turbines being planned do not fall within and do not border Natura 2000, the European network of protected areas and their safety zones. The shortest distance from the location of a WT being planned (N2) to the Nemunėlis–Apaščia geological reserved is approx. 1.2 km. The nearest WT in relation to a special area of conservation (SAC) - the Nemunėlis River Midstream

Area (locality code LTBIR0003) is WT N2 located 1.2 km west of the SAC. Location of WT N32 that had been planned would have been at the distance of about 1.7 km southeast of Biržai Wood, a Natura 2000 area, the boundaries of which coincide with the boundaries of the Biržai Wood biosphere reserve approved by Order of the Minister of Environment of the Republic of Lithuania No D1-590 of 15 November 2004 'Regarding founding of biosphere reserves in Babtai-Varluva, Balbieriškis, Biržai and Būda-Pravieniškės forests and approval of the boundaries of the biosphere reserves', however, the PEA Organiser has abandoned planning of WT N31 and N32. Therefore, the wind farms nearest to this territory would be N29 (2.1 km) and N30 (2.73 km) (Figure 4.7.1.1).

Descriptions of the protected natural areas and Natura 2000 sites nearest to the PEA area, with distances, are provided in Table 4.7.1.1 and Figure 4.7.1.1.

Table 4.7.1.1. Protected natural areas and Natura 2000 sites nearest to the PEA area.

Protected nature areas	**Brief characteristics of the protected natural area**	**Shortest distance between the protected natural area and WTs/TS being planned**
Nemunėlis – Apaščia geological reserve (ID 0210100000009)	Area 296.37 ha, established in 1960. Global importance of the protected area or part thereof: special area of conservation. Purpose of establishment: to protect Upper Devonian dolomite and marl exposures in sections of the Nemunėlis River and the Apaščia River.	~ 1.2 km E of WT N2 being planned
Biržai Wood biosphere reserve (ID 0900000000001)	Area 17683.68 ha, established in 2004. Purpose of establishment: to preserve the ecosystem of Biržai Wood, in particular populations of the black stork (*Ciconia nigra*), hazel grouse (*Bonasia bonasia*), crane (*Grus grus*), Ural owl (*Strix uralensis*), Eurasian pygmy owl (*Glaucidium passerinum*) and grey-headed woodpecker (*Picus canus*).	~ 2.1 km SE of WT N29 being planned
Latveliai botanical reserve (ID 0210500000002)	Area 10.01 ha, established in 1992. Global importance of the protected area or part thereof: special area of conservation and special protection area Purpose of establishment: to preserve a forest flora complex with rare species sites in the West Aukštaitija geobotanical region.	~ 2.9 km E/SE of WT N32-1 being planned
Ąžuolynė botanical-zoological reserve (ID 0210700000037)	Area 81.56 ha Name of an integrated protected area of which this reserve forms part: Biržai regional park Global importance of the protected area or part thereof: December 1998. Purpose of establishment: to preserve broadleaved and mixed forests, and boggy deciduous forest habitats, Skrebiškiai Alkakalnis, and protected fauna species: the black stork and the lesser spotted eagle.	~ 1.4 km W/NW of TS2 being planned
Biržai regional park (ID 0700000000006)	Area 14405.76 ha Global importance of the protected area or part thereof: spcial area of conservation. Established on 24 September 1992 Purpose of establishment: to preserve the landscape of the karst region of Lithuania, its natural ecosystem and cultural heritage sites.	~ 1.4 km W/NW of TS2 being planned
Natura 2000 sites		

Protected nature areas	Brief characteristics of the protected natural area	Shortest distance between the protected natural area and WTs/TS being planned
Nemunėlis – Apaščia geological reserve (ID 0210100000009)	Area 296.37 ha, established in 1960. Global importance of the protected area or part thereof: special area of conservation. Purpose of establishment: to protect Upper Devonian dolomite and marl exposures in sections of the Nemunėlis River and the Apaščia River.	~ 1.2 km E of WT N2 being planned
Special Protection Area **Biržų giria (Biržai Wood)** (ID 1100000000028, site code LTBIRB001)	Area 17683.68 ha, established in 2005. Purpose of establishment: Black stork (*Ciconia nigra*), lesser spotted eagle (*Aquila pomarina*), hazel grouse (*Bonasa bonasia*), corn crake (*Crex crex*), common crane (*Grus grus*), Ural owl (*Strix uralensis*), Eurasian pygmy owl (*Glaucidium passerinum*), grey-headed woodpecker (*Picus canus*), Eurasian three-toed woodpecker (*Picoides tridactylus*)	~ 1.7 km E of TS3 being planned
Special Area of Conservation **Biržų giria (Biržai Wood)** (ID 1000000000188, site code LTBIR0006)	Area 17683.68 ha, established in 2005. Purpose of establishment: 9010 Western taiga, 9020 Broadleaved and mixed forests, 9050 Fennoscandian herb-rich forests, 9080 7, Lynx, Otter, Scarce fritillary, Large Copper	~ 1.7 km E of TS3 being planned
Special Area of Conservation **Ąžuolynės miškas (Ažuolynė Forest)** (ID 1000000000302, site code LTBIR0008)	Area 91.98 ha Purpose of establishment: 9020 Broadleaved and mixed forests 9080 Fennoscandian deciduous swamp woods	~ 1.4 km W/NW of TS2 being planned
Special Area of Conservation **Nemunėlio vidurupis (Nemunėlis River Midstream Area)** (ID: 1000000000115, site code LTBIR0003)	Area 377.94 ha, established on 1 December 2004. Purpose of establishment: 6210 Meadow steppe, 6430 Hydrophilous tall herb, 6450 Alluvial meadows, 6510 Lowland hay meadows, 8210 Calcareous rocky slopes, 9180 Tilio-Acerion forests of slopes, screes and ravines, 91E0 Alluvial forests, 91F0 Flooded elm forests, Thick-shelled River Mussel, European Bullhead, Kirtiklis, Spined Loach	~ 1.2 km E of WT N2 being planned

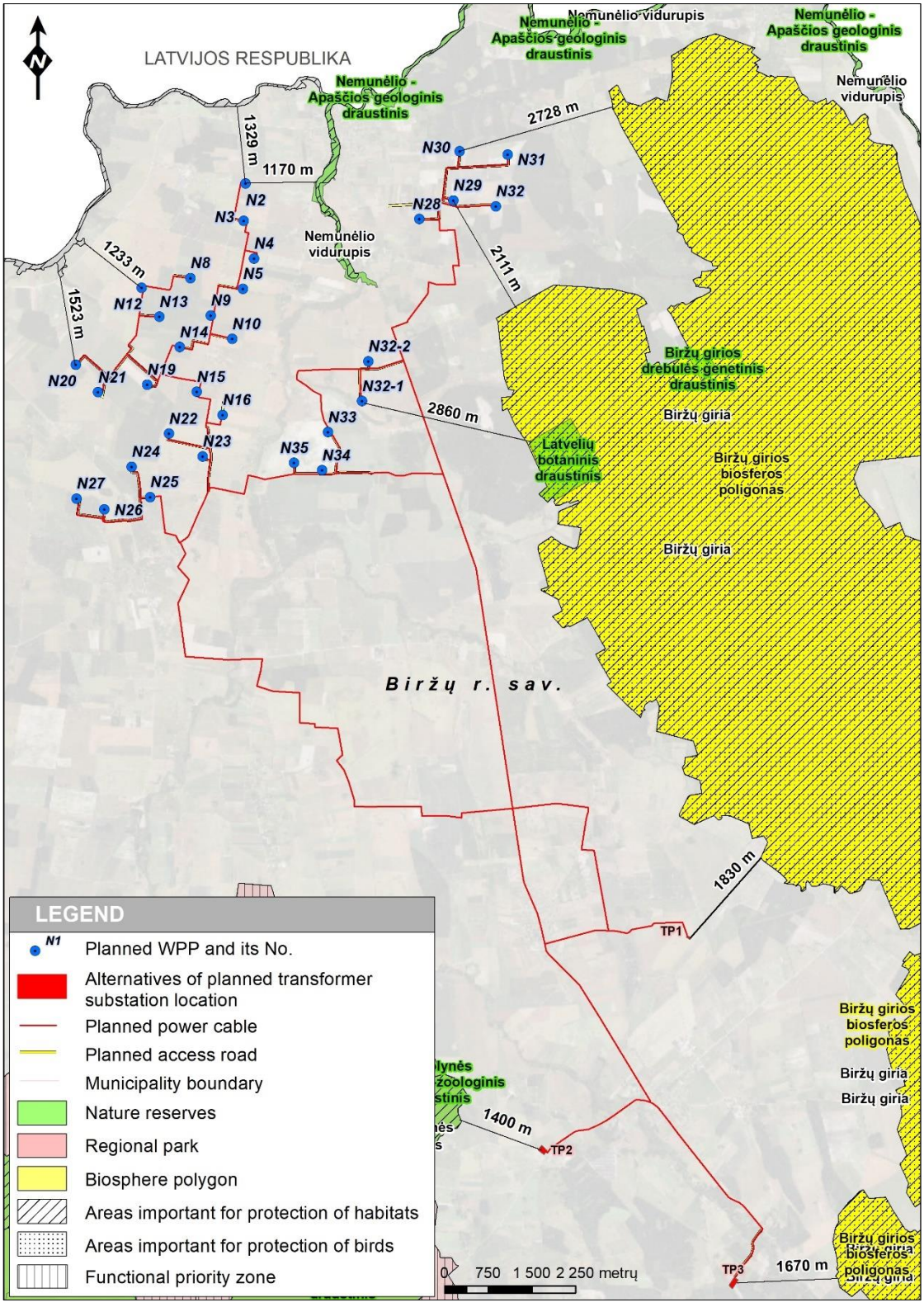


Figure 4.7.1.1. Locations of the PEA facilities and engineering infrastructure required for their operation in relation to protected natural areas and Natura 2000 sites

Habitats. Isolated meadow and forest habitats of Community importance have been identified in the PEA area: Lowland hay meadows (code 6510), Fennoscandian lowland species-rich dry to mesic grasslands (code 6270), Fennoscandian deciduous swamp woods (code 9080), Tilio-Acerion forests of slopes, screes and ravines (code 9180), Flooded elm forests (code 91F0), Alluvial forests (code 91E0), Western taiga (code 9010), and Bog woodland (code 91D0). There are many habitats of Community importance in the Biržai Wood adjacent to the PEA area. The WTs being planned and the related engineering infrastructure do not fall within the territories of habitats/areas of Community importance (Figure 4.7.1.3).

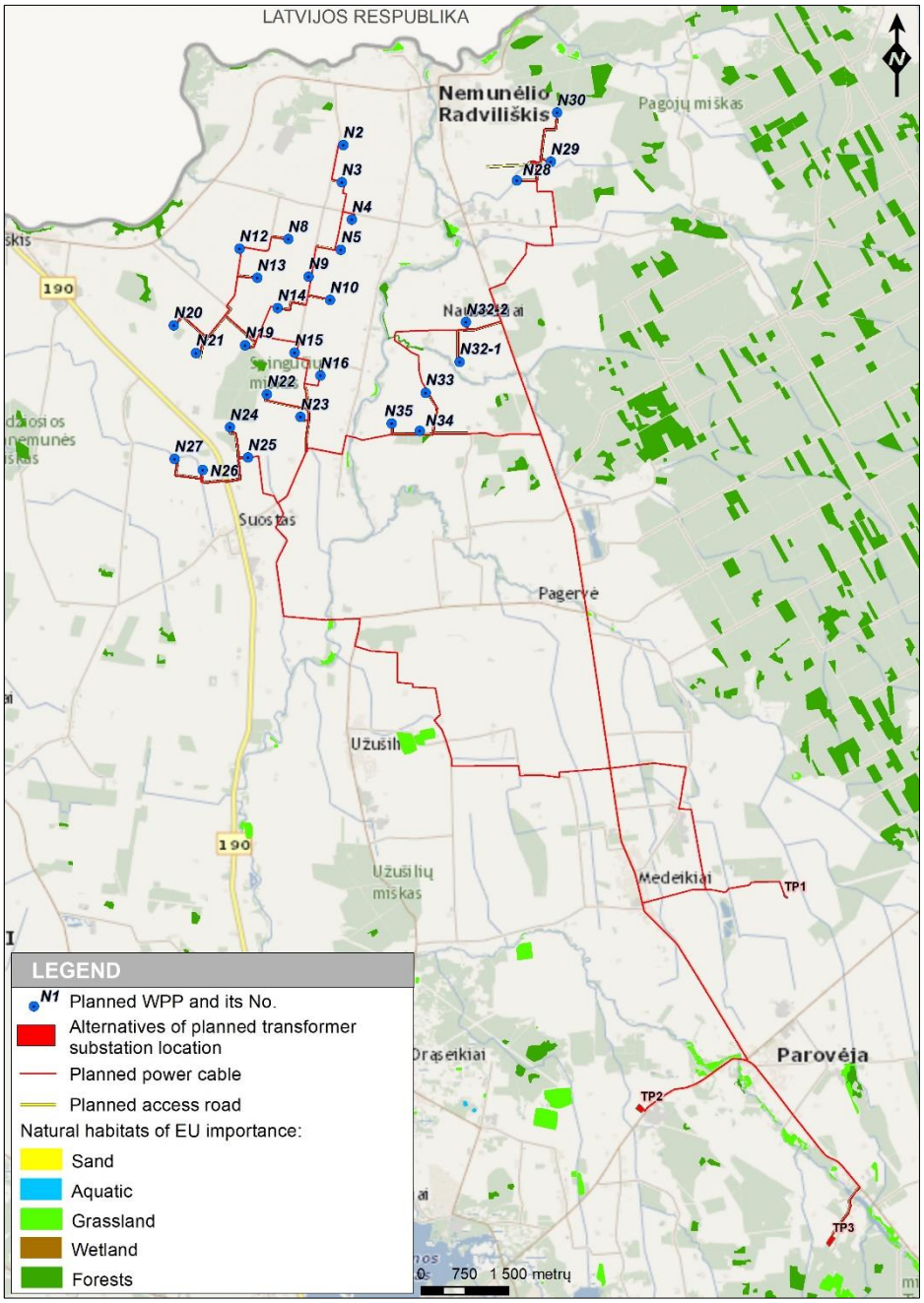
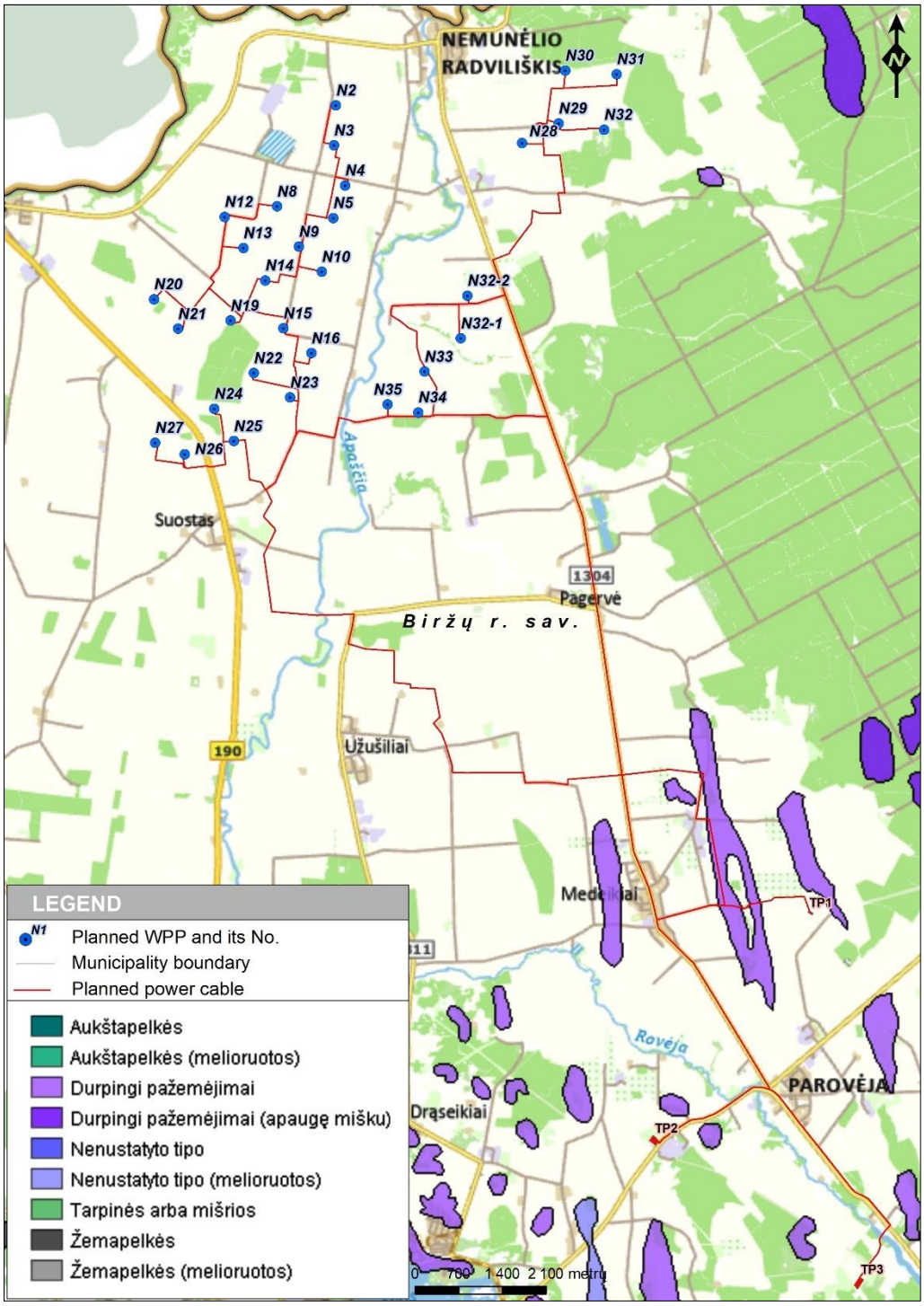


Figure 4.7.1.2. Locations of the PEA facilities and engineering infrastructure required for their operation in relation to sites of Community importance

Bogs. There are no bogs or peaty low-lying areas at the WT sites in the PEA area. Transformer substation options TP1, TP2 and TP3 are at the distance of 300–800 m from such areas. The planned cable line will cross peaty low-lying areas at some places. Position of the WTs and the required infrastructure in relation to the bogs or peaty low-lying areas is shown in Figure 4.7.1.3.



4.7.1.3 pav. Locations of the PEA facilities and engineering infrastructure required for their operation in relation to bogs and peaty low-lying areas

4.7.2 Anticipated significant impact

The territory of the wind farm being planned does not fall within and does not border Natura 2000 sites. Biržai Wood, a Natura 2000 site, is at the distance of approx. 2.1 south-east of WT N29. The shortest distance from the location of a WT being planned (N2) to the Nemunėlis River Midstream area, a special area of conservation of Natura 2000 (ID 1000000000115, site code LTBIR0003), is approx. 1.2 km. Having regard to the initial assessment results and comments received from the EIA stakeholders during the period of obtaining approvals for the EIA Report, the PEA Organiser has decided to abandon planning of four WTs (N1, N6, N11, N17) that were within the distance of 1 km from SAC Nemunėlis River Midstream area; in the course of the assessment, considering recommendations received from the ornithologists and PEA stakeholders, WTs N31 and N32 were abandoned as well.

No significant negative impact on biotopes in the environs of the PEA is anticipated. Arable land prevails in the PEA area. Engineering networks required for the PEA purposes (access roads and sections thereof, underground power cables) will be constructed near existing roads and across private and/or public land plots. The PEA facilities will not be constructed in the environs of sites of Community importance. The WTs being planned and the requisite engineering infrastructures (access roads and sections thereof, underground power cables, TS) will not fall within forest areas (forest land). There are no bogs or peaty low-lying areas at the WT locations; underground power cable lines cross peaty low-lying areas at some places (Figure 4.7.1.4). No physical or chemical impact is anticipated bogs or low-lying areas in the adjacent territories.

Conclusion: *The WTs being planned and requisite engineering infrastructure do not fall within and do not border protected areas and European protected areas network Natura 2000 sites and their safety zones, and do not fall within any sites of Community importance. The PEA will not produce any significant negative impact on these areas. WTs N29, N28, N30, N32-1 and N32-2 are being planned at a distance longer than 2 km from Biržai Wood, a SPA under Natura 2000, which is important for the protection of lesser spotted eagles and black storks, therefore, measures to avoid and reduce a negative impact are planned for these WTs. Having regard to ornithologists' recommendations, in order to protect lesser spotted eagles and black storks, the PEA Organiser abandoned planning of WTs N31 and N32.*

4.7.3 Measures to avoid, reduce and/or compensate for significant negative impact

No significant negative impact on protected areas, Natura 2000 sites and their safety zones, and areas of habitats of Community importance is anticipated, therefore, additional measures to avoid and reduce a negative impact of the PEA, other than those specified in Section 4.6.3, are not required.

4.8 Material Assets

4.8.1 Description of current situation

The WTs and the related engineering infrastructure (underground power cables, access roads, TS) do not fall into and do not border any residential, recreational or public territories. Information on the nearest social infrastructure facilities is provided in Subsection 3.1.4. 'Areas adjacent to

the PEA area', Table 3.1.4.1 'Nearest residential environment *(residential buildings) in relation to the WTs being planned' and Table* 3.1.4.2 'Nearest public *buildings in relation to the WTs being planned"*.

The PEA Organiser maintains requisite distances according to the law and/or has acquired title to land plots or will obtain owners' consents in accordance with Article 49(9) of the Law on Energy from Renewable Sources: wind turbines with installed capacity exceeding 30 kW must be constructed in a way that ensures that the shortest distance between the central axis of the tower and garden cottages, residential buildings, hotels, cultural buildings, schools (secondary and vocational schools, higher educational establishments), kindergartens, buildings for scientific/educational purposes, buildings for informal education, buildings for recreational, medical treatment, sports and religious purposes, special-purpose buildings related to accommodation of people (army barracks, imprisonment institutions), or premises having the aforesaid purposes in structures of other types, and recreational areas **is at least the height of the WT tower in metres multiplied by 4** except as the law provides for otherwise.

Article 49(9) of the Law on Energy from Renewable Sources Provided states that **provided that owners of the buildings do not object, and such no-objection is confirmed in writin**g, WT with installed capacity exceeding 30 kW can be constructed within a **distance shorter than the distance** specified in Article 49(9) but such distance may not be shorter than specified in Article 49(14) (**the height of a WT tower around the WT being planned**), provided that an agreement on ensuring compliance with public health requirements is concluded with the person interested in the generation of electricity by means of WTs.

The PEA area is crossed by a petroleum product pipeline and 110 kV and 330 kV overhead electricity transmission lines (Graphic Annex 6); land plots in which alternative TS locations have been identifies are nearest to these lines and their safety zones. A land reclamation system has been installed in the larger part of the PEA area; residential areas are connected by district and local roads.

Lands plots situated in the areas adjacent to the PEA area; arable land and meadows prevail. There is no necessity to change the land use due to the planned implementation of the PEA. It would be necessary to change the current land use - agricultural land if options TP1 and TP3 are selected.

Detailed information on potential impact of the WTs and relevant engineering infrastructure on surface water bodies is provided in Section 4.1 'Water'.

4.8.2 Anticipated significant impact

Implementation of the PEA can have a negative impact on the following material assets:

- land plots in which the PEA will be implemented, therefore, long-term lease agreements will be concluded with their owners;

- residential areas within the negative impact sphere in which compliance with public health requirements is not ensured. Asset purchase agreements will be concluded with owners of relevant land plots and buildings;

- land plots in which safety zones will be established due to the construction of underground cable lines, access roads and TS, and they will be subject to special conditions of land use. Agreements on consent/compensation will be concluded with owners of such land plots. Article 24(3) of the Law on Special Conditions of Land Use [44] states: *'A safety zone of an underground cable line is a belt of land extending along the underground cable line the boundaries of which are one metre to each side of this line, water over it, and soil under this line'. 'A safety zone of a transformer substation, a switchyard or a converter station coincides with the territory built up with the structures and facilities of the transformer substation, the switchyard or the converter station as well as the air space above it. No safety zones shall be established for enclosed transformer substations"*. According to Article 18(5) of the same law [44], '*a safety zone of local roads of Category IV is a belt of land extending 3 metres to each side of the road edges'*. The underground power cable lines are planned with the maximum use of existing roads and their safety zones, therefore, regulations governing the use of the cable lines safety zones will not create significant new restrictions on operations;

- land reclamation systems and facilities in the PEA area. The existing land reclamation systems and facilities will be preserved to a maximum extent possible, any damaged ones will be reconstructed and restored to their previous condition; a technical design to be prepared will include a section on land reclamation structures to be restored or reconstructed due to PEA-related works;

- existing roads that will be used for the construction machinery traffic. Roads for access to the PEA will be built or reconstructed in a way that meets requirements set for the movement of heavy-weight vehicles. On completion of the PEA construction works, these roads will be reconstructed and/or reinforced as necessary. It is important to note that some local roads will be used not only in the construction phase but also for periodic maintenance purposes, therefore, their condition will be monitored in both construction and operation phases;

- land plots in which temporary damage is possible due to the PE construction works. Owners of such land plots will be compensated for the damage, which will be repaired (prior to commencement of economic activity).

There are no statistical data showing that real estate prices have dropped due to wind turbines used in this area. Real estate value is mainly influenced by its geographical-administrative position, land plot sizes, age of buildings, unemployment and residents' income levels in the district, infrastructure, schools etc.

Implementation of the PEA would attract investments, create jobs – both direct and indirect, permanent and temporary, increase tax revenues; long-term lease and compensation agreements would be concluded; support for local community projects is projected, which would lead to improvement of material assets (for more details, see Subsection 4.10.2.2. 'Economic, social and psychological factors'.

Conclusion: *The WTs and TS being planned do not fall within residential, recreational or public territories. In all technical options, the area of impact of the PEA-generated noise that exceeds set limits covers one residential area (land plots with buildings), therefore, measures to avoid and/or reduce the negative impact must be implemented (for more details, see Section 4.10). One of such measures is to buy the relevant residential buildings from the owners, demolish them and deregister from the Register of Immovable Property, and change the land use. There are no other important material assets in the territory concerned, apart from the existing land reclamation system, electricity networks, and district and local roads. On assessment of all WT technical options, it has been concluded that, subject to implementation of the preventive and compensatory measures envisaged, none of the options would produce a significant negative impact on material assets in both phases of the PEA, i. e. construction and operation of WTs and relevant infrastructure*.

4.8.3 Measures to avoid, reduce and/or compensate for significant negative impact

- according to Article 13^1 of the Law on Energy from Renewable Sources, the PEA organiser (producer that generates electricity by means of wind turbines) shall pay an electricity generation fee (‘generation fee‘) to the generation fees administrator who shall make payments to community organisations (for their projects) under financial support agreements (during operation);
- long-term lease agreements with owners of the land plots parts of which will be occupied by the PEA (during construction and operation);
- consent/compensation agreements with owners of the land plots that (in full or in part) will fall within the safety zones of the new underground power cables, access roads and TS, and will be subject to special conditions of land use (prior to the start of construction);
- any damaged land reclamation systems will be reconstructed and reinstated into their previous condition according to the law (during construction works);
- roads of access to the WTs will be built or reconstructed in order to meet the requirements set for heavyweight vehicles. On completion of construction works, the roads will be maintained (during construction and operation);
- should any damage be caused by the PE construction works, owners of affected land plots will be compensated for the damage, which will be repaired (during construction works).

4.9 Immovable Cultural Heritage

4.9.1 Description of current situation

According to the Register of Cultural Heritage [68], there is no cultural heritage sites/objects registered in the land plots where the WTs and relevant infrastructure are planned to be constructed; the PEA facilities do not fall within the safety zones of any cultural heritage sites/objects (or a subzone of protection against physical impact/visual protection subzone) (Graphic Annex 3). The distance between the nearest cultural heritage sites and the WT sis at least 0.6 km. Detailed information is provided in Table 4.9.1.1 below.

Table 4.9.1.1. Immovable cultural heritage sites nearest to the PEA area (WTs) [68]

Immovable cultural heritage	Immovable cultural heritage site protection type and valuable properties	Area	Distance to WT
Site and grave of the massacre of Jews of Nemunėlio Radviliškis (site ID 11874)	Historical (determining importance - important); Memorial (based on which its significance has been determined); Remains in a grave; in August 1941, Jews of Nemunėlio Radviliškis were murdered here by the German occupational authority. Based on various sources, around 80 Jews were killed here.	As registered in RCH: 153.00 m^2	~ 0.6 km NW of N30
Farmstead where Jokūbas Šernas, signatory of the Act of Independence of Lithuania of 16 February 1918, was born (site ID 23135)	Memorial (determining importance - important); Home of Jokūbas Šernas (1888-1926), a lawyer, public figure, signatory of the Act of Independence of Lithuania of 16 February 1918. He studied at Nemunėlio Radviliškis primary school and in 1903 was admitted to Sluckas high school. Was expelled from the latter and graduated from private Tartu high school in 1910-. <...>.	As registered in RCH: 12,711.00 m^2	~ 0.7 km E/SE of N5
Grave of Alfonsas Juška, a Lithuanian partisan (site ID 32535)	Historical (determining importance - important); Memorial (determining importance - important); Remains of partisan Alfonsas Juška; Alfonsas Juška, son of Julius, born in 1914, lived in Spingučiai, Nemunėlio Radviliškis district, Biržai county. Was part of Pranas Variakojis platoon of partisans. Killed on 12/12/1944 during a battle with the Soviet NKVD unit in Augustas Trušinskas farmstead in Padvariečiai village, Nemunėlio Radviliškis ward, Biržai district. Out of 8 partisans of the platoon, 3 were killed and 5 were able to retreat.	As registered in RCH: 4.94 m^2	~ 0.9 km south of N25
Grave of Jokūbas Katinas, a Lithuanian partisan (site ID 32536)	Historical (determining importance - important); Memorial (determining importance - important); Remains of partisan Jokūbas Katinas; Jokūbas Katinas, born in 1923, lived in Rundelė (Svidžiai?), Nemunėlio Radviliškis district, Biržai county. Was a platoon commander in Jonas Krivickas company. Killed in April 1944.	As registered in RCH: 4.13 m^2	~ 0.9 km S of N25
Grave of Jurgis Bielinis, a publicist and book smuggler during the Lithuanian press ban (site ID 10831)	Art (determining importance - typical); Historical (determining importance - important); Memorial (determining importance - important); The memorial on the northern side consists of a stone tombstone in the form of a pyramid with a forged metal cross; on the southern side, there is a memorial plaque with Jurgis Bielinis portrait and a text: „<...>“. Jurgis Bielinis‘ remains. In the cemetery of Suostas church, there is a grave of Jurgis Bielinis, a book smuggler and publicist, born on 16/03/1846 in Purviškiai, Nemunėlio Radviliškis district, who was known as the ‚Kingo f Books‘, the most famous book smuggler of the period when Lithuanian press was banned, who was the first to proclaim the idea of Lithuania‘s independence. <...>.	As registered in RCH: 6.00 m^2	~ 1.1 km SE of N26
Kraukliai glass workshop site, so-called Glass Furnace (site ID 2811)	Architectural (determining importance); Landscape; Elements of land and its surface – a cultural layer (up to 1.9 m thick, consisting of dark soil with remains of a glass melting furnace – stone pavement, clay floor, stones put together, either bound with clay or loose, remains of logs placed	As registered in RCH: 12,800.00 m^2	~ 2.2 km SE of N29

Immovable cultural heritage	Immovable cultural heritage site protection type and valuable properties	Area	Distance to WT
	horizontally – and with finds: glass slivers, melting bars, mold and mold fragments, bricks.		
Nemunėlio Radviliškis bridge (site ID 24812)	Architectural (determining importance - important); Engineering (determining importance - important); Landscape; A volumetric spatial structure – a reinforced concrete arch with supports and metal handrails; stone pavement covered with asphalt.	As registered in RCH: 1,103.00 m^2	~ 1.7 km NE of N2

More detailed information about the immovable cultural heritage sites nearest to the TS being planned is provided in Table 4.9.1.2.

Table 4.9.1.2. Immovable cultural heritage sites nearest to the PEA area (TP being planned) [68]

Immovable cultural heritage	Immovable cultural heritage site protection type and valuable properties	Area	Distance to TS (km)
Graves of German soldiers from the First World War (site ID 40613)	Historical (determining importance - typical); Memorial (determining importance - typical)	As registered in RCH: 1 305,00 m^2	~ 2.6 km to TS1 in NW direction
Skrebiškiai Alkakalnis, so called 'Church Mountain' (site ID 1909)	Immovable, isolated object	Subzone of protection from physical impact: 2,100 m^2 RCH: 2,100.0 m^2 Visual protection sub-zone: 2,100.0 m^2	~ 1.5 km to TS2 in NW direction
Vinkšniniai burial mound, so-called 'Giants Cemetery', 'Swedish Cemetery' (site ID 5855)	Immovable, isolated object	As registered in RCH: 10 046,00 m^2	~ 1.1 km to TP3 in E direction

The wind farm will be connected to the TS by means of an underground power cable line, with the routes extending in parallel to existing roads. More detailed information about the immovable cultural heritage sites nearest to the cable line being planned is provided in Table 4.9.1.3 below.

Table 4.9.1.3 Immovable cultural heritage sites nearest to the PEA area (cable line being planned) [68]

Immovable cultural heritage	Immovable cultural heritage site protection type and valuable properties	Area	Distance to the cable line
Graves of German soldiers from the First World War (site ID 40613)	Historical (determining significance; typical); Memorial (determining significance; typical). Remains of German soldiers. 152 soldiers of the German Empire killed during WW I.	As registered in RCH: 1 305,0 m^2	~ 17 m in E direction
Grave of Liudvikas Šernas, a Lithuanian partisan (site ID 33700)	Historical (determining significance; typical); Memorial (determining significance); Remains of Liudvikas Šernas; Partisan of Petras Tupėnas-Ąžuolas platoon Liudvikas Šernas, born in 1915, lived in Miniškiai village, Parovėja district, Biržai country. Killed on 17/08/1945 in Biržai Wood, 19 kv., Tamošiūnai village, in a battle with the Soviet NKVD troops.	As registered in RCH: 3,0 m^2	~ 320 m in NE direction

Immovable cultural heritage	Immovable cultural heritage site protection type and valuable properties	Area	Distance to the cable line
	The status of a Volunteer Soldier was conferred on him on 25/06/2004.		
Grave of Petras Šernas, a June 1941 insurgent and resistance fighter (site ID 42573)	Historical (determining significance); Memorial (based on which its significance has been determined); Remains of an insurgent and resistance fighter Petras Šernas, born in 1892, lived in Pladiškis farmstead, Nemunėlio Radviliškis district, Biržai county. Took part in the June 1941 resurrection; was part of the unit of priest Titas Vinkšnelis from Nemunėlio Radviliškis. Resistance fighter: during the second Soviet occupation, maintained ties with the partisans and had to hide. Arrested on 23 July 1945 and was interrogated in NKVD Biržai division (county division?). Tried to escape when being transported to Nemunėlio Radviliškis and was shot dead. The status of a Volunteer Soldier was conferred on him on 12/05/1999.	As registered in RCH: 4,0 m^2	~ 360 m in E direction
Grave of Stanislovas Dagilis, poet and translator (site ID 10822)	Historical (determining significance); Memorial (based on which its significance has been determined); Remains of Stanislovas Dagilis. Poet and translator Stanislovas Dagilis was born on 17 March 1843 in Mažutiškiai, Biržai district. Studied in Kėdainiai and Sluckas Evangelical Reformat high schools. In 1869-1873 studied in the Faculty of History and Philology in St. Petersburg, worked in Summy high school in Ukraine, wrote articles on Lithuanian matters to Russian newspaper. Returned to Lithuania in 1894, collected folk songs, worked with „Aušra", „Draugija" and „Vilniaus žinios" periodicals, wrote poems and a rhymed humoristic story „Joninės Parovėjos karčiamoje" <...>.	As registered in RCH: 13,0 m^2	~ 380 m in NE direction
Grave of Alfonsas Juška, a Lithuanian partisan (site ID 32535)	Historical (determining significance); Memorial (based on which its significance has been determined); Remains of partisan Alfonsas Juška; Alfonsas Juška, son of Julius, born in 1914, lived in Spingučiai, Nemunėlio Radviliškis district, Biržai country. Partisan of Pranas Variakojis platoon. Killed on 12/12/1944 in a battle with the Soviet NKVD unit in Augustas Trušinskas farmstead in Nemunėlio Radviliškis district, Biržai district. Out of 8 partisans of the platoon, 3 were killed and 5 were able to retreat.	As registered in RCH: 4,94 m^2	~ 420 m in SW direction

4.9.2 Anticipated significant impact

The territories in which economic activity is planned (WTs, transformer substations, access roads and underground power supply lines) do not fall within the areas of cultural heritage sites recorded in the Register of Cultural Heritage and relevant safety zones, therefore, there will be no direct impact on these sites.

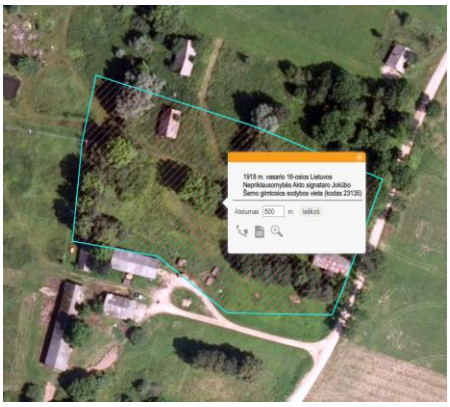
In the phase of obtaining agreements on the Notice of Commencement of the EIA from the EIA stakeholders, the Panevėžys-Utena Territorial Office of the Cultural Heritage Department under

the MoC specified, in its letter of 1 August 2022 No 2PU-773-(9.38-PU-E) (Text Annex 2) , that construction of the WTs within the distance of 1 km from cultural heritage sites would have a negative impact on the overview of the sites, therefore, it is necessary to move WT N5 away from the farmstead where Jokūbas Šernas, signatory of the Independence Act of 16 February 1918, was born (site ID 23135), and WT N30 away from the memorial for the massacred Jews of Nemunėlio Radviliškis (site ID 11874) by 1 km.

The farmstead where Jokūbas Šernas, signatory of the Independence Act of 16 February 1918, was born is in Jasiškiai village, Nemunėlio Radviliškis ward, Biržai District Municipality; the memorial for the massacred Jews of Nemunėlio Radviliškis is in Pagojai village, Nemunėlio Radviliškis ward, Biržai District Municipality (Figure 4.9.2.1). The nearest WTs N5 and N30 being planned are at the distance of 0.7 km and 0.6 km, respectively (Table 4.9.1.1).

According to Article 60 of the Law on the Special Conditions of Land Use, prohibitions on and restrictions of activities apply **only within the territory or locality of a cultural heritage site and/or their safety zones**.

As already mentioned, none of the WTs being planned falls within the territory or locality of a cultural heritage site and/or their safety zones, i. e. the sites listed above; they are at the distance from 0.6 km to 1.7 km from the boundary of such territory or safety zone (Table 4.9.1.1). Most of the cultural heritage sites within the PEA area or adjacent areas are burial/memorial places and farmsteads (Table 4.9.1.1), i. e. places that are not visited massively and frequently, also, they do not serve as overview points, and are located mostly in territories overgrown with groups of trees; the WTs would be seen only partially from these places.



Location of the farmstead where Jokūbas Šernas, signatory of the Independence Act of 16 February, was born [68]



The farmstead where Jokūbas Šernas, signatory of the Independence Act of 16 February, was



Location of the grave and memorial for the massacred Jews of Nemunėlio Radviliškis [68]



The grave and memorial for the massacred Jews of Nemunėlio Radviliškis

Figure 4.9.2.1. Photographs of the locations of the farmstead – the birthplace of Jokūbas Šernas, signatory of the Independence Act of 16 February 1918, and the grave and memorial for the massacred Jews of Nemunėlio Radviliškis [68]

The construction and operation of the WTs, TS and other infrastructure being planned will not have a significant negative impact on the valuable features of the immovable cultural heritage sites due to their specific character (burial and/or memorial places), the distance to them, and locations of the WTs (the shortest distance between the WTs and the sites is twice as long as the maximum overall height of a WT in Option C, therefore, even in the case of WT collapse, the sites would not be reached (Graphic Annexes 1 and 3).

Conclusion: *There are no registered cultural heritage sites in the land plots required for the WTs and related infrastructure being planned and these land plots do not fall within the safety zones of the cultural heritage sites and localities (the subzones of protection against physical impact and the visual protection subzone). No significant negative impact on the cultural heritage sites is anticipated in the PEA construction and operation phases irrespective of the PEA option selected.*

4.9.3 Measures to avoid, reduce and/or compensate for a negative impact

No measures to avoid, reduce and/or compensate for a negative impact are being planned.

4.10 Public Health

4.10.1 Description of current situation

There is no detailed and accurate information on demographic and health indicators of people living in the territories adjacent to the PEA area in the Lithuanian health databases, information systems or literature, therefore, an overview of the public health status includes indicators of the entire population of the Biržai District Municipality in which the wind farm is being planned (with the risk groups identified), comparing them with the national averages and data on the Panevėžys County and its municipalities. The public health overview has been prepared based on the latest data in the Public Health Monitoring Information System [45] and the latest statistics as well as publications and overviews provided by the Hygiene Institute (HI) [46].

The following indicators were selected for the characterisation of the public health situation:

- Demographic indicators:
  - ✓ Population size and composition;
  - ✓ Birth rates and death rates;
  - ✓ Average life expectancy of the population;
  - ✓ Structure of causes of death.

In order to analyse health indicators that are potentially PEA-specific, the following risk factors that potentially arise from the PEA are considered, such as noise, flickering of shadows, infrasound etc., and, therefore, morbidity that is relatively connected with the impact of physical pollution (vascular and blood diseases, mental illnesses, tumours etc.) is analysed.

- Morbidity indicators:
  - ✓ Morbidity by causes (overall morbidity (A00-T98); incidence of blood diseases (D50-D89); incidence of vascular diseases (I00-I99); incidence of hypertension diseases (I10-I15), incidence of mental illnesses (F00-F99), incidence of tumours (C00-D48).
- Morbidity of population risk groups:
  - ✓ Morbidity by causes and age (incidence of blood diseases in population aged 0-17 and aged 65 or older (D50-D89), incidence of vascular diseases (I00-I99), incidence of mental illnesses (F00-F99), incidence of tumours (C00-D48), incidence of hypertension diseases (I10-I15).

4.10.1.1 Analysis of demographic indicators

Population and its structure

Average annual population includes all the individuals whose permanent place of residence is the Republic of Lithuania in the reporting period. Number of permanent residents is a derivative indicator of demographic processes (birth rate, death rate and migration). The number of permanent residents in a territory is most accurately determined during a population and housing census.

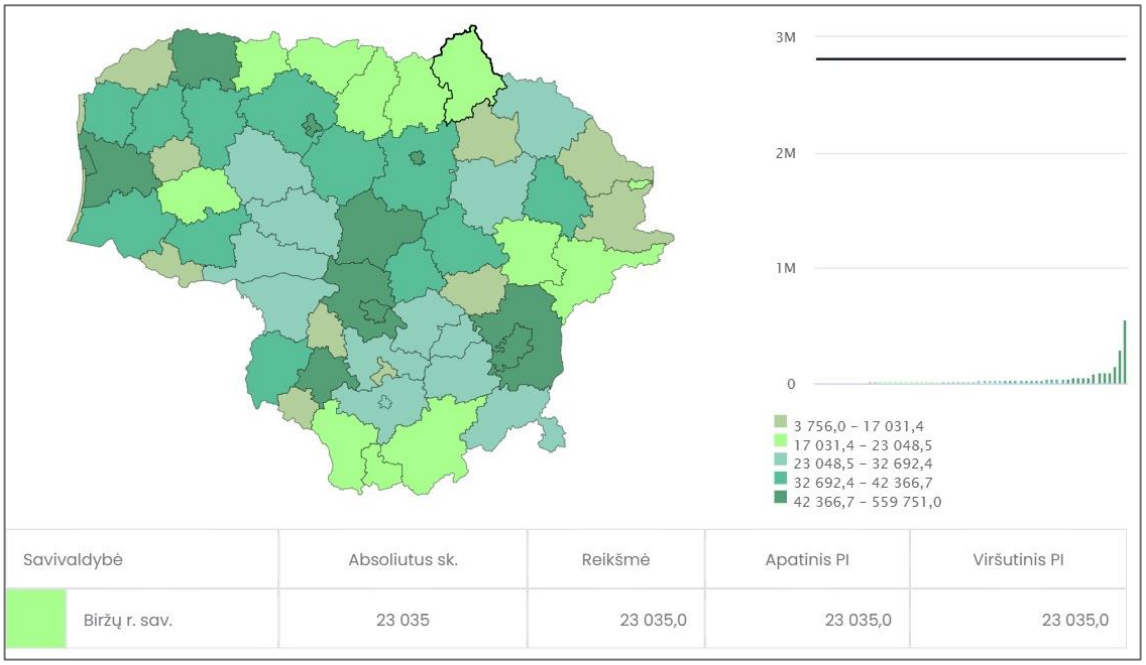
Change in population per 1,000 residents – a derivative indicator of demographic processes (birth rate, death rate and migration). The number of permanent residents in a territory is most accurately determined during a population and housing census.

Natural increment per 1,000 residents – the difference between the birth rate and the death rate.

During the past 5 years, population of the Biržai District Municipality has decreased by 1,177 residents: in 2017, the average annual population was 24,212, in 2021 – 23,035. Men accounted for 44.4 % and women for 55.6 % in 2021. The change in population per 1,000 was negative (-

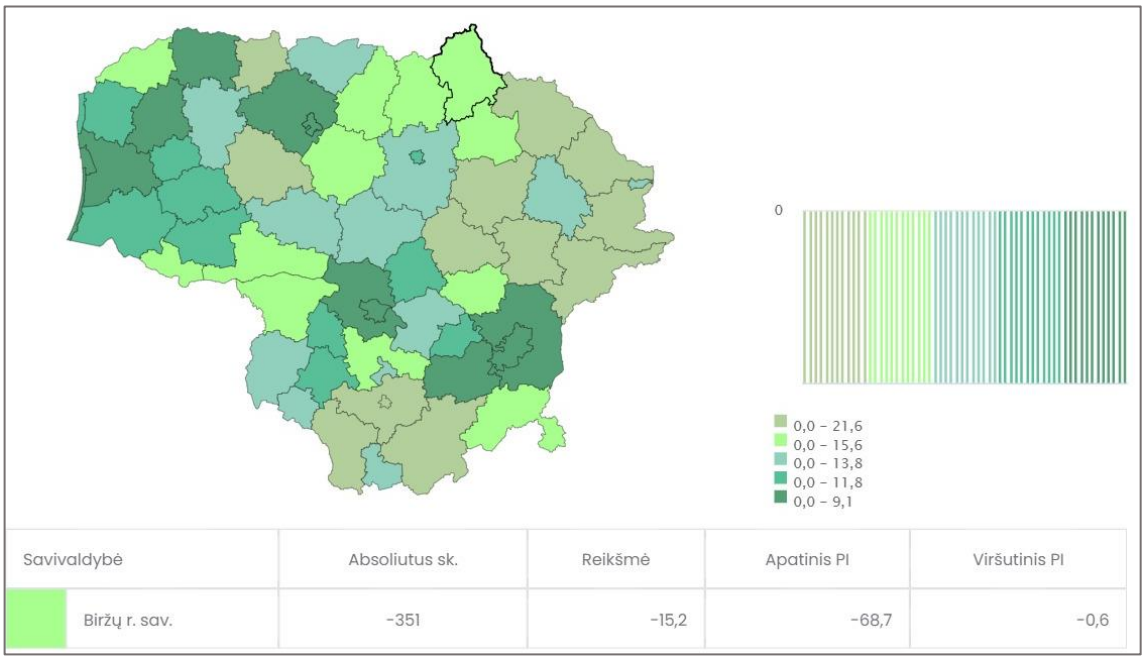
24.1 in 2021). The natural increment per 1,000 residents was also negative in 2021: -15.2. A more detailed analysis of population numbers and structure is provided in Table 2.8.1.1.1.

Compared with the national figures, the average annual population in the Biržai District Municipality in 2021 was in one of the lowest intervals and was 23,035 (Figure 4.10.1.1.1); the natural increment per 1,000 residents was in one of the higher intervals (Figure 4.10.1.1.2); and the change in population per 1,000 residents was in the top interval (Figure 4.10.1.1.3).



Savivaldybė	Absoliutus sk.	Reikšmė	Apatinis PI	Viršutinis PI
Biržų r. sav.	23 035	23 035,0	23 035,0	23 035,0

Figure 4.10.1.1.1. Average annual population of municipalities of Lithuania, 2021 [45]



Savivaldybė	Absoliutus sk.	Reikšmė	Apatinis PI	Viršutinis PI
Biržų r. sav.	-351	-15,2	-68,7	-0,6

Figure 4.10.1.1.2. Natural increment per 1,000 residents in municipalities of Lithuania, 2021 [45]

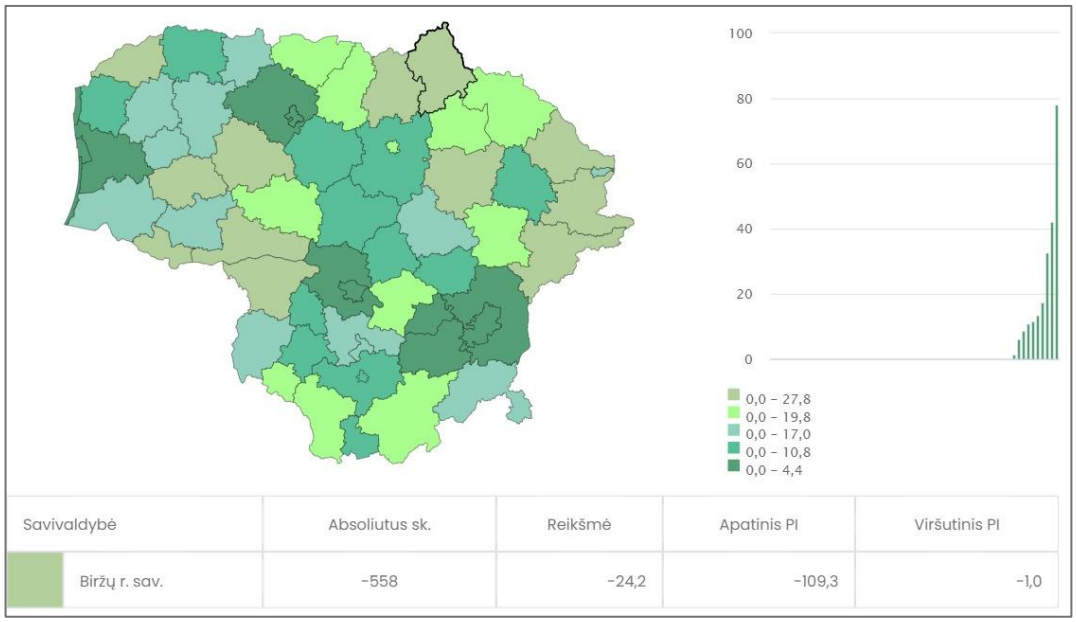


Figure 4.10.1.1.3. Change in population per 1,000 residents in municipalities of Lithuania, 2021 [45]

Table 4.10.1.1.1. Population of the Biržai District Municipality and its structure, 2021

Indicator	Value
Number of people of working age at year beginning	14,223.0
Average annual population.	23,035.0
Average annual population - men	10,652.0
Average annual population - women	12,384.0
Average annual population – people aged 15-64	14,721.0
Average annual population – people aged 65+	5,686.0
Elderly dependent people‘s ratio	38.6
Share of men, %	46.2
Share of women, %	53.8
Share of people aged 0-14, %	11.4
Share of people aged 0-17, %	14.4
Share of people aged 18-44, %	28.8
Share of people aged 45-64, %	32.1
Share of people aged 65+, %	24.7
Share of women of fertile age (15-49), %	35.4
Change in population per 1,000 residents	-24.2
Natural increment per 1,000 residents	-15.2

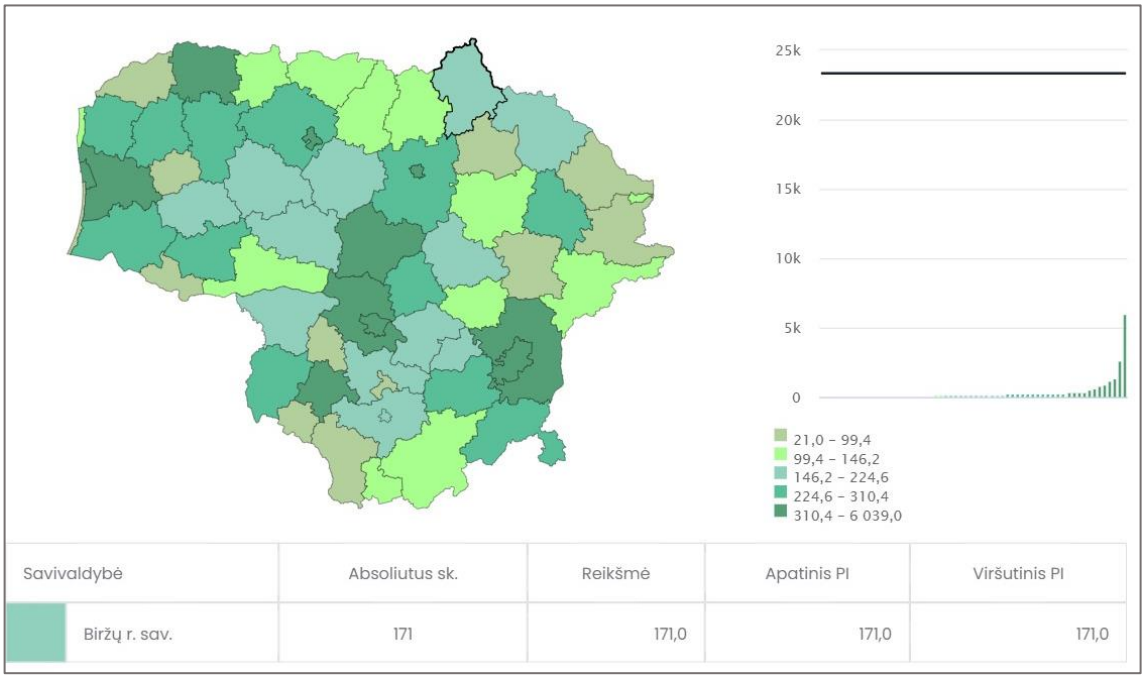
Birth rates and death rates

Number of live births - live birth means a newborn baby who is breathing or shows any other definite sign of life, such as heartbeat, pulsation of the umbilical cord, voluntary movement of muscles, irrespective of the gestational age.

Birth rate per 1,000 residents - the ratio between the annual number of live births and the average annual population, calculated per 1,000 residents. This indicator includes babies born in the Republic of Lithuania whose parents (or at least one of them) is a permanent resident of RL or whose parents are not known as well as live births in foreign states if the mother is a permanent resident of the Republic of Lithuania and the baby‘s place of residence is declared in RL.

Live births have decreased in the Biržai District Municipality in during past five years: 220 live births in 2017, 171 in 2021; the birth rate per 1,000 residents was 7.4. A more detailed information on births is provided in Table 4.10.1.1.2.

As compared with the national average, in 2021 the birth rate per 1,000 residents in the Biržai District Municipality (in absolute terms) (Figure 4.10.1.1.4) was in the above-average interval (Figure 4.10.1.1.5).



Savivaldybė	Absoliutus sk.	Reikšmė	Apatinis PI	Viršutinis PI
Biržų r. sav.	171	171,0	171,0	171,0

Figure 4.10.1.1.4. Numbers of live births in the municipalities of Lithuania, 2021 [45]

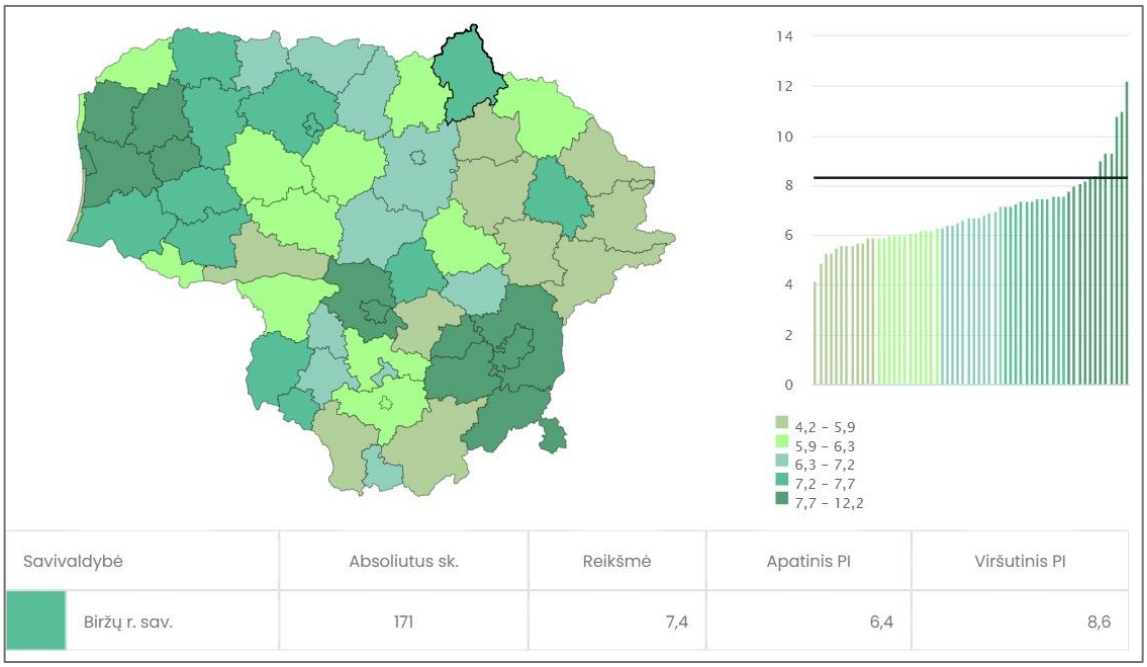


Figure 4.10.1.1.5. Birth rates per 1,000 residents in the municipalities of Lithuania, 2021

[45]

Table 4.10.1.1.2. Birth rates in the Biržai District Municipality, 2021

Indicator	Value
Live births	171,0
Birth rate per 1,000 residents	7,4
Live births weighing less that 2,500 g, %	6,5
Artificial terminations of pregnancy per 1,000 women	4,9

In 2021, the birth rate per 1,000 residents of the Biržai District Municipality was 7.4. This is a better indicator value as compared with the Panevėžys County (6.5) (Figure 4.10.1.1.6). In the Panevėžys County, the highest value of the birth rate per 1,000 residents was in Biržai District Municipality (7.4) and the lowest in Kupiškis District Municipality (5.9) (Figure 4.10.1.1.6). The national average of the birth rate per 1,000 residents was 8.3 in 2021 (Figure 4.10.1.1.6).



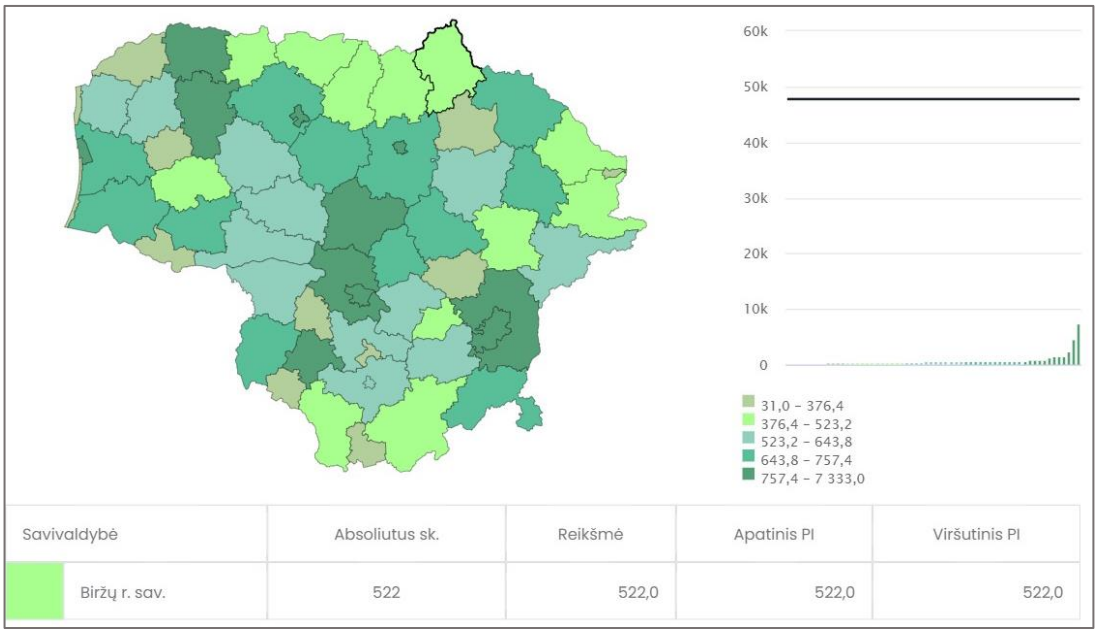
Figure 4.10.1.1.6. A comparison of the birth rates per 1,000 residents in the municipalities of Panevėžys County, 2021 [45]

Number of deaths – irreversible disappearance of all signs of life after a live birth (termination of all signs of life where resuscitation is impossible).

Mortality per 1,000 residents – the ratio between the annual number of deaths and the annual average number of residents, calculated per 1,000 residents.

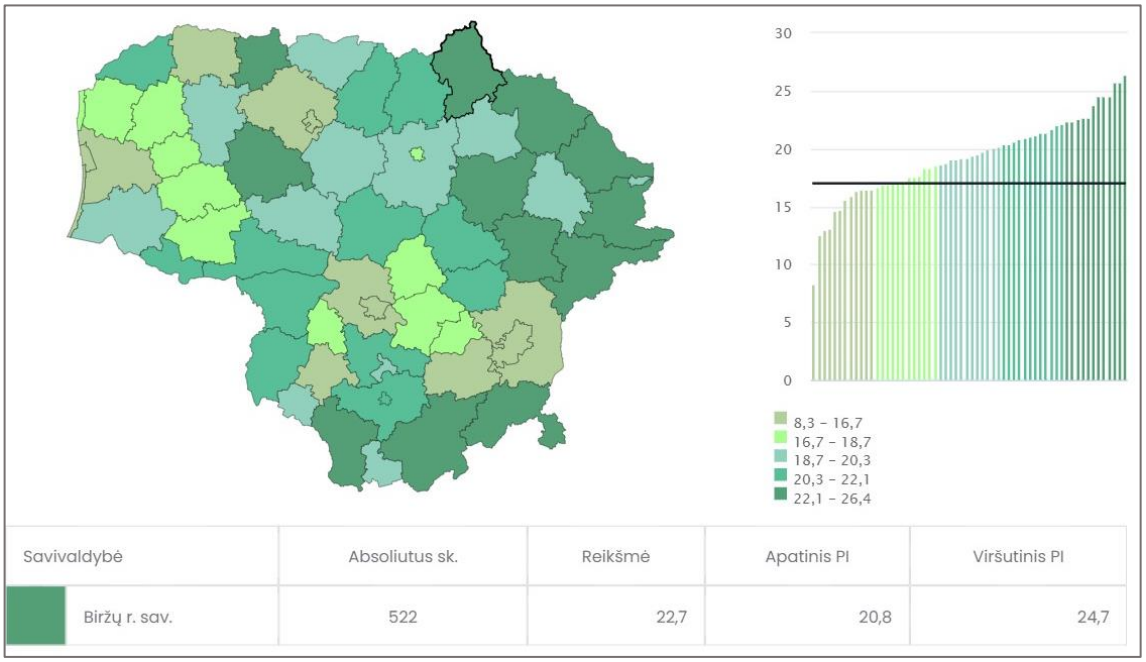
During the past 5 years, the death rate has been increasing in the Biržai District Municipality: 455 deaths in 2017, 522 deaths in 2021, mortality per 1,000 residents was 22.7 in 2021, life expectancy (HI data) – 74 years. More detailed information on mortality is provided in Table 4.10.1.1.3.

As compared with the national averages, in 2021 the death rate (in absolute terms) in the Biržai District Municipality was in a lower-than-average interval (Figure 4.10.1.1.7) and according to the death rate per 1,000 residents – the Biržai District Municipality was in the lowest interval (Figure 4.10.1.1.8).



Savivaldybė	Absoliutus sk.	Reikšmė	Apatinis PI	Viršutinis PI
Biržų r. sav.	522	522,0	522,0	522,0

Figure 4.10.1.1.7. Number of deaths in the municipalities of Lithuania, 2021 [45]



Savivaldybė	Absoliutus sk.	Reikšmė	Apatinis PI	Viršutinis PI
Biržų r. sav.	522	22,7	20,8	24,7

Figure 4.10.1.1.8. Death rate per 1,000 residents in the municipalities of Lithuania, 2021 [45]

Table 4.10.1.1.3. Mortality in the Biržai District Municipality, 2021

Indicator	Value
Number of deaths	522,0
Life expectancy at the age of 0	74,4
Difference between women‘s and men‘s life expectancy (in years) at the age of 0	12,6

Indicator	Value
Life expectancy at the age of 0 (HI data)	74,0
Mortality per 1,000 residents	22,7
Life expectancy at the age of 65	15,9
Difference between women's and men's life expectancy (in years) at the age of 65	0,0
Newborn mortality per 1,000 live births	0,0

In 2021, the death rate per 1,000 residents of the Biržai District Municipality was 22,7. This is a higher indicator value as compared with the Panevėžys County (19,4) (Figure 4.10.1.1.9). In the Panevėžys County, the highest value of the deathrate per 1,000 residents was in Biržai and Rokiškis District Municipalities (22,7) and the lowest in Panevėžys City Municipality (17.0) (Figure 4.10.1.1.9). The national average of the birth rate per 1,000 residents was 17.0 in 2021 (Figure 4.10.1.1.9).



Figure 4.10.1.1.9. Mortality per 1,000 residents in the municipalities of the Panevėžys County, 2021 [45]

Life expectancy

Life expectancy at the age of 0 – a probability indicator showing the number of years that every newborn or a person of certain age would live, on average, if the current mortality trends of each age group continued for the rest of their life.

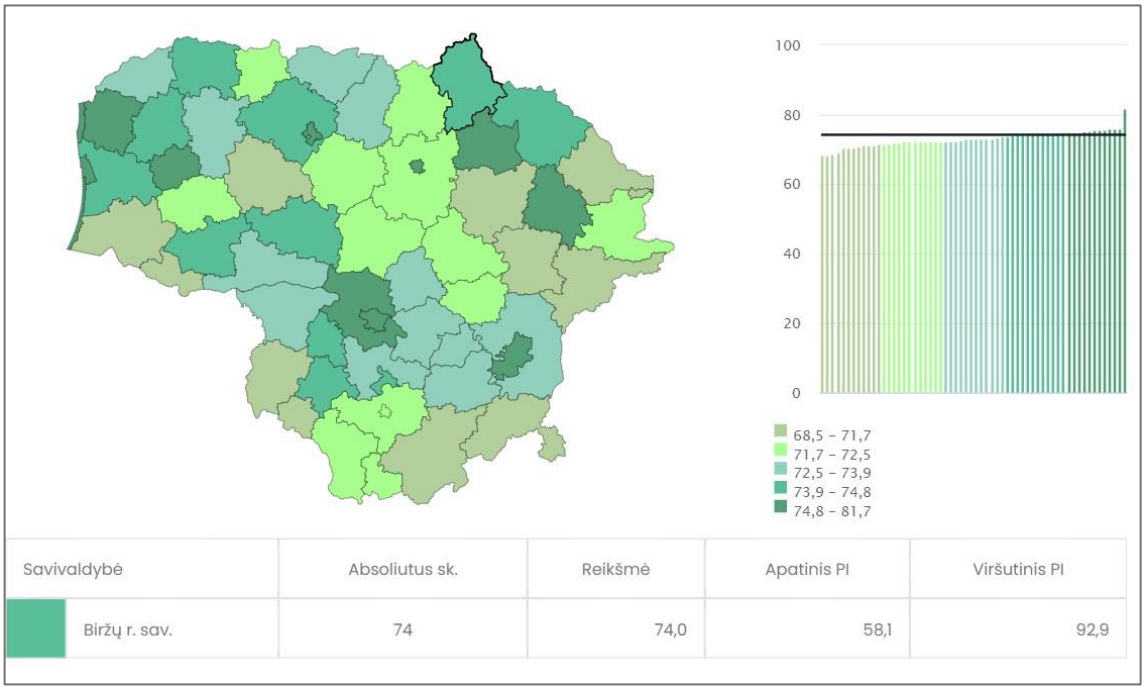
Life expectancy at the age of 0 in the Biržai District Municipality in 2021 was 74 years (HI data), which is similar to the indicator of the Panevėžys County (2021: 74.3 years). In the Panevėžys County, the longest life expectancy was in the Kupiškis District Municipality and the Panevėžys District Municipality (75.6), and the shortest in the Panevėžys and Pasvalys District Municipalities (72.4) (Figure 4.10.1.1.10).

Tendencija: Nekinta Didėja Mažėja Geriau Blogiau Panašus Nepalyginamas

Savivaldybė	Tendencija	Kiekis	Reikšmė	Grafikas	Apatinis PI	Viršutinis PI
Lietuva	→	74	74,2		58,3	93,1
Panevėžio apskritis	→	74	74,3		58,4	93,2
Panevėžio m. sav.	→	76	75,6		59,5	94,7
Biržų r. sav.	→	74	74,0		58,1	92,9
Kupiškio r. sav.	→	76	75,6		59,5	94,7
Panevėžio r. sav.	→	72	72,4		56,6	91,1
Pasvalio r. sav.	→	72	72,4		56,7	91,1
Rokiškio r. sav.	→	74	74,4		58,4	93,3

Figure 4.10.1.1.10. Comparison of life expectancy at the age 0 (HI data) between the municipalities of the Panevėžys County, 2021 [45]

As regards the national average – the life expectancy in the Biržai District Municipality in 2021 is similar to the national average (Figure 4.10.1.1.11).



Savivaldybė	Absoliutus sk.	Reikšmė	Apatinis PI	Viršutinis PI
Biržų r. sav.	74	74,0	58,1	92,9

Figure 4.10.1.1.11. Life expectancy at the age 0 (HI data), 2021 [45]

Breakdown of mortality causes

Based on estimations provided by the Hygiene Institute, the main five reasons of mortality in the Biržai District Municipality – vascular diseases, malignant tumours, Covid-19, external causes

and diseases of the digestive system. It is estimated that, in 2022 in the Biržai District Municipality, vascular diseases accounted for ~63 % (289 people), tumours, both malignant and benign ~16 % (72 people), Covid-19 ~4 % (19 people), external causes ~ 5 % (21 people), and diseases of the digestive system ~5 % (21 people) of all deaths (Figure 4.10.1.1.12).

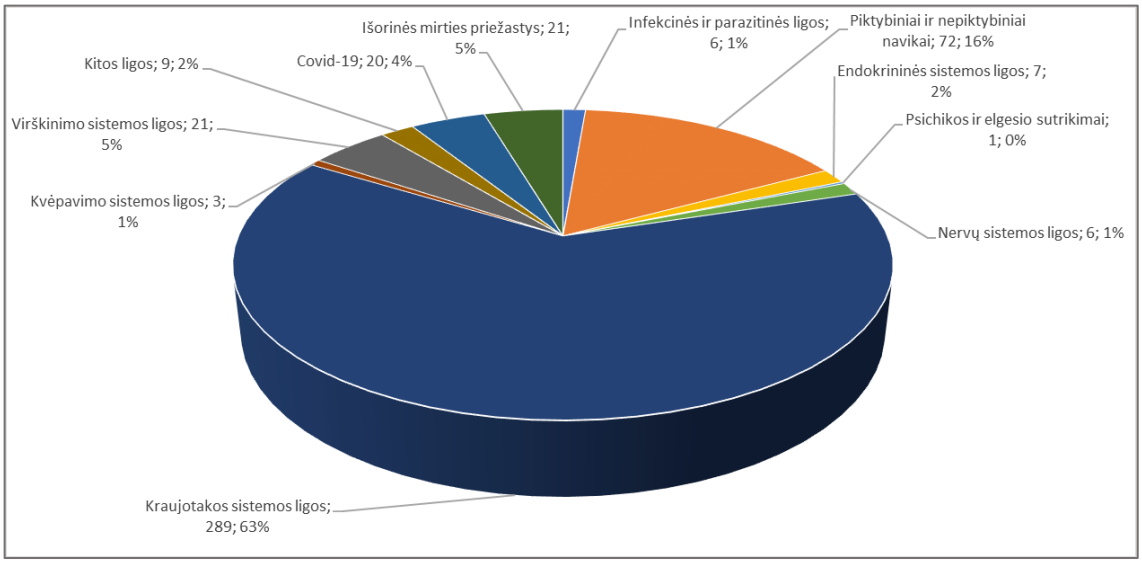


Figure 4.10.1.1.12. Breakdown of causes of death in the Biržai District Municipality, estimates for 2022 [Causes of death. Statistics search tool of the Hygiene Institute: https://www.hi.lt/lt/paieskos_priemone.html 46]

4.10.1.2 Analysis of the morbidity data

Morbidity and its causes

Morbidity (number of new cases of illnesses) – number of persons for whom at least one case of an acute disease/trauma or a chronic disease has been registered for the first time in individual health care establishments over a certain period, per 10,000 residents. The formula: Annual number of ill persons / average annual population x 10,000.

In 2015, the value of the overall morbidity indicator (A00-T98) per 10,000 residents in the Biržai District Municipality was 5,762.5; in 2019 – 6,693.5. In 2019, the highest value of this indicator in the Panevėžys County was in the Panevėžys Municipality (7,683.1) – which means that the morbidity rate was higher than the overall value for the Panevėžys County as a whole (7,099.9), the lowest value was recorded in the Pasvalys District Municipality (6,377.1) (Text Annex 9, Figure 1). During the period 2015-2019, the value of the overall morbidity indicator (A00-T98) per 10,000 residents in the Biržai District Municipality was better (i. e. morbidity rate was lower) than the Panevėžys County's overall indicator value (Text Annex 9, Figure 2). During the same period 2015-2019, the value of this morbidity indicator (A00-T98) per 10,000 residents in the Biržai District Municipality was better (i. e. morbidity rate was lower) than the overall indicator of Lithuania (Text Annex 9, Figure 3).

The value of the indicator of prevalence of blood diseases (D50-D89) per 10,000 residents in the Biržai District Municipality in 2015 was 96.6, in 2019 – 202.2. In 2019, the highest value of this indicator in the Panevėžys County was in the Biržai District Municipality (202.2), which means that prevalence was higher than the overall rate in the Panevėžys County (179.4). The lowest value of this indicator was recorded in the Pasvalys District Municipality (129.0), which means that the prevalence was lower than the Panevėžys County's overall rate (Text Annex 9, Figure 4). In the period 2015-2018, the value of the indicator of prevalence of blood diseases (D50-D-89) per 10,000 in the Biržai District Municipality showed a lower prevalence rate as compared with the overall rate of the Panevėžys County (Text Annex 9, Figure 5), with the exception of 2019 when the indicator was worse (i. e. the prevalence was higher). During the period 2015-2019, the rate of prevalence of blood diseases (D50-D89) per 10,000 residents in the Biržai District Municipality was also worse (indicating higher prevalence of these diseases) than the overall indicator of Lithuania (Text Annex 9, Figure 6).

The value of the indicator of prevalence of vascular diseases (I00-I99) per 10,000 residents in the Biržai District Municipality in 2015 was 582.6, in 2019 – 998.9. In 2019, the highest value of this indicator in the Panevėžys County was in the Biržai District Municipality (998.9), which means that prevalence was higher than the overall rate of the Panevėžys County (933.8). The lowest value of this indicator was recorded in the Panevėžys District Municipality (867.3), which means that the prevalence of the diseases was lower than the Panevėžys County's overall rate (Text Annex 9, Figure 7). Over the period 2015-2019, the indicator of prevalence of vascular diseases (I00-I99) per 10,000 residents in the Biržai District Municipality was unstable: it was better in 2015-2018 (i. e. lower prevalence) and worse in 2019 (i. e. higher prevalence) as compared with the overall rate of the Panevėžys County (Text Annex 9, Figure 8). During the period 2015-2019, the rate of prevalence of vascular diseases (I00-I99) per 10,000 residents in the Biržai District Municipality was better (i. e. lower prevalence) and in 2016-2019 worse (i. e. the prevalence was higher) than the overall indicator of Lithuania (Text Annex 9, Figure 9).

The value of the indicator of prevalence of hypertension diseases (I10-I15) per 10,000 residents in the Biržai District Municipality in 2015 was 115.3, in 2019 – 255.4. In 2019, the highest value of this indicator in the Panevėžys County was in the Pasvalys District Municipality (284.4) – which means that prevalence was higher than the overall rate of the Panevėžys County (256.5). The lowest value of this indicator was recorded in the Kupiškis District Municipality (243.4), which means that the prevalence of the diseases was lower than the Panevėžys County's overall rate (Text Annex 9, Figure 10). Over the period 2015-2019, the indicator of prevalence of hypertension diseases (I10-I15) per 10,000 residents in the Biržai District Municipality was unstable: it was better in 2015-2019 (i. e. lower prevalence), and in 2019 – similar to the overall rate of the Panevėžys County (Text Annex 9, Figure 11). During the period 2015-2019, the rate of prevalence of hypertension diseases (I10-I15) per 10,000 residents in the Biržai District Municipality was better (i. e. lower prevalence) than the overall indicator of Lithuania (Text Annex 9, Figure 12).

The value of the indicator of prevalence of mental illnesses (F00-F99) per 10,000 residents in the Biržai District Municipality in 2015 was 263.6, in 2019 – 528.6. In 2019, the highest value of this indicator in the Panevėžys County was in the Panevėžys District Municipality (571.5), which means that prevalence was higher than the overall rate of the Panevėžys County (520.8). The

lowest value of this indicator was recorded in the Rokiškis District Municipality (350.7), which means that the prevalence of the illnesses was lower than the Panevėžys County's overall rate (Text Annex 9, Figure 13). Over the period 2015-2019, the indicator of prevalence of mental illnesses (F00-F99) per 10,000 residents in the Biržai District Municipality was unstable: it was better in 2015-2017 (i. e. lower prevalence) than the overall rate of the Panevėžys County, worsening in 2017-2018 (prevalence started increasing), and in 2018-2019 – worse than/similar to the overall rate of the Panevėžys County (Text Annex 9, Figure 14). During the period 2015-2019 m. the rate of prevalence of mental illnesses (F00-F99) per 10,000 residents in the Biržai District Municipality was variable: in 2015-2017 it was better (i. e. lower prevalence) than the overall indicator of Lithuania, in 2017-2019 it was worse (i. e., higher prevalence) than the overall indicator of Lithuania (Text Annex 9, Figure 15).

The value of the indicator of prevalence of tumours (C00-D48) per 10,000 residents in the Biržai District Municipality in 2015 was 264.4, in 2019 – 356.5. In 2019, the highest value of this indicator in the Panevėžys County was in the Rokiškis District Municipality (485.2), which means that prevalence was higher than the overall rate of the Panevėžys County (412.3). The lowest value of this indicator was recorded in the Pasvalys District Municipality (302.6), which means that the prevalence of the diseases was lower than the Panevėžys County's overall rate (Text Annex 9, Figure 16). Over the period 2015-2018, the value indicator of prevalence of tumours (C00-D48) per 10,000 residents in the Biržai District Municipality was better (i. e. lower prevalence) than the overall rate of the Panevėžys County (Text Annex 9, Figure 17). During the period 2015-2019, the indicator of prevalence of tumours (C00-D48) per 10,000 residents was also better (i. e. lower prevalence) than the overall indicator of Lithuania (Text Annex 9, Figure 18).

Analysis of risk groups within the population

The most sensitive groups of population include children, pregnant women, patients and elderly people. These people are sensitive to increased pollution, higher noise levels, and other changes in the environment.

In 2021, children (0-17 years) accounted for 14.4 % and people aged 65 and older accounted for 24.7 % of the Biržai District Municipality's population. In 2021, the share of children in the Biržai District Municipality was smaller as compared with the overall indicator of Lithuania (17.6 %), whereas the share of people aged 65 and older was higher (in Lithuania as a while: 20.0 %).

In 2019, the rate of morbidity (A00-T98) of children (0-17 years) in the Biržai District Municipality was 8,657.0 per 10,000 residents, which is a better indicator (i. e. lower morbidity) than Lithuania's indicator (8,953.1 per 10,000). In 2019, prevalence of blood diseases (D50-D89) in children of the Biržai District Municipality was 482.0 per 10,000 residents, which was worse (i. e. higher prevalence) than the indicator of Lithuania as a whole (163.4 per 10,000). Prevalence of mental illnesses (F00-F99) in children of the Biržai District Municipality was 387.3 per 10,000 residents in 2019 and was better (i. e. lower prevalence) than Lithuania's indicator (462.4 per 10,000). In 2019, prevalence of vascular diseases (I00-I99) in children of the Biržai District Municipality was 267.5 per 10,000 residents and was worse (i. e. higher prevalence) than Lithuania's indicator (185.1 per 10,000). In 2019, prevalence of hypertension diseases (I10-I15) in children of the Biržai

District Municipality was 22.3 per 10,000 residents and was worse (i. e. higher prevalence) than Lithuania‘s indicator (20.6 per 10 000). In 2019, prevalence of tumours (C00-D48) in children of the Biržai District Municipality was 69.7/10 000 and was better (i. e. lower prevalence) than Lithuania‘s indicator (133.5 per 10,000).

In the age group 65+, overall morbidity (A00-T98) in the Biržai District Municipality was 6,885.6 per 10,000 residents in 2019, which means lower morbidity than in Lithuania as a whole (7,269.9 per 10,000 residents). In 2019, prevalence of blood diseases (D50-D89) in the age group 65+ in the Biržai District Municipality was 219.5 per 10,000 residents, which is similar to the overall indicator of Lithuania (193.3 per 10,000). In 2019, prevalence of mental illnesses (F00-F99) in this age group in the Biržai District Municipality was 905.5 per 10,000 residents, which is worse (i. e. higher prevalence) than Lithuania‘s indicator (637.0 per 10,000). In 2019, prevalence of vascular diseases (I00-I99) in this age group in the Biržai District Municipality was 2,018.5 per 10,000 residents and was similar to Lithuania‘s indicator (2,103.3 per 10,000). In 2019, prevalence of hypertension diseases (I10-I15) in this age group in the Biržai District Municipality was 367.0 per 10,000 residents and was similar to Lithuania‘s indicator (520.1 per 10,000). In 2019, prevalence of tumours (C00-D48) in this age group in the Biržai District Municipality was 511.1 per 10,000 residents, which is better (i. e. lower prevalence) than Lithuania‘s indicator (632.5 per 10,000).

Distances from WTs to recreational, residential and public territories and buildings

Residential areas and/or buildings and public buildings that are nearest to the WTs are specified in Tables 3.1.4.1 and 3.1.4.2 and Figure 3.1.4.5 in Subsection 3.1.4 *Areas adjacent to the PEA area* as well as Graphic Annex 2.

According to the Main Drawing of the Amendment to the MP of the Biržai District, the wind farm being planned does not include any recreational areas. The nearest recreational areas are at the distance of 1,060 m (Figure 3.1.2.1).

Article 49(9) of the Law on Energy from Renewable Sources states that wind turbines with installed capacity exceeding 30 kW must be installed in a way that ensures that **the shortest distance** from the central axis of the WT tower to garden houses, buildings for residential, hotel and cultural purposes, secondary, vocational and higher schools, kindergartens, nurseries, buildings for research and various educational purposes, buildings for recreational, treatment, sports and religious purposes, special-purpose buildings for accommodation (army barracks, imprisonment institutions), premises for the aforesaid purposes in other buildings, and recreational areas **is no shorter than the height of the WT tower in metres multiplied by 4, except in case specified in paragraph 11 of the said Article**.

Article 49(11) of the Law on Energy from Renewable Sources: **provided that owners of the buildings do not object, and such no-objection is confirmed in writin**g, WT with installed capacity exceeding 30 kW can be constructed within a **distance shorter than the distance** specified in Article 49(9) but such distance may not be shorter than specified in Article 49(14) (**the height of a WT tower around the WT being planned**), provided that an agreement on ensuring

compliance with public health requirements is concluded with the person interested in the generation of electricity by means of a wind turbine.

Article 49(14) of the Law on Energy from Renewable Sources: **a person interested in the generation of electricity by means of a wind turbine** with the installed capacity exceeding 30 kW shall **inform, by a registered letter** delivered upon signed acknowledgement, owners of the land plots, except land plots for forestry purposes, **that fall within the area around the planned wind turbine within the limits of its tower height, or within the territory in which compliance with public health safety requirements will not be ensured** if such territory is larger than the height of the wind turbine's tower around the wind turbine being planned.

Options considered in this EIA Report and distances to the aforesaid buildings and territories are specified in Table 4.10.1.2.1.

Table 4.10.1.2.1. Technical options being considered and distances to the buildings and territories specified in Article 49(9) of the Law on Energy from Renewable Sources

Technical options considered	**Tower height considered, m**	**Distances to the buildings and territories specified in Article 49(9) of the Law on Energy from Renewable Sources (tower height x 4), m**
Option A	120	480
Option B	166	664
Option C	180	720

In the case of Option A - the 480 m radius off the WTs being planned includes two residential buildings. No public buildings or buildings for other purposes specified in Article 49(9) of the Law on Energy from Renewable Sources (Table 4.10.1.2.2, Figure 4.10.1.2.1). According to the Main Drawing of the Amendment to the MP of the Biržai District, no recreational areas fall within the 480 m radius of the WTs being planned.

Table 4.10.1.2.2. Residential, public or buildings for other purposes falling within the 480 m radius (Option A)

Item No	**Residential address**	**Distance to the nearest WT being planned**
1	Nausėdžiai 8, Nausėdžiai	118 m SE of N32-1
2	Nausėdžiai 9, Nausėdžiai	472 m SE of N32-1

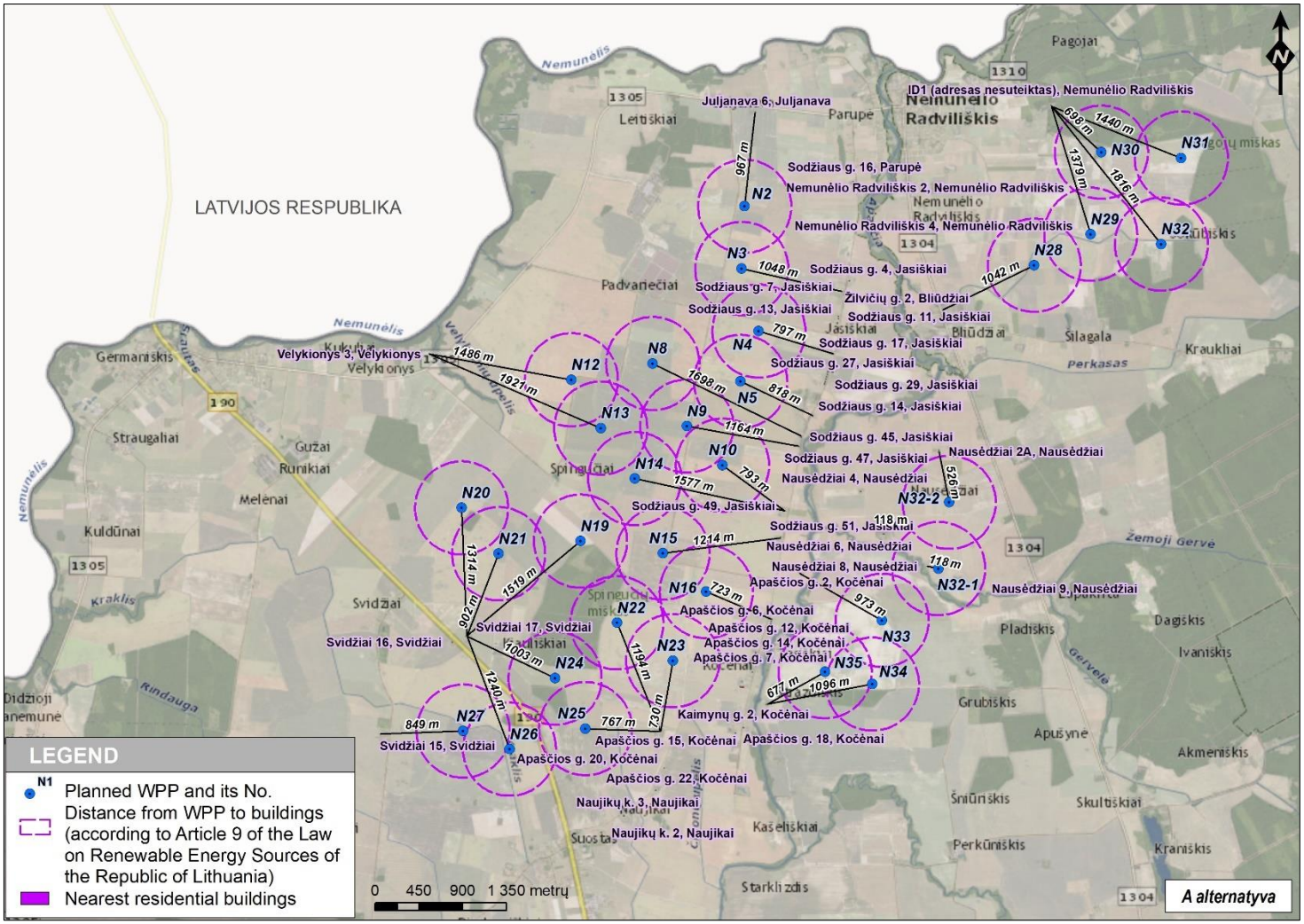


Figure 4.10.1.2.1. Residential, public or buildings for other purposes falling within the 480 m radius (Option A)

In the case of Option B - the 664 m radius off the WTs being planned includes 4 residential buildings. No public buildings or buildings for other purposes specified in Article 49(9) of the Law on Energy from Renewable Sources (Table 4.10.1.2.3, Figure 4.10.1.2.2). According to the Main Drawing of the Amendment to the MP of the Biržai District, no recreational areas fall within the 664 m radius of the WTs being planned.

Table 4.10.1.2.3. Residential, public or buildings for other purposes falling within the 480 m radius (Option B)

Item No	Residential address	Distance to the nearest WT being planned
1	Nausėdžiai 2A, Nausėdžiai	526 m N of N32-2
2	Nausėdžiai 8, Nausėdžiai	118 m SE of N32-1
3	Nausėdžiai 9, Nausėdžiai	472 m SE of N32-1
4	Nausėdžiai 6, Nausėdžiai	663 m NW of N32-1

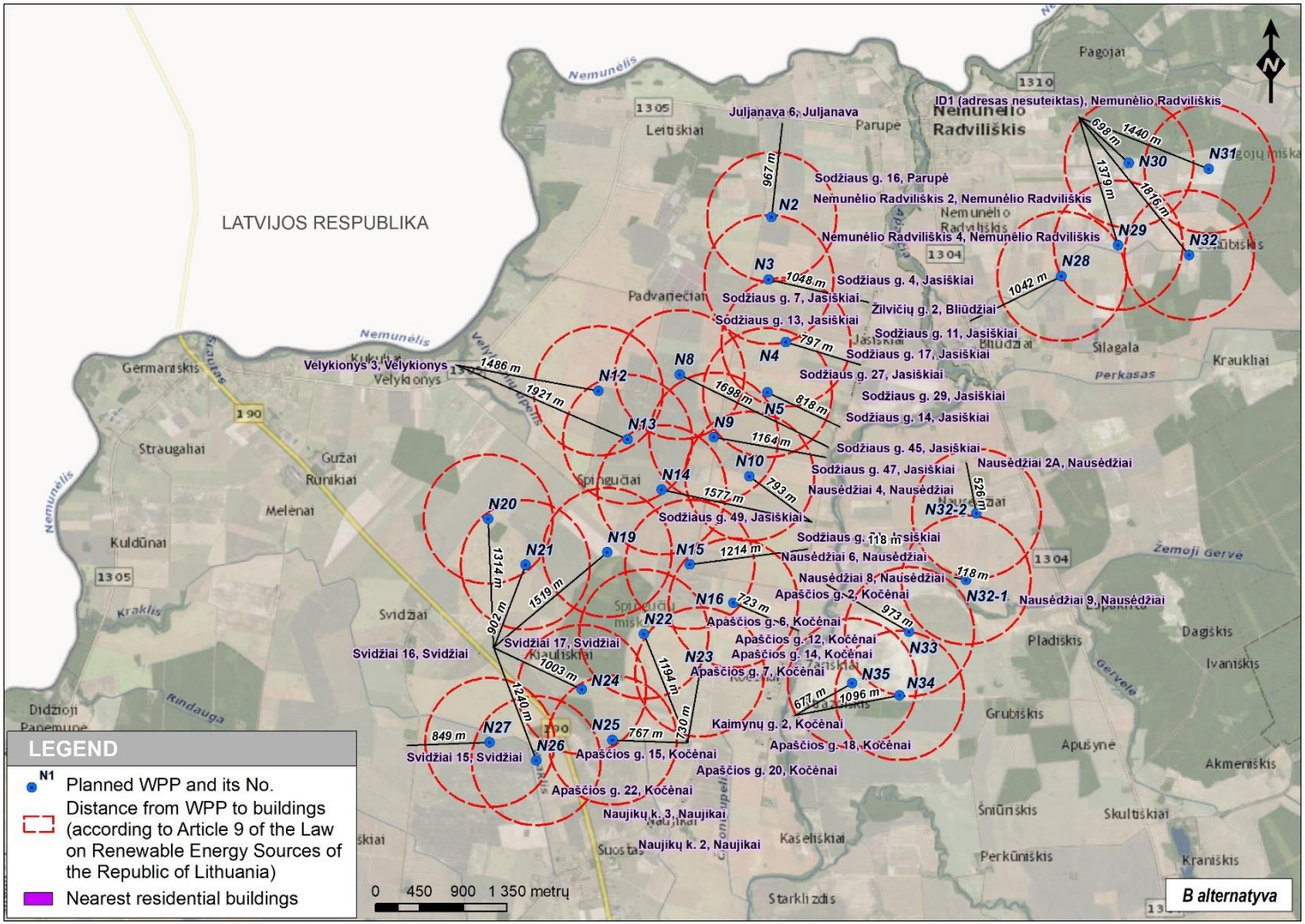


Figure 4.10.1.2.2. Residential, public or buildings for other purposes falling within the 480 m radius (Option B)

In the case of Option C – In the case of Option B - the 720 m radius off the WTs being planned includes 10 residential buildings. No public buildings or buildings for other purposes specified in Article 49(9) of the Law on Energy from Renewable Sources (Table 4.10.1.2.4, Figure 4.10.1.2.3). According to the Main Drawing of the Amendment to the MP of the Biržai District, no recreational areas fall within the 720 m radius of the WTs being planned.

4.10.1.2.4. Residential, public or buildings for other purposes falling within the 480 m radius (Option C)

Item No	Residential address	Distance to the nearest WT being planned
1	Apaščios g. 10, Kočėnai	702 m NW of N35
2	Apaščios g. 12, Kočėnai	696 m NW of N35
3	Apaščios g. 14, Kočėnai	684 m W of N35
4	Apaščios g. 16, Kočėnai	698 m W of N35
5	ID1 (address not assigned), Nemunėlio Radviliškis	698 m NW of N30
6	Nausėdžiai 2A, Nausėdžiai	526 m N of N32-2
7	Nausėdžiai 6, Nausėdžiai	663 m NW of N32-1
8	Nausėdžiai 8, Nausėdžiai	118 m SE of N32-1
9	Nausėdžiai 9, Nausėdžiai	472 m SE of N32-1
10	Strazdiškis 1, Strazdiškis	677 m SW of N35

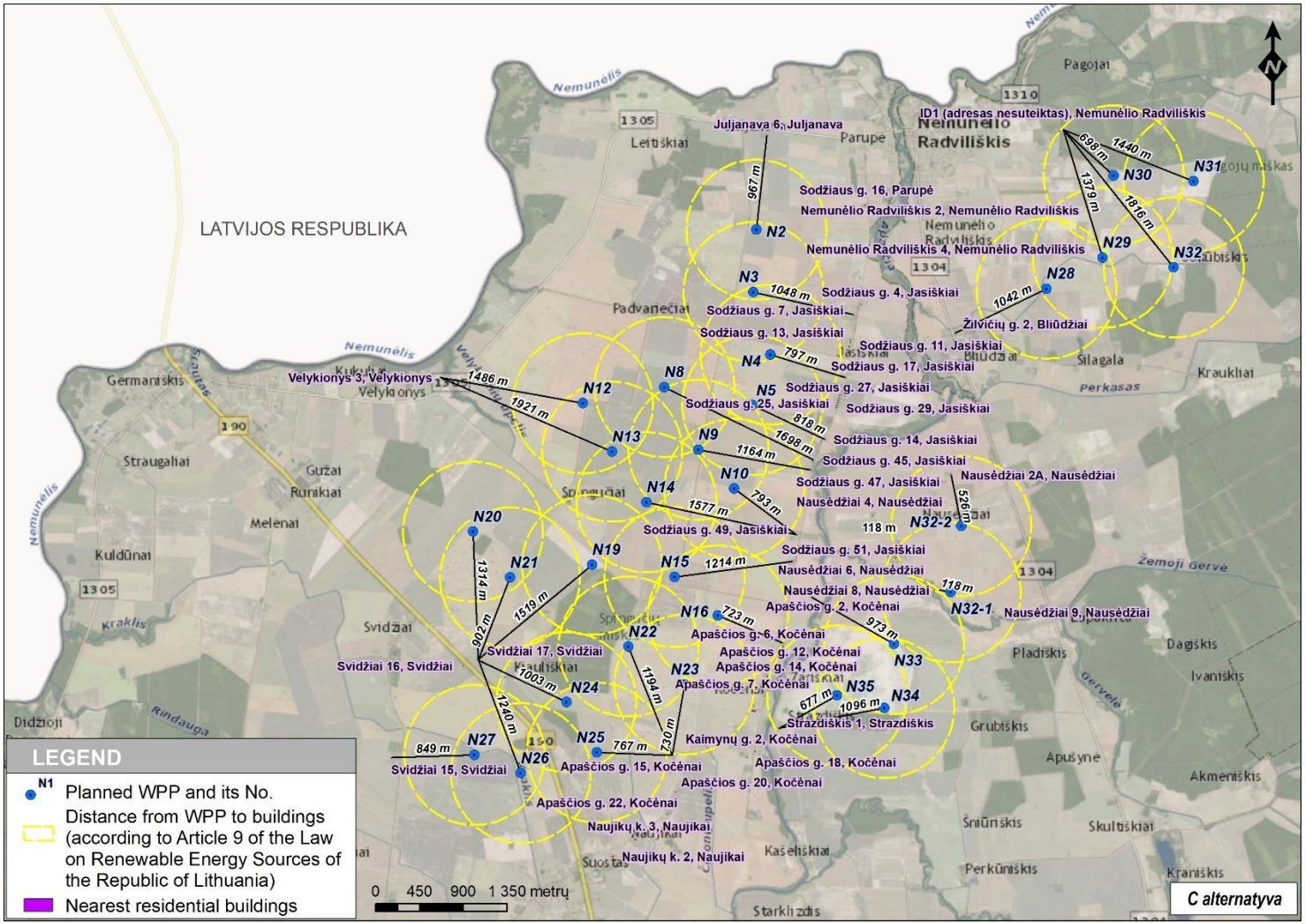


Figure 4.10.1.2.3. Residential, public or buildings for other purposes falling within the 720 m radius (Option C)

Definitions of residential and public buildings and recreational areas

Residential building – as defined in p. 6 of the Lithuanian Construction Technical Regulation STR 1.01.03:2017 'Classification of Structures' (STR) [69]. According to p. 6 of the STR:

Residential buildings are divided into the following subgroups by type:

- ✓ Buildings for residential purpose (single flat) – houses intended for one family;
- ✓ Buildings for residential purpose (two-flat) – intended for two families;
- ✓ Buildings for residential purpose (three or more flats – blocks of flats) – intended for three or more families;
- ✓ Buildings for residential purpose (for various social groups) – for people from various social groups (hostels, childcare homes, care homes, family care homes, monasteries etc.).

Public building – a building for public needs and, having regard to the STR, falling within the subgroup of hotels, establishments for the purposes of catering, culture, science (excluding institutes and research institutions, observatories, meteorological stations, laboratories), treatment (inpatient individual health care establishments) or recreation, or special-purpose buildings related to accommodation:

- ✓ Hotel buildings – buildings for short-term accommodation (hotels, motels and guest houses);
- ✓ Buildings for catering purposes – canteens, restaurants, cafes, bars etc.;
- ✓ Buildings for cultural purposes – for meeting cultural needs: cinemas, theatres, cultural centres, clubs, libraries, museums, archives, exhibition centres, planetariums, radio and TV buildings etc.
- ✓ Buildings for science purposes – for meeting scientific and educational needs: secondary, vocational and higher schools, kindergartens, nurseries etc. HN 33 does not apply to institutes and research institutions, observatories, meteorological stations, laboratories);
- ✓ Buildings for treatment purposes – i. e. buildings in which medical aid and care is provided for patients (hospitals, clinics, outpatient clinics, sanatoriums, rehabilitation centres, healthcare buildings forming part of special institutions, care homes at medical establishments etc.). HN 33 applies only to inpatient individual health care establishments that provide inpatient care (treatment of hospitalised patients);
- ✓ Buildings for recreational purposes – such as rest homes, tourist centres, camping buildings, rural tourism buildings, summer cottages, hunters huts and other recreational buildings;

- ✓ Special-purpose buildings – buildings for special purposes (such as army barracks, prisons, correctional institutions, interrogation centres, buildings of the police and fire rescue services, shelters, border control posts etc.).

In accordance with the Regulations for the Use, Planning and Protection of Recreational Areas [47]:

Recreational area – a territory with natural or cultural properties of its environment and conditions for organising comprehensive recreation, both physical and mental, of people, with set boundaries, land use method and land use type, to which a recreational use priority has been assigned by territorial planning documents or legal acts. The notion and types of recreational areas (recreational area, recreational region, recreational locality, recreational land plot) as well as identification of such areas depends on the level of territorial planning.

The system of recreational areas consists of:

- ✓ recreational areas and regions;
- ✓ recreational localities (residential areas with the status of a resort; recreational functional priority zones and parts thereof; common-use green areas of cities and other settlements, as well as park areas and other areas for common use; forests classified as Group IIB (recreational forests); surface water bodies, and territories classified as recreational resources in the Master Plan of the Territory of the Republic of Lithuania and territorial planning documents of counties and municipalities);
- ✓ other land plots whose main purpose is stated as the recreational purpose and which are used for the installation and operation of recreational infrastructure.

4.10.2 Anticipated significant impact

One may conclude, on examination of information on the PEA and its processes provided by the PEA Organiser, and the literature, that the PEA-related physical factors that can affect health are as follows:

- noise;
- shadow flicker;
- infrasound;
- vibration;
- electromagnetic radiation.

Additional factors that can potentially affect public health, examined in this EIA Report:

- economic, social and psychological factors.

No dangerous chemical substances will be stored and used, no stationary combustion installations will be used, and there will be no constant intense vehicle traffic in the implementation

of the PEA and operation of the wind farm, therefore, there will be no impact of chemical pollution on public health.

4.10.2.1 Assessment of physical pollution caused by the PEA

Acoustic noise, shadow flicker, infrasound, vibration and electromagnetic radiation are key factors of physical pollution by the PEA that may potentially affect public health.

4.10.2.1.1 Noise

WT and engineering infrastructure construction/installation period. Vehicles and construction machinery used during construction/installation of the wind farm (building WT construction sites, laying engineering networks (underground power cables), erecting WT structures) will emit acoustic noise in the PEA area. Noise will also be emitted by heavy-weight vehicles entering/leaving the territory and manoeuvring within it. The noise will be temporary and local in nature. No change in the current background noise level at the nearest resident environment is anticipated.

WT operation period. The noise emitted by the WT in the electricity generation process can be classified as mechanical noise produced by the gearbox, generator and other mechanisms and aerodynamic noise caused by the air flows around the turning blades and the tower. The aerodynamic noise is the main source of noise emitted by the WTs. In the operation period, noise will also be made by the equipment of the transformer substation being planned.

Acoustic noise in residential and public areas is governed by the Lithuanian Hygiene Standard HN 33:2011 *Acoustic noise. Noise limit values in residential and public buildings and their environment* [48] (Table 4.10.2.1.1.1).

According to p. 8 of the aforesaid Hygiene Standard, changeable noise in residential and public buildings and their environment is assessed on the basis of the equivalent sound pressure level and the maximum sound pressure level, whereas constant noise is assessed based on the equivalent sound pressure level. The estimation of the noise to be emitted by the WTs is measured on the basis of the equivalent sound pressure level (Table 4.10.2.1.1.1), i. e. noise indicators L_{den}, L_{day}, $L_{evening}$ and L_{night} (Table 4.10.2.1.1.2).

Table 4.10.2.1.1.1 Maximum permissible noise limit values in residential and public buildings and their environment

Description	Equivalent sound level, dB(A)	Maximum sound level, dB(A)	Time, hr.*
Environment of residential and public buildings (except catering and cultural buildings) except for noise emitted by transport	55 50 45	60 55 50	Day (7.00–19.00) Evening (19.00–22.00) Night (22.00–7.00)
Living premises in residential buildings, bedrooms in public buildings, wards in inpatient healthcare establishments	45 40 35	55 50 45	Day (7.00–19.00) Evening (19.00–22.00) Night (22.00–7.00)

*- Hours are specified according to definitions provided in the Republic of Lithuania Law on Noise Management [49]

Table 4.10.2.1.1.2. Maximum permissible noise limit values in residential and public buildings and their environment

Facility	L_{den}, dB(A)	L_d, dB(A)	L_e, dB(A)	L_n, dB(A)
Environment of residential and public buildings (except catering and cultural buildings) affected by stationary noise sources of industrial activities (except transport)	55	55	50	45

Main principles adopted in the assessment:

- Assessment in accordance with the current Lithuanian and EU legislation, guidelines and methodologies;
- Objects of assessment: Option A – constant operation of WT *Enercon E-160 EP5;* Option B – WT *Vestas V-172-7,2,* and Option C – *prospective WT*. Technical characteristics of the WT models assessed are provided in Table 3.2.2.1 of Subsection 3.2.2 '*Physical characteristics of the PEA'*.

Conditions adopted in the noise propagation modelling:

- wind speed – 10 m/s;
- all the WTs operate simultaneously at full capacity (365 days/year);
- ground surface roughness factor G – 0.7 (meadows, arable land with small protective belts of trees, and farmsteads);
- equivalent sound level is calculated based on the downwind sound propagation conditions as described in ISO 9613-2 (no additional meteorological factor applied);
- air absorption coefficient: 1.9 dB/km (according to ISO 9613-2);
- noise propagation modelling height: 2.0 m above the land surface;
- noise propagation modelling step: 5 dB(A).

Assessment methodology. Calculations of the estimated noise propagation from the WTs have been made by means of WindPRO software package (Version 3.6-4.0). Based on input data, WindPRO software calculates the distribution of the equivalent noise levels from both existing and projected wind turbines; terrain can also be taken into consideration. Also, on specifying the noise sensitive areas, the noise level in such areas is predicted: both the noise emitted by the WTs being planned and the combined impact including the background of existing/projected economic activities.

The calculations are based on the Lithuanian standard LST ISO 9613-2 „Acoustics. Attenuation of sound during propagation outdoors. Part 2. General method of calculation“ (equivalent to ISO 9613-2:1996).

Considering the WT models that the PEA Organiser intends to construct and operate, propagation of noise from the PEA facilities has been calculated for the following three technical options of the PEA:

- *Option A* – noise produced by 31 wind turbines *Enercon E-160 EP5* VE at maximum WT workload. It has been adopted that all the WTs will operate round the clock without interruption, every day (365 d/yr), with constant wind 10 m/s (at the altitude of 10 m). Tower height of *Enercon E-160 EP5* – up to 120.0 m, diameter of the rotor with the blades – up to 160 m, overall WT height (up to the highest point of the structure) – up to 200 m, emitted noise level 106.8 dB(A).
- *Option B* – noise produced by 31 wind turbines *Vestas V-172-7,2* at maximum WT workload. It has been adopted that all the WTs will operate round the clock without interruption, every day (365 d/yr), with constant wind 10 m/s (at the altitude of 10 m). Tower height of *Vestas V-172-7,2* – up to 166.0 m, diameter of the rotor with the blades – up to 172 m, overall WT height (up to the highest point of the structure) – up to 252 m, emitted noise level – 106.9 dB(A).
- *Option C* – noise produced by 31 *prospective* wind turbines, at maximum WT workload. It has been adopted that all the WTs will operate round the clock without interruption, every day (365 d/yr), with constant wind 10 m/s (at the altitude of 10 m). Tower height of the *prospective* WT – up to 180.0 m, diameter of the rotor with the blades – up to 180 m, overall WT height (up to the highest point of the structure) – up to 270 m, emitted noise level – 109.0 dB(A).

According to information available on the EPA website [19], as of the initial stage of preparation of the EIA Report, no analogous activities were conducted by other economic operators in the areas adjacent to the PEA area in the Biržai District Municipality.

The combined impact of the wind farms considered in this EIA Report includes a wind farm of up to 37 WTs being planned by Biržų vėjas, UAB in Parovėja and Nemunėlio Radviliškis wards of the Biržai District Municipality, and three wind turbines being planned by Bionalis, UAB in Nemunėlio Radviliškis ward (on 4 December 2023, the EPA issued a EIA screening decision No (30-2)-A4E-12104 stating that an EIA is not mandatory). The author of the EIA documentation has no other official information on analogous economic activities underway, being planned or already planned in this territory.

Biržų vėjas, UAB is also planning to construct two more wind farms: one in the Širvėna and Vabalninkas wards and another in the Parovėja ward of the Biržai District Municipality. The EPA has issued a positive decision (leer No V2-642-24 of 22/5/2024) regarding the wind farm of up to 73 WTs in the Širvėna and Vabalninkas wards in the Biržai District Municipality stating that the activity is permitted. This wind farm being planned is located 22 km south of the PEA location considered in this EIA Report; due to a long distance, this wind farm is not included in the

combined impact assessment made in the EIA Report. In addition, Biržų vėjas, UAB has prepared and publicised an EIA report on the construction and operation of up to 37 wind turbines in the Parovėja and Nemunėlio Radviliškis wards of the Biržai District Municipality. The nearest WTs being considered (specifically, N26 and N25) in this EIA Report on the wind farm of up to 31 WTs are approx. 1.8 km away from the aforesaid wind farm of 37 WTs being planned in the Parovėja and Nemunėlio Radviliškis wards, therefore, an assessment of the combined impact of noise caused by these two wind farms being planned has been made.

Results of modelling of the acoustic noise propagation from the WTs being planned. The area of noise emitted by the wind farm of up to 31 WTs being planned, in which the 45 dBA limit value would be exceeded (based on the night time noise indicator (L_n), would reach (in various directions from the WTs) approximately:

- in Option A – between 272 m and 477 m;
- in Option B – between 258 m and 589 m;
- in Option C – between 365 m and 733 m.

Values of the modelled equivalent noise levels in the residential environment closest to the WTs being planned are shown in Table 4.10.2.1.1.3 and Graphic Annex 4.

Table 4.10.2.1.1.3. Modelled equivalent noise levels in the residential environment closest to the WTs being planned

Item No	Residential environment/Address	Noise level value L_{Aeq}, dBA at the residential environment		
		Option A	Option B	Option C
1	Apaščios g. 10, Kočėnai	40,7	41,7	43,8
2	Apaščios g. 12, Kočėnai	40,7	41,7	43,8
3	Apaščios g. 14, Kočėnai	40,6	41,6	43,7
4	Apaščios g. 15, Kočėnai	40,2	41,2	43,3
5	Apaščios g. 16, Kočėnai	40,4	41,5	43,5
6	Apaščios g. 18, Kočėnai	37,4	38,8	40,9
7	Apaščios g. 2, Kočėnai	39,2	40,5	42,6
8	Apaščios g. 20, Kočėnai	37,5	38,8	40,9
9	Apaščios g. 22, Kočėnai	36,5	37,9	40
10	Apaščios g. 4, Kočėnai	40,6	41,7	43,8
11	Apaščios g. 5, Kočėnai	40,6	41,7	43,7
12	Apaščios g. 6, Kočėnai	40,6	41,7	43,8
13	Apaščios g. 7, Kočėnai	40,1	41,3	43,3
14	Apaščios g. 8, Kočėnai	40,6	41,7	43,8
15	Apaščios g. 8A, Kočėnai	40,6	41,7	43,8
16	Apaščios g. 9, Kočėnai	39,9	41	43,1
17	ID1 (no address assigned), Nemunėlio Radviliškis	37,7	38,7	40,7
18	Juljanava 6, Juljanava	34,2	35,6	37,6
19	Kaimynų g. 2, Kočėnai	37,6	39	41,1
20	Naujikų k. 2, Naujikai	35,4	36,8	38,9
21	Naujikų k. 3, Naujikai	36	37,4	39,5
22	Nausėdžiai 2A, Nausėdžiai	40,4	41,1	43,1
23	Nausėdžiai 4, Nausėdžiai	37,9	39,3	41,3
24	Nausėdžiai 6, Nausėdžiai	40,8	41,7	43,7
25	Nausėdžiai 8, Nausėdžiai	52,5	50,4	52
26	Nausėdžiai 9, Nausėdžiai	41,9	42,4	44,4
27	Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	34,6	36,1	38,2

Item No	Residential environment/Address	Noise level value L_{Aeq}, dBA at the residential environment		
		Option A	Option B	Option C
28	Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	34,1	35,7	37,8
29	Sodžiaus g. 11, Jasiškiai	38,1	39,4	41,4
30	Sodžiaus g. 12, Jasiškiai	38,5	39,8	41,8
31	Sodžiaus g. 13, Jasiškiai	38,1	39,4	41,5
32	Sodžiaus g. 14, Jasiškiai	39,2	40,5	42,6
33	Sodžiaus g. 15, Jasiškiai	38,3	39,5	41,6
34	Sodžiaus g. 16, Parupė	34,3	35,8	37,9
35	Sodžiaus g. 17, Jasiškiai	38,7	39,9	42
36	Sodžiaus g. 19, Jasiškiai	38,9	40,1	42,2
37	Sodžiaus g. 23, Jasiškiai	38,9	40,1	42,2
38	Sodžiaus g. 25, Jasiškiai	38,9	40,1	42,2
39	Sodžiaus g. 27, Jasiškiai	38,9	40,2	42,2
40	Sodžiaus g. 29, Jasiškiai	39	40,2	42,2
41	Sodžiaus g. 31, Jasiškiai	39	40,2	42,3
42	Sodžiaus g. 33, Jasiškiai	39	40,2	42,3
43	Sodžiaus g. 4, Jasiškiai	36,7	38,1	40,2
44	Sodžiaus g. 45, Jasiškiai	39,7	40,9	43
45	Sodžiaus g. 47, Jasiškiai	39,7	40,9	43
46	Sodžiaus g. 49, Jasiškiai	39,5	40,8	42,8
47	Sodžiaus g. 51, Jasiškiai	39,3	40,7	42,8
48	Sodžiaus g. 7, Jasiškiai	37,5	38,8	40,9
49	Strazdiškis 1, Strazdiškis	39,6	40,7	42,7
50	Svidžiai 15, Svidžiai	36	37,2	39,3
51	Svidžiai 16, Svidžiai	38,4	39,7	41,8
52	Svidžiai 17, Svidžiai	39,1	40,3	42,4
53	Upės g. 1, Jasiškiai	37	38,5	40,6
54	Upės g. 3, Jasiškiai	36,8	38,3	40,4
55	Upės g. 5, Jasiškiai	36,6	38,1	40,2
56	Velykionys 3, Velykionys	33	34,8	36,8
57	Žilvičių g. 2, Bliūdžiai	35	36,5	38,6

Results of modelling of the noise emitted by the WTs being planned have shown that, in all the options considered, environment of a residential building at the address Nausėdžiai 8, Nausėdžiai Village falls within the noise propagation zone where noise levels exceed 45 dBA. Therefore, measures to avoid and/or reduce/compensate for the excessive noise so that the equivalent noise level at this house and its environment does not exceed the limit values set in the Lithuanian Hygiene Standard HN 33:2011.

Selection of the noise impact avoidance and/or reduction/compensation measures

In order to comply with the law, the PEA Organiser undertakes, **in all the options considered**, to buy the land plot with the residential building, demolish the residential building and deregister it from the Immovable Property Register, and change the land use at the address:

1. Nausėdžių k. 8, Nausėdžiai, Nemunėlio Radviliškio sen., Biržų r. sav.

Otherwise, if the aforesaid noise impact reduction measure is not implemented, construction of WT N32-1 would be impossible irrespective of the option selected.

Conclusion: *On completion of the modelling of the noise propagation from all the WTs being planned, it has been established that the limit value of the noise emitted by the WT being planned would be exceeded, in all the options considered, in one residential environment. Therefore, measures to avoid and/or reduce the negative impact must be implemented. The measure being*

planned is to buy the land plot with the residential building, demolish the residential building and deregister it from the Immovable Property Register, and change the land use. On implementation of this measure, levels of noise made by the PEA, in all the options, in residential and public buildings and their environment will not exceed the limit values specified in HN 33:2011 in all the technical options of the PEA.

Results of modelling of the combined acoustic noise propagation from the 31 WTs being planned

Values of the modelled combined equivalent noise levels in the residential environment closest to the WTs are shown in Table 4.10.2.1.1.4 and Graphic Annex 4.

Table 4.10.2.1.1.4. Modelled levels of combined equivalent noise emitted by the WTs at the residential environment closest to the wind farm being planned

Item No	Residential environment/Address	Noise level value L_{Aeq}, dBA at the residential environment		
		Option A	Option B	Option C
1	Apaščios g. 10, Kočėnai	40,8	41,9	44
2	Apaščios g. 12, Kočėnai	40,8	41,9	44
3	Apaščios g. 14, Kočėnai	40,7	41,8	43,9
4	Apaščios g. 15, Kočėnai	40,6	41,7	43,7
5	Apaščios g. 16, Kočėnai	40,6	41,7	43,8
6	Apaščios g. 18, Kočėnai	38,1	39,6	41,7
7	Apaščios g. 2, Kočėnai	39,3	40,7	42,8
8	Apaščios g. 20, Kočėnai	38,7	40,1	42,2
9	Apaščios g. 22, Kočėnai	38,6	39,9	42
10	Apaščios g. 4, Kočėnai	40,8	41,9	43,9
11	Apaščios g. 5, Kočėnai	40,7	41,9	43,9
12	Apaščios g. 6, Kočėnai	40,8	41,9	43,9
13	Apaščios g. 7, Kočėnai	40,4	41,5	43,6
14	Apaščios g. 8, Kočėnai	40,8	41,9	43,9
15	Apaščios g. 8A, Kočėnai	40,8	41,9	44
16	Apaščios g. 9, Kočėnai	40,1	41,3	43,4
17	ID1 (no address assigned), Nemunėlio Radviliškis	37,8	38,7	40,8
18	Juljanava 6, Juljanava	34,3	35,6	37,7
19	Kaimynų g. 2, Kočėnai	38,3	39,7	41,8
20	Naujikų k. 2, Naujikai	38,4	39,7	41,7
21	Naujikų k. 3, Naujikai	38,9	40,1	42,2
22	Nausėdžiai 2A, Nausėdžiai	40,5	41,1	43,2
23	Nausėdžiai 4, Nausėdžiai	38	39,4	41,5
24	Nausėdžiai 6, Nausėdžiai	40,8	41,8	43,8
25	Nausėdžiai 8, Nausėdžiai	52,5	50,5	52
26	Nausėdžiai 9, Nausėdžiai	41,9	42,5	44,5
27	Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	34,6	36,1	38,2
28	Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	34,2	35,8	37,9
29	Sodžiaus g. 11, Jasiškiai	38,2	39,4	41,5
30	Sodžiaus g. 12, Jasiškiai	38,6	39,8	41,9
31	Sodžiaus g. 13, Jasiškiai	38,2	39,5	41,5
32	Sodžiaus g. 14, Jasiškiai	39,3	40,5	42,6
33	Sodžiaus g. 15, Jasiškiai	38,4	39,6	41,7

Item No	Residential environment/Address	Noise level value L_{Aeq}, dBA at the residential environment		
		Option A	Option B	Option C
34	Sodžiaus g. 16, Parupė	34,4	35,9	38
35	Sodžiaus g. 17, Jasiškiai	38,7	39,9	42
36	Sodžiaus g. 19, Jasiškiai	38,9	40,2	42,2
37	Sodžiaus g. 23, Jasiškiai	39	40,2	42,3
38	Sodžiaus g. 25, Jasiškiai	39	40,2	42,3
39	Sodžiaus g. 27, Jasiškiai	39	40,2	42,3
40	Sodžiaus g. 29, Jasiškiai	39	40,2	42,3
41	Sodžiaus g. 31, Jasiškiai	39	40,3	42,3
42	Sodžiaus g. 33, Jasiškiai	39	40,3	42,3
43	Sodžiaus g. 4, Jasiškiai	36,8	38,2	40,3
44	Sodžiaus g. 45, Jasiškiai	39,7	41	43
45	Sodžiaus g. 47, Jasiškiai	39,8	41	43,1
46	Sodžiaus g. 49, Jasiškiai	39,6	40,9	42,9
47	Sodžiaus g. 51, Jasiškiai	39,5	40,8	42,9
48	Sodžiaus g. 7, Jasiškiai	37,6	38,9	40,9
49	Strazdiškis 1, Strazdiškis	40	41,1	43,1
50	Svidžiai 15, Svidžiai	36,5	37,6	39,6
51	Svidžiai 16, Svidžiai	38,6	39,9	41,9
52	Svidžiai 17, Svidžiai	39,2	40,4	42,5
53	Upės g. 1, Jasiškiai	37,1	38,6	40,6
54	Upės g. 3, Jasiškiai	36,9	38,4	40,5
55	Upės g. 5, Jasiškiai	36,7	38,2	40,3
56	Velykionys 3, Velykionys	33,2	34,9	37
57	Žilvičių g. 2, Bliūdžiai	35,1	36,6	38,7

The modelling of the combined noise propagation from the WTs considered in this EIA Report and the wind farm being planned nearby has shown that new residential buildings and their environment will not fall, in all the options considered, in the area where the WTs would cause excessive noise levels over 45 dBA. It has been established that the most significant equivalent noise increase will not exceed the limit values specified in HN 33:2011, in all the PEA technical options considered.

Noise emitted by the TS being planned. The TS is planned to be constructed in a land plot ID No 3650-0001-0030 and/or in the adjacent land plot (ID No 3650-0001-0036) (Figure 3.2.2.1). A TS building with a control panel and a switchyard will be constructed as well as engineering networks required for the TS operation, access road and a fence. It is estimated that the main sources of noise in the TS will be four transformers; the noise level from them would be 65 dBA[3] at the distance of 2 m. The distance from the TS area to the nearest residential buildings is 1.2 – 1.5 km. Along with the increase in the distance from the TS noise source, the noise level diminishes by about 40 dBA per km (Figure 4.10.2.1.1.1), plus the noise level may be reduced by at least 20 dB by existing buildings and greenery (*Noise Suppression Barrier Manual*. Lithuanian Road Traffic Authority, 2002), it is anticipated that the noise made by the TS equipment will not be dominant in the nearest residential environment and will not exceed set limit values.

[3] According to LST EN (IEC) 60076-10, a power transformer under full load must not exceed 65 dB(A) during measurement.

This noise assessment will have to be updated in next designing phases when specific equipment with known noise emissions is selected.

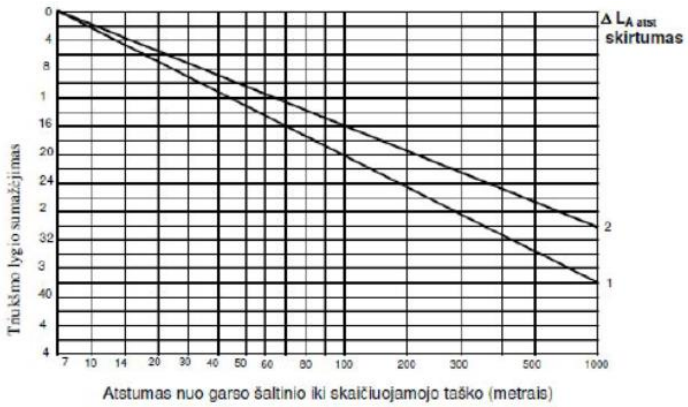


Figure 4.10.2.1.1.1. Calculation of the decrease in the noise level (dBA) according to the distance from the sound source (source: E. Mačiūnas. 1999)

4.10.2.1.2 Infrasound

Infrasound is sound with frequencies below the range of human hearing, with frequencies from 1 Hz to 20 Hz (human hearing is sensitive to sound the frequency of which is within the range from 20 Hz to 20000 Hz). Ultrasound is produced by various sources – natural such as wind or waves in the sea, or technical such as air conditioners or vehicles (cars, aircraft), wind turbines, ventilation and cooling systems.

Infrasound is usually understood as sound the frequence of which is between 0 Hz and 20 Hz. According to the International Electrotechnical Commission, a sound with acoustic oscillations frequency of about 16 Hz is considered to be infrasound. The International Electrotechnical Commission (IEC) defines infrasound as acoustic oscillations below the lower limit of audible sound, around 16 Hz. According to ISO standards, 20 Hz is the defined lower limit for the reference hearing threshold (Table 4.10.2.1.2.1).

Table 4.10.2.1.2.1. Sound frequencies spectrum

0-20	20-20000	>20000
Infrasound	Sound heard by humans	Ultrasound

It should be pointed out that infrasound is also emitted by some organs of the human body: heart 27-35 dB at the frequency 20-40 Hz, lungs 5-35 dB at the frequency 150-600 Hz.

Due to long wavelength, low-frequency sound can travel long distances, crossing walls and windows practically unweakened.

There have been no cases in Germany and other European countries where a WT project would have been stopped due to non-compliance with infrasound and low-frequency sound regulations. Similarly, there has been no case where WT in operation exceeded set requirements for the infrasound limit values. Infrasound and low-frequency sound generated by WTs are not a subject

for discussions as competent experts have confirmed that infrasound from modern WTs is of insignificant strength.

Currently there are no infrasound and low-frequency sound propagation forecasting methodologies adopted by Lithuania. Infrasound can only be determined by means of in situ measurements. The Lithuanian Hygiene Standard HN 30:2018 *Infrasound and low-frequency sound: limit values for residential, special-purpose and public premises* ('HN 30:2018') [50] establishes limit values of the maximum time-weighted sound pressure level F and frequency-weighted sound pressure level as well as the estimated sound pressure level $L_{R,}$.

The WTs being planned will be equipped with an upwind impeller installation system where the wind first passes the impeller and then through the generator. As undisturbed air flow reaches the impeller, generation of infrasound is avoided. Modern WTs do not create significant infrasound and low-frequency sounds.

Infrasound's impact on health. Human hearing is insensitive to infrasound. Human body itself emits low-frequency sounds that are important for diagnostic examinations (e. g. heart, lungs and digestive system).

However, researchers have found that loud low-frequency noise can cause resonant vibration of the chest surface at the frequency of 50 Hz - 80 Hz (Evaluation of the Scientific Literature on the Health Effects Associated with Wind Turbines and Low Frequency Sound [51]). It has been established that infrasound causes more intense vibration in people with small body mass, however, it was not established that such vibration passes to internal organs and causes any illnesses. Still, a relation between unpleasant subjective sensations and vibration of the body surface was recognised. Research has found that psychological response to low-frequency sounds (annoyance) arises also from the vibration and not just from the human hearing's response to these sounds. Vibration created by infrasound from WTs does not cause morphological changes in the organs. A vibroacoustic disease that manifests itself in the densification of the cardio-vascular system's tissue has been diagnosed in pilots, aircraft technicians and mechanics with a longer than 10 years' service record. However, no causal relationship between this disease and infrasound and no dose-response dependency was found.

Acoustic-related complaints were received from people exposed to high-strength low-frequency industrial sounds. Non-acoustic symptoms such as a considerable increase in systolic blood pressure or decrease in diastolic blood pressure were observed during one-hour's exposure to 125 dB 16 Hz sound. In addition, symptoms such as fatigue, apathy, lack of concentration or depression were reported.

Conclusion: *Infrasound created by the WTs being planned is of a considerably lower level as compared with the level that can have a negative impact on human health, according to research data. Tones of higher than 3.0 Hz frequency get weaker quickly as the distance from the infrasound source increases; the higher the frequency, the quicker the weakening of the infrasound. Therefore, no significant negative impact on residential environment is anticipated irrespective of the PEA option.*

4.10.2.1.3 Vibration

Most mechanical devices cause vibration due to movement of their parts. Vibration can be reduced by special-purpose insulation gaskets or equipment balancing. In WTs, vibration is created by the generator, rotating blades and other parts in operation. Rotating parts of a wind turbine can cause vibration when rotation of individual parts has not been balanced. Vibration can also be caused by improper allocation or faults of rotating parts, resulting in disbalanced operation of the parts. Mechanical vibration is very low: the amplitude of a vibration wave transmitted in the ground amounts to a millionth share of a millimetre and does not pose danger to human health [41].

Vibration is related to the propagation of infrasound. Windows is the most vibration-sensitive element of a building due to relatively low weight per area unit. Vibration of windows is usually felt when vibration frequency reaches 1-10 Hz and the 1/3 octave average infrasound pressure is approximately 52 dB [52].

Vibration is dangerous to WTs as it may disrupt their operation. Vibration of most mechanical equipment is regulated by standards. However, ISO 10816 standards on conditions and procedures of vibration measurement and assessment do not apply to the WTs. Therefore, in order to ensure reliability and sustainability of WT operation, the German Association of Engineers (*Verein Deutscher Ingenieure* (VDI)) prepared, jointly with the WT manufacturers, VDI 3834 standard designed for regulating WT vibration. This standard is applied to inland WTs from 100 kW to 3 MW and enables both manufacturers and operators to assess WT vibration levels and apply appropriate measures to comply with the values specified in the standard. The standard establishes allowable vibration values (in vibration acceleration units) for individual components of a wind turbine (Figure 4.10.2.1.3.1).

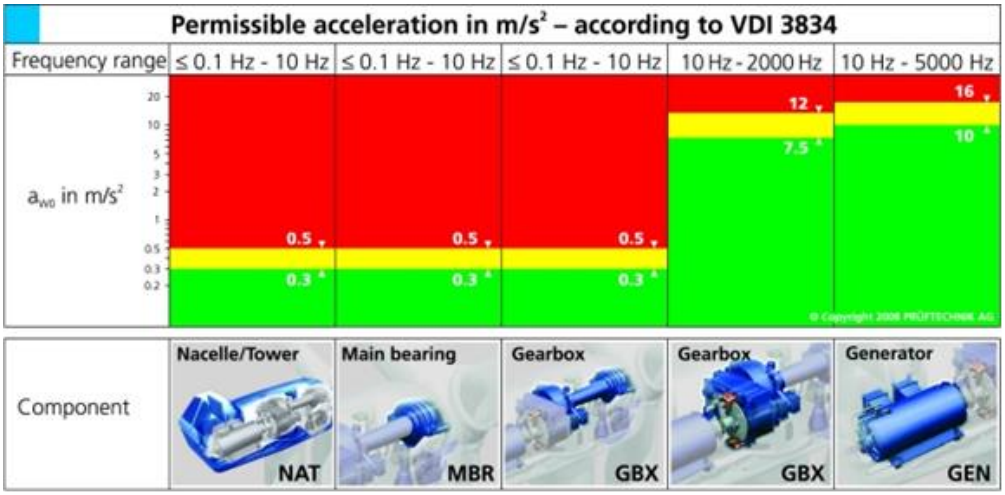


Figure 4.10.2.1.3.1. Permissible vibration values (in vibration acceleration units) for individual WT components

Vibration is assessed on the basis of acceleration and velocity measurements at three points of an equipment component. The worst measurement result is adopted as the correct one. The measurements are interpreted depending on the area into which the measuring results has fallen:

- Area 1: suitable for permanent operation (green colour).
- Area 2: possibly unsuitable for permanent operation. Investigation of the vibration source is recommended (yellow colour).
- Area 3: Risk of equipment damage (red colour).

Vibration created by the rotor is regulated by DIN ISO 1940-1 standard [53]. This standard defines permissible vibration for rigid rotors, i. e. balance quality requirements, methods to verify the residual unbalance etc.

The speed of vibration progressing from a WT is about 10-5 mm/s per 1 km. The speed of vibration from ten WTs is about 10-4 mm/s [54]. Vibration at the distance of 100 m from the nearest WT is taken to be 10 times weaker than recommended for buildings in which vibration is not desirable (e. g. laboratories for precise measurements).

Permissible vibration levels are regulated by the Lithuanian Hygiene Standard HN 50:2016 *'Vibration affecting entire human body: Maximum permissible exposure and measuring requirements for residential, special-purpose and public premises'* ('HN 50:2016') [55] which establishes vibration limit values for residential, special-purpose and public premises. Vibration intensity is determined on the basis of the average square value of acceleration or acceleration level. Assessment of vibration in hygiene terms is made within the range 1 Hz - 80 Hz.

The maximum permissible acceleration values and levels according to HN 50:2016 are provided in Table 4.10.2.1.3.1.

Table 4.10.2.1.3.1. Maximum permissible acceleration values and levels

Average geometric frequency in 1/3 octave bands, Hz	**Maximum permissible acceleration value a_{vkr}, m/s²**			**Maximum permissible acceleration level $L_{a,}$, dB**		
	Direction Z	Directions X and Y	Resultant acceleration	Direction Z	Directions X and Y	Resultant acceleration
1,00	$1.00 \cdot 10^{-2}$	$3.60 \cdot 10^{-3}$	$3.60 \cdot 10^{-3}$	80	71	71
1,25	$8.90 \cdot 10^{-3}$	$3.60 \cdot 10^{-3}$	$3.60 \cdot 10^{-3}$	79	71	71
1,60	$8.00 \cdot 10^{-3}$	$3.60 \cdot 10^{-3}$	$3.60 \cdot 10^{-3}$	78	71	71
2,00	$7.00 \cdot 10^{-3}$	$3.60 \cdot 10^{-3}$	$3.60 \cdot 10^{-3}$	77	71	71
2,50	$6.30 \cdot 10^{-3}$	$4.51 \cdot 10^{-3}$	$3.72 \cdot 10^{-3}$	76	73	71
3,15	$5.70 \cdot 10^{-3}$	$5.68 \cdot 10^{-3}$	$3.87 \cdot 10^{-3}$	75	75	72
4,00	$5.00 \cdot 10^{-3}$	$7.21 \cdot 10^{-3}$	$4.07 \cdot 10^{-3}$	74	77	72
5,00	$5.00 \cdot 10^{-3}$	$9.02 \cdot 10^{-3}$	$4.30 \cdot 10^{-3}$	74	79	73
6,30	$5.00 \cdot 10^{-3}$	$1.14 \cdot 10^{-2}$	$4.60 \cdot 10^{-3}$	74	81	73
8,00	$5.00 \cdot 10^{-3}$	$1.44 \cdot 10^{-2}$	$5.00 \cdot 10^{-3}$	74	83	74
10,00	$6.30 \cdot 10^{-3}$	$1.80 \cdot 10^{-2}$	$6.30 \cdot 10^{-3}$	76	85	76
12,50	$7.81 \cdot 10^{-3}$	$2.25 \cdot 10^{-2}$	$7.80 \cdot 10^{-3}$	78	87	78
16,00	$1.00 \cdot 10^{-2}$	$2.89 \cdot 10^{-2}$	$1.00 \cdot 10^{-2}$	80	89	80
20,00	$1.25 \cdot 10^{-2}$	$3.61 \cdot 10^{-2}$	$1.25 \cdot 10^{-2}$	82	91	82
25,00	$1.56 \cdot 10^{-2}$	$4.51 \cdot 10^{-2}$	$1.56 \cdot 10^{-2}$	84	93	84
31,50	$1.97 \cdot 10^{-2}$	$5.68 \cdot 10^{-2}$	$1.97 \cdot 10^{-2}$	86	95	86
40,00	$2.50 \cdot 10^{-2}$	$7.21 \cdot 10^{-2}$	$2.50 \cdot 10^{-2}$	88	97	88
50,00	$3.13 \cdot 10^{-2}$	$9.02 \cdot 10^{-2}$	$3.13 \cdot 10^{-2}$	90	99	90
63,00	$3.94 \cdot 10^{-2}$	$1.14 \cdot 10^{-1}$	$3.94 \cdot 10^{-2}$	92	101	92
80,00	$5.00 \cdot 10^{-2}$	$1.44 \cdot 10^{-1}$	$5.00 \cdot 10^{-2}$	94	103	94

Average geometric frequency in 1/3 octave bands, Hz	Maximum permissible acceleration value a_{vkr}, m/s^2			Maximum permissible acceleration level $L_{a,}$, dB		
	Direction Z	Directions X and Y	Resultant acceleration	Direction Z	Directions X and Y	Resultant acceleration
Adjusted value and level	$5.00 \cdot 10^{-3}$	$3.60 \cdot 10^{-3}$	–	74	71	–

Vibration generated by wind turbines is very weak and does affect nearby residents. In other countries, vibration is not considered as a health factor at all. As no impact of vibration is anticipated, no qualitative assessment is made.

Health effects of vibration. Generally, vibration transmitted to the entire body has the following health effects:

- Sensation of discomfort and fatigue;
- Concerns over damage to structures of a building;
- potential reduction of visual acuity.

The aforesaid effects most often arise from travelling (by means of air or rail transport) or driving heavy-weight vehicles [56]. Vibration generated by wind turbines is very weak and does affect nearby residents. Vibration generated by wind turbines is very weak and does affect nearby residents. In other countries, vibration is not considered as a health factor at all. As no impact of vibration is anticipated, no qualitative assessment is made.

Conclusion: *Vibration propagated by rotating parts and other parts of the WTs being planned is too weak to produce a negative impact on the nearest residential/public environment, in all the PEA options being considered.*

4.10.2.1.4 Shadow flicker

Shadow flicker is the flickering effect caused when rotating wind turbine blades periodically cast shadows in certain geographical conditions at certain times of the day. Rotating blades create sudden change in light and darkness within the shade area, with the change depending on the rotation speed. The latter is determined by the wind speed and the rotor size and type. When a WT casts a shadow on residential properties, the flickering may cause annoyance for residents. The shadow is cast in the direction opposite to the sun. Formation of the shadow ins depicted in Figure 4.10.2.1.4.1.

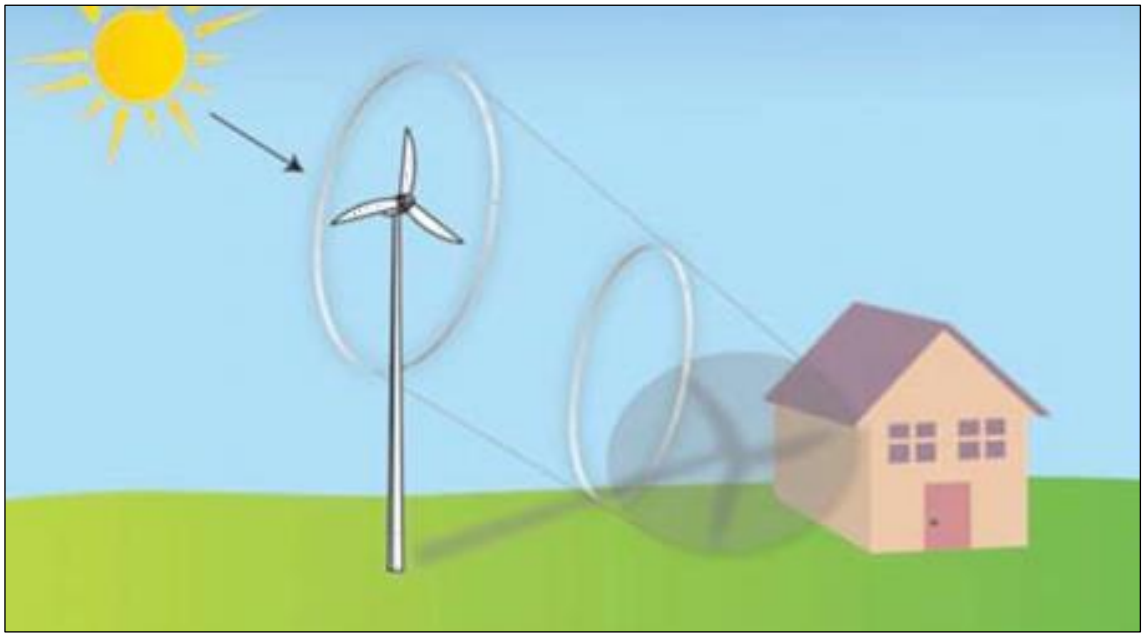


Figure 4.10.2.1.4.1. Shadow cast by a WT

The flickering effect depends on the following factors:

- location of a residential building in relation to the WT;
- distance from the WT: the longer the distance between the observer and the VE, the weaker the flicker effect as the blades do not cover the sun entirely. At distances greater than 10 rotor diameters from a turbine, the potential for shadow flicker is very low [56];
- WT tower height and rotor diameter;
- time of year and time of day;
- length of WT operation during daytime;
- direct sunlight;
- prevailing wind direction and speed.

Permissible duration of shadow flicker caused by WT is not regulated in Lithuania. An overview of practices of other countries [57] has shown that in most European countries there are no regulations for limiting effects on neighbouring residential properties by WT-caused shadow flicker. There is a recommendation that shadow flicker created by rotation of WT blades should not exceed 30 hours per year or 30 minutes per day within the radius of 500 m from the WT, based on research carried out by PREDAC (European Actions for Renewable Energies), a EU-funded organisation, and best practices recorded in Belgium. Denmark, France, the Netherlands and Germany.

Assessment methodology. Modelling of shadow flicker caused by WTs was performed by means of WindPRO software package (version 3.6-4.0). Based on input data, WindPRO calculates the area of shadow flicker generated by a WT or a number of WT depending on the

time interval selected: minutes per day; hours per year; or days per year. In addition, on specifying shadow receptors, the impact of shadow flicker upon these areas is determined.

The calculations are based on German methodological guidance on determining and assessing the shadow flicker impact [58].

The shadow flicker modelling (dispersion calculation) was performed for the PEA options specified in Table 3.2.2.1 of Subsection 3.2.2 „*Physical characteristics of the PEA*“ 3.2.2.1.

Conditions adopted for the shadow flicker modelling:

- minimum angle of solar elevation above the horizon 3˚;
- at least 20 % of the sun covered by a WT blade;
- modelling height: 1.5 m above the ground surface;
- requisite meteorological information received from the Kaunas Meteorological Station;
- all the WTs operate simultaneously at full capacity (365 d/yr), and all windows of the nearest residential buildings overlook the WTs;

Results of the shadow flicker modelling for the WTs being planned. Results of calculation of the shadow flicker caused by the WTs being planned on the nearest residential buildings (which are exposed to the shadow flicker for more than 30 hr/yr) are presented in Table 4.10.2.1.4.1, with graphical information (shadow flicker dispersion maps) are contained in Graphic Annex 5.

Table 4.10.2.1.4.1. Calculated results of shadow flicker by the WTs being planned

Item No	Residential environment/address	Calculated duration of shadow flicker, h/yr		
		Option A	Option B	Option C
1	Apaščios g. 10, Kočėnai	43:14	42:52	43:22
2	Apaščios g. 12, Kočėnai	23:23	29:46	33:04
3	Apaščios g. 14, Kočėnai	26:37	35:13	39:32
4	Apaščios g. 15, Kočėnai	22:44	31:09	33:57
5	Apaščios g. 16, Kočėnai	29:26	39:20	44:20
6	Apaščios g. 18, Kočėnai	16:25	17:04	17:12
7	Apaščios g. 2, Kočėnai	23:30	33:27	37:31
8	Apaščios g. 20, Kočėnai	22:09	20:03	19:26
9	Apaščios g. 22, Kočėnai	2:51	4:08	4:44
10	Apaščios g. 4, Kočėnai	54:50	56:07	57:15
11	Apaščios g. 5, Kočėnai	24:18	31:46	35:31
12	Apaščios g. 6, Kočėnai	52:02	52:43	53:47
13	Apaščios g. 7, Kočėnai	33:22	45:12	51:20
14	Apaščios g. 8, Kočėnai	49:01	49:33	50:19
15	Apaščios g. 8A, Kočėnai	45:52	45:41	46:23
16	Apaščios g. 9, Kočėnai	48:40	59:04	62:27
17	ID1 (address not assigned), Nemunėlio Radviliškis	10:00	13:18	15:02
18	Juljanava 6, Juljanava	1:35	4:15	5:04
19	Kaimynų g. 2, Kočėnai	18:55	17:21	16:31
20	Naujikų k. 2, Naujikai	4:21	4:39	0:00
21	Naujikų k. 3, Naujikai	9:09	10:50	10:48

Item No	Residential environment/address	Calculated duration of shadow flicker, h/yr		
		Option A	Option B	Option C
22	Nausėdžiai 2A, Nausėdžiai	13:03	18:13	19:55
23	Nausėdžiai 4, Nausėdžiai	12:15	16:18	18:41
24	Nausėdžiai 6, Nausėdžiai	37:13	39:26	40:55
25	Nausėdžiai 8, Nausėdžiai	181:03	80:55	60:36
26	Nausėdžiai 9, Nausėdžiai	38:40	25:09	21:55
27	Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	7:11	10:21	11:32
28	Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	7:19	10:14	11:18
29	Sodžiaus g. 11, Jasiškiai	23:17	28:03	29:41
30	Sodžiaus g. 12, Jasiškiai	26:54	25:59	26:09
31	Sodžiaus g. 13, Jasiškiai	23:48	27:47	29:12
32	Sodžiaus g. 14, Jasiškiai	31:51	32:03	32:40
33	Sodžiaus g. 15, Jasiškiai	24:13	27:02	28:14
34	Sodžiaus g. 16, Parupė	5:22	7:04	7:45
35	Sodžiaus g. 17, Jasiškiai	24:40	35:43	38:08
36	Sodžiaus g. 19, Jasiškiai	29:59	29:00	29:09
37	Sodžiaus g. 23, Jasiškiai	26:28	23:55	23:43
38	Sodžiaus g. 25, Jasiškiai	24:47	21:43	21:25
39	Sodžiaus g. 27, Jasiškiai	22:36	18:56	18:33
40	Sodžiaus g. 29, Jasiškiai	20:31	16:22	16:46
41	Sodžiaus g. 31, Jasiškiai	18:53	17:20	17:47
42	Sodžiaus g. 33, Jasiškiai	18:16	20:08	18:30
43	Sodžiaus g. 4, Jasiškiai	17:20	19:11	19:52
44	Sodžiaus g. 45, Jasiškiai	17:05	23:10	24:04
45	Sodžiaus g. 47, Jasiškiai	21:15	31:34	31:06
46	Sodžiaus g. 49, Jasiškiai	20:21	16:53	18:41
47	Sodžiaus g. 51, Jasiškiai	18:18	27:14	25:39
48	Sodžiaus g. 7, Jasiškiai	14:18	18:40	20:56
49	Strazdiškis 1, Strazdiškis	49:25	48:59	43:47
50	Svidžiai 15, Svidžiai	11:38	14:56	16:48
51	Svidžiai 16, Svidžiai	14:58	21:31	23:18
52	Svidžiai 17, Svidžiai	12:18	18:37	20:20
53	Upės g. 1, Jasiškiai	16:27	22:13	22:30
54	Upės g. 3, Jasiškiai	15:51	21:26	21:29
55	Upės g. 5, Jasiškiai	14:51	20:39	23:12
56	Velykionys 3, Velykionys	1:56	2:45	3:01
57	Žilvičių g. 2, Bliūdžiai	14:29	18:41	19:27

Calculation results presented in Table 4.10.2.1.4.1 show that, all the PEA options considered, under most favourable conditions for the formation of shadows, i. e. sufficient wind strength and largest number of sunny days per year, the following residential environments would be most affected by the shadow flicker caused by the WTs: at the address Nausėdžiai 8, Nausėdžių k. (in Option A – up to 181 h and 3 min. per year; in Option B – up to 80 h and 55 min. per year; in Option C – up to 60:36 h and 13 min. per year) and at the address Apaščios g. 9, Kočėnų k. (in Option A – up to 48 h and 40 min. per year; in Option B – up to 59 h and 4 min. per year; in Option C – up to 62 h and 27 min. per year).

Therefore, a technical measure mitigating the shadow flicker impact – an anti-flickering system must be implemented at the relevant WTs. This system ensures that the WT rotor speed,

controlled by special-purpose sensors and software, limits the flickering of the shadows cast by the blades does not exceed 30 h/yr. The system stops the WT when the values measured by the sensors exceed the set values. After the stopping, the WT is restarted automatically after no less than 10 minutes when the current lighting conditions prevent occurrence of an intense shadow flicker.

Selecting measures to reduce/compensate for shadow flicker

On implementation of the anti-flickering system in the WTs specified in Table 4.10.2.1.4.2 below, no residential area will be within the increased negative impact zone (where the duration of exposure to shadow flicker exceeds 30 h/yr).

Table 4.10.2.1.4.2. Calculated results of shadow flicker by the WTs upon implementation of the anti-flickering system

Item No	Residential environment/address	Calculated duration of shadow flicker, h/yr		
		Option A	Option B	Option C
1	Apaščios g. 10, Kočėnai	11:33	11:38	11:34
2	Apaščios g. 12, Kočėnai	4:22	5:56	6:42
3	Apaščios g. 14, Kočėnai	4:32	6:29	7:18
4	Apaščios g. 15, Kočėnai	11:14	28:33	17:02
5	Apaščios g. 16, Kočėnai	4:32	6:36	7:29
6	Apaščios g. 18, Kočėnai	0:00	3:00	0:00
7	Apaščios g. 2, Kočėnai	10:24	14:26	16:13
8	Apaščios g. 20, Kočėnai	3:27	16:58	3:30
9	Apaščios g. 22, Kočėnai	2:33	0:00	4:44
10	Apaščios g. 4, Kočėnai	13:56	15:09	15:25
11	Apaščios g. 5, Kočėnai	3:52	5:31	6:13
12	Apaščios g. 6, Kočėnai	13:30	14:19	14:32
13	Apaščios g. 7, Kočėnai	4:14	6:23	7:17
14	Apaščios g. 8, Kočėnai	12:54	13:32	13:38
15	Apaščios g. 8A, Kočėnai	12:11	12:25	12:25
16	Apaščios g. 9, Kočėnai	3:27	7:45	6:30
17	ID1 (address not assigned), Nemunėlio Radviliškis	10:01	13:19	15:04
18	Juljanava 6, Juljanava	1:35	4:15	5:04
19	Kaimynų g. 2, Kočėnai	0:00	2:35	0:00
20	Naujikų k. 2, Naujikai	4:21	4:39	0:00
21	Naujikų k. 3, Naujikai	9:09	0:00	10:48
22	Nausėdžiai 2A, Nausėdžiai	13:03	16:47	17:42
23	Nausėdžiai 4, Nausėdžiai	9:22	12:45	14:47
24	Nausėdžiai 6, Nausėdžiai	27:48	27:07	27:02
25	Nausėdžiai 8, Nausėdžiai*	8:16	8:52	9:43
26	Nausėdžiai 9, Nausėdžiai	4:06	5:10	5:40
27	Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	7:13	10:24	11:35
28	Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	6:13	8:39	9:35
29	Sodžiaus g. 11, Jasiškiai	15:35	15:10	19:19
30	Sodžiaus g. 12, Jasiškiai	8:57	4:23	13:12
31	Sodžiaus g. 13, Jasiškiai	15:53	14:24	18:22
32	Sodžiaus g. 14, Jasiškiai	29:35	10:31	28:28
33	Sodžiaus g. 15, Jasiškiai	15:37	12:20	16:15

Item No	Residential environment/address	Calculated duration of shadow flicker, h/yr		
		Option A	Option B	Option C
34	Sodžiaus g. 16, Parupė	5:23	7:05	7:45
35	Sodžiaus g. 17, Jasiškiai	7:18	3:36	10:38
36	Sodžiaus g. 19, Jasiškiai	9:03	4:16	13:04
37	Sodžiaus g. 23, Jasiškiai	9:54	4:37	14:27
38	Sodžiaus g. 25, Jasiškiai	10:21	4:47	15:09
39	Sodžiaus g. 27, Jasiškiai	10:57	4:58	16:02
40	Sodžiaus g. 29, Jasiškiai	11:34	5:08	16:48
41	Sodžiaus g. 31, Jasiškiai	13:11	6:44	17:50
42	Sodžiaus g. 33, Jasiškiai	13:42	6:54	18:33
43	Sodžiaus g. 4, Jasiškiai	13:28	12:26	14:41
44	Sodžiaus g. 45, Jasiškiai	13:44	17:35	17:28
45	Sodžiaus g. 47, Jasiškiai	16:03	21:38	22:27
46	Sodžiaus g. 49, Jasiškiai	16:23	11:35	12:47
47	Sodžiaus g. 51, Jasiškiai	9:59	14:45	13:29
48	Sodžiaus g. 7, Jasiškiai	9:11	9:54	14:03
49	Strazdiškis 1, Strazdiškis	6:58	6:21	5:48
50	Svidžiai 15, Svidžiai	11:38	11:25	16:48
51	Svidžiai 16, Svidžiai	12:12	15:23	18:30
52	Svidžiai 17, Svidžiai	8:58	12:56	14:46
53	Upės g. 1, Jasiškiai	7:23	4:35	6:46
54	Upės g. 3, Jasiškiai	7:38	5:18	7:29
55	Upės g. 5, Jasiškiai	7:00	4:46	11:34
56	Velykionys 3, Velykionys	1:56	2:45	6:42
57	Žilvičių g. 2, Bliūdžiai	14:29	18:41	7:18

*- having regard to the noise dispersion assessment results and noise abatement/compensation measures, this residential property will be purchased, the buildings demolished and deregistered, and the land use changed.

To sum up the results of the shadow flicker modelling for the WTs being planned and the technical impact reduction measure (the anti-flickering system), it has been concluded that the system should be implemented at the following WTs:

- **In Option A** – nine WTs N34, N35, N22, N16, N23, N32-1, N8, N4, N25;;
- **In Option B** – ten WTs N34, N35, N22, N16, N23, N32-1, N8, N4, N25, N26;
- **In Option C** – nine WTs N34, N35, N22, N16, N23, N32-1, N8, N4, N25.

It should be pointed out that, in this EIA Report, the shadow flicker assessment has been made for the worst-case situation when the impact was measured on all sides of the building, therefore, the number of the WTs in which the technical shadow flicker reduction measure is to be implemented may be adjusted in next designing phases, on completion of a detailed assessment of the positions of the buildings‘ windows in relation to the WT locations.

Conclusion. *On completion of the shadow flicker modelling for the WTs being planned it has been established that, under most favourable shadow formation conditions, the shadow flicker limit value would be exceeded: in Option A – at 12 residential buildings, Option B – at 18 residential buildings, and Option C – at 19 residential buildings. In order to avoid this negative*

impact, the impact mitigation measure must be applied: in Option A – in 9 WTs, Option B – in 10 WTs, and Option C – in 9 WTs. On implementation of the planned impact mitigation measure, the duration of the shadow flicker caused by the rotating WT blades would not exceed set limit value in all the PEA technical options being considered.

Results of modelling of overall shadow flicker caused by all the WTs. Results of calculation of **overall** shadow flicker caused by up to 31 WTs being planned and the WTs in the closest neighbouring areas (up to 37 WTs planned by Biržų vėjas, UAB in the Parovėja and Nemunėlio Radviliškis wards of the Biržai District Municipality and 3 WTs planned by Bionalis, UAB in the Nemunėlio Radviliškis ward) for the nearest residential areas (which would be exposed to shadow flicker for more than 30 h/yr) are provided in Table 4.10.2.1.4.3, with graphical information (shadow flicker dispersion maps) contained in Graphic Annex 5.

Table 4.10.2.1.4.3. Calculated results of overall shadow flicker caused by all the WTs being planned

Item No	Residential environment/address	Calculated duration of shadow flicker, h/yr		
		Option A	Option B	Option C
1	Apaščios g. 10, Kočėnai	43:13	42:53	43:24
2	Apaščios g. 12, Kočėnai	23:24	29:48	33:06
3	Apaščios g. 14, Kočėnai	26:37	35:13	39:33
4	Apaščios g. 15, Kočėnai	22:42	31:07	33:56
5	Apaščios g. 16, Kočėnai	29:27	39:21	44:20
6	Apaščios g. 18, Kočėnai	16:25	18:14	18:49
7	Apaščios g. 2, Kočėnai	23:45	33:52	37:59
8	Apaščios g. 20, Kočėnai	22:09	22:15	22:25
9	Apaščios g. 22, Kočėnai	5:27	9:21	10:48
10	Apaščios g. 4, Kočėnai	54:56	56:12	57:19
11	Apaščios g. 5, Kočėnai	24:18	31:46	35:31
12	Apaščios g. 6, Kočėnai	52:05	52:46	53:50
13	Apaščios g. 7, Kočėnai	33:21	45:11	51:20
14	Apaščios g. 8, Kočėnai	49:02	49:35	50:21
15	Apaščios g. 8A, Kočėnai	45:52	45:42	46:24
16	Apaščios g. 9, Kočėnai	48:38	59:03	62:26
17	ID1 (address not assigned), Nemunėlio Radviliškis	10:01	13:19	15:04
18	Juljanava 6, Juljanava	1:35	4:15	5:04
19	Kaimynų g. 2, Kočėnai	18:55	18:34	18:09
20	Naujikų k. 2, Naujikai	11:56	13:42	9:52
21	Naujikų k. 3, Naujikai	17:54	20:54	21:49
22	Nausėdžiai 2A, Nausėdžiai	13:03	18:13	19:55
23	Nausėdžiai 4, Nausėdžiai	12:20	16:25	18:49
24	Nausėdžiai 6, Nausėdžiai	37:34	39:51	41:20
25	Nausėdžiai 8, Nausėdžiai	181:26	81:18	60:58
26	Nausėdžiai 9, Nausėdžiai	38:37	25:08	21:54
27	Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	7:13	10:24	11:35
28	Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	7:20	10:16	11:20
29	Sodžiaus g. 11, Jasiškiai	23:14	28:00	29:39
30	Sodžiaus g. 12, Jasiškiai	26:50	25:56	26:06
31	Sodžiaus g. 13, Jasiškiai	23:44	27:43	29:09

Item No	Residential environment/address	Calculated duration of shadow flicker, h/yr		
		Option A	Option B	Option C
32	Sodžiaus g. 14, Jasiškiai	31:49	32:02	32:39
33	Sodžiaus g. 15, Jasiškiai	24:08	26:58	28:10:00
34	Sodžiaus g. 16, Parupė	5:23	7:05	7:45
35	Sodžiaus g. 17, Jasiškiai	24:41	35:44	38:10
36	Sodžiaus g. 19, Jasiškiai	29:55	28:57	29:06
37	Sodžiaus g. 23, Jasiškiai	26:23	23:51	23:40
38	Sodžiaus g. 25, Jasiškiai	24:42	21:41	21:24
39	Sodžiaus g. 27, Jasiškiai	22:32	18:56	18:34
40	Sodžiaus g. 29, Jasiškiai	20:28	16:24	16:48
41	Sodžiaus g. 31, Jasiškiai	18:55	17:26	17:50
42	Sodžiaus g. 33, Jasiškiai	18:18	20:14	18:33
43	Sodžiaus g. 4, Jasiškiai	17:17	19:09	19:51
44	Sodžiaus g. 45, Jasiškiai	17:04	23:09	24:03
45	Sodžiaus g. 47, Jasiškiai	21:19	31:40	31:04
46	Sodžiaus g. 49, Jasiškiai	20:22	16:59	18:47
47	Sodžiaus g. 51, Jasiškiai	18:25	27:26	25:47
48	Sodžiaus g. 7, Jasiškiai	14:18	18:41	20:57
49	Strazdiškis 1, Strazdiškis	49:24	48:58	43:47
50	Svidžiai 15, Svidžiai	11:38	14:57	16:48
51	Svidžiai 16, Svidžiai	15:06	21:44	23:31
52	Svidžiai 17, Svidžiai	12:23	18:47	20:30
53	Upės g. 1, Jasiškiai	16:33	22:24	22:31
54	Upės g. 3, Jasiškiai	15:57	21:35	21:30
55	Upės g. 5, Jasiškiai	14:58	20:49	23:24
56	Velykionys 3, Velykionys	1:56	2:45	3:01
57	Žilvičių g. 2, Bliūdžiai	14:29	18:41	19:27

Conclusion. The overall shadow flicker modelling performed for the 31 WTs being planned as well as the WTs being planned in the closest neighbouring areas (up to 37 WTs by Biržų vėjas, UAB in the Parovėja and Nemunėlio Radviliškis wards of the Biržai District Municipality and 3 WTs by Bionalis, UAB in the Nemunėlio Radviliškis ward) has shown that new residential buildings will not fall within the increased negative impact zone (where exposure to shadow flicker would exceed 30 h/yr.). In Option A – 12 residential buildings, in Option B – 18 residential buildings, and Option C – 19 residential buildings would fall into this zone.

4.10.2.1.5 Electromagnetic radiation

Electromagnetic radiation (electromagnetic field) is a physical field produced by electric charges and combining interrelated electric and magnetic forces varying in time. While changing in time, electric field creates a magnetic field that also changes in time and produces electric field.

An electromagnetic wave is characterised by the following parameters: oscillation frequency, wavelength, amplitude, propagation speed, radiation strength, and polarisation plane. Oscillation frequency is the number of the electric field‘s oscillations per second (Hz). Wavelength is the distance between any two adjacent points in the same phase.

Sources of electromagnetic fields can be natural or man-made. Natural sources of electromagnetic fields are found in nature. They include electric field of the atmosphere and

magnetic field of the earth, electromagnetic waves created by atmospheric discharges, and electromagnetic radiation emitted by the sun and other bodies of the solar system.

Intensity of an electromagnetic field varies in inverse proportion to the square of the distance from the source, i. e. is equal to I/d^2, where *I* is intensity (W/m^2) at *1d* distance. This means that electromagnetic radiation propagates and weakens as the distance from the source increases. This dependency is illustrated by Figure 4.10.2.1.5.1.

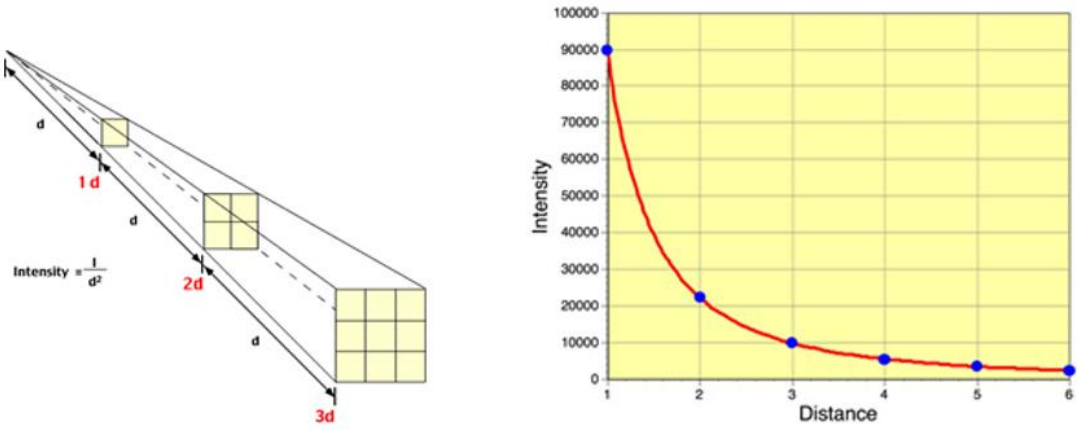


Figure 4.10.2.1.5.1. Dispersion of electromagnetic radiation

It must be pointed out that reduction of intensity is not linear.

Man-made sources of electromagnetic fields can be grouped as follows:.

Group one – electromagnetic fields occurring in domestic settings (at microwave ovens and electric cookers, due to the use of mobile phones etc.). An electromagnetic field under a three-phase electricity transmission line is the strongest midway between two supports as, due to sagging, the distance to the ground is the shortest there. The strength of the magnetic field in the environment of the line depends on the line load, i. e. the current flowing in the wires. Magnetic induction of quite complicated structure, at approx. 10 mT per kiloampere of the current, is created under the line.

Group two – sources of electromagnetic fields, other than electromagnetic fields for radio engineering purposes, of varying frequency occurring at industrial enterprises (galvanic workshops, at electrical welding machines, electricity generators, in transformer substations); devices for diagnostics, treatment and physiotherapy used in medical and research establishments.

Group three – sources for radio engineering purposes, or radio transmitters. Generators used for radio engineering purposes are the strongest sources of electromagnetic fields (e. g. radiophone, television, radio location, radio communication and other transmitters).

In medicine, electromagnetic radiation sources are used for the arterial wall motion radio location, diathermy – the production of heat in deep tissues in a part of the body, stopping of bleeding and tissue separation in surgery, and overheating of malignant tumours by means of microwaves.

According to the energy radiated, electromagnetic radiation sources are categorised as high-, medium- and low-energy sources. Electromagnetic radiation from radio and television stations varies between 100 kW (high energy) and 100 W Medium energy), and from mobile phones – 1-2 W (low energy).

According to frequency and wavelength, non-ionising radiation is conventionally classified into low frequency (up to 100 Hz) electromagnetic field (1000 km wavelength or longer), radio waves (1000 km - 1 mm), infrared (thermal) radiation (1 mm – 0.78 mm), visible light (0.78 mm - 400 nm), and ultraviolet radiation (400 nm - 100 nm).

In the case of wind turbines, the electromagnetic field generated by electric current is relevant. Wind turbines transform wind energy into electricity. Electric current is transmitted from the WT to the 330 kV electricity transmission grid via a cable, creating a weak magnetic field while flowing.

Industrial WTs can generate electromagnetic interference in an electromagnetic wave propagation zone. Such interference may disrupt transmission of radio and TV waves.

In Lithuania, electromagnetic radiation in residential environment is governed by the following legal acts:

- Lithuanian Hygiene Standard HN 80:2011 '*Electromagnetic field at workplaces and in residential environment. Normative values of parameters and measurement requirements in 10 kHz–300 GHz radio frequency band*' [59] establishes electromagnetic radiation limit values for the operation of radiotechnical facilities with the effective radiation power exceeding 25 W In accordance with the Republic of Lithuanian Law on Public Health Care [60], a radiotechnical facility is means a radio communication facility that emits radio waves and operates within a 10 kHz - 300 GHz radio frequency band. Thus this standard does not apply to the WTs;

- Lithuanian Hygiene Standard HN 104:2011 '*Protection of residents against electromagnetic field generated by electricity transmission lines'* [61] approved by Order of the Minister of Health of the Republic of Lithuania No V-552 of 30 May 2011 establishes permissible values of electromagnetic field parameters for electricity transmission lines 330 kV or higher as well as related equipment (the 'electricity lines') operating at industrial 50 Hz frequency and the general electromagnetic field measuring requirements for premises of residential and public buildings as well as in residential environment (Table 4.10.2.1.5.1).

Table 4.10.2.1.5.1. Permissible values of an electromagnetic field parameters

Item No	Description	Permissible values of an electromagnetic field parameters (no more than)		
		Electric field strength (E), kV/m	Magnetic field strength (H), A/m	Magnetic flow density (B), μT
1	Premises of residential and public buildings	0,5	16,0	20,0
2	Residential environment	1,0	32,0	40,0

The aforesaid hygiene standard does not apply to the electricity lines' safety zones that are subject to the special conditions of land and forest use. The WTs being planned will generate electricity in the voltage range 10-33 kV. The electricity will be delivered to transformer substation TP1 via an underground cable line. It is planned that TP1 will be connected to the 330 kV overhead electricity line Aizkraukle — Panevėžys and/or to alternative transformer substations: T2 – existing Litgrid, AB's 110 kV transformer substation in a land plot ID 4400-0322-3447, at 1 Pitiškiai village, Parovėja ward, Biržai District Municipality (Figure 3.2.2.2) and/or, in the case of selection of Option T3 – a TS being planned in a land plot ID No 4400-0101-6340 in Vinkšniniai village, Parovėja ward, Biržai District Municipality (Figure 3.2.2.3).

Strength of an electromagnetic field can be measured. Electromagnetic field strength has been measured for existing WTs of relevant parameters on 6 September 2011. It has been found that the highest electromagnetic field strength 162 V/m was at the fence of the transformer substation of the wind farm; at a 10 kV electricity line it was 13.3 V/m.

Electromagnetic field impact on health. An impact of a very low frequency electromagnetic field on health was examined in detail in a WHO publication *Environmental Health Criteria 238 Extremely Low Frequency Fields*, 2007 [62].

The publication contains an overview of a number of epidemiological and other studies. It has been established, on the basis of their results, that a chronic impact of a low-frequency electromagnetic field (e. g. from an electricity line) can be related to an increased risk of leukaemia in children. However, there is no sufficient evidence to support this causal relationship. An acute biological response manifests itself due to exposure to an electromagnetic field below 100 kHz. In those cases where research has established a negative impact on health, a limit value for the strength of the electromagnetic field is set to ensure proper protection of residents against the field's impact.

In 2002, the International Agency for Research on Cancer (IARC) has classified a low-frequency magnetic field as a carcinogen.

The key mechanism of impact of a low-frequency electromagnetic field includes the direct electric field created in neurons, free radicals and magnetisation.

An electric/magnetic field can stimulate the nerve endings when the field strength is as low as a few V/m. A weaker field can affect the pulse transmission in the synapsis (a neuron connection). A magnetic field can stimulate chemical reactions in which free radicals form under weak fields and, vice versa, suppress their formation under high-strength fields. Such increase in the free

radical formation is observed when the magnetic field strength is below 1 mT. It is deemed that an impact of a low-frequency magnetic field is weaker than that of a geomagnetic field of up to 50 μT, and that it does not have a significant biological effect.

Tiny crystals containing magnetite (iron oxide) are found in human tissues, albeit in very small quantities. Similarly to free radicals, they are linked to orientation and navigation required for animal migration. The human body is incapable of recognising a weak geomagnetic field due to a very low magnetite content of the human brain. It has been established that the lower limit of the magnetic field's impact on the magnetite crystals is 5 μT.

Other types of the biophysical impact of an electromagnetic field resulting in an interruption of chemical linkages, impacts by charged particles and various resonant mechanisms are not significant as electromagnetic fields in residential or working environment are of much lower strength and cannot cause such impacts.

High-voltage electricity lines create clouds of charged ions due to an electric arc discharge. According to some researchers, this causes accumulation of pollutants on the skin and in the respiratory system, however, this impact is deemed to be insignificant even to most exposed persons

No causal relationship between all the aforesaid impacts and increased morbidity has been found. These impacts only manifest themselves at the electromagnetic field levels that are much higher than the exposure of residents in normal conditions.

Experience [63] shows that even the electromagnetic field created by high-voltage electricity lines does not exceed the limit values beyond the lines' safety zones (20 m from the edge wires of a 110 kV line and 30 m from the edge wires of 330-400 kV lines, in accordance with the Republic of Lithuanian Law on the Special Conditions of Land Use).

Conclusion: *Wind turbines are electricity-generating installations that are connected, by means of a cable line, with the electricity transmission system, and these installations can emit an electromagnetic field. However, in all the PEA options considered, the electromagnetic field will be very weak and will not create any risk to residents health that would exceed the risk posed by electrical domestic appliances.*

4.10.2.2 Socio-economic and psychological factors

Socio-economic factors

The PEA would have the following socio-economic impact:

- attraction of investments to the district thus implementing provisions of the district's master plan;
- generation of electricity from renewable energy sources thus reducing the energy sector's demand for fossil fuels, and reducing potential impact on the environment at the same time;

- creation of temporary jobs in the WT construction and infrastructure installation period;
- payment of direct taxes to the municipal and state budgets in the PEA implementation and operation period;
- implementation of the PEA will involve procurement of services, equipment and materials thus providing a source of income for Lithuanian enterprises (design and engineering service providers, equipment suppliers and sellers, transport companies, producers and sellers of construction materials, construction firms etc.). These enterprises will have the opportunity to maintain and develop their business, pay taxes to the estate and wages to their employees, who, by using their earnings for meeting their needs, will stimulate consumption and support businesses operating in the spheres of catering, sales, entertainment etc.;
- implementation of the PEA will involve renting land plots from their owners (for the PEA purposes) and conclusion of long-term lease agreements; land plot owners will receive additional income;
- people from the local community will be hired for the WT site management works (e. g. hay mowing, snow removal etc.);
- the PEA Organiser will maintain cooperation ties with the local community, contributing to its initiatives as far as possible;
- In accordance with Article 13^1 of the Law on Energy from Renewable Sources, the PEA Organiser (producer of electricity by means of WTs) will pay an electricity generation fee (the 'generation fee') to the generation fees' administrator who shall make payments to community organisations (for their projects) under financial support agreements.

Psychological factors

It is not expected that the public will voice dissatisfaction with the PEA as:

- The PEA is not contrary to the provisions of the Amendment to the Biržai District MP;
- On implementation of the impact avoidance and reduction measures specified in Subsection 4.10.3, residential environment will be at a safe distance from the PEA facilities;
- No significant negative impact of physical pollution or any other pollution on residential and public environment is anticipated upon implementation of the impact avoidance and reduction measures specified in Subsection 4.10.3.

Conclusion: *No significant negative impact of socio-economic and psychological factors arising from PEA has been determined in any option of the PEA.*

4.10.3 Measures to avoid, reduce and/or compensate for a significant negative impact

Results of the noise dispersion modelling for the WTs being planned have shown that, provided that the measures to reduce the negative impact of the noise as specified in Table 4.10.3.1 are implemented, the level of noise in the residential and public environment will not exceed the noise limit values stated in HN 33:2011 at any time of the day/night, in all PEA technical options being considered.

Results of the shadow flicker dispersion modelling for5 the WTs being planned have shown that, provided that the measures to reduce the negative impact of the shadow flicker as specified in Table 4.10.3.1 are implemented, the residential and public environment nearest to the PEA area will not fall within the increased negative impact zone (where exposure to shadow flicker would exceed 30 h/yr.), in all PEA technical options.

Table 4.10.3.1. Measures to avoid and reduce the PEA impact

Item No	Impact reduction measures planned	PEA technical options		
		Option A	**Option B**	**Option C**
Prior to issuance of a building permit for the PEA facilities				
Measures to reduce the negative impact of noise				
1	**Purchase, demolition and deregistration of residential buildings, changing the land use**	Address of the residential building to be purchased: Nausėdžių k. 8, Nausėdžiai, Nemunėlio Radviliškio sen., Biržų r. sav. Without purchase of this land plot with the residential building, WT N32-1 will not be constructed.	Address of the residential building to be purchased: Nausėdžių k. 8, Nausėdžiai, Nemunėlio Radviliškio sen., Biržų r. sav. Without purchase of this land plot with the residential building, WT N32-1 will not be constructed.	Address of the residential building to be purchased: Nausėdžių k. 8, Nausėdžiai, Nemunėlio Radviliškio sen., Biržų r. sav. Without purchase of this land plot with the residential building, WT N32-1 will not be constructed.
Measures to reduce the negative impact of shadow flicker				
3	**Purchase, demolition and deregistration of residential buildings, changing the land use** *****	Analogous to the noise impact reduction measures	Analogous to the noise impact reduction measures	Analogous to the noise impact reduction measures
4	**Anti-flickering system installation**	N34, N35, N22, N16, N23, N32-1, N8	N34, N16, N33, N26, N23, N15, N32-1, N8, N5, N32-2, N22	N35, N15, N24, N34, N33, N16, N22, N32-1, N8, N5, N32-2, N23
In the PEA construction period				
5	**Organisation of works**	To avoid the noise caused by the WT construction and infrastructure	To avoid the noise caused by the WT construction and infrastructure installation	To avoid the noise caused by the WT construction and infrastructure installation

		installation works, construction/installation works must not be performed at nighttime and on days-off/holidays.	works, construction/installation works must not be performed at nighttime and on days-off/holidays.	works, construction/installation works must not be performed at nighttime and on days-off/holidays.

4.11 Risk Analysis and Risk Assessment

4.11.1 Anticipated significant impact

The PEA EIA Report contains information that must be assessed having regard to Order of the Director of the Fire Safety and Rescue Department under the Ministry of the Interior No 1-797 of 23 December 2021 'Regarding amendments to Order of the Director of the Fire Safety and Rescue Department under the Ministry of the Interior No 1-469 of 18 December 2018 'Regarding approval of the Procedure for the Examination of Documentation on Environmental Impact Assessments of Proposed Economic Activities at the Fire Safety and Rescue Department under the Ministry of the Interior':

- Preparation of technical designs for structures will comply with all legal acts governing fire safety and all the fire prevention and other preventive measures required to avoid emergencies or fires will be provided for;
- The EIA Report contains an analysis and evaluation of all the requirements set in the Law on Special Conditions of Land Use: the proposed activity fulfils all such requirements (discussed in greater detail in individual sections of the EIA Report);
- The PEA is the generation of energy from renewable sources, no dangerous substances will be used and stored, and there will be no risk of major emergencies leading to pollution of the environment or a threat to public health. No increased risk due to explosions or fuel and chemicals' spillages. The risk of collapse of structures is managed by carrying out requisite engineering and geotechnical investigations and selecting optimal construction methods and structural design solutions;
- Roads of access to the WTs and TP being planned are intended for the construction and servicing of these facilities, therefore, special-purpose vehicles will also be able to access them if necessary;
- Designs for the structures will maintain all the necessary safe distances, including those for fire safety purposes, and comply with relevant requirements; details will be provided in the technical designs;
- Other information (provided below and in other sections of this Report).

Prevention of emergencies is governed also by the following legal acts:

- List of Criteria for Emergencies approved by Resolution of the Government of the Republic of Lithuania No 1063 of 14 October 2015 'Regarding approval of the List of Criteria for Emergencies''. Current summary version (since 3 February 2018);

- Indicators of Natural, Catastrophic Meteorological and Hydrological Phenomena approved by Order of the Minister of Environment No D1- 870 of 11 November 2011 'Regarding approval of the Indicators of Natural, Catastrophic Meteorological and Hydrological Phenomena". Current summary version (since 10 June 2020).

A risk of an emergency situation exists in the following phases of the PEA:

I. Construction and dismantling of the WTs;

II. Operation of the WTs.

Period of construction/installation/dismantling of the WT and the engineering infrastructure required for their operation. There is a risk of accidents during the construction/installation of the WTs and the infrastructure facilities and during the dismantling of the WTs. Dangerous construction works include mining, building of roads, installation of foundations, equipment transportation, assembly of WT structures, installation of electricity transmission lines. Dismantling of the electricity transmission lines, WTs etc. are dangerous works in the dismantling phase. The risks exists for the personnel only as no other persons will be admitted to the construction site in the WT construction/installation period.

The risk of accidents will be minimal if the occupational health and safety requirements laid down in the *Occupational Health and Safety Regulations for Construction* (DT 5-00) [64] are complied with.

Operation of WTs. Based on statistics of emergencies recorded during WT operation in foreign states, the main emergencies that are possible include

- breaking and collapse of towers and impellers;
- incidents caused by electric current and voltage;
- overheating of the WT generator unit; fire.

In the operation phase, the risk of accidents is mainly related to extreme weather conditions – hurricane, strong wind, lightning etc.

A detached part of a blade or, in extremely rare cases, of the entire blade can be a source of an emergency. Blades are usually made of composite materials without bolts. Detachments of a blade or a part thereof are extremely rare. It is estimated that the probability of such an emergency is 1 case per 2,400–20,000 WT per year [65]. Icing of the blades is possible but it is recorded by the WT vibrosensors, and the WT is stopped in such a case.

In terms of a WT collapse, a safe distance from the WT to residential areas and public areas (such as national roads, railways etc.) must be equal to the WT height (up to the tip of the blade in a vertical position plus 10 % of the overall length. The maximum height of the WTs being planned, with the raised blade, would be 270 m (in Option C), therefore, the safe distance to a residential building would be about 297 m. Notably, one farmstead at the address 8 Nausėdžiai village, Nemunėlio Radviliškis ward, Biržai District Municipality is at the distance of 118 m from WT N32-1 being planned. This farmstead would fall within the risk zone in the case of a WT collapse. The PEA Organiser intends to purchase the farmstead and demolish and deregister its

buildings – the owner of the land plot and the buildings is required. Otherwise the aforesaid WT cannot be constructed. Other WTs are 472 - 1343 m away from the nearest residential or public areas. A WT collapse, which could only be possible in an emergency, would not affect structures in these areas irrespective of the WT technical option selected.

In accordance with the Flood Hazard and Risk Map, the PEA area does not fall within the flood hazard and risk zones (high/medium/low probability). The nearest flood hazard and risk area is at the distance of 620 m from WT N35 (Figure 4.1.1.3).
The WTs will be constructed in accordance with the Lithuanian Construction Technical Regulation STR 2.01.01(2):1999 'Essential requirements for a structure. Fire safety' [66] and the Main Requirements for Fire Safety [67]. To avoid fire situations, remote monitoring and control sensors as well as lightning protection systems will be designed, and ongoing maintenance and servicing of the WTs will be ensured.

The PEA Organiser intends to construct and operate new WTs of well-known manufacturers, tested in various climatic and tectonic activity conditions. WTs are designed to withstand dynamic wind pressure of 50-60 m/s. Reinforced concrete structures subject to very high durability requirements are used for the foundation. The tower is attached to the foundation by means of special-purpose anchor bolts (Figure 3.2.7.3).

The climate change is increasing the probability of storms which may lead to more frequent lightning discharges. Due to their height, the WTs being planned can attract such discharges. In order to avoid fire hazard, WTs must be designed and constructed in accordance with STR 2.01.01(2):1999 'Essential requirements for a structure. Fire safety' [66] and the Main Requirements for Fire Safety [67]. To avoid fire situations, remote monitoring and control sensors as well as lightning protection systems will be designed, and ongoing maintenance and servicing of the WTs will be ensured.

The land use purpose of most of the land plots in the PEA territory – 'agricultural territories', therefore, in the event of an emergency, potential consequences would not be significant in terms of economic activities.

4.11.2 Measures to avoid, reduce and/or compensate for significant negative impact

The following risk management measures will be implemented to avoid fires and other emergencies:

- prior to commencement of the WT construction works (during preparation of the technical design), design engineering geological and geotechnical investigations will be conducted, engineering geological conditions of the territory and physical-mechanical properties of soils will be assessed, and foundations designed accordingly;
- an automated control system will be installed in each WT. The WTs will be controlled remotely. A comprehensive monitoring system will be able to set all the requisite commands for the WT control elements. Based on the information received from the sensors such as wind speed, wind direction etc., maximum safety of the WT operation will be ensured;

- each WT will be equipped with an automated shutdown system. A system to stop the rotation of the blades, consisting of two independent stopping systems, will be implemented in each WT. A system of sensors will ensure an automated shutdown of the WT (if significant deviations from the normal operation are recorded). Manual stopping of the WT will be possible as well. The shutdown system will be equipped with a back-up accumulator battery which will supply electricity in the event of disruption from the grid;
- the WTs will be equipped with the storm control mechanisms that will reduce the blade rotation speed in strong wind (when the wind speed exceeds 28 m/s);
- each WT will be equipped with a lightning protection system that transfers the electric charge to the foundation of the structure (earthing will be installed);
- each WT will be equipped with a signal lighting system. In order to avoid collisions with birds and other objects and to signal obstructions, lamps of designated colour will be provided on each WT;
- each WT will be equipped with an automated fire extinguishing system;
- periodic maintenance and scheduled servicing of the WTs.

4.12 Analysis and Evaluation of Options

Various options of a PEA can be analysed during an EIA of the PEA, i. e. options of the:

- economic activities planned (feasible or not feasible);
- locations of the PEA implementation;
- technologies employed and technical parameters;
- scope of the PEA and operations;
- timing of the PEA implementation;
- avoiding, reducing or compensating for the PEA impact.

PEA location options. In the initial assessment phase of this EIA, location options for the PEA facilities were not considered. The initial assessment was made according to the co-ordinates of the PEA facilities being planned (WTs and TS) and drawings of the engineering infrastructure (underground power cables) and transport routes (access roads). On completion of biodiversity studies and initial assessment, locations of some WTs were adjusted (changed), or planning of some WTs was abandoned having regard expert recommendations (4 WTs in the initial phase plus 2 WTs later). Also, the initial configuration of the underground cable line was adjusted in some sections (to bypass sensitive territories identified in the assessment process). The PEA facilities‘ locations, numbers and parameters are subject to change during subsequent EIA procedures having regard to reasonable requests of members of the public, PEA stakeholders and EPA. Also, if the EPA issues a positive decision on the feasibility of this PEA, some adjustments are possible in the technical design phase, with possible changes assessed and without exceeding the limit values taken into account in this EIA.

Options of WT technology and technical parameters. The PEA Organiser considered WT models and their technical parameters in previous EIA planning phases (6 models in all: Siemens SG6.6-170, Enercon E-160 EP5, Enercon E-175 EP, Vestas V4172-7,2, Nordex N175/6.X, and 'prospective' WT) and decided to perform an assessment for three WT models of characteristic types (smallest in terms of height and lowest capacity; medium height and capacity; and tallest in terms of height and highest capacity) (Table 4.12.1).

Table 4.12.1. Technical parameters of the WTs being planned (different technological options)

WT parameter	WT manufacturer and model*		
	A	B	C
	Enercon, E-160 EP5	Vestas, V172-7,2	Prospective WT
Wind turbine capacity, MW	up to 5.56	up to 7,2	up to 7,5
Rotor diameter including blades, m	up to 160	up to 172	up to 180
Number of blades	3	3	3
Tower height, m	up to 120	up to 166	up to 180
Overall WT height with raised blade (up to the highest point), m	up to 200	up to 252	up to 270
Sound level declared by the manufacturer, dBA	106,8	106,9	109,0
Number of WTs	31	31	31
Overall capacity of all WTs, MW	up to 172,36	up to 223,2	up to 232,5

* - Should the supply of WT models in the market change, other models are also possible, with parameters up to: overall WT height – up to 270 m, diameter of the rotor with blades – up to 180 m, tower height - up to 180 m, power per WT – up to 7.5 MW, emitted noise level – up to 109.0 dBA. Such technological WT options must not exceed the maximum impact as determined by this EIA. The PEA Organiser, having assessed the WT models and their technical parameters in previous PEA planning stages (6 models in all: Siemens SG6.6-170, Enercon E-160 EP5, Enercon E-175 EP, Vestas V4172-7,2, Nordex N175/6.X, prospective WT), has decided on an assessment of the WT models of three characteristic types (smallest in terms of height and lowest capacity, medium height and capacity, tallest and highest capacity) (Table 3.2.2.1).

In further assessment, the aforesaid options will be considered as potential alternatives in terms of the WT technology and technical parameters - A, B and C. It has been adopted in the assessment that all the WTs will be of the same model/type/parameters for the purposes of the same option. In all the technical options, the wind farm would be connected to a transformer substation T1 being planned at the distance of 10.2 km south-east of WT N34, in a land plot purchased/rented in Paberžiai village, Parovėja ward for this purpose (land plot ID 3650-0001-0030) and/or adjacent land plot (ID 3650-0001-0036) (Figure 3.2.2.1), and from there – to a 330 kV overhead line Aizkrauklė — Panevėžys. In the case of selection of TS T2, the WTs being planned would be connected to the existing Litgrid, AB's 110 kV transformer substation in a land plot ID 4400-0322-3447, at 1 Pitiškiai village, Parovėja ward, Biržai District Municipality (Figure 3.2.2.2) and/or, in the case of Option T3 – a TS being planned in a land plot ID No 4400-0101-6340 in Vinkšniniai village, Parovėja ward, Biržai District Municipality (Figure 3.2.2.3).

Options in terms of scope of the PEA and operations. Planning of one of the WTs was abandoned in the initial phase, on completion of biodiversity studies and initial assessment and having regard to experts' recommendations. The PEA Organiser seeks to implement solutions that would provide the greatest economic effects, therefore, Option C is the priority option for the PEA

Organiser. It has been assessed, in this EIA, whether a specific option of the PEA, having regard to its type, scope, location and/or impact on the environment, complies with the environmental, public health, immovable cultural heritage protection, fire safety and civil safety regulations, and whether it produces a significant negative impact on the components of the environment and public health as well as their interaction. All the options were compared among themselves and with Option 0 (i. e. the case if the PEA would not be implemented), and with the current environmental status which would change without the influence of the PEA.

PEA implementation options in terms of timing. According to the PEA Organiser, the PEA will be implemented as a single phase project; no conditions for and necessity of considering the PEA options in terms of timing were identified in the course of the PEA.

Alternative measures to avoid, reduce and/or compensate for the impact of the PEA. Upon assessing, as part of the EIA, each component of the environment and public health and depending on the assessment results, measures to avoid, reduce and/or compensate for the negative impact are provided for: from abandoning an activity/solution to specific preventive and/compensatory measures in case of each element assessed (e. g. assessing the impact upon birds – abandoning a WT or changing its location; setting a bird recording device that stops the WT if a bird approaches the WT and a certain distance is reached; implementing measures to reduce shadow flicker; buying, demolishing and deregistering residential buildings).

Three PEA technical options – A, B and C are compared in this section having regard to expert conclusions and other aspects, and one of them is selected and proposed for the implementation of the PEA. Experts in various fields evaluated the potential PEA impact on relevant elements of the environment in all the PEA options, compared the options and selected the priority option according to the area evaluated by each of them. Most of these evaluations are based on a quality expert evaluation. The PEA impact on certain elements of the environment was also assessed in quantitative terms.

Options of the WT technical parameters were compared according to their:

- impact on the environment and public health in the construction and installation phase;
- impact on the environment and public health in the operation phase.

A summarised comparison of the environmental and public health impact by the options evaluated as part of the EIA and the priorities specified by the experts (with relative priority values of significance assigned), by phases of the PEA, are provided in Tables 4.12.2 and 4.12.3.

Table 4.12.2. Comparison of potential impact by the PEA options in the construction and installation phase

Item No	Object of impact	Priority option (P) with lower impact, identified by expert evaluation			
		PEA construction/installation phase			
		Option 0	**Option A**	**Option B**	**Option C**
1.	Ambient air and climate	pn	**P3** (N, mr)	**P3** (N, mr)	**P3** (N, mr)
2.	Surface water	pn	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures
3.	Soil	pn	**P3** (N, mr)	**P3** (N, mr)	**P3** (N, mr)
4.	Underground sphere	pn	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures
5.	Protected areas	pn	**3P** (pn)	**3P** (pn)	**3 P** (pn)
6.1.	Biodiversity: flora	pn	**P3** (N, mr)	**P3** (N, mr)	**P3** (N, mr)
6.2.	Biodiversity: fauna (birds and bats)	pn	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures
7.	Landscape	pn	**P3** (N, mr)	**P2** (N, mr)	**P2** (N, mr)
8.	Cultural heritage sites	pn	**P3** (N, mr)	**P3** (N, mr)	**P3** (N, mr)
9.	Material assets	pn	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures
10.	Public health	pn	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures
11.	Impact of emergencies	pn	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures
12.	Cross-border impact	pn	**P3** (pn)	**P3** (pn)	**P3** (pn)
Relative score of the Priority:		**0**	**39**	**38**	**38**

Note: Polarity of the impact: T- positive, N - negative
Significance of impact**:** pn – no impact**,** n – insignificant impact, mr – impact of low significance, vr – impact of medium significance, r – significant impact;
Priority score for the option: **P1** – low priority, **P2** – medium priority, **P3** – high priority. The higher the priority score, the more acceptable is the option.

Table 4.12.3. Comparison of potential impact by the PEA options in the operation phase

Item No	Object of impact	Priority option (P) with lower impact, identified by expert evaluation			
		PEA operation phase			
		Option 0	**Option A**	**Option B**	**Option C**
1.	Ambient air and climate	pn	**P1** (T, mr)	**P2** (T, mr)	**P3** (T, mr)[1]
2.	Surface water	pn	**P3** (pn)	**P3** (pn)	**P3** (pn)
3.	Soil	pn	**P3** (pn)	**P3** (pn)	**P3** (pn)
4.	Underground sphere	pn	**P3** (pn)	**P3** (pn)	**P3** (pn)
5.	Protected areas	pn	**P3** (pn)	**P3** (pn)	**P3** (pn)
6.1.	Biodiversity: flora	pn	**P3** (pn)	**P3** (pn)	**P3** (pn)
6.2.	Biodiversity: fauna (birds and bats)	pn	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures
7.	Landscape	pn	**P3** (N, vr)	**P2** (N, vr)	**P2** (N, vr)
8.	Cultural heritage sites	pn	**P3** (N, mr)	**P3** (N, mr)	**P3** (N, mr)
9.	Material assets	pn	**P1** (T, mr)	**P2** (T, mr)	**P3** (T, mr)
10.	Public health	pn	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures	**P3** (N, mr) Subject to implementation of the identified impact reduction measures
11.	Impact of emergencies	pn	**P3** (pn) Subject to implementation of the identified impact reduction measures	**P3** (pn) Subject to implementation of the identified impact reduction measures	**P3** (pn) Subject to implementation of the identified impact reduction measures
12.	Cross-border impact	pn	**P3** (pn)	**P3** (pn)	**P3** (pn)
***Relative score of the Priority*:**		**0**	**34**	**36**	**38**

Note: Polarity of the impact: T- positive, N - negative
Significance of impact**:** pn – no impact**,** n – insignificant impact, mr – impact of low significance, vr – impact of medium significance, r – significant impact;
Priority score for the option: P1 – low priority, P2 – medium priority, P3 – high priority. The higher the priority score, the more acceptable is the option.

The evaluation has shown that all the options of the WT technical parameters are almost equal in value in the operation/installation phase (Table 4.12.2). In all the technical options, the PEA facilities will be installed at the same locations, therefore, the impact on the environment and neighbouring areas would be similar. Option A would be slightly more favourable due to the impact on landscape (lower height of the WTs).

In the operation phase, priority is given to Option C as it would provide greatest economic benefits and, at the same time, would have the greatest indirect positive impact on ambient air and climate (larger amounts of electricity produced from renewable energy sources reduces the need for fossil fuels or other polluting fuels, and amounts of pollutant and greenhouse gas emissions at the same time). Also, higher income derived from the economic activity increases tax amounts payable to the state budget and, accordingly, the share received by local communities . This Option C has received lower score for a potentially stronger impact on landscape (as the WTs would be taller).

Having regard to the preliminary assessment results and comments received from the EIA stakeholders, the PEA Organiser abandoned planning of four WTs (N1, N6, N11, N17) out of 35 WTs. On completion of the EIA, it is proposed that construction of two more WTs at selected locations should be abandoned (N31 and N32). Considering conclusions of this EIA Report, construction and operation of 29 WTs is proposed in any PEA option. If planning of the specified WTs is abandoned, the risk of their potential impact on the environment and public health would be eliminated from this EIA Report.

To sum up, it should be noted that, in terms of the elements of the environment and public health, any option (A, B or C) of the WT technical parameters can be implemented subject to application of the impact reduction measures specified in this EIA Report. Option C would be slightly more advantageous due to its greater economic benefits and positive impact on ambient air, climate and material assets. If the specified measures to avoid and reduce the negative impact are not implemented, some of the WTs would not be feasible in any option of the PEA.

4.13 Monitoring

Control over the impact of the PEA consists of the following processes:

- monitoring – periodic targeted data verification and comparison against standards and/or projections;
- assessment of solutions against monitoring data;
- management whereby decisions on reduction of the negative impact are taken and further action is planned;
- determination and adjustment of efficiency of the impact reduction measures implemented.

An assessment of impact upon individual elements of the environment has shown that the wind farm being planned (irrespective of the WT model selected) can produce a long-term negative impact on only one element of the environment – biodiversity, specifically, on one sub-element, i. e. birds and bats.

In accordance with Order of the Minister of Environment No D1-546 of 16 September 2009 ‘Regarding approval of the Regulations for Environmental Monitoring by Economic Operators’ [70, ‘Regulations for Environmental Monitoring by Economic Operators’, approved by Order of the Minister of Environment No D1-546 of 16 September 2009 ‘Regarding approval of the Regulations for Environmental Monitoring by Economic Operators’ (TAR, 31/03/2021 No 6606)]

monitoring of impact on biodiversity must be conducted by economic operators tasked with this in the EIA report for the PEA or in the decision on the EIA pr in designs for structures prepared according to statutory requirements, or if monitoring of impact on biodiversity is provided for in legal acts governing the economic operator‘s activity or in territorial and/or strategic planning documents (p. 11.6 p.).

Prior to commencement of the wind farm operations, a monitoring programme on impact upon birds and bats must be prepared, monitoring conducted, and assessments of effectiveness of the planned measures to prevent significant negative impact made (according to requirements laid down in the *Description of the Criteria for Significant Negative Impact of Wind Farms on Birds and Bats and the Requirements for the Application of Measures to Prevent and Reduce the Significant Negative Impact on Bird and Bats and for Investigations* (the ‘Description‘):

- at least one year prior to commencement of construction (observations were made in the course of this EIA);
- for at least three years after putting the WT/wind farm into operation;
- repeatedly for one year, at least every five years after last observations.

Responsibility for the conduct of monitoring rests with the economic operator that operates the WT or the wind farm. An assessment of the efficiency of preventive measures to avoid or reduce perishing of birds and/or bats is made in accordance with the Description. To assess the efficiency of preventive measures not related to the perishing of birds and bats (species pushed out from habitats, disturbance, obstacles to migration or flying), investigations and investigation methods specified in Annexes 4 and 5 to the Description are applied. Monitoring of birds and bats perished due to the operation of the WT/wind farm is conducted in accordance with the Description.

Should it be established that, despite implementation of measures to prevent and reduce significant negative impact provided for in the WT/wind farm planning process, the WT/wind farm still produces significant negative impact on birds or bats, the economic operator must adjust the measures applied and/or planned based on the assessment results and recommendations in the monitoring report, obtain an agreement on the new measures from the EPA according to a procedure prescribed by the Regulations for Environmental Monitoring by Economic Operators’, approved by Order of the Minister of Environment No D1-546 of 16 September 2009 (the ‘Environmental Monitoring Regulations‘), and start application of such newly adjusted measures to prevent and reduce significant negative impact as well as monitoring and evaluation of efficiency of the adjusted measures.

Should it be established that, upon implementation of measures to prevent and reduce significant negative impact, the impact on birds or bats has been reduced and does not reach the values specified in the Description, and should it be found, in the course of ongoing monitoring, that sources of significant negative impact have been reduced or eliminated, then the WT/wind farm operator may initiate an assessment of the need to continue application of the measures to prevent and/or reduce significant negative impact. Such assessment may involve, based on the data and recommendations contained in the monitoring report, adjustment of the conditions of the

measures‘ implementation, changes to the measures, or discontinuation of the measures. The assessment and a decision to discontinue the measures must be coordinated with the EPA according to a procedure prescribed by the Environmental Monitoring Regulations, and the operator can discontinue the measures only after receipt o the EPA‘s consent. If a significant negative impact is determined during next monitoring, then impact reduction measures must be planned, coordinated with the EPA according to a procedure prescribed by the Environmental Monitoring Regulations, and the procedure implemented according to the provisions of the Description. The monitoring must be focussed on the WTs that are planned to be operated in potentially more sensitive areas – closer to forests or water bodies.

5. TRANSBOUNDARY IMPACT

The PEA area is situated in the northern part of the territory of Lithuania, in the Biržai District Municipality of the Panevėžys County. The shortest distance from the PEA facilities to the territory of the Republic of Latvia would be about 1.38 km and to the Republic of Belarus about 140 km (Figure 5.1). A larger settlement (Skaistkalne) the territory of the Republic of Latvia closest to the PEA facilities is at the distance of about 2.9 km (from WT N20), and the closest residential building of about 1.67 km. Protected natural area (and a Natura 2000 site) in the territory of the Republic of Latvia is a natural monument/geological formation *Skaistkalnes karsta kritenes* at the distance of about 1.89 km from WT N12 being planned (Graphic Annex 7 and Figure 5.2).

On completion of the EIA it has been established that consequences, either direct or indirect, of the PEA implementation for various elements of the environment (ambient air, surface water, underground sphere, soil, landscape, protected areas, biodiversity) would only be possible within the distance from dozens of metres to a few kilometres around the PEA area (see section 3.2).

Results of modelling of the noise and shadow flicker caused by the WTs show that the area of potential impact where limit values can be exceeded does not include the territory of the Republic of Latvia and does not produce a negative impact on its residential and public areas, in all the PEA technical options (see Section 4.10 and Graphic Annexes 4-5).

The WTs being planned will be seen from the territory of the Republic of Latvia, depending on the observation point, within the distance of up to few kilometres.

The assessment has shown that, subject to implementation of the measures to avoid and reduce the negative impact produced by the PEA, no significant negative impact on the neighbouring states, their natural and social environment, and their residents is expected.

Upon submission of the Notice of Commencement of the EIA to the EPA, the Ministry of Environment considered the information received and informed its decision, by letter No D8 (E)-5563 of 28 October 2022, that transboundary impact procedures should be applied to the PEA.

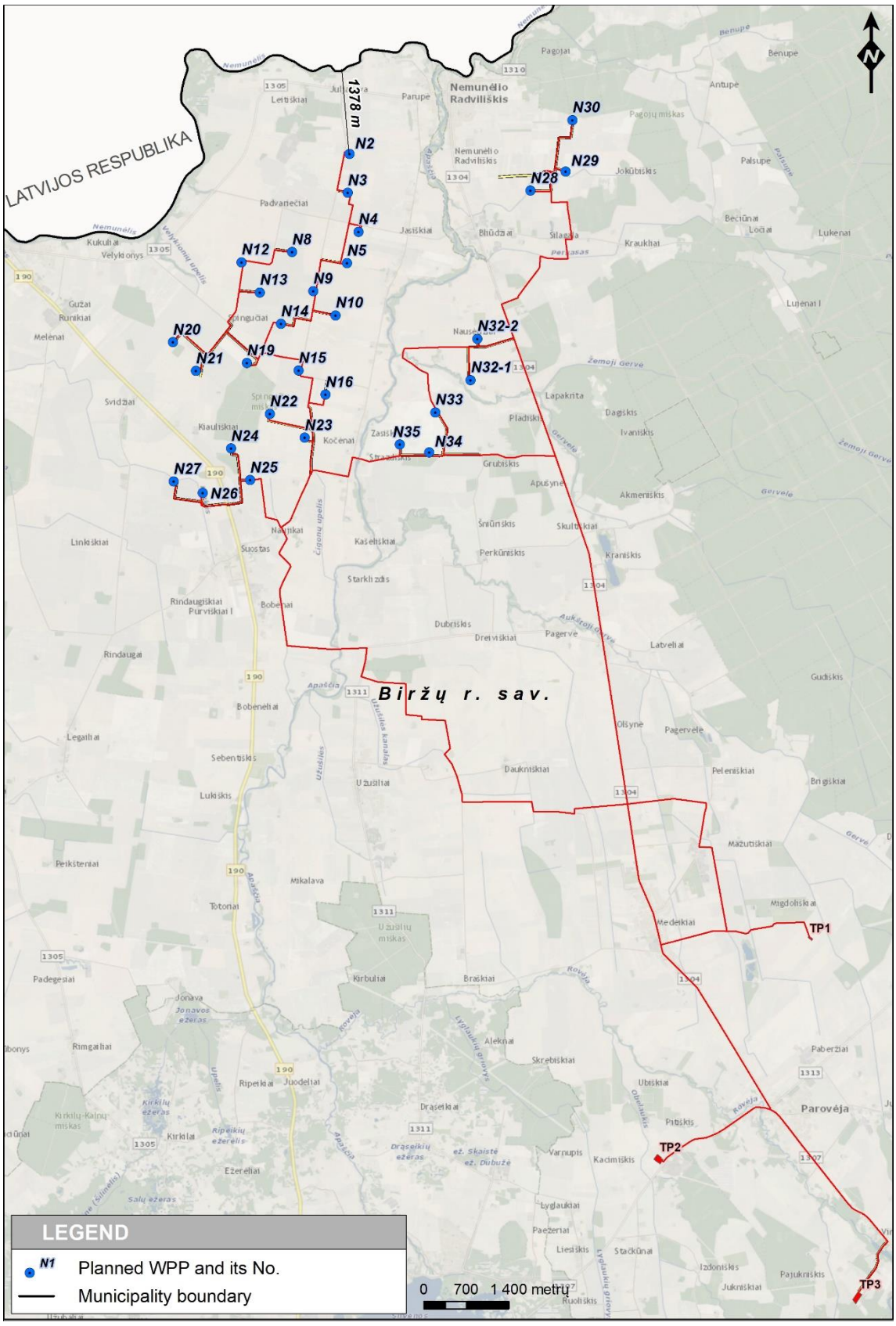


Figure 5.1. PEA location in relation to the territory of the closest foreign state

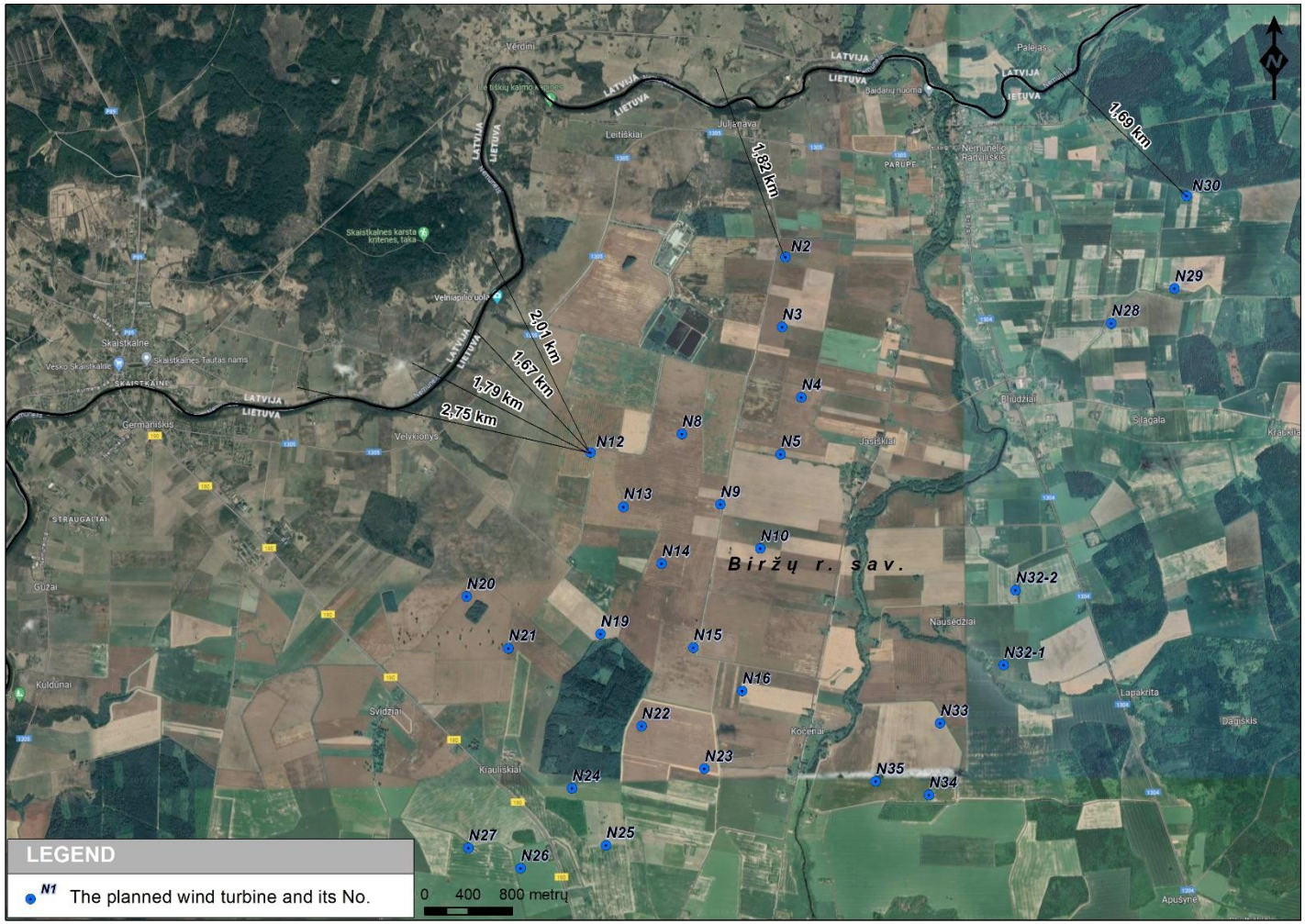


Figure 5.2. PEA facilities in relation to residential areas in the territory of the closest foreign state

6. DESCRIPTION OF PROJECTIONMETHODS AND EVIDENCE USED IN THE DETERMINATION AND ASSESSMENT OF SIGNIFICANT ENVIRONMENTAL IMPACT OF THE PEA INCLUDING ISSUES

The preparation of the EIA Report for the PEA was based on current Lithuanian and EU legislation, methodological guidance, procedures, methodologies, programmes and other legal documents. Databases, territorial planning documents and research literature was used as well. The following was performed as part of the environmental impact and public health impact assessment process:

- Analysis of available information sources and investigations completed;
- Modelling of physical pollution (noise, shadow flickering) caused by the PEA, impact identification and projections;
- Analysis of physical pollution values obtained through modelling and investigations and comparison with permissible levels;
- Qualitative assessment of factors (social, economic, lifestyle, psychological) affecting public health;
- Preparation of drawings, maps and other schematic representations of physical pollution;
- Investigation of biological diversity (bat and bird populations) in the PEA area and analysis of the investigation results (in situ investigations were conducted by specialists from the Lithuanian Ornithologists Society and the Lithuanian Society for the Protection of Bats);
- WT visibility calculations and designing of modelling schemes;
- Identification and evaluation of the PEA links (combined impact) with other operations (analogous economic activities by other economic operators).

Software used for the modelling depending on requirements:

- ESRI ArcGIS (preparation of maps and charts);
- AutoCAD (preparation of technical drawings);
- WindPRO 3.6-4.0 (modelling of noise and shadow flicker dispersion, WT visibility modelling);
- Specific MS Excel spreadsheets (modelling of physical dispersion).

Public health impact assessment (PHIA) methods and types, substantiation of method

PHIA as part of PEA EIA process is carried out in accordance with the Republic of Lithuania Law on Environmental Impact Assessment of Proposed Economic Activities [1] and the Procedure for Carrying out Environmental Impact Assessments of Proposed Economic Activities [2].

An overview of the public health situation has been prepared on the basis of latest information provided by the Public Health Monitoring Information System [45] and statistics provide by the Hygiene Institute as well as its publications and overviews.

As part of the public health overview, public health indicators of Biržai District Municipality are provided and compared with the municipalities of Panevėžys County and aggregate data of the Panevėžys County and national averages.

Impact on public health has been assessed on the basis of the noise and shadow flicker results. Calculations of noise and shadow flicker caused by the WTs were made by means of WindPRO software package (Version 3.6-4.0). Based on input data, WindPRO software calculates the distribution of the equivalent noise levels from both existing and projected wind turbines considering terrain. In addition, on specifying noise sensitive areas, the noise level in such areas is predicted. Based on input data, WindPRO calculates the area of shadow flicker generated by a WT or a number of WT depending on the time interval selected: minutes per day; hours per year; or days per year. In addition, on specifying shadow receptors, the impact of shadow flicker upon these areas is determined. A ZVI module (Zones of visual influence for WTG) was used to determine and assess the theoretical WT visibility.

Expert evaluation is one of the key aspects of the assessment. In March 2022 – February 2023, experts of Media ir aplinkos projektai, VšĮ carried out seasonal observations of birds and bat life (incubation, migration, wintering and accumulations) in the PEA area and its environs, and provided an analysis of observation results (Text Annexes 6 and 7). Reports provided by the experts identify potential conflicts with bird groups and bat species sensitive to the WT impact, describe potential threats and perceived conflicts that may arise upon construction and during operation of the WTs being planned. Measures to avoid, reduce and compensate for significant negative impact were also proposed by the experts.

More detailed descriptions of the methods applied in EIA are provided in the EIA Report's sections dealing with impact on individual elements of the environment.

The PEA EIA documentation is prepared by Sweco Lietuva UAB holding a licence for public health assessment (Licence No VSL-86) and a permit to investigate the underground sphere (Permit No 115). Copies of these documents are provided in Text Annex 1 to this EIA Report.

Inaccuracies and errors in the EIA and PHIA are possible if the PEA Organiser has provided incomplete or incorrect information about the PEA, as well as due to inaccuracies and/or insufficiency of the noise and shadow flicker modelling. It should be pointed out that, in this EIA Report, the noise dispersion assessment has been made for the 'worst-case' situation when all the WTs operate simultaneously at full capacity (365 d/yr) and the wind strength is constant at 10 m/s. For the shadow flicker modelling, it was adopted that the minimum angle of solar elevation above the horizon was 3˚, at least 20 % of the sun covered by a WT blade, and all the WTs operate simultaneously at full capacity (365 d/yr). In normal conditions, the situation may be more favourable and the impact of the PEA weaker.

The analysis of demographic and morbidity indicators was based on the latest data provided by the Hygiene Institute for 2015 – 2020. Therefore, the actual situation (statistics for 2021 - 2022 and values in percentage terms) can be changed. Demographic, morbidity and mortality data for the Biržai District Municipality may reflect the situation of the area under consideration (i. e. specific administrative units) not completely accurately.

The preparer of the EIA documentation has not encountered any significant issues in the carrying out of the EIA that would prevent a detailed assessment of individual elements of the environment.

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7. EXECUTIVE SUMMARY OF THE EIA REPORT

Biržų vėjas, UAB intends to construct and operate a wind farm of up to 35 WTs in the territories of the Nemunėlio Radviliškis and Parovėja Wards of the Biržai District Municipality in the Panevėžys County. The proposed activity would include the construction of grounds and access roads for the servicing of the WTs, other infrastructure required for the PEA (an underground power cable network, a transformer substation) and the construction and operation of 35 WTs

The activity proposed by Biržų vėjas, UAB – the construction and operation of a wind farm of up to 35 WTs in the territories of Nemunėlio Radviliškis and Parovėja Wards of Biržai District Municipality is on the list of activities provide in Annex 1 to the Republic of Lithuania Law on the Environmental Impact Assessment of Proposed Economic Activities (the 'EIA Law') for which an assessment of their impact on the environment must be made.

The wind farm activity is presumed as being in the overriding public interest and in the interest of public safety

Biržų vėjas, UAB and Sweco Lietuva, UAB concluded an agreement for the EIA of the PEA: under the agreement, Sweco Lietuva, UAB undertook to prepare a notice of commencement of the EIA, prepare the EIA Report, obtain approvals on the prepared documents from the EIA stakeholders, inform the public about the documents, and submit them to the EPA for consideration and decision on the PEA feasibility.

In July 2022, Sweco Lietuva, UAB prepared the Notice of Commencement of the EIA, presented it for public consultation and submitted to the EIA stakeholders and the EPA according to set procedures, and received comments therefrom.

On completion of the EIA for the PEA, in June 2023, the EIA Report on the Construction and Operation of a Wind Farm of up to 35 WTs Planned by Biržų vėjas, UAB in the Territories of the Nemunėlio Radviliškis and Parovėja Wards of the Biržai District Municipality in the Panevėžys County (the 'EIA Report') was prepared.

No WT location alternatives were identified in the EIA Report, however, a number of options of the WT technical parameters (A, B and C) are considered. Potential impact of selecting each of these options upon the environment and public health is assessed and compared including a comparison with Option 0.

In March 2022 – February 2023, researchers of Media ir aplinkos projektai, VšĮ carried out in situ observations of hatching, migrating and flocking birds as well as bats in the PEA territory and its environs. Results and conclusions of the observations were used in making the assessments and preparing the EIA Report; some WT locations were adjusted on receipt of these results and conclusions at an early stage. Having regard to the initial assessment results as well as comments received from the EIA stakeholders in the EIA Report approval process, the PEA Organiser decided to abandon four WTs (N1, N6, N11, N17); also, in order to protect the black stork and the lesser spotted eagle considering the ornithologists' comments to the effect that WTs N31 and N32

would be too close to a Natura 2000 site - SPA Biržų Wood, later the PEA Organiser abandoned planning of WTs N31 and N32. The EIA Report has been adjusted according to these changes.

It has been established, during preparation of the EIA Report for the PEA, that:

The PEA location has been selected in accordance with the solutions contained in local and higher-level general and special territorial planning documents (TPDs). In the area selected for the WTs, the PEA is permissible having regard to the economic activities permitted according to the aforesaid TPDs. The PEA is not contrary to the TPDs in effect. According to the map approved by Order of the Chief Commander of the Lithuanian Armed Forces No V-217 of 15 February 2016 'Regarding approval of the Map of Territories of the Republic of Lithuania in Which Design and Construction of Wind Turbines (Tall Structures) Can Be Restricted', all the WTs being planned fall within territories in which the WT locations will be approved provided that the producer of energy from RES and the Lithuanian Armed Forces will conclude an agreement on compensation for part of investments and other expenditure for the national security functions'.

Impact on water. Four sites of the WTs being planned fall within safety zones of surface water bodies; none of the WT sites fall within shore safety belts of surface water bodies. During the construction of the PEA facilities (laying of underground power cables and building of access roads to the WTs and the TS), surface water bodies will be crossed at 37 places depending on the selection of the TS location. Power cables will be laid by the trenchless method beneath the bottom of surface water bodies. No underground or surface water resources will be used in the PEA, and no generation of industrial or domestic wastewater is expected. During the periods of construction and operation, non-polluting surface runoff will occur; it will move away across the ground or will soak into the ground. No dangerous chemical substances will be used and stored during the PEA implementation.

During the periods of construction and operation of the PEA installations, no significant negative impact on surface waters is expected irrespective of the options selected, provided that identified measures to avoid and reduce impact are implemented. Potential impact o the PEA on surface water bodies is considered to be a direct impact (at places of intersections with water bodies and places where land reclamation systems would be damaged), however, the impact will be temporary (during construction), of little importance in the construction phase, and insignificant in the operation phase. The impact on surface water bodies would be similar in all the PEA options.

Impact on ambient air and climate. Wind energy resources in the territory being planned are sufficient for the electricity generation in wind farms. Generation of electricity from renewable wind energy will have a significant positive impact on the reduction of greenhouse gas emissions. In all its phases, the PEA will not generate significant air pollution, and no negative impact on ambient air is anticipated.

Potential impact of the PEA on ambient air and climate is considered to be direct, temporary, negative and insignificant during the construction period (due to pollutant emissions from the vehicles and machinery used in the construction period), and indirect, long-term and significantly positive – in the operation period (electricity resources produced satisfy part of the demand for these resources and reduce pollution and greenhouse gas emissions from other installations for electricity generation and other economic activities that use fossil fuel). In this respect, the

greatest positive impact on ambient air and climate would be produced by implementation of Option C of the PEA.

Impact on soil. It is estimated that total area of excavated/removed/susceptible soil layer on the WT construction sites may be between 38.2 and 50.0 ha (approx. 9.3 ha – on WT construction, road building and cable laying sites, approx. 33.3 ha – in the case of selecting T1 transformer substation, approx. 33.1 ha – in the case of T2 transformer substation, and approx. 35.7 ha in the case of T3 transformer substation); soil removal depth up to 0.2-0.3 m. On completion of construction of the WTs and installation of requisite infrastructure, the removed soil will be used for the site management works in the WT areas and access road areas. Construction and operation of the PEA will not produce a significant negative impact on soil. Certain temporary physical impact on soil can be expected only in the construction phase. In an approx. 18 ha area, built up with structures and roads, soil layer will be removed for the entire period of the PEA operation.

Irrespective of the selected option, no significant impact on soil is anticipated during construction and operation of the PEA facilities provided that measures to avoid and reduce impact are implemented as stated below. Potential PEA impact on soil is characterised as direct impact (at places where PEA solutions will be implemented and soil layer will be removed/damaged), short-term and temporary in part of the area (only during construction), long-term in part of the built-up area (throughout the operation phase), adverse and of little significance in the construction phase and insignificant in the operation phase. Impact on soil would be similar in all the options.

Impact on the underground sphere. The WTs being planned (high-rise structures) would be installed in area adjacent to the karstic region of North Lithuania and characterised by complicated conditions geologically-hydrogeologically and geotechnically. As the WT foundations will be installed at the depth of up to forty metres, there is a risk of damage to/uncovering of the groundwater layer and interlayer artesian aquifers as well as flooding of the construction site and its nearest environs. Therefore, prior to starting the works, detailed investigations of local geological and hydrogeological conditions are needed in the structures‘ technical design phase, and optimal solutions for lowering the water level and insulation of the aquifers have to be selected. The PEA facilities do not fall within areas of geotopes or potential pollution sources.

The PEA will produce a direct impact on the regions beneath the land surface (earthworks on 35 sites will reach deep underground layers) that will include the soil layer; the impact will be long-term (in part of the territory, structure of the upper geological layer will be changed permanently), of low significance, and negative in the construction phase (the impact is not of a large scope and without significant negative effects provided that the measures to avoid and reduce the negative impact), and insignificant in the operation phase. The impact will be similar in all the PEA options.

Impact on landscape. The WTs being planned and the infrastructure facilities required for their operation do not fall within areas of visual aesthetic potential under special protection and do not contradict the regulations of the National Landscape Management Plan. A valuable landscape area nearest to the PEA facilities is at the distance of 36.7 km from the nearest WT (N27), and the nearest point for overviewing most valuable landscape panoramas is at the distance of 39.1 km from the nearest WT being planned, i. e. the distance is longer than the WT tower height x 10

(180 m x 10 = 1800 m) as stated in Article 49(18) of the RL Law on Energy from Renewable Sources, based on which the impact of the PEA on landscape is considered to be insignificant.

Impact on biodiversity. No significant negative impact on flora in the PEA area is anticipated. There are no protected natural plants at the locations where construction of the WT sis being planned.

Seven bat species have been identified in the PEA area and its environs on completion of annual bat observations. Locations of WTs N19, N22, N24, N30, N31 and N32 are within the distance of 200 m (+ blade length)from the forest; locations of WTs N26, N27, N28, N29, N32 and N32-1 being planned are within the distance of 200 m (+ blade length) from the water bodies, i. e. potential bat habitats. These WTs can produce a negative impact on bats, therefore, it is necessary to apply the measures to avoid, reduce and/or compensate the negative impact as stated in Subsection 4.6.3 of this Report.

According to the reports of investigations conducted in the PEA and adjacent areas (and information in databases), 106 bird species were observed. Based on conclusions on ornithological observations of Media ir aplinkos projektai, VšĮ's experts, operation of some of the WTs in the PEA area may have an impact on life of birds of prey (such as the lesser spotted eagle and the hobby) and the black stork, therefore, it is necessary to apply the measures to avoid, reduce and/or compensate for the negative impact as stated in Subsection 4.6.3 of the EIA Report.

Having regard to ornithologists' recommendations for the protection of the black stork and the lesser spotted eagle, as locations of WTs N31 and N32 would be too close to SPA Biržai Wood, a Natura 2000 site, the PEA Organiser has abandoned planning of the aforesaid WTs.

Having regard to the experts' recommendations and comments and proposals received from the State Protected Areas Authority under the Ministry of Environment concerning SPA Biržai Wood, measures to avoid, reduce and/or compensate for the PEA's negative impact on birds and bats are planned as described in Section 4.6.3 and shown in Figure 4.6.3.1.

Provided that measures to avoid, reduce and/or compensate for the aggregate impact of the two wind farms (a wind farm of up to 37 WTs planned by Biržų vėjas, UAB in Parovėja and Nemunėlio Radviliškis wards in Biržai District Municipality and three WTs planned by Bionalis UAB in Nemunėlio Radviliškis ward in Biržai District Municipality) are implemented, the aggregate negative impact upon the black stork, the lesser spotted eagle and other birds would be insignificant.

Sites of protected fauna and flora species as recorded in the SRIS must not be damaged during the installation of the engineering infrastructure required for the WT operation. Only temporary local disturbance of animals' life is allowed during construction works (after the source of disturbance ceases to exist, the animals usually return to the previous place of living). Provided that experts' recommendations are complied with and all the planned measures to avoid and reduce potential negative impact are implemented during the PEA facilities' construction and operation, no significant negative impact on biodiversity is anticipated.

Impact on protected nature areas. The WTs being planned and requisite engineering infrastructure do not fall within and do not border protected areas and European protected areas network Natura 2000 sites and their safety zones, and do not fall within any forests and sites of Community importance. The PEA will not produce any significant negative impact on protected areas, Natura 2000 sites and their safety zones, and areas of Community importance irrespective of the PEA option selected.

Impact on material assets. The WTs and TS being planned do not fall within residential, recreational or public territories. In all the PEA technical options, the area of impact of the PEA-generated noise that exceeds set limits covers one residential area (land plots with buildings), therefore, measures to avoid and/or reduce the negative impact must be implemented (for more details, see Section 4.10). One of such measures is to buy the relevant residential buildings from the owners, demolish them and deregister from the Register of Immovable Property, and change the land use. There are no other important material assets in the territory concerned, apart from the existing land reclamation system, electricity networks, and district and local roads. On assessment of all WT technical options, it has been concluded that, subject to implementation of the preventive and compensatory measures envisaged, none of the options would produce a significant negative impact on material assets in both phases of the PEA, i. e. construction and operation of WTs and relevant infrastructure, in all the options considered.

Impact on immovable cultural heritage. There are no registered cultural heritage sites in the land plots required for the WTs and related infrastructure being planned and these land plots do not fall within the safety zones of the cultural heritage sites and localities (the subzones of protection against physical impact and the visual protection subzone). No significant negative impact on the cultural heritage sites is anticipated in the PEA construction and operation phases irrespective of the PEA option selected.

Impact on public health. The EIA involved a qualitative and quantitative evaluation of the physical factors generated by the PEA: acoustic noise, low-frequency sound (infrasound), shadow flicker, electromagnetic field and vibration. Socio-economic and psychosocial factors were considered.

On completion of the modelling of the noise propagation from all the WTs being planned by means of WindPro (version 3.6-4.0) it has been established that the limit value of the noise emitted by the WT being planned would not exceed the limit values specified in HN 33:2011. If the specified noise reduction measures are not implemented, construction of WT N32-1 is not permissible in all the PEA options. No negative impact by shadow flicker caused by the PA and other risk factors is anticipated, in all the PEA options, provided that the specified impact avoidance and reduction measure is implemented.

Transboundary impact. Subject to implementation of the measures to avoid and reduce the negative impact produced by the PEA, no significant negative impact on the neighbouring states, their natural and social environment, and their residents is expected.

Upon submission of the Notice of Commencement of the EIA to the EPA, the Ministry of Environment considered the information received and informed its decision, by letter No D8 (E)-5563 of 28 October 2022, that transboundary impact procedures should be applied to the PEA.

Having regard to the preliminary assessment results and comments received from the EIA stakeholders, the PEA Organiser abandoned planning of four WTs (N1, N6, N11, N17) out of 35 WTs. On completion of the EIA, it is proposed that construction of two more WTs at selected locations should be abandoned (N31 and N32). Considering conclusions of this EIA Report, construction and operation of 29 WTs is proposed in any PEA option. If planning of the specified WTs is abandoned, the risk of their potential impact on the environment and public health would be eliminated from this EIA Report.

To sum up, it should be noted that, in terms of the elements of the environment and public health, any option (A, B or C) of the WT technical parameters can be implemented subject to application of the impact reduction measures specified in this EIA Report. Option C would be slightly more advantageous due to its greater economic benefits and positive impact on ambient air, climate and material assets. If the specified measures to avoid and reduce the negative impact are not implemented, construction of some of the WTs would not be feasible in any option of the PEA.

8. LITERATURE

1. Republic of Lithuania Law on Environmental Impact Assessment of Proposed Economic Activities. Official Gazette, 1996-08-30, No 82-1965;
2. Description of the Environmental Impact Assessment Procedure for Proposed Economic Activity.TAR, No 2017-17241;
3. Republic of Lithuania Law on Energy from Renewable Sources. Official Gazette, 2011-05-24, No 62-2936;
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ANNEXES

TEXT ANNEXES

TEXT ANNEX 1. A SUMMARY OF QUALIFICATIONS AND EXPERIENCE OF THE AUTHORS OF THE EIA REPORT

Copy of electronic document

DECLARATION OF COMPLIANCE WITH THE REQUIREMENTS FOR AN IMPECCABLE REPUTATION

UAB Sweco Lietuva (Name of legal entity) 06/09/2023
(date)
Vilnius
(location)

1. Has the represented legal entity been fined in the last 5 years in accordance with the procedure established by the Law on Environmental Protection of the Republic of Lithuania for providing incorrect information required for the selection of the planned economic activity for environmental impact assessment or for the approval of the environmental impact assessment programme, or for the decision on the planned economic activity?

No, UAB Sweco Lietuva has not been fined in the last 5 years in accordance with the procedure established by the Law on Environmental Protection of the Republic of Lithuania for providing incorrect information required for the screening of the planned economic activity for environmental impact assessment or for the approval of the environmental impact assessment programme or for the decision on the planned economic activity.

2. Are the manager and/or specialists of the represented legal entity considered to be natural persons of impeccable reputation in accordance with Article 5(3)(1)(a) of the Law on Environmental Impact Assessment of Planned Economic Activities of the Republic of Lithuania?

Yes, the head of UAB Sweco Lietuva, Liudas Zalunskis, and its specialists are considered to be natural persons of impeccable reputation in accordance with Article 5(3)(1)(a) of the Law on Environmental Impact Assessment of Planned Economic Activities of the Republic of Lithuania.

_____	_____
(signature)	(name and surname of the head of the legal entity or authorised person)

METADATA	
Document author(s)	EGIDIJUS KUNEVIČIUS
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- Aurelijus Narbutas
- Armandas Naudžius
- Deividas Makavičius

TEXT ANNEX 2. DOCUMENTATION OF THE NOTICE OF COMMENCEMENT OF THE EIA

PRANEŠIMAS APIE
UAB „BIRŽŲ VĖJAS“ PLANUOJAMO IKI 35 VĖJO JĖGAINIŲ PARKO BIRŽŲ R. SAV. NEMUNĖLIO RADVILIŠKIO SEN. TERITORIJOJE STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO PRADŽIĄ

Planuojamos ūkinės veiklos (toliau – PŪV) organizatorius: UAB “Biržų vėjas”, J.Janonio a. 5, LT-41170 Biržai. Tel. (+370) 610 25533. Kontaktinio asmens el. p.: evaldas@rdg.lt.
Poveikio aplinkai vertinimo (toliau – PAV) dokumentų rengėjas: UAB „Sweco Lietuva”, Spaudos g. 6-1, LT- 05132, Vilnius. Tel.: +370 5 262 2621, el. p. info@sweco.lt; tinklalapis www.sweco.lt. Kontaktinio asmens el. p.: vytautas.belickas@sweco.lt.
PŪV pavadinimas: UAB „Biržų vėjas“ planuojamo iki 35 vėjo jėgainių (toliau – VJ) parko Biržų r. sav. Nemunėlio Radviliškio sen. teritorijoje statyba ir veikla.
PŪV pobūdis: veiklos rūšis, mastas, planuojamos naudoti technologijos: PŪV sprendiniais Biržų r. sav. Nemunėlio Radviliškio ir Parovėjos sen. teritorijose privačios nuosavybės sklypuose planuojama pastatyti ir eksploatuoti iki 35 VJ bei įrengti jų veiklai vykdyti būtiną infrastruktūrą (elektros transformatorių pastotę, požeminius elektros energijos perdavimo kabelius, aptarnavimo aikšteles ir privažiavimo kelius bei kt.). Planuojamų VJ stiebo aukštis bus iki 180 m, bendras VJ aukštis su pakelta mente – iki 270 m. Vienos VJ galia – iki 7,5 MW.
PŪV PAV atlikimo teisinis pagrindas pagal Lietuvos Respublikos planuojamos ūkinės veiklos poveikio aplinkai vertinimo įstatymo (toliau – PAV įstatymas) 3 straipsnio 1 dalį: PAV įstatymo 2 priedo 3.8 ir 3.8.1 p. „vėjo elektrinių įrengimas, kai įrengiamos 3 vėjo elektrinės, kurių bent vienos aukštis 50 m (matuojant iki aukščiausio konstrukcijų taško) ar daugiau”. Vadovaudamasis PAV įstatymo II sk. 11 p. PŪV organizatorius nusprendė atlikti PAV be atrankos dėl PAV procedūros.
Informacija apie numatomas nagrinėti pagrįstas alternatyvas (pvz., vietos, laiko, techninių ir technologinių sprendinių, poveikį aplinkai mažinančių priemonių): Bus nagrinėjamos sprendinių techninės ir technologinės bei poveikį mažinančių priemonių sprendinių alternatyvos.
PŪV vietos ypatumai: PŪV objektų vieta yra Biržų r. sav. Nemunėlio Radviliškio ir Parovėjos sen. teritorijose. Planuojamoms VJ artimiausios gyvenvietės yra už apie 1,1 km. PŪV objektai nepatenka ir nesiriboja su kultūros paveldo vertybių, saugomomis ir Europos ekologinio tinklo Natura 2000 teritorijomis bei jų apsaugos zonomis. Mažiausias atstumas nuo VJ iki Biržų girios biosferos poligono – apie 1,56 km, Nemunėlio-Apaščios geologinio draustinio teritorijos – apie 1,05 km.
PAV subjektai: Nacionalinio visuomenės sveikatos centro prie SAM Panevėžio departamentas; Kultūros paveldo departamento prie KM Panevėžio-Utenos skyrius; Priešgaisrinės apsaugos ir gelbėjimo departamento prie VRM; Biržų r. savivaldybės administracija; Valstybinė saugomų teritorijų tarnyba prie AM.
Atsakingoji institucija, kuri priims sprendimą dėl PŪV poveikio aplinkai: Aplinkos apsaugos agentūra (toliau - AAA), A. Juozapavičiaus g. 9, LT- 09311, Vilnius. Tel. +370 706 62008, el. p. aaa@aaa.am.lt.
Informacija apie AAA priimamą sprendimą: 1) jeigu AAA priima sprendimą, kad veikla atitinka aplinkos apsaugos, visuomenės sveikatos, nekilnojamojo kultūros paveldo apsaugos, gaisrinės saugos ir civilinės saugos teisės aktų reikalavimus, ši PŪV gali būti vykdoma; 2) jeigu AAA priima sprendimą, kad veikla neatitinka aplinkos apsaugos, visuomenės sveikatos, nekilnojamojo kultūros paveldo apsaugos, gaisrinės saugos ir civilinės saugos teisės aktų reikalavimų, įstatymuose įtvirtinti leidimai negali būti išduodami ir veikla negali būti vykdoma.
Visuomenės informavimas ir dalyvavimas: Visuomenė apie PAV procesą informuojama ir jame dalyvauja PAV įstatyme, PŪV PAV tvarkos apraše numatyta tvarka. Suinteresuotoji visuomenė turi teisę pateikti pasiūlymus PŪV organizatoriui ar PAV dokumentų rengėjui ir AAA (atsakingajai institucijai) anksčiau nurodytais kontaktais per 10 darbo dienų nuo dienos, kai gautą pranešimą apie PAV pradžią savo svetainėje paskelbia AAA (atsakinga institucija), terminą skaičiuojant nuo kitos dienos po paskelbimo.

PUBLICITY DOCUMENTS

Aplinkos apsaugos agentūrai 2022-07-19 Nr. V1-805-22

aaa@aaa.am.lt

2022-07-19

Autorius Monika Sakalauskaitė
Projekto numeris 2202512205
Projektas UAB Biržų vėjas konsultacinės paslaugos
Užsakovas
Projekto vadovas Vytautas Belickas

DĖL PRANEŠIMO APIE POVEIKIO APLINKAI VERTINIMO PRADŽIĄ

UAB „Sweco Lietuva“ atlieka UAB „Biržų vėjas“ planuojamo iki 35 vėjo jėgainių (toliau – VJ) parko Biržų r. sav. Nemunėlio Radviliškio sen. teritorijoje statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV).

Vadovaujantis LR aplinkos ministro 2017 m. spalio 31 d. įsakymu Nr. D1-885 „Dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo“ patvirtinto Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo 37^1 p. ir 37^2 p., teikiame Pranešimą apie PAV pradžią ir prašome ne vėliau kaip per 3 d. d. nuo informacijos gavimo dienos paskelbti Aplinkos apsaugos agentūros interneto svetainėje bei per 10 d. d. išnagrinėti ir raštu pateikti motyvuotus pasiūlymus, į kuriuos PAV dokumentų rengėjui reiktų atsižvelgti rengiant PAV ataskaitą.

PRIDEDAMA. Pranešimas apie PAV pradžią, 1 lapas (*doc ir *pdf formatais).

Aplinkosaugos ir planavimo skyriaus vadovas

Vytautas Belickas

Sweco
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RE: Dėl 2022 m. liepos 19 d. rašto Nr. V1-805-22

R Registravimas <registravimas@gamta.lt>
To Sakalauskaitė, Monika
15:53

Translate message to: English | Never translate from: Lithuanian

Jūsų raštas gautas ir užregistruotas, reg. A3-5137

Pagarbiai

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Šioje žinutėje ir/arba jos prieduose pateikiama informacija yra skirta tik nurodytam adresatui ir gali būti konfidenciali. Jeigu ši žinutė pasiekė jus per klaidą, ji negali būti naudojama, platinama, skaitoma, persiunčiama, kopijuojama ar kitaip skleidžiama. Tokiu atveju, prašome šią žinutę ištrinti ir apie tai pranešti siuntėjui elektroniniu paštu.

From: aaa@gamta.lt <aaa@gamta.lt>
Sent: Tuesday, July 19, 2022 3:30 PM
To: Registravimas <registravimas@gamta.lt>
Subject: FW: Dėl 2022 m. liepos 19 d. rašto Nr. V1-805-22

From: Sakalauskaitė, Monika <monika.sakalauskaite@sweco.lt>
Sent: Tuesday, July 19, 2022 3:24 PM
To: aaa@gamta.lt
Cc: Vingrytė-Skabeikienė, Jolita <Jolita.Vingryte@Sweco.lt>; Belickas, Vytautas <Vytautas.Belickas@Sweco.lt>
Subject: Dėl 2022 m. liepos 19 d. rašto Nr. V1-805-22

Laba diena,

Siunčiame 2022 m. liepos 19 d. raštą Nr. V1-805-22 Dėl pranešimo apie poveikio aplinkai vertinimo pradžią.
Pridedame rašte minimą priedą.

Monika Sakalauskaitė
Aplinkosaugos ir planavimo skyriaus specialistė

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SWECO

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Norėdami gauti daugiau informacijos apie tai, kaip „Sweco" tvarko jūsų asmens duomenis, skaitykite čia.

Elektroninio dokumento nuorašas

UAB „Sweco Lietuva“
GAUTA Nr. V2-891-22
Data 2022-07-25

APLINKOS APSAUGOS AGENTŪRA

Biudžetinė įstaiga, A. Juozapavičiaus g. 9, LT-09311 Vilnius, mob. tel. +370 682 92653, el.p. aaa@gamta.lt, https://aaa.lrv.lt
Duomenys kaupiami ir saugomi Juridinių asmenų registre, kodas 188784898

UAB „Sweco Lietuva“ 2022-07- Nr. (30.2)-A4E-
El. p. monika.sakalauskaite@sweco.lt

DĖL PRANEŠIMO APIE POVEIKIO APLINKAI VERTINIMO PRADŽIĄ

Aplinkos apsaugos agentūra (toliau – Agentūra) gavo UAB „Biržų vėjas“ pranešimą apie planuojamos ūkinės veiklos – planuojamo iki 35 vėjo jėgainės (toliau – VJ) parko Biržų r. sav. Nemunėlio Radviliškio sen. teritorijoje statyba ir veikla poveikio aplinkai vertinimo pradžią (toliau – Pranešimas apie PAV pradžią).

Agentūra, vadovaudamasi Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo, patvirtinto Lietuvos Respublikos aplinkos ministro 2017-10-31 įsakymu Nr. D1-885 „Dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo“ (toliau –Tvarkos aprašas), 37^{1} punktu 2022-07-20 paskelbė Pranešimą apie PAV pradžią visuomenei susipažinti savo interneto svetainėje https://aaa.lrv.lt/ nuorodoje *Veiklos sritys > Poveikio aplinkai vertinimas (PAV) >2022 > 4. Pranešimai apie poveikio aplinkai pradžią > Panevėžio regionas.*

Vadovaujantis Tvarkos aprašo 37^{2} punktu informuojame, kad rengiant poveikio aplinkai vertinimo ataskaitą būtina vadovautis Tvarkos aprašo nuostatomis bei kitų teisės aktų nuostatomis.

Šį atsakymą Jūs turite teisę apskųsti Aplinkos apsaugos agentūrai (A. Juozapavičiaus g. 9, Vilnius 09311) Lietuvos Respublikos viešojo administravimo įstatymo nustatyta tvarka per vieną mėnesį nuo jo įteikimo dienos arba Lietuvos Respublikos Seimo kontrolieriui dėl valstybės tarnautojų piktnaudžiavimo, biurokratizmo ar kitaip pažeidžiamų žmogaus teisių ir laisvių viešojo administravimo srityje per vienerius metus nuo šio atsakymo įteikimo dienos (Gedimino g. 56, 01110 Vilnius) Lietuvos Respublikos Seimo kontrolierių įstatymo nustatyta tvarka.

Direktorė Milda Račienė

Raimondas Palionis, tel. 8 686 73805, el. p. raimondas.palionis@gamta.lt

DETALŪS METADUOMENYS	
Dokumento sudarytojas (-ai)	Aplinkos apsaugos agentūra 188784898, A. Juozapavičiaus g. 9, LT-09311 Vilnius
Dokumento pavadinimas (antraštė)	Dėl pranešimo apie poveikio aplinkai vertinimo pradžią (N. Radviliškio sen., Biržų r.)
Dokumento registracijos data ir numeris	2022-07-25 Nr. (1)-A4E-8488
Dokumento gavimo data ir dokumento gavimo registracijos numeris	–
Dokumento specifikacijos identifikavimo žymuo	ADOC-V1.0
Parašo paskirtis	Pasirašymas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	Milda Račienė, Direktorius
Sertifikatas išduotas	MILDA RAČIENĖ, Aplinkos apsaugos agentūra LT
Parašo sukūrimo data ir laikas	2022-07-22 16:13:34 (GMT+03:00)
Parašo formatas	XAdES-X-L
Laiko žymoje nurodytas laikas	2022-07-22 16:13:44 (GMT+03:00)
Informacija apie sertifikavimo paslaugų teikėją	ADIC CA-A, Asmens dokumentu israsymo centras prie LR VRM LT
Sertifikato galiojimo laikas	2021-09-21 10:13:05 – 2024-09-20 10:13:05
Informacija apie būdus, naudotus metaduomenų vientisumui užtikrinti	"Registravimas" paskirties metaduomenų vientisumas užtikrintas naudojant "RCSC IssuingCA, VI Registru centras - i.k. 124110246 LT" išduotą sertifikatą "DBSIS, Informatikos ir ryšių departamentas prie Lietuvos Respublikos vidaus reikalų ministerijos, į.k.188774822 LT", sertifikatas galioja nuo 2022-05-19 16:48:06 iki 2025-05-18 16:48:06
Pagrindinio dokumento priedų skaičius	–
Pagrindinio dokumento pridedamų dokumentų skaičius	–
Pridedamo dokumento sudarytojas (-ai)	–
Pridedamo dokumento pavadinimas (antraštė)	–
Pridedamo dokumento registracijos data ir numeris	–
Programinės įrangos, kuria naudojantis sudarytas elektroninis dokumentas, pavadinimas	DBSIS, versija 3.5.66
Informacija apie elektroninio dokumento ir elektroninio (-ių) parašo (-ų) tikrinimą (tikrinimo data)	Atitinka specifikacijos keliamus reikalavimus. Visi dokumente esantys elektroniniai parašai galioja (2022-07-25 10:47:04)
Paieškos nuoroda	–
Papildomi metaduomenys	Nuorašą suformavo 2022-07-25 10:47:04 DBSIS

Suformuota: 2022 m. liepos 25 d. 10:47
Suformavo: Vyriausiasis specialistas Eglė Kazlauskienė

Siunčiamasis dokumentas

Registracijos duomenys	
Dokumento siuntimo būdas	
Būsena	Registruota
Registracijos data	2022-07-25
Registracijos numeris	(1)-A4E-8488
Dalinys	Projektų vertinimo skyrius
Registras	A4E: Siunčiamų dokumentų registras
Byla	22.137 Mr: Fizinių ir juridinių asmenų prašymų nagrinėjimo projektų vertinimo klausimais dokumentai
Bylos forma	Elektroniniai dokumentai
Registratorius	Vyriausiasis specialistas Eglė Kazlauskienė
Elektroninis dokumentas	Taip
Darbų eiga	ab265f20df2711ec896ce4ce736f8047
Dokumento informacija	
Siuntėjai	Aplinkos apsaugos agentūra
Gavėjai	UAB „Sweco Lietuva”
Gavėjas (pristatymo būdas)	UAB „Sweco Lietuva”
Dokumentą parengė	Vyriausiasis specialistas Raimondas Palionis
Dokumentą derino	Direktoriaus pavaduotojas Justina Černienė, Direktorė Dalė Amšiejienė (nuo 2022-07-25 iki 2022-08-02, Atostogos, pavaduojamas Direktorė Dalė Amšiejienė), Skyriaus vedėjas Živilė Vainienė
Dokumentą pasirašė	Direktorius Milda Račienė
Antraštė	Dėl pranešimo apie poveikio aplinkai vertinimo pradžią (N. Radviliškio sen., Biržų r.)
Dokumento rūšis	RAŠTAS
Dokumento svarbumas	Paprastas
Lapų skaičius	1
Laikinas Nr.	1389398
ADOC	
Biržų vėjas N. Radviliškio sen., Biržų r. pran. PAV prd. 1.adoc	
Biržų vėjas N. Radviliškio sen., Biržų r. pran. PAV prd. 1.docx	
Priedai	
Pridedami dokumentai	

Pasibaigę darbai		
Direktoriaus pavaduotojas Justina Černienė	2022-07-21 20:01:21	Teigiamai derinta versija 2.0. Pastabos:
Direktorė Dalė Amšiejienė (nuo 2022-07-25 iki 2022-08-02, Atostogos, pavaduojamas Direktorė Dalė Amšiejienė)	2022-07-21 21:01:36	Teigiamai derinta versija 2.0. Pastabos:
Skyriaus vedėjas Živilė Vainienė	2022-07-22 07:47:38	Teigiamai derinta versija 2.0. Pastabos:
Direktorius Milda Račienė	2022-07-22 16:13:44	Pasirašyta versija 2.0. Pastabos:
Vyriausiasis specialistas Eglė Kazlauskienė	2022-07-25 10:47:01	Registruotas dokumentas: A4E: Siunčiamų dokumentų registras 22.137 Mr: Fizinių ir juridinių asmenų prašymų nagrinėjimo projektų vertinimo klausimais dokumentai

Biržų rajono savivaldybės administracijai 2022-07-19 Nr. V1-808-22

El. p. savivaldybe@birzai.lt

2022-07-19

Autorius Monika Sakalauskaitė
Projekto numeris 2202512205
Projektas UAB Biržų vėjas konsultacinės paslaugos
Projekto vadovas Vytautas Belickas

DĖL PRANEŠIMO APIE POVEIKIO APLINKAI VERTINIMO PRADŽIĄ

UAB „Sweco Lietuva“ atlieka UAB „Biržų vėjas“ planuojamo iki 35 vėjo jėgainių (toliau – VJ) parko Biržų r. sav. Nemunėlio Radviliškio sen. teritorijose statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV).

Vadovaujantis LR aplinkos ministro 2017 m. spalio 31 d. įsakymu Nr. D1-885 „Dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo“ patvirtinto Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo 67.3 p., teikiame Pranešimą apie PAV pradžią ir prašome ne vėliau kaip per **3 d. d.** nuo informacijos gavimo dienos paskelbti savivaldybės skelbimų lentoje ir, esant galimybei, savivaldybės interneto svetainėje.

Taip pat, prašome savivaldybės atstovą ant PAV dokumentų rengėjo siunčiamo informacinio skelbimo pasirašyti ir uždėti informacinę žymą, kuri patvirtintų informacinio skelbimo gavimo faktą, bei datą ir per **3 d. d.** nuo informacijos paskelbimo skelbimų lentoje dienos, informuoti PAV dokumentų rengėją apie gautą ir paskelbtą informaciją (el. p.: monika.sakalauskaite@sweco.lt), atsiunčiant skenuotą informacinio skelbimo kopiją su parašu, gavimo fakto žyma ir data arba nurodyti, kad paskelbti informacijos skelbimų lentoje nėra galimybių.

PRIDEDAMA. Pranešimas apie PAV pradžią, 1 lapas (*doc ir *pdf formatais).

Aplinkosaugos ir planavimo skyriaus vadovas

Vytautas Belickas

Sweco
Monika Sakalauskaitė
Aplinkosaugos ir planavimo skyriaus specialistė
monika.sakalauskaite@sweco.lt
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Spaudos g. 6-1
LT 05132 Vilnius
Lithuania
Telefonas +370 (8) 5 262 2621
www.sweco.lt

UAB „Sweco Lietuva“
Įm. k. 301135783
Reg. Biuras Vilnius

Patvirtinimas apie pranešimų gavimą

Reply | Reply All | Forward | ...

LM Loreta Munikienė <loreta.munikiene@birzai.lt>
To Sakalauskaitė, Monika
tr 2022-07-20 11:18

20220720113301.pdf
302 KB

Translate message to: English | Never translate from: Lithuanian

Laba diena, teikiame informaciją, kad pranešimai gauti ir paskelbti skelbimų lentoje. Artimiausiu metu pranešimai bus paskelbti ir Savivaldybės interneto svetainėje.

Pagarbiai,
Loreta Munikienė
Architektūros ir urbanistikos
skyriaus vedėja
tel. (8 450) 42 102, mob. +370 682 54 108
el. p. loreta.munikiene@birzai.lt

Biržų rajono savivaldybės administracija
Vytauto g. 38, LT-41143 Biržai
http://www.birzai.lt
Sekite mus

Biržų rajono Nemunėlio Radviliškio seniūnijai, el. p. nem.radviliskis@birzai.lt

2022-07-19 Nr. V1-811-22

2022-07-19

Biržų rajono Parovėjos seniūnijai, el. p. paroveja@birzai.lt

Autorius Monika Sakalauskaitė
Projekto numeris 2202512205
Projektas UAB Biržų vėjas konsultacinės paslaugos
Projekto vadovas Vytautas Belickas

DĖL PRANEŠIMO APIE POVEIKIO APLINKAI VERTINIMO PRADŽIĄ

UAB „Sweco Lietuva“ atlieka UAB „Biržų vėjas“ planuojamo iki 35 vėjo jėgainių (toliau – VJ) parko Biržų r. sav. Nemunėlio Radviliškio sen. teritorijose statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV).

Vadovaujantis LR aplinkos ministro 2017 m. spalio 31 d. įsakymu Nr. D1-885 „Dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo“ patvirtinto Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo 67.3 p., teikiame Pranešimą apie PAV pradžią ir prašome ne vėliau kaip per **3 d. d.** nuo informacijos gavimo dienos paskelbti savo seniūnijos skelbimų lentoje ir, esant galimybei, seniūnijos interneto svetainėje.

Taip pat prašome seniūnijos atstovą ant PAV dokumentų rengėjo siunčiamo informacinio skelbimo pasirašyti ir uždėti informacinę žymą, kuri patvirtintų informacinio skelbimo gavimo faktą, bei datą ir per **3 d. d.** nuo informacijos paskelbimo skelbimų lentoje dienos, informuoti PAV dokumentų rengėją apie gautą ir paskelbtą informaciją (el. p.: monika.sakalauskaite@sweco.lt), atsiunčiant skenuotą informacinio skelbimo kopiją su parašu, gavimo fakto žyma ir data arba nurodyti, kad paskelbti informacijos skelbimų lentoje nėra galimybių.

PRIDEDAMA. Pranešimas apie PAV pradžią, 1 lapas (*doc ir *pdf formatais).

Aplinkosaugos ir planavimo skyriaus vadovas



Vytautas Belickas

Sweco
Monika Sakalauskaitė
Aplinkosaugos ir planavimo skyriaus specialistė
monika.sakalauskaite@sweco.lt
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www.sweco.lt

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Įm. k. 301135783
Reg. Biuras Vilnius

PRANEŠIMAS APIE
UAB „BIRŽŲ VĖJAS“ PLANUOJAMO IKI 35 VĖJO JĖGAINIŲ PARKO BIRŽŲ R. SAV. NEMUNĖLIO RADVILIŠKIO SEN. TERITORIJOJE STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO PRADŽIĄ

Planuojamos ūkinės veiklos (toliau – PŪV) organizatorius: UAB “Biržų vėjas”, J.Janonio a. 5, LT-41170 Biržai. Tel. (+370) 610 25533. Kontaktinio asmens el. p.: evaldas@rdg.lt.
Poveikio aplinkai vertinimo (toliau – PAV) dokumentų rengėjas: UAB „Sweco Lietuva”, Spaudos g. 6-1, LT- 05132, Vilnius. Tel.: +370 5 262 2621, el. p. info@sweco.lt; tinklalapis www.sweco.lt. Kontaktinio asmens el. p.: vytautas.belickas@sweco.lt.
PŪV pavadinimas: UAB „Biržų vėjas“ planuojamo iki 35 vėjo jėgainių (toliau – VJ) parko Biržų r. sav. Nemunėlio Radviliškio sen. teritorijoje statyba ir veikla.
PŪV pobūdis: veiklos rūšis, mastas, planuojamos naudoti technologijos: PŪV sprendiniais Biržų r. sav. Nemunėlio Radviliškio ir Parovėjos sen. teritorijose privačios nuosavybės sklypuose planuojama pastatyti ir eksploatuoti iki 35 VJ bei įrengti jų veiklai vykdyti būtiną infrastruktūrą (elektros transformatorių pastotę, požeminius elektros energijos perdavimo kabelius, aptarnavimo aikšteles ir privažiavimo kelius bei kt.). Planuojamų VJ stiebo aukštis bus iki 180 m, bendras VJ aukštis su pakelta mente – iki 270 m. Vienos VJ galia – iki 7,5 MW.
PŪV PAV atlikimo teisinis pagrindas pagal Lietuvos Respublikos planuojamos ūkinės veiklos poveikio aplinkai vertinimo įstatymo (toliau – PAV įstatymas) 3 straipsnio 1 dalį: PAV įstatymo 2 priedo 3.8 ir 3.8.1 p. „vėjo elektrinių įrengimas, kai įrengiamos 3 vėjo elektrinės, kurių bent vienos aukštis 50 m (matuojant iki aukščiausio konstrukcijų taško) ar daugiau”. Vadovaudamasis PAV įstatymo II sk. 11 p. PŪV organizatorius nusprendė atlikti PAV be atrankos dėl PAV procedūros.
Informacija apie numatomas nagrinėti pagrįstas alternatyvas (pvz., vietos, laiko, techninių ir technologinių sprendinių, poveikį aplinkai mažinančių priemonių): Bus nagrinėjamos sprendinių techninės ir technologinės bei poveikį mažinančių priemonių sprendinių alternatyvos.
PŪV vietos ypatumai: PŪV objektų vieta yra Biržų r. sav. Nemunėlio Radviliškio ir Parovėjos sen. teritorijose. Planuojamoms VJ artimiausios gyvenvietės yra už apie 1,1 km. PŪV objektai nepatenka ir nesiriboja su kultūros paveldo vertybių, saugomomis ir Europos ekologinio tinklo Natura 2000 teritorijomis bei jų apsaugos zonomis. Mažiausias atstumas nuo VJ iki Biržų girios biosferos poligono – apie 1,56 km, Nemunėlio-Apaščios geologinio draustinio teritorijos – apie 1,05 km.
PAV subjektai: Nacionalinio visuomenės sveikatos centro prie SAM Panevėžio departamentas; Kultūros paveldo departamento prie KM Panevėžio-Utenos skyrius; Priešgaisrinės apsaugos ir gelbėjimo departamento prie VRM; Biržų r. savivaldybės administracija; Valstybinė saugomų teritorijų tarnyba prie AM.
Atsakingoji institucija, kuri priims sprendimą dėl PŪV poveikio aplinkai: Aplinkos apsaugos agentūra (toliau - AAA), A. Juozapavičiaus g. 9, LT- 09311, Vilnius. Tel. +370 706 62008, el. p. aaa@aaa.am.lt.
Informacija apie AAA priimamą sprendimą: 1) jeigu AAA priima sprendimą, kad veikla atitinka aplinkos apsaugos, visuomenės sveikatos, nekilnojamojo kultūros paveldo apsaugos, gaisrinės saugos ir civilinės saugos teisės aktų reikalavimus, ši PŪV gali būti vykdoma; 2) jeigu AAA priima sprendimą, kad veikla neatitinka aplinkos apsaugos, visuomenės sveikatos, nekilnojamojo kultūros paveldo apsaugos, gaisrinės saugos ir civilinės saugos teisės aktų reikalavimų, įstatymuose įtvirtinti leidimai negali būti išduodami ir veikla negali būti vykdoma.
Visuomenės informavimas ir dalyvavimas: Visuomenė apie PAV procesą informuojama ir jame dalyvauja PAV įstatyme, PŪV PAV tvarkos apraše numatyta tvarka. Suinteresuotoji visuomenė turi teisę pateikti pasiūlymus PŪV organizatoriui ar PAV dokumentų rengėjui ir AAA (atsakingajai institucijai) anksčiau nurodytais kontaktais per 10 darbo dienų nuo dienos, kai gautą pranešimą apie PAV pradžią savo svetainėje paskelbia AAA (atsakinga institucija), terminą skaičiuojant nuo kitos dienos po paskelbimo.

Paskelbta Seniūnijos skelbimų
Lentoje 2022-07-25

Seniūno pavaduotojas
Kęstutis Jasikas

RE: Dėl 2022 m. liepos 19 d. rašto Nr. V1-812-22

NR Nemunėlio Radviliškio seniūnija <nem.radviliskis@birzai.lt>
To Sakalauskaitė, Monika

Reply | Reply All | Forward | ...
tr 2022-07-27 09:56

Translate message to: English | Never translate from: Lithuanian

Man architektūros skyrius siuntė 3 skelbimus. Paviešinau visus.

Pagarbiai.

Kęstutis Jasikas
Biržų rajono savivaldybės administracijos
Nemunėlio Radviliškio seniūnijos
Seniūno pavaduotojas
Tel.: 8 612 63 569
El. p. kestutis.jasikas@birzai.lt

From: Sakalauskaitė, Monika [mailto:monika.sakalauskaite@sweco.lt]
Sent: Wednesday, July 27, 2022 9:37 AM
To: Nemunėlio Radviliškio seniūnija <nem.radviliskis@birzai.lt>; kestutis.jasikas@birzai.lt
Subject: RE: Dėl 2022 m. liepos 19 d. rašto Nr. V1-812-22

Labas rytas Kęstuti,

Dėkojame už atsakymą.
Noriu tik dar kartą pasitikslinti, ar paviešinti abu skelbimai.
Siuntėme Jums iš viso du raštus:
2022-07-19 raštą Nr. V1-811-22, prie kurio buvo pridėtas skelbimas dėl UAB „Biržų vėjas“ planuojamo iki 35 vėjo jėgainių (toliau – VJ) parko Biržų r. sav. Nemunėlio Radviliškio sen. teritorijose statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV)
ir
2022-07-19 raštą Nr. V1-812-22, prie kurio buvo pridėtas skelbimas dėl UAB „Biržų vėjas“ planuojamo iki 41 vėjo jėgainių (toliau – VJ) parko Biržų r. sav. Parovėjos sen. teritorijose statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV).

Prašėme paviešinti abu skelbimus, nes abi planuojamos veiklos numatomos vykdyti tiek į Nemunėlio Radviliškio seniūnijoje, tiek Parovėjos seniūnijoje (persidengia po kelias VJ).

Kadangi gavome **tik dėl 2022-07-19 rašto Nr. V1-812-22 gavimo žymą, o paviešintas** rašto Nr. V1-811-22 **skelbimas** “PRANEŠIMAS APIE UAB „BIRŽŲ VĖJAS“ PLANUOJAMO IKI 35 VĖJO JĖGAINIŲ PARKO BIRŽŲ R. SAV. NEMUNĖLIO RADVILIŠKIO SEN. TERITORIJOJE STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO PRADŽIĄ”, suprantame, kad raštus gavote abu, tačiau **prašome informuoti ar paviešinote rašto Nr. V1-812-22 skelbimą** “PRANEŠIMAS APIE UAB „BIRŽŲ VĖJAS“ PLANUOJAMO IKI 41 VĖJO JĖGAINĖS PARKO BIRŽŲ R. SAV. PAROVĖJOS SEN. TERITORIJOJE STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO PRADŽIĄ”.

Monika Sakalauskaitė
Aplinkosaugos ir planavimo skyriaus specialistė

UAB „Sweco Lietuva“ | Vilnius
Mob. +370 617 12733

SWECO

From: Nemunėlio Radviliškio seniūnija <nem.radviliskis@birzai.lt>
Sent: Wednesday, July 27, 2022 8:44 AM
To: Sakalauskaitė, Monika <monika.sakalauskaite@sweco.lt>
Subject: RE: Dėl 2022 m. liepos 19 d. rašto Nr. V1-812-22

Laba diena.
Dokumentą gavome ir paskelbėme.

Pagarbiai.

Kęstutis Jasikas
Biržų rajono savivaldybės administracijos
Nemunėlio Radviliškio seniūnijos
Seniūno pavaduotojas
Tel.: 8 612 63 569

Biržų rajono savivaldybės administracijos Parovėjos seniūnija
Gauta
2022-07-22 *Nr.* GD-39-(1.14)

Biržų rajono Nemunėlio Radviliškio seniūnijai, el. p. nem.radviliskis@birzai.lt

2022-07-19 Nr. V1-811-22

2022-07-19

Biržų rajono Parovėjos seniūnijai, el. p. paroveja@birzai.lt

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Projektas UAB Biržų vėjas konsultacinės paslaugos
Projekto vadovas Vytautas Belickas

DĖL PRANEŠIMO APIE POVEIKIO APLINKAI VERTINIMO PRADŽIĄ

UAB „Sweco Lietuva“ atlieka UAB „Biržų vėjas“ planuojamo iki 35 vėjo jėgainių (toliau – VJ) parko Biržų r. sav. Nemunėlio Radviliškio sen. teritorijose statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV).

Vadovaujantis LR aplinkos ministro 2017 m. spalio 31 d. įsakymu Nr. D1-885 „Dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo“ patvirtinto Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo 67.3 p., teikiame Pranešimą apie PAV pradžią ir prašome ne vėliau kaip per **3 d. d.** nuo informacijos gavimo dienos paskelbti savo seniūnijos skelbimų lentoje ir, esant galimybei, seniūnijos interneto svetainėje.

Taip pat prašome seniūnijos atstovą ant PAV dokumentų rengėjo siunčiamo informacinio skelbimo pasirašyti ir uždėti informacinę žymą, kuri patvirtintų informacinio skelbimo gavimo faktą, bei datą ir per **3 d. d.** nuo informacijos paskelbimo skelbimų lentoje dienos, informuoti PAV dokumentų rengėją apie gautą ir paskelbtą informaciją (el. p.: monika.sakalauskaite@sweco.lt), atsiunčiant skenuotą informacinio skelbimo kopiją su parašu, gavimo fakto žyma ir data arba nurodyti, kad paskelbti informacijos skelbimų lentoje nėra galimybių.

PRIDEDAMA. Pranešimas apie PAV pradžią, 1 lapas (*doc ir *pdf formatais).

Aplinkosaugos ir planavimo skyriaus vadovas

Vytautas Belickas

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Biržų rajono savivaldybės administracijos
Parovėjos seniūnija
Gauta
2022-07-22 *Nr.* GD-39-(1.14)

PRANEŠIMAS APIE
UAB „BIRŽŲ VĖJAS“ PLANUOJAMO IKI 35 VĖJO JĖGAINIŲ PARKO BIRŽŲ R. SAV. NEMUNĖLIO RADVILIŠKIO SEN. TERITORIJOJE STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO PRADŽIĄ

Planuojamos ūkinės veiklos (toliau – PŪV) organizatorius: UAB “Biržų vėjas”, J.Janonio a. 5, LT-41170 Biržai. Tel. (+370) 610 25533. Kontaktinio asmens el. p.: evaldas@rdg.lt.
Poveikio aplinkai vertinimo (toliau – PAV) dokumentų rengėjas: UAB „Sweco Lietuva”, Spaudos g. 6-1, LT- 05132, Vilnius. Tel.: +370 5 262 2621, el. p. info@sweco.lt; tinklalapis www.sweco.lt. Kontaktinio asmens el. p.: vytautas.belickas@sweco.lt.
PŪV pavadinimas: UAB „Biržų vėjas“ planuojamo iki 35 vėjo jėgainių (toliau – VJ) parko Biržų r. sav. Nemunėlio Radviliškio sen. teritorijoje statyba ir veikla.
PŪV pobūdis: veiklos rūšis, mastas, planuojamos naudoti technologijos: PŪV sprendiniais Biržų r. sav. Nemunėlio Radviliškio ir Parovėjos sen. teritorijose privačios nuosavybės sklypuose planuojama pastatyti ir eksploatuoti iki 35 VJ bei įrengti jų veiklai vykdyti būtiną infrastruktūrą (elektros transformatorių pastotę, požeminius elektros energijos perdavimo kabelius, aptarnavimo aikšteles ir privažiavimo kelius bei kt.). Planuojamų VJ stiebo aukštis bus iki 180 m, bendras VJ aukštis su pakelta mente – iki 270 m. Vienos VJ galia – iki 7,5 MW.
PŪV PAV atlikimo teisinis pagrindas pagal Lietuvos Respublikos planuojamos ūkinės veiklos poveikio aplinkai vertinimo įstatymo (toliau – PAV įstatymas) 3 straipsnio 1 dalį: PAV įstatymo 2 priedo 3.8 ir 3.8.1 p. „vėjo elektrinių įrengimas, kai įrengiamos 3 vėjo elektrinės, kurių bent vienos aukštis 50 m (matuojant iki aukščiausio konstrukcijų taško) ar daugiau”. Vadovaudamasis PAV įstatymo II sk. 11 p. PŪV organizatorius nusprendė atlikti PAV be atrankos dėl PAV procedūros.
Informacija apie numatomas nagrinėti pagrįstas alternatyvas (pvz., vietos, laiko, techninių ir technologinių sprendinių, poveikį aplinkai mažinančių priemonių): Bus nagrinėjamos sprendinių techninės ir technologinės bei poveikį mažinančių priemonių sprendinių alternatyvos.
PŪV vietos ypatumai: PŪV objektų vieta yra Biržų r. sav. Nemunėlio Radviliškio ir Parovėjos sen. teritorijose. Planuojamoms VJ artimiausios gyvenvietės yra už apie 1,1 km. PŪV objektai nepatenka ir nesiriboja su kultūros paveldo vertybių, saugomomis ir Europos ekologinio tinklo Natura 2000 teritorijomis bei jų apsaugos zonomis. Mažiausias atstumas nuo VJ iki Biržų girios biosferos poligono – apie 1,56 km, Nemunėlio-Apaščios geologinio draustinio teritorijos – apie 1,05 km.
PAV subjektai: Nacionalinio visuomenės sveikatos centro prie SAM Panevėžio departamentas; Kultūros paveldo departamento prie KM Panevėžio-Utenos skyrius; Priešgaisrinės apsaugos ir gelbėjimo departamento prie VRM; Biržų r. savivaldybės administracija; Valstybinė saugomų teritorijų tarnyba prie AM.
Atsakingoji institucija, kuri priims sprendimą dėl PŪV poveikio aplinkai: Aplinkos apsaugos agentūra (toliau - AAA), A. Juozapavičiaus g. 9, LT- 09311, Vilnius. Tel. +370 706 62008, el. p. aaa@aaa.am.lt.
Informacija apie AAA priimamą sprendimą: 1) jeigu AAA priima sprendimą, kad veikla atitinka aplinkos apsaugos, visuomenės sveikatos, nekilnojamojo kultūros paveldo apsaugos, gaisrinės saugos ir civilinės saugos teisės aktų reikalavimus, ši PŪV gali būti vykdoma; 2) jeigu AAA priima sprendimą, kad veikla neatitinka aplinkos apsaugos, visuomenės sveikatos, nekilnojamojo kultūros paveldo apsaugos, gaisrinės saugos ir civilinės saugos teisės aktų reikalavimų, įstatymuose įtvirtinti leidimai negali būti išduodami ir veikla negali būti vykdoma.
Visuomenės informavimas ir dalyvavimas: Visuomenė apie PAV procesą informuojama ir jame dalyvauja PAV įstatyme, PŪV PAV tvarkos apraše numatyta tvarka. Suinteresuotoji visuomenė turi teisę pateikti pasiūlymus PŪV organizatoriui ar PAV dokumentų rengėjui ir AAA (atsakingajai institucijai) anksčiau nurodytais kontaktais per 10 darbo dienų nuo dienos, kai gautą pranešimą apie PAV pradžią savo svetainėje paskelbia AAA (atsakinga institucija), terminą skaičiuojant nuo kitos dienos po paskelbimo.



Antradienio pavakare prie Šv. Jono Krikštytojo bažnyčios esančiame sporto aikštyne įnirtingai bumbsėjo kamuolys, azartiškai lakstė pulkas vyrų. Čia į pirmą bendrą treniruotę susirinko Biržų futbolo veteranai.

Buriasi futbolo veteranai

Antanas Vaičeliūnas

Šį reikalą suorganizavo Mantas Jokšas, žaidžiantis Biržų futbolo klube „Širvėna“. Vyras sakė, jog toks sumanymas jam kilo, mąstant apie pasitraukimą iš reprezentacinės miesto futbolo komandos. „Svarstau, kad jau metas užleisti vietą komandoje jaunimui, tačiau sportuoti vis dar noriu. Kilo mintis prisiminti tuos veteranus, iš kurių kažkada mokiausi, sėmiausi patirties.

Nukelta į 12 psl. ➢

Karščiausi „Tele2“ pasiūlymai išmaniam laisvalaikiui: įsigijus vieną laikrodį – antras dovanų!

Įsibėgėjus vasaros sezonui nepraleiskite ne tik šilčiausių dienų, bet ir geriausių pasiūlymų išmaniesiems įrenginiams įsigyti. Perkantiems „Samsung“ eSIM laikrodį, mobiliojo ryšio operatorius „Tele2“ antrąjį dovanoja vos už 1 cnt.



Pasinaudokite „Tele2“ pasiūlymu ir pradžiuginkite bičiulį ar šeimos narį išmaniuoju laikrodžiu.

GRIEBKITE ABIEM RANKOM

Keliaudami į paplūdimį, piniginę ir telefoną palikite namie – galėsite lengvai atsiskaityti ir bendrauti išmaniuoju laikrodžiu su eSIM technologija. Išmanusis įrenginys leis mėgautis gražiausiomis vasaros akimirkomis be papildomų rūpesčių, kadangi visas reikalingiausias funkcijas turėsite ant savo riešo. Geriausiais dalykais reikia dalintis, tad pasinaudoję išskirtiniu „Tele2“ pasiūlymu ir įsigiję „Samsung Galaxy Watch 4“ arba „Samsung Galaxy Watch 4 Classic“ eSIM laikrodį, antrąjį tokio pat dydžio ar mažesnį gausite dovanų vos už 1 cnt. Laikrodžių vertė atitinkamai siekia 319 ir 419 Eur – vertinga išmaniąja dovana galėsite nustebinti draugus ar artimuosius.

Pasiūlymas eSIM laikrodžiams galioja pasirinkus bet kurį laikrodį ir mokant iš karto arba sudarant 24 mėn. sutartį su planu laikrodžiui (kaina – 4,90 Eur/mėn) ir mokant už įrangą dalimis per 36 ar 24 mėn. Įrangai papildomai taikomas vienkartinis valstybės nustatytas 1,74 Eur laikmenos mokestis.

IŠMANIEJI „APPLE“ TELEFONAI DAR GERESNĖMIS KAINOMIS

Pagaliau atėjo laikas ne tik atostogoms, bet ir „Apple“ telefonų išpardavimui. Šių išmaniųjų dizainas džiugina akį, o parametrai žengia koja kojon su naujausiomis technologijomis. Dabar „iPhone“ telefonams taikomos išskirtinės nuolaidos, o pradinė jų įmoka siekia vos 1 Eur. Naujausią „Apple“ telefono modelį „iPhone13“ (128 GB) galite įsigyti už 34,91 Eur/mėn., sudarius 24 mėn. sutartį. Speciali kaina galioja ir perkantiems įrenginį iš karto – telefonas kainuos 839 Eur. „iPhone 11“ (64 GB) modelis su 24 mėn. sutartimi kas mėnesį kainuos vos 21,16 Eur, perkantiems be sutarties, įrenginio kaina – 509 Eur.

Išmaniuosius galite įsigyti mokant visą sumą iš karto arba nurodytomis įmokomis su bet kuriuo „Tele2“ planu ir 24 mėn. sutartimi.

IŠSKIRTINIAI PASIŪLYMAI IŠMANIAM LAISVALAIKIUI

Jeigu nenorite su savimi nešiotis kompiuterio, rinkitės patogesnę alternatyvą – planšetę. Šiuo nedideliu ir lengvu įrenginiu galite ne tik naršyti, žiūrėti filmus, bet ir žaisti žaidimus. Šiuo metu, pasirašius 24 mėn. sutartį su „Laisvo interneto“ 500 GB arba neribotu GB planu, „Galaxy Tab A8 SIM (64 GB)“ galėsite įsigyti vos už 1 Eur pradinę įmoką. Sudarius sutartį šiam laikotarpiui su „Laisvo interneto“ 100 GB planu, įrenginys kainuos perpus pigiau – 145 Eur. Įrangai papildomai taikomas vienkartinis, valstybės nustatytas, 5,25 Eur laikmenos mokestis.

Sudarę „Laisvo interneto“ sutartį klientai galės naudotis ir papildomomis naudomis – neribotais GB ir nemokamu televizijos paketu pirmąjį sutarties mėnesį.

(Užs. Nr. 3296-9)

PRANEŠIMAS APIE UAB „BIRŽŲ VĖJAS“ PLANUOJAMO IKI 35 VĖJO JĖGAINIŲ PARKO BIRŽŲ R. SAV. NEMUNĖLIO RADVILIŠKIO SEN. TERITORIJOJE STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO PRADŽIĄ

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PŪV PAV atlikimo teisinis pagrindas pagal Lietuvos Respublikos planuojamos ūkinės veiklos poveikio aplinkai vertinimo įstatymo (toliau – PAV įstatymas) 3 straipsnio 1 dalį: PAV įstatymo 2 priedo 3.8 ir 3.8.1 p. „vėjo elektrinių įrengimas, kai įrengiamos 3 vėjo elektrinės, kurių bent vienos aukštis 50 m (matuojant iki aukščiausio konstrukcijų taško) ar daugiau”. Vadovaudamasis PAV įstatymo II sk. 11 p. PŪV organizatorius nusprendė atlikti PAV be atrankos dėl PAV procedūros.

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PŪV vietos ypatumai: PŪV objektų vieta yra Biržų r. sav. Nemunėlio Radviliškio ir Parovėjos sen. teritorijose. Planuojamoms VJ artimiausios gyvenvietės yra už apie 1,1 km. PŪV objektai nepatenka ir nesiriboja su kultūros paveldo vertybių, saugomomis ir Europos ekologinio tinklo Natura 2000 teritorijomis bei jų apsaugos zonomis. Mažiausias atstumas nuo VJ iki Biržų girios biosferos poligono – apie 1,56 km, Nemunėlio-Apaščios geologinio draustinio teritorijos – apie 1,05 km.

PAV subjektai: Nacionalinio visuomenės sveikatos centro prie SAM Panevėžio departamentas; Kultūros paveldo departamento prie KM Panevėžio-Utenos skyrius; Priešgaisrinės apsaugos ir gelbėjimo departamento prie VRM; Biržų r. savivaldybės administracija; Valstybinė saugomų teritorijų tarnyba prie AM.

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(Užs. Nr. 3296-12)

IŠSAUGOKIME SVEIKĄ ŠIRDĮ

Biržų rajono savivaldybės visuomenės sveikatos biuras vykdo Sveikatos stiprinimo programą, skirtą širdies ir kraujagyslių ligų bei cukrinio diabeto profilaktikai, ir organizuoja nemokamus susitikimus gyventojams su kompetentingais specialistais: vidaus ligų gydytoju, kardiologu, psichologu, mitybos specialistu, kineziterapeutu, sporto treneriu, šeimos gydytoju. Aptarsime visas priemones, galinčias padėti palaikyti sveiką širdį. Formuojama klausytojų grupė. Išankstinė registracija ir daugiau informacijos: darbo metu nuo 8.00 iki 17.00 val. tel. (8 450) 59 160; 8 616 02122. Numatoma užsiėmimų vieta: Biržų r. sav. visuomenės sveikatos biuro salė adresu: Vytauto g. 32, 3 aukštas.

Pranešimas apie UAB „Biržų vėjas“ planuojamo iki 35 vėjo jėgainių parko Biržų r. sav. Nemunėlio Radviliškio sen. teritorijoje statybos ir veiklos poveikio aplinkai vertinimo pradžią

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PAV subjektai: Nacionalinio visuomenės sveikatos centro prie SAM Panevėžio departamentas; Kultūros paveldo departamento prie KM Panevėžio-Utenos skyrius; Priešgaisrinės apsaugos ir gelbėjimo departamento prie VRM; Biržų r. savivaldybės administracija; Valstybinė saugomų teritorijų tarnyba prie AM.

Atsakingoji institucija, kuri priims sprendimą dėl PŪV poveikio aplinkai: Aplinkos apsaugos agentūra (toliau – AAA), A. Juozapavičiaus g. 9, LT- 09311, Vilnius. Tel. +370 706 62008, el. p. aaa@aaa.am.lt.

Informacija apie AAA priimamą sprendimą: 1) jeigu AAA priima sprendimą, kad veikla atitinka aplinkos apsaugos, visuomenės sveikatos, nekilnojamojo kultūros paveldo apsaugos, gaisrinės saugos ir civilinės saugos teisės aktų reikalavimus, ši PŪV gali būti vykdoma; 2) jeigu AAA priima sprendimą, kad veikla neatitinka aplinkos apsaugos, visuomenės sveikatos, nekilnojamojo kultūros paveldo apsaugos, gaisrinės saugos ir civilinės saugos teisės aktų reikalavimų, įstatymuose įtvirtinti leidimai negali būti išduodami ir veikla negali būti vykdoma.

Visuomenės informavimas ir dalyvavimas: Visuomenė apie PAV procesą informuojama ir jame dalyvauja PAV įstatyme, PŪV PAV tvarkos apraše numatyta tvarka. Suinteresuotoji visuomenė turi teisę pateikti pasiūlymus PŪV organizatoriui ar PAV dokumentų rengėjui ir AAA (atsakingajai institucijai) anksčiau nurodytais kontaktais per 10 darbo dienų nuo dienos, kai gautą pranešimą apie PAV pradžią savo svetainėje paskelbia AAA (atsakinga institucija), terminą skaičiuojant nuo kitos dienos po paskelbimo.

DOCUMENTS FOR COORDINATION

Information about proposals submitted by EIA entities and the public

EIA entity	**EIA announcement sent to the EIA entity – date and No.**	**Confirmation received from the EIA entity that it has received the EIA announcement – date and letter No./e-mail**	**Letter No. and date Submitted/did not submit proposals**
Biržų r. sav.	2022-07-19 No V1-814-22	2022-07-20 E-mail	*No response or reasoned proposals were submitted within the 10-day deadline from the date of receipt of the notification of the start of the EIA.*
Kultūros paveldo departamentas PNV-UTN		2022-07-19 No 1-2323	2022 08 01, No 2PU-773-(9.38-PU E), Proposals were submitted
NVSC PNV dep		2022-07-19 No 1-108351	2022 07 25, No (5-11 14.3.2Mr)2-37495, Proposals were submitted
PAGD prie VRM		2022-07-20 No. 3-3415	2022 07 27, No 9.4-5-794 Proposals were submitted
VSTT prie AM		2022-07-19 No V4-1619	*No response or reasoned proposals were submitted within the 10-day period from the date of receipt of the notification of the start of the EIA.*
The interested public *did not submit any proposals to the PEA organiser, the EIA document preparer or the Agency within the set 10-day period.*			

Adresatams pagal sąrašą 2022-07-19 Nr. V1-814-22

2022-07-19

Autorius Monika Sakalauskaitė
Projekto numeris 2202512205
Projektas UAB Biržų vėjas konsultacinės paslaugos
Projekto vadovas Vytautas Belickas

DĖL PRANEŠIMO APIE POVEIKIO APLINKAI VERTINIMO PRADŽIĄ

UAB „Sweco Lietuva“ atlieka UAB „Biržų vėjas“ planuojamo iki 35 vėjo jėgainių (toliau – VJ) parko Biržų r. sav. Nemunėlio Radviliškio sen. teritorijose statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV).

Vadovaujantis LR aplinkos ministro 2017 m. spalio 31 d. įsakymu Nr. D1-885 „Dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo“ patvirtinto Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo 37^1 p. ir 37^2 p., teikiame Pranešimą apie PAV pradžią ir prašome ne vėliau kaip per 10 d. d. išnagrinėti ir raštu pateikti motyvuotus pasiūlymus, į kuriuos PAV dokumentų rengėjui reiktų atsižvelgti rengiant PAV ataskaitą.

PRIDEDAMA. Pranešimas apie PAV pradžią, 1 lapas (*doc ir *pdf formatais).

Aplinkosaugos ir planavimo skyriaus vadovas Vytautas Belickas

Sweco
Monika Sakalauskaitė
Aplinkosaugos ir planavimo skyriaus specialistė
monika.sakalauskaite@sweco.lt
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LT 05132 Vilnius
Lithuania
Telefonas +370 (8) 5 262 2621
www.sweco.lt

UAB „Sweco Lietuva“
Įm. k. 301135783
Reg. Biuras Vilnius

Adresatų sąrašas

2022-07-19

Projekto numeris 2202512205
Projektas UAB Biržų vėjas konsultacinės paslaugos

1. Biržų rajono savivaldybės administracija, el. p. savivaldybe@birzai.lt;
2. Kultūros paveldo departamento prie Kultūros ministerijos Panevėžio-Utenos skyrius, el. p. centras@kpd.lt;
3. Nacionalinio visuomenės sveikatos centro prie Sveikatos apsaugos ministerijos Panevėžio departamentas, el. p. panevezys@nvsc.lt;
4. Priešgaisrinės apsaugos ir gelbėjimo departamentas prie Vidaus reikalų ministerijos, el. p. pagd@vpgt.lt;
5. Valstybinė saugomų teritorijų tarnyba prie Aplinkos ministerijos, el. p. vstt@vstt.lt.

UAB „Sweco Lietuva"
GAUTA Nr. V2-929-22
Data 2022-08-01

Elektroninio dokumento nuorašas

**KULTŪROS PAVELDO DEPARTAMENTO
PRIE KULTŪROS MINISTERIJOS
PANEVĖŽIO-UTENOS TERITORINIS SKYRIUS**

UAB „Sweco Lietuva"
el.p. monika.sakalauskaite@sweco.lt

2022-08- Nr.
Į 2022-07-19 Nr. V1-814-22

DĖL PRANEŠIMO APIE POVEIKIO APLINKAI VERTINIMO PRADŽIĄ

Kultūros paveldo departamento prie Kultūros ministerijos Panevėžio-Utenos teritorinis skyrius išnagrinėjo UAB „Sweco Lietuva" parengtą pranešimą apie UAB „Biržų vėjas" planuojamo iki 35 vėjo jėgainių (toliau – VJ) parko Biržų r. sav. Nemunėlio Radviliškio sen. teritorijose statybos ir veiklos poveikio aplinkai vertinimo pradžią. Pateikta informacija, kad teritorija, kurioje planuojama ūkinė veikla, nepatenka į registruotų kultūros vertybių teritorijas ar apsaugos zonas. Pritariame pasiūlymų poveikio aplinkai vertinimo dokumentų rengėjui su pastabomis, teikiame motyvuotus pasiūlymus planuojamos ūkinės veiklos organizatoriui ir poveikio aplinkai vertinimo dokumentų rengėjui.

Skyriaus nuomone vėjo elektrinių išdėstymas arčiau nei 1 km nuo kultūros paveldo objektų darytų neigiamą įtaka kultūros paveldo objektų apžvalgai, todėl būtina patraukti VJ N5 nuo 1918 m. vasario 16-osios Lietuvos Nepriklausomybės Akto signataro Jokūbo Šerno gimtosios sodybos vietos (kodas 23135) ir N30 nuo Nemunėlio Radviliškio žydų žudynių vietos ir kapo (kodas 11874) 1 km atstumu.

Peržiūrėti ir įvertinti Aplinkos ministerijos parengtą Vertingiausių šalies kraštovaizdžio panoramų apžvalgos taškų sąrašą. Pažymime, kad vertingos kraštovaizdžio panoramos matomos nuo daugelio Lietuvos Kultūros vertybių registre įregistruotų, Valstybės saugomų bei UNESCO saugomų nekilnojamųjų kultūros paveldo objektų apžvalgos taškų, todėl šių kultūros paveldo objektų artimoje aplinkoje neturi atsirasti ar dominuoti aukštybiniai (ypatingieji) statiniai, kad jie vizualiai neteršty, neužgožty kultūros paveldo vertingųjų panoramų bei perspektyvų. Vėjo elektrinės yra inžineriniai statiniai, kurie keičia esamą kraštovaizdį, ypač vietovės siluetą. Siekiant sumažinti įtaką kraštovaizdžiui ir poveikiui išvengti turi būti numatytos priemonės, mažinančios kultūros vertybių apžvalgos vizualinę taršą.

Vedėjas Arūnas Giraitis

Birutė Beresnevičienė, tel. (8 45) 468626, el. p. birute.beresneviciene@kpd.lt

DETALŪS METADUOMENYS	
Dokumento sudarytojas (-ai)	Kultūros paveldo departamentas prie Kultūros ministerijos 188692688, Šnipiškių g. 3, Vilnius
Dokumento pavadinimas (antraštė)	DĖL PRANEŠIMO APIE POVEIKIO APLINKAI VERTINIMO PRADŽIĄ
Dokumento registracijos data ir numeris	2022-08-01 Nr. 2PU-773-(9.38-PU E)
Dokumento gavimo data ir dokumento gavimo registracijos numeris	–
Dokumento specifikacijos identifikavimo žymuo	ADOC-V1.0
Parašo paskirtis	Pasirašymas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	Arūnas Giraitis, Vedėjas, Panevėžio-Utenos teritorinis skyrius
Sertifikatas išduotas	ARŪNAS GIRAITIS, Kultūros paveldo departamentas prie Kultūros ministerijos LT
Parašo sukūrimo data ir laikas	2022-08-01 15:16:04 (GMT+03:00)
Parašo formatas	XAdES-T
Laiko žymoje nurodytas laikas	2022-08-01 15:16:15 (GMT+03:00)
Informacija apie sertifikavimo paslaugų teikėją	ADIC CA-B, Asmens dokumentu israsymo centras prie LR VRM LT
Sertifikato galiojimo laikas	2021-11-04 14:11:16 – 2024-11-03 14:11:16
Informacija apie būdus, naudotus metaduomenų vientisumui užtikrinti	"Registravimas" paskirties metaduomenų vientisumas užtikrintas naudojant "RCSC IssuingCA, VI Registru centras - i.k. 124110246 LT" išduotą sertifikatą "Dokumentų valdymo sistema Avilys, Kultūros paveldo departamentas prie Kultūros ministerijos, į.k. 188692688 LT", sertifikatas galioja nuo 2021-12-20 09:34:42 iki 2024-12-19 09:34:42
Pagrindinio dokumento priedų skaičius	–
Pagrindinio dokumento pridedamų dokumentų skaičius	–
Pridedamo dokumento sudarytojas (-ai)	–
Pridedamo dokumento pavadinimas (antraštė)	–
Pridedamo dokumento registracijos data ir numeris	–
Programinės įrangos, kuria naudojantis sudarytas elektroninis dokumentas, pavadinimas	Dokumentų valdymo sistema Avilys, versija 3.5.51
Informacija apie elektroninio dokumento ir elektroninio (-ių) parašo (-ų) tikrinimą (tikrinimo data)	Atitinka specifikacijos keliamus reikalavimus. Visi dokumente esantys elektroniniai parašai galioja (2022-08-01 15:25:31)
Paieškos nuoroda	–
Papildomi metaduomenys	Nuorašą suformavo 2022-08-01 15:25:31 Dokumentų valdymo sistema Avilys

Suformuota: 2022 m. rugpjūčio 1 d. 15:25
Suformavo: Vyriausioji specialistė Birutė Beresnevičienė

Siunčiamasis dokumentas

Registracijos duomenys	
Būsena	Registruota
Registracijos numeris	2PU-773-(9.38-PU E)
Registracijos data	2022-08-01
Procesas	templ.snakeProcess.default
Registras	2PU: Siunčiamų dokumentų registras
Byla (-os)	9.38-PU E: Strateginio pasekmių aplinkai vertinimo bei poveikio aplinkai vertinimo dokumentai
Elektroninis dokumentas	Taip
Registratorius (-iai)	Vyriausioji specialistė Birutė Beresnevičienė
Dokumento duomenys	
Siuntėjai	Panevėžio-Utenos teritorinis skyrius
Gavėjai	UAB "Sweco Lietuva"
Dokumentą parengė	Vyriausioji specialistė Birutė Beresnevičienė
Dokumentą pasirašė	Vedėjas Arūnas Giraitis
Dokumentą vizavo	
Dokumentą tvirtino	
Antraštė	DĖL PRANEŠIMO APIE POVEIKIO APLINKAI VERTINIMO PRADŽIĄ
Dokumento rūšis	Raštas
Tekstas	
Pastaba	
Lapų skaičius	1
Priedų lapų sk.	
Siuntimo būdas	Elektroniniu paštu
Siuntimo žyma	
Kultūros vertybės	[]
KVR neregistruotas objektas	[]
Bylos numeris	
Proceso numeris	
Bylos šalys	
Teismo ar ikiteisminio tyrimo bylos kuratorius	
Projektas	
Susieti dokumentai	
Užduotys (1)	
3266308 2022-07-20 Užduotis	Vykdoma Vyriausioji specialistė Birutė Beresnevičienė 2022-08-01
ADOC	
Pranešimas apie PAV pradžią, Biržų r., N. Rad. VJ.adoc	
Pranešimas apie PAV pradžią, Biržų r., N. Rad. VJ.docx	
Priedai	
Pridedami dokumentai	
Pasibaigę darbai	
Vedėjas Arūnas Giraitis	2022-08-01 15:16:15 Pasirašyta versija 1.0. Pastabos:
Vyriausioji specialistė Birutė Beresnevičienė	2022-08-01 15:25:22 Registruotas dokumentas: 2PU: Siunčiamų dokumentų registras 9.38-PU E: Strateginio pasekmių aplinkai vertinimo bei poveikio aplinkai vertinimo dokumentai

**NACIONALINIO VISUOMENĖS SVEIKATOS CENTRO
PRIE SVEIKATOS APSAUGOS MINISTERIJOS
PANEVĖŽIO DEPARTAMENTAS**

Biudžetinė įstaiga, Kalvarijų g. 153, LT-08221 Vilnius.
Duomenys kaupiami ir saugomi Juridinių asmenų registre, kodas 291349070.
Departamento duomenys: Respublikos g. 13, LT-35185 Panevėžys, tel. (8 45) 46 10 81, faks. (8 45) 59 64 45,
el. p. panevezys@nvsc.lt

UAB „Sweco Lietuva“ 2022-07- Nr. (5-11 14.3.2 Mr)2-
Į 2022-07-19 Nr. V1-814-22

DĖL PRANEŠIMO APIE POVEIKIO APLINKAI VERTINIMO PRADŽIĄ

Informuojame, kad atliekant UAB „Biržų vėjas“ planuojamo iki 35 vėjo jėgainių parko Biržų r. sav., Nemunėlio Radviliškio sen. teritorijose statybos ir veiklos poveikio aplinkai vertinimą turi būti įvertinti šie veiksniai, galintys turėti neigiamos įtakos aplinkinių gyventojų sveikatai: vėjo elektrinių keliamas triukšmas, infragarsas, šešėliavimas, vibracija. Informuojame, kad atstumus, kuriais privaloma įrengti vėjo elektrines sklypo ribose ir iki gretimų pastatų, reglamentuoja Lietuvos Respublikos atsinaujinančių išteklių energetikos įstatymo 49 straipsnis „Atsinaujinančių išteklių energiją naudojančių energijos gamybos įrenginių projektavimo ir statybos reikalavimai“.

Panevėžio departamento direktorius Eugenijus Vilčinskas

P. Bružas, tel. (8 5) 264 96 76, el. p. povilas.bruzas@nvsc.lt

Nuorašas tikras
Nacionalinis visuomenės sveikatos centras prie Sveikatos apsaugos ministerijos

2022-07-25

DETALŪS METADUOMENYS	
Dokumento sudarytojas (-ai)	Nacionalinis visuomenės sveikatos centras prie Sveikatos apsaugos ministerijos 291349070, Kalvarijų g. 153, 08221 Vilnius
Dokumento pavadinimas (antraštė)	DĖL PRANEŠIMO APIE POVEIKIO APLINKAI VERTINIMO PRADŽIĄ
Dokumento registracijos data ir numeris	2022-07-25 Nr. (5-11 14.3.2 Mr)2-37495
Dokumento gavimo data ir dokumento gavimo registracijos numeris	–
Dokumento specifikacijos identifikavimo žymuo	ADOC-V1.0
Parašo paskirtis	Pasirašymas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	Eugenijus Vilčinskas, Panevėžio departamento direktorius, Panevėžio departamentas
Sertifikatas išduotas	EUGENIJUS VILČINSKAS LT
Parašo sukūrimo data ir laikas	2022-07-25 11:33:19 (GMT+03:00)
Parašo formatas	XAdES-T
Laiko žymoje nurodytas laikas	2022-07-25 11:33:27 (GMT+03:00)
Informacija apie sertifikavimo paslaugų teikėją	RCSC IssuingCA, VI Registru centras - i.k. 124110246 LT
Sertifikato galiojimo laikas	2021-12-08 16:18:45 – 2023-12-08 16:18:45
Informacija apie būdus, naudotus metaduomenų vientisumui užtikrinti	"Registravimas" paskirties metaduomenų vientisumas užtikrintas naudojant "RCSC IssuingCA, VI Registru centras - i.k. 124110246 LT" išduotą sertifikatą "Dokumentų valdymo sistema Avilys, Valstybinė teritorijų planavimo ir statybos inspekcija, į.k. 288600210 LT", sertifikatas galioja nuo 2021-12-13 10:03:48 iki 2022-12-13 10:03:48
Pagrindinio dokumento priedų skaičius	–
Pagrindinio dokumento pridedamų dokumentų skaičius	–
Pridedamo dokumento sudarytojas (-ai)	–
Pridedamo dokumento pavadinimas (antraštė)	–
Pridedamo dokumento registracijos data ir numeris	–
Programinės įrangos, kuria naudojantis sudarytas elektroninis dokumentas, pavadinimas	Dokumentų valdymo sistema Avilys, versija 3.5.58
Informacija apie elektroninio dokumento ir elektroninio (-ių) parašo (-ų) tikrinimą (tikrinimo data)	Atitinka specifikacijos keliamus reikalavimus. Visi dokumente esantys elektroniniai parašai galioja (2022-07-25 11:41:25)
Paieškos nuoroda	–
Papildomi metaduomenys	Nuorašą suformavo 2022-07-25 11:41:25 Dokumentų valdymo sistema Avilys

Nuorašas tikras
Nacionalinis visuomenės sveikatos centras prie Sveikatos apsaugos ministerijos

2022-07-25

Ats.: Dėl 2022 m. liepos 19 d. rašto Nr. V1-816-22; V1-815-22, V1-814-22

Reply | Reply All | Forward | •••

B

bendrasis@vpgt.lt
To Sakalauskaitė, Monika
Cc jolita.vanageliene@vpgt.lt

pr 2022-07-25 13:38

Translate message to: English | Never translate from: Lithuanian

Sveiki,
raštai gauti ir užregistruoti 2022-07-20 Nr. 3-3417, Nr. 3-3416, Nr._3-3415 vykdytojas Laimonas Stulginskas, tel. 8 707 57519.

Pagarbiai

Giedrė Pesliakienė
Dokumentų valdymo skyriaus vyriausioji specialistė

Priešgaisrinės apsaugos ir gelbėjimo departamentas
prie Vidaus reikalų ministerijos
Švitrigailos g. 18, 03223 Vilnius
Tel. (8 5) 271 6886, VRM 56886
El. p. giedre.pesliakiene@vpgt.lt
pagd.lrv.lt

Norite į mobilųjį telefoną gauti pranešimą apie gresiantį pavojų?
Apsilankykite interneto svetainėje www.lt72.lt

Del pranesimo apie poveikio aplinkai vertinimo pradzia

JS

Jurate Sichovcoviene <jurate.sichovcoviene@v

To Sakalauskaitė, Monika

Reply | Reply All | Forward | ...

an 2022-07-26 13:10

Translate message to: English | Never translate from: Lithuanian

Laba diena, informuojame, kad Priešgaisrinės apsaugos ir gelbėjimo departamento prie vidaus reikalų ministerijos Panevėžio priešgaisrinė gelbėjimo valdyba 2022-07-26 gavo UAB ,,Biržų vėjas“ planuojamo iki 35 vėjo jėgainių parko Biržų r. sav., Nemunėlio, Radviliškio sen. Teritorijose statybos pranešimą apie poveikio aplinkai vertinimo pradžią.

Per 10 darbo dienų, nuo pateiktos informacijos gavimo dienos, pateiksime pasiūlymus pagal savo kompetenciją.

Pagarbiai

Jūratė Šichovcovienė
Civilinės saugos skyriaus
Vyresnioji specialistė

Priešgaisrinės apsaugos ir gelbėjimo departamentas prie VRM
Panevėžio priešgaisrinė gelbėjimo valdyba
Ramygalos g. 14, 36231 Panevėžys
Tel. (8 707) 69 661
El. p. jurate.sichovcoviene@vpgt.lt
pagd.lrv.lt

PRIEŠGAISRINĖS APSAUGOS IR GELBĖJIMO DEPARTAMENTO PRIE VIDAUS REIKALŲ MINISTERIJOS PANEVĖŽIO PRIEŠGAISRINĖ GELBĖJIMO VALDYBA

Biudžetinė įstaiga, Švitrigailos g. 18, 03223 Vilnius.
Duomenys kaupiami ir saugomi Juridinių asmenų registre, kodas 188601311.
Valdybos duomenys: Ramygalos g. 14, 36231 Panevėžys, tel. (8 707) 69 696, el. p. panevezys.pgv@vpgt.lt

UAB „Sweco Lietuva“

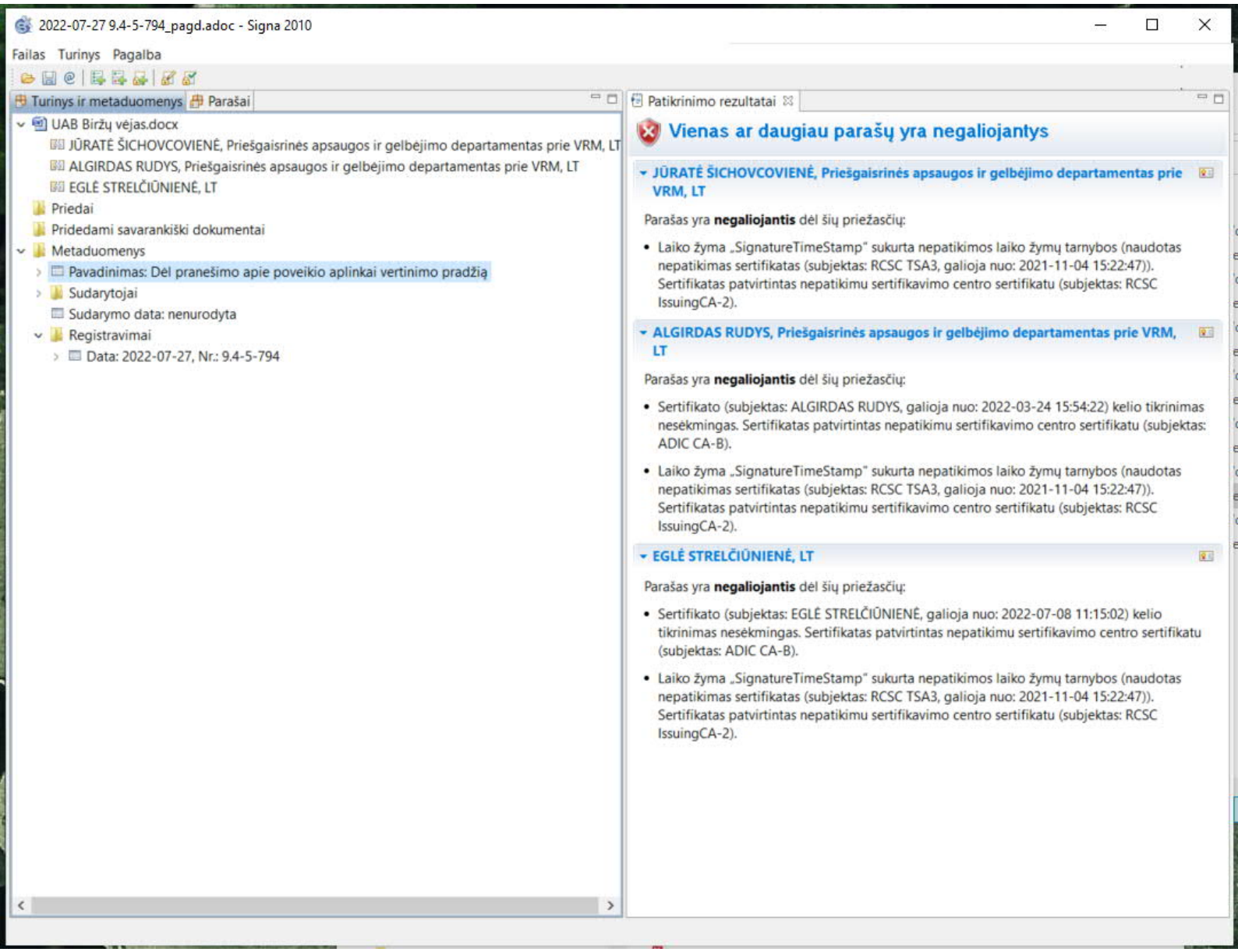
2022-07- Nr.
Į 2022-07-19 Nr. V1-814-22

DĖL PRANEŠIMO APIE POVEIKIO APLINKAI VERTINIMO PRADŽIĄ

Priešgaisrinės apsaugos ir gelbėjimo departamento prie Vidaus reikalų ministerijos Panevėžio priešgaisrinė gelbėjimo valdyba, išnagrinėjusi UAB „Biržų vėjas“ planuojamo iki 35 vėjo jėgainių (toliau – VJ) parko Biržų r. sav. Nemunėlio Radviliškio sen. teritorijose statybos ir veiklos poveikio aplinkai vertinimą pranešimą apie poveikio aplinkai vertinimo pradžią, siūlo poveikio aplinkai vertinimo dokumentų rengėjui planuojamos ūkinės veiklos ypatumus įvertinti pagal Specialiųjų žemės naudojimo sąlygų įstatymo III skyriaus V-IX skirsnių keliamus reikalavimus, kitais projektavimo etapais atsižvelgti į priešgaisrinės saugos reikalavimus.

Viršininkas Algirdas Rudys

Jūratė Šichovcovienė, tel. (8 707) 69 661, el. p. jurate.sichovcoviene@vpgt.lt


2022-07-27 9.4-5-794_pagd.adoc - Signa 2010
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Turinys ir metaduomenys
Parašai
UAB Biržų vėjas.docx
JŪRATĖ ŠICHOVCOVIENĖ, Priešgaisrinės apsaugos ir gelbėjimo departamentas prie VRM, LT
ALGIRDAS RUDYS, Priešgaisrinės apsaugos ir gelbėjimo departamentas prie VRM, LT
EGLĖ STRELČIŪNIENĖ, LT
Priedai
Pridedami savarankiški dokumentai
Metaduomenys
Pavadinimas: Dėl pranešimo apie poveikio aplinkai vertinimo pradžią
Sudarytojai
Sudarymo data: nenurodyta
Registravimai
Data: 2022-07-27, Nr.: 9.4-5-794
Patikrinimo rezultatai
Vienas ar daugiau parašų yra negaliojantys
JŪRATĖ ŠICHOVCOVIENĖ, Priešgaisrinės apsaugos ir gelbėjimo departamentas prie VRM, LT
Parašas yra negaliojantis dėl šių priežasčių:
Laiko žyma „SignatureTimeStamp" sukurta nepatikimos laiko žymų tarnybos (naudotas nepatikimas sertifikatas (subjektas: RCSC TSA3, galioja nuo: 2021-11-04 15:22:47)). Sertifikatas patvirtintas nepatikimu sertifikavimo centro sertifikatu (subjektas: RCSC IssuingCA-2).
ALGIRDAS RUDYS, Priešgaisrinės apsaugos ir gelbėjimo departamentas prie VRM, LT
Parašas yra negaliojantis dėl šių priežasčių:
Sertifikato (subjektas: ALGIRDAS RUDYS, galioja nuo: 2022-03-24 15:54:22) kelio tikrinimas nesėkmingas. Sertifikatas patvirtintas nepatikimu sertifikavimo centro sertifikatu (subjektas: ADIC CA-B).
Laiko žyma „SignatureTimeStamp" sukurta nepatikimos laiko žymų tarnybos (naudotas nepatikimas sertifikatas (subjektas: RCSC TSA3, galioja nuo: 2021-11-04 15:22:47)). Sertifikatas patvirtintas nepatikimu sertifikavimo centro sertifikatu (subjektas: RCSC IssuingCA-2).
EGLĖ STRELČIŪNIENĖ, LT
Parašas yra negaliojantis dėl šių priežasčių:
Sertifikato (subjektas: EGLĖ STRELČIŪNIENĖ, galioja nuo: 2022-07-08 11:15:02) kelio tikrinimas nesėkmingas. Sertifikatas patvirtintas nepatikimu sertifikavimo centro sertifikatu (subjektas: ADIC CA-B).
Laiko žyma „SignatureTimeStamp" sukurta nepatikimos laiko žymų tarnybos (naudotas nepatikimas sertifikatas (subjektas: RCSC TSA3, galioja nuo: 2021-11-04 15:22:47)). Sertifikatas patvirtintas nepatikimu sertifikavimo centro sertifikatu (subjektas: RCSC IssuingCA-2).

RE: Dėl 2022 m. liepos 19 d. rašto Nr. V1-814-22

V

VSTT <vstt@vstt.lt>
To Sakalauskaitė, Monika

16:48

Translate message to: English | Never translate from: Lithuanian

Laba diena,
patvirtiname, kad Jūsų raštas yra gautas ir užregistruotas.
Informacija apie dokumento registravimą:
Registracijos data
2022-07-19
Registracijos numeris
V4-1619

Pagarbiai
Justyna Jodko

Valstybinė saugomų teritorijų tarnyba
prie Aplinkos ministerijos
Antakalnio g. 25, LT-10312 Vilnius
Tel. (8 5) 272 3284, mob. tel. 8 659 29 483
El. paštas vstt@vstt.lt
https://vstt.lrv.lt/

From: Sakalauskaitė, Monika <monika.sakalauskaite@sweco.lt>
Sent: 2022 m. liepos 19 d., antradienis 15:42
To: savivaldybe@birzai.lt; centras@kpd.lt; panevezys@nvsc.lt; pagd@vpgt.lt; VSTT <vstt@vstt.lt>
Cc: Belickas, Vytautas <Vytautas.Belickas@Sweco.lt>; Vingrytė-Skabeikienė, Jolita <Jolita.Vingryte@Sweco.lt>
Subject: Dėl 2022 m. liepos 19 d. rašto Nr. V1-814-22

Laba diena,

Siunčiame 2022 m. liepos 19 d. raštą Nr. V1-814-22 ,,Dėl pranešimo apie poveikio aplinkai vertinimo pradžią".
Pridedame rašte minimą priedą.

Monika Sakalauskaitė
Aplinkosaugos ir planavimo skyriaus specialistė

UAB „Sweco Lietuva" | Vilnius
Mob. +370 617 12733
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SWECO

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Įm. k. 301135783 | Reg. biuras: Vilnius

Norėdami gauti daugiau informacijos apie tai, kaip „Sweco" tvarko jūsų asmens duomenis, skaitykite čia.

TEXT ANNEX 3. COPIES OF LAND OWNERSHIP DOCUMENTS

Classified information

TEXT ANNEX 4. COPIES OF WT TECHNICAL SPECIFICATIONS

3.2 Calculated sound power levels – operating mode 0 s

In operating mode 0 s the wind energy converter operates in a power-optimised mode to achieve optimum yield. The highest expected sound power level is 106.8 dB(A) in the nominal power range. All the sound power levels indicated apply taking into account the uncertainties described in ch. 2.2, p. 7. After reaching the nominal power, the sound power level will not increase further.

Tab. 5: Technical specifications

Parameter	Value	Unit
Nominal power (P_n)	5560	kW
Nominal wind speed	13.5	m/s
Minimum operating speed	4.4	rpm
Speed setpoint	9.6	rpm

Tab. 6: Calculated sound power level in dB(A), based on standardised wind speed v_s at a height of 10 m

v_s at a height of 10 m	Sound power level in dB(A)		
	HH 99 m	HH 120 m	HH 166 m
3 m/s	94.8	95.1	95.6
3.5 m/s	97.0	97.5	98.4
4 m/s	99.8	100.3	101.1
4.5 m/s	102.1	102.7	103.5
5 m/s	104.3	104.8	105.7
5.5 m/s	106.4	106.8	106.8
6 m/s	106.8	106.8	106.8
6.5 m/s	106.8	106.8	106.8
7 m/s	106.8	106.8	106.8
7.5 m/s	106.8	106.8	106.8
8 m/s	106.8	106.8	106.8
8.5 m/s	106.8	106.8	106.8
9 m/s	106.8	106.8	106.8
9.5 m/s	106.8	106.8	106.8
10 m/s	106.8	106.8	106.8
10.5 m/s	106.8	106.8	106.8
11 m/s	106.8	106.8	106.8
11.5 m/s	106.8	106.8	106.8
12 m/s	106.8	106.8	106.8
95 % P_n	106.8	106.8	106.8

V172-7.2 MW™ IEC S

Power regulation	Pitch regulated with variable speed

Operating data

Standard rated power	7,200kW
Cut-in wind speed	3m/s
Cut-out wind speed*	25m/s
Wind class	IEC S

Standard operating temperature range from -20°C to +45°C

* High Wind Operation available as standard

Sound power

Maximum	106.9dB(A)*

* Sound Optimised Modes available dependent on site and country

Rotor

Rotor diameter	172m
Swept area	23,235m^2
Aerodynamic brake	full blade feathering with 3 pitch cylinders

Electrical

Frequency	50/60Hz
Converter	full scale

Gearbox

Type	two planetary stages

Tower

Hub heights*	114m (IEC S)**
	150m (IEC S)**
	164m (DIBt)
	166m (IEC S)
	175m (DIBt)
	199m (DIBt)

*Site specific towers available on request
**Preliminary

Turbine options

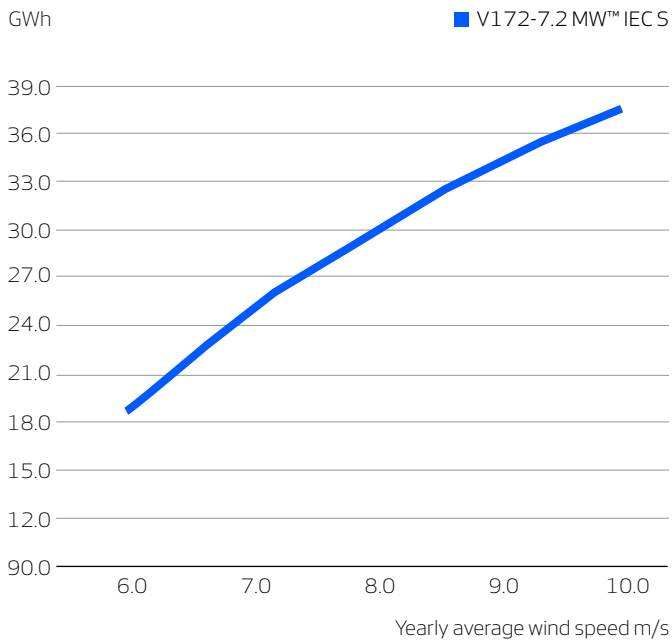
- 6.5 MW Operational Mode
- 6.8 MW Operational Mode
- Oil Debris Monitoring System
- High Temperature CoolerTop
- Service Personnel Lift
- Low Temperature Operation to -30°C
- Vestas Ice Detection™
- Vestas Anti-Icing System™
- Vestas Shadow Flicker Control System
- Aviation Lights
- Aviation Markings
- Fire Suppression System
- Vestas Bat Protection System
- Lightning Detection System

Sustainability

Carbon Footprint	6.4g CO_2e/kWh
Return on energy break-even	6.9 months
Lifetime return on energy	34 times
Recyclability rate	86.6%

Configuration: 166m hub height, Vavg=7.4m/s, k=2.48. Depending on site-specific conditions. Metrics are based on an internal streamlined assessment. An externally reviewed Life Cycle Assessment will be made available on vestas.com once finalised.

Annual energy production



Assumptions
One wind turbine, 100% availability, 0% losses, k factor = 2
Standard air density = 1.225, wind speed at hub height

TEXT ANNEX 5. REPORT ON INVESTIGATIONS AND ASSESSMENT OF BIODIVERSITY IN THE PEA AREA (BIRDS)

UAB BIRŽŲ VĖJAS PLANNED WIND FARM IN NEMUNĖLIS, RADVILIŠKIS AND PAROVĖJA WARDS BIRŽAI DISTRICT. FINAL REPORT ON THE OBSERVATION OF BIRD HABITAT AND MIGRATION (SPRING, SUMMER, AUTUMN, WINTER)

15 March 2023

Report prepared by

Aurelijus Narbutas

Expert ornithologist

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GENERAL SITUATION

The PEA and the adjacent territory are located in Biržai District Municipality, Nemunėlio Radviliškis and part of Parovėjos elderships, in the Mūša-Nemunėlis lowlands. The territory is characterised by an agricultural landscape, with agricultural land predominating. The area is characterised by an agricultural landscape, with agricultural land predominating. Small forests predominate in the PEA area. A large forest massif is located in the neighbouring area – Biržai Forest on the eastern side. There are no large surface water bodies in the PEA territory, but the Apaščia River crosses the PEA territory and the Nemunėlis River flows around it. There are no lakes or ponds in the PEA territory. The PEA territory includes the town of Nemunėlio Radviliškis with the adjoining village of Parupė, and other larger villages include Padvariečiai, Jasiškiai, Spingučiai, Kiauliškiai and Kočėnai.

The nearest European Natura 2000 network site important for bird protection is „Biržų giria“ (LTBIRB001), which covers an area of 17,683 ha and is located 1.5 km south of the nearest planned WPP N32 site. The purpose of including the protected area in the Natura 2000 network is to protect black storks (*Ciconia nigra)*, lesser spotted eagles (*Aquila pomarina)*, hazel grouse (*Bonasa bonasia)*, corncrakes (*Crex crex)*, cranes (*Grus grus)*, Ural owls (*Strix uralensis)*, pygmy owls (*Glaucidium passerinum)*, grey-headed woodpeckers (*Piccus canus)* and three-toed woodpeckers (*Picoides tridactylus)*.

The next Natura 2000 site important for bird protection in the ecological network, Skaistkalnes karsta kritenes, is located in Latvia, 1.14 km from the planned WPP No. N6 site and 1.33 km from the WPP N11 site. The Natura 2000 site "Skaistkalnes karsta kritenes" protects and breeds lesser spotted eagles (*Aquila pomarina)* are protected and breed in the Natura 2000 territory "Skaistkalnes karsta kritenes". The PAST territory was established for the protection of the lesser spotted eagle (*Clanga pomarina)*, the red-breasted flycatcher (*Ficedula parva)* and the three-toed woodpecker (*Picoides tridactylus)*.

Table 1. Preliminary technical characteristics of the planned wind farms (hereinafter referred to as WPP)

Manufacturer	**Vestas***		
Nominal power (MW)	5.56	7.2	7.5
Mast height (m)	120	112	18
Rotor diameter with blades (m)	16	172	180
Total height of the rotor with the blade raised (m)	246	261	27

* - WPP with similar parameters from another manufacturer may be selected

Based on the planned technical characteristics of the wind turbines, it is planned to install wind turbines with a height of up to 246-270 m (total height of the wind turbine with the blade raised), with a tower height ranging from 112 m to 180 m, and a rotor diameter of 160 m to 180 m (see Table 1). Taking into account the planned rotor diameters of the wind turbines, a direct collision zone or rotor zone of R90 m has been designated around the wind turbines, which is determined around the wind turbine with a rotor radius of 90 m, as the minimum length of the planned rotor is 160 m, and the maximum is 180 m. The risk of birds colliding with wind turbines in the PEA territory is assessed. The risk depends on weather conditions and the biological and ecological characteristics of the specific species. Birds may be blown away by the wind turbine due to air turbulence caused by rotating blades and wind.

Other researchers' analyses of wind turbine heights and rotor diameters have found that the risk of collision for birds of prey increases with increasing wind turbine height and rotor diameter (De Lucas et al. 2008, Rasran et al. 2009), but this does not apply to other birds, whose collision risk does not depend on the height of the wind turbine or the diameter of the rotor (Everaert & Kuijken 2007, Hötker et al. 2006). Birds avoid tall wind turbines and usually keep a greater distance from them, especially migratory geese, However, only for breeding and migrating common sandpipers has a statistically significant linear relationship been established between the height of the wind turbine tower and the distance birds keep from the wind turbine, while taller wind turbine towers do not have a negative impact on locally breeding passerines (Hötker et al., 2006).

The aim of the study is to determine the species composition and population abundance of migratory birds nesting in the planned wind farm area and the possible impact of the wind farm on their populations. Research objectives:

- To conduct research on breeding birds in the wind farm area;
- Conduct research on birds of prey, black storks and white storks feeding in the WPP park territory;
- Conduct research on migratory birds;
- Conduct research on bird colonies and assess habitats for the formation of bird colonies;
- Assess the threats that may arise to birds nesting, migrating and feeding in the area after the construction of the wind farm;
- Assess the threats that may arise to birds nesting, migrating and feeding in the area caused by all surrounding wind farms.

METHODOLOGY FOR BIRD RESEARCH

The studies were conducted in the planned wind farm area in Biržai District Municipality, Nemunėlio Radviliškio and Parovėjos Elderships. The wind farm area is the area bounded by the outer edges of the plot intended for the planned wind farm, while the adjacent area is the area up to 100 metres from the outer edges of the plot. The PEA territory is the territory bounded by the outer edges of the plot intended for the construction of the planned wind farm, and the adjacent territory is the territory within a distance of up to 2 km from the outer edges of the plots intended for the planned wind farms. The studies were carried out in order to properly represent the abundance and species composition of breeding and feeding birds in the planned wind farm area.

In order to assess the species of birds flying through wind farms, their concentrations, and the feeding grounds of birds of prey, observations were carried out from fixed points in the planned wind farm. Observations from a fixed point allow for the assessment of the impact on bird species flying past and nesting further away from wind farms, as well as the assessment of species flying past, feeding and migrating in the wind farm's impact zone, the PEA territory and the impact on them. Observations were carried out from various observation points (see Figure 1) to determine the feeding and migration sites of birds of prey, storks and other birds sensitive to the impact of wind farms. The observation points were selected so as to cover as much of the planned wind farm area as possible, taking into account the migration routes and feeding areas of birds. The location of surrounding landscape features (forests, hills, planned wind farms) was also taken into account when selecting observation points. Bird observations were carried out from a fixed point during the spring and autumn migration and breeding seasons. All birds observed in the territory were monitored and recorded at the selected points. Flocks of birds or individual birds were monitored for the duration of their visually observable flight. The following parameters were recorded during the observations: flight time, bird species, number of individuals, flight direction, altitude, weather conditions and other relevant observations related to the species observed. To identify concentrations of migratory birds, record species not detected during observation, driWPP around the PEA and adjacent areas in search of concentrations of migratory birds sensitive to the impact of VE, the size of the flocks was recorded, the species composition was determined, the locations of the flocks were marked, and polygons were drawn. The research was conducted in 2022 by ornithologist Armandas Naudžius, and the information was systematised, summarised and reported by Aurelijus Narbutas. The report presents summarised cartographic material with flight trajectories, feeding, resting, nesting and roosting sites.

Observations were carried out and data collected throughout the year in all seasons. All days on which observations were carried out in the WPP park and the adjacent area are listed below:

23 March 2022, 24 March 2022, 28 March 2022, 29 March 2022, 5 April 2022, 6 April 2022, 15 April 2022, 16 April 2022. 21 April 2022, 22 April 2022, 26 April 2022, 28 April 2022, 2 May 2022, 3 May 2022, 10 May 2022, 15 May 2022, 16 May 2022, 23 May 2022, 24 May 2022, 29 May 2022, 30 May 2022, 5 June 2022, 6 June 2022, 12 June 2022, 13 June 2022, 20 June 2022, 22 June 2022, 29 June 2022, 4 July 2022, 13 July 2022, 18 July 2022, 24 July 2022, 2 August 2022, 5 August 2022, 9 August 2022, 16 August 2022, 23 August 2022, 5 September 2022, 16 September 2022, 22 September 2022, 3 October 2022, 13 October 2022, 14 October 2022, 24 October 2022, 18 November 2022, 7 December 2022, 13 February 2023.



Figure 1. Permanent observation points for breeding and migratory birds in the planned WPP park and its surroundings

The study reviewed and summarised data from the following bird research databases: the database of the Protected Species Information System (SRIS) of the Ministry of Environment of the Republic of Lithuania (research data until 28 November 2022), GPS tracking of Storks, Cranes and birds of prey, breeding in Northern and Eastern Europe (research data until 17 May 2022), iNaturalist database (research data until 17 May 2022), project data set "Wind Energy Development and Areas Important for Biodiversity (abbreviated as VENBIS)" (research data until 2017). The database data supplements information about the PEA under consideration and adjacent areas, collected information about common, rare, protected breeding and migratory bird species found in the PEA area.

BIRD SPECIES OBSERVED IN THE PEA AND NEIGHBOURING AREAS AND THE POSSIBLE IMPACT OF THE PLANNED WIND FARMS

According to the data from the studies conducted in the PEA and adjacent areas and the aforementioned databases, 106 bird species were observed. A list of all observed and protected bird species is provided in Table 2. Twenty bird species listed in the Lithuanian Red Book (hereinafter referred to as LRK) were observed in the PEA and adjacent areas, protected in accordance with Order No. 504 of the Minister of the Environment of the Republic of Lithuania of 13 October 2003 "On the Approval of the List of Protected Animal, Plant and Fungal Species of the Republic of Lithuania" and 21 species listed in Annex I to Directive 2009/147/EC of the European Parliament and of the Council on the conservation of wild birds (hereinafter referred to as Annex I to the Birds Directive).

Table 2. Bird species registered in the PEA and adjacent areas

No.	Lithuanian name of the species	Latin name of the species	Conservation status
1	**2**	**3**	**4**
1	Alksninukas	*Spinus spinus*	
2	Ankstyvoji pečialinda	*Phylloscopus trochilus*	
3	Baltabruvis nykštykas	*Regulus ignicapilla*	
4	Baltakaktė žąsis	*Anser albifrons*	
5	Baltasis gandras	*Ciconia ciconia*	Annex I to the Birds Directive
6	Baltaskruostė berniklė	*Branta leucopsis*	Annex I to the Birds Directive
7	Baltoji kielė	*Motacilla alba*	
8	Brastinis tilvikas	*Tringa ochropus*	
9	Dagilis	*Carduelis carduelis*	
10	Didysis baltasis garnys	*Ardea alba*	Annex I to the Birds Directive
11	Didysis margasis genys	*Dendrocopos major*	
12	Didžioji antis	*Anas platyrhynchos*	
13	Didžioji kuolinga	*Numenius arquata*	LRK
14	Didžioji zylė	*Parus major*	
15	Dirvinis sėjikas	*Pluvialis apricaria*	LRK
16	Dirvinis vieversys	*Alauda arvensis*	
17	Eurazinė cyplė	*Mareca penelope*	
18	Ežerinė nendrinukė	*Acrocephalus schoenobaenus*	
19	Gaidukas	*Philomachus pugnax*	LRK, Annex I to the Birds Directive
20	Geltonoji starta	*Emberiza citrinella*	
21	Geltonsnapis čivylis	*Carduelis flavirostris*	
22	Griežlė	*Crex crex*	LRK, Annex I to the Birds Directive
23	Gulbė giesmininkė	*Cygnus cygnus*	Annex I to the Birds Directive
24	Gulbė nebylė	*Cygnus olor*	
25	Ilgauodegė zylė	*Aegithalos caudatus*	
26	Javinė lingė	*Circus cyaneus*	LRK, Annex I to the Birds Directive
27	Juodagalvė devynbalsė	*Sylvia atricapilla*	
28	Juodagalvė sniegena	*Pyrrhula pyrrhula*	
29	Juodasis čiurlys	*Apus apus*	
30	Juodasis gandras	*Ciconia nigra*	LRK, Annex I to the Birds Directive
31	Juodasis strazdas	*Turdus merula*	
32	Juodoji meleta	*Dryocopus martius*	Annex I to the Birds Directive
33	Jūrinis erelis	*Haliaeetus albicilla*	LRK, Annex I to the Birds Directive
34	Karietaitė	*Troglodytes troglodytes*	
35	Karklažvirblis	*Passer montanus*	
36	Karklinė nendrinukė	*Acrocephalus palustris*	
37	Keršulis	*Columba palumbus*	
38	Kėkštas	*Garrulus glandarius*	
39	Kovas	*Corvus frugilegus*	
40	Klykuolė	*Bucephala clangula*	
41	Kranklys	*Raven*	
42	Kuosa	*Coloeus monedula*	

No.	Lithuanian name of the species	Latin name of the species	Conservation status
1	2	3	4
43	Kukutis	*Upupa epops*	LRK
44	Kurapka	*Perdix perdix*	LRK
45	Languinė kregždė	*Delichon urbicum*	
46	Laukys	*Fulica atra*	
47	Liepsnelė	*Erithacus rubecula*	
48	Lygutė	*Woodlark*	
49	Margasis žiogelis	*Locustella naevia*	
50	Mažasis erelis rėksnys	*Clanga pomarina*	LRK, Annex I to the Birds Directive
51	Mėlynoji zylė	*Cyanistes caeruleus*	
52	Miškinis kalviukas	*Anthus trivialis*	
53	Naminis žvirblis	*Passer domesticus*	
54	Nendrinė lingė	*Circus aeruginosus*	Annex I to the Birds Directive
55	Nendrinė starta	*Emberiza schoeniclus*	
56	Nendrinis žiogelis	*Locustella luscinioides*	
57	Paprastasis čivylis	*Linaria cannabina*	
58	Paprastasis kikilis	*Fringilla coelebs*	
59	Paprastasis kiras	*Larus canus*	
60	Paprastasis kūltupys	*Oenanthe oenanthe*	
61	Paprastasis nykštukas	*Regulus regulus*	
62	Paprastasis pelėsakalis	*Falco tinnunculus*	LRK
63	Paprastasis purplelis	*Streptopelia turtur*	LRK
64	Paprastasis suopis	*Buteo buteo*	
65	Paprastasis varnėnas	*Sturnus vulgaris*	
66	Paprastoji gegutė	*Cuculus canorus*	
67	Paprastoji pempė	*Vanellus vanellus*	
68	Paprastoji pilkoji zylė	*Poecile palustris*	
69	Paprastasis tulžys	*Alcedo atthis*	LRK, Annex I to the Birds Directive
70	Paukštvanagis	*Sparrowhawk*	
71	Perkūno oželis	*Gallinago gallinago*	
72	Pievinė lingė	*Circus pygargus*	LRK, Annex I to the Birds Directive
73	Pievinis kalviukas	*Anthus pratensis*	
74	Pilkasis garnys	*Ardea cinerea*	
75	Pilkoji gervė	*Grus grus*	Annex I to the Birds Directive
76	Pilkoji pečialinda	*Phylloscopus collybita*	
77	Pilkoji varna	*Corvus cornix*	
78	Putpelė	*Coturnix coturnix*	
79	Plėšrioji medšarkė	*Lanius excubitor*	
80	Raudongalvė sniegena	*Carpodacus erythrinus*	
81	Raudonkojis sakalas	*Falco vespertinus*	Annex I to the Birds Directive
82	Rytinė lakštingala	*Luscinia luscinia*	
83	Rudagalvis kiras	*Chroicocephalus ridibundus*	
84	Rudagalvė antis	*Aythya ferina*	LRK, Annex I to the Birds Directive
85	Rudagalvė kryklė	*Anas crecca*	
86	Rudoji devynbalsė	*Sylvia communis*	
87	Sidabrinis kiras	*Larus argentatus*	
88	Sketsakalis	*Falco subbuteo*	LRK
89	Startsakalis	*Falco columbarius*	LRK, Annex I to the Birds Directive
90	Smilginis strazdas	*Turdus pilaris*	
91	Sniegstartė	*Plectrophenax nivalis*	
92	Strazdas giesmininkas	*Turdus philomelos*	
93	Šarka	*Pica pica*	
94	Šelmeninė kregždė	*Hirundo rustica*	
95	Šiaurinė pilkoji zylė	*Poecile montanus*	
96	Šiaurinis kikilis	*Fringilla montifringilla*	
97	Tikutis	*Tringa glareola*	LRK, Annex I to the Birds Directive
98	Tūbuotasis suopis	*Buteo lagopus*	

No.	Lithuanian name of the species	Latin name of the species	Conservation status
1	2	3	4
99	Uldukas	*Columba oenas*	LRK
100	Uolinis karvelis	*Columba livia*	
101	Vapsvaėdis	*Pernis apivorus*	LRK, Annex I to the Birds Directive
102	Vištvanagis	*Accipiter gentilis*	LRK
103	Žalioji pečialinda	*Phylloscopus sibilatrix*	
104	Žaliukė	*Chloris chloris*	
105	Želmeninė žąsis	*Anser fabalis*	
106	Žuvininkas	*Pandion haliaetus*	LRK, Annex I to the Birds Directive

During the observations, the main focus was on highly or moderately sensitive bird species. The bird species and their groups were selected in accordance with the methodological tool "Standards for determining the significance of monitoring results on the impact of wind energy on birds and bats" (hereinafter referred to as VENBIS) methodological tool "Standards for determining the significance of monitoring results on the impact of wind energy on birds and bats". The sensitivity of birds to wind energy is determined by the impact of wind energy on birds, which may be direct collision, disturbance, obstruction, loss or change of habitat. Factors influencing direct bird collisions are grouped into species-specific factors (morphology, vision, phenology, behaviour, abundance) and location-specific factors (landscape, flight paths, food abundance and weather conditions in the area) and wind farm parameters (turbine type, configuration, lighting) (Marques et al, 2014). The main threat posed by the operation of WPs is direct collisions between birds and WPs and their deaths, but some birds collide more frequently than others. Birds that breed locally are more likely to collide with WPs than migratory birds, as birds that breed in WP areas spend more time there than migratory species passing through. Data collected on bird fatalities at wind farms in Germany between 1989 and 2010 shows that birds of prey account for the largest proportion of bird fatalities (37%), passerines (27%), gulls and terns (11%), pigeons (7%), ducks, geese and swans (5%), swallows and martins (5%), wagtails (1.8%), storks (1.8%) and gallinaceous birds (0.8%) (Duerr, 2010). According to VENBIS data in Lithuania (2010-2015 in four wind farms), it was found that most of the deaths were of common and abundant bird species that breed, feed or migrate during migration periods: skylark (22%), mallard (10%), common snipe (7%), common cormorant (5%), barn swallow (5%), white-throated thrush (3%), white stork (3%), lapwing (3%), great spotted cuckoo (3%), yellow wagtail (2%), blackbird (2%), song thrush (2%), common starling (2%), woodpecker (2%), common chaffinch (2%), common tit (2%), great tit (2%), long-tailed tit (2%), coal tit (2%), great spotted cuckoo (2%), common starling (2%), woodpecker (2%), common chaffinch (2%), common tit (2%), great tit (2%), long-tailed tit (2%), coal tit bunting (3%), yellowhammer (2%), blackbird (2%), common linnet (2%), song thrush (2%), kestrel (2%). The emerging threat is posed not only by direct collisions of birds with wind turbines, but also by habitat loss due to the construction of new roads and increased human disturbance during wind turbine maintenance. New roads may contribute to habitat fragmentation, but given that the main areas are agricultural land, habitat fragmentation due to the planned economic activity will be insignificant. The species observed during monitoring in the PEA and adjacent areas and the possible impact of the WPP on bird species or groups are discussed below.

STORK-LIKE BIRDS

A map of the flight paths, feeding grounds and roosting sites of breeding and migratory storks observed in the planned wind farm is provided in Appendix 1.

There are 42 white stork (*Ciconia ciconia*) nesting sites registered in the PEA and adjacent areas. These nests were recorded during research in 2022 and identified in the SRIS database (during the 2010 white stork census). Nests that are currently unoccupied may potentially be used by white storks in the future. White storks usually feed in meadows, pastures, ploughed fields and near water bodies located near their nests. Although white storks can fly long distances in search of food, they prefer feeding grounds located near their nests. White storks gliding in air currents can be knocked down by wind turbine rotor blades and killed. White storks in Lithuania breed more densely than populations in other countries, so the number of white storks killed by wind turbines at the PEA site may account for more than 1.8% of all bird species killed, based on the results of bird mortality monitoring in Germany, but it should be noted that the density of white storks in Lithuania is higher than in Germany. According to VENBIS data, the white stork was one of the least affected bird species

in Lithuania due to the impact of wind farms, accounting for 3% of all bird species killed. No white stork nests were found within the 90 m and 500 m radius zones around the planned wind farm. During the research, isolated flights of white storks were observed in the planned wind farm areas, and the densest nesting site of white storks was found in the town of Nemunėlio Radviliškis – 7 nests, with frequent flights on the eastern side of the town. White storks are adapted to the anthropogenic environment and wind power plants are located at a safe distance and the species is abundant in Lithuania, so the potential impact of the planned power plants on white storks would be minimal.

The nearest black stork (*Ciconia nigra*) nest is located 2.67 km away from the planned WPP N31 site. The black stork nest is located in the „Biržų giria“ Natura 2000 bird protection area. During the research, no black storks were observed crossing the PEA territory. According to BirdMap data, black storks were observed on 29 July 2011, with individuals fitted with telemetric transmitters crossing the territory of the planned wind farm.

The great white egret (*Ardea alba*) is listed in Annex I of the Birds Directive. According to research data, the great white egret is found during the breeding season in the PEA territory and was observed flying near the planned WPP No. N26 site, on the southern side of the WPP park. The breeding conditions in the PEA territory are not favourable for great white egrets – there are no large bodies of water, wetlands covered with reeds, but due to the dense river network, feeding conditions may be suitable for great white egrets, which are most often observed near the Apaščia River. The great white egret was observed near the Apaščia River on 10 July 2020 and according to data from the Inaturalist database.

The grey heron (*Ardea cinerea*) is found in the PEA and neighbouring areas, with occasional sightings of individual birds, often observed near the Apaščia River. The PEA area is not suitable for nesting, as there are no large forests, but the dense river network provides favourable feeding conditions for grey herons.

CRANES, DUCKS, GEESE AND WADING BIRDS

A map of the flight paths, feeding sites and roosting sites of breeding and migrating flocks of cormorants, grebes, geese and waders observed in the planned WPP park is provided in Appendix 1.

No cormorants or grebes were observed in the PEA and adjacent areas. There are no lakes or ponds in the PEA territory; the nearest lake, Jonavos, is 8.5 km away, and Širvėnos Lake is 13 km away from the planned WPP N26 site, so direct bird collisions with the planned VEs and disturbance would be minimal.

There are no lakes or ponds in the PEA territory that would be suitable for ducks to pass through or stop during migration. Individual mallards (*Anas platyrynchos*) have been observed in drainage canals, streams and field puddles in the PEA territory. During migration, two pochards (*Aythya ferina)* and a teal (*Anas crecca)* were observed in the slurry lagoons of the pig farming complex. Duck migration is not abundant in continental Lithuania.

On 23 March 2022, two grey geese were observed flying in the Apaščia River valley or near it, first in one direction and then in the other. The PEA territory is used as a flyover area, as there are no suitable habitats for grey geese to migrate.

No important roosting sites for geese have been identified in the PEA and adjacent areas. Geese choose lakes and ponds for roosting. There are no large lakes or ponds in the PEA territory; the nearest small lakes are Jonava and Širvėna. During migration, bean geese (*Anser fabalis)* and white-fronted geese (*Anser albifrons)* were observed flying over the PEA and neighbouring areas, as well as gathering in flocks, with one flock observed – about 245 bean geese 0.654 km from the planned location of WPP N27, 50 white-fronted geese, about 250 white- cheeked geese flying at a height of 20 m near the planned location of WPP N5. According to the VENBIS methodology, depending on the species (minimum flock size of 300 individuals for bean geese, minimum flock size of 500 individuals for white-fronted geese, minimum flock size of 20 individuals for white-cheeked geese, and the maximum is 100 individuals), these areas near WPP 27 can be classified as low-sensitivity areas, while the area near the planned WPP N5 can be classified as a medium-sensitivity area. During migration, geese fly over the entire area of the planned WPP park. Geese avoid wind farms, fly around

them, or choose feeding areas further away from WPP. The planned WPP sites are located more than 500 m apart, which does not significantly worsen the conditions for geese migration.

Whooper swans (*Cygnus cygnus*) have been observed frequently in the planned wind farm area, with a maximum of 16 individuals observed during the breeding season and 12 individuals during migration. A flock of 37 individuals was observed in autumn at a distance of 0.14 km from the planned WPP No. N17 site. Mute swans (*Cygnus olor)* were also frequently observed in the planned wind farm area, with a maximum of 7 individuals observed during the study during the breeding season and a flock of 23 mute swans observed during the breeding season 0.265 km from the planned location of wind turbine No. N13. There are no lakes, ponds or other larger open water bodies in the PEA territory, so swans can breed in the backwaters of the Apaščia River, where they were observed during the study and on 10 July 2020 according to the Inaturalist database.

Waterfowl (ducks, geese and swans) account for 5% of all bird deaths in Germany. Cases of goose nesting in the PEA territory are isolated, and direct collisions with the planned WPP PEA and neighbouring territories are insignificant. During the VENBIS project, flight heights during spring migration were observed to be up to 80 m . During the 2 0 2 2 study in Biržai District, the average flight altitude of geese (greylag and white-fronted) was 115 m (425 flights), the median was 101 m, and the maximum altitude was 300 m. The altitude of migratory flight is highly dependent on environmental conditions; when there is a tailwind, birds fly higher, and when there is a headwind, they fly lower.

There are no known or observed colonies of great cormorants (*Phalacrocorax carbo*) in the PEA and neighbouring areas, and there are no lakes or ponds in the PEA area. Cormorants have not been observed in the PEA area during migration.

Given that there are no large bodies of water in the PEA territory, grebes, cormorants, loons and paddle-footed birds do not form colonies in the PEA territory, so the impact of the PEA on these bird species will be minimal.

HAWKS, FALCONS AND OWLS

A map of the flight paths, feeding grounds and roosting sites of breeding and migratory birds of prey, falcons and owls observed in the planned wind farm area is provided in Appendix 2.

Despite their good eyesight, manoeuvrability and favourable flying conditions, birds of prey remain one of the largest groups of birds killed by wind farms. Birds of prey have low reproduction rates and their populations are small compared to passerines, so the loss of individuals can have a significant impact on bird of prey populations. In addition to local birds of prey nesting in the vicinity, individuals that have flown in from further afield to feed or do not nest are also observed in the planned wind farm area. The planned wind farm area is moderately attractive to birds of prey in terms of food. During migration, birds of prey are observed in small numbers, migrating in small groups or individually. The most commonly observed birds in the planned wind farm area are the sparrowhawk (*Accipiter nisus)*, common buzzard (*Buteo buteo)*, marsh harrier (*Circus aeruginosus)*, lesser spotted eagle (*Clanga pomarina)* and Montagu's harrier (*Circus pygargus)*. During migration and wintering, rough-legged buzzards (*Buteo lagopus)*, hen harriers (*Circus cyaneus)* and merlins (*Falco columbarius)* can be observed flying and hunting. Birds of prey feed over large areas during migration and do not have specific territories; they can be observed throughout the entire WPP park. The planned wind farm should not pose a significant threat to most birds of prey, as they fly relatively low when feeding, but longer flights, territorial flights and gliding take place at much higher altitudes, so wind turbines may pose a direct threat. The migration of birds of prey in the planned wind farm park, so the wind farm should not pose a significant direct threat to birds of prey during the migration seasons.

The common buzzard (*Buteo buteo*) is a common and widespread species in Lithuania. According to expert estimates, around 8-10 pairs may breed in the PEA and neighbouring areas. It is often found in the PEA and neighbouring areas, and part of the PEA territory has small forests suitable for the breeding of common buzzards. In Germany, it is one of the most frequently killed species of birds of prey. Considering that the buzzard is the most abundant species of birds of prey in Lithuania, the impact of collisions with wind turbines will be moderately significant. The sparrowhawk (*Accipiter nisus*) is a common and widespread species in Lithuania. According to expert estimates, 4-6 pairs may breed in the PEA and adjacent areas. Part of the PEA territory has small forests suitable for sparrowhawks to breed. Sparrowhawks rarely encounter and die from

wind turbines, much less frequently than other species of birds (Rasran et al. 2009), therefore the potential impact on this species would be minimal.

The northern goshawk (*Accipiter gentilis*) is listed in Annex I of the Birds Directive and the LRK. During the breeding season, on 24 July 2022, it was observed flying near the planned WPP N28 and No. N30 territories in the PEA territory.

The honey buzzard (*Pernis apivorus*) is listed in Annex I of the Birds Directive and the LRK. During the breeding season, the honey buzzard was observed flying over the planned WPP N5, N8 and N11 areas towards Latvia in the PEA territory.

The lesser spotted eagle (*Clanga pomarina*) is listed in Annex I of the Birds Directive and the LRK. Lesser spotted eagles in Lithuania account for about 20% of the total European population of lesser spotted eagles, so it is very important to ensure their protection and favourable nesting and feeding conditions. Lesser spotted eagles are frequently observed in the PEA and the adjacent territory, and according to expert estimates, around 5-7 pairs may breed in the PEA and the adjacent territory. Lesser spotted eagles are more commonly observed in the eastern part of the planned WPP park territory near the edge of the Biržai Forest, and one pair was observed flying near the Latvian border by the Nemunėlis River, where there is a larger forest on the other side of the river.

According to SRIS data, lesser spotted eagles have several nesting sites in the Biržai Forest.

According to SRIS data, the planned wind farms N31 and N32 are located in the territory of two lesser spotted eagle nesting sites.

Protection zones for eagle nests within a 2 km radius. WPP No. N31 is located 1.95 km from SRIS small eagle owl nest sites No. AQUPOM002610 and No. AQUPOM060294, and 2.02 km from another site, No. AQUPOM087004. During the investigation, SRIS locations No. AQUPOM002610, No. AQUPOM060294 and No. AQUPOM087004 were checked and it was found that the habitats had been cleared and the nests destroyed. WPP No. N32 is 1.9 km away from another lesser spotted eagle nest site No. AQUPOM060612 (see Figure 10). During the investigation, the condition of the nest at SRIS site No. AQUPOM060612 was checked and found to be good. During the research, frequent flights of lesser spotted eagles were observed above the planned locations of WPP No. N31 and N32, moreover, the planned location of WPP No. N31 is 1.9 km away, and WPP No. N32 is 1.5 km away from the European ecological network Natura 2000 territory "Biržų giria". Both nesting sites are located in the „Biržų giria“ area, which is important for bird protection under the European ecological network Natura 2000.

According to research data, the planned location of WPP N34 falls within the feeding grounds of lesser spotted eagles, but the nest is unknown. The lesser spotted eagle has often been observed feeding near the planned WPP N34 on 16 April 2022, 22 April 2022, 16 May 2022 and 6 June 2022.

According to research data, the planned locations of wind farms N18 and N19 fall within the feeding areas of lesser spotted eagles, but their nesting sites are unknown. Lesser spotted eagles have often been observed feeding near the planned wind farms on the following dates: 23 May 2022, 5 June 2022, 13 July 2022, 24 July 2022, 2 August 2022 and 23 August 2022.

On the north-western side of the WPP park is the Natura 2000 territory "Skaistkalnes karsta kritenes", which is located 1.14 km from the planned WPP No. N6 site and 1.33 km from the WPP No. N11 site. Natura 2000 site "Skaistkalnes karsta kritenes". The Natura 2000 site "Skaistkalnes karsta kritenes" protects and breeds lesser spotted eagles, which fly to the planned wind farm site to feed. The lesser spotted eagle was observed at the locations of WPP N6 and N11 on 5 June 2022, 9 August 2022 and 16 August 2022.

According to VENBIS data, the western and eastern parts of the planned wind farm area fall within areas that are slightly or moderately sensitive to nesting birds, where a species sensitive to the impact of wind turbines, the lesser spotted eagle, is found. Some of the planned wind farm sites are feeding grounds for lesser spotted eagles.

GALLIFORMERS, GEES AND SEED-EATING BIRDS

A map of the flight paths, feeding areas and roosting sites of breeding and migratory gallinaceous, crane and seed-eating birds observed in the planned wind farm area is provided in Appendix 4.

Galliformes often encounter wind turbines because they fly with difficulty and are not very manoeuvrable due to their small wings in relation to their body weight.

A pair of partridges (*Perdix perdix*) was observed during the breeding season in the PEA territory at the planned WPP N28 site, 0.52 km away. The species is listed in the LRK, and the conditions in the PEA territory are favourable for partridges.

The common quail (*Coturnix coturnix*) was observed in the PEA territory near the planned WPP N34 and N35 sites, at distances of 0.3-0.4 km. The conditions are favourable for quails to breed, they are found in agricultural land, most often observed in cereals. Quails in the PEA territory live in agricultural land, therefore the loss of habitat due to PEA will not have a negative impact on birds.

The corncrake (*Crex crex*) is listed in Annex I of the Birds Directive and the LRK. During the study, it was observed in the PEA territory at a distance of 0.3 km from WPP 14. WPP N14 falls within the corncrake's nest protection zone at a distance of up to 0.5 km. Conditions in the PEA territory are not favourable for corncrakes, as cultivated cereal fields predominate.

The grey crane (*Grus grus*) is a common and widespread species in Lithuania. During migration, grey cranes gathered in small numbers in the planned wind farm area, with a maximum of about 200 individuals at a distance of 0.1 km from the planned location of wind turbine N15. According to the VENBIS methodology, the minimum size of a flock of migrating grey cranes is 50 individuals, and the maximum is 200 individuals, where the area near the planned WPP N15 site could be classified as a highly sensitive area based on the size of the grey crane flock, the area adjacent to the planned WPP N28 (0.467 km from the gathering site) could be classified as a moderately sensitive area, and other areas of the WPP park as less sensitive areas.

During migration, grey cranes (1 to 12 individuals) were observed in small numbers throughout the planned wind farm area, flying to their feeding grounds. Breeding grey cranes do not avoid wind farms and may breed and feed near operating wind farms, but during migration, wind farms create a barrier effect that hinders their migration. According to research data, cranes fly at an average altitude of 64 m during migration. The feeding areas of cranes may change due to current land use, therefore no significant negative impact on these birds is expected due to the planned wind farm.

The most frequently observed species among the plovers were the northern lapwing (*Vanellus vanellus*) and the golden plover (*Pluvialis apricaria*). During migration, northern lapwings and golden plovers formed larger or smaller flocks in the PEA and neighbouring areas. Northern lapwings and golden plovers were observed throughout the PEA and neighbouring areas during migration. The migration of lapwings began in the summer, with larger flocks observed in the autumn. The largest flocks of common lapwings in the PEA territory: about 600 individuals – at the planned location of WPP N29, about 500 individuals – at the planned location of WPP N2, 0.56 km away. In autumn, flocks of corn buntings were observed in the PEA territory, with the largest flocks of corn buntings in the PEA territory: about 1,400 individuals at a distance of 0.27 km near the planned WPP N12 site; about 1,200 individuals – at the planned location of WPP N15, 0.13 km away, and about 1,200 individuals in the adjacent territory. Greater numbers of golden plovers were observed in the central part of the planned WPP park territory. According to the VENBIS methodology, the minimum flock size for golden plovers (*Pluvialis apricaria)* is 100 individuals, the maximum flock size is 500 individuals, and for common snipes (*Vanellus vanellus)* is 100 individuals, and the maximum aggregation size is 500 individuals, then the gathering places of migrating northern lapwings near the planned WPP N29 and N2 can be classified as moderately sensitive areas, and the gathering places of golden plovers in the PEA area near WPP N12 and WPP No. N15 can be classified as less sensitive areas. Birds prefer ploughed fields or low winter crops, where conditions are favourable for feeding. The formation of flocks of corn buntings and common buntings is significantly influenced by land use. Birds that nest in open habitats avoid wind turbines and usually stay several hundred metres away from them

(Hötker, H., K-M. Thomsen & H. Jeromin 2006), so the probability of birds colliding with wind turbines would be low and the potential impact would be minimal.

During the breeding season, a 500 m nest protection zone is applied to common sandpipers in accordance with the VENBIS methodology, which includes the planned wind farms N15, N23, N26, N27, N3 and N2, none of which are closer than 90 m to the sandpiper breeding site.

According to research data, Eurasian curlews (*Numenius arquata*) were observed in the neighbouring area on 21 April 2022 and 26 April 2022, at the end of migration and the beginning of the breeding season. Pairs were observed flying in the territory, 0.6-0.8 km away from the nearest planned WPP N25 and N26 sites. According to the VENBIS methodology, the nest protection zone for Eurasian curlews is 0.5 km around the nest,

and the planned locations of WPP N25 and N26 do not fall within the protection zone of the great spotted cuckoo's nest. After the end of the breeding season, 1 and 7 individuals of great spotted cuckoos were observed flying over the PEA territory.

The migration of other species of wading birds during migration was sporadic. A migrating wood sandpiper (*Tringa glareola)* and 8 ruffs (*Philomachus pugnax)* were observed at the planned WPP N28 site, a golden plover at the planned WPP N14 and N19 sites, and a green sandpiper (*Tringa ochropus)* in the adjacent area. The PEA areas do not have many habitats suitable for sandpipers to feed and rest.

One of the most frequently killed bird groups is gulls and terns, which, although they have good eyesight and fly well, often fly in cloudy weather and do not notice moving obstacles when flying through the VE. The conditions in the PEA territory are not favourable for gulls to breed and rest, and there are no gull colonies. The black-headed gull (*Chroicocephalus ridibundus)* was observed throughout the PEA territory, most abundantly and frequently in the slurry reservoirs of the "Biržų bekonas" pig farming complex, with 70 individuals observed. The common gull (*Larus canus)* was also observed near the slurry lagoons of the pig farm, with 60 individuals observed.

SPARROWS, CUCKOOS, WARBLERS, GULLS, PIGEONS S AND GREYHOUNDS

A map of the flight paths, feeding grounds and roosting sites of breeding and migratory passerines, cuckoos, warblers, thrushes and finches observed in the planned WPP park area is provided in Appendix 3.

The species characteristic of the agricultural landscape, whose populations are numerous, will not have their natural habitats destroyed, therefore the direct loss of land use areas will be insignificant for passerines.

Passerines are the most abundant group of migratory and breeding birds. Among the representatives of the lark family, the skylark (*Alauda arvensis*) and the woodlark (*Lullula arborea*) have been observed in the PEA territory. According to VENBIS project data, the skylark (*Alauda arvensis)* was the most abundant bird species killed in Lithuania due to the impact of wind turbines, accounting for 22% of all bird species killed. The skylark is the most common species in the PEA territory, so the proportion of birds killed may be similar, but the population is large and the impact on the skylark population would be insignificant. Of the birds of the swallow family, barn swallows (*Hirundo rustica)*. Barn swallows (*Hirundo rustica)* and house martins (*Delichon urbica)* were observed in the PEA territory, flying alone or in small groups to feeding sites in the VE. Of the wagtail family birds, white wagtails (*Motacilla alba)*, yellow wagtails (*Motacilla flava)*, meadow pipits (*Anthus pratensis)* and tree pipits (*Anthus trivialis)* were observed. Of the flycatcher family birds, common wheatears (*Oenanthe oenanthe)* were observed in large numbers during migration. Of the thrush family birds, fieldfare (*Turdus piliaris)* and song thrush (*Turdus philomelos*). From the tit family, there are blue tits (*Cyanistes caeruleus*), great tits (*Parus major*), marsh tits (*Poecile palustris*) and willow tits (*Poecile montanus*). Among the passerines, the most numerous migrants are birds of the finch family, the most abundant species being the common chaffinch (*Fringilla coelebs)* and the brambling (*Fringilla montifringilla)*. In addition to these species, other finches have also been observed: greenfinches (*Chloris chloris)*, goldfinches (*Carduelis carduelis)*, siskins (*Spinus spinus)*, linnet (*Linaria canabina)* and bullfinches (*Pyrrhula pyrrhula)*. During migration, individual great grey shrikes (*Lanius excubitor)* were observed among birds of the Accipitridae family. During migration, yellowhammers (*Emberiza citrinella)*, snow buntings (*Plectrophenax nivalis)*, reed buntings (*Emberiza schoeniclus*) were observed during migration. Among birds of the Corvidae

family, the most abundant species feeding in the PEA and neighbouring areas during the summer and autumn were the common starling (*Sturnus vulgaris)*, with flocks of up to 1,000 individuals observed in the PEA area began to gather in June- July, with a maximum of 1,000 individuals observed flying over and 1,000 individuals gathering at the planned WPP No. N29 site, and 800 individuals gathering in the neighbouring area, with the gatherings not being particularly numerous. Hooded crows (*Corvus cornix)* and ravens (*Corvus corax)* – during the breeding season, single birds or pairs were observed flying over the PEA territory, and single magpies (*Pica pica)* and their flights were observed in fields and bushes. During migration, 5 to 10 individuals were observed throughout the PEA and the adjacent territory.

70 individuals of common jackdaws (*Coleus monedula*), individual grey crows (*Corvus corone*), jays (*Garrulus glandarius*), magpies (*Pica pica*) and ravens (*Corvus corax*). Ravens were observed throughout the PEA territory, 1-2 individuals at a time. During migration, rooks (*Corvus frugilegus)* did not form large flocks or gatherings in the PEA and adjacent areas, and were most often observed in the southern part of the planned WPP park, with the largest observed flock consisting of 40 individuals and the largest gathering consisting of approximately 110 individuals.

The wind farm acts as an obstacle to passerine birds, except for corvids, during migration, but considering that the average flight altitude of the observed passerine species is 25 m, the impact on passerine birds would be minimal. Although many birds die when colliding with wind turbines, the impact on passerines would be insignificant due to their high reproduction rates and abundant populations.

The common cuckoo (*Cuculus canorus*), a representative of the cuckoo family, is most commonly found in the neighbouring area, in forests. No migration of common cuckoos (*Cuculus canorus)* from the cuckoo family was observed in the PEA and neighbouring areas during migration; they fly away early, in July, migrating at night.

The common swift (*Apus apus*), a representative of the swift family, was observed in small numbers during the breeding season, with a maximum of 18 individuals in the entire PEA territory. Swifts fly to the planned WPP sites to feed. Due to the low density of swifts in the PEA territory, the impact on this species would be insignificant.

The migration of pigeons took place throughout the PEA and neighbouring areas. During the breeding and migration periods, small groups of 1-2 common wood pigeons (*Columba palumbus*) were observed in the PEA and neighbouring areas. the largest number of 170 individuals was observed in the PEA territory on 05-06-2022, flying and gathering between the planned WPP N25 and N26 sites. During migration, a gathering of 12 woodcocks was observed near the planned WPP No.

a gathering of 12 woodcocks, and at other times, individual woodcocks were observed flying across the entire PEA territory. Individual or small groups of common sandpipers were observed flying across the entire PEA territory.

A flock of cormorants. According to SRIS data, kingfishers (*Alcedo atthis*) were observed in the neighbouring area on the banks of the Nemunėlis River, with the nearest wind farm located 1.0 km away from the Nemunėlis River. A hoopoe (*Upupa epops)* was observed in the neighbouring area, 0.14 km from the nearest planned WPP N6 site.

According to research data, the following birds of the woodpecker family were observed in the PEA and neighbouring areas: black woodpecker (*Dryocopus martius*) and great spotted woodpecker (*Dendrocopos major*).

SENSITIVITY OF THE TERRITORY AND NEIGHBOURING TERRITORIES TO BREEDING, MIGRATING AND WINTERING BIRDS ACCORDING TO VENBIS DATA

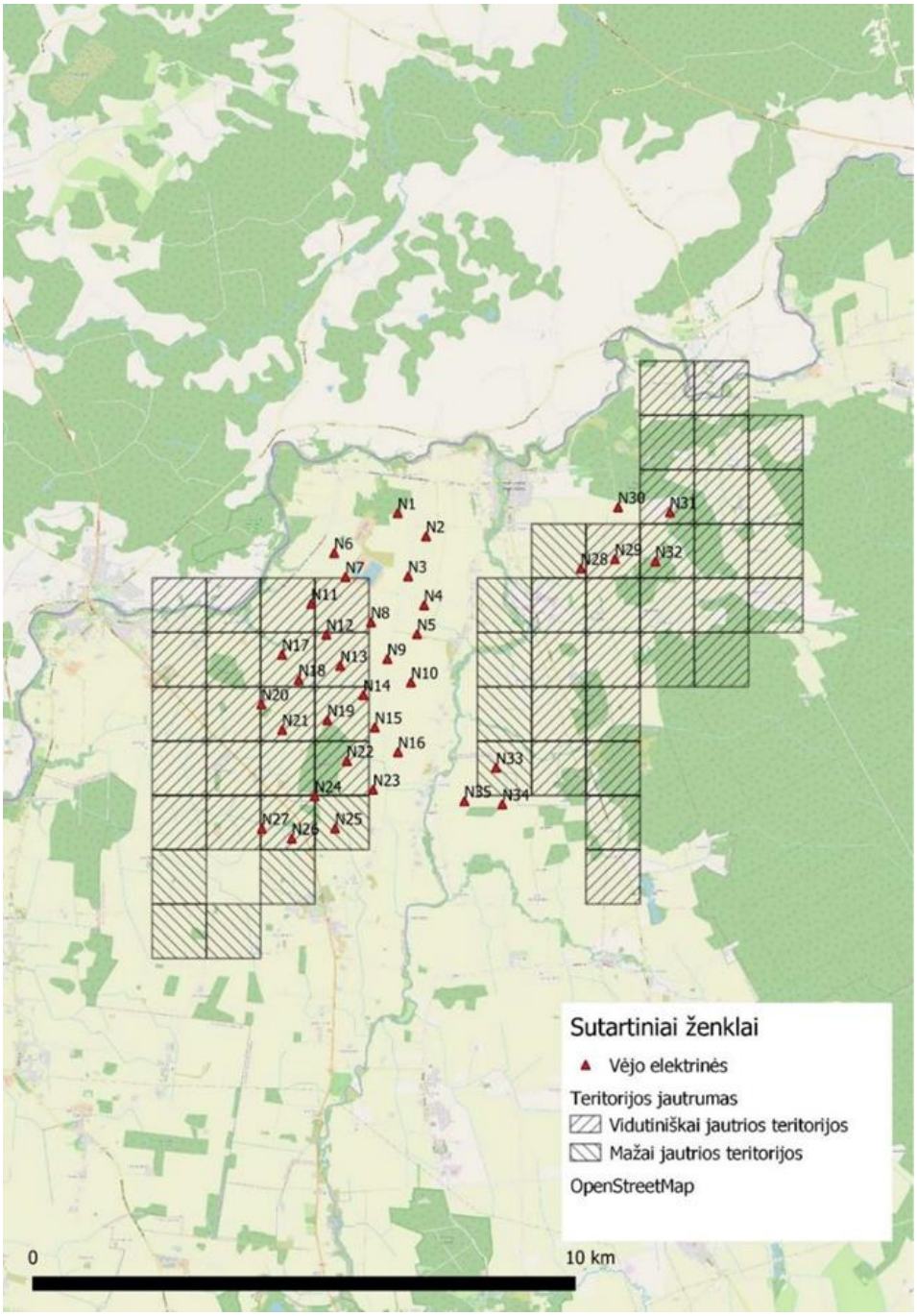


Figure 2. Sensitivity of PEA and neighbouring areas to breeding birds according to VENBIS data

According to the database compiled during the VENBIS project, nesting birds, wintering birds and migratory birds were recorded in or near the analysed area. Based on the sensitivity maps of the territories compiled during the VENBIS project, the PEA territory falls within the moderately or low sensitivity areas in terms of breeding birds (see Figure 2) and moderately or low sensitivity areas in terms of migratory and wintering birds (see Figure 5).

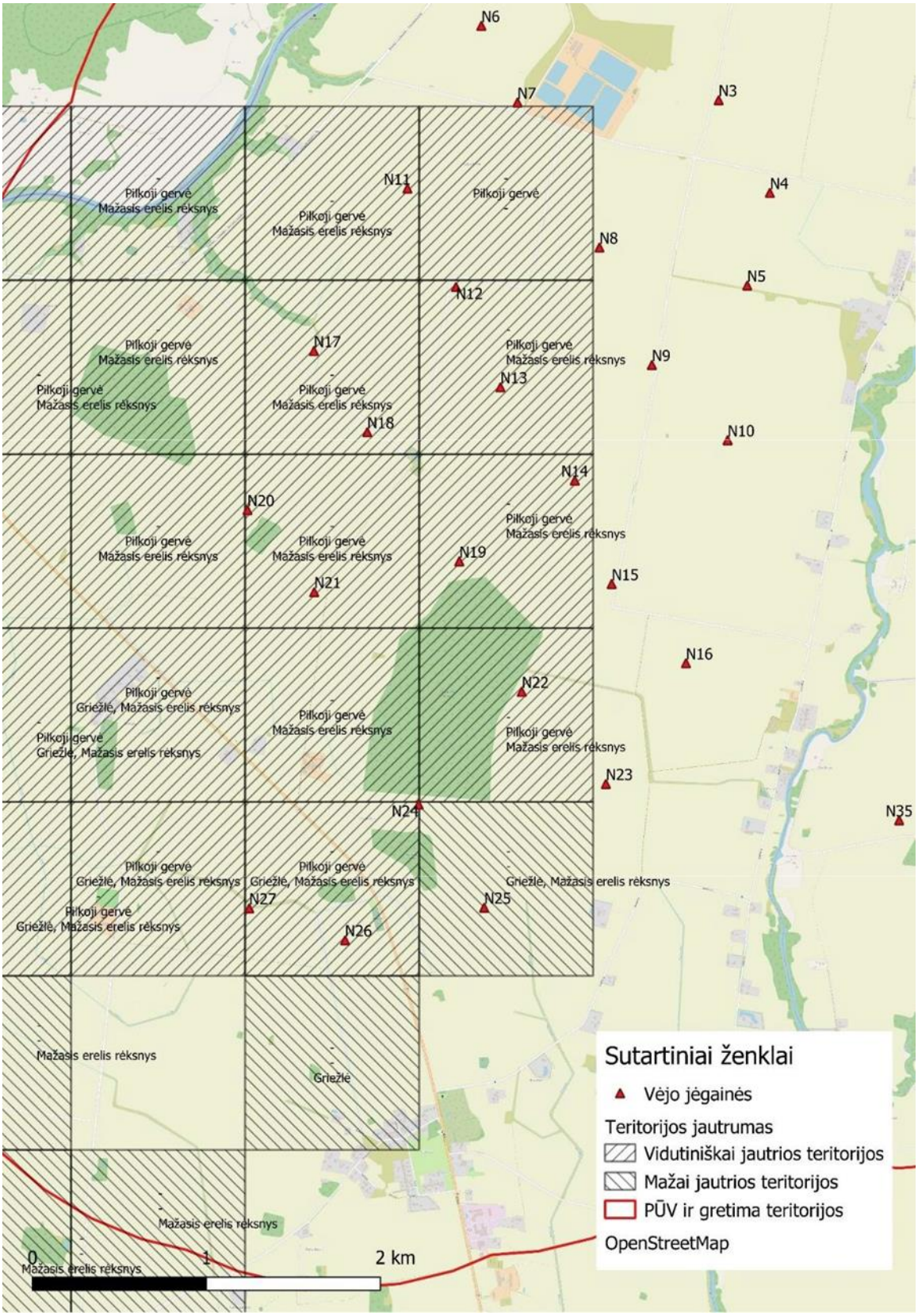


Figure 3. Sensitivity of the PEA and adjacent areas to breeding birds according to VENBIS data

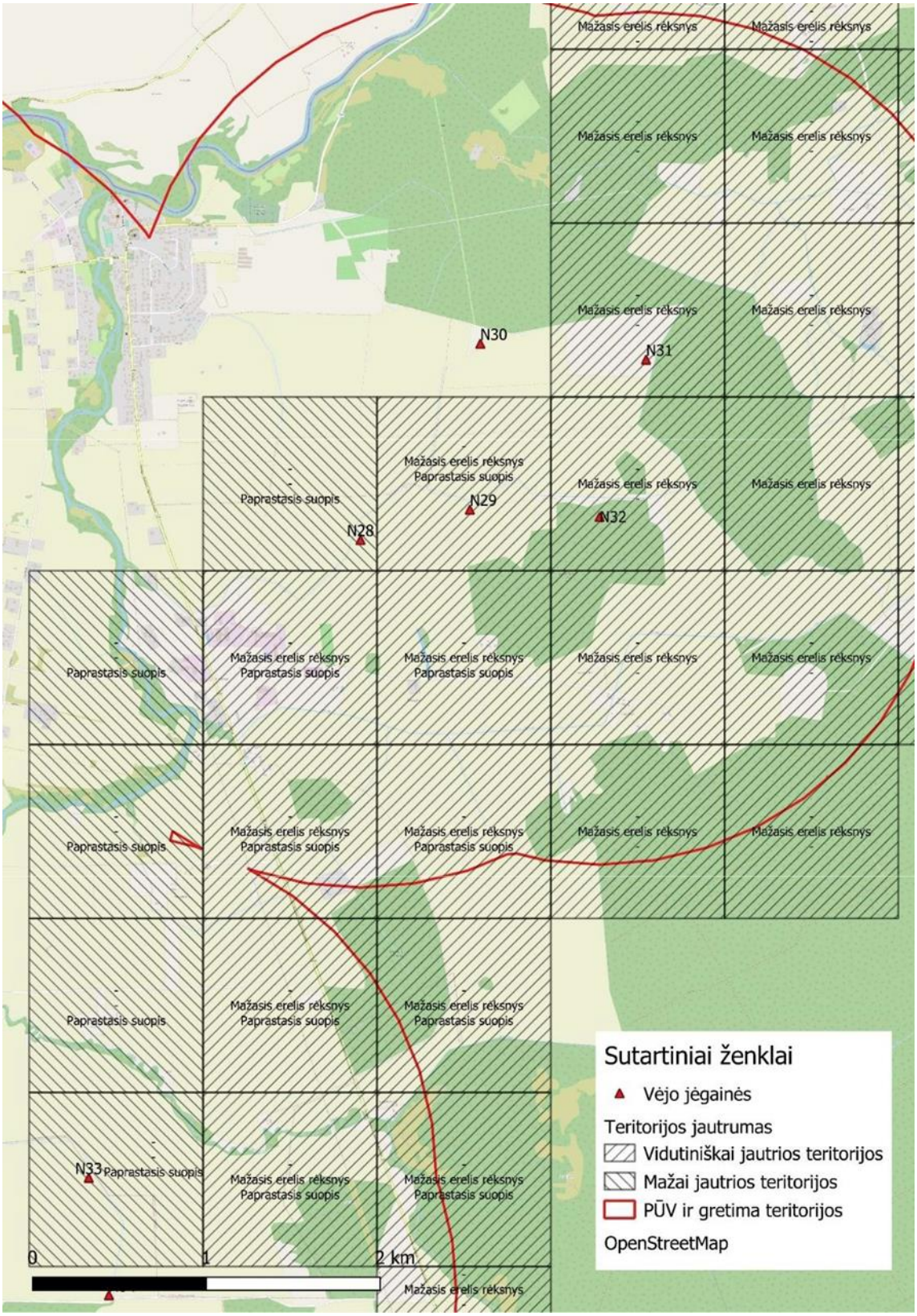


Figure 4. Sensitivity of the PEA and adjacent areas to breeding birds according to VENBIS data

According to the VENBIS database, the locations of planned wind farms N11, N12, N13, N14, N17, N18, N19, N20, N21, N22, N24, N26 and N27 are classified as ‘Sensitive areas for breeding birds 1x1 km’.

In terms of nesting birds, it falls within moderately sensitive areas. The PEA territory where these wind farms are planned is classified as moderately sensitive due to the presence of birds that are moderately sensitive to the impact of wind farms, such as the common crane (*Grus grus)*, and species that are sensitive to the impact of wind farms, such as the lesser spotted eagle (*Clanga pomarina)*. The planned locations of wind farms N24, N26 and N27 are also classified as low-sensitive areas due to the low sensitivity of the species to the impact of wind farms – the corncrake (*Crex crex)* (see Figure 3).

The PEA territory where the planned location of WPP N25 is located is classified as a low-sensitivity territory due to the presence of species that are not very sensitive to the impact of wind farms – the lesser spotted eagle (*Clanga pomarina*) and the corncrake (*Crex crex*) (see Figure 3).

The PEA territory where the locations of WPP N29, N31 and N32 are planned is classified as moderately sensitive due to the presence of species that are moderately sensitive to the impact of wind farms – the lesser spotted eagle (*Clanga pomarina*), and the planned location of WPP N29 is also suitable for the common buzzard (*Buteo buteo*), a species that is not very sensitive to the impact of wind farms (see Figure 4).

The planned location of WPP N28 is classified as a low-sensitivity area due to the low sensitivity of the common buzzard (*Buteo buteo*) to the impact of wind farms (see Figure 4).

According to the VENBIS database, "VENBIS migratory birds – Sensitive areas for migratory and wintering birds 1x1 km", the PEA area falls within the moderately and low-sensitivity areas in the PEA area.

Visually, we can only observe the lower bird migration, which accounts for only a small part of the total migration flows: up to 10% of birds in Lithuania (Žalakevičius et al., 1995). The usual flight altitude of most migratory birds is 1000-1600 metres above sea level, which is outside the zone of influence of the WPP rotor.

The planned WPP N2, N3, N4, N5, N8, N9, N10 sites are located in areas that are moderately sensitive to migratory and wintering birds. The planned WPP N1, N6, N7, N11, N12, N13, N14, N15, N16, N17, N18, N19, N20, N21, N22, N23, N24, N25, N26, N27, N28, N29, N30, N31, N32 are located in areas that are not particularly sensitive to migratory and wintering birds (see Figure 3).

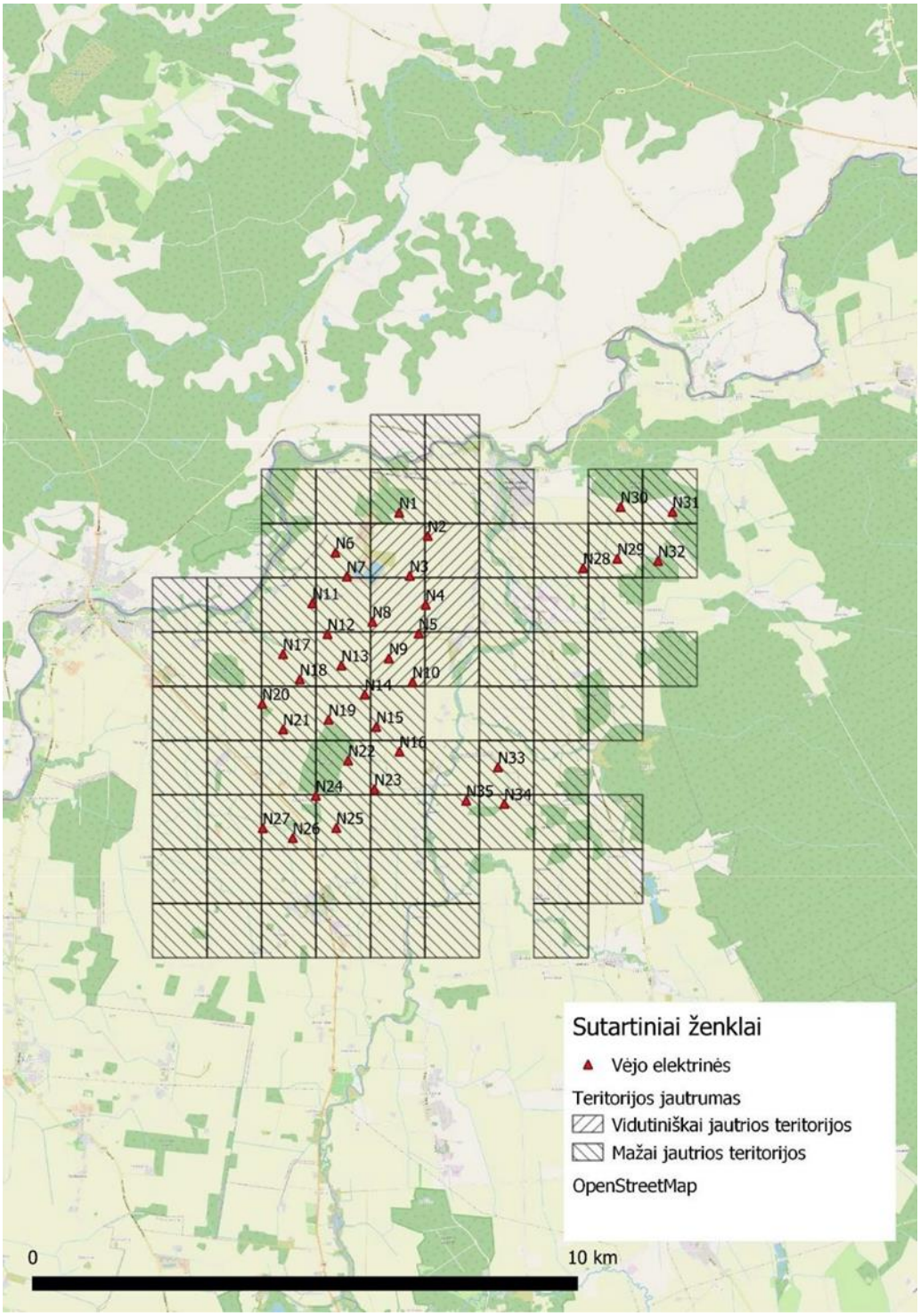


Figure 5. Sensitivity of the PEA and adjacent areas to migratory and wintering birds according to VENBIS data

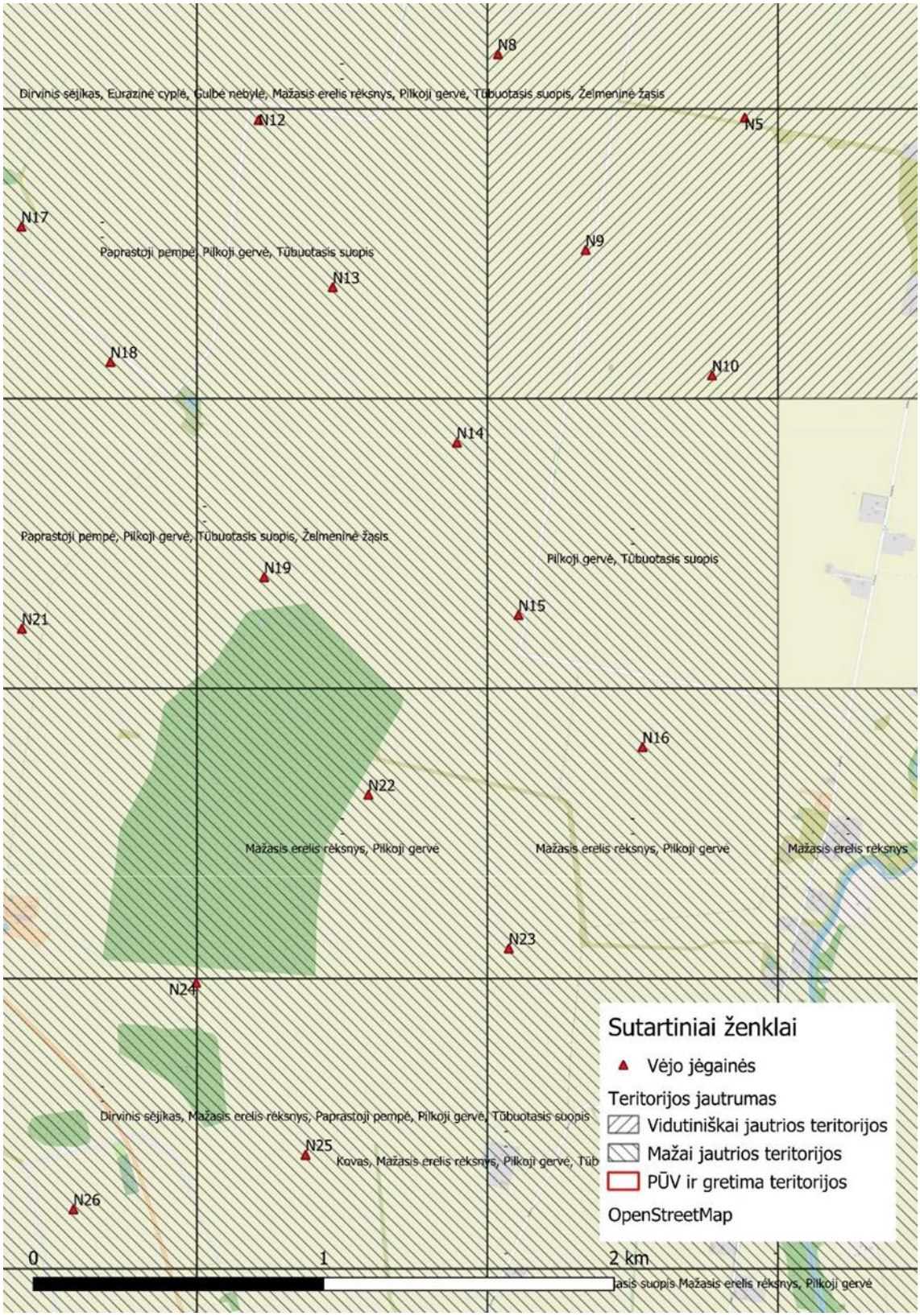


Figure 6. Sensitivity of the PEA and adjacent areas to migratory and wintering birds According to VENBIS data

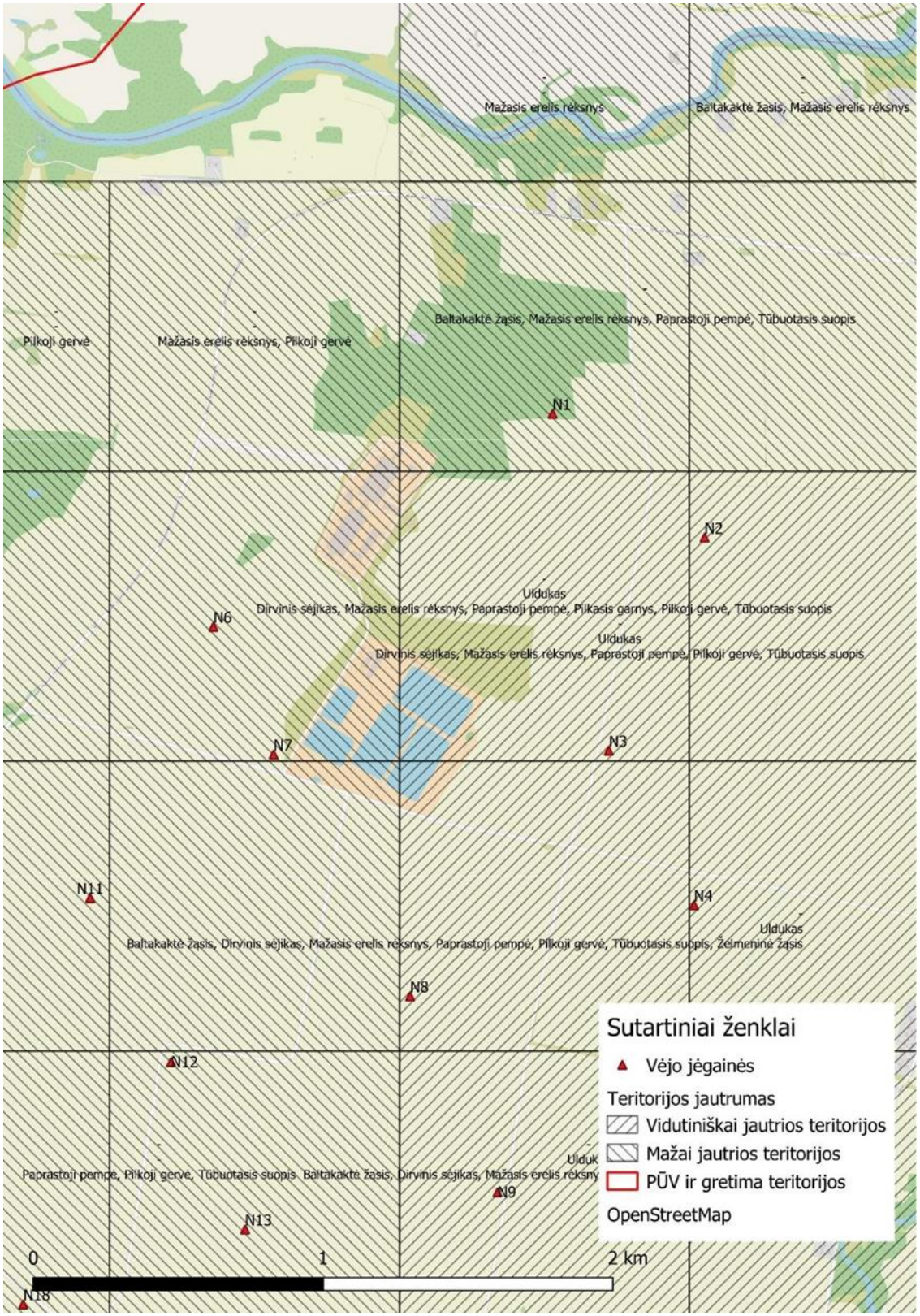


Figure 7. Sensitivity of PEA and adjacent areas to migratory and wintering birds according to VENBIS data

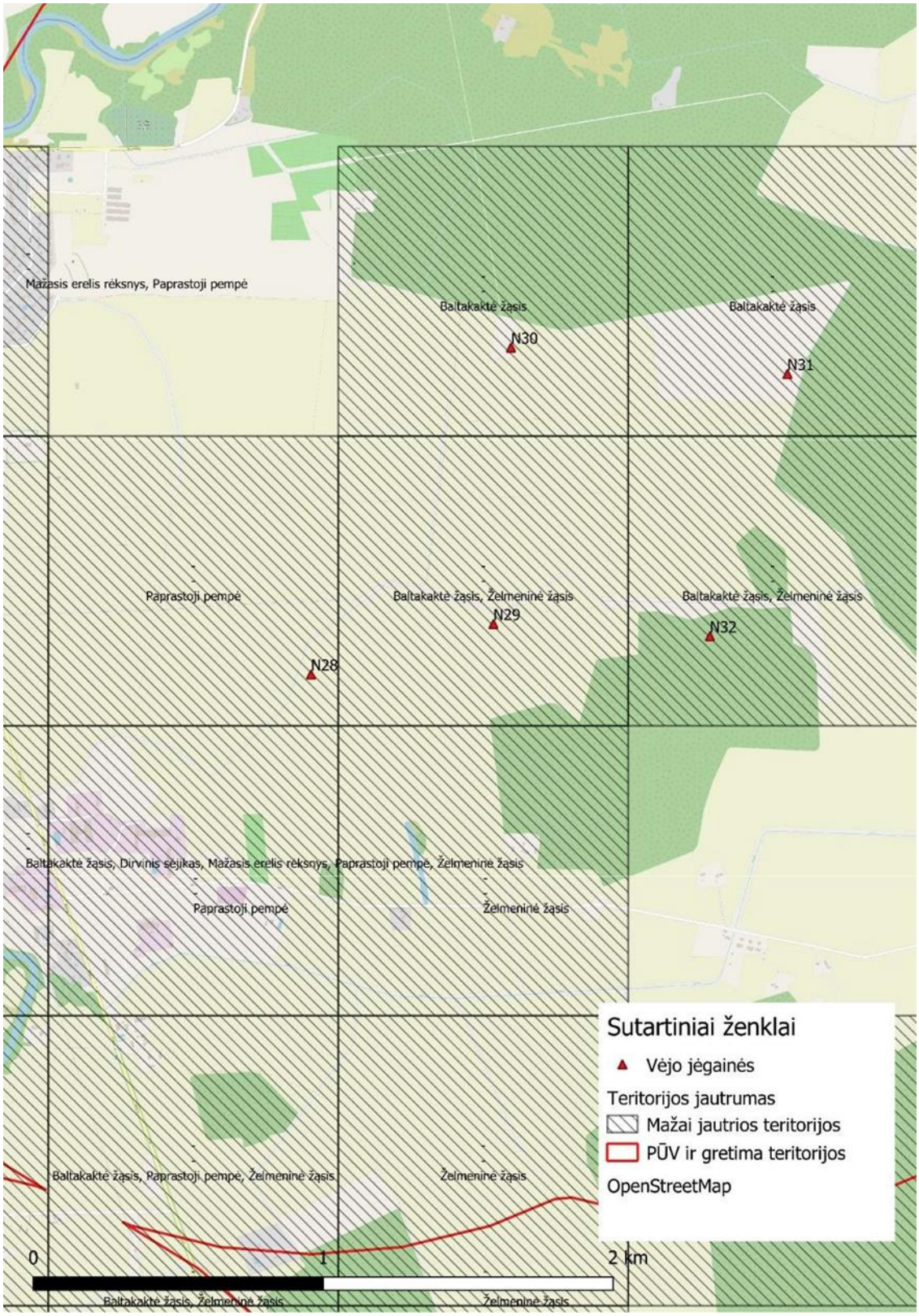


Figure 8. Sensitivity of PEA and adjacent areas to migratory and wintering birds according to VENBIS data

The PEA territory, where the WPP N2 and N3 sites are planned, is classified as moderately sensitive due to the presence of the moderately sensitive species stock dove (*Columba oenas*) and species that are not very sensitive to the impact of wind turbines, such as the golden plover (*Pluvialis apricaria)*, the common lapwing (*Vanellus vanellus)*, the rough-legged buzzard (*Buteo lagopus)*, the lesser spotted eagle (*Clanga pomarina)* and the

common crane (*Grus grus)*, and the grey heron (*Ardea cinerea) was also* observed near the planned WPP N3 (see Figure 7).

The PEA territory, where WPP 4 is planned, is classified as a moderately sensitive area due to the presence of the moderately sensitive species stock dove (*Columba oenas*) and species that are not very sensitive to the impact of wind turbines – golden plover (*Pluvialis apricaria*), the common lapwing (*Vanellus vanellus*), the rough-legged buzzard (*Buteo lagopus*), the lesser spotted eagle (*Clanga pomarina*) and the white-fronted goose (*Anser albifrons*) and bean goose (*Anser fabalis*) (see Figure 7).

The PEA territory, where WPP N5, N9, N10 are classified as moderately sensitive areas due to the presence of the moderately sensitive species stock dove (*Columba oenas)* and species that are not very sensitive to the impact of wind turbines – golden plover (*Pluvialis apricaria)*, the rough-legged buzzard (*Buteo lagopus)*, the lesser spotted eagle (*Clanga pomarina)*, the common crane (*Grus grus)*, the bean goose (*Anser fabalis)* and the whooper swan (*Cygnus cygnus)* (see Figure 7).

The PEA territory, where WPP N8 is planned, is classified as moderately sensitive due to the presence of the moderately sensitive species stock dove (*Columba oenas*) and species that are not very sensitive to the impact of wind farms – golden plover (Pluvialis apricaria) (*Pluvialis apricaria)*, the common lapwing (*Vanellus vanellus)*, the rough- legged buzzard (*Buteo lagopus)*, the lesser spotted eagle (*Clanga pomarina)*, the grey crane (*Grus grus)*, the grey heron (*Ardea cinerea)*, bean goose (*Anser fabalis)* and whooper swan (*Cygnus cygnus)* (see Figure 7).

The PEA territory, where WPP No. N1 is planned to be located, is classified as a low-sensitivity area based on the bird species found there, which are not very sensitive to the impact of wind farms – the common lapwing (*Vanellus vanellus*), the rough-legged buzzard (*Buteo lagopus)*, the lesser spotted eagle (*Clanga pomarina)*, the common crane (*Grus grus)* and the white-fronted goose (*Anser albifrons)* (see Figure 7).

The PEA territory, where the locations of wind farms N6 and N7 are planned, is classified as a low-sensitivity territory for species that are not very sensitive to the impact of wind farms, based on the birds found there: the golden plover (*Pluvialis apricaria*), the northern lapwing (*Vanellus vanellus*), the rough-legged buzzard (*Buteo lagopus)*, the lesser spotted eagle (*Clanga pomarina)*, the common crane (*Grus grus)*, the grey heron (*Ardea cinerea)*, bean goose (*Anser fabalis)*, Eurasian wigeon (*Mareca penelope)* and whooper swan (*Cygnus cygnus)* (see Figure 7).

The PEA territory, where the WPP N11 site is planned, is classified as a low-sensitivity area based on the birds found there, as these species are not very sensitive to the impact of wind farms: golden plover (*Pluvialis apricaria*), rough-legged buzzard (*Buteo lagopus*), the lesser spotted eagle (*Clanga pomarina)*, the common crane (*Grus grus)*, the bean goose (*Anser fabalis)*, the Eurasian wigeon (*Mareca penelope)* and the mute swan (*Cygnus olor)* (see Figure 7).

The PEA territory, where the WPP N12 and N13 sites are planned, is classified as a low-sensitivity area based on the bird species found there, which are not very sensitive to the impact of wind farms – the golden plover (*Pluvialis apricaria*), the northern lapwing (*Vanellus vanellus*), the rough-legged buzzard (*Buteo lagopus)*, the lesser spotted eagle (*Clanga pomarina)*, the common crane (*Grus grus)*, the bean goose (*Anser fabalis)* and the whooper swan (*Cygnus cygnus)* (see Figure 6).

The PEA territory, where the WPP N15 site is planned, is classified as a low-sensitivity area based on the birds found there, as it is home to species that are not very sensitive to the impact of wind farms, such as the rough-legged buzzard (*Buteo lagopus*), grey cranes (*Grus grus)* (see Figure 6).

The PEA territory where the locations of WPP N17 and N18 are planned is classified as a low-sensitivity area based on the birds found there, as these species are not very sensitive to the impact of wind farms – common lapwing (*Vanellus vanellus*), rough-legged buzzard (*Buteo lagopus*) and grey crane (*Grus grus*) populations (see Figure. 6).

The PEA territory, where WPP N14, N19, N20 and N21 are located, has been classified as a low-sensitivity area due to the presence of species that are not particularly sensitive to the impact of wind farms – common

lapwings (*Vanellus vanellus)*, rough-legged buzzards (*Buteo lagopus)*, grey cranes (*Grus grus)* bean goose (*Anser fabalis)* (see Figure 6).

The PEA territory where WPP N16, N22 and N23, is classified as a low-sensitivity area for species that are not very sensitive to the impact of wind turbines, such as the lesser spotted eagle (*Clanga pomarina)* and the grey crane (*Grus grus*) (see Figure 6).

The PEA area where WPP N24, N26 and N27, is classified as a low-sensitivity area based on the bird species found there, as these species are not very sensitive to the impact of wind farms – the golden plover (*Pluvialis apricaria)*, the northern lapwing (*Vanellus vanellus)*, the rough-legged buzzard (*Buteo lagopus)*, the lesser spotted eagle (*Clanga pomarina)* and the common crane (*Grus grus)*.

The PEA territory, where the WPP N25 site is planned, is classified as a low-sensitivity area based on the birds found there, as they are not very sensitive to the impact of wind farms – the rough-legged buzzard (*Buteo lagopus*), the lesser spotted eagle (*Clanga pomarina*), grey crane (*Grus grus)* and rook (*Corvus frugilegus)* (see Figure 6).

The PEA territory, where the location of WPP N28 is planned, is classified as a low-sensitivity area based on the birds found there, due to the low sensitivity of the species to the impact of wind farms – the common lapwing (*Vanellus vanellus*) (see Figure 8).

The PEA territory where wind farms N30 and N31 are planned is classified as a low-sensitivity area based on the birds found there, due to the low sensitivity of the species to the impact of wind farms – the white-fronted goose (*Anser albifrons*) (see Figure 8).

The PEA territory where wind farms N29, N32 and N33, is classified as a low-sensitivity area based on the bird species found there, as these species are not very sensitive to the impact of wind farms – white-fronted goose (*Anser albifrons)* and bean goose (*Anser fabalis)* populations (see Figure 8).

The PEA territory where the WPP N34 site is planned is classified as a low-sensitivity area based on the birds found there, due to the low sensitivity of the species to the impact of wind farms – the bean goose (*Anser fabalis*) population.

The PEA territory where the WPP N35 site is planned is classified as a low-sensitivity area based on the birds found there, due to the low sensitivity of the species to the impact of wind farms – the lesser spotted eagle (*Clanga pomarina*) and the grey crane (*Grus grus*) populations.

According to the VENBIS database, no birds sensitive to the impact of wind farms were found in other areas, or there was insufficient data to determine their sensitivity.

SUITABILITY OF THE PEA TERRITORY

The assessment of the impact of the WPP on biodiversity is carried out on an expert basis, after analysing all information on the state of biodiversity in the planned WPP park and adjacent areas.

During the construction of the VE, increased noise due to construction is expected, but as the construction work will not be carried out during the migration period, the noise factor is not considered to be a significant factor that could cause negative consequences. It is temporary and will not have a significant negative impact on the ornithofauna of the PEA territory. The PEA territory is home to species affected by anthropogenic impact, agricultural machinery is periodically used in the fields, and birds feed on agricultural land, having adapted to anthropogenic impact factors.

The impact of wind farms on birds is possible for birds that nest locally, storks, birds of prey during the nesting period and birds flying to feeding grounds through the wind farm. A negative impact may occur during migration when birds form flocks at wind farm sites and migrate through the wind farm.

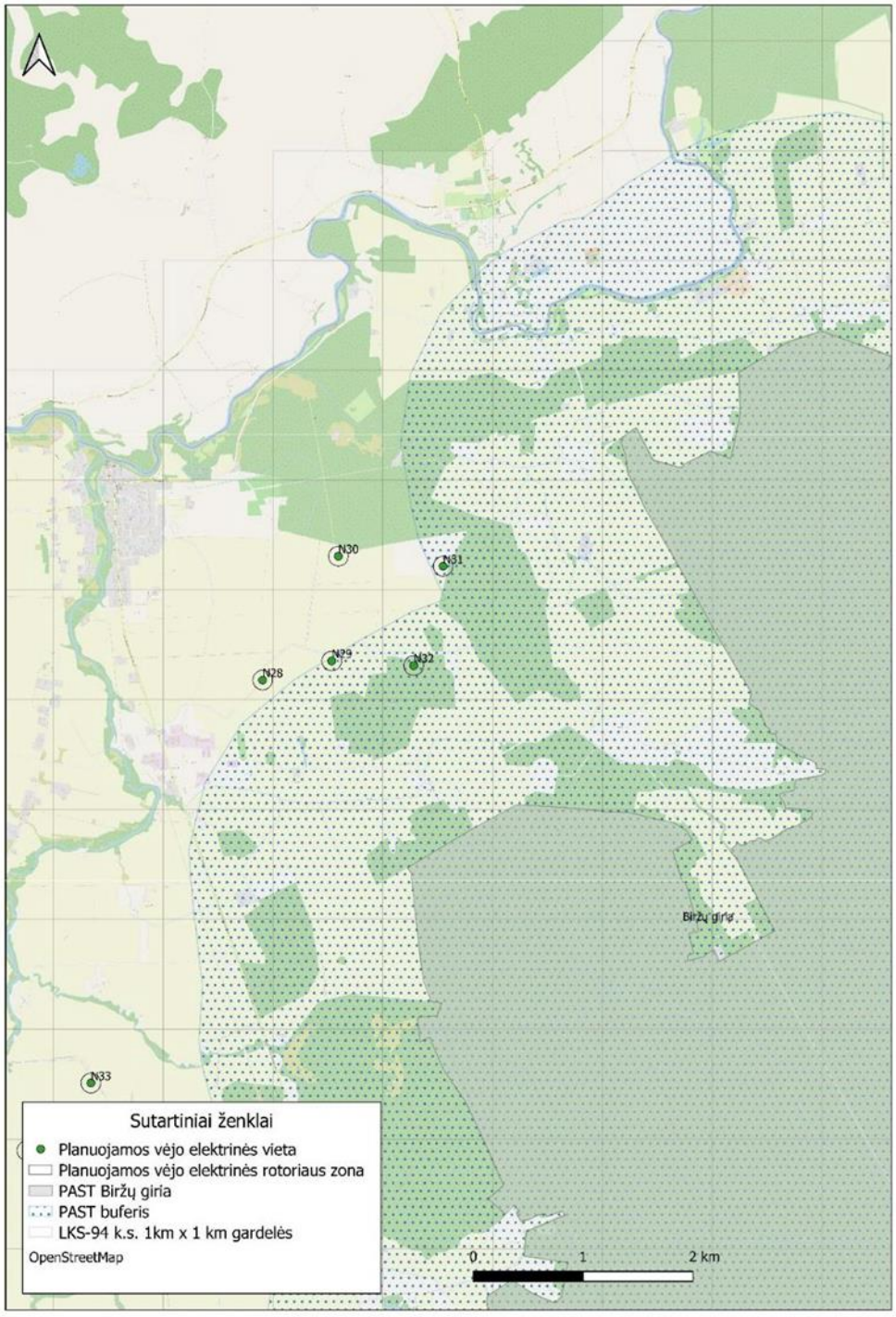


Figure 9. The territory of the planned wind farm and the Natura 2000 bird protection area "Biržų giria"

Next to the PEA territory is the Natura 2000 bird protection area, „Biržų giria“ (LTBIRB001), which is located 1.5 km south of the planned WPP No. N32 site. The purpose of the protected area is to protect black storks (*Ciconia nigra)*, lesser spotted eagles (*Aquila pomarina)*, hazel grouse (*Bonasa bonasia)*, corncrakes (*Crex crex)*, cranes (*Grus grus)*, Ural owls (*Strix uralensis)*, pygmy owls (*Glaucidium passerinum)*, grey-headed woodpeckers (*Piccus canus)* and three-toed woodpeckers (*Picoides tridactylus)*. According to the data in paragraph 24 of the VENBIS report, https://corpi.lt/venbis/files/reports/VENBIS_2_3_3.pdf may have an impact on sensitive target bird and bat species, and the maximum protection zone is estimated at 2000 m (see Figure 9).

Black storks may be vulnerable to direct mortality from collisions. According to the data in point 24 of the VENBIS report, a protection zone of 2000 m is proposed for the black stork, while the order of the Minister of the Environment of the Republic of Lithuania (https://e-seimas.lrs.lt/portal/legalAct/lt/TAP/debddc11b73f11ec9f0095b4d96fd400?positionInSearchResults=0&searchModelUUID=ae0451f5-0420-4683-965a-f1dfb4466b17) it is suggested that the impact on the black stork may be significant at a distance of 3,000 m from the Natura 2000 bird protection area. According to SRIS data, the nearest black stork (*Ciconia nigra*) nest is located 2.67 km from the planned WPP No. N31 site.

Lesser spotted eagles are sensitive to direct mortality from collisions and moderately sensitive to habitat loss. According to the data in paragraph 24 of the VENBIS report, a 2000 m protection zone is proposed for the lesser spotted eagle, and the draft order of the Minister of the Environment of the Republic of Lithuania (https://e-seimas.lrs.lt/portal/legalAct/lt/TAP/debddc11b73f11ec9f0095b4d96fd400?positionInSearchResults=0&searchModelUUID=ae0451f5-0420-4683-965a-f1dfb4466b17) it is proposed that the impact on the lesser spotted eagle may be significant at a distance of 2000 m from the boundary of the Natura 2000 bird protection area "Biržų giria". The nests of lesser spotted eagles are located along the edge of “Biržų giria”, in some places the nests are not within the Natura 2000 protected area, and some nests are unknown. According to VENBIS recommendations, it is not recommended to build a wind farm within 2 km of a lesser spotted eagle's nest; the recommendations are presented in the conclusions and recommendations.

No woodcocks were observed during the studies, and there are few suitable habitats in the PEA territory.

The corncrake is sensitive to habitat loss. During the study, it was observed in the PEA territory at a distance of 0.3 km from WPP No. 14. Cranes are moderately sensitive to habitat loss, direct mortality due to collision and the barrier effect. During migration, grey cranes did not gather in large numbers in the planned wind farm area, with a maximum of 200 individuals observed at a distance of 0.1 km from the planned location of wind turbine No. 15. According to the VENBIS methodology, the minimum size of a flock of migrating grey cranes is 50 individuals, and the maximum is 200 individuals, where the area with the planned wind farm could be classified as a moderately sensitive area based on the size of the grey crane flocks.

The nearest nest of the Ural owl (*Strix uralensis*), located in the Natura 2000 bird protection area "Biržų giria", is 2.8 km from the nearest WPP N32. According to SRIS data, a Eurasian pygmy owl was observed on the edge of “Biržų giria”, 4.1 km from the planned wind farm P32.

According to SRIS data, a grey-headed woodpecker (*Picus canus*) was observed 2.5 km from the planned location of WPP No. N32. According to SRIS data, the nearest location of the three-toed woodpecker (*Picoides tridactylus)*, which is included in the Natura 2000 bird protection area "Biržai Forest", is 3.5 km from the nearest WPP N34. Most of the sites of protected species are located at a considerable distance from the PEA territory, and greater attention should be paid to lesser spotted eagles and black storks, which fly longer distances to feed.

Wind farms pose a threat to storks due to the loss of feeding grounds and direct collisions. Once the wind farm is operational, some feeding grounds may be lost due to the construction of buildings, but there are alternative feeding grounds nearby for storks, and breeding pairs are located at a sufficient distance from the planned wind farms, with no nests falling within the 500 m buffer zone of the planned wind farms. Other representatives of the stork flock are encountered during migration or feeding in the PEA territory, such as great white egrets and grey herons.

There are no suitable habitats for wading birds, ducks, geese and waders in the PEA territory. During the migration period, geese are more commonly found in the PEA territory, but no roosting sites have been identified in the PEA territory. During migration, geese rarely form large flocks in the PEA territory; approximately 245 bean geese, 50 white-fronted geese and 250 white-cheeked geese h a v e been observed. The observed flocks of bean geese and white-fronted geese are not large, and the areas are partly determined by the current land use and will not have a significant impact on geese. During the migration period, 16 whooper swans were observed flying over the fields, but no larger flocks were observed during the migration

period. During the swan migration, the largest gathering of 37 individuals was observed in a corn field. The PEA territory is not of significant importance, as large flocks do not form there.

Once the wind farm begins operating, nesting birds of prey may be adversely affected. Birds of prey fly at various altitudes and, in search of food, may be carried by thermal air currents into the wind turbine rotor zone, where the likelihood of collision and death increases. A wide variety of birds of prey feed in the PEA and adjacent areas, from common species such as the marsh harrier, buzzard and common kestrel to rarer species such as the lesser spotted eagle, harrier, meadow harrier, honey buzzard, white-tailed eagle, osprey, etc. Once the wind farm begins operating, some feeding grounds may be lost, although there are alternative feeding grounds nearby, the planned layout of the wind farm must be optimal, with minimal harmful impact. It is recommended to abandon several planned locations for wind turbines 31 and 32 or to move them elsewhere. Due to the nearby nests of lesser spotted eagles and kestrels, it is recommended not to install wind turbine N18 and to install bird detection and response systems in other wind turbines.

One of the greatest threats to birds of prey is collision with wind turbines. Birds that do not avoid wind turbines most often die after colliding with them. Depending on the flight paths, compensatory measures must be provided for the increased likelihood of death, as well as measures to reduce or compensate for the negative impact. Observations have shown that the migration of birds of prey in the PEA territory is not particularly abundant, with only individual birds or small groups of birds of prey migrating.

The conditions in the PEA territory are favourable for partridges and quails, which are common species that have adapted to the existing agricultural land and anthropogenic activities, therefore the PEA will not have a negative impact on these gallinaceous birds.

The grey crane is a common species in Lithuania, but it is sensitive to the impact of wind farms, and there is a possibility of collisions with wind turbines and disturbance due to wind farm activity. The habitats in the PEA territory where wind farms are planned are not suitable for grey cranes to breed, but there are many suitable breeding habitats in the neighbouring territory. Flocks of grey cranes of various sizes and their gatherings have been observed in the PEA territory. The largest gathering place for migratory grey cranes has been identified at the planned WPP N15 site, which, according to the VENBIS methodology, can be classified as a highly sensitive area. The locations of the flocks are mostly determined by the current land use. During the observations, the grey cranes flew at a height up to the rotor blades of the wind farm, and there are alternative areas for the cranes to gather, therefore no significant negative impact on the cranes due to the PEA is expected.

The largest gatherings of common snipe were found in the PEA area during the study: about 500-600 individuals, the largest flocks of corn buntings – about 1200-1400 individuals, where, according to the VENBIS methodology, those places with flocks of common buntings can be classified as moderately sensitive areas, and, in the case of corn buntings, to areas of low sensitivity. In the neighbouring area, during the migration period, territorial flights of great spotted cuckoos were observed at a distance of 0.68 km from the planned location of WPP N26 and 0.78 km from the planned location of WPP N25.

There are no large bodies of water, habitats for cormorants and terns in the PEA territory, therefore only a few red-headed cormorants can be observed flying by. During migration, common lapwings and corn buntings are encountered throughout the PEA territory, with corn buntings forming large flocks in some places, but the species are not very sensitive to the impact of WPP.

Species of the passerine order have been observed, among which species typical of the agricultural landscape predominate. The migration of passerines is not very intense, with larger flocks usually consisting of skylarks, corn buntings and other passerines. They do not fly very high, usually flying at an altitude of 10-60 m. During research conducted in 2022, the largest flocks in the fields were common rooks, with flocks of up to 1,000 individuals. Migratory passerines migrating in the PEA territory are not characterised by large flows or abundance, therefore no additional measures are planned. The main migratory bird flows run along the Baltic Sea coast, the Nemunas Delta and the Curonian Spit. The PEA site is located in the continental part, where migratory bird flows are insignificant and insignificant. The average flight altitude of a flock of flying passerines is 25 m. Considering the flight altitudes, it is believed that the PEA will not have a significant impact on the migration of passerines.

The cumulative impact of the planned wind farm in the Nemunėlio Radviliškio municipality and the neighbouring Nemunėlio Radviliškio and Parovėjos municipalities could be significantly negative (for the lesser spotted eagle and the black stork). Next to the planned wind farms, there is a Natura 2000 site important for bird protection – Biržų giria, which was established with the aim of preserving the ecosystem of Biržų giria, in particular to maintain the black stork (*Ciconia nigra)*, the lesser spotted eagle (*Clanga pomarina)*, the hazel grouse (*Bonasia bonasia)*, the common crane (*Grus grus)*, the Ural owl (*Strix uralensis)*, the p*ygmy* owl (*Glaucidium passerinum)* and the grey-headed woodpecker (*Picus canus)* in the area. According to inventory data from 2012–2014, 26 lesser spotted eagle nests were identified in the Biržai Forest (Kamarauskaitė A. et al., 2019). In the planned wind farm area in Nemunėlio Radviliškio eard none of the planned wind turbine sites fall within the lesser spotted eagle nest protection zone 2 km from the nest. Five planned wind farm sites (P36, P37, P38, P39 and P40) in the Parovėja and Nemunėlio Radviliškis elderships fall within the nest protection zones of three lesser spotted eagle nests (SRIS sites No. AQUPOM114626, AQUPOM079542, AQUPOM105119) located in the Natura 2000 territory, within a 2 km radius of the nest. Next to the planned WPP park in the Nemunėlio Radviliškio municipality, another Natura 2000 site important for bird protection has been established in Latvia – "Skaistkalnes karsta kritenes", which was established for the protection of the lesser spotted eagle (*Clanga pomarina)*, the red-breasted flycatcher (*Ficedula parva)* and the three- toed woodpecker (*Picoides tridactylus)*. Two locations of the planned wind farm (location N6 at a distance of 1.14 km and location N11 at a distance of 1.33 km) fall within the 2 km protection zone of the Natura 2000 site "Skaistkalnes karsta kritenes", and although no nests are known to exist, the lesser spotted eagle has been observed near these wind turbine sites, so it is likely that one lesser spotted eagle nest will be within the impact zone of these planned wind turbines. In total, 5 wind turbines (P36, P37, P38, P39 and P40) may have a direct or indirect significant negative impact on 12% of the lesser spotted eagle population in Biržų giria, reducing feeding areas and increasing the risk of collision with wind turbines, and 2 wind turbines (N6, N11) may have a direct or indirect significant negative impact on 1 pair of lesser spotted eagles in the PAST Natura 2000 site "Skaistkalnes karsta kritenes" in Latvia. This impact on the lesser spotted eagle can be mitigated by taking appropriate measures in the wind farms.

Six black stork nests have been identified in Biržai Forest. The planned location of the Nemunėlio Radviliškio ward WPP park WPP N31 falls within the protection zone of the black stork nest (SRIS location No. RAD-CICNIG072066) located in the Natura 2000 territory, where a 3 km nest protection zone limit applies, while the planned location of 1 WPP N32 is 3.05 km away. The planned location of 1 WPP (WPP P40) in Parovėjos and Nemunėlio Radviliškio wards falls within the protection zone of the black stork's nest (SRIS location No. RAD- CICNIG087044), located in the Natura 2000 territory at a distance of 3 km from the nest. Applying a 2 km nest protection zone distance from the nest, none of the planned WPP locations fall within the nest's impact zone. Applying a nest protection distance of 3 km from the nest, in the cumulative impact of both wind farms, 2 wind turbines (N31, P40) may have a direct or indirect significant negative impact on the black stork population in Biržai Forest by increasing the risk of collision with wind turbines. This impact on the black stork can be reduced by taking appropriate measures in the wind farms.

CONCLUSIONS AND RECOMMENDATIONS OF BIRD STUDIES

1. The planned wind farm area is moderately attractive to birds during the breeding season. The planned wind farm may have a significant negative impact on some rare and protected bird species that breed in the area (lesser spotted eagle, skylark).

2. The expansion of WPP may have a negligible negative impact on most of the sensitive bird species observed in the planned park environment: white stork, black stork, grey heron, white-tailed eagle and cormorant, mute swan and whooper swan, cormorant, common tern, common sandpiper, great snipe, red-crested pochard, grey heron, common buzzard, marsh harrier, meadow harrier, common kestrel, kestrel, and corncrake, i.e. worsen their flight, migration, and feeding conditions.

3. The PEA territory is not very important for the formation of flocks and feeding of migrating geese and common teals, as large flocks during migration are determined by the existing land use and the presence of larger surface water bodies in the territory. The PEA territory is not significantly important for bird migration, and no significant migration flows occur.

Proposed measures to avoid, reduce and/or compensate for negative impacts:

- According to research data, the Eurasian Hobby was observed at the planned locations of WPP N18, N14, and N15 (see Figure 9). A pair of Eurasian Hobby passed through the crane's nest. The planned location of WPP N18 is 0.29 km away from the Eurasian Hobby nest, while the planned location of WPP N19 is 0.654 km away. The planned location of WPP N19 is often visited by lesser spotted eagles and common buzzards. According to VENBIS recommendations, it is recommended not to build WPP N18 within 1 km of the skylark's nest, but to install a bird detection response system at WPP N19 or to select another location for the WPP outside the nest protection zone.
- According to SRIS data, the planned locations of wind farms N31 and N32 fall within the protection zones of two lesser spotted eagle nests within a 2 km radius. WPP N31 is located 1.95 km from SRIS lesser spotted eagle nest sites No. AQUPOM002610 and No. AQUPOM060294, and 2.02 km from another site, No. AQUPOM087004. During the investigation, SRIS locations No. AQUPOM002610, No. AQUPOM060294 and No. AQUPOM087004 were inspected and it was established that the habitats had been cleared and the nests destroyed. WPP No. N32 is 1.9 km away from another lesser spotted eagle nest site No. AQUPOM060612 (see Figure 10). During the investigation, the condition of the nest at SRIS site No. AQUPOM060612 was checked and found to be good. During the research, frequent flights of lesser spotted eagles were observed above the planned WPP N31 and N32 sites. In addition, the planned WPP N31 site is 1.9 km away, and WPP N32 is 1.5 km away from the European ecological network Natura 2000 territory "Biržų giria". Both nesting sites are located within the „Biržų giria“ Natura 2000 site, which is important for bird protection and whose conservation objective is to preserve the lesser spotted eagle population. The Natura 2000 bird protection area „Biržų giria“ is located 1.89 km from the planned location of WPP P31 and 1.56 km from the location of WPP P32. According to the VENBIS report, a 2000 m buffer zone is proposed for the lesser spotted eagle from the boundary of the „Biržų giria“ Natura 2000 site. According to SRIS data, WPP N32 also falls within the protection zone of a potential skylark nest 1 km away, with the potential nest located 0.9 km from WPP N32. The nearest black stork nest is 2.67 km away from the planned location of WPP N31. The nest falls within the Natura 2000 bird protection area of the European ecological network. Biržų giria, whose protection goal is to preserve the black stork population. According to VENBIS recommendations, a 2 km protection zone around black stork nests is recommended, but black storks can fly far beyond their territory, even 20 km from their nests, to feed, and the proximity of wind turbines may increase the likelihood of collisions due to black storks flying to their feeding grounds. According to VENBIS recommendations, it is not recommended to build wind turbines within 2 km of a lesser spotted eagle nest and within 1 km of a skylark nest. The planned locations of wind turbines N31 and N32 fall within the feeding areas of lesser spotted eagles, skylarks and black storks. It is recommended not to build wind farms N31 and N32 or to suspend the construction of the lesser spotted eagle during the migration and nesting period (March–September), taking into account the nearby „Biržų giria“ area, which is important for bird protection under the European ecological network Natura 2000.
- On the north-western side of the WPP park is the Natura 2000 territory "Skaistkalnes karsta kritenes", which is important for bird protection and is located 1.14 km from the planned WPP N6 site and 1.33 km from the WPP N11 site. Natura 2000 site "Skaistkalnes karsta kritenes". The Natura 2000 site "Skaistkalnes karsta kritenes" protects and breeds lesser spotted eagles, which fly to the planned wind farm site to feed. The lesser spotted eagle was observed at the WPP N6 and N11 sites on 5 June 2022, 9 August 2022 and 16 August 2022. It is recommended that a detection and response system be installed at WPP N6 and N11.
- According to research data, the planned location of WPP N34 falls within the feeding areas of lesser spotted eagles, but the nest is unknown. The lesser spotted eagle has often been observed feeding near the planned WPP N34 on 16 April 2022, 22 April 2022, 16 May 2022 and 6 June 2022. It is recommended that WPP N34 be moved 0.2 km to the west and that a bird detection and response system be installed.

Table 3. List of proposed measures to avoid and/or reduce the impact

WPP No.	Impact	Proposed measures
1	**2**	**3**
N1	None	
N2	None	

N3	None	
N4	None	
N5	None	
N6	Included in Natura 2000 areas important for bird protection Skaistkalnes karsta kritenes protection area within a 2 km radius	Install an early bird detection response system
N8	None	
N9	None	
N10	None	
N11	Included in Natura 2000 areas important for bird protection Skaistkalnes karsta kritenes protection area within a 2 km radius	Install an early bird detection response system
N12	None	
N13	Falls within the protection zone of the Eurasian Hobby nest	
N15	None	
N16	None	
N17	Falls within the protection zone of the Eurasian Hobby nest	
N18	Falls within the protection zone of the Eurasian Hobby nest	Do not install N18 in the protection zone of the Eurasian Hobby nest
N19	Falls within the protection zone of the Eurasian Hobby nest, often observed by the lesser spotted eagle, common buzzard flights	Install an early bird detection response system
N20	Enters the protection zone of the kestrel's nest	
N21	Enters the kestrel nest protection zone	
N22	Not	
N23	None	
N24	None	
N25	None	
N26	None	
N27	None	
N28	None	
N29	None	
N30	None	
N31	Falls within the protection zone of the lesser spotted eagle's nest, falls within the 2 km protection zone of the Natura 2000 site "Biržų giria"	Do not build in the lesser spotted eagle nest protection zone or during the lesser spotted eagle migration and during the migration period (March– September)
N32	Falls within the lesser spotted eagle nest protection zone, falls within the Natura 2000 "Biržų giria" protection zone at a distance of 2 km	Do not install N32 in the lesser spotted eagle nest protection zone or during the migration and nesting period of lesser spotted eagles (March–September period)
N32-1	None	
N32-2	None	
N33	None	
N34	Entering the feeding grounds of lesser spotted eagles	Install an early bird detection response system
N35	None	

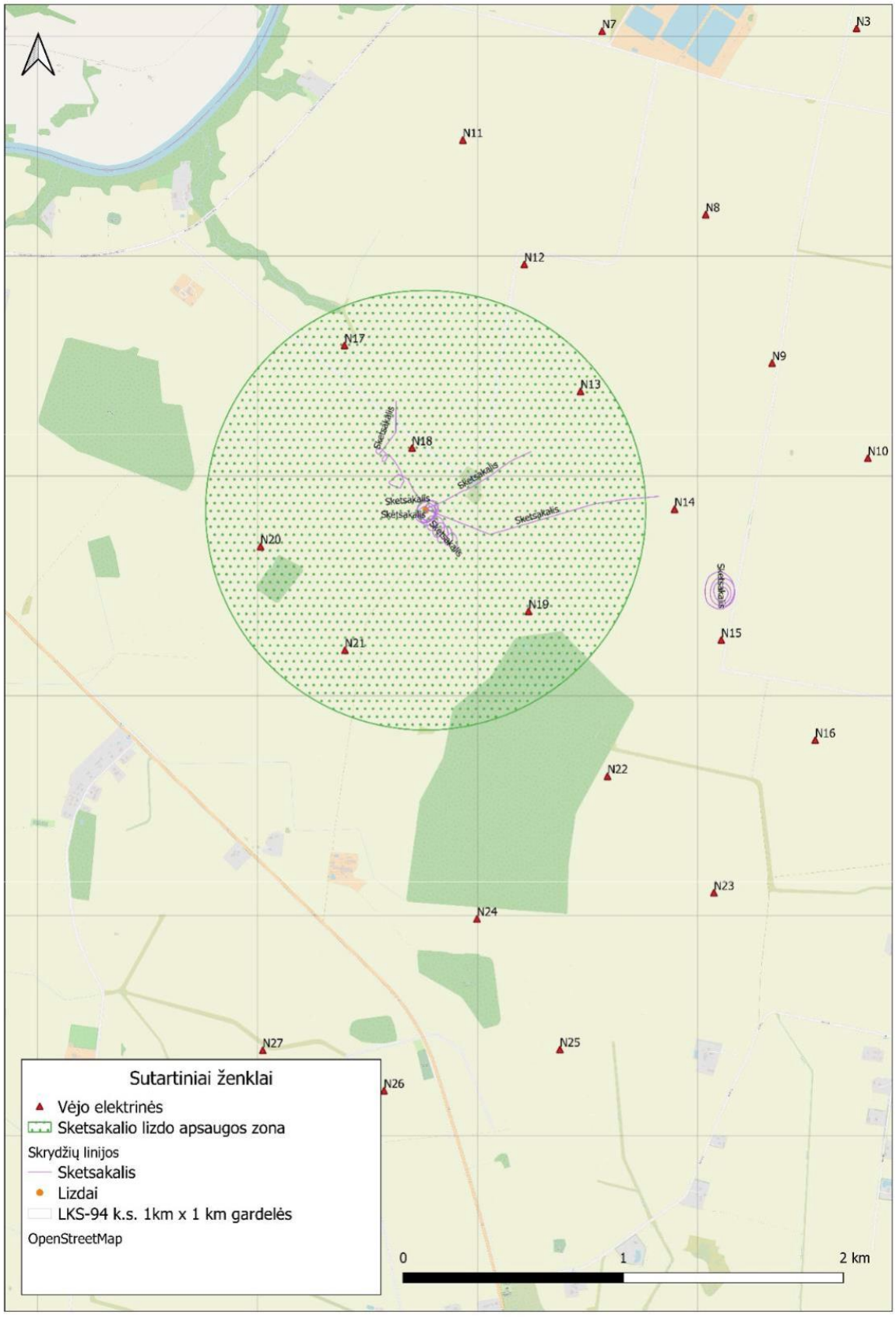


Figure 9. Eurasian Hobby nest protection zone, where wind farms No. N13, N17, N18, N19, N20, N21 are planned

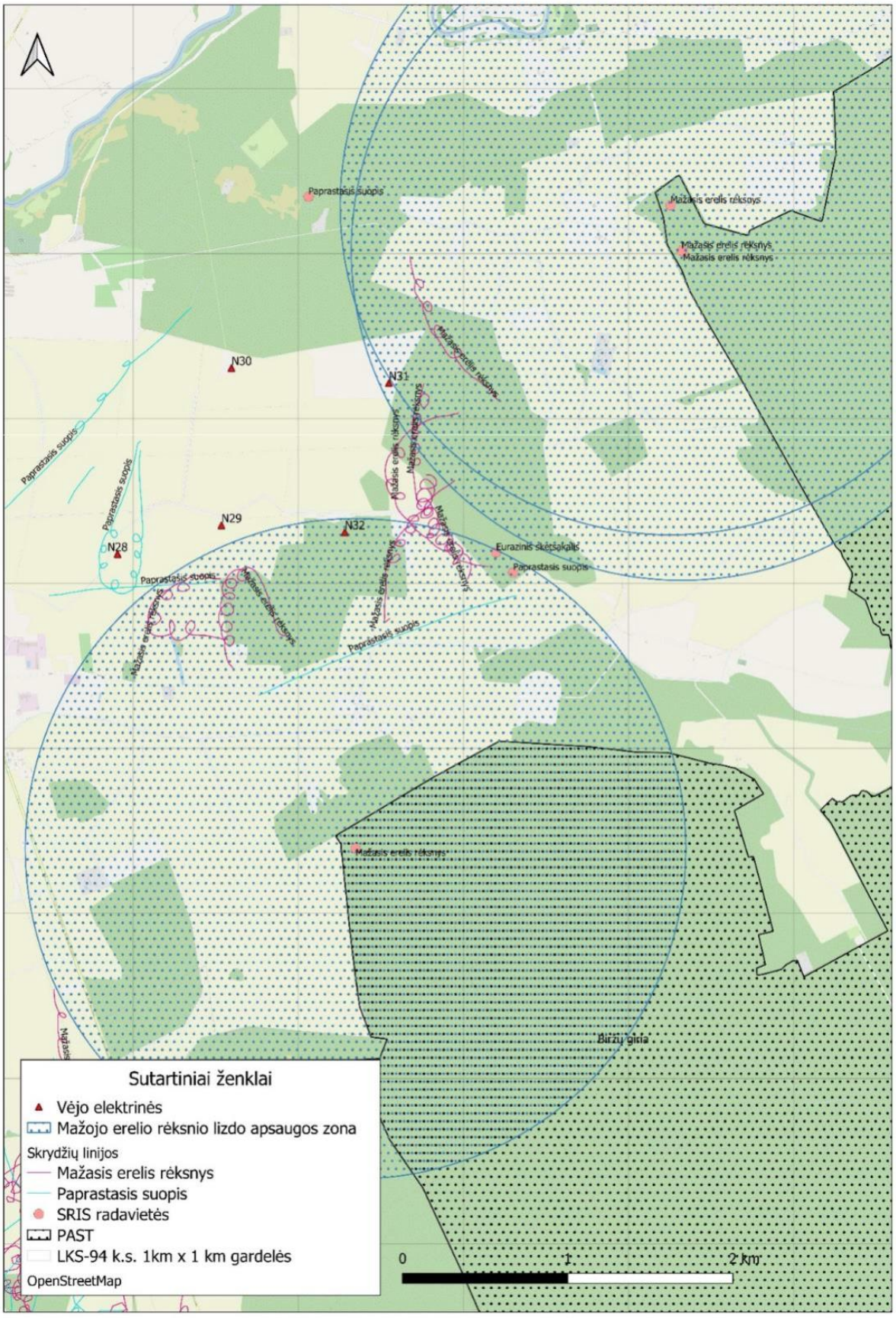


Figure 10. Protection zones for lesser spotted eagle nests, where wind farms No. N31 and N32 are planned

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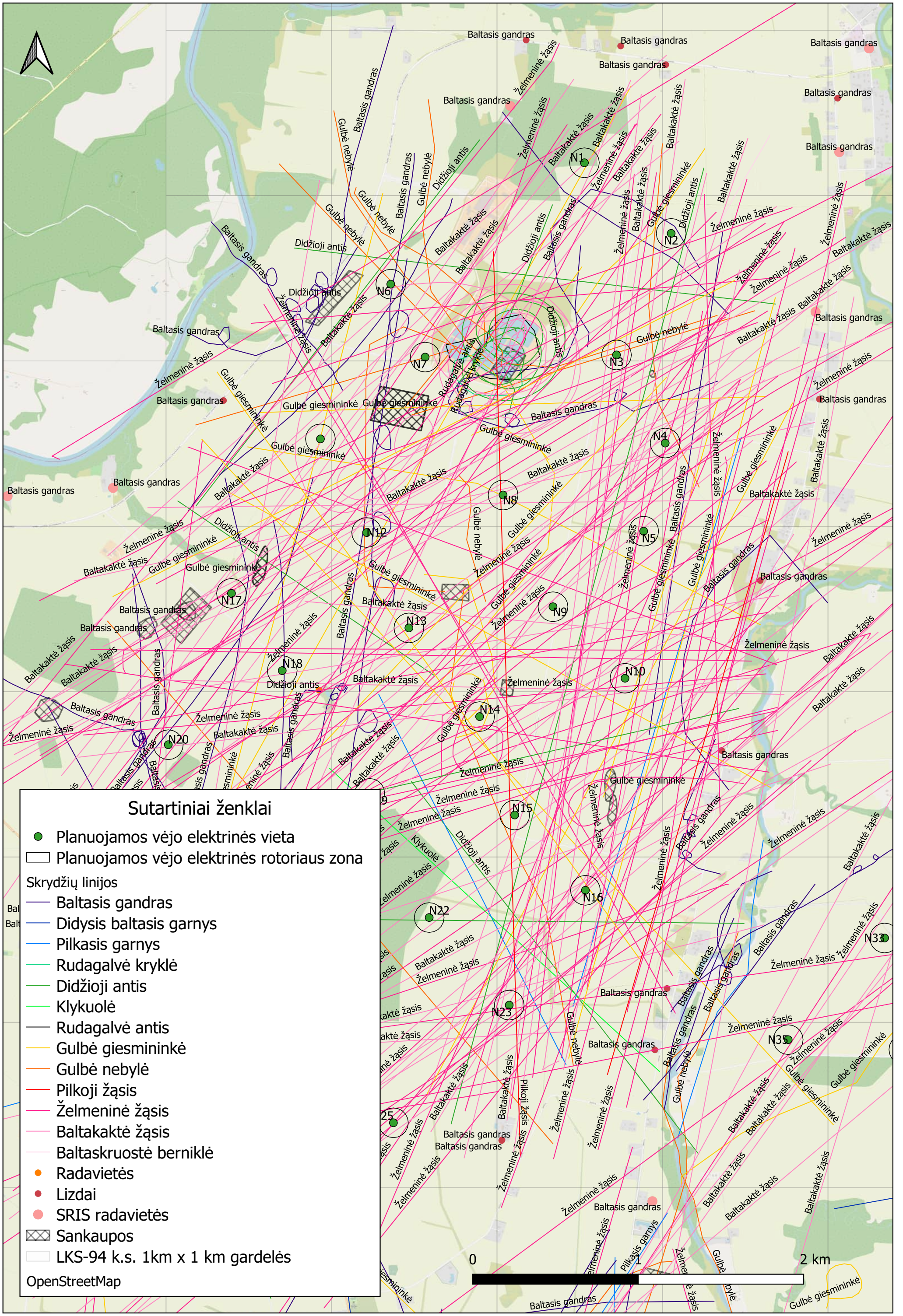
Databases

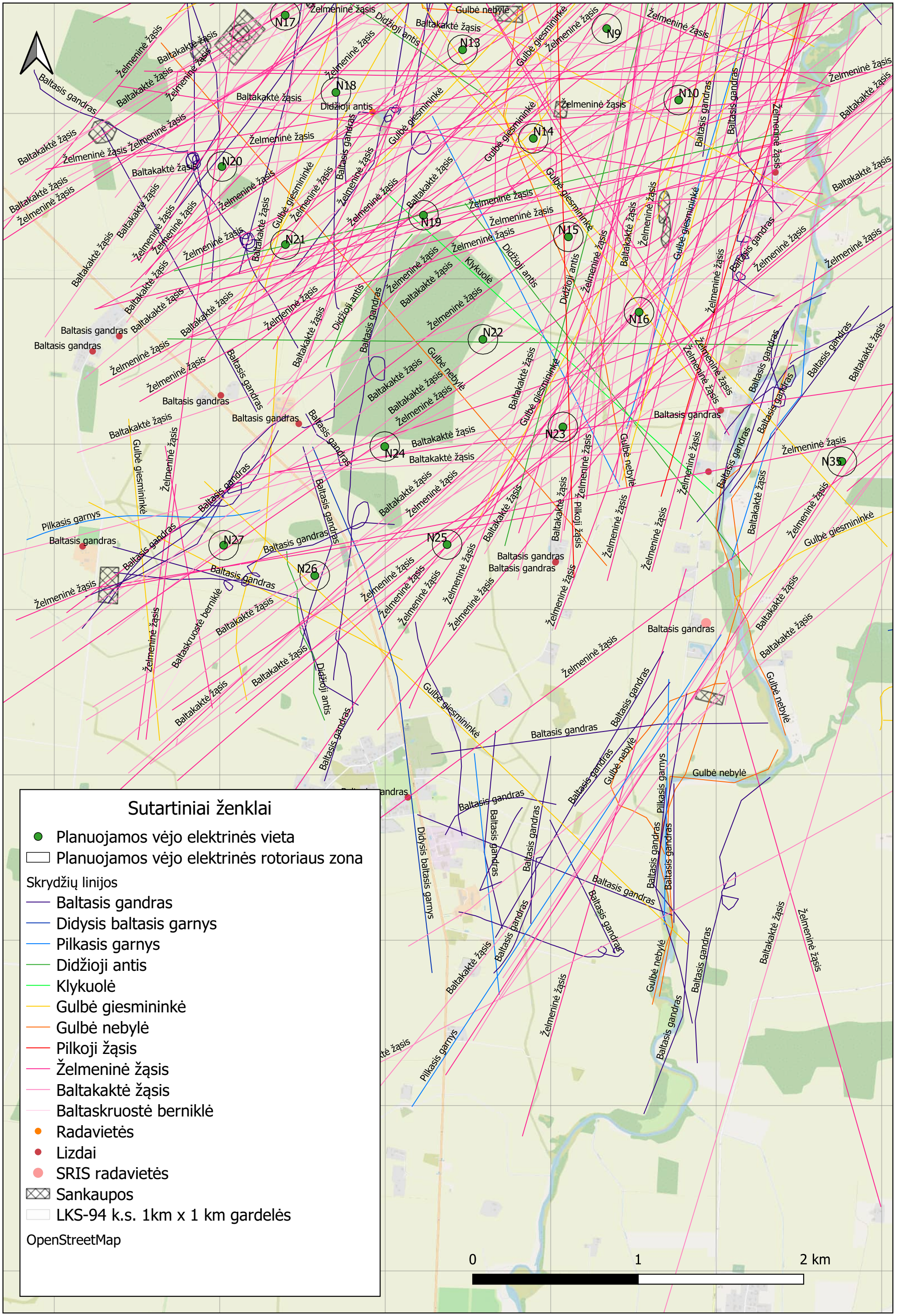
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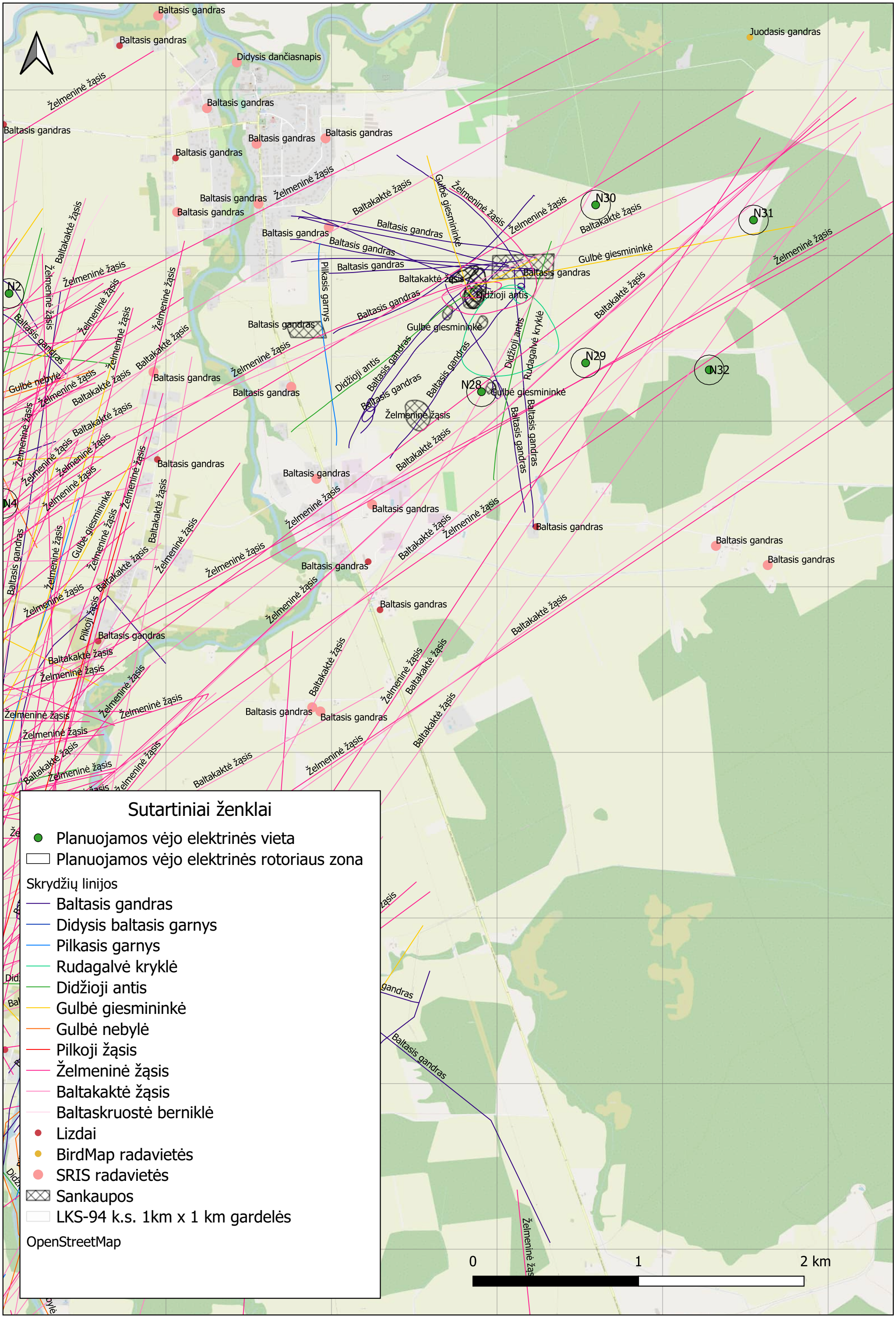
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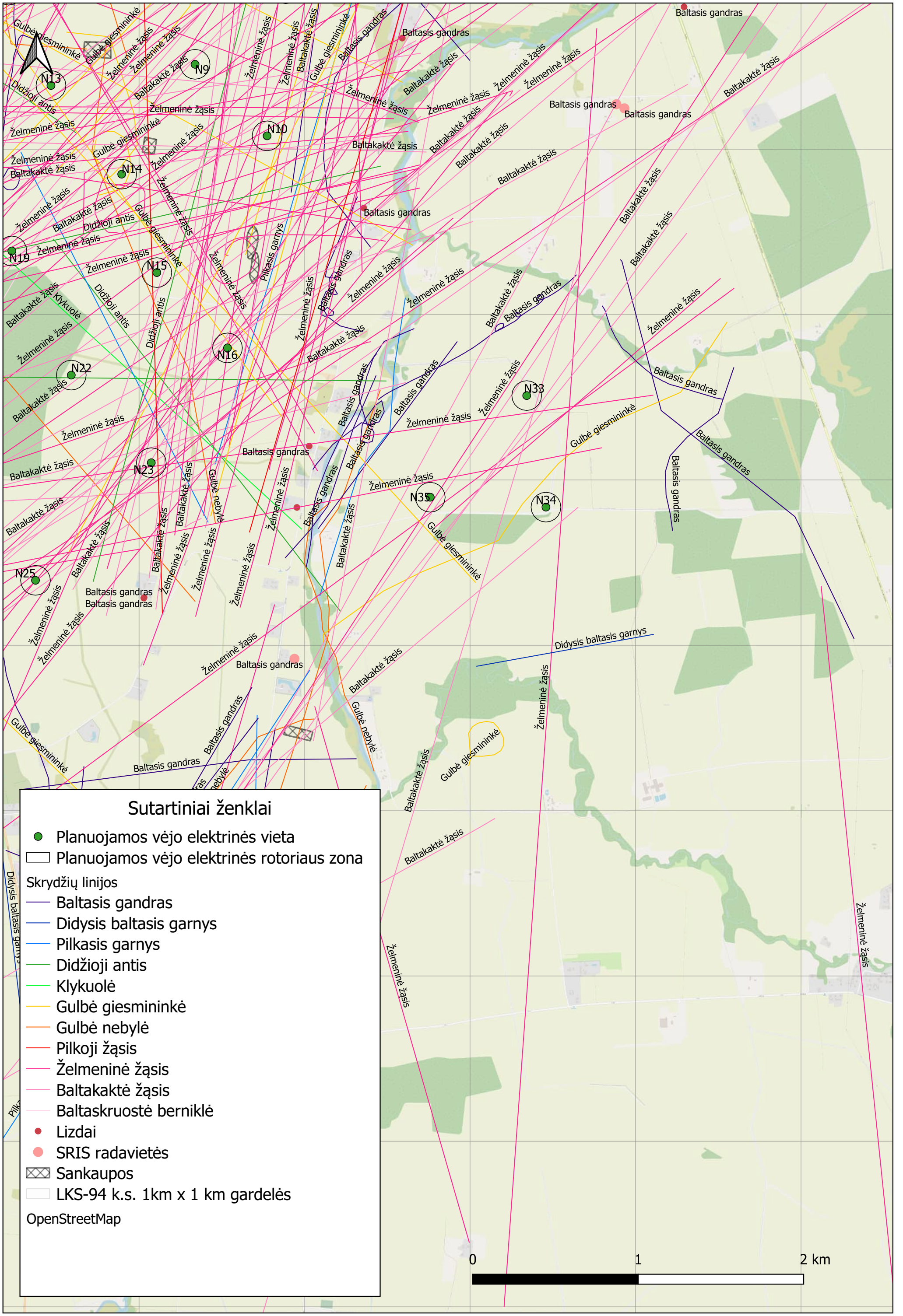
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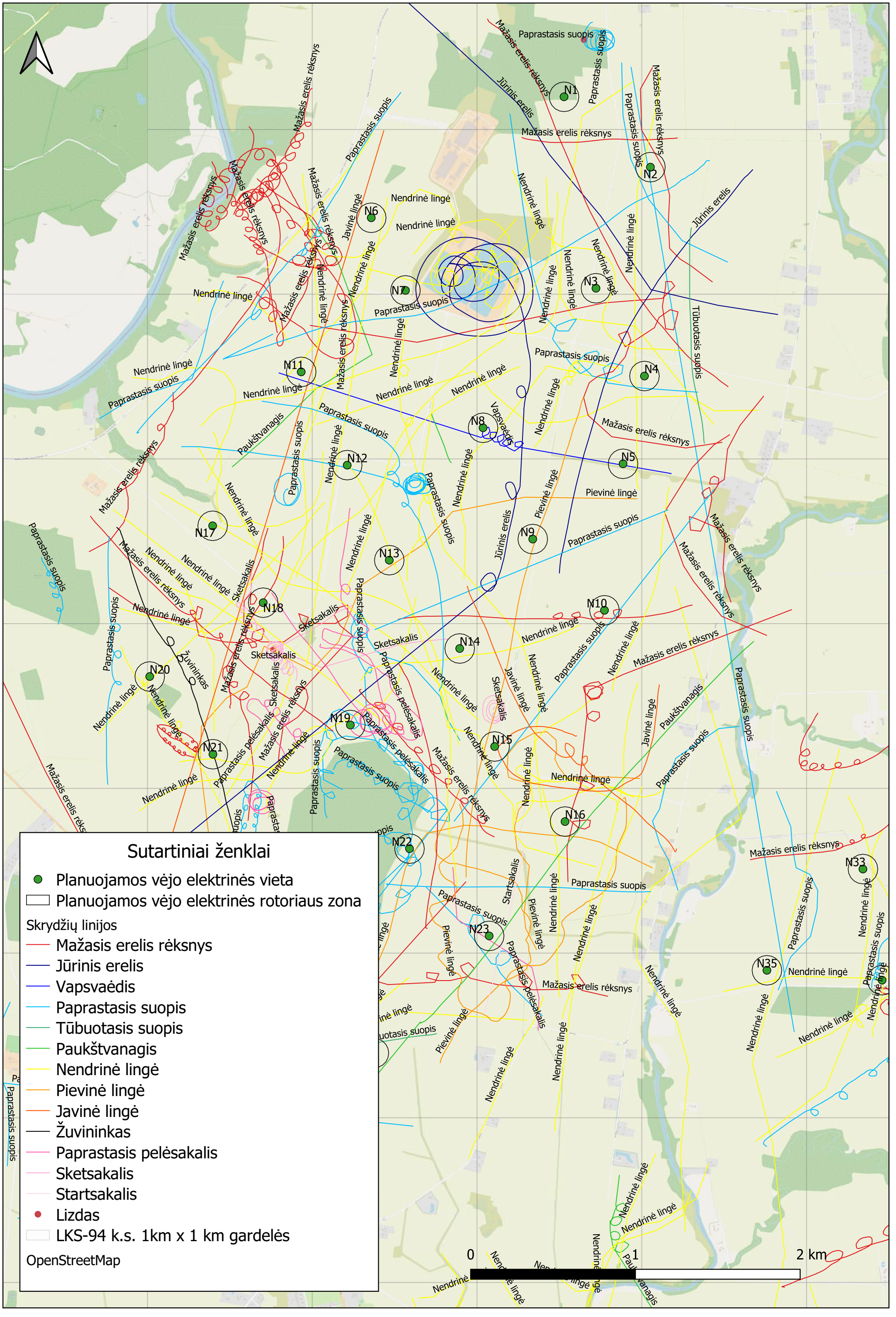
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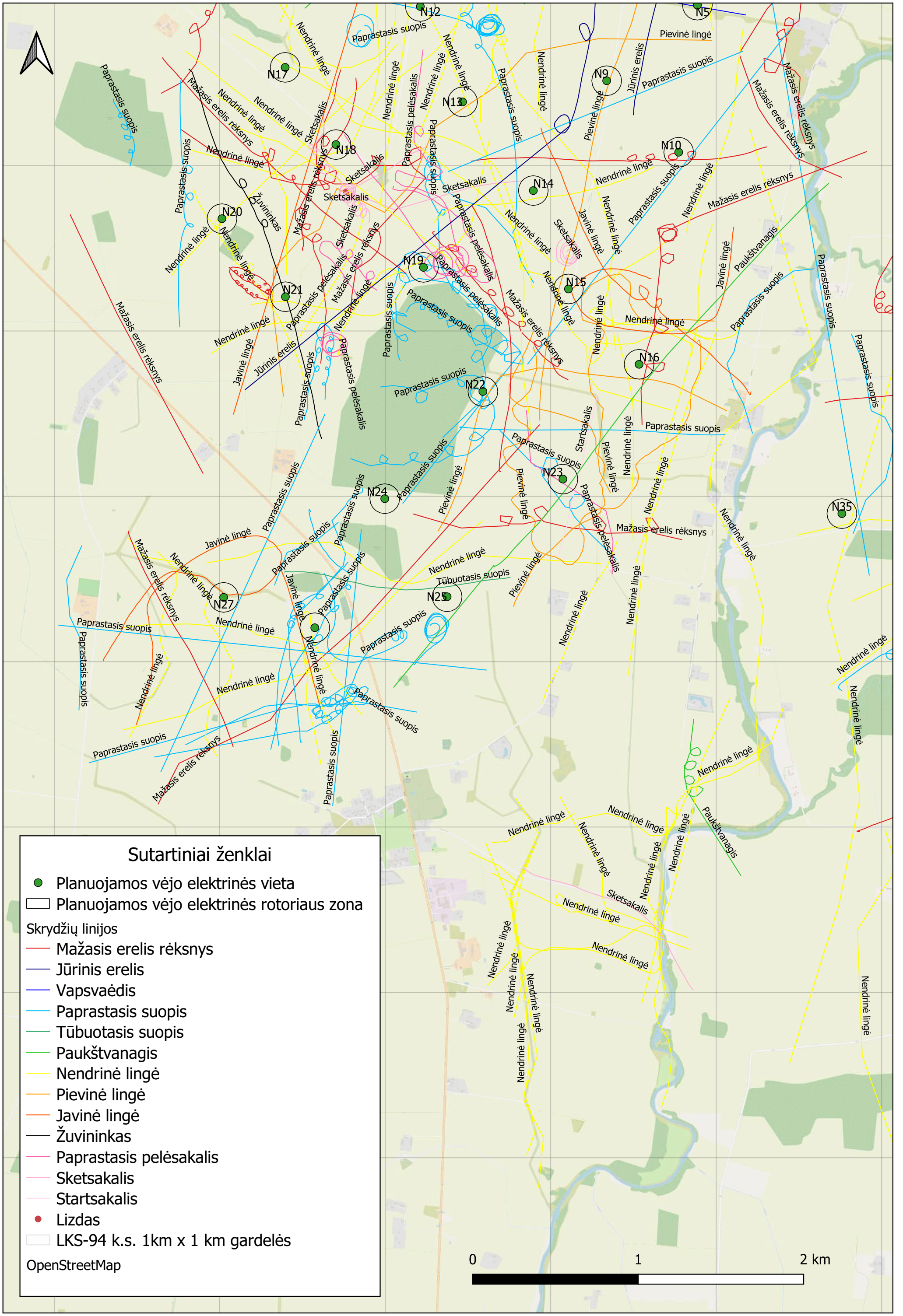

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Pilkasis garnys
Rudagalvė kryklė
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Klykuolė
Rudagalvė antis
Gulbė giesmininkė
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Pilkoji žąsis
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Baltaskruostė berniklė
Radavietės
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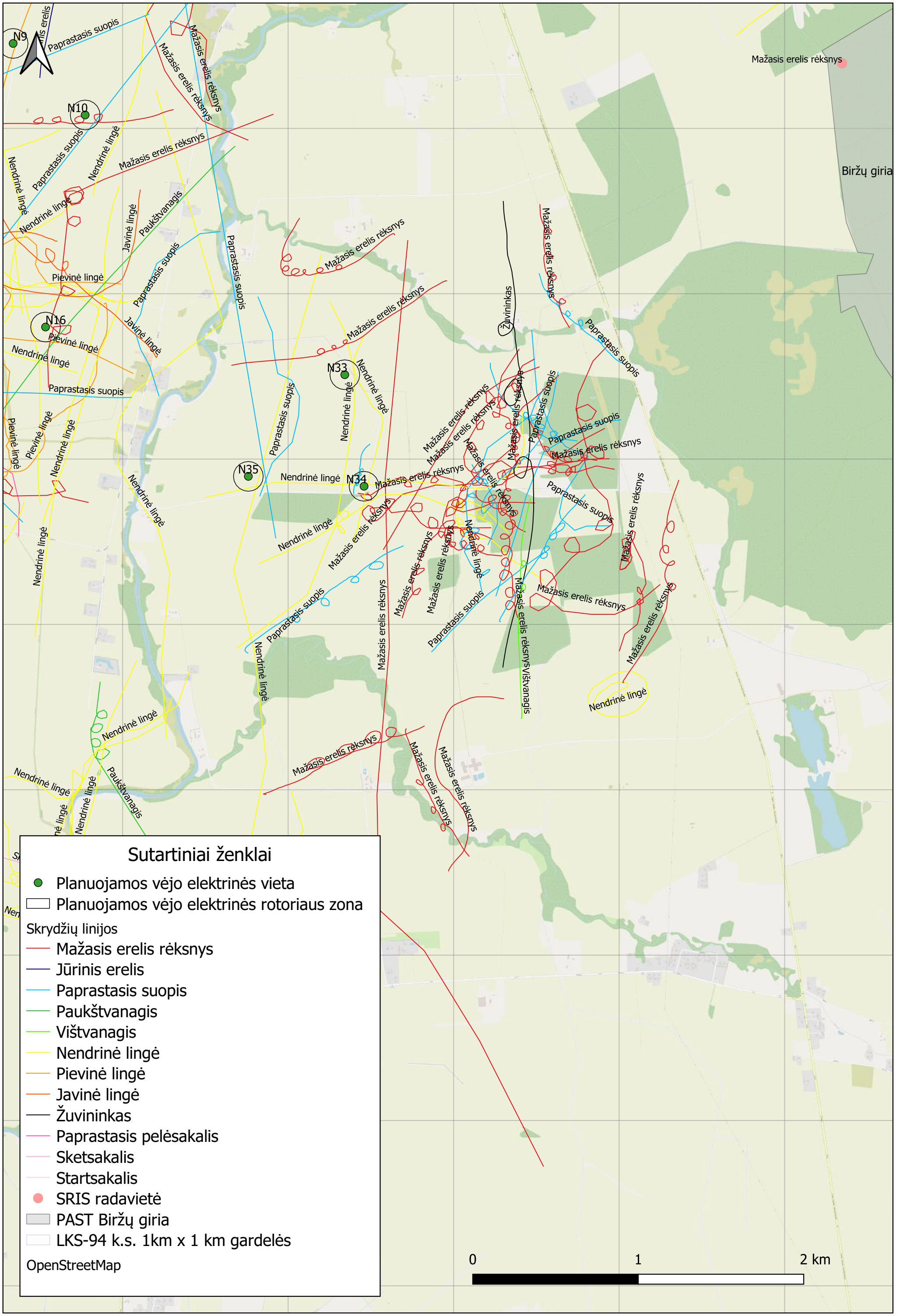

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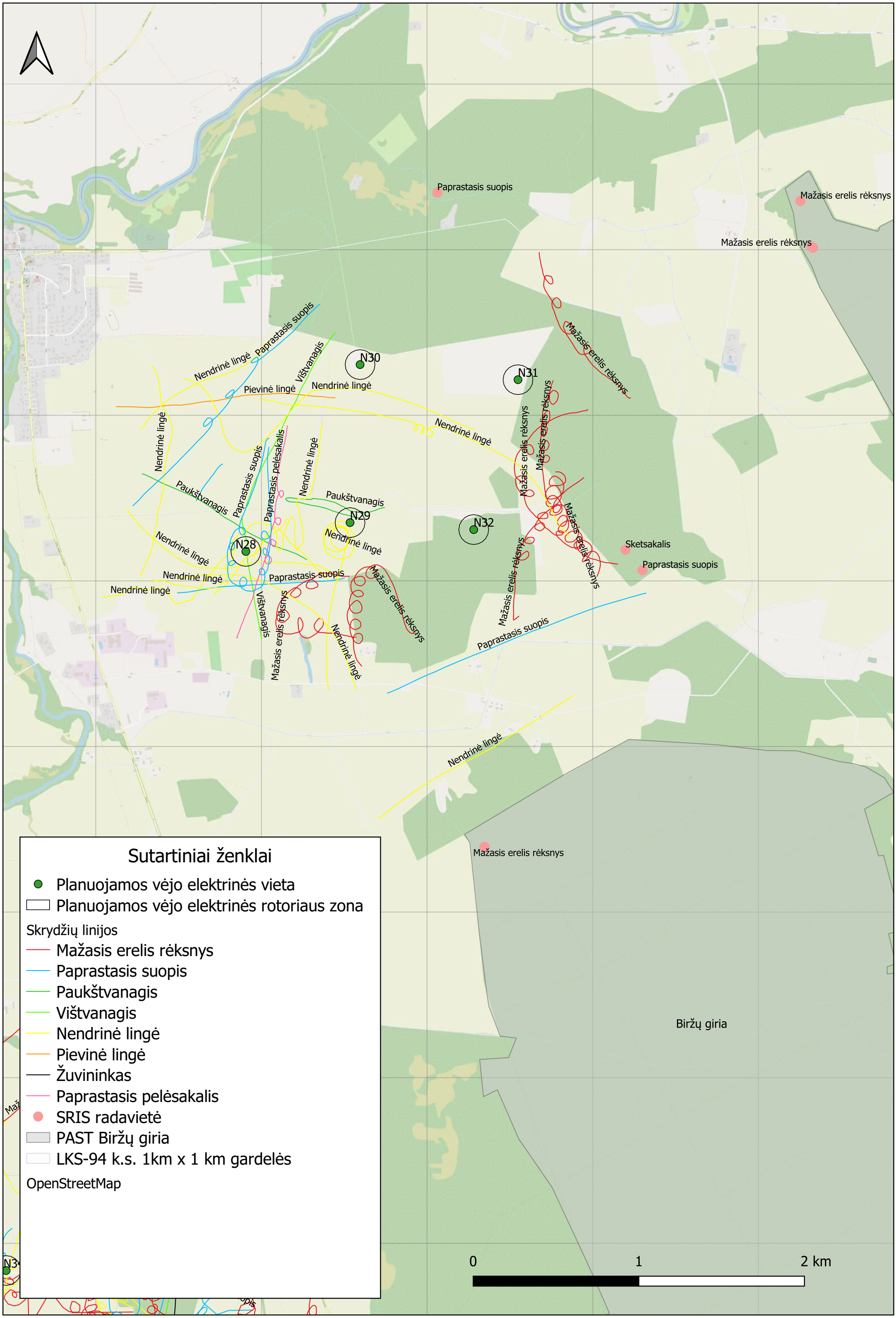

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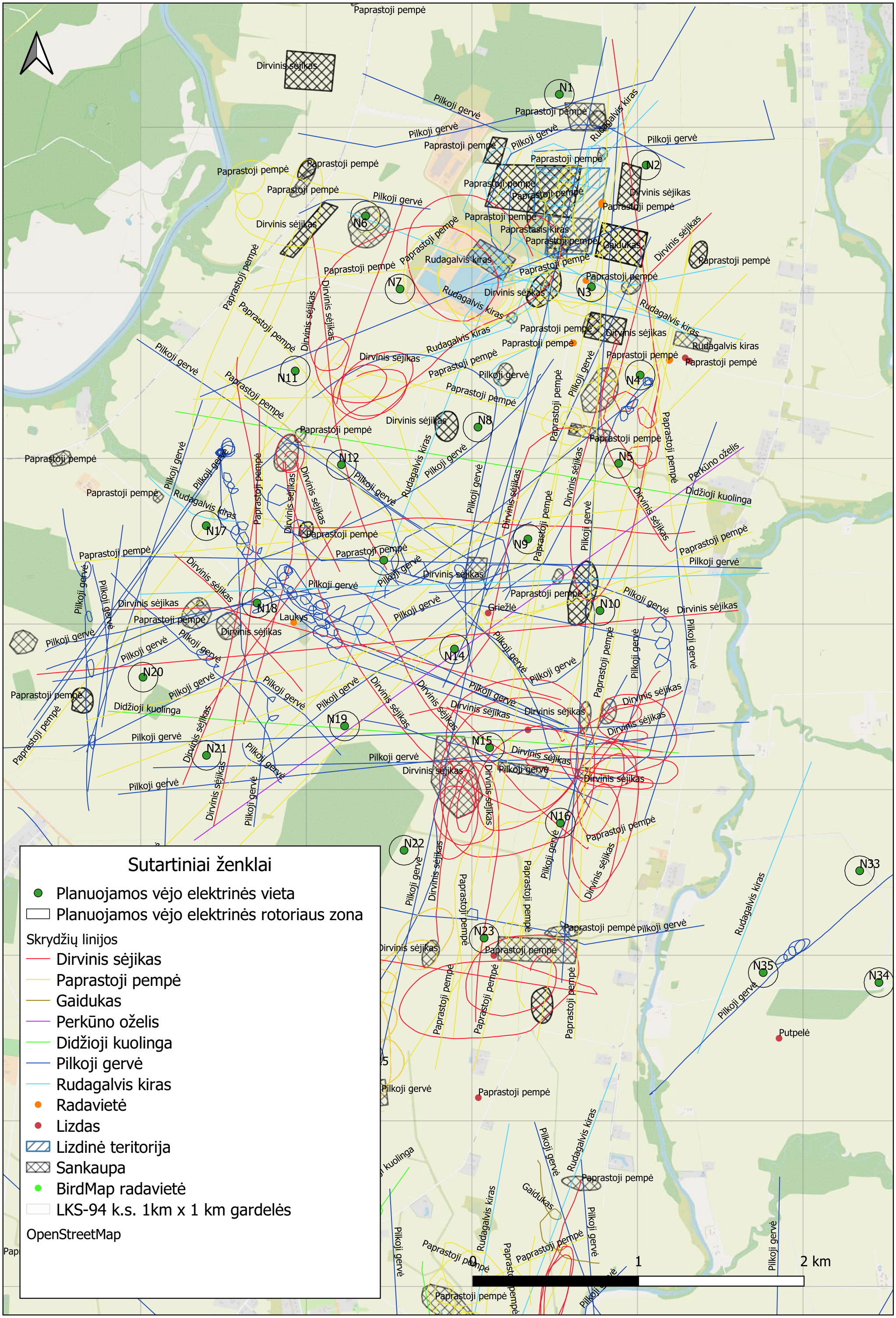

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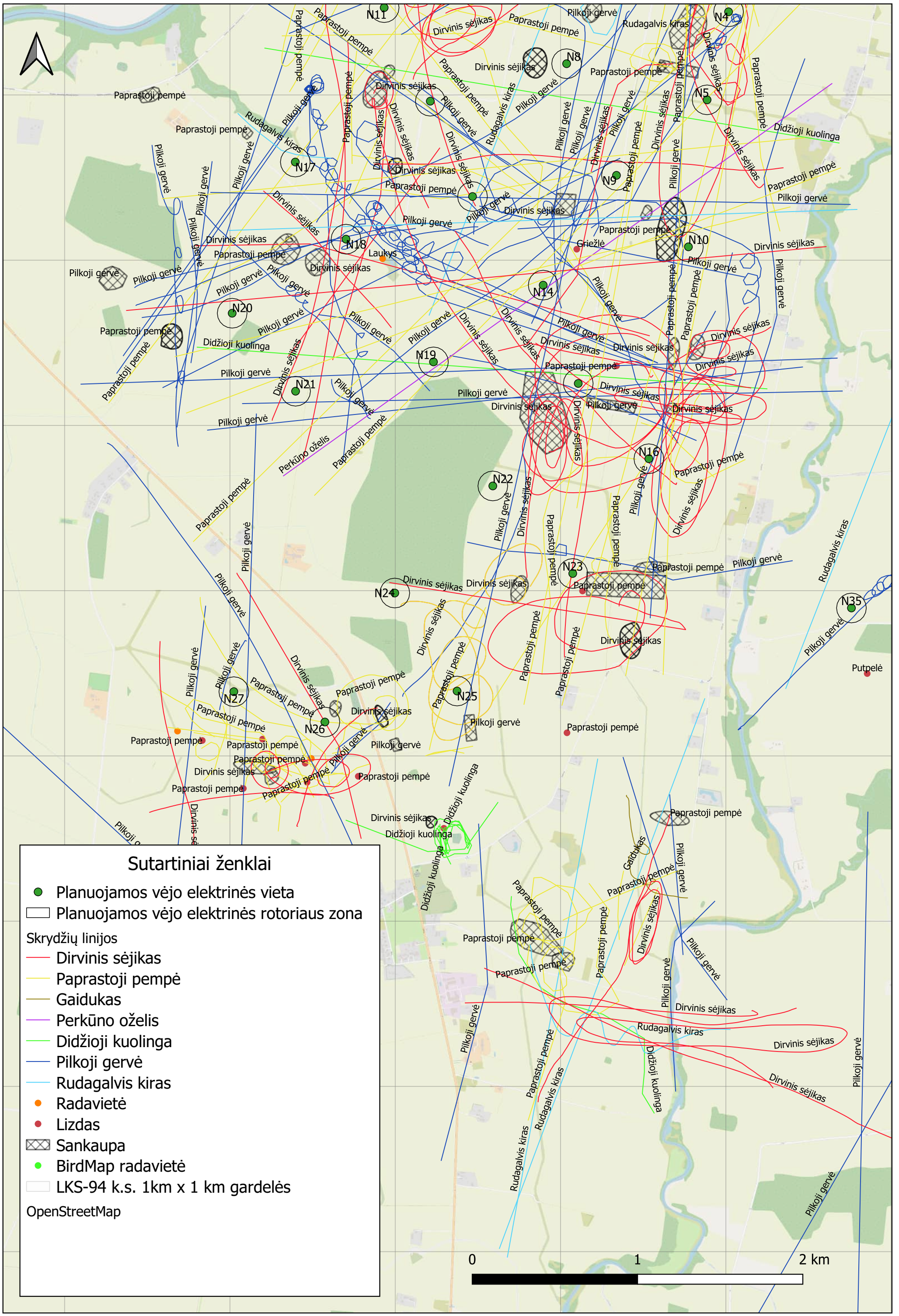

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Sutartiniai ženklai
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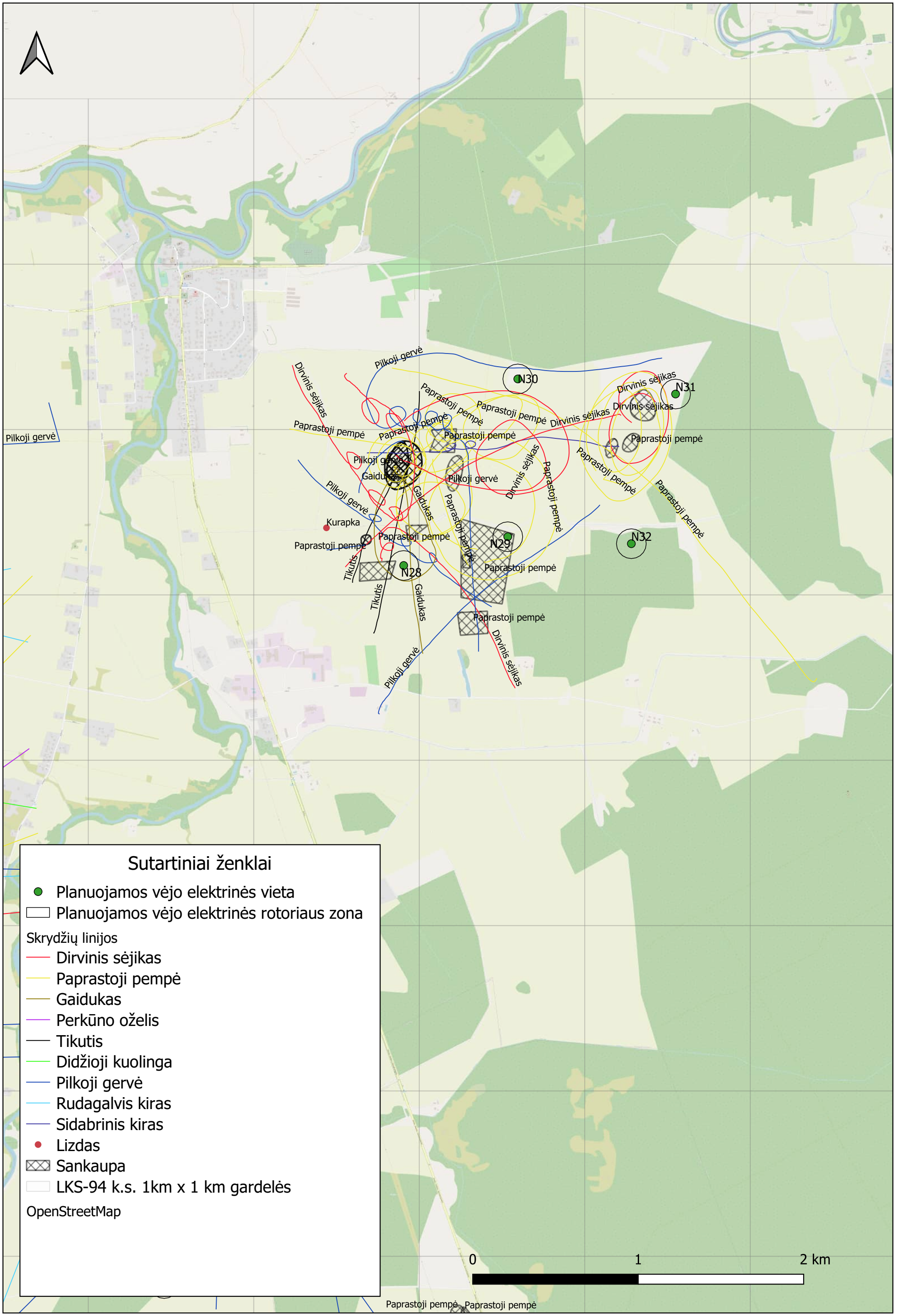

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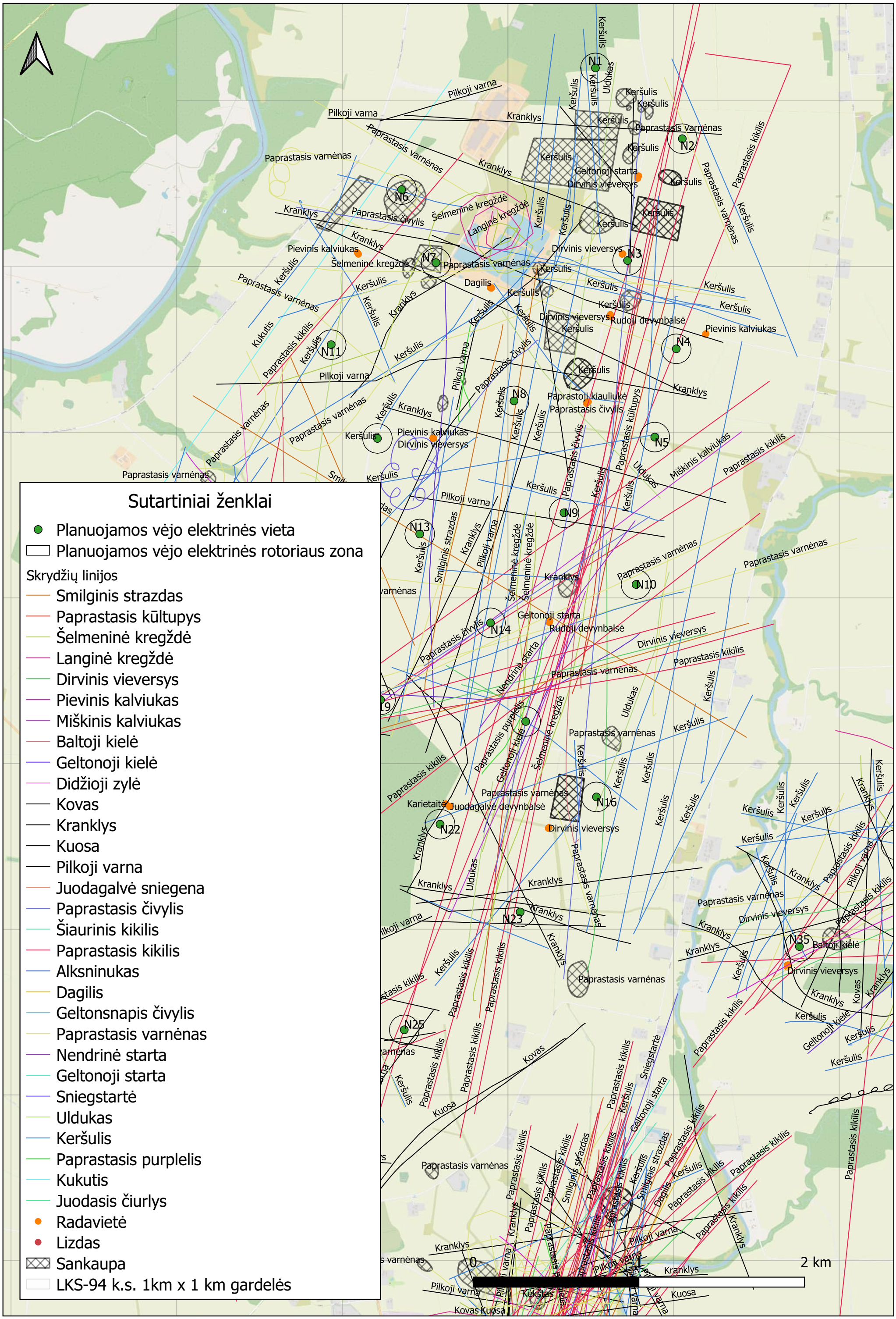

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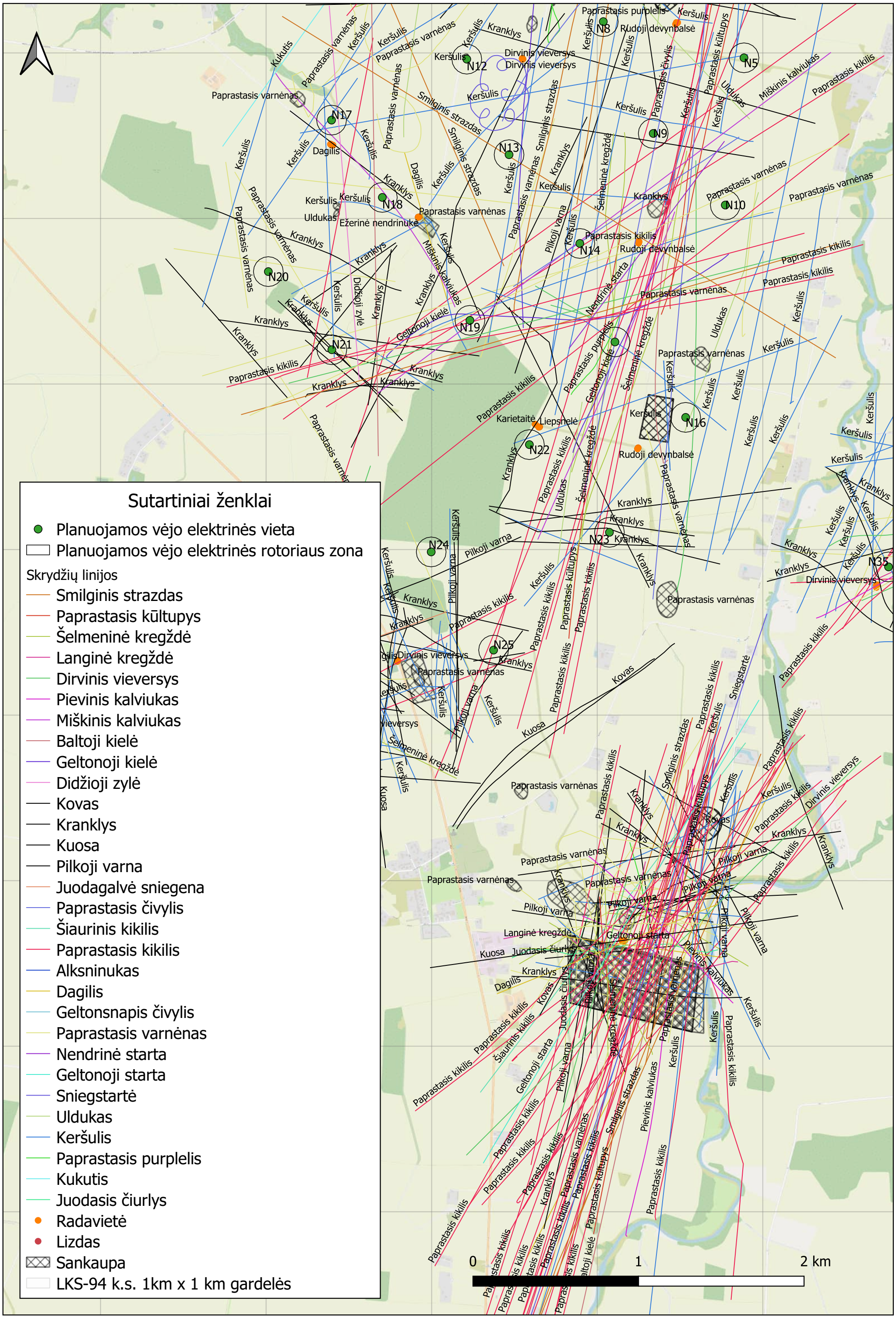

Sutartiniai ženklai
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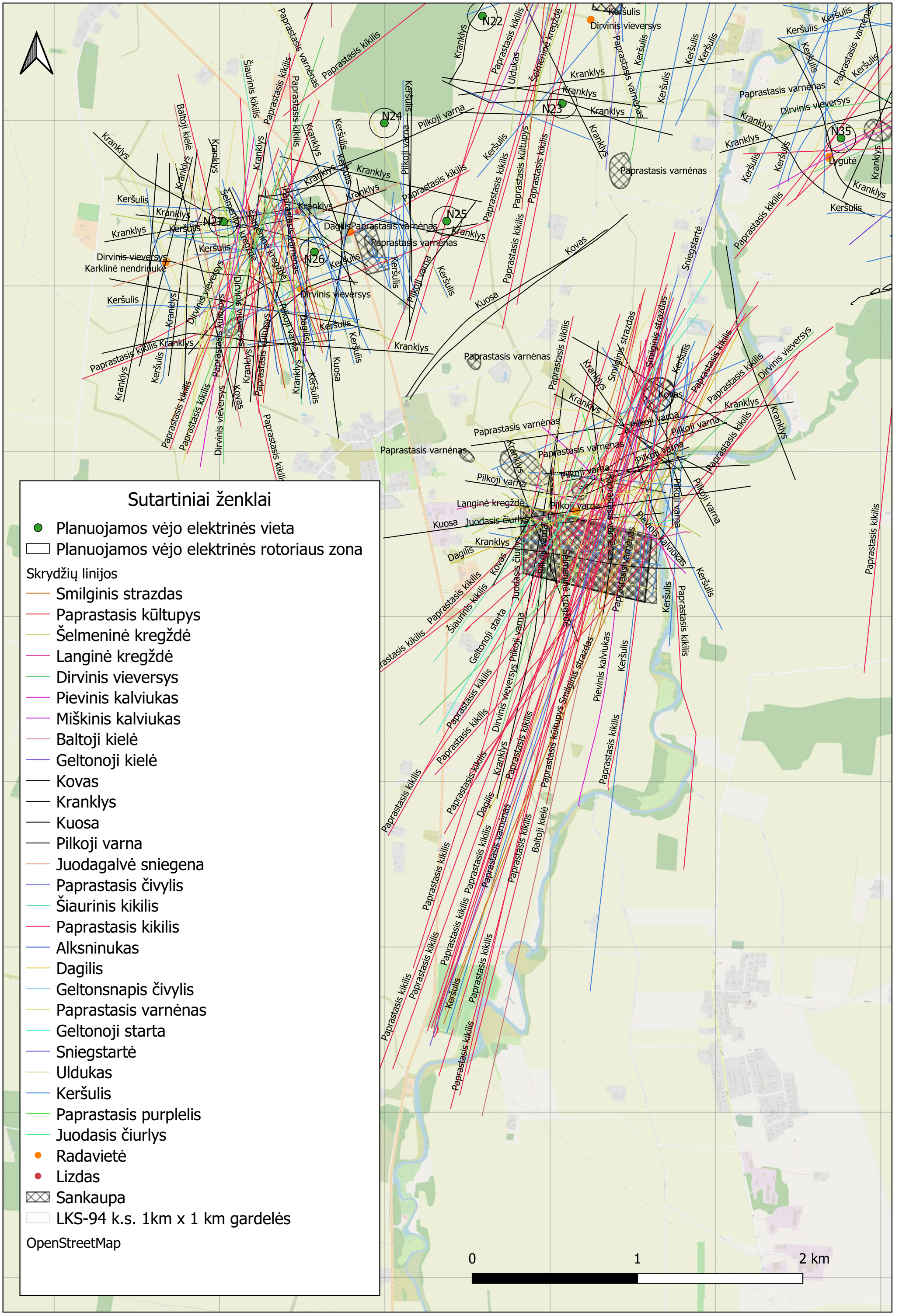

Sutartiniai ženklai
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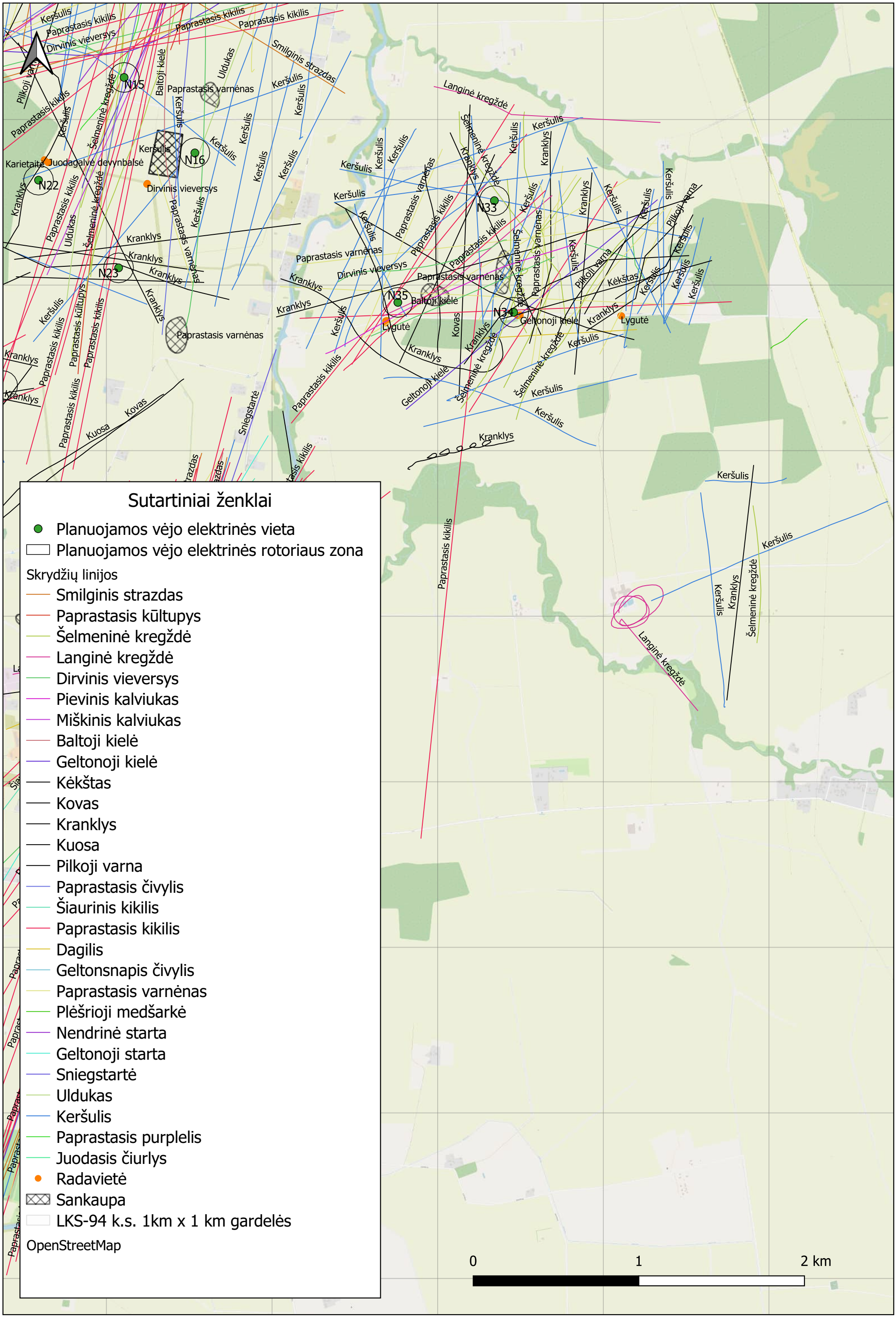

Sutartiniai ženklai
Planuojamos vėjo elektrinės vieta
Planuojamos vėjo elektrinės rotoriaus zona
Skrydžių linijos
Dirvinis sėjikas
Paprastoji pempė
Gaidukas
Perkūno oželis
Didžioji kuolinga
Pilkoji gervė
Rudagalvis kiras
Radavietė
Lizdas
Sankaupa
LKS-94 k.s. 1km x 1 km gardelės
OpenStreetMap
N4
N5
N8
N9
N10
N15
N16
N23
N33
N34
N35
Griežlė
Putpelė
0
1
2 km

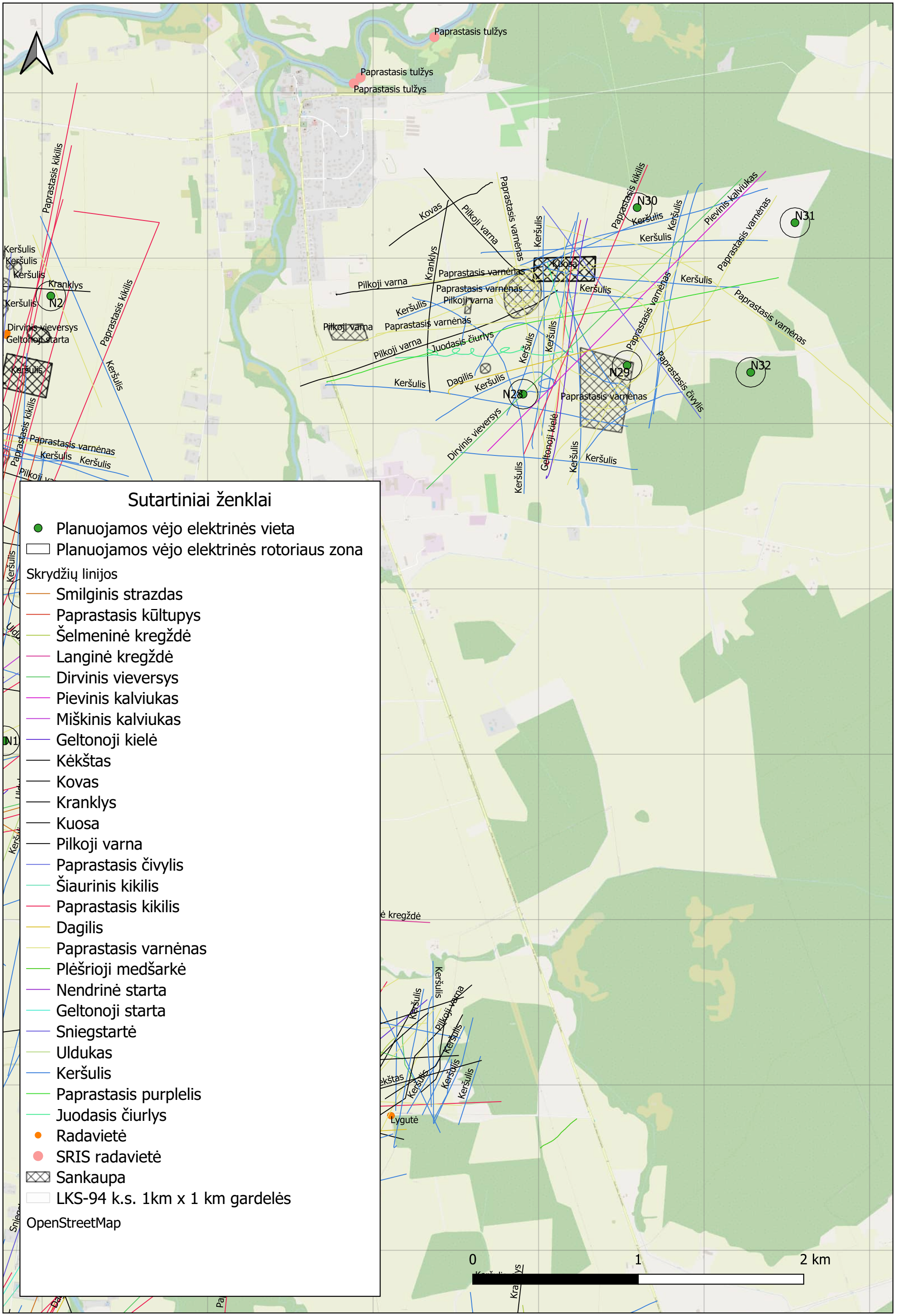

N30
N31
N32
N29
N28
Pilkoji gervė
Dirvinis sėjikas
Paprastoji pempė
Gaidukas
Tikutis
Kurapka
Sutartiniai ženklai
Planuojamos vėjo elektrinės vieta
Planuojamos vėjo elektrinės rotoriaus zona
Skrydžių linijos
Dirvinis sėjikas
Paprastoji pempė
Gaidukas
Perkūno oželis
Tikutis
Didžioji kuolinga
Pilkoji gervė
Rudagalvis kiras
Sidabrinis kiras
Lizdas
Sankaupa
LKS-94 k.s. 1km x 1 km gardelės
OpenStreetMap
0
1
2 km


Sutartiniai ženklai
Planuojamos vėjo elektrinės vieta
Planuojamos vėjo elektrinės rotoriaus zona
Skrydžių linijos
Smilginis strazdas
Paprastasis kūltupys
Šelmeninė kregždė
Langinė kregždė
Dirvinis vieversys
Pievinis kalviukas
Miškinis kalviukas
Baltoji kielė
Geltonoji kielė
Didžioji zylė
Kovas
Kranklys
Kuosa
Pilkoji varna
Juodagalvė sniegena
Paprastasis čivylis
Šiaurinis kikilis
Paprastasis kikilis
Alksninukas
Dagilis
Geltonsnapis čivylis
Paprastasis varnėnas
Nendrinė starta
Geltonoji starta
Sniegstartė
Uldukas
Keršulis
Paprastasis purplelis
Kukutis
Juodasis čiurlys
Radavietė
Lizdas
Sankaupa
LKS-94 k.s. 1km x 1 km gardelės
N1
N2
N3
N4
N5
N6
N7
N8
N9
N10
N11
N13
N14
N16
N22
N23
N25
N35
0
2 km


Sutartiniai ženklai
Planuojamos vėjo elektrinės vieta
Planuojamos vėjo elektrinės rotoriaus zona
Skrydžių linijos
Smilginis strazdas
Paprastasis kūltupys
Šelmeninė kregždė
Langinė kregždė
Dirvinis vieversys
Pievinis kalviukas
Miškinis kalviukas
Baltoji kielė
Geltonoji kielė
Didžioji zylė
Kovas
Kranklys
Kuosa
Pilkoji varna
Juodagalvė sniegena
Paprastasis čivylis
Šiaurinis kikilis
Paprastasis kikilis
Alksninukas
Dagilis
Geltonsnapis čivylis
Paprastasis varnėnas
Nendrinė starta
Geltonoji starta
Sniegstartė
Uldukas
Keršulis
Paprastasis purplelis
Kukutis
Juodasis čiurlys
Radavietė
Lizdas
Sankaupa
LKS-94 k.s. 1km x 1 km gardelės
N5
N8
N9
N10
N12
N13
N14
N16
N17
N18
N19
N20
N21
N22
N23
N24
N25
N35
Paprastasis purplelis
Rudoji devynbalsė
Dirvinis vieversys
Paprastasis varnėnas
Dagilis
Ežerinė nendrinukė
Karietaitė
Liepsnelė
Paprastasis varnėnas
0
1
2 km


Sutartiniai ženklai
Planuojamos vėjo elektrinės vieta
Planuojamos vėjo elektrinės rotoriaus zona
Skrydžių linijos
Smilginis strazdas
Paprastasis kūltupys
Šelmeninė kregždė
Langinė kregždė
Dirvinis vieversys
Pievinis kalviukas
Miškinis kalviukas
Baltoji kielė
Geltonoji kielė
Kovas
Kranklys
Kuosa
Pilkoji varna
Juodagalvė sniegena
Paprastasis čivylis
Šiaurinis kikilis
Paprastasis kikilis
Alksninukas
Dagilis
Geltonsnapis čivylis
Paprastasis varnėnas
Geltonoji starta
Sniegstartė
Uldukas
Keršulis
Paprastasis purplelis
Juodasis čiurlys
Radavietė
Lizdas
Sankaupa
LKS-94 k.s. 1km x 1 km gardelės
OpenStreetMap
N22
N23
N24
N25
N26
N27
N35
Lygutė
Karklinė nendrinukė
0
1
2 km


Sutartiniai ženklai
Planuojamos vėjo elektrinės vieta
Planuojamos vėjo elektrinės rotoriaus zona
Skrydžių linijos
Smilginis strazdas
Paprastasis kūltupys
Šelmeninė kregždė
Langinė kregždė
Dirvinis vieversys
Pievinis kalviukas
Miškinis kalviukas
Baltoji kielė
Geltonoji kielė
Kėkštas
Kovas
Kranklys
Kuosa
Pilkoji varna
Paprastasis čivylis
Šiaurinis kikilis
Paprastasis kikilis
Dagilis
Geltonsnapis čivylis
Paprastasis varnėnas
Plėšrioji medšarkė
Nendrinė starta
Geltonoji starta
Sniegstartė
Uldukas
Keršulis
Paprastasis purplelis
Juodasis čiurlys
Radavietė
Sankaupa
LKS-94 k.s. 1km x 1 km gardelės
OpenStreetMap
N15
N16
N22
N23
N33
N34
N35
Karietaitė
Juodagalvė devynbalsė
Lygutė
0
1
2 km



Sutartiniai ženklai

- Planuojamos vėjo elektrinės vieta
- Planuojamos vėjo elektrinės rotoriaus zona

Skrydžių linijos

- Smilginis strazdas
- Paprastasis kūltupys
- Šelmeninė kregždė
- Langinė kregždė
- Dirvinis vieversys
- Pievinis kalviukas
- Miškinis kalviukas
- Geltonoji kielė
- Kėkštas
- Kovas
- Kranklys
- Kuosa
- Pilkoji varna
- Paprastasis čivylis
- Šiaurinis kikilis
- Paprastasis kikilis
- Dagilis
- Paprastasis varnėnas
- Plėšrioji medšarkė
- Nendrinė starta
- Geltonoji starta
- Sniegstartė
- Uldukas
- Keršulis
- Paprastasis purplelis
- Juodasis čiurlys
- Radavietė
- SRIS radavietė
- Sankaupa
- LKS-94 k.s. 1km x 1 km gardelės

OpenStreetMap

fid	Data ir laikas	Rūšis	Taško Nr.	Atstumas, m	Porų sk.	Pastabos
111	22-04-2022 09:45:46	Geltonoji starta	19	85	1	
112	22-04-2022 09:45:46	Dirvinis vieversys	19	17	1	
113	22-04-2022 09:45:46	Dirvinis vieversys	19	89	4	
114	22-04-2022 09:45:46	Juodasis strazdas	19	89	1	
115	22-04-2022 09:45:46	Nendrinė starta	19	89	1	
116	22-04-2022 09:45:46	Liepsnelė	19	89	1	
117	22-04-2022 09:55:57	Dirvinis vieversys	20	9	1	
118	22-04-2022 09:55:57	Dirvinis vieversys	20	85	3	
119	22-04-2022 09:55:57	Pievinis kalviukas	20	85	1	
120	22-04-2022 09:55:57	Lygutė	20	85	1	
253	26-04-2022 06:25:32	Lygutė	1	33	1	
254	26-04-2022 06:25:32	Paprastasis kikilis	1	33	2	
255	26-04-2022 06:25:32	Paprastasis kikilis	1	77	2	
256	26-04-2022 06:25:32	Dirvinis vieversys	1	25	2	
257	26-04-2022 06:25:32	Dirvinis vieversys	1	89	4	
258	26-04-2022 06:25:32	Juodasis strazdas	1	85	2	
259	26-04-2022 06:25:32	Geltonoji starta	1	85	2	
260	26-04-2022 06:25:32	Pievinis kalviukas	1	85	1	
261	26-04-2022 06:40:32	Pievinis kalviukas	1	85	1	
262	26-04-2022 06:40:32	Dirvinis vieversys	1	93	5	
263	26-04-2022 06:40:32	Dirvinis vieversys	2	21	2	
264	26-04-2022 06:40:32	Geltonoji starta	1	77	1	
265	26-04-2022 06:40:32	Paprastoji pempė	2	93	1	
266	26-04-2022 06:48:58	Paprastoji pempė	3	93	1	
267	26-04-2022 06:48:58	Dirvinis vieversys	3	93	4	
268	26-04-2022 06:48:58	Dirvinis vieversys	3	25	2	
269	26-04-2022 06:48:58	Paprastoji pempė	3	25	1	
270	26-04-2022 06:48:58	Pievinis kalviukas	3	93	1	
271	26-04-2022 06:57:39	Dirvinis vieversys	4	21	1	
272	26-04-2022 06:57:39	Dirvinis vieversys	4	73	4	
273	26-04-2022 06:57:39	Paprastoji pempė	4	69	1	
274	26-04-2022 07:04:01	Paprastoji pempė	5	77	1	
275	26-04-2022 07:04:01	Dirvinis vieversys	5	77	6	
276	26-04-2022 07:04:01	Dirvinis vieversys	5	25	2	
277	26-04-2022 07:11:01	Dirvinis vieversys	6	25	1	
278	26-04-2022 07:11:01	Dirvinis vieversys	6	81	3	
279	26-04-2022 07:11:01	Geltonoji starta	6	81	2	
280	26-04-2022 07:11:01	Paprastasis kikilis	6	81	1	
281	26-04-2022 07:11:01	Nendrinė starta	6	81	1	
282	26-04-2022 07:11:01	Paprastasis kikilis	6	25	1	
283	26-04-2022 07:18:21	Geltonoji starta	7	29	1	
284	26-04-2022 07:18:21	Geltonoji starta	7	81	1	
285	26-04-2022 07:18:21	Dirvinis vieversys	7	21	1	
286	26-04-2022 07:18:21	Dirvinis vieversys	7	81	5	
287	26-04-2022 07:18:21	Pievinis kalviukas	7	65	1	
288	26-04-2022 07:26:45	Dirvinis vieversys	8	25	2	
289	26-04-2022 07:26:45	Dirvinis vieversys	8	85	5	
290	26-04-2022 07:26:45	Baltoji kielė	8	85	1	
291	26-04-2022 07:26:45	Pievinis kalviukas	8	89	1	
292	26-04-2022 07:34:00	Pievinis kalviukas	9	89	1	
293	26-04-2022 07:34:00	Paprastasis kikilis	9	33	1	
294	26-04-2022 07:34:00	Didžioji antis	9	33	1	
295	26-04-2022 07:34:00	Laukys	9	33	1	
296	26-04-2022 07:34:00	Paprastasis varnė	9	33	1	
297	26-04-2022 07:34:00	Geltonoji starta	9	81	1	
298	26-04-2022 07:34:00	Dirvinis vieversys	9	89	4	
299	26-04-2022 07:42:14	Dirvinis vieversys	10	21	3	
300	26-04-2022 07:42:14	Dirvinis vieversys	10	77	6	
301	26-04-2022 07:42:14	Pievinis kalviukas	10	77	1	
302	26-04-2022 07:50:36	Dirvinis vieversys	11	37	1	
303	26-04-2022 07:50:36	Dirvinis vieversys	11	97	5	
304	26-04-2022 07:50:36	Paprastasis čivylis	11	13	1	
305	26-04-2022 07:50:36	Geltonoji starta	11	21	1	
306	26-04-2022 07:57:32	Dirvinis vieversys	12	85	4	
307	26-04-2022 07:57:32	Dirvinis vieversys	12	17	1	
308	26-04-2022 07:57:32	Paprastasis kikilis	12	89	1	
309	26-04-2022 07:57:32	Pilkoji pečialinda	12	37	1	
310	26-04-2022 07:57:32	Geltonoji starta	12	77	1	
311	26-04-2022 08:09:21	Dirvinis vieversys	13	33	1	
312	26-04-2022 08:09:21	Dirvinis vieversys	13	33	4	
313	26-04-2022 08:09:21	Pievinis kalviukas	13	65	1	
314	26-04-2022 08:16:53	Keršulis	14	21	1	
315	26-04-2022 08:16:53	Keršulis	14	81	1	
316	26-04-2022 08:16:53	Liepsnelė	14	81	2	
317	26-04-2022 08:16:53	Paprastasis kikilis	14	81	2	
318	26-04-2022 08:16:53	Karietaitė	14	81	2	
319	26-04-2022 08:16:53	Didžioji zylė	14	57	1	
320	26-04-2022 08:16:53	Juodasis strazdas	14	73	2	

321	26-04-2022 08:16:53	Dirvinis vieversys	14	73	2
322	26-04-2022 08:26:21	Dirvinis vieversys	15	73	2
323	26-04-2022 08:26:21	Paprastasis kikilis	15	17	1
324	26-04-2022 08:26:21	Paprastasis kikilis	15	57	1
325	26-04-2022 08:26:21	Pilkoji pečialinda	15	13	1
326	26-04-2022 08:26:21	Paprastasis varnė	15	13	2
327	26-04-2022 08:26:21	Geltonoji starta	15	41	2
328	26-04-2022 08:26:21	Dirvinis vieversys	16	17	2
329	26-04-2022 08:26:21	Dirvinis vieversys	16	65	5
330	26-04-2022 08:26:21	Pievinis kalviukas	16	65	1
331	26-04-2022 08:26:21	Paprastoji pempė	16	77	1
332	26-04-2022 08:37:52	Paprastoji pempė	17	97	1
333	26-04-2022 08:37:52	Dirvinis vieversys	17	13	1
334	26-04-2022 08:37:52	Dirvinis vieversys	17	77	3
335	26-04-2022 08:37:52	Geltonoji starta	17	89	1
336	26-04-2022 08:50:51	Geltonoji starta	18	73	1
337	26-04-2022 08:50:51	Pievinis kalviukas	18	37	1
338	26-04-2022 08:50:51	Pievinis kalviukas	18	85	1
339	26-04-2022 08:50:51	Dirvinis vieversys	18	25	2
340	26-04-2022 08:50:51	Dirvinis vieversys	18	93	4
341	26-04-2022 08:50:51	Pilkoji varna	18	93	1
355	23-05-2022 06:10:30	Pievinis kalviukas	18	53	1
356	23-05-2022 06:10:30	Dirvinis vieversys	18	33	1
357	23-05-2022 06:10:30	Dirvinis vieversys	18	69	5
358	23-05-2022 06:10:30	Paprastasis kūltup	18	81	1
359	23-05-2022 06:10:30	Paprastoji kiauliuk	18	89	1
360	23-05-2022 06:10:30	Rudoji devynbalsė	18	89	1
372	23-05-2022 06:30:30	Dirvinis vieversys	15	97	2
373	23-05-2022 06:30:30	Keršulis	15	25	2
374	23-05-2022 06:30:30	Paprastasis kikilis	15	25	2
375	23-05-2022 06:30:30	Paprastasis varnė	15	25	1
376	23-05-2022 06:30:30	Didžioji zylė	15	25	1
377	23-05-2022 06:30:30	Dagilis	15	41	1
378	23-05-2022 06:38:30	Dirvinis vieversys	16	25	2
379	23-05-2022 06:38:30	Dirvinis vieversys	16	77	4
380	23-05-2022 06:38:30	Paprastoji pempė	16	77	1
381	23-05-2022 06:38:30	Paprastoji kiauliuk	16	77	1
382	23-05-2022 06:48:34	Paprastoji kiauliuk	17	93	1
383	23-05-2022 06:48:34	Pievinis kalviukas	17	21	1
384	23-05-2022 06:48:34	Karklinė nendrinuk	17	85	1
385	23-05-2022 06:48:34	Dirvinis vieversys	17	25	2
386	23-05-2022 06:48:34	Dirvinis vieversys	17	69	4
387	23-05-2022 07:05:06	Dirvinis vieversys	13	37	2
388	23-05-2022 07:05:06	Dirvinis vieversys	13	37	2
389	23-05-2022 07:05:06	Dirvinis vieversys	13	85	3
390	23-05-2022 07:05:06	Dirvinis vieversys	14	85	2
391	23-05-2022 07:05:06	Paprastasis kikilis	14	21	2
392	23-05-2022 07:05:06	Juodagalvė devyn	14	73	2
393	23-05-2022 07:05:06	Juodasis strazdas	14	57	1
394	23-05-2022 07:05:06	Pilkoji devynbalsė	14	21	1
395	23-05-2022 07:05:06	Baltabruvis nykštu	14	65	2
396	23-05-2022 07:05:06	Dirvinis vieversys	14	25	1
397	23-05-2022 07:05:06	Liepsnelė	14	77	1
398	23-05-2022 07:20:06	Dirvinis vieversys	12	37	1
399	23-05-2022 07:20:06	Dirvinis vieversys	12	81	3
400	23-05-2022 07:20:06	Geltonoji starta	12	73	1
401	23-05-2022 07:20:06	Rudoji devynbalsė	12	37	1
402	23-05-2022 07:32:06	Dirvinis vieversys	11	37	1
403	23-05-2022 07:31:06	Dirvinis vieversys	11	77	3
404	23-05-2022 07:31:06	Paprastoji kiauliuk	11	77	1
405	23-05-2022 07:33:40	Rudoji devynbalsė	11	73	1
406	23-05-2022 07:42:33	Rudoji devynbalsė	4	45	1
407	23-05-2022 07:42:33	Pievinis kalviukas	4	29	1
408	23-05-2022 07:42:33	Dirvinis vieversys	4	93	4
409	23-05-2022 07:51:33	Dirvinis vieversys	5	93	3
410	23-05-2022 07:51:33	Dirvinis vieversys	5	33	1
411	23-05-2022 07:51:33	Paprastoji pempė	5	77	1
412	23-05-2022 07:51:33	Karklinė nendrinuk	5	85	1
413	23-05-2022 08:01:26	Rudoji devynbalsė	3	41	1
414	23-05-2022 08:01:08	Dirvinis vieversys	3	21	2
415	23-05-2022 08:01:50	Dirvinis vieversys	3	89	2
416	23-05-2022 08:01:50	Karklinė nendrinuk	3	69	1
417	23-05-2022 08:10:50	Rudoji devynbalsė	2	85	1
418	23-05-2022 08:10:50	Dirvinis vieversys	2	85	4
419	23-05-2022 08:10:50	Paprastoji pempė	2	85	2
420	23-05-2022 08:20:19	Rytinė lakštingala	6	29	1
421	23-05-2022 08:20:19	Rudoji devynbalsė	6	49	1
422	23-05-2022 08:20:19	Nendrinis žiogelis	6	89	1
423	23-05-2022 08:20:19	Paprastoji medšar	6	69	1

424	23-05-2022 08:20:19	Geltonoji starta	6	33	1
425	23-05-2022 08:20:19	Geltonoji starta	6	81	1
426	23-05-2022 08:20:19	Dagilis	6	81	1
427	23-05-2022 08:20:19	Karklinė nendrinuk	6	81	1
428	23-05-2022 08:20:19	Margasis žiogelis	6	73	1
429	23-05-2022 08:32:17	Dirvinis vieversys	7	73	3
430	23-05-2022 08:32:17	Rudoji devynbalsė	7	81	1
431	23-05-2022 08:32:17	Geltonoji kielė	7	57	1
432	23-05-2022 08:32:17	Geltonoji kielė	6	69	1
433	23-05-2022 08:40:39	Dirvinis vieversys	10	37	1
434	23-05-2022 08:40:39	Dirvinis vieversys	10	69	3
435	23-05-2022 08:40:39	Paprastoji kiauliuk	10	17	1
436	23-05-2022 08:47:06	Paprastoji kiauliuk	9	17	1
437	23-05-2022 08:47:06	Rytinė lakštingala	9	37	1
438	23-05-2022 08:47:06	Karklinė nendrinuk	9	41	1
439	23-05-2022 08:47:06	Ežerinė nendrinuk	9	69	1
440	23-05-2022 08:47:06	Pievinis kalviukas	9	57	1
441	23-05-2022 08:47:06	Nendrinė starta	9	69	1
442	23-05-2022 08:47:06	Geltonoji starta	9	69	1
443	23-05-2022 08:47:06	Rudoji devynbalsė	9	29	1
444	23-05-2022 08:47:06	Dirvinis vieversys	9	29	2
445	23-05-2022 08:47:06	Dirvinis vieversys	8	89	3
446	23-05-2022 08:58:06	Geltonoji starta	8	61	1
447	23-05-2022 08:47:06	Rudoji devynbalsė	8	65	1
448	23-05-2022 08:57:06	Paprastoji kiauliuk	8	93	1
449	23-05-2022 08:57:06	Pievinis kalviukas	8	29	1
450	23-05-2022 08:57:06	Rudoji devynbalsė	8	29	1
451	23-05-2022 08:57:06	Dagilis	8	29	1
452	23-05-2022 09:10:06	Dirvinis vieversys	1	85	2
453	23-05-2022 09:10:06	Rudoji devynbalsė	1	37	2
454	23-05-2022 09:10:06	Juodagalvė devyn	1	49	1
455	23-05-2022 09:10:06	Paprastasis kikilis	1	73	2
456	23-05-2022 09:10:06	Rytinė lakštingala	1	73	2
457	23-05-2022 09:10:06	Geltonoji starta	1	73	1
458	23-05-2022 09:10:06	Karklinė nendrinuk	1	37	1
546	24-05-2022 09:20:47	Paprastoji kiauliuk	19	33	1
547	24-05-2022 09:20:47	Rudoji devynbalsė	19	25	1
548	24-05-2022 09:20:47	Dirvinis vieversys	19	25	1
549	24-05-2022 09:20:47	Dirvinis vieversys	19	73	2
550	24-05-2022 09:20:47	Geltonoji starta	19	17	1
551	24-05-2022 09:20:47	Geltonoji kielė	19	69	1
552	24-05-2022 09:28:51	Dirvinis vieversys	20	69	3
553	24-05-2022 09:28:51	Paprastoji kiauliuk	19	81	1
554	24-05-2022 09:28:51	Rudoji devynbalsė	20	57	1
672	12-06-2022 06:20:03	Paprastoji kiauliuk	18	85	1
673	12-06-2022 06:20:03	Dirvinis vieversys	18	45	1
674	12-06-2022 06:20:03	Dirvinis vieversys	18	89	4
675	12-06-2022 06:20:03	Rudoji devynbalsė	18	89	1
682	12-06-2022 06:49:11	Rudoji devynbalsė	15	33	1
683	12-06-2022 06:49:11	Paprastasis čivylis	15	37	1
684	12-06-2022 06:49:11	Dagilis	15	37	1
685	12-06-2022 06:49:11	Dagilis	15	37	1
686	12-06-2022 06:49:11	Didžioji zylė	15	41	1
687	12-06-2022 06:49:11	Dirvinis vieversys	15	77	2
688	12-06-2022 06:49:11	Žaliukė	15	77	1
689	12-06-2022 06:49:11	Geltonoji starta	15	69	1
690	12-06-2022 06:59:22	Dirvinis vieversys	16	73	3
691	12-06-2022 06:59:22	Dirvinis vieversys	16	29	1
692	12-06-2022 06:59:22	Pievinis kalviukas	16	77	1
693	12-06-2022 07:12:29	Karklinė nendrinuk	17	13	1
694	12-06-2022 07:12:29	Karklinė nendrinuk	17	73	1
695	12-06-2022 07:12:29	Rudoji devynbalsė	17	53	1
696	12-06-2022 07:12:29	Dirvinis vieversys	17	69	2
697	12-06-2022 07:12:29	Dirvinis vieversys	17	37	2
698	12-06-2022 07:29:29	Dirvinis vieversys	13	37	3
699	12-06-2022 07:29:29	Dirvinis vieversys	13	81	3
700	12-06-2022 07:29:29	Rudoji devynbalsė	13	81	3
701	12-06-2022 07:29:29	Pievinis kalviukas	13	25	1
702	12-06-2022 07:42:18	Dirvinis vieversys	14	77	2
703	12-06-2022 07:42:18	Žalioji pečialinda	14	21	2
704	12-06-2022 07:42:18	Juodasis strazdas	14	61	1
705	12-06-2022 07:42:18	Strazdas giesmini	14	69	1
706	12-06-2022 07:42:18	Ankstyvoji pečialir	14	37	1
726	13-06-2022 09:13:35	Karklinė nendrinuk	19	17	1
727	13-06-2022 09:13:35	Dirvinis vieversys	19	33	1
728	13-06-2022 09:13:35	Dirvinis vieversys	19	85	2
729	13-06-2022 09:13:35	Rudoji devynbalsė	19	85	2
730	13-06-2022 09:13:35	Geltonoji starta	19	37	1
731	13-06-2022 09:22:43	Dirvinis vieversys	19	29	2

732	13-06-2022 09:22:43	Dirvinis vieversys	19	65	3
838	12-06-2022 08:12:39	Dirvinis vieversys	11	97	4
839	12-06-2022 08:12:39	Karklinė nendrinuk	11	17	1
840	12-06-2022 08:12:39	Pievinis kalviukas	11	61	1
841	12-06-2022 08:24:48	Karklinė nendrinuk	4	17	1
842	12-06-2022 08:24:48	Karklinė nendrinuk	4	81	1
843	12-06-2022 08:24:48	Rudoji devynbalsė	4	61	1
844	12-06-2022 08:24:48	Dirvinis vieversys	4	17	2
845	12-06-2022 08:24:48	Dirvinis vieversys	4	73	4
846	12-06-2022 08:37:53	Dirvinis vieversys	5	25	2
847	12-06-2022 08:37:53	Dirvinis vieversys	5	53	5
848	12-06-2022 08:37:53	Pievinis kalviukas	5	53	1
849	12-06-2022 08:37:53	Geltonoji kielė	5	33	1
850	12-06-2022 08:48:19	Karklinė nendrinuk	3	25	1
851	12-06-2022 08:48:19	Dirvinis vieversys	3	25	1
852	12-06-2022 08:48:19	Dirvinis vieversys	3	81	3
853	12-06-2022 08:58:19	Dirvinis vieversys	2	21	2
854	12-06-2022 08:58:19	Dirvinis vieversys	2	85	6
855	12-06-2022 08:58:19	Rudoji devynbalsė	2	85	1
856	12-06-2022 08:58:19	Paprastoji pempė	2	69	2
857	12-06-2022 09:10:31	Ežerinė nendrinuk	6	45	1
858	12-06-2022 09:10:31	Karklinė nendrinuk	6	37	2
859	12-06-2022 09:10:31	Dirvinis vieversys	6	93	3
860	12-06-2022 09:10:31	Juodagalvė devyn	6	41	1
861	12-06-2022 09:10:31	Pilkoji devynbalsė	6	33	1
862	12-06-2022 09:10:31	Paprastasis varnė	6	33	1
863	12-06-2022 09:10:31	Rytinė lakštingala	6	41	1
864	12-06-2022 09:20:44	Rudoji devynbalsė	7	25	1
865	12-06-2022 09:20:44	Dirvinis vieversys	7	85	5
866	12-06-2022 09:20:44	Pievinis kalviukas	7	61	1
867	12-06-2022 09:20:44	Dagilis	7	33	1
868	12-06-2022 09:34:36	Karklinė nendrinuk	10	41	2
869	12-06-2022 09:34:36	Paprastoji kiauliuk	10	25	1
870	12-06-2022 09:34:36	Pievinis kalviukas	10	41	1
871	12-06-2022 09:34:36	Dirvinis vieversys	10	29	3
872	12-06-2022 09:34:36	Dirvinis vieversys	10	77	5
873	12-06-2022 09:46:15	Dirvinis vieversys	9	77	3
874	12-06-2022 09:46:27	Karklinė nendrinuk	9	45	1
875	12-06-2022 09:46:27	Pilkoji devynbalsė	9	45	1
876	12-06-2022 09:46:27	Rudoji devynbalsė	9	37	1
877	12-06-2022 09:46:27	Nendrinė starta	9	69	1
878	12-06-2022 09:46:27	Geltonoji starta	9	25	1
879	12-06-2022 09:57:38	Dirvinis vieversys	8	73	4
880	12-06-2022 09:57:38	Rudoji devynbalsė	8	73	1
881	12-06-2022 09:57:38	Geltonoji starta	8	65	1
882	12-06-2022 09:57:38	Pievinis kalviukas	8	57	1
883	12-06-2022 10:10:38	Pievinis kalviukas	1	45	1
884	12-06-2022 10:10:38	Dirvinis vieversys	1	73	3
885	12-06-2022 10:10:38	Karklinė nendrinuk	1	37	1
914	12-06-2022 07:58:12	Karklinė nendrinuk	12	33	1
915	12-06-2022 07:58:12	Dirvinis vieversys	12	33	1
916	12-06-2022 07:58:12	Dirvinis vieversys	12	69	3
917	12-06-2022 07:58:12	Juodagalvė devyn	12	65	1
918	12-06-2022 08:12:39	Dirvinis vieversys	11	29	2

fid	Data ir la	Rūšis	Skaičius	Buveinė	Pastabos
16	2022/04/21 11:04:	Paprastasis kiras	60	Javai	
17	2022/04/21 11:05:	Keršulis	56	Javai	
18	2022/04/21 11:35:	Gulbė giesmininkė	22	Javai	
19	2022/04/21 11:35:	Gulbė nebylė	20	Javai	
20	2022/04/21 12:53:	Rudagalvis kiras	30	Javai	
23	2022/04/26 06:49:	Paprastoji pempė	15	Javai	
24	2022/04/26 08:45:	Želmeninė žąsis	245	Javai	
26	2022/04/26 13:26:	Rudagalvis kiras	70	Ežeras	
43	2022/05/02 13:42:	Gulbė giesmininkė	4	Javai	
45	2022/05/02 07:09:	Želmeninė žąsis	10	Javai	
46	2022/05/02 07:36:	Gulbė nebylė	23	Javai	
64	2022/05/10 10:32:	Dirvinis sėjikas	28	Javai	
65	2022/05/10 11:13:	Paprastoji pempė	14	Javai	
66	2022/05/10 11:13:	Keršulis	10	Javai	
67	2022/05/10 11:13:	Rudagalvis kiras	35	Javai	
75	2022/05/15 10:02:	Gulbė nebylė	12	Ežeras	
84	2022/06/05 14:44:	Paprastasis varnė	50	Natūrali pieva	
89	2022/06/05 07:15:	Pilkoji gervė	6	Javai	
90	2022/06/05 07:44:	Keršulis	170	Javai	
91	2022/06/05 10:12:	Pilkoji gervė	12	Javai	
104	2022/06/12 12:59:	Keršulis	8	Javai	
105	2022/06/12 12:59:	Paprastasis varnė	20	Javai	
120	2022/06/20 15:01:	Baltasis gandras	5	Pieva	
121	2022/06/20 15:09:	Baltasis gandras	10	Pieva	
122	2022/06/20 15:09:	Pilkoji gervė	5	Pieva	
138	2022/07/04 11:08:	Paprastasis varnė	35	Pieva	
139	2022/07/04 13:04:	Paprastoji pempė	35	Pieva	
143	2022/07/13 07:20:	Paprastoji pempė	150	Pieva	
144	2022/07/13 07:20:	Paprastasis varnė	60	Pieva	
145	2022/07/13 12:51:	Keršulis	14	Pieva	
146	2022/07/13 14:05:	Baltasis gandras	7	Ganykla	
147	2022/07/13 14:53:	Paprastoji pempė	450	Javai	Arimas
154	2022/07/18 07:10:	Paprastoji pempė	435	Pieva	
155	2022/07/18 11:58:	Paprastoji pempė	250	Javai	
156	2022/07/18 13:41:	Pilkoji gervė	200	Ankštiniai	
171	2022/07/24 07:04:	Paprastasis varnė	320	Pieva	
174	2022/07/24 07:30:	Paprastasis varnė	800	Javai	
175	2022/07/24 07:30:	Kovas	110	Javai	
176	2022/07/24 07:30:	Kuosa	300	Javai	
177	2022/07/24 10:13:	Paprastoji pempė	110	Javai	
178	2022/07/24 10:13:	Uldukas	12	Javai	
179	2022/07/24 10:13:	Dirvinis sėjikas	6	Javai	
180	2022/07/24 10:14:	Keršulis	15	Javai	
181	2022/07/24 11:28:	Paprastoji pempė	110	Javai	
182	2022/07/24 09:55:	Paprastoji pempė	12	Javai	
183	2022/07/24 11:29:	Paprastoji pempė	11	Javai	
184	2022/07/24 11:30:	Pilkoji varna	35	Javai	
185	2022/07/24 11:30:	Baltasis gandras	14	Javai	
186	2022/07/24 11:30:	Kovas	50	Javai	
187	2022/07/24 11:30:	Kuosa	30	Javai	
188	2022/07/24 11:51:	Paprastoji pempė	150	Javai	
189	2022/07/24 14:56:	Pilkoji varna	130	Javai	
199	2022/08/09 14:08:	Perkūno oželis	8	Pelkė	
200	2022/08/09 14:11:	Paprastasis varnė	1000	Javai	
202	2022/08/16 06:35:	Kovas	110	Javai	
203	2022/08/16 12:15:	Paprastoji pempė	70	Javai	
204	2022/08/16 12:22:	Paprastasis varnė	100	Javai	
205	2022/08/16 12:31:	Paprastasis purple	10	Javai	

206	2022/08/16 12:48:	Paprastasis varnė	300	Pelkė
207	2022/08/16 12:48:	Pilkoji gervė	55	Pelkė
213	2022/08/16 12:48:	Paprastoji pempė	150	Pelkė
246	2022/08/02 10:50:	Paprastoji pempė	25	Javai
247	2022/08/02 11:08:	Paprastoji pempė	50	Javai
248	2022/08/02 11:31:	Keršulis	14	Javai
249	2022/08/02 11:32:	Keršulis	11	Javai
250	2022/08/02 11:37:	Keršulis	45	Javai
251	2022/08/02 11:37:	Keršulis	30	Javai
252	2022/08/02 11:48:	Baltasis gandras	22	Pieva
261	2022/08/09 11:40:	Keršulis	40	Javai
262	2022/08/09 11:40:	Paprastasis purple	15	Javai
263	2022/08/09 12:03:	Keršulis	25	Javai
264	2022/08/09 13:04:	Baltasis gandras	10	Javai
265	2022/08/09 13:04:	Pilkoji varna	60	Javai
266	2022/08/09 14:08:	Tikutis	10	Pelkė
267	2022/08/09 14:08:	Didžioji antis	50	Pelkė
268	2022/08/09 14:08:	Rudagalvė kryklė	18	Pelkė
269	2022/08/09 14:08:	Eurazinė cyplė	6	Pelkė
270	2022/08/09 14:11:	Paprastoji pempė	600	Javai
271	2022/08/09 14:12:	Pilkoji gervė	17	Javai
274	2022/08/16 06:35:	Kuosa	150	Javai
275	2022/08/16 08:50:	Dirvinis sėjikas	8	Javai
276	2022/08/16 11:12:	Keršulis	8	Javai
277	2022/08/16 12:15:	Paprastasis varnė	800	Javai
278	2022/08/16 12:22:	Paprastoji pempė	120	Javai
279	2022/08/16 12:28:	Paprastoji pempė	250	Javai
280	2022/08/16 12:28:	Paprastoji pempė	110	Javai
281	2022/08/16 12:28:	Keršulis	40	Javai
282	2022/08/16 12:29:	Paprastasis varnė	200	Javai
283	2022/08/16 12:31:	Keršulis	25	Javai
284	2022/08/16 12:48:	Paprastoji pempė	280	Pelkė
306	2022/08/23 06:41:	Paprastoji pempė	250	Javai
308	2022/08/23 08:23:	Dirvinis sėjikas	850	Javai
309	2022/08/23 08:23:	Paprastoji pempė	80	Javai
310	2022/08/23 08:37:	Dirvinis sėjikas	1200	Javai
311	2022/08/23 11:03:	Dirvinis sėjikas	1400	Javai
312	2022/08/23 11:04:	Paprastoji pempė	35	Javai
313	2022/08/23 11:04:	Pilkoji gervė	7	Javai
314	2022/08/23 11:05:	Keršulis	28	Javai
315	2022/08/23 12:11:	Paprastoji pempė	32	Javai
316	2022/08/23 12:12:	Keršulis	32	Javai
317	2022/08/23 12:12:	Paprastasis purple	12	Javai
318	2022/08/23 12:39:	Paprastoji pempė	32	Javai
333	2022/09/05 07:44:	Dirvinis sėjikas	35	Javai
334	2022/09/05 08:00:	Didžioji antis	320	Javai
335	2022/09/05 08:00:	Dirvinis sėjikas	440	Javai
336	2022/09/05 08:00:	Paprastoji pempė	350	Javai
337	2022/09/05 08:00:	Paprastasis varnė	180	Javai
338	2022/09/05 08:05:	Dirvinis sėjikas	1200	Javai
339	2022/09/05 08:05:	Paprastoji pempė	450	Javai
340	2022/09/05 08:42:	Dirvinis sėjikas	280	Javai
341	2022/09/05 08:42:	Paprastoji pempė	140	Javai
342	2022/09/05 08:42:	Paprastasis varnė	95	Javai
343	2022/09/05 08:49:	Dirvinis sėjikas	250	Javai
344	2022/09/05 08:49:	Paprastoji pempė	42	Javai
345	2022/09/05 08:50:	Dirvinis sėjikas	310	Javai
346	2022/09/05 08:50:	Paprastoji pempė	350	Javai
347	2022/09/05 08:51:	Dirvinis sėjikas	440	Javai

348	2022/09/05 08:51:	Paprastoji pempė	65	Javai
349	2022/09/05 08:52:	Keršulis	75	Javai
350	2022/09/05 08:55:	Paprastoji pempė	104	Javai
351	2022/09/05 09:16:	Paprastasis varnė	360	Javai
352	2022/09/05 10:59:	Paprastoji pempė	65	Javai
353	2022/09/05 11:21:	Dirvinis sėjikas	60	Javai
354	2022/09/05 11:55:	Gaidukas	8	Javai
356	2022/09/05 12:38:	Paprastasis varnė	470	Javai
383	2022/09/16 07:46:	Kėkštas	18	Pieva
384	2022/09/16 07:52:	Paprastoji pempė	65	Javai
385	2022/09/16 07:52:	Paprastasis varnė	82	Javai
386	2022/09/16 07:52:	Dirvinis sėjikas	75	Javai
387	2022/09/16 07:59:	Dirvinis sėjikas	350	Javai
388	2022/09/16 08:17:	Dirvinis sėjikas	280	Javai
389	2022/09/16 08:17:	Paprastoji pempė	18	Javai
390	2022/09/16 08:17:	Paprastasis varnė	85	Javai
391	2022/09/16 08:30:	Paprastoji pempė	190	Javai
392	2022/09/16 08:30:	Dirvinis sėjikas	550	Javai
393	2022/09/16 08:37:	Keršulis	23	Javai
394	2022/09/16 08:37:	Gaidukas	75	Javai
395	2022/09/16 08:37:	Paprastasis varnė	95	Javai
396	2022/09/16 09:01:	Šelmeninė kregžd	175	Javai
397	2022/09/16 09:17:	Keršulis	25	Javai
398	2022/09/16 09:17:	Gaidukas	250	Javai
399	2022/09/16 09:17:	Paprastoji pempė	178	Javai
400	2022/09/16 09:17:	Dirvinis sėjikas	110	Javai
401	2022/09/16 09:17:	Paprastasis varnė	320	Javai
402	2022/09/16 09:41:	Paprastoji pempė	32	Javai
403	2022/09/16 09:48:	Baltoji kielė	55	Javai
421	2022/09/22 09:36:	Dirvinis sėjikas	62	Javai
422	2022/09/22 09:51:	Dirvinis sėjikas	120	Javai
423	2022/09/22 10:20:	Paprastoji pempė	45	Javai
424	2022/09/22 10:38:	Keršulis	12	Javai
425	2022/09/22 12:11:	Gulbė giesmininkė	5	Javai
426	2022/09/22 12:11:	Paprastoji pempė	45	Javai
427	2022/09/22 12:34:	Paprastoji pempė	85	Javai
428	2022/09/22 12:34:	Paprastasis varnė	350	Javai
429	2022/09/22 12:34:	Gaidukas	25	Javai
458	2022/10/03 10:14:	Paprastasis varnė	45	Javai
459	2022/10/03 10:40:	Paprastoji pempė	130	Javai
460	2022/10/03 10:49:	Paprastoji pempė	150	Javai
461	2022/10/03 10:53:	Gaidukas	35	Javai
462	2022/10/03 11:04:	Želmeninė žąsis	7	Javai
463	2022/10/03 11:04:	Gulbė giesmininkė	8	Javai
494	2022/10/13 09:11:	Paprastasis varnė	70	Javai
495	2022/10/13 10:14:	Gulbė giesmininkė	10	Javai
496	2022/10/13 10:14:	Dirvinis sėjikas	47	Javai
497	2022/10/13 14:19:	Paprastoji pempė	340	Javai
498	2022/10/13 14:19:	Dirvinis sėjikas	140	Javai
499	2022/10/13 15:41:	Želmeninė žąsis	36	Pelkė
500	2022/10/13 15:58:	Želmeninė žąsis	68	Javai
524	2022/10/24 12:00:	Želmeninė žąsis	14	Javai
525	2022/10/24 12:55:	Želmeninė žąsis	25	Kukurūzai
526	2022/10/24 12:55:	Gulbė giesmininkė	37	Kukurūzai
527	2022/10/24 13:01:	Paprastoji pempė	85	Javai
528	2022/10/24 13:01:	Dirvinis sėjikas	230	Javai
529	2022/10/24 13:49:	Paprastoji pempė	230	Javai
530	2022/10/24 13:49:	Dirvinis sėjikas	850	Javai
531	2022/10/24 14:23:	Baltakaktė žąsis	50	Javai

532	2022/10/24 14:23:	Želmeninė žąsis	32	Javai
533	2022/10/24 15:53:	Paprastoji pempė	65	Javai
565	2022/03/23 10:03:	Paprastoji pempė	10	Javai
566	2022/03/23 10:03:	Rudagalvis kiras	50	Javai
567	2022/03/23 10:35:	Paprastoji pempė	80	Javai
568	2022/03/23 10:03:	Paprastoji pempė	30	Javai
569	2022/03/23 10:40:	Dirvinis sėjikas	40	Javai
570	2022/03/23 11:30:	Paprastasis varnė	40	Javai
571	2022/03/23 11:35:	Dirvinis sėjikas	220	Javai
572	2022/03/23 11:35:	Paprastoji pempė	320	Javai
573	2022/03/23 11:40:	Paprastoji pempė	110	Javai
592	2022/11/07 13:58:	Gulbė giesmininkė	9	Javai
593	2022/11/07 14:01:	Gulbė giesmininkė	12	Javai
594	2022/11/07 15:28:	Dirvinis sėjikas	680	Javai
595	2022/11/07 15:28:	Paprastoji pempė	120	Javai
596	2022/11/07 15:34:	Dirvinis sėjikas	300	Javai
597	2022/11/07 15:34:	Paprastoji pempė	500	Javai
611	2022/03/24 12:05:	Paprastoji pempė	270	Javai

fid	Data ir laikas	Rūšis	Paukščių sk.	Skridimo aukštis, ı	Kryptis, laipsniai	Pastabos
38	16-04-2022 10:10:56	Paprastasis kikilis	45	61	358	
41	16-04-2022 10:26:13	Nendrinė lingė	1	21	9	
42	16-04-2022 10:26:51	Nendrinė lingė	1	21	359	
43	16-04-2022 10:27:13	Paprastasis kikilis	30	1	6	
44	16-04-2022 10:27:57	Gulbė giesmininkė	2	21	200	
45	16-04-2022 10:31:50	Mažasis erelis rėk	1	81	352	
46	16-04-2022 10:44:22	Baltasis gandras	1	61	328	
47	16-04-2022 10:44:53	Paprastasis suopi	1	41	338	
166	21-04-2022 06:02:12	Smilginis strazdas	26	21	17	
167	21-04-2022 06:09:55	Pilkoji varna	1	21	84	
168	21-04-2022 06:14:32	Paprastasis kikilis	12	21	13	
169	21-04-2022 06:28:59	Smilginis strazdas	35	61	12	
171	21-04-2022 06:48:11	Pilkoji varna	1	21	279	
172	21-04-2022 06:58:43	Pilkoji gervė	2	21	12	
173	21-04-2022 07:10:28	Rudagalvis kiras	3	61	20	
174	21-04-2022 07:41:07	Rudagalvis kiras	6	21	10	
176	21-04-2022 07:42:33	Didžioji kuolinga	1	41	327	
177	21-04-2022 07:26:39	Paprastasis varnė	6	21	32	
178	21-04-2022 07:45:06	Paprastasis varnė	8	1	105	
180	21-04-2022 08:01:45	Paprastasis kikilis	15	41	12	
181	21-04-2022 07:55:06	Kranklys	2	41	297	
182	21-04-2022 08:21:24	Dagilis	12	21	28	
183	21-04-2022 08:21:50	Paprastasis kikilis	7	1	42	
184	21-04-2022 08:22:26	Gulbė nebylė	4	1	12	
185	21-04-2022 08:22:59	Kranklys	2	21	262	
186	21-04-2022 08:24:00	Gulbė nebylė	4	21	20	
188	21-04-2022 08:28:49	Šiaurinis kikilis	8	41	37	
189	21-04-2022 08:36:47	Gulbė nebylė	1	1	26	
192	21-04-2022 09:07:58	Didžioji antis	2	41	142	
193	21-04-2022 09:11:28	Didžioji antis	24	61	97	
194	21-04-2022 09:35:29	Paprastasis suopi	1	101	184	
195	21-04-2022 09:35:58	Paprastasis suopi	1	61	350	
196	21-04-2022 09:36:30	Pilkoji gervė	2	181	72	
197	21-04-2022 09:44:38	Paprastasis kikilis	35	21	54	
198	21-04-2022 09:48:14	Paprastasis kikilis	48	21	18	
199	21-04-2022 09:51:48	Paprastasis kikilis	47	21	16	
200	21-04-2022 09:54:46	Paprastasis suopi	1	81	331	
201	21-04-2022 10:16:34	Paprastasis kikilis	30	21	12	
202	21-04-2022 10:17:02	Nendrinė lingė	1	21	34	
203	21-04-2022 10:20:47	Paprastasis kikilis	8	1	16	
204	21-04-2022 10:29:37	Paprastasis kikilis	8	21	11	
205	21-04-2022 10:39:39	Paprastasis kikilis	12	1	58	
206	21-04-2022 10:40:07	Paprastasis varnė	8	1	74	
207	21-04-2022 10:54:11	Jūrinis erelis	1	41	310	
208	21-04-2022 11:27:46	Keršulis	2	41	179	
209	21-04-2022 11:28:12	Pilkoji gervė	2	21	77	
210	21-04-2022 11:40:22	Kranklys	2	41	45	
211	21-04-2022 11:45:40	Gulbė nebylė	1	21	253	
212	21-04-2022 11:58:36	Nendrinė lingė	1	21	347	
213	21-04-2022 12:12:59	Baltasis gandras	2	61	28	
214	21-04-2022 12:27:52	Paprastoji pempė	1	1	276	
215	21-04-2022 12:46:21	Gulbė nebylė	1	21	39	
216	21-04-2022 12:46:56	Nendrinė lingė	1	1	268	
217	21-04-2022 12:47:16	Kranklys	1	21	106	
218	21-04-2022 12:48:31	Rudagalvis kiras	9	1	108	
219	21-04-2022 12:53:34	Rudagalvis kiras	12	1	119	
220	21-04-2022 13:16:07	Nendrinė lingė	1	1	60	
221	21-04-2022 13:16:33	Paprastasis kikilis	12	1	62	
222	21-04-2022 13:16:55	Kranklys	1	21	4	
223	21-04-2022 13:25:19	Dirvinis vieversys	2	21	356	
224	21-04-2022 13:28:08	Paprastasis kikilis	8	1	18	
225	21-04-2022 13:37:39	Dirvinis vieversys	1	21	32	
226	21-04-2022 13:43:57	Dirvinis vieversys	1	1	270	
227	21-04-2022 13:53:10	Paprastasis kikilis	26	1	69	
228	21-04-2022 13:58:19	Paprastasis suopi	1	41	82	
229	21-04-2022 13:59:11	Paprastasis suopi	1	41	265	
230	21-04-2022 14:01:51	Kranklys	2	21	5	
231	21-04-2022 14:03:29	Paprastoji pempė	2	21	346	
232	21-04-2022 14:14:23	Paprastasis suopi	1	41	18	
263	22-04-2022 09:58:51	Paprastasis kikilis	12	21	39	
264	22-04-2022 10:09:31	Mažasis erelis rėk	1	181	9	
265	22-04-2022 10:11:43	Nendrinė lingė	1	61	143	
266	22-04-2022 10:15:40	Kovas	1	101	2	
267	22-04-2022 10:17:00	Gulbė nebylė	5	1	351	
268	22-04-2022 10:20:14	Gulbė giesmininkė	5	61	51	
269	22-04-2022 10:26:15	Paprastasis varnė	2	21	187	
270	22-04-2022 10:28:25	Paprastasis varnė	2	41	206	
271	22-04-2022 10:29:50	Geltonoji kielė	2	21	50	
272	22-04-2022 10:30:30	Dagilis	4	21	87	
273	22-04-2022 10:36:18	Paprastasis kikilis	8	41	32	
274	22-04-2022 10:46:34	Keršulis	2	21	101	
275	22-04-2022 10:55:14	Paprastasis kikilis	5	41	33	
276	22-04-2022 10:55:45	Pilkasis garnys	1	21	196	
407	26-04-2022 06:10:36	Keršulis	1	21	16	
408	26-04-2022 06:22:36	Paprastoji pempė	1	1	275	
409	26-04-2022 06:38:36	Pilkoji gervė	2	21	145	
410	26-04-2022 06:55:44	Paprastoji pempė	2	21	17	
411	26-04-2022 07:10:05	Paprastoji pempė	1	21	350	

412	26-04-2022 07:15:33	Didžioji antis	5	21	302	
413	26-04-2022 07:16:03	Rudagalvis kiras	3	21	51	
414	26-04-2022 07:21:31	Kukutis	1	61	36	
415	26-04-2022 07:21:54	Paprastasis čivylis	10	21	280	
416	26-04-2022 07:22:27	Didžioji antis	2	101	38	
417	26-04-2022 07:30:32	Paprastoji pempė	1	21	12	
418	26-04-2022 07:36:50	Smilginis strazdas	15	41	337	
419	26-04-2022 07:41:06	Rudagalvis kiras	5	21	21	
420	26-04-2022 07:41:51	Gulbė giesmininkė	1	81	14	
421	26-04-2022 07:43:26	Paprastoji pempė	2	41	330	
422	26-04-2022 07:43:56	Gulbė nebylė	1	21	254	
423	26-04-2022 08:17:39	Paprastoji pempė	1	21	331	
424	26-04-2022 08:33:53	Keršulis	1	41	273	
425	26-04-2022 08:34:15	Paprastoji pempė	1	21	249	
426	26-04-2022 07:39:19	Baltasis gandras	1	81	315	
427	26-04-2022 07:39:54	Baltasis gandras	1	101	235	
428	26-04-2022 08:41:39	Želmeninė žąsis	5	41	79	
429	26-04-2022 09:03:25	Paprastoji pempė	2	21	23	
430	26-04-2022 09:11:08	Želmeninė žąsis	23	61	16	
432	26-04-2022 09:53:12	Nendrinė lingė	1	1	173	
433	26-04-2022 09:53:57	Didžioji kuolinga	1	21	263	
434	26-04-2022 09:57:16	Paprastasis varnė	1	1	70	
435	26-04-2022 10:01:07	Nendrinė lingė	1	1	351	
436	26-04-2022 10:03:40	Želmeninė žąsis	45	300	4	
437	26-04-2022 10:05:28	Pilkoji varna	2	41	246	
438	26-04-2022 10:06:48	Paprastasis suopis	1	221	6	
439	26-04-2022 10:18:44	Želmeninė žąsis	18	121	350	
440	26-04-2022 10:24:37	Želmeninė žąsis	60	201	8	
441	26-04-2022 10:27:49	Pilkoji gervė	6	41	133	
442	26-04-2022 10:31:03	Kranklys	1	41	183	
443	26-04-2022 10:43:15	Kranklys	1	61	345	
444	26-04-2022 10:54:26	Paprastoji pempė	1	1	310	
445	26-04-2022 11:18:30	Didžioji kuolinga	1	41	345	Teritoriniai skrydžiai
446	26-04-2022 11:38:10	Kranklys	1	21	117	
447	26-04-2022 11:47:00	Kranklys	1	21	218	
448	26-04-2022 11:56:29	Baltasis gandras	1	61	331	
449	26-04-2022 11:56:53	Dagilis	1	21	164	
450	26-04-2022 12:13:56	Pilkoji gervė	1	1	101	
451	26-04-2022 12:14:42	Baltasis gandras	1	181	3	
452	26-04-2022 12:16:43	Dirvinis sėjikas	4	61	216	
453	26-04-2022 12:26:20	Paprastasis varnė	2	21	197	
454	26-04-2022 12:30:32	Pilkoji gervė	1	300	243	
455	26-04-2022 12:30:51	Kranklys	1	41	132	
456	26-04-2022 12:35:08	Paprastasis suopis	1	61	84	
457	26-04-2022 12:35:55	Kranklys	11	21	26	
458	26-04-2022 12:54:45	Rudagalvis kiras	50	21	203	
459	26-04-2022 12:55:17	Rudagalvė kryklė	12	21	50	
460	26-04-2022 12:55:47	Rudagalvis kiras	12	21	44	
461	26-04-2022 12:58:40	Rudagalvė antis	2	21	37	
462	26-04-2022 13:05:14	Paprastoji pempė	1	1	348	
463	26-04-2022 13:07:58	Rudagalvis kiras	5	21	266	
464	26-04-2022 13:21:07	Dirvinis sėjikas	320	281	330	
465	26-04-2022 13:44:27	Didžioji kuolinga	1	21	175	
466	26-04-2022 13:50:01	Kranklys	1	21	71	
467	26-04-2022 13:55:00	Baltasis gandras	1	141	144	
468	26-04-2022 13:55:44	Baltasis gandras	1	81	208	
469	26-04-2022 14:00:21	Kranklys	1	21	81	
525	28-04-2022 10:48:56	Želmeninė žąsis	38	281	49	
526	28-04-2022 10:57:55	Paprastasis kikilis	60	21	88	
527	28-04-2022 10:58:16	Pilkoji varna	1	1	25	
528	28-04-2022 11:14:19	Nendrinė lingė	1	21	260	
644	02-05-2022 06:54:19	Kranklys	1	41	271	
669	10-05-2022 07:36:56	Kranklys	1	41	260	
670	10-05-2022 08:50:11	Želmeninė žąsis	68	161	57	
671	10-05-2022 09:04:39	Baltasis gandras	1	21	32	
672	10-05-2022 09:16:29	Želmeninė žąsis	28	201	19	
673	10-05-2022 09:31:30	Kranklys	1	21	150	
674	10-05-2022 09:50:55	Kranklys	1	21	278	
675	10-05-2022 10:01:04	Gulbė giesmininkė	2	21	349	
677	10-05-2022 12:06:23	Pilkoji gervė	2	300	89	
678	10-05-2022 12:14:15	Kranklys	1	21	83	
679	10-05-2022 12:18:01	Paprastasis suopis	1	81	200	
680	10-05-2022 12:24:18	Pilkoji gervė	2	300	84	
681	10-05-2022 12:43:07	Mažasis erelis rėk	1	141	169	
682	10-05-2022 12:43:44	Baltasis gandras	1	181	216	
683	10-05-2022 12:49:12	Šelmeninė kregžd	4	1	4	
687	02-05-2022 08:04:06	Gulbė nebylė	5	21	347	
688	02-05-2022 08:17:37	Kranklys	1	21	235	
689	02-05-2022 08:37:24	Želmeninė žąsis	5	21	29	
690	02-05-2022 09:03:56	Dirvinis sėjikas	1	21	101	
691	02-05-2022 09:17:42	Paprastasis varnė	1	21	276	
692	02-05-2022 09:25:02	Dirvinis sėjikas	3	61	192	
693	02-05-2022 09:51:51	Kranklys	2	21	188	
694	02-05-2022 09:58:51	Pilkoji gervė	2	61	8	
695	02-05-2022 10:02:45	Nendrinė lingė	1	21	215	
696	02-05-2022 10:19:09	Didžioji antis	1	1	213	
697	02-05-2022 10:19:28	Kranklys	1	21	293	
698	02-05-2022 10:23:33	Paprastoji pempė	1	41	283	
699	02-05-2022 10:35:50	Kranklys	1	41	136	

700	02-05-2022 10:41:48	Paprastoji pempė	1	21	2
701	02-05-2022 12:13:07	Pilkoji gervė	2	281	7
702	02-05-2022 12:23:27	Kranklys	1	21	191
703	02-05-2022 12:23:51	Paprastoji pempė	1	21	253
704	02-05-2022 12:33:28	Paprastoji pempė	1	21	200
707	02-05-2022 13:34:08	Pilkoji varna	1	21	69
708	02-05-2022 13:36:39	Baltasis gandras	2	81	210
709	02-05-2022 13:39:01	Baltasis gandras	1	61	358
710	02-05-2022 13:41:00	Keršulis	1	21	247
711	02-05-2022 13:47:21	Kranklys	2	61	164
714	02-05-2022 13:54:21	Nendrinė lingė	1	1	358
715	02-05-2022 13:58:59	Paukštvanagis	1	61	343
716	02-05-2022 14:03:57	Šelmeninė kregžd	2	21	271
730	02-05-2022 06:56:21	Paprastoji pempė	1	21	248
731	02-05-2022 07:11:37	Gulbė giesmininkė	4	21	109
732	02-05-2022 07:34:30	Paprastoji pempė	2	41	47
733	02-05-2022 07:35:55	Gulbė nebylė	5	21	185
735	02-05-2022 10:53:17	Paukštvanagis	1	81	16
736	02-05-2022 11:09:43	Mažasis erelis rėk	1	81	153
737	02-05-2022 11:10:03	Pilkoji varna	2	41	18
738	02-05-2022 11:40:17	Kranklys	1	41	283
739	02-05-2022 11:52:44	Paprastasis suopis	1	121	138
740	02-05-2022 11:55:45	Pilkoji varna	1	41	247
741	02-05-2022 11:58:35	Keršulis	2	21	360
742	02-05-2022 12:03:40	Kranklys	1	21	60
784	03-05-2022 13:23:43	Nendrinė lingė	1	61	358
785	03-05-2022 13:24:04	Želmeninė žąsis	11	241	164
788	03-05-2022 13:32:14	Baltasis gandras	1	161	6
914	10-05-2022 06:05:43	Pilkoji varna	1	21	74
917	10-05-2022 06:19:19	Paprastoji pempė	1	21	4
919	10-05-2022 06:35:05	Pilkoji gervė	2	21	355
920	10-05-2022 06:46:07	Pilkoji varna	1	21	80
922	10-05-2022 07:45:45	Paprastoji pempė	1	1	103
923	10-05-2022 07:55:58	Paprastasis suopis	1	1	46
924	10-05-2022 08:13:40	Gulbė giesmininkė	9	101	297
925	10-05-2022 08:36:27	Paprastoji pempė	1	21	284
926	10-05-2022 08:36:58	Želmeninė žąsis	78	241	7
927	10-05-2022 08:31:53	Gulbė giesmininkė	6	201	354
928	10-05-2022 08:46:30	Kovas	8	41	346
929	10-05-2022 10:16:39	Mažasis erelis rėk	1	101	344
930	10-05-2022 10:28:55	Pilkoji gervė	1	21	304
931	10-05-2022 10:32:16	Gulbė giesmininkė	16	241	88
932	10-05-2022 10:40:08	Mažasis erelis rėk	1	201	170
933	10-05-2022 10:42:18	Kranklys	1	41	263
934	10-05-2022 10:51:43	Gulbė nebylė	2	41	168
935	10-05-2022 11:00:07	Rudagalvis kiras	35	21	214
936	10-05-2022 11:00:45	Paprastoji pempė	8	21	268
937	10-05-2022 11:07:37	Rudagalvis kiras	6	21	216
938	10-05-2022 11:10:53	Pilkoji gervė	5	21	88
939	10-05-2022 11:11:18	Nendrinė lingė	1	21	296
940	10-05-2022 11:11:39	Rudagalvis kiras	6	21	209
941	10-05-2022 11:15:59	Nendrinė lingė	1	61	72
942	10-05-2022 11:47:02	Paprastoji pempė	1	21	170
943	10-05-2022 12:04:40	Pilkoji gervė	3	300	25
944	10-05-2022 12:55:20	Kranklys	1	41	6
945	10-05-2022 12:57:07	Baltasis gandras	1	81	26
948	10-05-2022 13:41:43	Pilkoji varna	1	21	332
949	10-05-2022 13:48:47	Pilkoji varna	1	21	299
1000	15-05-2022 09:29:59	Paprastoji pempė	3	21	175
1001	15-05-2022 09:39:25	Pilkoji gervė	2	61	282
1002	15-05-2022 09:42:19	Pilkoji varna	1	21	74
1003	15-05-2022 09:51:11	Baltasis gandras	4	261	312
1004	15-05-2022 09:54:37	Šelmeninė kregžd	4	21	229
1005	15-05-2022 09:33:57	Gulbė nebylė	3	21	322
1006	15-05-2022 09:58:26	Gulbė nebylė	7	41	346
1007	15-05-2022 10:04:26	Gulbė nebylė	1	21	327
1008	15-05-2022 10:04:56	Baltasis gandras	4	201	203
1009	15-05-2022 10:16:08	Paprastasis suopis	2	61	222
1010	15-05-2022 10:17:09	Nendrinė lingė	2	1	39
1011	15-05-2022 10:26:55	Paprastasis suopis	1	101	152
1012	15-05-2022 10:29:37	Pilkoji gervė	1	81	304
1016	15-05-2022 13:23:47	Baltasis gandras	1	21	75
1018	15-05-2022 13:42:09	Paprastoji pempė	1	1	235
1019	15-05-2022 14:03:05	Kranklys	1	41	7
1039	15-05-2022 07:02:57	Paprastasis pelėsa	1	21	332
1040	15-05-2022 08:38:05	Pilkoji gervė	2	41	265
1041	15-05-2022 08:38:58	Gulbė nebylė	3	41	77
1042	15-05-2022 09:14:19	Gulbė nebylė	7	41	354
1050	16-05-2022 08:50:01	Kranklys	2	41	5
1051	16-05-2022 08:50:24	Pilkoji gervė	1	101	170
1052	16-05-2022 09:02:14	Langinė kregždė	3	21	54
1053	16-05-2022 09:04:45	Didysis baltasis ga	1	41	80
1054	16-05-2022 09:07:02	Paprastasis varnė	3	21	83
1055	16-05-2022 09:24:39	Mažasis erelis rėk	1	101	215
1056	16-05-2022 09:25:07	Mažasis erelis rėk	2	101	122
1057	16-05-2022 09:25:51	Paprastasis suopis	1	81	312
1058	16-05-2022 09:27:15	Mažasis erelis rėk	1	81	93
1118	15-05-2022 07:39:07	Pilkoji varna	1	21	1
1119	15-05-2022 07:56:39	Paprastoji pempė	8	21	180

1120	15-05-2022 07:55:12	Kranklys	1	61	321
1121	15-05-2022 08:08:42	Paprastoji pempė	4	21	128
1122	15-05-2022 08:24:03	Paprastoji pempė	1	1	183
1123	15-05-2022 12:55:02	Pilkoji gervė	4	261	181
1124	15-05-2022 13:07:11	Nendrinė lingė	1	21	350
1125	15-05-2022 07:16:14	Paprastoji pempė	1	21	174
1126	15-05-2022 07:04:46	Kranklys	1	41	92
1127	15-05-2022 07:08:16	Paprastoji pempė	1	21	351
1128	15-05-2022 07:13:56	Kranklys	1	21	280
1129	15-05-2022 07:31:25	Paprastoji pempė	3	21	337
1130	15-05-2022 07:43:44	Paprastoji pempė	4	21	188
1134	15-05-2022 12:20:03	Baltasis gandras	1	41	292
1135	15-05-2022 12:23:30	Baltasis gandras	1	21	0
1137	15-05-2022 12:54:39	Pilkoji gervė	4	201	6
1138	15-05-2022 14:04:38	Paprastoji pempė	1	21	280
1139	15-05-2022 14:23:31	Paprastasis suopi	1	61	181
1140	15-05-2022 14:28:47	Paprastoji pempė	1	21	162
1141	15-05-2022 14:37:25	Paprastoji pempė	1	21	86
1142	15-05-2022 14:48:17	Paprastoji pempė	1	21	79
1143	15-05-2022 14:56:20	Kranklys	1	21	282
1145	16-05-2022 08:16:00	Kuosa	30	21	29
1146	16-05-2022 08:28:27	Mažasis erelis rėk	1	21	252
1147	16-05-2022 08:28:53	Šelmeninė kregžd	10	1	353
1148	16-05-2022 08:49:39	Paprastasis varnė	7	21	59
1149	16-05-2022 09:30:18	Mažasis erelis rėk	2	141	149
1150	16-05-2022 09:32:38	Paprastasis varnė	4	21	93
1151	16-05-2022 09:39:00	Rudagalvis kiras	15	201	21
1152	16-05-2022 09:39:29	Paprastasis suopi	1	101	359
1173	23-05-2022 07:12:34	Kranklys	1	41	98
1174	23-05-2022 07:13:19	Gulbė nebylė	2	101	320
1175	23-05-2022 07:29:10	Klykuolė	1	101	313
1176	23-05-2022 08:29:16	Gulbė giesmininkė	4	21	187
1177	23-05-2022 08:56:56	Nendrinė lingė	1	21	280
1178	23-05-2022 09:11:45	Baltasis gandras	1	21	203
1179	23-05-2022 09:12:10	Didžioji antis	4	61	304
1180	23-05-2022 09:45:18	Sketsakalis	1	41	267
1181	23-05-2022 10:45:43	Mažasis erelis rėk	1	101	184
1182	23-05-2022 11:11:42	Pievinė lingė	1	1	230
1183	23-05-2022 11:39:11	Baltasis gandras	2	61	186
1184	23-05-2022 11:51:02	Pilkoji varna	1	21	99
1185	23-05-2022 12:03:18	Paprastoji pempė	1	21	343
1186	23-05-2022 12:32:17	Paprastoji pempė	1	21	195
1187	23-05-2022 12:35:43	Paprastoji pempė	1	21	140
1188	23-05-2022 13:00:08	Šelmeninė kregžd	3	21	294
1189	23-05-2022 13:12:26	Baltasis gandras	1	81	194
1190	23-05-2022 13:27:01	Keršulis	2	61	184
1191	23-05-2022 13:39:16	Baltasis gandras	1	61	354
1192	23-05-2022 13:44:34	Baltasis gandras	1	41	265
1202	24-05-2022 09:26:26	Paprastasis suopi	1	41	349
1203	24-05-2022 09:53:37	Keršulis	2	21	335
1204	24-05-2022 10:31:43	Šelmeninė kregžd	5	21	333
1205	24-05-2022 11:11:46	Keršulis	2	21	8
1245	05-06-2022 14:50:07	Keršulis	8	21	241
1254	06-06-2022 12:37:38	Keršulis	2	1	198
1264	05-06-2022 13:53:19	Paprastoji pempė	1	1	208
1265	29-05-2022 09:09:04	Baltasis gandras	1	21	1
1266	29-05-2022 09:29:13	Paprastoji pempė	1	21	281
1267	29-05-2022 09:34:25	Gulbė giesmininkė	1	61	5
1268	29-05-2022 09:45:50	Baltaskruostė ber	1	81	210
1269	29-05-2022 10:08:07	Paprastoji pempė	1	1	252
1270	29-05-2022 10:17:09	Paprastoji pempė	1	1	279
1271	29-05-2022 10:45:20	Kranklys	1	21	87
1272	29-05-2022 10:51:43	Baltasis gandras	1	21	325
1273	29-05-2022 11:11:43	Nendrinė lingė	1	21	210
1274	29-05-2022 11:12:20	Nendrinė lingė	1	21	355
1275	29-05-2022 11:26:28	Gulbė giesmininkė	6	81	29
1276	29-05-2022 11:26:47	Didžioji antis	4	41	201
1277	29-05-2022 11:30:12	Keršulis	1	21	281
1278	29-05-2022 12:19:41	Paprastoji pempė	1	21	269
1279	29-05-2022 12:40:07	Pilkoji varna	1	21	290
1280	29-05-2022 12:47:29	Paprastoji pempė	1	21	317
1281	29-05-2022 12:58:41	Paprastoji pempė	1	21	185
1282	29-05-2022 13:34:07	Paprastoji pempė	1	21	332
1283	29-05-2022 13:47:09	Keršulis	1	41	111
1284	29-05-2022 14:02:06	Paprastoji pempė	1	1	127
1285	29-05-2022 14:13:47	Dirvinis vieversys	1	1	286
1286	29-05-2022 14:33:49	Dirvinis vieversys	1	1	300
1287	29-05-2022 14:43:02	Šelmeninė kregžd	6	1	187
1288	29-05-2022 14:55:18	Keršulis	3	1	166
1289	30-05-2022 07:02:24	Keršulis	1	21	1
1290	30-05-2022 07:08:33	Dirvinis vieversys	1	21	346
1291	30-05-2022 07:21:53	Keršulis	1	21	198
1292	30-05-2022 07:36:27	Dirvinis vieversys	1	21	108
1293	30-05-2022 07:50:30	Kranklys	1	41	220
1294	30-05-2022 08:05:45	Kranklys	1	41	336
1295	30-05-2022 08:21:28	Baltasis gandras	1	21	217
1303	05-06-2022 14:07:07	Paprastasis suopi	1	121	294
1367	05-06-2022 06:55:49	Paprastasis varnė	15	21	352
1368	05-06-2022 07:03:19	Kranklys	1	21	281

1369	05-06-2022 07:16:24	Pilkoji varna	1	1	313
1370	05-06-2022 07:35:02	Pilkoji varna	1	21	300
1371	05-06-2022 08:23:00	Šelmeninė kregžd	4	1	283
1372	05-06-2022 08:26:10	Keršulis	2	21	338
1377	05-06-2022 10:39:30	Keršulis	1	21	251
1379	05-06-2022 10:42:09	Keršulis	1	21	196
1380	05-06-2022 10:51:59	Mažasis erelis rėk	1	141	137
1381	05-06-2022 10:52:26	Baltasis gandras	1	61	214
1382	05-06-2022 10:52:39	Keršulis	6	41	123
1383	05-06-2022 10:57:42	Pilkoji gervė	7	61	357
1384	05-06-2022 12:09:35	Paprastasis varnė	4	21	279
1385	05-06-2022 12:22:40	Paprastoji pempė	2	21	256
1386	05-06-2022 12:25:56	Keršulis	1	21	191
1387	05-06-2022 12:29:52	Keršulis	1	41	8
1388	05-06-2022 12:33:37	Paprastasis suopi	1	61	326
1389	05-06-2022 12:33:57	Paprastoji pempė	2	61	95
1390	05-06-2022 12:53:52	Baltasis gandras	1	81	355
1391	05-06-2022 12:57:56	Gulbė giesmininkė	2	1	216
1392	05-06-2022 13:11:57	Keršulis	4	21	185
1393	05-06-2022 13:25:01	Keršulis	8	41	187
1394	05-06-2022 13:28:11	Uldukas	1	21	188
1395	05-06-2022 13:31:40	Keršulis	4	21	355
1396	05-06-2022 13:36:09	Keršulis	2	21	157
1397	05-06-2022 13:37:01	Mažasis erelis rėk	1	61	106
1398	29-05-2022 08:55:13	Nendrinė lingė	1	21	22
1399	29-05-2022 08:55:33	Nendrinė lingė	1	21	66
1400	29-05-2022 09:05:13	Paprastoji pempė	1	1	277
1401	29-05-2022 09:07:42	Baltasis gandras	1	1	121
1422	05-06-2022 13:52:53	Mažasis erelis rėk	1	81	189
1423	05-06-2022 07:35:23	Paprastoji pempė	1	21	37
1424	05-06-2022 07:45:04	Keršulis	170	21	143
1425	05-06-2022 07:55:24	Kranklys	1	41	7
1426	05-06-2022 08:02:22	Šelmeninė kregžd	2	1	321
1427	05-06-2022 08:10:28	Keršulis	1	41	354
1428	05-06-2022 08:44:24	Nendrinė lingė	1	21	338
1429	05-06-2022 08:44:44	Kranklys	1	21	194
1430	05-06-2022 08:55:07	Pilkoji gervė	3	1	220
1431	05-06-2022 09:06:52	Pilkoji gervė	3	21	225
1432	05-06-2022 09:25:14	Pilkoji varna	1	21	184
1434	05-06-2022 09:52:41	Nendrinė lingė	1	41	180
1435	05-06-2022 09:58:48	Kranklys	1	41	323
1436	05-06-2022 10:05:28	Juodasis čiurlys	3	41	190
1437	05-06-2022 10:12:44	Pilkoji varna	2	41	207
1438	05-06-2022 10:24:53	Paprastasis varnė	20	21	264
1439	05-06-2022 10:38:56	Pievinė lingė	1	21	211
1440	05-06-2022 11:09:43	Pilkoji gervė	5	300	93
1441	05-06-2022 11:24:09	Paprastasis suopi	2	81	22
1442	05-06-2022 11:24:29	Keršulis	8	41	206
1443	05-06-2022 11:37:11	Vapsvaėdis	1	201	284
1444	05-06-2022 11:55:33	Baltasis gandras	1	81	9
1445	05-06-2022 11:55:53	Baltasis gandras	1	101	8
1474	29-05-2022 06:57:29	Keršulis	1	21	10
1475	29-05-2022 07:11:10	Pilkoji varna	1	21	256
1477	29-05-2022 07:42:30	Pilkoji varna	1	21	336
1479	29-05-2022 08:10:45	Pilkoji varna	1	21	280
1481	05-06-2022 14:18:30	Pilkoji varna	1	61	213
1482	05-06-2022 14:25:40	Šelmeninė kregžd	16	1	202
1483	05-06-2022 14:39:28	Keršulis	16	21	212
1484	05-06-2022 14:44:10	Kranklys	1	21	307
1489	06-06-2022 11:52:45	Paprastasis varnė	1	21	214
1490	06-06-2022 12:05:56	Mažasis erelis rėk	1	201	143
1491	06-06-2022 12:06:32	Mažasis erelis rėk	1	221	55
1492	06-06-2022 12:07:03	Paprastasis suopi	1	261	16
1493	06-06-2022 12:20:02	Paprastasis suopi	1	161	215
1494	06-06-2022 12:47:34	Mažasis erelis rėk	1	241	220
1495	06-06-2022 12:49:25	Baltasis gandras	1	41	21
1538	12-06-2022 06:22:09	Keršulis	1	21	95
1540	12-06-2022 06:59:41	Paprastasis varnė	50	21	157
1541	12-06-2022 07:20:41	Paprastasis varnė	5	21	181
1542	12-06-2022 07:20:41	Pilkoji varna	2	21	156
1543	12-06-2022 09:04:26	Paprastasis varnė	6	1	339
1544	12-06-2022 09:04:26	Paprastasis varnė	12	41	157
1545	12-06-2022 07:25:11	Pilkoji varna	2	21	181
1546	12-06-2022 07:29:59	Paprastoji pempė	9	41	213
1547	12-06-2022 07:31:53	Keršulis	2	21	357
1550	13-06-2022 09:21:34	Mažasis erelis rėk	1	61	181
1576	20-06-2022 10:22:14	Kranklys	1	21	9
1578	20-06-2022 10:40:26	Baltasis gandras	1	21	348
1579	20-06-2022 10:40:47	Pilkoji gervė	1	61	337
1580	20-06-2022 13:18:13	Nendrinė lingė	1	61	360
1596	12-06-2022 08:42:06	Paprastoji pempė	1	21	183
1597	12-06-2022 08:42:06	Gulbė giesmininkė	12	41	38
1598	12-06-2022 08:50:06	Paprastasis varnė	40	41	274
1599	12-06-2022 10:00:57	Pilkoji gervė	4	41	198
1600	12-06-2022 10:37:28	Paprastasis varnė	6	41	171
1601	12-06-2022 11:18:54	Paprastasis varnė	9	41	149
1602	12-06-2022 11:36:49	Paprastasis varnė	15	21	278
1603	12-06-2022 12:30:49	Paprastasis varnė	8	21	110
1604	12-06-2022 12:58:21	Keršulis	8	21	220

1605	12-06-2022 12:58:39	Paprastasis varnė	20	21	163
1606	12-06-2022 07:31:53	Keršulis	2	21	357
1607	12-06-2022 13:16:36	Nendrinė lingė	1	1	188
1608	12-06-2022 13:25:26	Paprastasis varnė	8	21	3
1617	22-06-2022 12:41:35	Keršulis	2	41	360
1624	29-06-2022 08:12:33	Paprastasis varnė	6	21	221
1625	29-06-2022 08:31:33	Keršulis	3	21	30
1626	29-06-2022 08:44:45	Pilkoji varna	4	21	25
1627	29-06-2022 12:14:32	Pilkoji varna	1	41	271
1628	29-06-2022 12:28:24	Didžioji kuolinga	1	61	274
1629	29-06-2022 13:02:22	Kranklys	2	61	93
1630	29-06-2022 13:17:43	Paprastasis varnė	4	41	301
1631	29-06-2022 13:29:42	Paprastoji pempė	3	21	12
1632	29-06-2022 13:39:24	Keršulis	1	21	348
1633	29-06-2022 13:59:18	Baltasis gandras	2	61	260
1634	29-06-2022 13:59:53	Baltasis gandras	1	41	228
1659	20-06-2022 08:41:23	Pilkoji varna	1	21	359
1660	20-06-2022 09:23:53	Paprastasis varnė	8	21	87
1662	20-06-2022 09:47:03	Baltasis gandras	1	21	7
1673	29-06-2022 08:01:07	Keršulis	2	21	353
1674	12-06-2022 07:42:21	Kranklys	1	21	360
1675	12-06-2022 07:42:06	Nendrinė lingė	1	1	139
1686	20-06-2022 07:05:50	Pievinis kalviukas	2	21	292
1687	20-06-2022 07:20:50	Paprastasis varnė	25	21	113
1688	20-06-2022 07:40:25	Pilkoji varna	1	41	3
1689	20-06-2022 07:42:32	Paprastasis varnė	12	41	277
1690	20-06-2022 07:56:41	Šelmeninė kregžd	4	21	166
1691	20-06-2022 11:11:15	Mažasis erelis rėk	1	81	45
1692	20-06-2022 11:44:30	Kranklys	3	21	299
1693	20-06-2022 12:08:47	Paprastasis varnė	5	21	8
1694	20-06-2022 12:25:22	Šelmeninė kregžd	3	21	331
1695	20-06-2022 12:35:25	Kranklys	2	21	191
1696	20-06-2022 12:54:20	Baltasis gandras	1	101	243
1697	20-06-2022 13:02:28	Didžioji kuolinga	7	81	279
1698	20-06-2022 13:22:20	Nendrinė lingė	1	21	165
1699	20-06-2022 13:51:29	Kranklys	1	21	295
1700	20-06-2022 14:18:20	Mažasis erelis rėk	1	101	95
1701	20-06-2022 14:32:36	Keršulis	2	21	192
1702	20-06-2022 14:42:26	Keršulis	1	21	274
1703	20-06-2022 14:53:08	Pilkoji varna	2	21	264
1704	20-06-2022 15:10:14	Didžioji antis	2	21	167
1718	22-06-2022 12:17:01	Kranklys	2	61	254
1738	29-06-2022 08:57:54	Pilkoji gervė	2	21	43
1739	29-06-2022 09:06:04	Langinė kregždė	45	21	99
1740	29-06-2022 09:23:40	Pilkoji varna	2	21	223
1741	29-06-2022 09:39:10	Nendrinė lingė	1	41	195
1742	29-06-2022 09:48:49	Nendrinė lingė	1	1	255
1743	29-06-2022 10:11:25	Keršulis	2	21	357
1744	29-06-2022 10:38:12	Keršulis	1	21	20
1745	29-06-2022 10:51:51	Keršulis	2	21	13
1746	29-06-2022 10:46:03	Nendrinė lingė	1	21	196
1747	29-06-2022 11:07:14	Paprastasis varnė	8	21	158
1748	29-06-2022 11:19:19	Pilkoji varna	2	21	172
1749	29-06-2022 11:31:05	Paprastoji pempė	6	21	260
1750	29-06-2022 11:43:41	Keršulis	5	41	80
1751	29-06-2022 12:10:21	Keršulis	4	21	183
1752	29-06-2022 14:02:19	Keršulis	1	21	246
1753	29-06-2022 14:17:29	Dirvinis vieversys	2	21	330
1764	29-06-2022 15:52:58	Nendrinė lingė	1	1	138
1906	04-07-2022 07:01:01	Pilkoji varna	1	21	308
1908	04-07-2022 07:41:43	Pilkoji varna	1	21	64
1910	04-07-2022 08:54:44	Paprastasis varnė	6	21	87
1911	04-07-2022 09:05:39	Kranklys	2	41	88
1912	04-07-2022 09:14:14	Pilkoji varna	2	21	235
1913	04-07-2022 09:14:34	Paprastasis varnė	24	21	331
1914	04-07-2022 09:40:59	Paprastasis varnė	8	21	350
1915	04-07-2022 10:08:53	Dirvinis vieversys	2	21	206
1922	04-07-2022 10:25:53	Kuosa	5	21	4
1923	04-07-2022 10:31:01	Paprastasis varnė	35	21	3
1924	04-07-2022 10:37:11	Baltasis gandras	1	41	5
1925	04-07-2022 10:43:45	Baltasis gandras	1	81	225
1926	04-07-2022 10:57:15	Baltasis gandras	1	21	46
1927	04-07-2022 11:08:27	Nendrinė lingė	1	21	90
1928	04-07-2022 11:18:29	Pilkoji gervė	2	21	357
1929	04-07-2022 11:38:34	Paprastasis varnė	35	21	117
1930	04-07-2022 11:58:15	Kranklys	2	21	319
1931	04-07-2022 12:05:08	Mažasis erelis rėk	1	300	208
1932	04-07-2022 12:13:00	Paprastoji pempė	32	41	38
1933	04-07-2022 14:10:10	Keršulis	4	21	190
1934	04-07-2022 12:49:13	Paprastasis varnė	25	21	24
1935	04-07-2022 13:04:48	Šelmeninė kregžd	5	21	39
1936	04-07-2022 13:11:29	Kranklys	1	21	290
1937	04-07-2022 13:26:47	Keršulis	5	21	238
1938	04-07-2022 13:44:57	Langinė kregždė	14	21	24
1939	04-07-2022 14:09:48	Keršulis	2	21	16
1940	04-07-2022 14:14:18	Paprastoji pempė	1	21	204
1941	04-07-2022 14:15:02	Kranklys	1	21	333
1942	04-07-2022 14:30:20	Kranklys	1	21	103
1943	04-07-2022 14:33:58	Nendrinė lingė	1	21	157

1944	04-07-2022 14:34:18	Paprastoji pempė	1	21	345
1945	04-07-2022 14:43:06	Nendrinė lingė	1	1	57
1946	04-07-2022 14:44:28	Baltasis gandras	1	81	358
1947	04-07-2022 14:49:19	Keršulis	4	21	15
1948	04-07-2022 14:56:02	Paprastoji pempė	2	21	359
1951	13-07-2022 07:12:30	Keršulis	2	21	8
1954	24-07-2022 12:36:20	Baltasis gandras	1	21	283
1955	24-07-2022 12:36:43	Paprastasis varnė	11	21	265
1956	24-07-2022 12:54:26	Paprastasis varnė	14	21	70
1957	24-07-2022 12:54:35	Pilkoji varna	22	41	70
1958	24-07-2022 12:55:05	Keršulis	3	21	9
1959	24-07-2022 13:07:55	Keršulis	5	21	96
1960	24-07-2022 13:08:08	Keršulis	2	21	9
1961	24-07-2022 13:08:19	Keršulis	3	21	267
1972	13-07-2022 08:08:13	Kranklys	2	21	160
1974	13-07-2022 08:28:34	Langinė kregždė	8	21	96
1975	13-07-2022 08:29:45	Juodasis čiurlys	14	41	88
1976	13-07-2022 08:36:54	Paprastoji pempė	150	41	46
1977	13-07-2022 08:46:43	Pilkoji varna	2	41	190
1978	13-07-2022 09:42:18	Pilkasis garnys	1	61	1
1979	13-07-2022 10:03:53	Nendrinė lingė	1	61	111
1980	13-07-2022 10:20:15	Dagilis	2	21	97
1981	13-07-2022 10:24:42	Paprastoji pempė	150	41	191
1982	13-07-2022 10:59:49	Keršulis	2	21	336
1983	13-07-2022 11:07:54	Keršulis	4	21	1
1990	18-07-2022 07:33:02	Keršulis	2	41	101
1991	18-07-2022 11:57:03	Pilkoji gervė	45	61	279
1992	18-07-2022 11:21:43	Keršulis	1	41	23
1993	18-07-2022 11:41:50	Keršulis	1	21	1
1994	18-07-2022 11:57:45	Pilkoji gervė	155	61	271
1995	18-07-2022 11:58:08	Paprastoji pempė	250	41	295
1997	18-07-2022 12:31:48	Baltaskruostė ber	250	21	117
1998	18-07-2022 12:39:44	Pilkoji gervė	90	81	147
1999	18-07-2022 13:57:03	Mažasis erelis rėk	1	281	39
2000	18-07-2022 14:32:07	Pilkasis garnys	1	61	153
2001	18-07-2022 14:36:53	Pilkoji gervė	2	41	21
2002	18-07-2022 14:43:37	Pilkoji varna	3	21	223
2003	18-07-2022 14:43:59	Keršulis	1	21	81
2004	18-07-2022 14:55:44	Keršulis	2	21	176
2035	13-07-2022 07:44:44	Gulbė giesmininkė	2	41	314
2036	13-07-2022 07:53:55	Paprastasis varnė	60	41	297
2037	13-07-2022 08:56:14	Paprastoji pempė	150	21	111
2039	13-07-2022 09:23:55	Šelmeninė kregžd	8	21	73
2040	13-07-2022 09:28:59	Paprastoji pempė	150	41	291
2041	13-07-2022 09:29:24	Paprastasis varnė	60	41	307
2042	13-07-2022 10:24:42	Paprastasis varnė	60	41	183
2043	13-07-2022 10:26:57	Paprastoji pempė	15	41	44
2045	13-07-2022 10:36:14	Didysis baltasis ga	1	61	167
2046	13-07-2022 10:45:17	Kranklys	1	21	354
2047	13-07-2022 10:45:36	Keršulis	2	41	351
2048	13-07-2022 11:08:52	Kranklys	2	41	90
2049	13-07-2022 11:26:53	Pilkoji varna	2	21	4
2050	13-07-2022 11:35:08	Nendrinė lingė	1	21	125
2051	13-07-2022 11:43:46	Pilkoji varna	1	21	121
2052	13-07-2022 12:10:44	Keršulis	3	21	334
2053	13-07-2022 12:31:18	Pilkoji gervė	38	21	190
2054	13-07-2022 12:15:59	Pievinė lingė	1	61	247
2055	13-07-2022 12:51:09	Keršulis	3	21	17
2056	13-07-2022 13:01:51	Kranklys	1	21	280
2057	13-07-2022 13:13:13	Keršulis	1	21	40
2058	13-07-2022 13:50:32	Keršulis	2	21	162
2059	13-07-2022 13:13:41	Paprastasis purple	1	21	189
2060	13-07-2022 13:14:17	Keršulis	1	41	215
2061	13-07-2022 13:14:53	Nendrinė lingė	1	21	162
2062	13-07-2022 13:35:14	Paprastoji pempė	130	61	345
2063	13-07-2022 13:37:06	Nendrinė lingė	1	1	158
2065	13-07-2022 13:56:59	Kranklys	2	41	206
2066	13-07-2022 13:57:48	Keršulis	1	41	178
2067	13-07-2022 13:58:23	Paprastoji pempė	12	61	74
2068	13-07-2022 14:23:05	Pilkoji gervė	23	201	271
2070	13-07-2022 14:24:19	Pilkoji gervė	42	241	303
2071	13-07-2022 14:25:44	Pilkoji gervė	90	221	271
2072	13-07-2022 14:37:39	Keršulis	1	41	197
2073	13-07-2022 14:40:19	Paprastasis suopi	1	61	346
2074	13-07-2022 14:42:09	Nendrinė lingė	1	61	308
2075	13-07-2022 14:42:44	Sketsakalis	1	61	345
2076	13-07-2022 14:47:50	Keršulis	1	21	334
2077	13-07-2022 15:03:24	Rudagalvis kiras	1	21	116
2144	18-07-2022 07:20:31	Brastinis tilvikas	1	21	211
2145	18-07-2022 07:52:04	Langinė kregždė	12	21	210
2146	18-07-2022 08:19:21	Paprastasis varnė	18	61	11
2147	18-07-2022 08:03:48	Kovas	21	21	206
2148	18-07-2022 08:44:38	Geltonsnapis čivyl	5	21	171
2149	18-07-2022 08:51:34	Pilkasis garnys	2	61	174
2150	18-07-2022 09:08:09	Paprastasis purple	1	21	170
2151	18-07-2022 09:24:38	Paprastasis varnė	8	21	137
2152	18-07-2022 09:48:38	Paprastoji pempė	20	21	306
2153	18-07-2022 10:04:09	Baltasis gandras	1	21	38
2154	18-07-2022 10:20:52	Kranklys	2	41	295

2155	18-07-2022 10:35:19	Keršulis	2	21	82
2156	18-07-2022 10:47:44	Keršulis	2	21	206
2157	18-07-2022 11:02:59	Paprastasis varnė	20	21	23
2158	18-07-2022 11:21:36	Kranklys	1	21	244
2159	18-07-2022 12:04:43	Pilkoji gervė	48	81	106
2160	18-07-2022 12:05:09	Pilkoji gervė	32	61	232
2161	18-07-2022 12:05:37	Pilkoji gervė	8	21	190
2162	18-07-2022 12:12:01	Keršulis	4	21	133
2163	18-07-2022 12:31:00	Dirvinis sėjikas	3	41	217
2164	18-07-2022 12:47:13	Uldukas	3	41	320
2165	18-07-2022 13:14:27	Paprastoji pempė	38	41	105
2166	18-07-2022 13:43:35	Pilkoji gervė	2	41	109
2167	18-07-2022 13:46:10	Pilkoji gervė	200	81	329
2168	18-07-2022 13:55:46	Uldukas	1	21	197
2169	18-07-2022 13:56:05	Keršulis	7	21	120
2234	24-07-2022 07:29:08	Pilkoji varna	2	41	357
2240	24-07-2022 13:21:12	Tikutis	3	61	202
2249	24-07-2022 07:18:41	Nendrinė lingė	1	21	185
2250	24-07-2022 07:31:44	Baltasis gandras	1	41	16
2251	24-07-2022 07:35:30	Kovas	40	21	10
2254	24-07-2022 09:55:51	Paprastasis purple	1	21	205
2255	24-07-2022 07:46:04	Sketsakalis	1	1	305
2256	24-07-2022 07:55:32	Rudagalvis kiras	1	21	113
2258	24-07-2022 10:03:03	Pilkoji gervė	4	41	306
2260	24-07-2022 08:10:32	Keršulis	2	21	302
2261	24-07-2022 08:10:56	Paprastasis varnė	25	41	130
2262	24-07-2022 08:21:33	Paprastasis varnė	14	41	171
2263	24-07-2022 08:26:31	Paprastasis varnė	18	21	178
2264	24-07-2022 08:38:48	Paprastasis varnė	20	21	223
2265	24-07-2022 10:03:27	Paprastoji pempė	16	41	309
2266	24-07-2022 08:57:24	Paprastasis varnė	300	21	174
2267	24-07-2022 09:22:19	Pilkoji gervė	2	21	207
2268	24-07-2022 09:22:39	Uldukas	1	21	189
2269	24-07-2022 10:14:40	Keršulis	4	21	102
2270	24-07-2022 09:23:31	Pievinė lingė	1	21	88
2272	24-07-2022 09:23:54	Pievinė lingė	1	21	184
2273	24-07-2022 09:24:09	Nendrinė lingė	1	21	205
2274	24-07-2022 09:26:47	Keršulis	1	61	71
2275	24-07-2022 10:15:15	Mažasis erelis rėk	1	300	312
2276	24-07-2022 10:36:56	Pilkoji gervė	56	61	260
2278	24-07-2022 10:37:28	Pilkoji gervė	8	61	255
2279	24-07-2022 10:42:09	Pilkoji gervė	3	81	258
2280	24-07-2022 10:42:25	Sketsakalis	1	21	241
2281	24-07-2022 11:31:47	Paprastoji pempė	11	21	342
2282	24-07-2022 11:32:15	Pilkoji gervė	4	101	307
2283	24-07-2022 12:23:07	Tikutis	1	41	191
2284	24-07-2022 11:32:37	Paukštvanagis	1	1	64
2285	24-07-2022 11:32:54	Keršulis	1	21	332
2286	24-07-2022 11:33:09	Keršulis	2	21	93
2287	24-07-2022 11:33:20	Keršulis	4	21	12
2288	24-07-2022 11:33:46	Baltasis gandras	2	41	293
2289	24-07-2022 11:36:56	Keršulis	1	41	278
2290	24-07-2022 11:37:13	Nendrinė lingė	1	1	221
2291	24-07-2022 11:50:28	Pilkoji varna	35	41	262
2292	24-07-2022 11:50:50	Keršulis	3	41	68
2293	24-07-2022 11:51:08	Keršulis	1	41	183
2294	24-07-2022 11:51:32	Paprastoji pempė	15	41	110
2295	24-07-2022 12:32:47	Keršulis	4	21	330
2296	24-07-2022 11:59:50	Kranklys	5	61	6
2297	24-07-2022 12:00:22	Baltasis gandras	1	61	137
2298	24-07-2022 12:02:16	Baltasis gandras	1	41	38
2299	24-07-2022 12:02:58	Paprastasis varnė	8	21	260
2300	24-07-2022 12:22:20	Pilkoji varna	6	21	136
2301	24-07-2022 12:22:40	Paprastoji pempė	13	21	103
2302	24-07-2022 13:26:43	Baltasis gandras	1	41	176
2303	24-07-2022 13:27:06	Baltasis gandras	1	41	272
2304	24-07-2022 13:27:14	Baltasis gandras	1	41	100
2305	24-07-2022 13:27:38	Keršulis	2	21	177
2306	24-07-2022 13:43:42	Baltasis gandras	5	41	277
2307	24-07-2022 13:44:31	Paprastoji pempė	150	61	180
2308	24-07-2022 13:52:23	Paukštvanagis	1	1	298
2309	24-07-2022 13:47:39	Paprastoji pempė	155	61	84
2310	24-07-2022 13:47:52	Vištvanagis	1	1	207
2311	24-07-2022 13:54:56	Vištvanagis	1	21	171
2313	24-07-2022 13:48:27	Mažasis erelis rėk	1	101	158
2314	24-07-2022 13:49:23	Keršulis	11	41	73
2315	24-07-2022 13:51:15	Baltasis gandras	1	21	218
2316	24-07-2022 14:15:18	Pilkasis garnys	2	61	355
2317	24-07-2022 13:56:04	Rudagalvė kryklė	3	41	100
2318	24-07-2022 13:58:03	Nendrinė lingė	1	41	238
2319	24-07-2022 14:04:28	Baltasis gandras	1	61	40
2320	24-07-2022 14:18:41	Paprastasis suopis	1	101	69
2321	24-07-2022 14:19:20	Baltasis gandras	1	41	341
2322	24-07-2022 14:31:12	Didžioji antis	1	41	194
2323	24-07-2022 14:04:52	Juodasis čiurlys	18	61	58
2324	24-07-2022 14:07:41	Mažasis erelis rėk	1	241	148
2325	24-07-2022 14:14:58	Baltasis gandras	14	41	266
2326	24-07-2022 14:36:40	Nendrinė lingė	1	1	212
2327	24-07-2022 14:48:59	Keršulis	5	21	276

2328	24-07-2022 14:50:06	Keršulis	2	21	199
2329	24-07-2022 15:01:59	Nendrinė lingė	1	1	250
2348	25-07-2022 11:22:04	Keršulis	1	21	0
2349	25-07-2022 11:39:35	Keršulis	2	21	335
2350	25-07-2022 12:41:55	Langinė kregždė	40	21	141
2351	25-07-2022 12:06:48	Žuvininkas	1	201	180
2352	25-07-2022 12:07:37	Nendrinė lingė	1	21	183
2475	05-09-2022 06:32:37	Paprastasis kikilis	8	21	191
2476	05-09-2022 06:47:16	Dirvinis sėjikas	6	41	158
2477	05-09-2022 06:51:37	Paprastasis varnė	42	21	34
2478	05-09-2022 07:29:14	Kranklys	3	21	293
2479	05-09-2022 07:12:36	Dirvinis sėjikas	8	41	137
2480	05-09-2022 07:30:21	Nendrinė lingė	1	1	139
2481	05-09-2022 07:37:20	Paprastoji pempė	17	41	318
2482	05-09-2022 07:37:41	Dirvinis sėjikas	16	41	167
2483	02-08-2022 07:11:05	Keršulis	2	41	27
2484	02-08-2022 07:27:05	Keršulis	2	41	190
2485	02-08-2022 07:37:05	Baltasis gandras	1	21	308
2486	02-08-2022 07:50:19	Paprastasis varnė	12	21	182
2487	02-08-2022 08:12:28	Keršulis	5	41	221
2488	02-08-2022 08:25:38	Baltasis gandras	1	41	18
2489	02-08-2022 08:36:43	Kranklys	3	61	176
2490	02-08-2022 08:43:47	Kranklys	3	41	304
2491	02-08-2022 08:55:54	Keršulis	4	41	198
2492	02-08-2022 09:02:40	Dirvinis vieversys	7	21	76
2493	02-08-2022 09:10:40	Pilkoji varna	2	41	218
2494	02-08-2022 09:29:38	Nendrinė lingė	1	1	3
2495	02-08-2022 09:30:05	Keršulis	1	21	9
2496	02-08-2022 09:40:10	Keršulis	2	21	100
2497	02-08-2022 09:40:22	Paprastasis suopi	1	61	265
2498	02-08-2022 09:49:50	Keršulis	2	41	233
2499	02-08-2022 09:54:35	Sidabrinis kiras	1	41	89
2500	02-08-2022 10:06:47	Dirvinis sėjikas	1	41	314
2501	02-08-2022 10:24:24	Mažasis erelis rėk	1	101	205
2502	02-08-2022 10:24:59	Mažasis erelis rėk	1	81	349
2503	02-08-2022 10:25:13	Paprastasis varnė	18	41	220
2504	02-08-2022 10:48:25	Nendrinė lingė	1	81	180
2505	02-08-2022 10:49:05	Mažasis erelis rėk	1	181	181
2506	02-08-2022 10:49:31	Nendrinė lingė	1	21	108
2507	02-08-2022 10:49:46	Paprastasis varnė	18	21	207
2508	02-08-2022 10:50:54	Keršulis	2	41	73
2509	02-08-2022 11:05:42	Paprastasis varnė	25	21	170
2510	02-08-2022 11:46:13	Paprastasis pelės	1	41	246
2511	02-08-2022 11:47:22	Paprastasis suopi	1	61	227
2512	02-08-2022 11:49:11	Keršulis	2	21	73
2513	02-08-2022 12:06:27	Sketsakalis	1	41	174
2514	02-08-2022 12:06:47	Paprastasis pelės	1	21	67
2515	02-08-2022 12:07:05	Mažasis erelis rėk	1	281	197
2516	02-08-2022 12:22:03	Mažasis erelis rėk	2	300	318
2517	02-08-2022 12:31:14	Keršulis	6	21	188
2518	02-08-2022 12:42:00	Mažasis erelis rėk	1	300	174
2519	02-08-2022 13:00:14	Dirvinis sėjikas	2	61	139
2520	02-08-2022 13:00:38	Pilkoji gervė	4	21	231
2521	02-08-2022 13:30:19	Keršulis	2	21	2
2522	02-08-2022 13:49:34	Nendrinė lingė	1	21	71
2525	02-08-2022 13:58:42	Paprastasis varnė	12	1	284
2526	02-08-2022 14:16:16	Baltasis gandras	1	61	45
2527	02-08-2022 14:38:25	Baltasis gandras	1	41	23
2549	05-08-2022 10:12:51	Keršulis	2	41	247
2550	05-08-2022 10:20:23	Keršulis	2	41	88
2551	05-08-2022 10:31:38	Keršulis	2	41	174
2554	05-08-2022 10:55:38	Mažasis erelis rėk	1	101	334
2637	09-08-2022 07:43:56	Paprastasis varnė	18	21	101
2638	09-08-2022 08:10:45	Paprastasis varnė	15	21	92
2639	09-08-2022 08:31:46	Šelmeninė kregžd	18	41	142
2640	09-08-2022 08:41:47	Keršulis	1	21	78
2641	09-08-2022 08:49:11	Keršulis	1	21	91
2642	09-08-2022 08:49:20	Keršulis	1	21	242
2643	09-08-2022 08:49:31	Keršulis	1	21	248
2644	09-08-2022 09:24:04	Keršulis	1	21	248
2645	09-08-2022 09:29:29	Paprastasis suopi	1	81	194
2646	09-08-2022 09:41:39	Pilkasis garnys	1	61	263
2647	09-08-2022 10:17:24	Keršulis	2	21	165
2648	09-08-2022 11:01:24	Paprastasis varnė	20	41	185
2649	09-08-2022 11:18:55	Keršulis	2	41	283
2650	09-08-2022 11:40:04	Keršulis	2	41	12
2651	09-08-2022 11:41:52	Nendrinė lingė	1	21	310
2652	09-08-2022 12:02:37	Mažasis erelis rėk	1	181	185
2653	09-08-2022 12:03:37	Keršulis	2	21	284
2654	09-08-2022 12:21:01	Mažasis erelis rėk	1	221	18
2655	09-08-2022 12:21:18	Baltasis gandras	1	21	40
2656	09-08-2022 12:21:40	Keršulis	5	21	212
2657	09-08-2022 12:24:21	Keršulis	3	21	153
2658	09-08-2022 12:31:21	Paprastasis varnė	35	21	122
2659	09-08-2022 12:33:27	Mažasis erelis rėk	1	201	13
2660	09-08-2022 12:34:04	Nendrinė lingė	1	41	360
2661	09-08-2022 12:42:46	Nendrinė lingė	1	1	294
2662	09-08-2022 12:33:59	Nendrinė lingė	1	1	325
2663	09-08-2022 12:43:14	Keršulis	2	21	43

2664	09-08-2022 12:57:03	Nendrinė lingė	1	21	226
2665	09-08-2022 13:15:14	Paprastasis suopi	1	21	36
2666	09-08-2022 13:30:07	Baltasis gandras	1	81	56
2667	09-08-2022 13:34:03	Pilkoji gervė	3	141	227
2668	09-08-2022 13:38:41	Pilkoji gervė	2	101	212
2669	09-08-2022 13:46:59	Paprastasis purple	4	41	257
2670	09-08-2022 13:47:29	Didžioji antis	18	41	52
2671	09-08-2022 14:12:27	Pievinė lingė	1	1	88
2672	09-08-2022 14:12:56	Paprastoji pempė	600	61	149
2673	09-08-2022 14:12:56	Paprastasis varnė	1000	61	149
2674	09-08-2022 14:31:55	Paprastasis suopi	1	41	228
2675	09-08-2022 14:32:22	Mažasis erelis rėk	1	81	310
2676	09-08-2022 14:37:38	Pilkoji gervė	25	300	227
2677	09-08-2022 14:39:41	Mažasis erelis rėk	1	121	175
2678	09-08-2022 14:41:07	Mažasis erelis rėk	1	101	23
2679	09-08-2022 14:41:27	Paprastasis suopi	1	161	137
2680	09-08-2022 14:44:25	Mažasis erelis rėk	1	201	247
2681	09-08-2022 14:52:10	Paprastasis suopi	1	41	207
2682	09-08-2022 15:00:26	Baltasis gandras	2	81	238
2683	09-08-2022 15:00:52	Mažasis erelis rėk	1	141	166
2795	16-08-2022 06:13:23	Paprastasis kūltup	1	61	193
2796	16-08-2022 06:33:56	Paprastasis kūltup	1	61	192
2797	16-08-2022 06:20:25	Dirvinis sėjikas	12	61	113
2798	16-08-2022 06:36:10	Paprastoji pempė	1	41	67
2799	16-08-2022 06:43:43	Dirvinis sėjikas	5	61	196
2800	16-08-2022 06:53:43	Pievinis kalviukas	2	61	136
2801	16-08-2022 06:54:21	Paprastasis kūltup	1	41	204
2803	16-08-2022 07:03:02	Keršulis	2	41	337
2805	16-08-2022 07:16:25	Kranklys	1	61	275
2807	16-08-2022 07:25:01	Keršulis	3	21	52
2808	16-08-2022 07:37:22	Paprastasis kūltup	2	21	175
2809	16-08-2022 07:29:43	Paprastasis kūltup	2	21	184
2810	16-08-2022 08:02:04	Paprastasis kūltup	1	21	161
2811	16-08-2022 08:23:22	Dagilis	2	21	3
2812	16-08-2022 08:23:38	Miškinis kalviukas	2	41	162
2813	16-08-2022 08:33:30	Paprastasis kūltup	1	21	164
2814	16-08-2022 08:40:11	Nendrinė lingė	1	21	176
2815	16-08-2022 08:49:50	Dirvinis sėjikas	8	41	113
2816	16-08-2022 09:14:25	Dirvinis sėjikas	8	41	63
2817	16-08-2022 09:41:36	Dirvinis sėjikas	5	21	101
2818	16-08-2022 10:05:49	Dirvinis sėjikas	5	41	235
2819	16-08-2022 10:08:36	Pilkoji gervė	3	61	30
2820	16-08-2022 10:13:15	Pilkoji gervė	4	21	235
2821	16-08-2022 10:13:28	Keršulis	1	21	99
2822	16-08-2022 10:22:48	Dirvinis sėjikas	8	41	271
2823	16-08-2022 10:38:00	Keršulis	1	41	283
2824	16-08-2022 10:54:36	Keršulis	2	41	289
2825	16-08-2022 11:02:20	Paprastasis suopi	1	61	321
2826	16-08-2022 11:12:47	Keršulis	8	21	35
2827	16-08-2022 11:23:33	Nendrinė lingė	1	21	219
2828	16-08-2022 11:23:55	Pilkoji gervė	2	61	140
2829	16-08-2022 11:24:12	Pilkoji gervė	4	21	135
2830	16-08-2022 11:47:14	Baltasis gandras	15	221	317
2831	16-08-2022 11:47:36	Pilkoji gervė	4	121	175
2832	16-08-2022 11:47:59	Nendrinė lingė	1	101	150
2833	16-08-2022 11:48:26	Nendrinė lingė	1	21	44
2834	16-08-2022 11:55:12	Paprastasis suopi	1	101	0
2835	16-08-2022 11:55:38	Paprastasis pelės	1	41	169
2836	16-08-2022 12:12:56	Mažasis erelis rėk	1	81	16
2837	16-08-2022 12:13:42	Mažasis erelis rėk	1	61	339
2838	16-08-2022 12:13:53	Nendrinė lingė	1	1	38
2839	16-08-2022 12:14:45	Paprastoji pempė	70	101	198
2840	16-08-2022 12:15:25	Paprastasis varnė	800	101	228
2841	16-08-2022 12:18:53	Baltasis gandras	12	121	142
2842	16-08-2022 12:19:13	Mažasis erelis rėk	1	101	32
2843	16-08-2022 12:40:01	Mažasis erelis rėk	2	61	327
2844	16-08-2022 12:50:30	Nendrinė lingė	1	21	100
2845	16-08-2022 12:58:47	Paprastoji pempė	280	41	118
2846	16-08-2022 12:59:07	Paprastasis varnė	300	41	121
2847	16-08-2022 12:59:30	Mažasis erelis rėk	1	121	59
2848	16-08-2022 13:17:05	Nendrinė lingė	1	21	55
2849	16-08-2022 13:36:35	Nendrinė lingė	1	21	89
2850	16-08-2022 13:51:49	Keršulis	2	41	70
2851	16-08-2022 14:13:48	Nendrinė lingė	1	21	77
2977	23-08-2022 05:54:03	Paprastasis varnė	8	21	177
2978	23-08-2022 06:06:11	Keršulis	2	21	93
2979	23-08-2022 06:14:34	Keršulis	2	21	164
2980	23-08-2022 06:29:39	Keršulis	1	21	338
2981	23-08-2022 06:20:50	Paprastoji pempė	2	21	22
2982	23-08-2022 06:30:15	Kranklys	2	41	178
2983	23-08-2022 06:30:37	Šelmeninė kregžd	4	41	160
2984	23-08-2022 06:30:53	Paprastasis kūltup	6	61	184
2985	23-08-2022 06:31:11	Mažasis erelis rėk	1	41	334
2986	23-08-2022 06:31:35	Pilkoji gervė	2	21	21
2987	23-08-2022 06:40:43	Dirvinis sėjikas	23	41	174
2988	23-08-2022 06:42:17	Kovas	40	41	49
2989	23-08-2022 06:42:40	Kuosa	70	41	50
2990	23-08-2022 06:46:55	Šelmeninė kregžd	7	41	154
2991	23-08-2022 06:47:10	Paprastasis kūltup	4	41	163

2992	23-08-2022 07:00:59	Alksninukas	11	41	166
2993	23-08-2022 07:11:27	Alksninukas	13	41	168
2994	23-08-2022 07:11:38	Paprastasis kūltup	3	41	187
2995	23-08-2022 07:06:04	Keršulis	2	21	218
2996	23-08-2022 07:12:25	Keršulis	1	21	350
2997	23-08-2022 07:17:32	Paprastasis kūltup	2	41	169
2998	23-08-2022 07:22:05	Paprastasis kūltup	2	41	172
3001	23-08-2022 07:54:36	Pievinis kalviukas	6	41	188
3003	23-08-2022 08:13:42	Paprastasis kikilis	15	41	188
3004	23-08-2022 08:38:10	Paprastasis kūltup	4	21	187
3005	23-08-2022 08:38:25	Dirvinis vieversys	12	41	183
3006	23-08-2022 08:50:51	Šelmeninė kregžd	9	41	187
3007	23-08-2022 09:19:11	Nendrinė lingė	1	1	190
3008	23-08-2022 09:24:39	Paprastasis pelėsa	1	21	136
3009	23-08-2022 09:24:54	Baltasis gandras	5	61	178
3010	23-08-2022 09:46:20	Dirvinis sėjikas	1400	41	154
3011	23-08-2022 10:11:02	Nendrinė lingė	1	1	199
3012	23-08-2022 10:11:25	Paprastasis pelėsa	1	21	204
3013	23-08-2022 10:11:55	Sketsakalis	2	41	155
3014	23-08-2022 10:18:34	Pilkoji gervė	7	21	330
3015	23-08-2022 10:19:21	Baltasis gandras	70	201	187
3016	23-08-2022 10:21:03	Paprastasis kūltup	2	21	189
3017	23-08-2022 10:21:31	Nendrinė lingė	1	41	8
3018	23-08-2022 10:21:58	Dirvinis sėjikas	8	41	165
3019	23-08-2022 10:39:17	Paprastasis kūltup	1	41	193
3020	23-08-2022 10:53:33	Paprastoji pempė	350	41	23
3021	23-08-2022 10:54:04	Dirvinis sėjikas	6	61	147
3022	23-08-2022 11:02:36	Paprastasis suopis	2	101	277
3023	23-08-2022 11:03:12	Dirvinis sėjikas	1400	41	333
3024	23-08-2022 11:05:42	Uldukas	1	41	6
3025	23-08-2022 11:40:19	Mažasis erelis rėk	1	81	131
3026	23-08-2022 11:40:45	Nendrinė lingė	1	21	126
3027	23-08-2022 12:22:33	Paprastoji pempė	24	41	126
3028	23-08-2022 12:22:55	Paprastasis varnė	65	41	121
3029	23-08-2022 12:45:28	Nendrinė lingė	1	21	294
3030	23-08-2022 13:06:14	Mažasis erelis rėk	1	61	174
3031	23-08-2022 13:13:51	Keršulis	2	21	249
3032	23-08-2022 13:29:18	Keršulis	2	21	288
3033	23-08-2022 13:29:32	Paprastasis suopis	1	81	235
3034	23-08-2022 13:29:49	Kranklys	9	41	310
3035	23-08-2022 13:38:48	Mažasis erelis rėk	1	101	198
3037	23-08-2022 14:08:32	Paprastoji pempė	1	81	222
3133	05-09-2022 07:38:09	Miškinis kalviukas	3	41	142
3134	05-09-2022 08:02:31	Gulbė nebylė	1	41	136
3135	05-09-2022 08:13:30	Nendrinė lingė	1	21	47
3136	05-09-2022 08:30:00	Nendrinė lingė	1	21	32
3137	05-09-2022 08:39:13	Geltonoji kielė	14	21	182
3138	05-09-2022 08:39:31	Smilginis strazdas	8	61	192
3139	05-09-2022 08:43:13	Gulbė giesmininkė	1	21	107
3140	05-09-2022 08:52:46	Mažasis erelis rėk	1	41	270
3141	05-09-2022 09:17:12	Nendrinė lingė	1	1	256
3142	05-09-2022 09:17:33	Sketsakalis	4	41	171
3143	05-09-2022 09:27:00	Geltonoji kielė	7	41	205
3144	05-09-2022 09:33:34	Geltonoji kielė	75	21	253
3145	05-09-2022 09:33:50	Miškinis kalviukas	8	41	203
3146	05-09-2022 09:34:09	Šelmeninė kregžd	36	21	195
3147	05-09-2022 09:42:16	Nendrinė lingė	1	21	346
3148	05-09-2022 09:42:30	Pievinė lingė	1	21	14
3149	05-09-2022 09:52:19	Mažasis erelis rėk	1	61	267
3150	05-09-2022 09:54:46	Paprastasis suopis	1	41	271
3151	05-09-2022 10:05:04	Paprastoji pempė	38	41	298
3152	05-09-2022 10:05:24	Paprastasis varnė	85	41	300
3153	05-09-2022 10:11:47	Šelmeninė kregžd	8	41	193
3154	05-09-2022 10:28:07	Šelmeninė kregžd	6	21	209
3155	05-09-2022 10:28:24	Dirvinis sėjikas	9	21	86
3156	05-09-2022 10:29:43	Nendrinė lingė	1	1	50
3157	05-09-2022 10:39:33	Šelmeninė kregžd	6	21	179
3158	05-09-2022 11:10:25	Nendrinė lingė	1	21	195
3159	05-09-2022 11:21:17	Dirvinis sėjikas	65	21	49
3160	05-09-2022 11:33:44	Gaidukas	8	1	352
3161	05-09-2022 11:46:05	Geltonoji kielė	8	1	189
3162	05-09-2022 11:47:13	Dirvinis sėjikas	34	41	61
3163	05-09-2022 11:54:45	Gaidukas	8	21	193
3164	05-09-2022 12:03:59	Mažasis erelis rėk	1	61	195
3165	05-09-2022 12:36:57	Paprastasis suopis	1	21	18
3166	05-09-2022 12:37:14	Šelmeninė kregžd	12	1	31
3167	05-09-2022 12:47:54	Kranklys	2	21	255
3168	05-09-2022 13:10:49	Šelmeninė kregžd	24	41	207
3169	05-09-2022 13:15:29	Mažasis erelis rėk	1	61	69
3170	05-09-2022 13:16:05	Mažasis erelis rėk	1	81	100
3174	05-09-2022 14:10:24	Šelmeninė kregžd	13	21	178
3279	16-09-2022 07:55:03	Dirvinis sėjikas	75	21	214
3280	16-09-2022 07:55:20	Paprastoji pempė	62	21	199
3281	16-09-2022 08:06:40	Javinė lingė	1	21	333
3282	16-09-2022 08:17:20	Pilkoji gervė	1	101	329
3283	16-09-2022 09:25:42	Želmeninė žąsis	35	61	242
3284	16-09-2022 09:29:16	Nendrinė lingė	1	21	183
3285	16-09-2022 09:29:41	Nendrinė lingė	1	21	122
3286	16-09-2022 09:29:52	Pilkoji gervė	4	21	41

3296	22-09-2022 06:51:43	Paprastasis kikilis	48	21	198
3297	22-09-2022 07:03:31	Paprastasis kikilis	56	41	196
3298	22-09-2022 07:24:50	Paprastasis kikilis	39	41	198
3299	22-09-2022 07:40:13	Paprastasis kikilis	65	41	194
3300	22-09-2022 07:43:53	Gaidukas	12	1	329
3301	22-09-2022 07:44:18	Dirvinis sėjikas	18	61	205
3302	22-09-2022 07:44:39	Keršulis	33	81	197
3303	22-09-2022 07:45:00	Paprastasis kikilis	70	41	197
3304	22-09-2022 07:55:53	Paprastasis kikilis	55	61	209
3305	22-09-2022 07:56:23	Keršulis	21	21	187
3306	22-09-2022 07:56:50	Paprastasis kikilis	70	81	200
3307	22-09-2022 08:05:04	Paprastasis kikilis	44	81	200
3308	22-09-2022 08:05:14	Baltoji kielė	11	21	193
3309	22-09-2022 08:13:32	Paprastasis kikilis	60	81	199
3310	22-09-2022 08:20:01	Baltoji kielė	5	1	168
3311	22-09-2022 08:22:40	Dirvinis sėjikas	18	61	335
3312	22-09-2022 08:35:17	Paprastasis kikilis	35	61	166
3313	22-09-2022 08:49:29	Dirvinis vieversys	20	41	184
3314	22-09-2022 08:49:47	Pievinis kalviukas	8	21	189
3315	22-09-2022 08:50:07	Paprastasis kikilis	25	61	179
3316	22-09-2022 08:50:29	Šiaurinis kikilis	32	61	170
3317	22-09-2022 09:21:14	Paprastasis kikilis	20	61	177
3318	22-09-2022 09:36:48	Dirvinis sėjikas	68	41	294
3319	22-09-2022 09:40:39	Paprastasis suopi	1	41	351
3320	22-09-2022 09:51:17	Dirvinis sėjikas	120	81	335
3321	22-09-2022 10:03:44	Miškinis kalviukas	5	21	233
3322	22-09-2022 10:15:13	Baltoji kielė	12	21	182
3323	22-09-2022 10:38:32	Paukštvanagis	1	1	158
3324	22-09-2022 10:39:01	Baltoji kielė	10	1	179
3325	22-09-2022 10:40:32	Dirvinis sėjikas	3	41	191
3326	22-09-2022 11:07:59	Dirvinis sėjikas	8	61	183
3327	22-09-2022 11:23:23	Didžioji zylė	15	21	175
3328	22-09-2022 11:31:06	Žuvininkas	1	101	160
3329	22-09-2022 11:33:13	Javinė lingė	1	61	197
3330	22-09-2022 11:50:06	Baltakaktė žąsis	70	61	198
3331	22-09-2022 11:50:31	Didžioji antis	85	61	62
3332	22-09-2022 11:52:05	Jūrinis erelis	1	81	209
3333	22-09-2022 11:52:30	Nendrinė lingė	1	21	45
3334	22-09-2022 11:52:46	Paprastasis suopi	1	41	68
3335	22-09-2022 11:54:22	Paprastasis suopi	1	141	218
3336	22-09-2022 11:54:43	Baltakaktė žąsis	70	81	280
3337	22-09-2022 11:55:04	Nendrinė lingė	1	21	237
3338	22-09-2022 11:55:39	Paprastasis varnė	220	21	153
3339	22-09-2022 11:56:16	Dirvinis sėjikas	35	61	341
3340	22-09-2022 12:00:47	Paprastoji pempė	22	41	264
3341	22-09-2022 12:01:15	Paprastasis varnė	115	41	267
3342	22-09-2022 12:40:11	Paprastasis pelės	1	41	193
3343	22-09-2022 12:40:38	Paprastasis suopi	1	61	0
3344	22-09-2022 13:02:47	Paprastasis kikilis	18	41	187
3345	22-09-2022 13:11:10	Gulbė giesmininkė	3	21	162
3346	22-09-2022 13:49:41	Paprastasis varnė	20	21	185
3347	22-09-2022 14:08:06	Kėkštas	1	21	254
3348	22-09-2022 14:24:36	Keršulis	1	21	76
3349	22-09-2022 14:25:03	Dirvinis vieversys	10	21	247
3430	03-10-2022 09:51:16	Javinė lingė	1	21	344
3431	03-10-2022 10:00:18	Paprastasis suopi	2	21	202
3432	03-10-2022 10:07:07	Startsakalis	1	1	193
3433	03-10-2022 10:13:45	Javinė lingė	1	1	238
3434	03-10-2022 11:27:47	Vištvanagis	1	41	182
3440	13-10-2022 08:43:01	Paprastasis kikilis	35	61	218
3441	13-10-2022 07:36:27	Paprastasis kikilis	35	61	228
3442	13-10-2022 07:40:04	Dirvinis vieversys	12	61	196
3443	13-10-2022 07:52:04	Paprastasis kikilis	38	61	210
3444	13-10-2022 07:58:08	Smilginis strazdas	24	41	203
3445	13-10-2022 07:58:08	Paprastasis kikilis	35	61	193
3446	13-10-2022 08:10:03	Paprastasis kikilis	55	61	194
3447	13-10-2022 08:16:26	Dirvinis vieversys	21	81	225
3448	13-10-2022 08:25:26	Paprastasis kikilis	28	61	210
3449	13-10-2022 08:32:26	Paprastasis kikilis	62	81	233
3451	13-10-2022 08:48:26	Paprastasis kikilis	70	61	215
3452	13-10-2022 08:48:26	Dirvinis vieversys	20	41	198
3453	13-10-2022 09:11:40	Dirvinis vieversys	27	41	201
3454	13-10-2022 09:20:23	Paprastasis kikilis	48	81	198
3455	13-10-2022 09:20:40	Smilginis strazdas	15	41	204
3456	13-10-2022 09:47:46	Dirvinis sėjikas	2400	101	262
3457	13-10-2022 09:47:46	Paprastoji pempė	280	81	262
3458	13-10-2022 09:48:36	Paprastasis kikilis	35	41	232
3459	13-10-2022 09:49:07	Dirvinis sėjikas	47	41	38
3460	13-10-2022 10:08:22	Dirvinis vieversys	20	21	256
3461	13-10-2022 10:14:41	Gulbė giesmininkė	10	41	196
3462	13-10-2022 10:33:39	Paprastasis kikilis	18	41	196
3463	13-10-2022 10:53:31	Paukštvanagis	1	41	221
3464	13-10-2022 10:54:01	Dirvinis sėjikas	45	61	307
3465	13-10-2022 10:54:33	Želmeninė žąsis	12	41	252
3466	13-10-2022 11:01:51	Paprastasis kikilis	10	41	254
3467	13-10-2022 11:39:28	Paprastasis čivylis	16	21	191
3468	13-10-2022 12:03:29	Paprastasis kikilis	23	21	255
3469	13-10-2022 12:12:55	Paprastasis kikilis	16	21	259
3470	13-10-2022 12:34:42	Jūrinis erelis	1	21	26

3471	13-10-2022 12:51:15	Paprastoji pempė	45	41	102
3472	13-10-2022 12:51:39	Dirvinis sėjikas	8	61	18
3473	13-10-2022 12:56:05	Dirvinis sėjikas	32	41	206
3474	13-10-2022 13:31:49	Paprastasis kikilis	25	41	220
3475	13-10-2022 13:43:26	Paprastasis suopi	1	41	149
3476	13-10-2022 14:07:14	Paprastasis čivylis	18	1	38
3477	13-10-2022 14:15:35	Smilginis strazdas	120	41	189
3478	13-10-2022 14:44:49	Gulbė giesmininkė	2	1	67
3479	13-10-2022 14:55:28	Paprastasis kikilis	25	41	203
3480	13-10-2022 15:21:04	Dirvinis sėjikas	18	41	193
3481	13-10-2022 15:40:40	Želmeninė žąsis	36	61	166
3516	14-10-2022 15:18:22	Dirvinis sėjikas	12	41	118
3518	14-10-2022 15:38:25	Paprastasis kikilis	48	21	228
3519	14-10-2022 15:50:42	Pievinis kalviukas	8	21	246
3520	14-10-2022 15:54:27	Paprastasis suopi	3	21	214
3575	24-10-2022 08:06:38	Paprastasis kikilis	14	21	197
3576	24-10-2022 08:00:06	Paprastasis kikilis	22	21	199
3577	24-10-2022 08:16:18	Paprastasis varnė	55	41	195
3579	24-10-2022 09:02:19	Kuosa	17	21	262
3580	24-10-2022 08:42:37	Geltonoji starta	9	41	211
3581	24-10-2022 09:03:05	Smilginis strazdas	22	41	201
3582	24-10-2022 09:11:40	Paprastasis kikilis	18	61	225
3583	24-10-2022 09:12:03	Dagilis	10	21	248
3584	24-10-2022 09:28:27	Dirvinis sėjikas	35	61	92
3585	24-10-2022 09:28:44	Baltakaktė žąsis	38	81	243
3586	24-10-2022 09:29:03	Paprastasis varnė	23	1	93
3587	24-10-2022 09:29:49	Sniegstartė	3	41	199
3588	24-10-2022 09:49:55	Paprastasis kikilis	12	41	201
3589	24-10-2022 09:50:11	Juodagalvė snieg	8	41	250
3590	24-10-2022 10:17:37	Paprastasis kikilis	14	41	200
3591	24-10-2022 10:34:25	Baltakaktė žąsis	78	61	238
3592	24-10-2022 10:34:46	Baltakaktė žąsis	86	81	256
3593	24-10-2022 10:41:23	Baltakaktė žąsis	65	41	238
3594	24-10-2022 10:56:02	Tūbuotasis suopis	1	21	271
3595	24-10-2022 10:56:22	Baltakaktė žąsis	18	21	266
3596	24-10-2022 10:57:02	Dirvinis sėjikas	26	41	276
3597	24-10-2022 11:07:52	Baltakaktė žąsis	90	81	231
3598	24-10-2022 11:09:17	Baltakaktė žąsis	110	81	217
3599	24-10-2022 11:09:42	Želmeninė žąsis	45	81	224
3600	24-10-2022 11:10:21	Pilkasis garnys	1	21	16
3601	24-10-2022 11:14:21	Želmeninė žąsis	45	61	222
3602	24-10-2022 11:14:45	Želmeninė žąsis	78	201	234
3603	24-10-2022 11:14:59	Baltakaktė žąsis	240	181	219
3604	24-10-2022 11:18:33	Keršulis	55	21	192
3605	24-10-2022 11:18:51	Baltakaktė žąsis	140	101	230
3606	24-10-2022 11:24:21	Baltakaktė žąsis	65	141	228
3607	24-10-2022 11:24:40	Želmeninė žąsis	48	201	200
3608	24-10-2022 11:25:08	Smilginis strazdas	26	21	254
3609	24-10-2022 11:32:53	Želmeninė žąsis	280	161	239
3610	24-10-2022 11:33:22	Baltakaktė žąsis	310	181	244
3611	24-10-2022 11:33:53	Baltakaktė žąsis	80	101	241
3612	24-10-2022 11:34:13	Želmeninė žąsis	120	141	214
3613	24-10-2022 11:43:23	Želmeninė žąsis	180	161	219
3614	24-10-2022 11:46:39	Dirvinis sėjikas	8	41	205
3615	24-10-2022 11:51:04	Baltakaktė žąsis	130	181	236
3616	24-10-2022 11:51:30	Želmeninė žąsis	85	201	236
3617	24-10-2022 11:51:58	Želmeninė žąsis	70	181	195
3618	24-10-2022 11:58:39	Baltakaktė žąsis	240	141	227
3619	24-10-2022 11:59:11	Želmeninė žąsis	14	61	265
3620	24-10-2022 11:59:37	Želmeninė žąsis	58	101	253
3621	24-10-2022 12:15:41	Baltakaktė žąsis	150	81	233
3622	24-10-2022 12:20:01	Baltakaktė žąsis	170	121	243
3623	24-10-2022 12:41:22	Baltakaktė žąsis	190	161	258
3624	24-10-2022 12:41:46	Baltakaktė žąsis	340	201	240
3625	24-10-2022 12:43:18	Paprastasis suopi	1	21	221
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3627	24-10-2022 12:52:40	Želmeninė žąsis	145	101	256
3628	24-10-2022 12:52:56	Baltakaktė žąsis	85	81	215
3629	24-10-2022 13:07:53	Baltakaktė žąsis	70	121	242
3630	24-10-2022 13:18:00	Želmeninė žąsis	85	161	253
3631	24-10-2022 13:59:57	Želmeninė žąsis	240	181	238
3632	24-10-2022 14:18:55	Želmeninė žąsis	330	201	239
3633	24-10-2022 14:19:09	Želmeninė žąsis	270	241	242
3634	24-10-2022 14:19:31	Pilkoji gervė	1	1	82
3635	24-10-2022 14:22:02	Dirvinis vieversys	12	21	225
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3637	24-10-2022 14:22:28	Paprastasis čivylis	11	1	143
3638	24-10-2022 14:22:45	Dagilis	13	1	254
3639	24-10-2022 14:25:49	Baltakaktė žąsis	240	201	247
3640	24-10-2022 14:26:26	Želmeninė žąsis	180	201	243
3641	24-10-2022 14:37:19	Želmeninė žąsis	110	201	235
3642	24-10-2022 14:37:36	Želmeninė žąsis	180	241	227
3643	24-10-2022 14:37:54	Baltakaktė žąsis	220	241	229
3644	24-10-2022 14:49:32	Baltakaktė žąsis	75	281	241
3645	24-10-2022 15:04:36	Baltakaktė žąsis	65	181	209
3646	24-10-2022 15:13:31	Baltakaktė žąsis	70	161	216
3647	24-10-2022 15:17:16	Dirvinis sėjikas	250	61	98
3648	24-10-2022 15:17:56	Gulbė giesmininkė	3	41	260
3649	24-10-2022 15:26:09	Baltakaktė žąsis	250	181	214

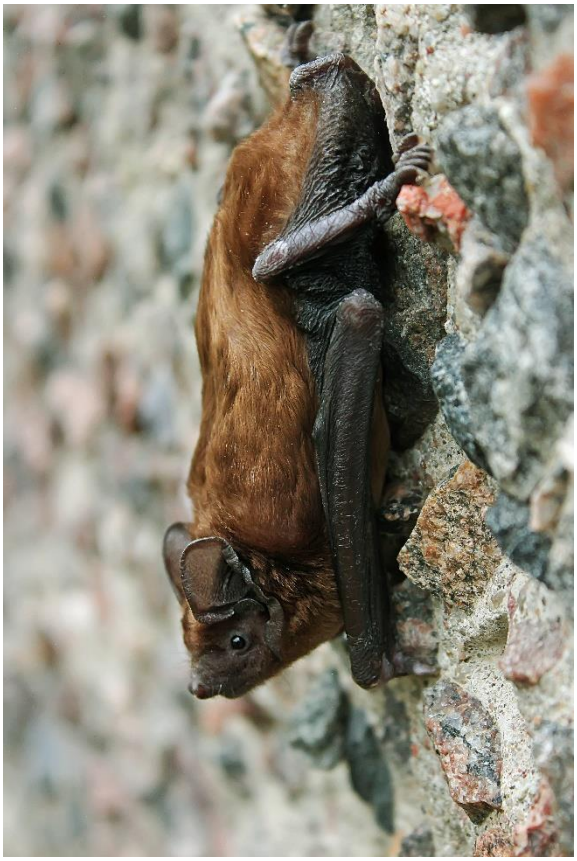
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3727	23-03-2022 05:50:25	Paprastoji pempė	2	21	195
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3729	23-03-2022 06:10:25	Pilkoji gervė	2	41	184
3730	23-03-2022 06:20:00	Paprastoji pempė	80	41	182
3731	23-03-2022 06:20:00	Pilkoji žąsis	2	41	178
3732	23-03-2022 06:25:00	Paprastasis čivylis	2	21	185
3733	23-03-2022 06:30:00	Gulbė giesmininkė	10	21	119
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3735	23-03-2022 06:37:00	Želmeninė žąsis	55	81	46
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3737	23-03-2022 06:55:00	Paprastoji pempė	10	21	265
3738	23-03-2022 06:58:00	Baltakaktė žąsis	20	161	39
3739	23-03-2022 06:58:00	Baltakaktė žąsis	50	161	36
3740	23-03-2022 06:58:00	Želmeninė žąsis	200	161	38
3741	23-03-2022 06:59:00	Želmeninė žąsis	200	161	39
3742	23-03-2022 07:02:00	Paprastoji pempė	10	81	11
3743	23-03-2022 07:05:00	Pilkoji žąsis	2	21	16
3744	23-03-2022 07:06:00	Paprastoji pempė	7	81	45
3745	23-03-2022 07:07:00	Gulbė giesmininkė	7	21	28
3746	23-03-2022 07:07:00	Paprastoji pempė	15	41	69
3747	23-03-2022 07:08:00	Perkūno oželis	1	41	54
3748	23-03-2022 07:09:00	Želmeninė žąsis	4	101	189
3749	23-03-2022 07:13:00	Gulbė giesmininkė	5	21	317
3750	23-03-2022 07:13:00	Gulbė giesmininkė	2	41	43
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3755	23-03-2022 07:28:00	Želmeninė žąsis	18	101	359
3756	23-03-2022 07:29:00	Paprastasis suopis	1	21	68
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3764	23-03-2022 07:47:00	Nendrinė starta	1	21	37
3765	23-03-2022 07:48:00	Paprastasis suopis	1	41	38
3766	23-03-2022 07:50:00	Paprastasis suopis	1	41	25
3767	23-03-2022 07:50:00	Želmeninė žąsis	140	161	49
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3770	23-03-2022 07:56:00	Želmeninė žąsis	50	81	82
3771	23-03-2022 08:00:00	Smilginis strazdas	50	61	302
3772	23-03-2022 08:05:00	Baltakaktė žąsis	20	81	81
3773	23-03-2022 08:05:00	Paprastoji pempė	15	41	76
3774	23-03-2022 08:09:00	Želmeninė žąsis	2	21	78
3775	23-03-2022 08:09:00	Didžioji antis	2	21	77
3776	23-03-2022 08:12:00	Baltakaktė žąsis	20	101	230
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3778	23-03-2022 08:12:00	Gulbė giesmininkė	3	141	15
3779	23-03-2022 08:12:00	Želmeninė žąsis	50	81	260
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3782	23-03-2022 08:27:00	Didžioji antis	25	61	195
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3784	23-03-2022 08:42:00	Želmeninė žąsis	60	141	203
3785	23-03-2022 08:42:00	Paprastoji pempė	2	21	190
3786	23-03-2022 08:42:00	Želmeninė žąsis	30	141	85
3787	23-03-2022 08:42:00	Baltakaktė žąsis	50	141	83
3788	23-03-2022 08:42:00	Paprastasis varnė	5	41	245
3789	23-03-2022 08:47:00	Želmeninė žąsis	50	121	52
3790	23-03-2022 08:51:00	Želmeninė žąsis	30	21	190
3791	23-03-2022 08:53:00	Želmeninė žąsis	30	21	110
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3823	23-03-2022 10:00:00	Pilkoji gervė	25	161	268
3824	23-03-2022 10:03:00	Želmeninė žąsis	30	101	243
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3831	23-03-2022 10:56:00	Baltakaktė žąsis	5	81	12
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4016	28-03-2022 07:17:00	Didžioji antis	3	21	334
4017	28-03-2022 07:21:00	Baltakaktė žąsis	3	41	282
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4024	28-03-2022 07:47:00	Rudagalvis kiras	27	21	13
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4032	28-03-2022 08:45:00	Želmeninė žąsis	70	41	11
4033	28-03-2022 08:46:00	Želmeninė žąsis	15	41	191
4034	28-03-2022 08:47:00	Baltakaktė žąsis	70	41	6
4035	28-03-2022 08:53:00	Želmeninė žąsis	70	41	129
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4042	28-03-2022 09:17:00	Želmeninė žąsis	215	261	9
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4044	28-03-2022 09:28:00	Didysis kormoranas	28	81	3
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4052	28-03-2022 11:20:00	Dirvinis vieversys	3	21	274
4053	28-03-2022 11:28:00	Keršulis	1	21	288
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4152	05-04-2022 07:02:00	Baltasis gandras	1	41	13
4153	05-04-2022 08:20:00	Rudagalvis kiras	20	41	284
4154	05-04-2022 08:40:00	Rudagalvis kiras	30	21	232
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4156	05-04-2022 11:00:00	Želmeninė žąsis	6	21	193
4157	05-04-2022 11:21:00	Želmeninė žąsis	20	61	199
4158	05-04-2022 11:50:00	Baltakaktė žąsis	42	61	238
4159	05-04-2022 12:10:00	Rudagalvis kiras	80	41	59

4160	05-04-2022 12:18:00	Paprastasis suopi	1	41	207
4176	06-04-2022 09:40:00	Želmeninė žąsis	47	61	177
4177	06-04-2022 09:46:00	Paprastasis suopi	1	41	209
4178	06-04-2022 09:55:00	Javinė lingė	1	21	36
4237	15-04-2022 12:14:00	Dirvinis sėjikas	8	41	10
4238	15-04-2022 12:16:00	Baltoji kielė	1	41	15
4239	15-04-2022 12:25:00	Paprastoji pempė	4	21	60
4240	15-04-2022 12:29:00	Baltasis gandras	1	61	180
4241	15-04-2022 12:36:00	Smilginis strazdas	36	41	55
4242	15-04-2022 12:43:00	Pilkoji gervė	1	81	270
4243	15-04-2022 12:45:00	Brastinis tilvikas	1	21	50
4244	15-04-2022 12:56:00	Pilkoji gervė	4	61	281
4245	15-04-2022 12:58:00	Didysis kormoran	44	41	254
4246	15-04-2022 12:59:00	Rudagalvis kiras	60	41	63
4247	15-04-2022 13:26:00	Pilkoji gervė	5	41	144
4248	15-04-2022 13:32:00	Nendrinė lingė	1	21	104
4249	15-04-2022 13:45:00	Silkinis kiras	1	101	360
4250	15-04-2022 14:02:00	Paprastasis suopi	1	41	209
4251	15-04-2022 14:07:00	Baltasis gandras	4	41	73
4252	15-04-2022 14:28:00	Rudagalvis kiras	150	21	103
4255	18-11-2022 09:38:36	Baltakaktė žąsis	40	101	252
4256	18-11-2022 09:38:36	Gulbė giesmininkė	22	81	243
4268	07-12-2022 11:23:39	Kranklys	2	21	187
4292	13-02-2023 09:17:04	Pilkoji varna	1	21	280
4293	13-02-2023 11:03:47	Sniegstartė	550	21	225
4294	13-02-2023 11:32:36	Kovas	8	21	58
4295	13-02-2023 11:48:46	Plėšrioji medšarkė	1	21	231

TEXT ANNEX 6. REPORT ON INVESTIGATIONS AND ASSESSMENT OF BIODIVERSITY IN THE PEA AREA (BATS)

Final report on the assessment of the impact of planned economic activity on bats (*CHIROPTERA*) at the wind farm (VE 1) in Biržai District Municipality, Nemunėlio-Radviliškis Ward
2023





17

Report author:

Biologist, Chairman of the Lithuanian Bat Conservation Society

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INTRODUCTION

To date, 14 species of bats (*Chiroptera*) have been recorded in Lithuania. For a long time, 15 species were listed, of which the whiskered bat (*Myotis mystacinus*) was found only in a single skull found in 1978 in the Karvės ola karst sinkhole, according to unconfirmed data. There are also reports in the public domain of a new species in Lithuania – the greater mouse-eared bat (*Myotis myotis*) – found by researchers from the Lithuanian Ornithological Society and other institutions. After checking the records provided, the Bat Conservation Society did not confirm that this species had been found in Lithuania. In the future, with climate change, the geographical expansion of bat species and their increasing research in Lithuania, the following species may also be found: the grey long-eared bat (*Plecotus austriacus),* the greater mouse-eared bat (*Myotis myotis),* the Kuhl's pipistrelle (*Pipistrellus kuhlii), and the* whiskered *bat* (*Myotis mystacinus).* During the study, 7 of the 14 bat species found in Lithuania were detected in the described territory (Fig. 1).



Figure 1. Number of bat species in Lithuania and in the surveyed area

Bat species found in Lithuania:

Pond bat (*Myotis dasycneme*) – Lithuanian Red Book;
Daubenton's bat (*Myotis daubentonii*);
Brandt's bat (*Myotis brandtii*) – Lithuanian Red Book;
Natterer's bat (*Myotis nattereri*) – Lithuanian Red Book;

Brown long-eared bat (*Plecotus auritus*);
Barbastelle (*Barbastella barbastellus*) – Lithuanian Red Book;
Common noctule (*Nyctalus nactula*);
Lesser noctule (*Nyctalus leisleri*);
Common pipistrelle (*Pipistrellus pipistrellus*);
Nathusius' pipistrelle (*Pipistrellus nathusii*);
Pygmy pipistrelle (*Pipistrellus pygmaeus*);
Mouse-eared bat (*Vespertilio murinus*) – Lithuanian Red Book;
Northern bat (*Eptesicus nilssonii*);
Serotine bat (*Eptesicus serotinus*) – Lithuanian Red Book.

Species to look for:

Greater mouse-eared bat (*Myotis myotis*);
Whiskered bat (*Myotis mystacinus*);
Grey long-eared bat (*Plecotus austriacus*);
Kuhli's pipistrelle (*Pipistrellus kuhlii*).

The following bat species are listed in Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and wild fauna and flora and have been found in Lithuania:

Barbastelle *(Barbastella barbastelus)* – Annexes IV and II;
Northern bat *(Eptesicus nilssonii)* – Annex IV;
Serotine bat *(Epteicus serotinus)* – Annex IV;
Brandt's bat *(Myotis brandtii)* – Appendix IV;
Pond bat *(Myotis dasycneme)* – Annexes IV and II;
Daubenton's bat *(Myotis daubentonii)* – Appendix IV;
Natterer's bat *(Myotis nattereri)* – Annex IV;
Lesser noctule *(Nyctalus leisleri)* – Annex IV;
Common noctule *(Nyctalus noctula)* – Annex IV;
Nathusius' pipistrelle *(Pipistrellus nathusii)* – Annex IV;
Common pipistrelle *(Pipistrellus pipistrellus)* – Annex IV;
Pygmy pipistrelle *(Pipistrellus pygmaeus)* – Annex IV;
Brown long-eared bat *(Plecotus auritus)* – Annex IV;
Mouse-eared bat *(Vespertilio murinus)* – Annex IV.

Bat surveys were conducted in the described area in 2022 when planning to install a wind farm with 35 wind turbines (hereinafter referred to as WT) in Biržai District Municipality, Nemunėlio-Radviliškio Ward. It is planned to install WPs up to 254 m high (including the rotor blade length), with a total height of 246 m to 270 m including the raised nacelle and a rotor blade diameter of 160 m to 180 m (Fig. 2).

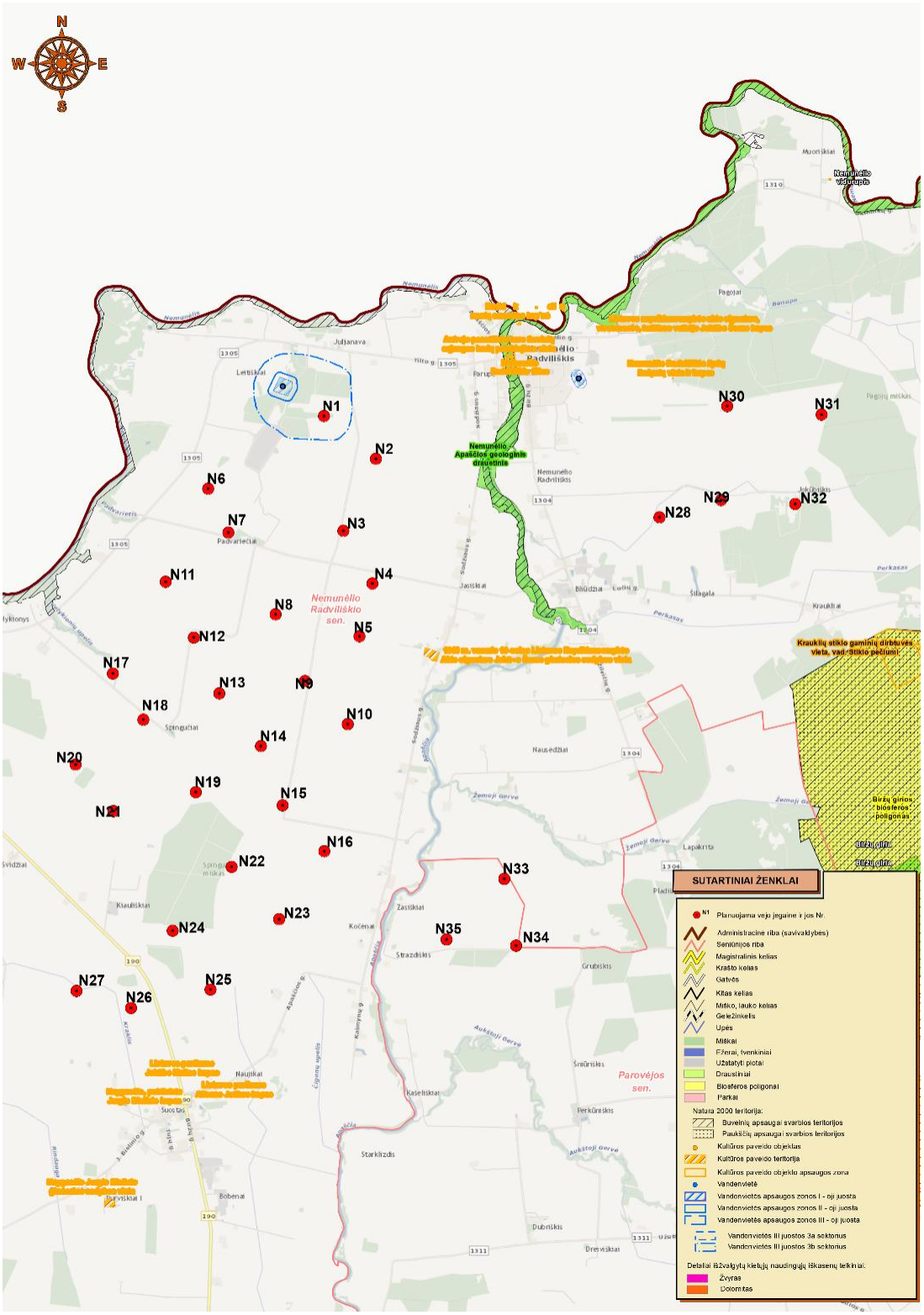


Figure 2. Diagram of the planned wind farm

It is important for migrating bats to avoid entering the operating zone of the power plant's rotor (>40 m).

It should be noted that some species choose different flight altitudes during feeding and migration: Daubenton's bat (*Myotis daubentonii*), pond bat (*Myotis dasycneme*), Brandt's bat (*Myotis brandtii*), common pipistrelle (*Pipistrellus pipistrellus*), Nathusius' pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), brown long-eared bat (*Plecotus auritus*). (Table 1).

Table 1. Behaviour and migration characteristics of bats

Bat species	Hunting areas near habitats	Long-distance migrants	High flyers (>40 m)	Low flyers	Attracted by light	Risk of losing hunting grounds
Myotis daubentonii	X		X	X		
Myotis dasycneme		X	X	X		
Myotis nattereri	X			X		
Myotis brandtii	X		X	X		
Nyctalus noctula		X	X		X	X
Nyctalus leisleri		X	X		X	X
Eptesicus nilssonii			X		X	
Eptesicus serotinus		?	X		X	
Vespertilio murinus		X	X		X	X
Pipistrellus pipistrellus	X		X	X	X	
Pipistrellus nathusii	X	X	X	X	X	
Pipistrellus pygmaeus	X	X	X	X	X	
Plecotus auritus	X		X	X		
Barbastella barbastellus	X			X		

RESEARCH METHODS

Based on the recommendations of the project "WIND ENERGY DEVELOPMENT AND BIOLOGICAL DIVERSITY IMPORTANT AREAS (VENBIS)" *No. EEE-LT03-AM-01-K-01-004*, activity No. 3.1.3. "Preparation of standards for monitoring programmes for the impact on birds and bats in wind farms", transect (7 transects) and point (9 points) bat survey methods were used (Fig. 3). The survey transects and counting points were not selected at all locations planned for wind farms within 200 metres of the forest, as an expert visual assessment found that there were no important feeding, breeding or migration habitats there. The survey transects and points were selected taking into account habitats valuable to bats and evenly distributed throughout the planned wind farm area. During the surveys, potential bat hibernation sites were checked in the planned wind farm area. Possible breeding colony sites were also inspected: old hollow trees, abandoned buildings, etc. The geographical coordinates (LKS) of the transects and survey points are presented in Table 2.

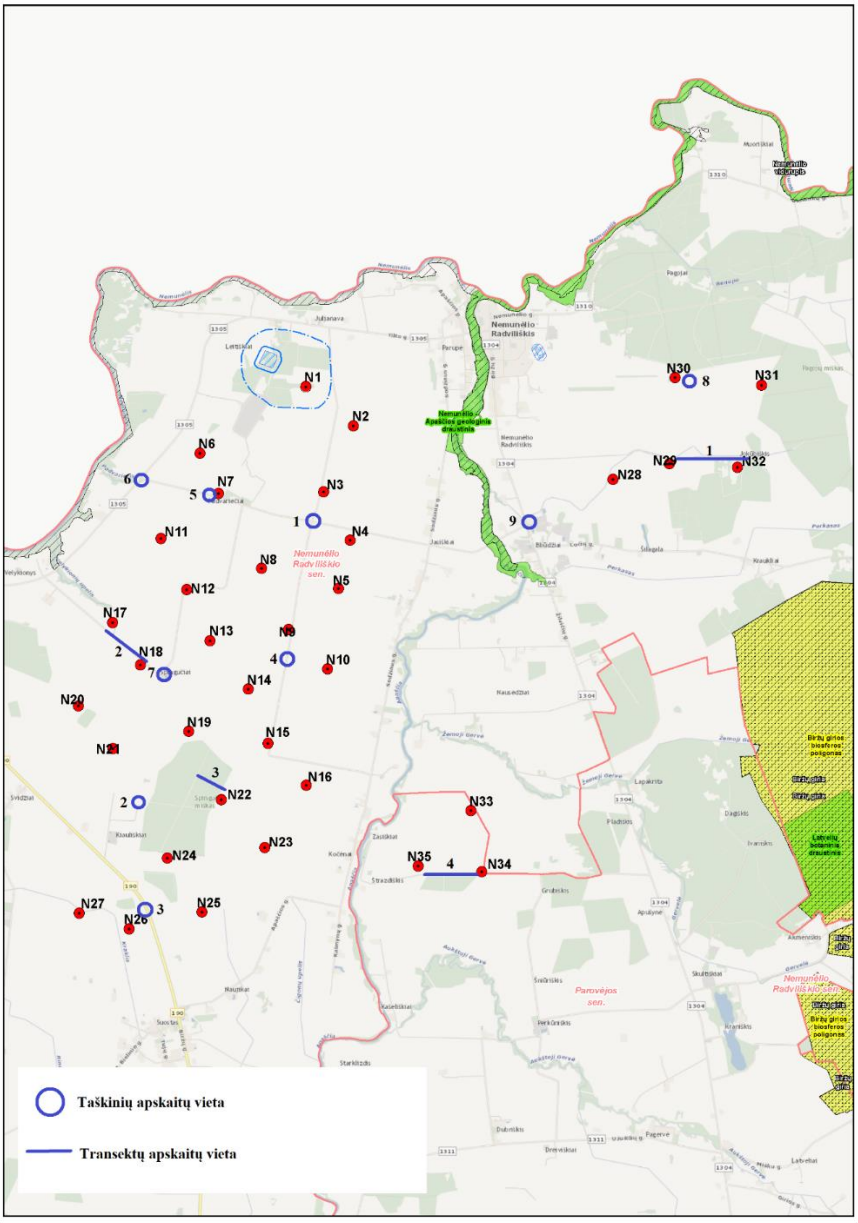


Figure 3. Schematic diagram of bat point counts and transects in the planned wind farm area

Table 2. Geographical coordinates (LKS) of counting points and transects

Counting point No.	**Coordinates (LKS)**	
1	545587	
2	543720, 6246596	
3	543710, 6245437	
4	545303, 6248138	
5	544599, 6249959	
6	543689, 6250173	
7	543915, 6248011	
8	550086, 6251126	
9	547951, 6249672	
Accounting transect No.	**Coordinates (LKS)**	
	Start	**End**
1	549568, 6250385	550438, 6250414
2	543396, 6248449	542884, 6248869
3	544652, 6246758	544324, 6246917
4	547438, 6245803	546846, 6245805

From 25 May to 6 October 2022, counts were carried out throughout the VE zone. Bat counts were performed using ultrasonic detectors: Pettersson D-240X and EchoMeter Touch 2 PRO. Bat counts during the rearing of young bats and feeding of adults were performed in May–July, with observations throughout the night.

During migration, counts were carried out from August to October 2022 (I dek.), during the entire dark period of the day. The counts were carried out using portable ultrasonic detectors, covering different landscape elements: tree belts, water bodies, shrubbery, meadows, etc.

Transect counts were carried out on foot, recording all bat sightings.

Spot counts were carried out at a selected point, recording all bat sightings within 10 minutes.

Bat observations were carried out in calm weather, without strong wind or rain, and at temperatures not lower than 7°C (during the study, temperatures exceeded 10°C). Bat surveys were conducted in 2022 on: 25 May, 12 and 22 June, 14 and 27 July, 8 and 20 August, 3 and 15 September, and 6 October. The observation data were recorded in data collection table No. 3, indicating the date, time, coordinates, bat species, number, weather conditions, and nature of the observation.

Table 3. Example of a bat data collection table.

Vėjo elektrinių parko, šikšnosparnių stebėjimo apskaitos forma

Data:			Stebėtojas:		
	Stebėjimų pradžia			Stebėjimų pabaiga	
	Oro temperatūra			Vėjo kryptis	
	Vėjo stiprumas			Krituliai	
Neveikiančios VE:					
Eilės NR.	Šikšnosparnių rūšis	Individų skaičius	Buveinė	Stebėjimo pobūdis	Stebėjimo koordinatės

RESULTS

From May to October 2022, bat species surveys were conducted using the http://corpi.lt/venbis/files/reports/VENBIS_3_1_3.pdf, Eurobats (pubseries_no6_english.pdf) methodological recommendations for bat research and the draft order of the Minister of the Environment of the Republic of Lithuania "On the approval of the description of the criteria for the significant negative impact of wind farms on birds and bats, the application of measures to prevent and eliminate damage to birds and bats, and the approval of research requirements" (https://eseimas.lrs.lt/portal/legalAct/lt/TAP/debddc11b73f11ec9f0095b4d96fd400?positionInSearchResults=0&searchModelUUID=ae0451f5-0420-4683-965a-f1dfb4466b17).

Chiropterological studies conducted in the PEA territory using transect and point count methods identified seven species of bats: the serotine bat (*Eptesicus serotinus)*, the northern bat *(Eptesicus nilssoni)*, the parti-coloured bat (*Vespertilio murinus*), the common noctule *(Nyctalus nactula)*, Nathusius' pipistrelle *(Pipistrellus nathusi)*, common pipistrelle *(Pipistrellus pipistrellus)* and soprano pipistrelle *(Pipistrellus pygmaeus)* (Table 4).

A total of 382 data points were collected on the detection/flight of bat species in the surveyed area (Table 4).

After summarising the collected data, it was established that 7 bat species were detected in the surveyed area. The Nathusius' pipistrelle (93 records), northern bat (100 records) and brown long-eared bat (75 records) are the most common. It should be noted that both the northern bat and the Nathusius' pipistrelle are the most abundant during both the breeding and migration periods. The northern bat is a local, wintering species or a close migrant, so some of the observations cannot be attributed to migration records.

Table 4. Bat species composition and detection/flight abundance in the surveyed area

Species name	Species name (abbreviation)	Sightings/flyovers	
		During the breeding season	During the migration period
Northern bat	Ept_nil	62	38
Serotine bat	Ept ser	20	9
Parti-coloured bat	Ves mur	4	5
Common bat	Nyc noc	41	34
Nathusius' pipistrelle	Pip ant	56	37
Common pipistrelle	Pip pip	29	17
Soprano pipistrelle	Pip pyg	18	12
Total:	**382**	**230**	**152**

The species composition and abundance data of bats in transects (n-4) and counting points (n-9) during the breeding and migration periods are presented in Tables 5 and 6 and Figures 4-7.

Table 5. Species composition and abundance of bats in transects of wind farm areas Nos. 1–7 during the breeding and migration periods.

Transect No.	Species name	Species abbreviation (abbreviation)	Detections/passes	
			During the breeding season	During migration period
1	Northern bat	Ept nil	8	1
	Common noctule	Nyc noc	6	3
	Nathusius' pipistrelle	Pip nat	11	7
2	Common noctule	Nyc noc	3	1
	Nathusius' pipistrelle	Pip nat	2	9
	Northern bat	Ept nil	6	3
3	Northern bat	Ept nil	2	0
	Nathusius' pipistrelle	Pip nat	7	1
	Common pipistrelle	Pip pip	1	0
4	Northern bat	Ept nil	9	4
	Common noctule	Nyc noc	7	8
	Nathusius' pipistrelle	Pip Nat	10	5
	Common pipistrelle	Pip pip	4	4
	Soprano pipistrelle	Pip pyg	0	2
Total: 124			**76**	**48**

Table 6. Species composition and abundance of bats at wind farm accounting points No. 1–9 during the breeding and migration periods.

Point No.	Species name	Species abbreviation (abbreviation)	Detections / flights	
			During the breeding season	During migration period
1	Northern bat	Ept nils	5	3
	Serotine bat	Ept ser	4	0
	Nathusius' pipistrelle	Pip nat	6	5
	Common noctule	Nyc noc	5	0
2	Northern bat	Ept nils	3	2
	Nathusius' pipistrelle	Pip nat	1	4
	Common pipistrelle	Pip pip	0	1
	Common noctule	Nyc noc	2	6
3	Northern bat	Ept nil	4	3
	Common noctule	Nyc noc	1	5
4	Northern bat	Ept nil	4	2
	Common noctule	Nyc noc	0	3

	Nathusius' pipistrelle	Pip nat	6	0
5	Soprano pipistrelle	Pip pyg	7	0
	Common noctule	Nyc noc	3	1
	Serotine bat	Ept ser	6	1
	Northern bat	Ept nil	5	8
	Nathusius' pipistrelle	Pip nat	1	0
	Common pipistrelle	Pip pip	3	0
6	Northern bat	Ept nil	4	2
	Common noctule	Nyc noc	7	1
	Nathusius' pipistrelle	Pip nat	1	1
	Common pipistrelle	Pip pip	7	1
7	Northern bat	Ept nil	2	1
	Nathusius' pipistrelle	Pip nat	1	0
	Common noctule	Nyc noc	2	0
8	Northern bat	Ept nil	0	1
	Nathusius' pipistrelle	Pip nat	0	1
	Common pipistrelle	Pip pip	2	0
	Common noctule	Nyc noc	2	4
9	Serotine bat	Ept ser	10	8
	Northern bat	Ept nil	10	7
	Parti-coloured bat	Ves mur	4	5
	Common noctule	Nyc noc	3	2
	Nathusius' pipistrelle	Pip nat	11	4
	Common pipistrelle	Pip pip	12	11
	Soprano pipistrelle	Pip pyg	11	10
Total: 258			**155**	**103**

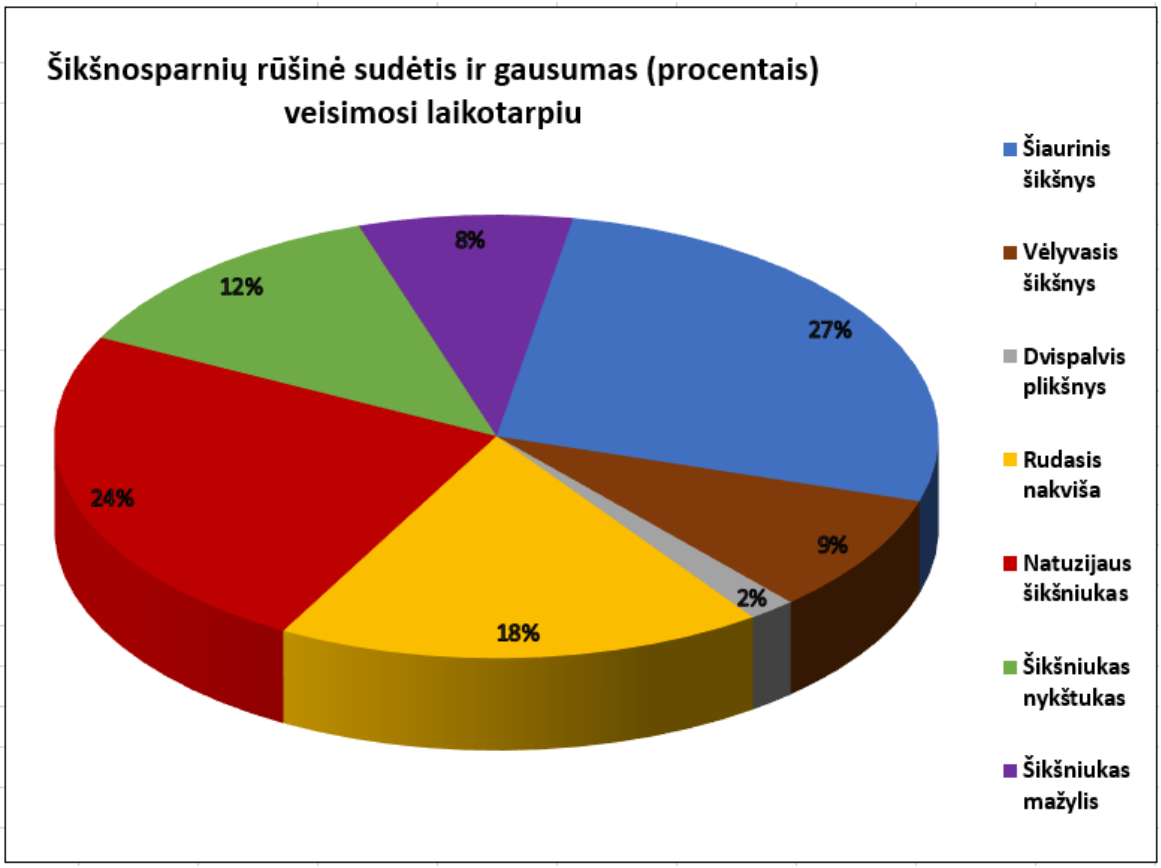


Figure 4. Species composition and abundance of bats in percentages during the breeding season

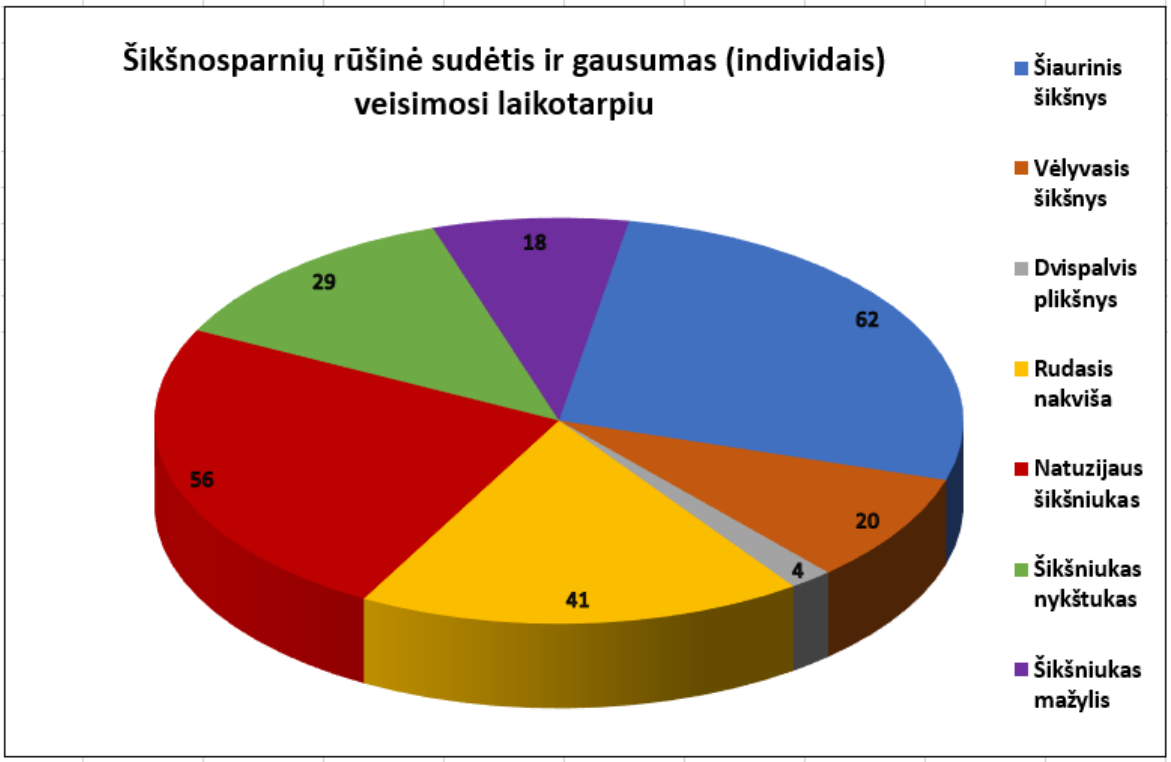


Figure 5. Species composition and abundance (ind.) of bats during the breeding season

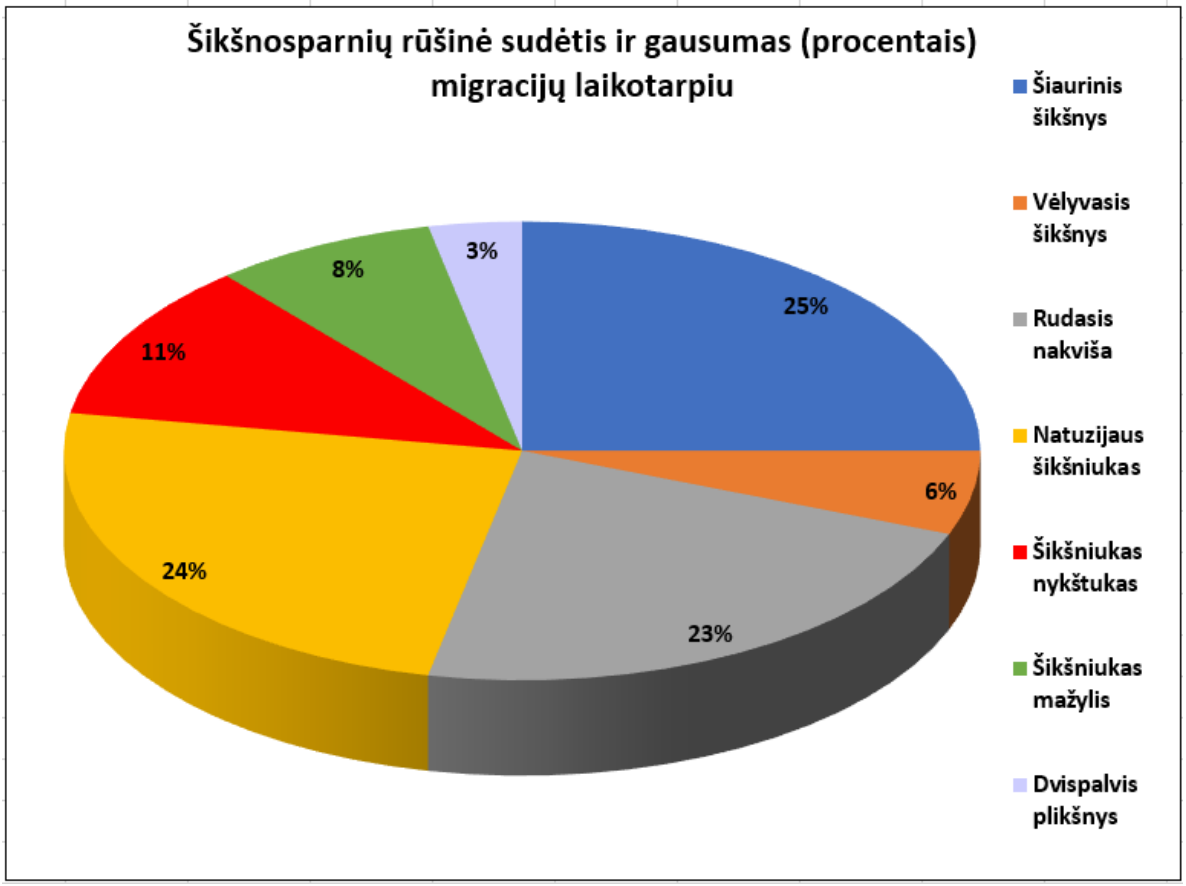


Figure 6. Species composition and abundance of bats (per cent) during the migration period

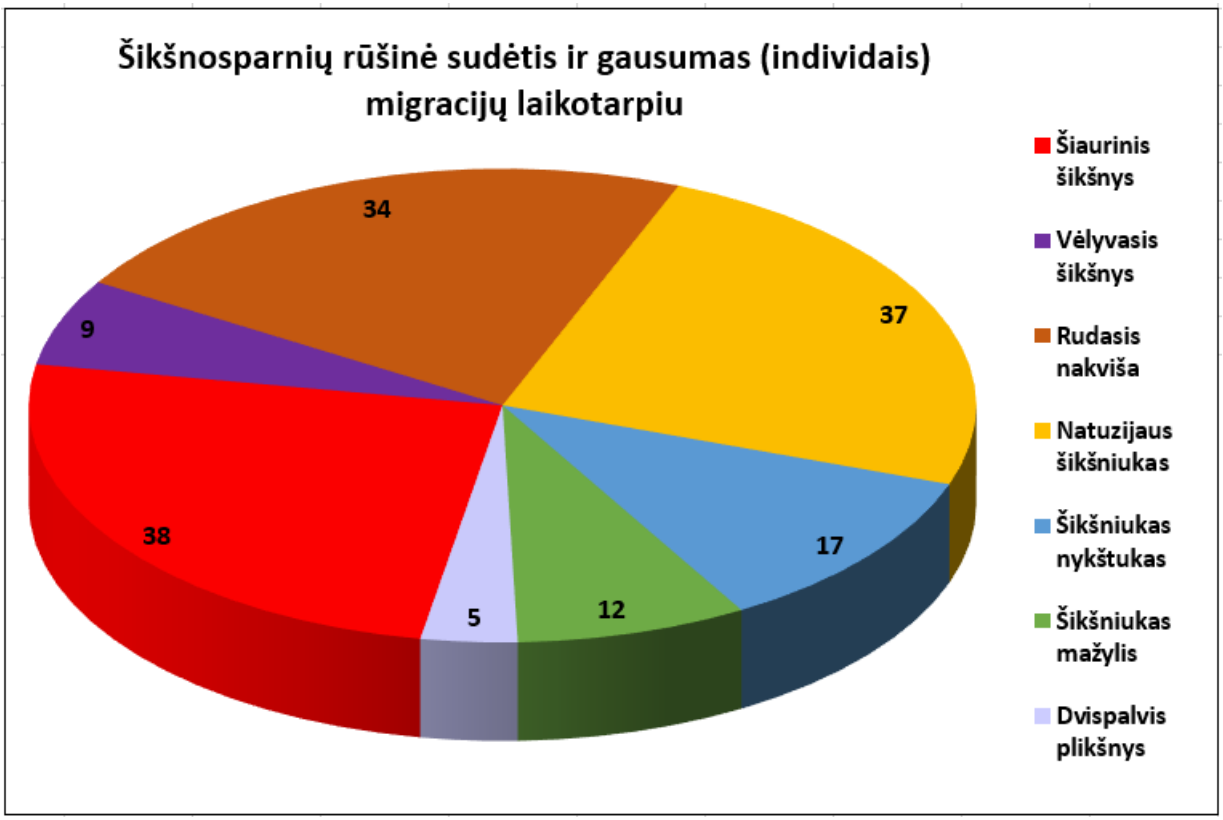


Figure 7. Bat species composition and abundance (ind.) during the migration period

SIGNIFICANCE OF THE IMPACT OF WIND FARMS ON BATS

The area of the planned wind farm has been little researched in terms of bats during the VENBIS project. The closest areas are marked as areas with low or medium sensitivity to bats in the VENBIS sensitivity assessment (Fig. 8). The Protected Species Information System (SRIS) contains two records of sightings of the water vole and the lesser mouse-eared bat. Observation dates: 22 and 26 June 1998. Observation location: Nemunėlio Radviliškis town.

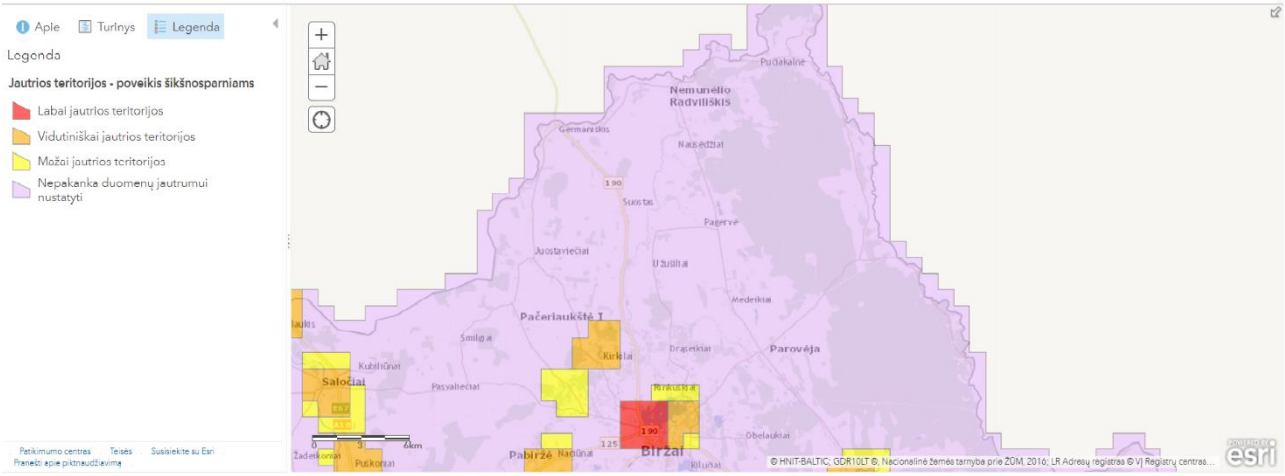


Figure 8. Sensitivity of territories in the PEA territory with regard to bats (VENBIS, 2017)

The planned activities, involving the installation of a wind farm, will have a negligible negative impact on bats during their breeding, feeding and migration periods, as no bat breeding colonies have been identified in the planned wind farm area. Feeding areas and migration routes are relevant for the northern bat (*Eptesicus nilssonii),* the parti-coloured bat (*Vespertilio murinus),* the serotine bat (*Eptesicus serotinus*), Nathusius' pipistrelle (*Pipistrellus nathusi),* common pipistrelle (*Pipistrellus pipistrellus),* soprano pipistrelle (*Pipistrellus pygmaeus)* and common noctule (*Nyctalus noctula).* It has been established that all of the above-mentioned bat species feed irregularly in the territory. During the breeding season, only temporary isolated bats were recorded in the PEA territory: northern bat (*Eptesicus nilssonii),* serotine bat *(Eptesicus serotinus),* lesser mouse-eared bat *(Vespertilio murinus),* Nathusius' pipistrelle *(Pipistrellus nathusii)* and common noctule *(Nyctalus noctula).* During migration, scattered, unconcentrated flights of northern bats (*Eptesicus nilssonii),* parti-coloured bats (*Vespertilio murinus),* common bats (*Nyctalus noctula),* Nathusius' pipistrelles (*Pipistrellus nathusii),* common pipistrelles (*Pipistrellus pipistrellus)* and soprano pipistrelles (*Pipistrellus pygmaeus*) during migration, some of which were recorded during migration of northern bats (*Eptesicus nilssonii)* and serotine bats (*Eptesicus serotinus)* during migration are not classified as migration records.

The planned WPP park area is not important for bats as a feeding ground, as it is dominated by agricultural land where monocultures are grown: rapeseed and various types of cereals. Such habitats are not attractive to bats due to the poor diversity and abundance of nocturnal moths (*Lepidoptera*),

dipterans (*Diptera*), beetles (*Coleoptera*) and other species. There are also no larger water bodies in the planned WPP territory, which are necessary for bat breeding colonies.
In summary, we affirm that the negative impact on bats during their breeding and migration periods caused by the installation of the planned 35 wind farms in the PEA territory would be insignificant.

The cumulative impact of wind farms on bats during breeding and migration in the adjacent area.

Currently, there are no operating/built wind farms in the PEA area. The cumulative impact of the planned wind farm (up to 35 wind turbines) in the Nemunėlio Radviliškis and Parovėja wards and the adjacent planned wind farm (up to 37 wind turbines) in the Parovėja and Nemunėlio Radviliškis wards may have a negligible cumulative negative impact on bats. The nearest WPP (WT 2) of the other wind farm is located approximately 1,900 m from WPP N25 of the wind farm described here (WT 1). When considering the cumulative impact on bats, it is important to note that the PEA territory is not designated as an important territory for bat breeding and migration (VENBIS, 2017).
It should be noted that, unlike birds, bats do not rely on sight during migratory flights, but use ultrasonic signals and usually fly during the dark hours of the day along "green corridors" (except for the coast): river beds, drainage ditches overgrown with vegetation, along forest edges, etc. They avoid large open areas, thus avoiding collisions with wind turbines, which are built at least 0.5 km away from such landscape elements (biotopes).
In view of this, it can be stated that the planned economic activity will slightly worsen the conditions for bat breeding, feeding, and seasonal migration in this area, but the impact will be insignificant if the planned mitigation measures are implemented.
In summary, we affirm that after the planned 35 WPP park is built and the proposed mitigation measures are implemented, the negative impact on bats during their breeding and migration periods would be insignificant.

RECOMMENDATIONS:
Based on the recommendations of VENBIS (http://corpi.lt/venbis/files/reports/VENBIS_3_1_3.pdf) Eurobats (pubseries_no6_english.pdf) recommendations and the Order of the Minister of the Environment of the Republic of Lithuania "On the approval of the draft description of the criteria for the significant negative impact of wind farms on birds and bats, the application of measures to prevent and eliminate damage to birds and bats, and the approval of research requirements"[1]. The wind power plants No.: N1, N6, N17, N19, N20, N22, N24, N25, 2N6, N30, N31, N32, N32-1, N34, N35 may have an increased negative impact on bats, as they are located less than 200 m from a forest. In this case, it is recommended that WPP No. N1, N6, N17, N19, N20, N22, N24, N25, 2N6, N30, N31, N32, N32-1, N34, N35 to be moved at least 200 metres (+ length of the blade) away from the edge of the forest or apply shutdown of WPP No. N1, N6, N17, N19, N20, N22, N24, N25, 2N6, N30, N31, N32, N32-1, N34, N35 during the dark hours of the day, from sunset to sunrise (except for nights when the wind speed exceeds 6 m/s, as well as during moderate rain (from 2.5 to < 10

[1] (https://e-seimas.lrs.lt/portal/legalAct/lt/TAP/debddc11b73f11ec9f0095b4d96fd400?positionInSearchResults=0&searchModelUUID=ae0451f5-0420-4683-965a-f1dfb4466b17)

mm/hour) and/or heavy rain (from 10 mm/hour) and when the air temperature at night does not reach +7oC). The measure is implemented from May 15 to October 1., once installed, that monitoring of bat mortality be carried out for three years.

PROPOSED MEASURES

The proposed measures to prevent and reduce the negative impact on bats are presented in Table 7.

Table 7. List of measures to prevent and reduce negative impacts on bats

WPP No	Impact	Proposed measures[2]
N1	Planned closer than 200 m (+blade length) from the forest	Shutdown of WPP
N2	None	
N3	None	
N4	None	
N5	None	
N6	Planned closer than 200 m (+blade length) from the forest	Shutdown of WPP
N8	None	
N9	None	
N10	None	
N11	None	
N12	None	
N13	None	
N15	None	
N16	None	
N17	Planned closer than 200 m (+blade length) from the forest	Shutdown of WPP
N18	None	
N19	Planned closer than 200 m (+blade length) from the forest	Shutdown of WPP
N20	Planned closer than 200 m (+blade length) from the forest	Shutdown of WPP
N22	Planned closer than 200 m (+blade length) from the forest	Shutdown of WPP
N23	None	

[2] Shutdown of WPP is applied during the dark hours of the day, from sunset to sunrise (except for nights when the wind speed exceeds 6 m/s, as well as during moderate rain (from 2.5 to < 10 mm/hour) and/or heavy rain (from 10 mm/hour) and when the air temperature at night does not reach +7oC). The measure is implemented from May 15 to October 1.

N24	Planned closer than 200 m (+blade length) from the forest	Shutdown of WPP
N25	Planned closer than 200 m (+blade length) from the forest	Shutdown of WPP
N26	Planned closer than 200 m (+blade length) from the forest	Shutdown of WPP
N27	None	
N28	None	
N29	None	
N30	Planned closer than 200 m (+blade length) from the forest	Shutdown of WPP
N31	Planned closer than 200 m (+blade length) from the forest	Shutdown of WPP
N32	Planned closer than 200 m (+blade length) from the forest	Shutdown of WPP
N32-1	Planned closer than 200 m (+blade length) from the forest	Shutdown of WPP
N32-2	None	
N33	None	
N34	Planned closer than 200 m (+blade length) from the forest	Shutdown of WPP
N35	Planned closer than 200 m (+blade length) from the forest	Shutdown of WPP
All WPP	In order not to attract more insects and bats that feed on them	Do not use additional WPP lighting that is not necessary to ensure aircraft safety

Compensatory measure:

In order to create safer roosting conditions for bats during their migration, it is proposed to apply a compensatory measure to reduce the possible negative impact – to install special bat boxes (standard type recommended). The nesting boxes must be placed no closer than 30 km from the planned boundaries of the wind farm. It is recommended to install at least 90 nesting boxes, placing 3 in each tree (30 nesting box locations).

OUTLINE OF THE PLANNED MONITORING PLAN

It is recommended to prepare a monitoring program for the impact of the wind farm on birds and bats, covering observation periods based on international best practice examples, and to carry out monitoring from one year before the start of construction and for three years after the start of operation of the wind farm, with one-year observations repeated periodically every two years if the impact is found to be significant. If a significant impact on birds and/or bats is identified, additional measures to prevent and mitigate negative impacts should be applied. The monitoring period may be extended if a significant impact of the wind farm on bats is identified, i.e. if two or more bats are killed per year at a single wind turbine. The recommended monitoring program requirements (periods, number of counts, etc.) for bat breeding and seasonal migrations are specified in Table 8.

Table 8. Recommended bat monitoring programme

Period[3]	**Number of counts**	**Target bat migrations**
16 May – 1 August	5 (every two weeks)	Bat feeding flights
2 August – 1 November	12 (every week or every two weeks)	Autumn bat migration

Counts are carried out throughout the wind farm and the surrounding area. During observations, both local populations that hibernate, feed and/or breed near wind farms and species migrating through the wind farm area should be analysed. Bat counts are carried out using ultrasonic detectors, which can be portable or stationary. Ultrasonic detectors used for bat surveys must be calibrated and standardised during monitoring and must operate in the range from the lowest to the highest ultrasonic frequencies emitted by bats. Ideally, the detector should record the GPS coordinates of the registered bats. Bat observations should be carried out in calm weather, without strong wind or rain, and the temperature should not be lower than +7°C (it is recommended that it exceed +10°C at night).

Bat counts during the breeding season are carried out from mid-May to mid-August, once every two weeks, with observations throughout the night. The counts are carried out using a portable ultrasonic detector, walking along transects that should cover different landscape elements (tree lines, water bodies, shrubbery, meadows, etc.) and different distances from the wind farm.

Bat counts must be carried out in the wind farm and the surrounding area. During the counts, potential roosting and feeding sites for bats should also be checked. The search for breeding colonies and roosting sites should cover an area of at least 1 km from the planned site of economic activity. Known colonies within a distance of 5 km should also be investigated. Greater attention should be paid to species that feed high above the tree canopy, such as pipistrelles, noctules, serotine bats, European broad-eared bats and parti-coloured bats.

Bat surveys should also cover small wind turbine sites, as even individual wind turbines built in sensitive locations, e.g. near tree lines, ponds or shrubbery, can pose a risk no less than an entire wind

[3] When preparing a monitoring programme, it is recommended to consult with scientists regarding the periods and number of counts specified in Table 8.

farm. If technically feasible, bat monitoring can be carried out using stationary ultrasonic detectors. Stationary detectors are mounted on tall poles or meteorological towers and left to operate overnight, thus collecting information about bats flying at that height. Stationary detectors are often used to collect information about bat activity at the height of the rotor blades – for this purpose, they are installed at least 40 metres above the ground. The height of 40 to 200 metres is potentially the most dangerous in terms of direct bat mortality. If possible, stationary detectors in the wind farm area can be left operating throughout the season.

Studies of migrating bats are carried out in spring and autumn. Autumn migration is more intense and risky for bats than spring migration, so greater attention should be paid to observations from the second half of summer onwards. Observations are carried out as follows: if wintering sites are known, they are monitored in spring from mid-April to mid-May to determine bat activity. Observations are carried out every 10 days, during the first half of the night. during autumn migration from mid-August to early October every 10 days, observing throughout the night. Surveys must be carried out throughout the entire VE park territory and in the adjacent territory up to 1 km. Counts are carried out using a portable ultrasonic detector, walking along transects that must include different landscape elements (tree lines, water bodies, shrubbery, meadows, etc.) and different distances from the VE.

Dead bats are counted every 5 days during periods of intensive seasonal bat migration – April-May and August-October. Counts of bats killed during the winter and summer months are necessary if sensitive species are found to be using the area. Counts are carried out by walking transects within a 50 m radius around each of the selected wind turbines. The width of the transect depends on visibility conditions: 5 metres for low vegetation and 3 metres for tall vegetation. If the surveys are carried out in a wind farm where it is not possible to survey the areas under all wind turbines, a part of the wind turbines is selected for the survey of dead birds and bats, distributed evenly throughout the area and taking into account the nature of the economic activity of the specific plot and the possibilities for conducting searches. In the case of each specific wind farm, an expert assessment determines how many wind turbines are sufficient for a correct assessment of bat mortality, but no less than 40% of the wind turbines must be selected. If search conditions deteriorate (e.g. due to changes in land use), the VE plot being searched may be changed during the season. The observer who finds a dead bat records the data in a data collection table, indicating the date, time, coordinates, species and, if possible, sex and age. It is also necessary to determine the cause of death of the bat, the nature of the injury, the distance from the nearest bat roost, and to mark the location of the find on a map, assessing its position not only in relation to the bat roost, but also to other objects such as power lines or towers. It is recommended that all bats found dead be transferred to the T. Ivanauskas Zoological Museum in Kaunas or, if they refuse to accept them, to another scientific or educational institution.

Based on scientific literature and published reports on the impact of wind farms, quite different methodologies are used in different countries and different wind farms to estimate the number of birds and animals that may be killed. The main parameters used are the actual number of dead animals found, estimates of searcher efficiency and predator activity, and the part of the park where the search was conducted. Some methodologies include additional parameters, such as animal survival probability (Kostecke et al., 2001), bird flight parameters (Farfan et al., 2009), search frequency (Huso, 2010; Korner-Nievergelt et al., 2011), etc. Some authors use models to estimate the number of birds that may be killed based on the current abundance of birds in the area. Some estimates also include changes in weather parameters (Young, et al., 2012). One of the simpler formulas, which has

already been applied to estimate the number of bats killed in Lithuanian wind farms, is as follows (based on Koford et al., 2004; Everaert and Stienen, 2007):

A=a/((B*C*D),

where A is the number of bats killed,

a is the number of dead bats found,

B is the proportion of bait not taken by predators over 7 days,

C is the proportion of bait found by searchers,

D is the proportion of searched WPPs out of the total number of WPPs in the park.

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TEXT ANNEX 7. EXAMPLE OF BIRD PROTECTION MEASURES

IdentiFlight bird protection system

https://www.identiflight.com/

The IdentiFlight system's surveillance towers operate as an autonomous system that detects, classifies, and disables specific WPPs that may pose a threat to birds. The system detects birds from up to one kilometre away and classifies them in real time as protected species, such as eagles (or not). IdentiFlight system surveillance towers can be positioned to cover several wind farms in a single WPP. Installed as a network with overlapping air coverage, the systems work together to ensure the best possible protection for birds in the area.





IdentiFlight technology combines high-performance optical systems with the latest machine vision and AI software. Deployed as a network, IdentiFlight towers operate as an autonomous system with overlapping air coverage for maximum detail. Patented software and neural network technology process images to determine 3D position, speed, trajectory, and protected bird species of interest—**all within seconds of detection**. By detecting a bird even at a distance of one kilometre and classifying it as a protected species, such as an eagle (or not), the IdentiFlight system provides WPP operators with important visual and quantitative data needed to reduce or avoid collisions. **Protected birds are preserved, and WPP electricity generation losses are minimized**.

Image sensors

The IdentiFlight image acquisition head **consists of eight wide field of view (WFOV) cameras** fixed in place. The task of the WFOV cameras is to detect moving objects in the environment and start tracking them. The detection of birds can be complicated by other moving objects in the area, such as WPP blades, clouds, swaying trees, cows, cars, people, airplanes, etc. Machine vision technology The IdentiFlight system automatically detects movement of interest and ignores other things through "masking" algorithms.

Other technologies, such as radar, often claim to provide masking algorithms. However, IdentiFlight's masking algorithms are industry-leading because they can track a bird even when it is flying in front of the wind turbine rotor disk. Radar technologies must mask the entire rotor disc and therefore lose the bird if it is in front of the wind turbine.

Once an object is detected, the IdentiFlight system directs two high-resolution stereoscopic cameras (HRSC) toward the object. The HRSC's task is to determine the distance to the object and collect the data needed to determine whether the object is a dominant species or not. Stereoscopic measurements determine the distance.

Technology

Machine vision methods consist of analyzing images according to a set of rules to determine how well the image matches the desired characteristics. For example, is the bird the right size? Do its colour characteristics match the target species? Are the wing profiles similar to those of the target species, such as the flat gliding profile of an eagle or the "double-winged" profile of a vulture?

Each frame collected by the high-resolution stereo cameras (HRSC) is analyzed to match a predefined set of rules. Pattern recognition technology has created catalogues of rules that analyze the images obtained by the HRSC.

In addition to machine vision methods that analyze specific predefined image attributes, IdentiFlight also uses convolutional neural network technology. With this technology, millions of images collected from the IdentiFlight system's dataset are used to train the neural network. The neural network is trained using images known as target species and adjusted to reduce species prediction errors compared to a large set of known bird image confirmations. IdentiFlight finds that, when properly trained, neural network classification outperforms even machine vision methods. The use of convolutional neural network data allows the system to continuously learn and improve as the dataset grows.

Restrictions

The IdentiFlight system protects species by purposefully restricting the operation of wind turbines. The IdentiFlight system detects and identifies protected birds at a sufficient distance from specific wind turbines to initiate the restriction of the operation of one or more wind turbines to reduce the risk of bird strikes with that wind turbine.

The restriction logic is located in the IdentiFlight base station, where signals can be automatically sent to the customer's SCADA system for immediate action.

When setting the parameters for reducing the wind farm, there are several variables that can be adjusted to achieve the desired cost-benefit level. There is no "one size fits all" approach. WPP park A may tolerate a certain number of pickups due to the pickup permit, but WPP park B may not tolerate any pickups, resulting in a very conservative reduction program. The restriction criteria are ultimately set by the operator and are highly configurable.

The highly effective detection capabilities of IdentiFlight for VE restriction encourage the need to develop smarter ways of thinking about restrictions.

Dynamic data-driven strategies are possible by simulating different strategies to achieve a balance between the need to preserve birds and the need to generate revenue.

IdentiFlight data uses AI methods to optimize restrictions. Research shows that bird behaviour at some wind farms may be inherently less risky than at others, meaning that the balance between risk and protection can be further optimized.

Detection	The bird flies into the detection range, and the IdentiFlight system continuously analyzes wide-field images using an array of eight cameras, detects the bird's movement, and directs the stereo cameras toward the bird, locking onto it.
Classification	The IdentiFlight system uses stereo cameras to determine the distance to the bird, then classifies it based on our neural network and the bird's physical characteristics. The system then sends the data to a local database and base station. These first two steps take place in milliseconds.
Data presentation	The base station sends data to a graphical display on site, a reduction module for analysis, and the IdentiFlight system dashboard for real-time operation and data analysis.

Flight analysis	The restriction module analyzes the flight trajectory of birds in relation to the wind turbine and determines whether to restrict the wind turbine's operation. The restriction may be caused by proximity, trajectory, or flight characteristics.
Restriction	If the restriction module detects that a bird is at risk, it will send a restriction signal to the customer's SCADA network via OPC or other means. In addition, the IdentiFlight system dashboard displays UAV activity restrictions as well as images that can be analyzed by qualified personnel to determine whether the correct decision was made.

Advantages of the IdentiFlight system

Alternative technologies have not proven to be as effective as the IdentiFlight system. The first and most common method is to use human "biomonitors" to scan the sky for protected birds and then instruct specific WPs to restrict their operations. Numerous studies have shown that the IdentiFlight system can detect many times more birds than humans. Furthermore, as an automated solution, the IdentiFlight system can continue to operate in adverse weather conditions, such as lightning, when biomonitors must leave the site for safety reasons.

Other technologies use wide-angle camera systems to detect birds and activate/turn on noise sources to scare away all birds, so that VE activities do not have to be restricted. Unfortunately, there is insufficient evidence that these deterrents are effective. In addition, camera systems cannot know the distance of birds, so there is often confusion between species, including insects. The advantage of the IdentiFlight system over such systems is its ability to detect birds at a sufficient distance, making restriction a promising protection strategy. Furthermore, the noise generated by deterrent measures can complicate the issuance of permits and public acceptance, and birds can become accustomed to the noise and lose any protective value.

Radar was proposed as another possible solution. IdentiFlight detection technology is superior to radar for daytime species because radar cannot effectively identify species. Although radar wavelengths receive reflected energy from bird-sized objects, the ability to detect birds from among moving objects, including rotating wind turbine blades, has been very challenging. The IdentiFlight system's masking algorithms allow it to see rotating WGs with minimal confusion, continue to track birds, and send high-resolution stereoscopic cameras to investigate specific targets and distinguish them from unimportant flocks of birds that may be too complex for radar.

A huge advantage of the IdentiFlight system over other methods is its ability to identify species in real time using a patented hybrid of machine vision and neural network technologies.


IdentiFlight®
Minimizing wildlife impacts
while maximizing
energy production

Protecting Birds Around the World with Industry Leading Results

The IdentiFlight aerial detection system blends artificial intelligence with the high-precision optical technology to detect eagles and other protected avian species. In an operating wind farm, IdentiFlight contributes to protected avian species conservation by helping protect them from collisions with rotating wind turbine blades. In wind project development, IdentiFlight helps in permitting sites by accurately quantifying avian activity at prospective sites. Automatic detection and species determination occur within seconds for birds flying within a one kilometer hemisphere around an IdentiFlight tower. The IdentiFlight system is commercially deployed at projects around the world. It has actively tracked and documented over 2.2 million eagles, increasing by 1 million every year with over 47 million images of protected species gathered. With every identification, the IdentiFlight system becomes more accurate and robust.

Ability to detect birds anywhere within 1km range with a 200ms response time

Ability to identify, target, and distinguish protected species

Ability to distinguish among species with similar wingspans

Detectability rate of more than 99%

High resolution stereoscopic imagery

Position, velocity, predictive trajectory & course probability all calculated in realtime

Continuous operation with real time identification and decision making

Alarms and output signals for immediate curtailment





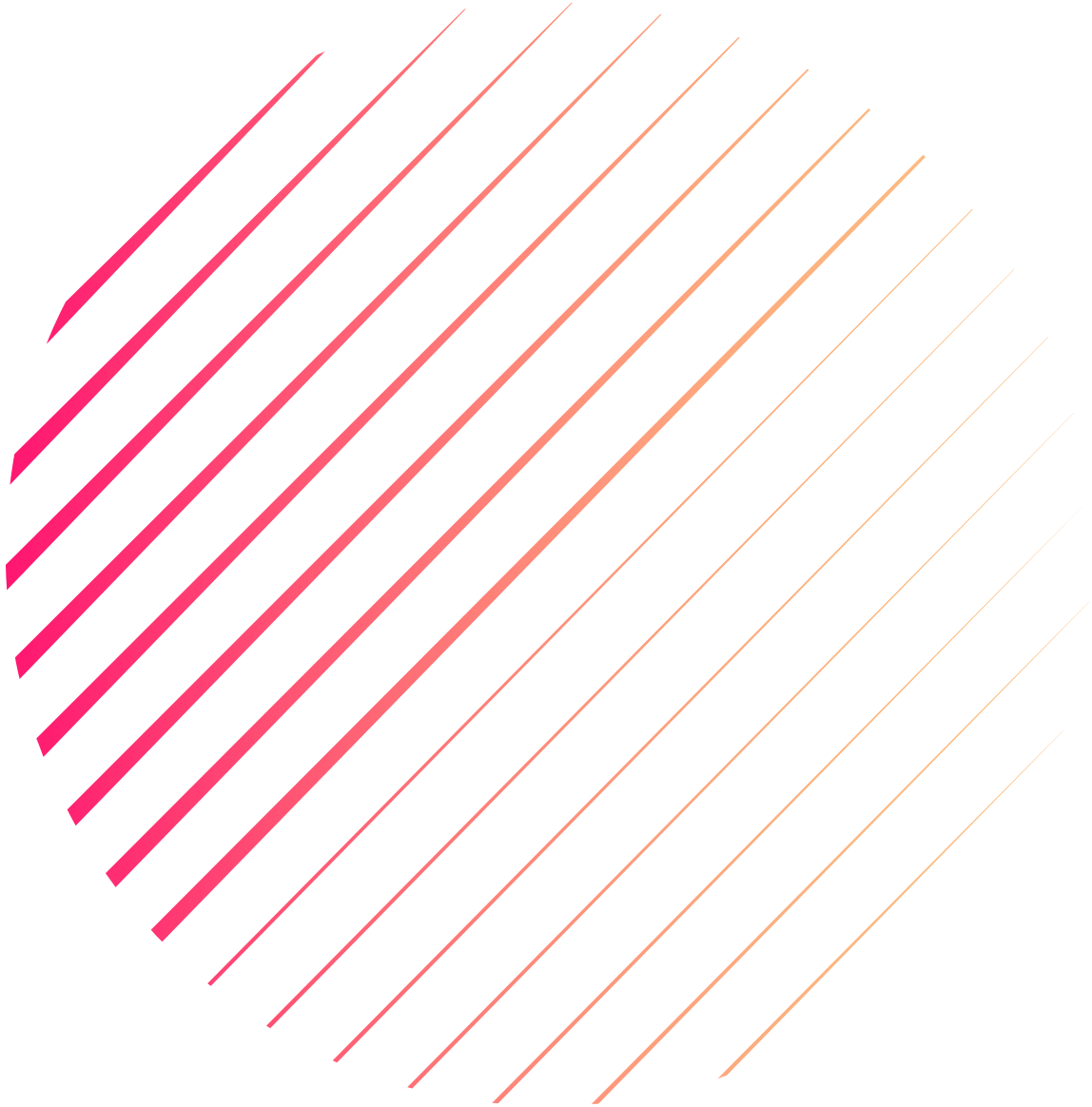
We help customers

navigate the complex environment of **protecting specific avian species** while **sustaining an efficient and productive** wind farm.

To learn more visit
www.identiflight.com

TEXT ANNEX 8. HEALTH STATISTICS

HEALTH STATISTICS



SWECO

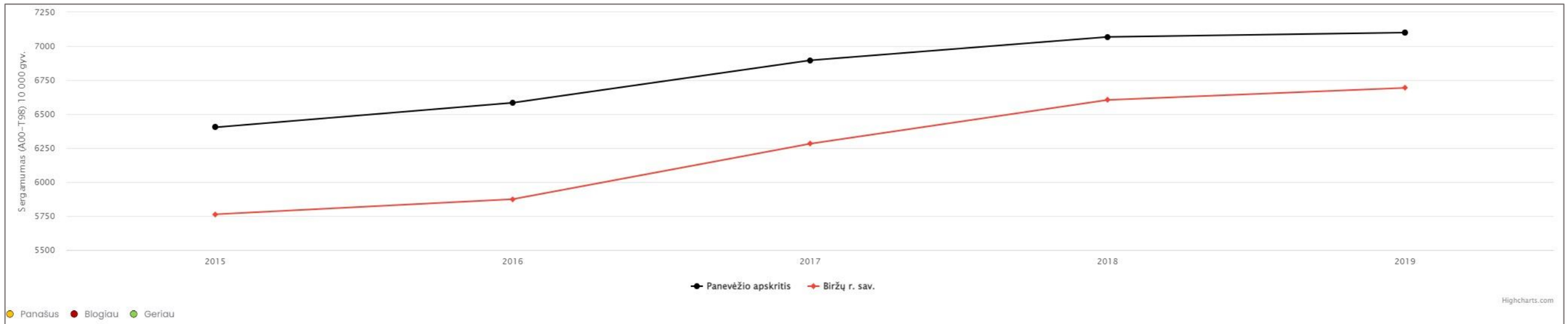
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Tendencija: Nekinta Didėja Mažėja Geriau Blogiau Panašus Nepalyginamas

Savivaldybė	Tendencija	Kiekis	Reikšmė	Grafikas	Apatinis PI	Viršutinis PI
Lietuva		1 951 166	6 983,0		6 973,2	6 992,8
Panevėžio apskritis		151 159	7 099,9		7 064,1	7 135,8
Panevėžio m. sav.		66 468	7 683,1		7 624,8	7 741,7
Biržų r. sav.		15 359	6 693,5		6 588,1	6 800,3
Kupiškio r. sav.		11 741	7 091,7		6 964,0	7 221,1
Panevėžio r. sav.		23 875	6 746,8		6 661,5	6 833,0
Pasvalio r. sav.		14 733	6 377,1		6 274,5	6 480,9
Rokiškio r. sav.		18 983	6 684,2		6 589,4	6 779,9

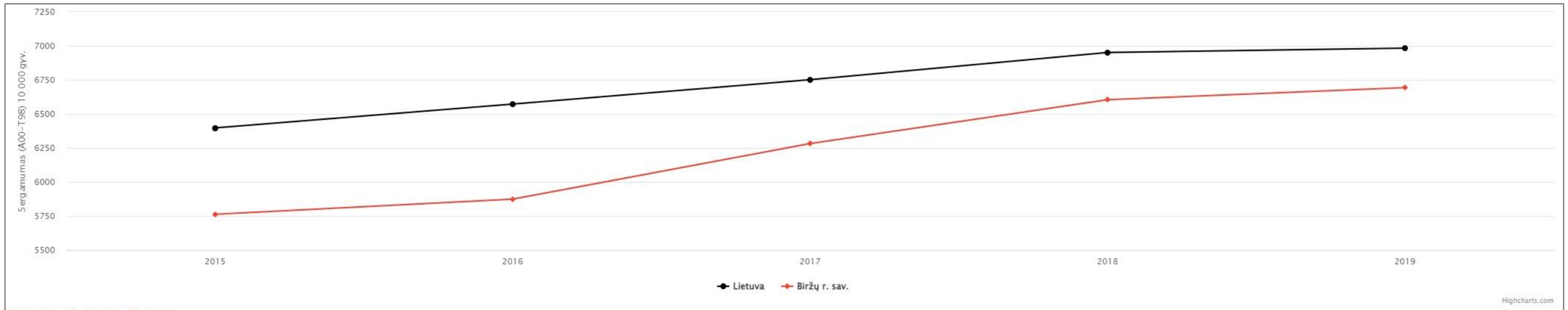
Fig. 1. Overall incidence (A00-T98) per 10,000 population in Panevėžys County, 2019



Panašus Blogiau Geriau

Metai		Kiekis	Reikšmė	Apatinis PI	Viršutinis PI	Kontekstas
2015		14 797,0	5 762,5	5 670,0	5 856,1	6 403,0
2016		14 704,0	5 874,1	5 779,5	5 969,8	6 583,2
2017		15 209,0	6 281,6	6 182,2	6 382,2	6 895,5
2018		15 502,0	6 603,6	6 500,1	6 708,4	7 068,0
2019		15 359,0	6 693,5	6 588,1	6 800,3	7 099,9

Fig. 2. Incidence (A00-T98) per 10,000 population, 2015-2019, in Panevėžys County



Panašus Blogiau Geriau

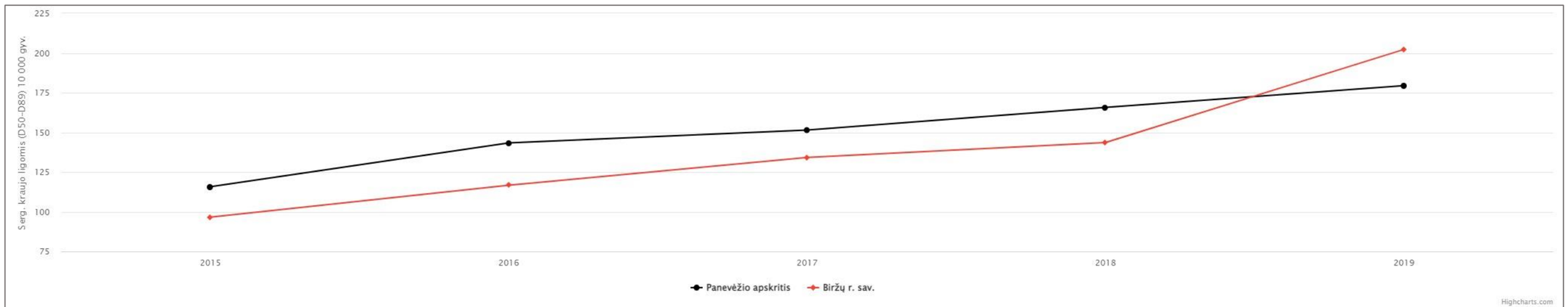
Metai		Kiekis	Reikšmė	Apatinis PI	Viršutinis PI	Kontekstas
2015		14 797,0	5 762,5	5 670,0	5 856,1	6 396,6
2016		14 704,0	5 874,1	5 779,5	5 969,8	6 571,6
2017		15 209,0	6 281,6	6 182,2	6 382,2	6 751,4
2018		15 502,0	6 603,6	6 500,1	6 708,4	6 951,5
2019		15 359,0	6 693,5	6 588,1	6 800,3	6 983,0

Fig. 3. Incidence (A00-T98) per 10,000 population, 2015-2019, Lithuania

Tendencija: Nekinta Didėja Mažėja Geriau Blogiau Panašus Nepalyginamas

Savivaldybė	Tendencija	Kiekis	Reikšmė	Grafikas	Apatinis PI	Viršutinis PI
Lietuva		37 886	135,6		134,2	137,0
Panevėžio apskritis		3 820	179,4		173,8	185,2
Panevėžio m. sav.		1 711	197,8		188,5	207,4
Biržų r. sav.		464	202,2		184,2	221,5
Kupiškio r. sav.		285	172,1		152,7	193,3
Panevėžio r. sav.		609	172,1		158,7	186,3
Pasvalio r. sav.		298	129,0		114,8	144,5
Rokiškio r. sav.		453	159,5		145,2	174,9

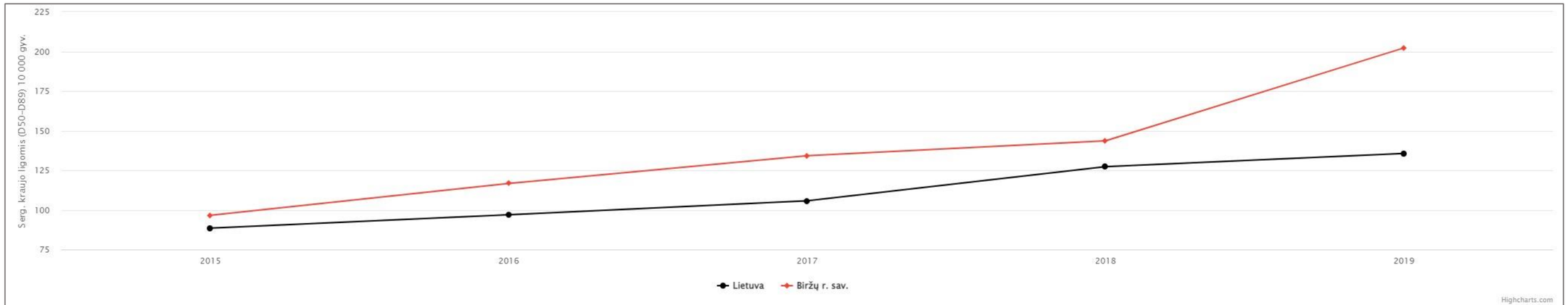
Fig. 4. Incidence of blood diseases (D50-D89) per 10,000 population in Panevėžys County, 2019



Panašus Blogiau Geriau

Metai		Kiekis	Reikšmė	Apatinis PI	Viršutinis PI	Kontekstas
2015		248,0	96,6	84,9	109,4	115,7
2016		292,0	116,7	103,7	130,8	143,3
2017		325,0	134,2	120,0	149,6	151,4
2018		337,0	143,6	128,6	159,7	165,7
2019		464,0	202,2	184,2	221,5	179,4

Fig. 5. Incidence of blood diseases (D50-D89) per 10,000 population, 2015-2019, in Panevėžys County



Panašus Blogiau Geriau

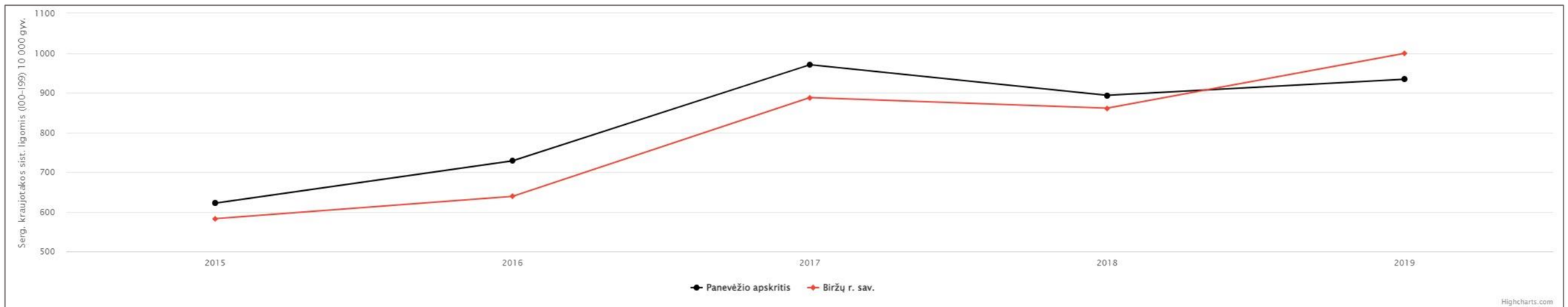
Metai		Kiekis	Reikšmė	Apatinis PI	Viršutinis PI	Kontekstas
2015		248,0	96,6	84,9	109,4	88,5
2016		292,0	116,7	103,7	130,8	96,9
2017		325,0	134,2	120,0	149,6	105,7
2018		337,0	143,6	128,6	159,7	127,3
2019		464,0	202,2	184,2	221,5	135,6

Fig. 6. Incidence of blood diseases (D50-D89) per 10,000 inhabitants, 2015-2019, in Lithuania

Tendencija: Nekinta Didėja Mažėja Geriau Blogiau Panašus Nepalyginamas

Savivaldybė	Tendencija	Kiekis	Reikšmė	Grafikas	Apatinis PI	Viršutinis PI
Lietuva		244 007	873,3		869,8	876,7
Panevėžio apskritis		19 882	933,8		920,9	946,9
Panevėžio m. sav.		8 221	950,3		929,8	971,0
Biržų r. sav.		2 292	998,9		958,4	1 040,6
Kupiškio r. sav.		1 541	930,8		884,9	978,4
Panevėžio r. sav.		3 069	867,3		836,9	898,5
Pasvalio r. sav.		2 139	925,9		887,0	965,9
Rokiškio r. sav.		2 620	922,5		887,5	958,6

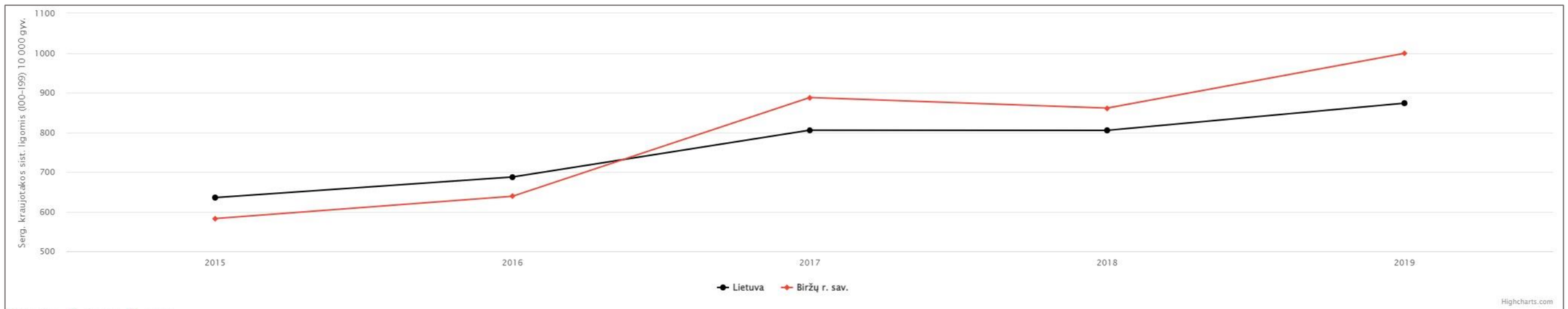
Fig. 7. Incidence of diseases of the circulatory system (I00-I99) per 10,000 population, Panevėžys County, 2019



Panašus Blogiau Geriau

Metai		Kiekis	Reikšmė	Apatinis PI	Viršutinis PI	Kontekstas
2015		1 496,0	582,6	553,4	612,9	621,4
2016		1 598,0	638,4	607,5	670,5	728,0
2017		2 149,0	887,6	850,4	925,9	970,3
2018		2 021,0	860,9	823,8	899,3	893,2
2019		2 292,0	998,9	958,4	1 040,6	933,8

Fig. 8. Incidence of circulatory system diseases (I00-I99) per 10,000 population, 2015-2019, in Panevėžys County



Panašus Blogiau Geriau

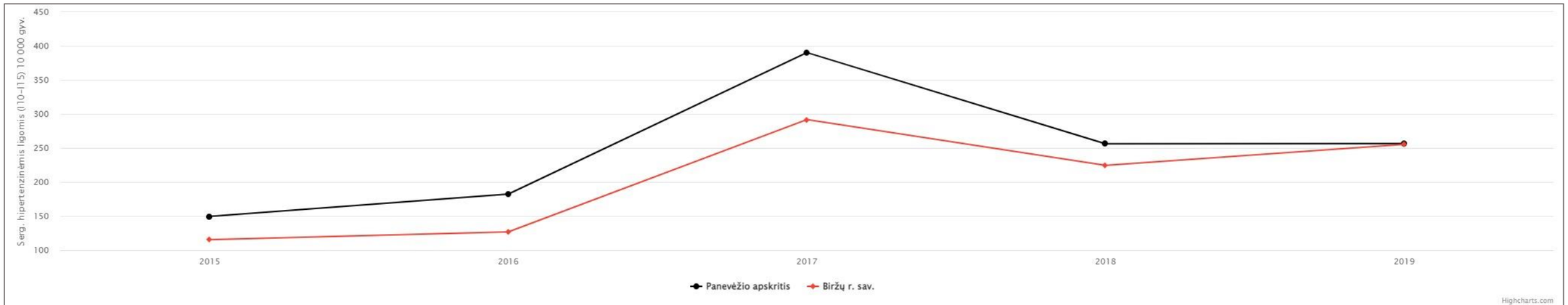
Metai		Kiekis	Reikšmė	Apatinis PI	Viršutinis PI	Kontekstas
2015		1 496,0	582,6	553,4	612,9	635,2
2016		1 598,0	638,4	607,5	670,5	687,1
2017		2 149,0	887,6	850,4	925,9	805,2
2018		2 021,0	860,9	823,8	899,3	804,6
2019		2 292,0	998,9	958,4	1 040,6	873,3

Fig. 9. Incidence of circulatory system diseases (I00-I99) per 10,000 population, 2015-2019, Lithuania

Tendencija: Nekinta Didėja Mažėja Geriau Blogiau Panašus Nepalyginamas

Savivaldybė	Tendencija	Kiekis	Reikšmė	Grafikas	Apatinis PI	Viršutinis PI
Lietuva		81 370	291,2		289,2	293,2
Panevėžio apskritis		5 460	256,5		249,7	263,3
Panevėžio m. sav.		2 143	247,7		237,3	258,4
Biržų r. sav.		586	255,4		235,1	276,9
Kupiškio r. sav.		403	243,4		220,2	268,4
Panevėžio r. sav.		918	259,4		242,9	276,8
Pasvalio r. sav.		657	284,4		263,0	307,0
Rokiškio r. sav.		753	265,1		246,5	284,8

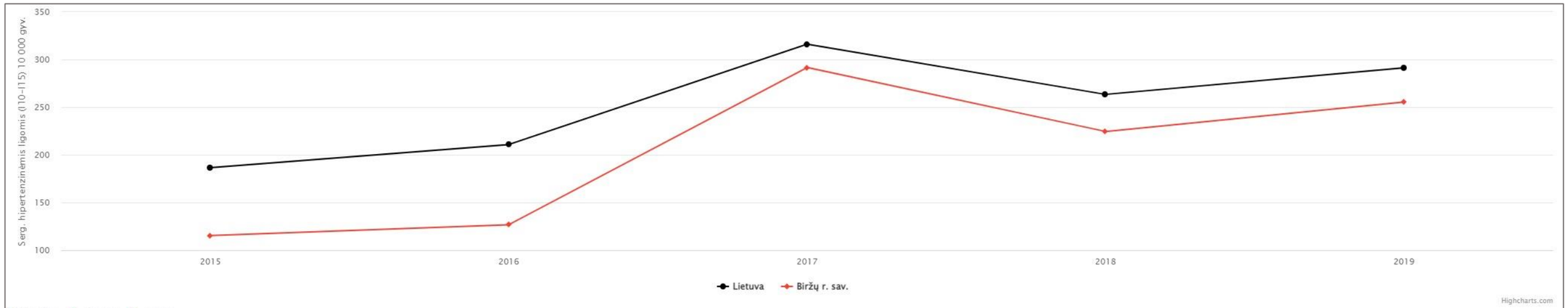
Fig. 10. Incidence of hypertensive diseases (I10-I15) per 10,000 population, Panevėžys County, 2019



Panašus Blogiau Geriau

Metai		Kiekis	Reikšmė	Apatinis PI	Viršutinis PI	Kontekstas
2015		296,0	115,3	102,5	129,2	149,4
2016		317,0	126,6	113,1	141,4	182,2
2017		706,0	291,6	270,5	313,9	390,1
2018		527,0	224,5	205,7	244,5	256,2
2019		586,0	255,4	235,1	276,9	256,5

Fig. 11. Incidence of hypertensive diseases (I10-I15) per 10,000 population, 2015-2019, in Panevėžys County



Panašus Blogiau Geriau

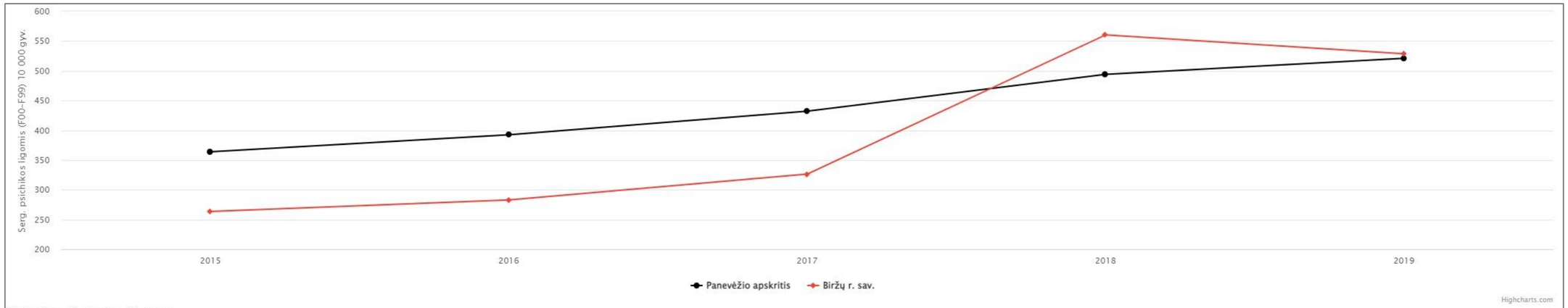
Metai		Kiekis	Reikšmė	Apatinis PI	Viršutinis PI	Kontekstas
2015		296,0	115,3	102,5	129,2	186,6
2016		317,0	126,6	113,1	141,4	210,8
2017		706,0	291,6	270,5	313,9	316,1
2018		527,0	224,5	205,7	244,5	263,4
2019		586,0	255,4	235,1	276,9	291,2

Fig. 12. Incidence of hypertensive diseases (I10-I15) per 10,000 population, 2015-2019, Lithuania

Tendencija: Nekinta Didėja Mažėja Geriau Blogiau Panašus Nepalyginamas

Savivaldybė	Tendencija	Kiekis	Reikšmė	Grafikas	Apatinis PI	Viršutinis PI
Lietuva		106 823	382,3		380,0	384,6
Panevėžio apskritis		11 088	520,8		511,1	530,6
Panevėžio m. sav.		4 944	571,5		555,7	587,6
Biržų r. sav.		1 213	528,6		499,3	559,2
Kupiškio r. sav.		940	567,8		532,0	605,3
Panevėžio r. sav.		1 770	500,2		477,2	524,0
Pasvalio r. sav.		1 225	530,2		501,0	560,8
Rokiškio r. sav.		996	350,7		329,3	373,2

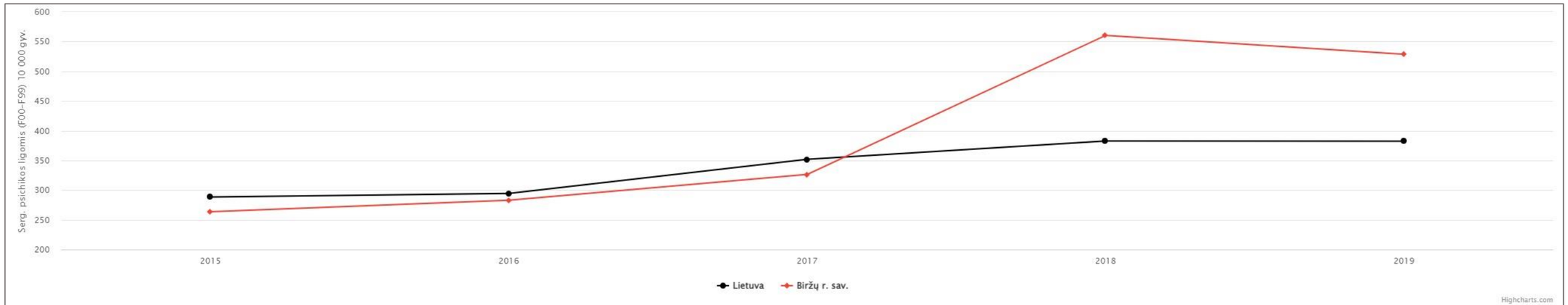
Fig. 13. Incidence of mental disorders (F00-F99) per 10,000 population, Panevėžys County, 2019



Panašus Blogiau Geriau

Metai		Kiekis	Reikšmė	Apatinis PI	Viršutinis PI	Kontekstas
2015		677,0	263,6	244,2	284,3	363,7
2016		708,0	282,8	262,4	304,5	392,4
2017		790,0	326,3	303,9	349,9	432,1
2018		1 315,0	560,2	530,3	591,3	494,1
2019		1 213,0	528,6	499,3	559,2	520,8

Fig. 14. Incidence of mental disorders (F00-F99) per 10,000 population, 2015-2019, in Panevėžys County



Panašus Blogiau Geriau

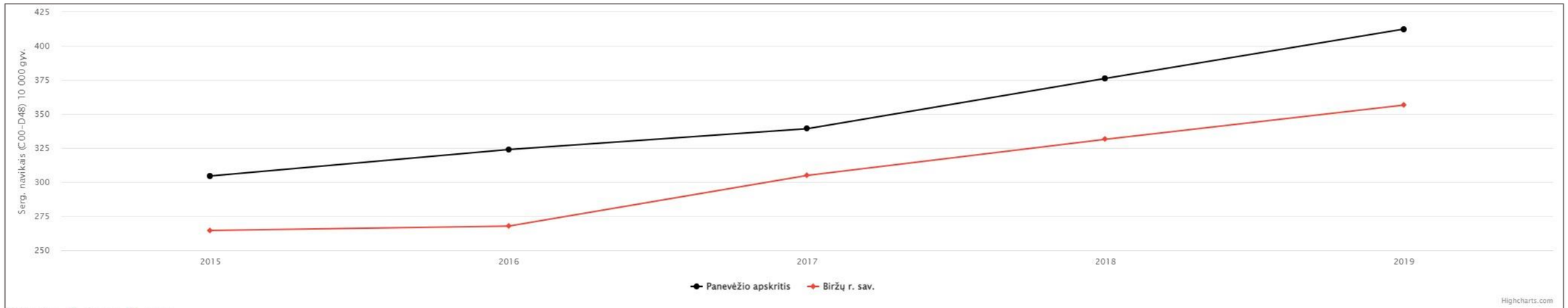
Metai		Kiekis	Reikšmė	Apatinis PI	Viršutinis PI	Kontekstas
2015		677,0	263,6	244,2	284,3	288,4
2016		708,0	282,8	262,4	304,5	294,3
2017		790,0	326,3	303,9	349,9	351,6
2018		1 315,0	560,2	530,3	591,3	382,4
2019		1 213,0	528,6	499,3	559,2	382,3

Fig. 15. Incidence of mental disorders (F00-F99) per 10,000 population, 2015-2019, Lithuania

Tendencija: Nekinta Didėja Mažėja Geriau Blogiau Panašus Nepalyginamas

Savivaldybė	Tendencija	Kiekis	Reikšmė	Grafikas	Apatinis PI	Viršutinis PI
Lietuva		114 247	408,9		406,5	411,3
Panevėžio apskritis		8 779	412,3		403,8	421,1
Panevėžio m. sav.		3 904	451,3		437,2	465,6
Biržų r. sav.		818	356,5		332,5	381,8
Kupiškio r. sav.		587	354,6		326,4	384,4
Panevėžio r. sav.		1 393	393,6		373,2	414,9
Pasvalio r. sav.		699	302,6		280,5	325,8
Rokiškio r. sav.		1 378	485,2		459,9	511,5

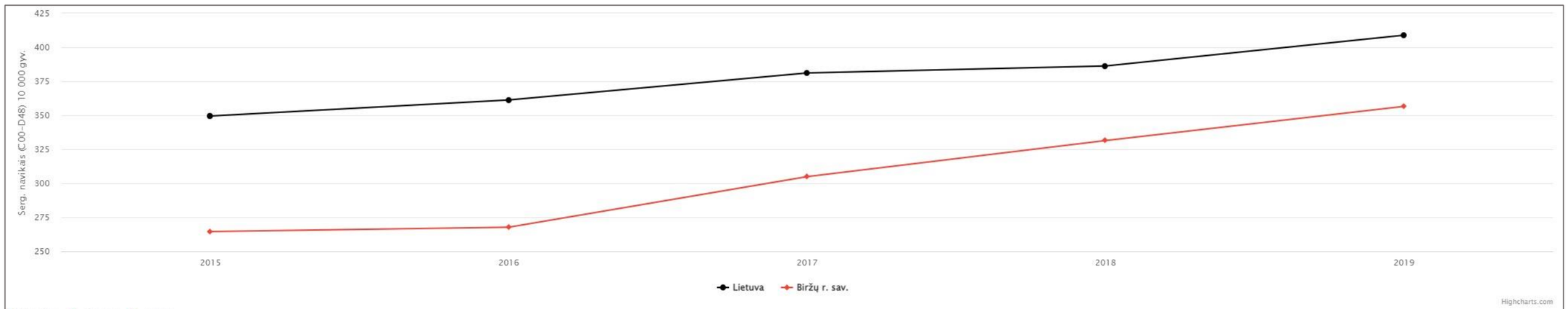
Fig. 16. Incidence of neoplasms (C00-D48) per 10,000 population in Panevėžys County, 2019



Panašus Blogiau Geriau

Metai		Kiekis	Reikšmė	Apatinis PI	Viršutinis PI	Kontekstas
2015		679,0	264,4	244,9	285,1	304,5
2016		670,0	267,7	247,8	288,7	323,9
2017		738,0	304,8	283,2	327,6	339,2
2018		778,0	331,4	308,5	355,5	376,1
2019		818,0	356,5	332,5	381,8	412,3

Fig. 17. Incidence of neoplasms (C00-D48) per 10,000 population, 2015-2019, in Panevėžys County



Panašus Blogiau Geriau

Metai		Kiekis	Reikšmė	Apatinis PI	Viršutinis PI	Kontekstas
2015		679,0	264,4	244,9	285,1	349,4
2016		670,0	267,7	247,8	288,7	361,3
2017		738,0	304,8	283,2	327,6	381,1
2018		778,0	331,4	308,5	355,5	386,3
2019		818,0	356,5	332,5	381,8	408,9

Fig. 18. Incidence of neoplasms (C00-D48) per 10,000 population, 2015-2019, Lithuania

TEXT ANNEX 9. COPIES OF DOCUMENTS RELATED TO THE EIA REPORT'S PUBLICITY AND APPROVALS AND TRANSBOUNDARY IMPACT ASSESSMENT

Dokumentą elektroniniu parašu
pasirašė EGIDIJUS,KUNEVIČIUS
Data: 2023-06-26 18:01:50

SWECO

Biržų rajono Nemunėlio Radviliškio seniūnijai, 2023-06-26 Nr. V1-602-23
el. p. nem.radviliskis@birzai.lt

Biržų rajono Parovėjos seniūnijai,
el. p. paroveja@birzai.lt

2023-06-26

Ver
Autorius Dovilė Ulinskaitė
Projekto numeris 2202512205
Projektas UAB Biržų vėjas konsultacinės paslaugos
Projekto vadovas Vytautas Belickas

DĖL POVEIKIO APLINKAI VERTINIMO ATASKAITOS VIEŠINIMO

UAB „Sweco Lietuva“ atlieka UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav., Panevėžio apskr. statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV) ir parengė PAV ataskaitą.

Vertinimo metu užtikrinamas visuomenės informavimas ir dalyvavimas PŪV PAV procese. Remiantis LR aplinkos ministro 2017 m. spalio 31 d. įsakymu Nr. D1-885 *„Dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo“* 75.1 ir 67.3 p., prašome informaciją apie parengtą PAV ataskaitą paskelbti seniūnijos skelbimų lentoje iki 2023 m. birželio 30 d.

Vadovaujantis minėto įsakymo 67.3 p., prašome seniūnijos atstovą ant PAV dokumentų rengėjo pateiktos skelbiamos informacijos (pridedama) kopijos uždėti informacinę žymą apie gavimo faktą, datą ir pasirašyti, o kai paskelbti informacijos nėra galimybių, ant skelbiamos informacijos šalia informacinės žymos apie gavimo faktą turi pažymėti, kad informacijos paskelbti skelbimų lentoje neturi galimybių ir per 3 d. d. nuo informacijos paskelbimo dienos turi informuoti elektroninėmis priemonėmis (el. p. dovile.ulinskaite@sweco.lt) PAV dokumentų rengėją apie gautą ir paskelbtą informaciją, nurodyti informacijos gavimo ir paskelbimo datas arba nurodyti, kad paskelbti informacijos skelbimų lentoje nėra galimybių.

Remiantis minėto įsakymo 74 p., prašome sudaryti galimybę visuomenei susipažinti su parengta PAV ataskaita, minėtą dokumentą saugant ir viešai eksponuojant Jūsų seniūnijos administracinėse patalpose. PAV ataskaita siunčiama atskirai. Gavus ir paviešinus PAV ataskaitą prašome apie tai informuoti el. paštu dovile.ulinskaite@sweco.lt

Informuojame, kad **2023 m. rugpjūčio 3 d., 18:00 val.** organizuojamas viešas visuomenės supažindinimo su PAV ataskaita susirinkimas hibridiniu būdu – Biržų rajono Nemunėlio Radviliškio seniūnijos salėje (Biržų g. 5, Nemunėlio Radviliškis, Biržų r.) ir internetinės vaizdo transliacijos būdu, sudarant galimybę suinteresuotai visuomenei prisijungti prie jos nuotoliniu būdu.

Taip pat bus suteiktos techninės galimybės suinteresuotos visuomenės atstovams, atvykusiems į Parovėjos seniūnijos administracines patalpas nuotoliniu būdu dalyvauti viešame visuomenės supažindinime su PAV ataskaita, pateikti klausimus ir išgirsti atsakymus.

PRIDEDAMA: Informacinis pranešimas apie parengtos PAV ataskaitos viešinimą, 1 egz., 1 lapas.

Viceprezidentas Egidijus Kunevičius

Sweco
Dovilė Ulinskaitė
dovile.ulinskaite@sweco.lt
Mob. +37063583813

Spaudos g. 6-1
LT 05132 Vilnius
Lithuania
Telefonas +370 (8) 5 262 2621
www.sweco.lt

UAB „Sweco Lietuva“

INFORMACINIS PRANEŠIMAS APIE VIEŠĄ VISUOMENĖS SUPAŽINDINIMĄ SU UAB „BIRŽŲ VĖJAS“ PLANUOJAMŲ IKI 35 VĖJO ELEKTRINIŲ NEMUNĖLIO RADVILIŠKIO IR PAROVĖJOS SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR. STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITA

Planuojamos ūkinės veiklos (toliau – PŪV) organizatorius: UAB „Biržų vėjas”, J. Janonio a. 5, LT-41170, Biržai, tel. +370 610 25533, el. p.: evaldas@rdg.lt.

Poveikio aplinkai vertinimo (toliau – PAV) dokumentų rengėjas: UAB „Sweco Lietuva”, Spaudos g. 6-1, Vilnius, tel. +370 5 262 2621, el. p.: info@sweco.lt, interneto svetainė: https://www.sweco.lt/. Kontaktinis asmuo Vytautas Belickas, tel. +370 699 83628, el. p.: vytautas.belickas@sweco.lt.

PŪV pavadinimas: UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių (toliau – VE) Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav., Panevėžio apskr. statyba ir veikla.

PŪV vieta: VE ir jų veiklai būtini infrastruktūros objektai planuojami Biržų r. sav. Nemunėlio Radviliškio ir Parovėjos sen. teritorijose.

PAV subjektai, kurie pagal kompetenciją teiks išvadas dėl PŪV PAV ataskaitos: Nacionalinio visuomenės sveikatos centro prie Sveikatos apsaugos ministerijos Panevėžio departamentas, Kultūros paveldo departamento prie Kultūros ministerijos Panevėžio-Utenos teritorinis skyrius, Priešgaisrinės apsaugos ir gelbėjimo departamentas prie Vidaus reikalų ministerijos, Biržų r. savivaldybės administracija, Valstybinė saugomų teritorijų tarnyba prie Aplinkos ministerijos.

Atsakingoji institucija, kuri priims sprendimą dėl PŪV poveikio aplinkai: Aplinkos apsaugos agentūra (toliau – AAA), A. Juozapavičiaus g. 9, Vilnius, tel.: +370 682 92653, el. p.: aaa@gamta.lt. interneto svetainė https://aaa.lrv.lt/.

Su parengta PŪV PAV ataskaita galima susipažinti UAB „Sweco Lietuva“ internetinėje svetainėje adresu https://www.sweco.lt/pranesimai/svarbus-pranesimai/informacinis-pranesimas-apie-viesa-visuomenes-supazindinima-su-uab-birzu-vejas-planuojamu-iki-35-vejo-elektriniu-nemunelio-radviliskio-sen-birzu-r-sav-panevezio-apskr-statybos/ arba paspaudus konkrečią aktyvią nuorodą į paskelbtą nuasmenintą ataskaitą: https://byt.lt/hBIqj .

Su eksponuojama popierine PŪV PAV ataskaita galima susipažinti nuo 2023-06-30 iki 2023-08-03 (imtinai): Nemunėlio Radviliškio seniūnijos administracijos patalpose (Biržų g. 5, Nemunėlio Radviliškis, Biržų r.), tel. +370 450 55189; Parovėjos seniūnijos administracijos patalpose (Karališkių g. 3, Parovėja, Biržų r.), tel. +370 450 56199. Seniūnijų darbo laikas: pirmadienį–ketvirtadienį 8:00-17:00 val., penktadienį 08:00-15:45 val. (pietų pertrauka 12:00-12:45 val.). UAB „Sweco Lietuva“ būstinėje (Spaudos g. 6-1, Vilnius), pirmadienį–ketvirtadienį 07:30-16:30 val., penktadienį 07:30-15:15 val. (pietų pertrauka 11:30-12:15 val.), tel. +370 5 262 2621.

Pasiūlymus dėl PŪV PAV ataskaitos galima teikti iki 2023-08-03 (imtinai) PAV dokumentų rengėjui raštu (Spaudos g. 6-1, Vilnius) arba el. paštu info@sweco.lt, pasiūlymų kopijas pagal kompetenciją pateikiant PAV subjektams ir AAA informacijai.

Viešas visuomenės supažindinimas su PŪV PAV ataskaita vyks: 2023-08-03 18:00 val. Biržų rajono savivaldybės Nemunėlio Radviliškio seniūnijos salėje (Biržų g. 5, Nemunėlio Radviliškis, Biržų r.) ir tiesioginės internetinės vaizdo transliacijos būdu. Tiesioginės internetinės vaizdo transliacijos tiesioginė nuoroda: https://byt.lt/0m60L. Taip pat, suinteresuotos visuomenės atstovams, atvykusiems į Parovėjos seniūnijos administracines patalpas bus suteiktos techninės galimybės nuotoliniu būdu dalyvauti viešame visuomenės supažindinime su PAV ataskaita, pateikti klausimus ir išgirsti atsakymus.

Tiesioginės transliacijos nuorodą taip pat galima rasti UAB „Sweco Lietuva” internetinėje svetainėje adresu: https://www.sweco.lt/pranesimai/svarbus-pranesimai/informacinis-pranesimas-apie-viesa-visuomenes-supazindinima-su-uab-birzu-vejas-planuojamu-iki-35-vejo-elektriniu-nemunelio-radviliskio-sen-birzu-r-sav-panevezio-apskr-statybos/

RE: Raštas Nr. V1-602-23 dėl PAV ataskaitos

Reply | Reply All | Forward

an 2023-06-27 08:45

NR Nemunėlio Radviliškio seniūnija <nem.radviliskis@birzai.lt>
To Ulinskaitė, Dovilė

This sender nem.radviliskis@birzai.lt is from outside your organization.

You replied to this message on 2023-06-27 09:04.

Paskelbta 2023-06-27.pdf
5 MB

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Paskelbta.

Pagarbiai.

Kęstutis Jasikas
Biržų rajono savivaldybės administracijos
Nemunėlio Radviliškio seniūnijos
Seniūno pavaduotojas
Tel.: 8 612 63 569
El. p. kestutis.jasikas@birzai.lt

Biržų rajono savivaldybės administracijos
Nemunėlio Radviliškio seniūnija
Gauta
2023-06-27 Nr. 6D-5

Dokumentą elektroniniu parašu
pasirašė EGIDIJUS,KUNEVIČIUS
Data: 2023-06-26 18:01:50

SWECO

Biržų rajono Nemunėlio Radviliškio seniūnijai, 2023-06-26 Nr. V1-602-23
el. p. nem.radviliskis@birzai.lt

Biržų rajono Parovėjos seniūnijai,
el. p. paroveja@birzai.lt

2023-06-26

Ver
Autorius Dovilė Ulinskaitė
Projekto numeris 2202512205
Projektas UAB Biržų vėjas konsultacinės paslaugos
Projekto vadovas Vytautas Belickas

DĖL POVEIKIO APLINKAI VERTINIMO ATASKAITOS VIEŠINIMO

UAB „Sweco Lietuva“ atlieka UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav., Panevėžio apskr. statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV) ir parengė PAV ataskaitą.

Vertinimo metu užtikrinamas visuomenės informavimas ir dalyvavimas PŪV PAV procese. Remiantis LR aplinkos ministro 2017 m. spalio 31 d. įsakymu Nr. D1-885 *„Dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo“* 75.1 ir 67.3 p., prašome informaciją apie parengtą PAV ataskaitą paskelbti seniūnijos skelbimų lentoje iki 2023 m. birželio 30 d.

Vadovaujantis minėto įsakymo 67.3 p., prašome seniūnijos atstovą ant PAV dokumentų rengėjo pateiktos skelbiamos informacijos (pridedama) kopijos uždėti informacinę žymą apie gavimo faktą, datą ir pasirašyti, o kai paskelbti informacijos nėra galimybių, ant skelbiamos informacijos šalia informacinės žymos apie gavimo faktą turi pažymėti, kad informacijos paskelbti skelbimų lentoje neturi galimybių ir per 3 d. d. nuo informacijos paskelbimo dienos turi informuoti elektroninėmis priemonėmis (el. p. dovile.ulinskaite@sweco.lt) PAV dokumentų rengėją apie gautą ir paskelbtą informaciją, nurodyti informacijos gavimo ir paskelbimo datas arba nurodyti, kad paskelbti informacijos skelbimų lentoje nėra galimybių.

Remiantis minėto įsakymo 74 p., prašome sudaryti galimybę visuomenei susipažinti su parengta PAV ataskaita, minėtą dokumentą saugant ir viešai eksponuojant Jūsų seniūnijos administracinėse patalpose. PAV ataskaita siunčiama atskirai. Gavus ir paviešinus PAV ataskaitą prašome apie tai informuoti el. paštu dovile.ulinskaite@sweco.lt

Informuojame, kad **2023 m. rugpjūčio 3 d., 18:00 val.** organizuojamas viešas visuomenės supažindinimo su PAV ataskaita susirinkimas hibridiniu būdu – Biržų rajono Nemunėlio Radviliškio seniūnijos salėje (Biržų g. 5, Nemunėlio Radviliškis, Biržų r.) ir internetinės vaizdo transliacijos būdu, sudarant galimybę suinteresuotai visuomenei prisijungti prie jos nuotoliniu būdu.

Taip pat bus suteiktos techninės galimybės suinteresuotos visuomenės atstovams, atvykusiems į Parovėjos seniūnijos administracines patalpas nuotoliniu būdu dalyvauti viešame visuomenės supažindinime su PAV ataskaita, pateikti klausimus ir išgirsti atsakymus.

PRIDEDAMA: Informacinis pranešimas apie parengtos PAV ataskaitos viešinimą, 1 egz., 1 lapas.

Viceprezidentas Egidijus Kunevičius

Sweco
Dovilė Ulinskaitė
dovile.ulinskaite@sweco.lt
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Spaudos g. 6-1
LT 05132 Vilnius
Lithuania
Telefonas +370 (8) 5 262 2621
www.sweco.lt

UAB „Sweco Lietuva“

INFORMACINIS PRANEŠIMAS APIE VIEŠĄ VISUOMENĖS SUPAŽINDINIMĄ SU UAB „BIRŽŲ VĖJAS“ PLANUOJAMŲ IKI 35 VĖJO ELEKTRINIŲ NEMUNĖLIO RADVILIŠKIO IR PAROVĖJOS SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR. STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITA

Planuojamos ūkinės veiklos (toliau – PŪV) organizatorius: UAB „Biržų vėjas”, J. Janonio a. 5, LT-41170, Biržai, tel. +370 610 25533, el. p.: evaldas@rdg.lt.

Poveikio aplinkai vertinimo (toliau – PAV) dokumentų rengėjas: UAB „Sweco Lietuva”, Spaudos g. 6-1, Vilnius, tel. +370 5 262 2621, el. p.: info@sweco.lt, interneto svetainė: https://www.sweco.lt/. Kontaktinis asmuo Vytautas Belickas, tel. +370 699 83628, el. p.: vytautas.belickas@sweco.lt.

PŪV pavadinimas: UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių (toliau – VE) Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav., Panevėžio apskr. statyba ir veikla.

PŪV vieta: VE ir jų veiklai būtini infrastruktūros objektai planuojami Biržų r. sav. Nemunėlio Radviliškio ir Parovėjos sen. teritorijose.

PAV subjektai, kurie pagal kompetenciją teiks išvadas dėl PŪV PAV ataskaitos: Nacionalinio visuomenės sveikatos centro prie Sveikatos apsaugos ministerijos Panevėžio departamentas, Kultūros paveldo departamento prie Kultūros ministerijos Panevėžio-Utenos teritorinis skyrius, Priešgaisrinės apsaugos ir gelbėjimo departamentas prie Vidaus reikalų ministerijos, Biržų r. savivaldybės administracija, Valstybinė saugomų teritorijų tarnyba prie Aplinkos ministerijos.

Atsakingoji institucija, kuri priims sprendimą dėl PŪV poveikio aplinkai: Aplinkos apsaugos agentūra (toliau – AAA), A. Juozapavičiaus g. 9, Vilnius, tel.: +370 682 92653, el. p.: aaa@gamta.lt. interneto svetainė https://aaa.lrv.lt/.

Su parengta PŪV PAV ataskaita galima susipažinti UAB „Sweco Lietuva“ internetinėje svetainėje adresu https://www.sweco.lt/pranesimai/svarbus-pranesimai/informacinis-pranesimas-apie-viesa-visuomenes-supazindinima-su-uab-birzu-vejas-planuojamu-iki-35-vejo-elektriniu-nemunelio-radviliskio-sen-birzu-r-sav-panevezio-apskr-statybos/ arba paspaudus konkrečią aktyvią nuorodą į paskelbtą nuasmenintą ataskaitą: https://byt.lt/hBIqj .

Su eksponuojama popierine PŪV PAV ataskaita galima susipažinti nuo 2023-06-30 iki 2023-08-03 (imtinai): Nemunėlio Radviliškio seniūnijos administracijos patalpose (Biržų g. 5, Nemunėlio Radviliškis, Biržų r.), tel. +370 450 55189; Parovėjos seniūnijos administracijos patalpose (Karališkių g. 3, Parovėja, Biržų r.), tel. +370 450 56199. Seniūnijų darbo laikas: pirmadienį–ketvirtadienį 8:00-17:00 val., penktadienį 08:00-15:45 val. (pietų pertrauka 12:00-12:45 val.). UAB „Sweco Lietuva“ būstinėje (Spaudos g. 6-1, Vilnius), pirmadienį–ketvirtadienį 07:30-16:30 val., penktadienį 07:30-15:15 val. (pietų pertrauka 11:30-12:15 val.), tel. +370 5 262 2621.

Pasiūlymus dėl PŪV PAV ataskaitos galima teikti iki 2023-08-03 (imtinai) PAV dokumentų rengėjui raštu (Spaudos g. 6-1, Vilnius) arba el. paštu info@sweco.lt, pasiūlymų kopijas pagal kompetenciją pateikiant PAV subjektams ir AAA informacijai.

Viešas visuomenės supažindinimas su PŪV PAV ataskaita vyks: 2023-08-03 18:00 val. Biržų rajono savivaldybės Nemunėlio Radviliškio seniūnijos salėje (Biržų g. 5, Nemunėlio Radviliškis, Biržų r.) ir tiesioginės internetinės vaizdo transliacijos būdu. Tiesioginės internetinės vaizdo transliacijos tiesioginė nuoroda: https://byt.lt/0m60L. Taip pat, suinteresuotos visuomenės atstovams, atvykusiems į Parovėjos seniūnijos administracines patalpas bus suteiktos techninės galimybės nuotoliniu būdu dalyvauti viešame visuomenės supažindinime su PAV ataskaita, pateikti klausimus ir išgirsti atsakymus.

Tiesioginės transliacijos nuorodą taip pat galima rasti UAB „Sweco Lietuva” internetinėje svetainėje adresu: https://www.sweco.lt/pranesimai/svarbus-pranesimai/informacinis-pranesimas-apie-viesa-visuomenes-supazindinima-su-uab-birzu-vejas-planuojamu-iki-35-vejo-elektriniu-nemunelio-radviliskio-sen-birzu-r-sav-panevezio-apskr-statybos/

Dokumentas paskelbtas Nemunėlio Radviliškio seniūnijos skelbimų lentoje

Seniūno pavaduotojas
Kęstutis Jasikas

Biržų rajono savivaldybės administracijos
Nemunėlio Radviliškio seniūnija
Gauta
2023-06-29 Nr. 6D-6

SWECO

Biržų rajono Nemunėlio Radviliškio seniūnijai, 2023-06-27 Nr. V1-608-23
el. p. nem.radviliskis@birzai.lt

Biržų g. 5, Nemunėlio Radviliškis, Biržų r.

2023-06-27

Ver
Autorius Dovilė Ulinskaitė
Projekto numeris 2202512205
Projektas UAB Biržų vėjas konsultacinės paslaugos
Projekto vadovas Vytautas Belickas

DĖL DOKUMENTŲ PATEIKIMO VIEŠINIMUI

UAB „Sweco Lietuva“ atlieka UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav., Panevėžio apskr. statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV) ir parengė PAV ataskaitą.

Vadovaujantis Lietuvos Respublikos LR aplinkos ministro 2017 m. spalio 31 d. įsakymu Nr. D1-885 *„Dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo“* 74 p., prašome sudaryti galimybę visuomenei susipažinti su parengta PAV ataskaita, minėtą dokumentą saugant ir viešai eksponuojant Jūsų seniūnijos administracinėse patalpose **nuo 2023 m. birželio 30 d. iki 2023 m. rugpjūčio 3 d.** (imtinai). PAV ataskaita siunčiama atskirai. Gavus ir paviešinus PAV ataskaitą prašome apie tai informuoti el. paštu dovile.ulinskaite@sweco.lt

Informuojame, kad **2023 m. rugpjūčio 3 d., 18:00 val.** organizuojamas viešas visuomenės supažindinimo su PAV ataskaita susirinkimas hibridiniu būdu – Biržų rajono Nemunėlio Radviliškio seniūnijos salėje (Biržų g. 5, Nemunėlio Radviliškis, Biržų r.) ir internetinės vaizdo transliacijos būdu, sudarant galimybę suinteresuotai visuomenei prisijungti prie jos nuotoliniu būdu.

Taip pat bus suteiktos techninės galimybės suinteresuotos visuomenės atstovams, atvykusiems į Parovėjos seniūnijos administracines patalpas nuotoliniu būdu dalyvauti viešame visuomenės supažindinime su PAV ataskaita, pateikti klausimus ir išgirsti atsakymus.

PRIDEDAMA:

1. Nuasmeninta PAV ataskaita, 1 egz., 411 lapų.
2. Informacinis pranešimas apie parengtos PAV ataskaitos viešinimą, 1 egz., 1 lapas.

Pareigos: Viceprezidentas

Parašas:

Egidijus Kunevičius

Pateiktą dokumentaciją gavau:

Data: 2023 06 28

Seniūnas
Giedrius Kubiliūs

Parašas:

Sweco
Dovilė Ulinskaitė
dovile.ulinskaite@sweco.lt
Mob. +37063583813

Spaudos g. 6-1
LT 05132 Vilnius
Lithuania
Telefonas +370 (8) 5 262 2621
www.sweco.lt

UAB „Sweco Lietuva“

RE: Raštas Nr. V1-602-23 dėl PAV ataskaitos, Parovėja

Reply | Reply All | Forward

an 2023-06-27 11:19

PS Parovėjos seniūnija <paroveja@birzai.lt>
To Ulinskaitė, Dovilė

This sender paroveja@birzai.lt is from outside your organization.

You replied to this message on 2023-06-27 12:26.

2023-06-26_V1-602-23_Del_PAV_ataskaitos_viesinimo_sen_Nem Radv.pdf
216 KB

Sveiki, raštas gautas ir pranešimas paviešintas seniūnijos skelbimų lentoje. Ačiū.

Pagarbiai

Daiva Juozaitienė
Biržų rajono savivaldybės administracijos Parovėjos seniūnijos seniūnė
tel.: +370 645 22842, +370 450 56199, el. p. daiva.juozaitiene@birzai.lt

Biržų rajono savivaldybės administracija Parovėjos seniūnija
Karališkių g. 3, LT-41480 Parovėja, Biržų raj.

https://www.birzai.lt

Facebook | Youtube

Biržų rajono savivaldybė 2035 –
rekreacijos, relaksacijos, reabilitacijos
paslaugų lyderis šiaurės Lietuvoje.
Tvarus, atviras ir žalias galimybių kraštas.

Dokumentą elektroniniu parašu pasirašė EGIDIJUS,KUNEVIČIUS
Data: 2023-06-26 18:01:50

Biržų rajono savivaldybės administracijos
Parovėjos seniūnija
Gauta
2023-06-27 Nr. GD-16-(1.14) 2023-06-26

Biržų rajono Nemunėlio Radviliškio seniūnijai, 2023-06-26 Nr. V1-602-23
el. p. nem.radviliskis@birzai.lt

Biržų rajono Parovėjos seniūnijai,
el. p. paroveja@birzai.lt

Ver
Autorius Dovilė Ulinskaitė
Projekto numeris 2202512205
Projektas UAB Biržų vėjas konsultacinės paslaugos
Projekto vadovas Vytautas Belickas

DĖL POVEIKIO APLINKAI VERTINIMO ATASKAITOS VIEŠINIMO

UAB „Sweco Lietuva“ atlieka UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav., Panevėžio apskr. statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV) ir parengė PAV ataskaitą.

Vertinimo metu užtikrinamas visuomenės informavimas ir dalyvavimas PŪV PAV procese. Remiantis LR aplinkos ministro 2017 m. spalio 31 d. įsakymu Nr. D1-885 *„Dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo“* 75.1 ir 67.3 p., prašome informaciją apie parengtą PAV ataskaitą paskelbti seniūnijos skelbimų lentoje iki 2023 m. birželio 30 d.

Vadovaujantis minėto įsakymo 67.3 p., prašome seniūnijos atstovą ant PAV dokumentų rengėjo pateiktos skelbiamos informacijos (pridedama) kopijos uždėti informacinę žymą apie gavimo faktą, datą ir pasirašyti, o kai paskelbti informacijos nėra galimybių, ant skelbiamos informacijos šalia informacinės žymos apie gavimo faktą turi pažymėti, kad informacijos paskelbti skelbimų lentoje neturi galimybių ir per 3 d. d. nuo informacijos paskelbimo dienos turi informuoti elektroninėmis priemonėmis (el. p. dovile.ulinskaite@sweco.lt) PAV dokumentų rengėją apie gautą ir paskelbtą informaciją, nurodyti informacijos gavimo ir paskelbimo datas arba nurodyti, kad paskelbti informacijos skelbimų lentoje nėra galimybių.

Remiantis minėto įsakymo 74 p., prašome sudaryti galimybę visuomenei susipažinti su parengta PAV ataskaita, minėtą dokumentą saugant ir viešai eksponuojant Jūsų seniūnijos administracinėse patalpose. PAV ataskaita siunčiama atskirai. Gavus ir paviešinus PAV ataskaitą prašome apie tai informuoti el. paštu dovile.ulinskaite@sweco.lt

Informuojame, kad **2023 m. rugpjūčio 3 d., 18:00 val.** organizuojamas viešas visuomenės supažindinimo su PAV ataskaita susirinkimas hibridiniu būdu – Biržų rajono Nemunėlio Radviliškio seniūnijos salėje (Biržų g. 5, Nemunėlio Radviliškis, Biržų r.) ir internetinės vaizdo transliacijos būdu, sudarant galimybę suinteresuotai visuomenei prisijungti prie jos nuotoliniu būdu.

Taip pat bus suteiktos techninės galimybės suinteresuotos visuomenės atstovams, atvykusiems į Parovėjos seniūnijos administracines patalpas nuotoliniu būdu dalyvauti viešame visuomenės supažindinime su PAV ataskaita, pateikti klausimus ir išgirsti atsakymus.

PRIDEDAMA: Informacinis pranešimas apie parengtos PAV ataskaitos viešinimą, 1 egz., 1 lapas.

Viceprezidentas Egidijus Kunevičius

Sweco
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Spaudos g. 6-1
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Telefonas +370 (8) 5 262 2621
www.sweco.lt

UAB „Sweco Lietuva“

SWECO

Biržų rajono Parovėjos seniūnijai,
el. p. paroveja@birzai.lt

Karališkių g. 3, Parovėjos k., Biržų r.

2023-06-27 Nr. V1-610-23

2023-06-27

Ver
Autorius Dovilė Ulinskaitė
Projekto numeris 2202512205
Projektas UAB Biržų vėjas konsultacinės paslaugos
Projekto vadovas Vytautas Belickas

DĖL DOKUMENTŲ PATEIKIMO VIEŠINIMUI

UAB „Sweco Lietuva“ atlieka UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav., Panevėžio apskr. statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV) ir parengė PAV ataskaitą.

Vadovaujantis Lietuvos Respublikos LR aplinkos ministro 2017 m. spalio 31 d. įsakymu Nr. D1-885 *„Dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo“* 74 p., prašome sudaryti galimybę visuomenei susipažinti su parengta PAV ataskaita, minėtą dokumentą saugant ir viešai eksponuojant Jūsų seniūnijos administracinėse patalpose **nuo 2023 m. birželio 30 d. iki 2023 m. rugpjūčio 3 d.** (imtinai). PAV ataskaita siunčiama atskirai. Gavus ir paviešinus PAV ataskaitą prašome apie tai informuoti el. paštu dovile.ulinskaite@sweco.lt

Informuojame, kad **2023 m. rugpjūčio 3 d., 18:00 val.** organizuojamas viešas visuomenės supažindinimo su PAV ataskaita susirinkimas hibridiniu būdu – Biržų rajono Nemunėlio Radviliškio seniūnijos salėje (Biržų g. 5, Nemunėlio Radviliškis, Biržų r.) ir internetinės vaizdo transliacijos būdu, sudarant galimybę suinteresuotai visuomenei prisijungti prie jos nuotoliniu būdu.

Taip pat bus suteiktos techninės galimybės suinteresuotos visuomenės atstovams, atvykusiems į Parovėjos seniūnijos administracines patalpas nuotoliniu būdu dalyvauti viešame visuomenės supažindinime su PAV ataskaita, pateikti klausimus ir išgirsti atsakymus.

PRIDEDAMA:

1. Nuasmeninta PAV ataskaita, 1 egz., 411 lapų.
2. Informacinis pranešimas apie parengtos PAV ataskaitos viešinimą, 1 egz., 1 lapas.

Pareigos: Viceprezidentas

Parašas:

Egidijus Kunevičius

Pateiktą dokumentaciją gavau:

Data: 2023.06.28

Parašas:

Biržų rajono savivaldybės administracijos Parovėjos seniūnijos seniūnė Daiva Juozaitienė

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Dovilė Ulinskaitė
dovile.ulinskaite@sweco.lt
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Spaudos g. 6-1
LT 05132 Vilnius
Lithuania
Telefonas +370 (8) 5 262 2621
www.sweco.lt

UAB „Sweco Lietuva“

Dokumentą elektroniniu parašu
pasirašė EGIDIJUS,KUNEVIČIUS
Data: 2023-06-26 18:02:55

SWECO

Biržų rajono savivaldybės administracijai 2023-06-26 Nr. V1-603-23

El. p. savivaldybe@birzai.lt

2023-06-26

Ver
Autorius Dovilė Ulinskaitė
Projekto numeris 2202512205
Projektas UAB Biržų vėjas konsultacinės paslaugos
Projekto vadovas Vytautas Belickas

DĖL POVEIKIO APLINKAI VERTINIMO ATASKAITOS VIEŠINIMO

UAB „Sweco Lietuva“ atlieka UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav., Panevėžio apskr. statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV) ir parengė PAV ataskaitą.

Vertinimo metu užtikrinamas visuomenės informavimas ir dalyvavimas PŪV PAV procese. Remiantis LR aplinkos ministro 2017 m. spalio 31 d. įsakymu Nr. D1-885 *„Dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo“* 75.1, 67.1 p. ir 67.3 p., prašome informacinį pranešimą apie parengtą PAV ataskaitą paskelbti savivaldybės interneto svetainėje ir skelbimų lentoje iki birželio 29 d. (imtinai).

Vadovaujantis minėto įsakymo 67.3 p., prašome savivaldybės atstovą ant PAV dokumentų rengėjo pateiktos skelbiamos informacijos (pridedama) kopijos uždėti informacinę žymą apie gavimo faktą, datą ir pasirašyti, o kai paskelbti informacijos nėra galimybių, ant skelbiamos informacijos šalia informacinės žymos apie gavimo faktą turi pažymėti, kad informacijos paskelbti skelbimų lentoje neturi galimybių ir per 3 d. d. nuo informacijos paskelbimo dienos turi informuoti elektroninėmis priemonėmis (el. p. dovile.ulinskaite@sweco.lt) PAV dokumentų rengėją apie gautą ir paskelbtą informaciją, nurodyti informacijos gavimo ir paskelbimo datas arba nurodyti, kad paskelbti informacijos skelbimų lentoje nėra galimybių.

PRIDEDAMA:

1. Informacinis pranešimas apie parengtos PAV ataskaitos viešinimą, 1 lapas (*doc ir *pdf formatais).

Viceprezidentas Egidijus Kunevičius

Sweco
Dovilė Ulinskaitė
dovile.ulinskaite@sweco.lt
Mob. +37063583813

Spaudos g. 6-1
LT 05132 Vilnius
Lithuania
Telefonas +370 (8) 5 262 2621
www.sweco.lt

UAB „Sweco Lietuva“

INFORMACINIS PRANEŠIMAS APIE VIEŠĄ VISUOMENĖS SUPAŽINDINIMĄ SU UAB „BIRŽŲ VĖJAS“ PLANUOJAMŲ IKI 35 VĖJO ELEKTRINIŲ NEMUNĖLIO RADVILIŠKIO IR PAROVĖJOS SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR. STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITA

Planuojamos ūkinės veiklos (toliau – PŪV) organizatorius: UAB „Biržų vėjas”, J. Janonio a. 5, LT-41170, Biržai, tel. +370 610 25533, el. p.: evaldas@rdg.lt.

Poveikio aplinkai vertinimo (toliau – PAV) dokumentų rengėjas: UAB „Sweco Lietuva”, Spaudos g. 6-1, Vilnius, tel. +370 5 262 2621, el. p.: info@sweco.lt, interneto svetainė: https://www.sweco.lt/. Kontaktinis asmuo Vytautas Belickas, tel. +370 699 83628, el. p.: vytautas.belickas@sweco.lt.

PŪV pavadinimas: UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių (toliau – VE) Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav., Panevėžio apskr. statyba ir veikla.

PŪV vieta: VE ir jų veiklai būtini infrastruktūros objektai planuojami Biržų r. sav. Nemunėlio Radviliškio ir Parovėjos sen. teritorijose.

PAV subjektai, kurie pagal kompetenciją teiks išvadas dėl PŪV PAV ataskaitos: Nacionalinio visuomenės sveikatos centro prie Sveikatos apsaugos ministerijos Panevėžio departamentas, Kultūros paveldo departamento prie Kultūros ministerijos Panevėžio-Utenos teritorinis skyrius, Priešgaisrinės apsaugos ir gelbėjimo departamentas prie Vidaus reikalų ministerijos, Biržų r. savivaldybės administracija, Valstybinė saugomų teritorijų tarnyba prie Aplinkos ministerijos.

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Su parengta PŪV PAV ataskaita galima susipažinti UAB „Sweco Lietuva“ internetinėje svetainėje adresu https://www.sweco.lt/pranesimai/svarbus-pranesimai/informacinis-pranesimas-apie-viesa-visuomenes-supazindinima-su-uab-birzu-vejas-planuojamu-iki-35-vejo-elektriniu-nemunelio-radviliskio-sen-birzu-r-sav-panevezio-apskr-statybos/ arba paspaudus konkrečią aktyvią nuorodą į paskelbtą nuasmenintą ataskaitą: https://byt.lt/hBIqj .

Su eksponuojama popierine PŪV PAV ataskaita galima susipažinti nuo 2023-06-30 iki 2023-08-03 (imtinai): Nemunėlio Radviliškio seniūnijos administracijos patalpose (Biržų g. 5, Nemunėlio Radviliškis, Biržų r.), tel. +370 450 55189; Parovėjos seniūnijos administracijos patalpose (Karališkių g. 3, Parovėja, Biržų r.), tel. +370 450 56199. Seniūnijų darbo laikas: pirmadienį–ketvirtadienį 8:00-17:00 val., penktadienį 08:00-15:45 val. (pietų pertrauka 12:00-12:45 val.). UAB „Sweco Lietuva“ būstinėje (Spaudos g. 6-1, Vilnius), pirmadienį–ketvirtadienį 07:30-16:30 val., penktadienį 07:30-15:15 val. (pietų pertrauka 11:30-12:15 val.), tel. +370 5 262 2621.

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Viešas visuomenės supažindinimas su PŪV PAV ataskaita vyks: 2023-08-03 18:00 val. Biržų rajono savivaldybės Nemunėlio Radviliškio seniūnijos salėje (Biržų g. 5, Nemunėlio Radviliškis, Biržų r.) ir tiesioginės internetinės vaizdo transliacijos būdu. Tiesioginės internetinės vaizdo transliacijos tiesioginė nuoroda: https://byt.lt/0m60L. Taip pat, suinteresuotos visuomenės atstovams, atvykusiems į Parovėjos seniūnijos administracines patalpas bus suteiktos techninės galimybės nuotoliniu būdu dalyvauti viešame visuomenės supažindinime su PAV ataskaita, pateikti klausimus ir išgirsti atsakymus.

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RE: Raštas Nr. V1-603-23 dėl PAV ataskaitos

savivaldybe@birzai.lt
To Ulinskaitė, Dovilė

Reply | Reply All | Forward

tr 2023-06-28 15:32

This sender savivaldybe@birzai.lt is from outside your organization.

Ačiū, gavome

From: Ulinskaitė, Dovilė <dovile.ulinskaite@sweco.lt>
Sent: Wednesday, June 28, 2023 2:22 PM
To: savivaldybe@birzai.lt
Subject: FW: Raštas Nr. V1-603-23 dėl PAV ataskaitos

Laba diena,

Norėjau pasiteirauti ar gavote 2023-06-26 siųstą raštą ir prašymą paskelbti informaciją?

Pagarbiai,
Dovilė Ulinskaitė

UAB „Sweco Lietuva" | Vilnius
Mob. +37063583813

SWECO

From: Ulinskaitė, Dovilė
Sent: 2023 m. birželio 26 d., pirmadienis 20:19
To: savivaldybe@birzai.lt
Cc: SM_LT_info <info@Sweco.lt>; Belickas, Vytautas <Vytautas.Belickas@Sweco.lt>
Subject: Raštas Nr. V1-603-23 dėl PAV ataskaitos

Laba diena,

UAB „Sweco Lietuva" siunčia Jums raštą V1-530-23 „Dėl poveikio aplinkai vertinimo ataskaitos viešinimo" registravimui.

Prašome informacinį pranešimą paviešinti savivaldybės interneto svetainėje ir skelbimų lentoje iki birželio 29 d. ir atsiųsti patvirtinimą, kad pranešimas paskelbtas.

Taip pat prašau informuoti apie šio rašto gavimą el. p. dovile.ulinskaite@sweco.lt.

Pagarbiai,
Dovilė Ulinskaitė

UAB „Sweco Lietuva" | Vilnius
Mob. +37063583813
dovile.ulinskaite@sweco.lt
www.sweco.lt

SWECO

LinkedIn
Įm. k. 301135783 | Reg. biuras: Vilnius

Norėdami gauti daugiau informacijos apie tai, kaip „Sweco" tvarko jūsų asmens duomenis, skaitykite čia.

RE: Raštas Nr. V1-603-23 dėl PAV ataskaitos

vaida.klepeckiene@birzai.lt
To Ulinskaitė, Dovilė

Reply | Reply All | Forward

kt 2023-06-29 08:25

This sender vaida.klepeckiene@birzai.lt is from outside your organization.

You replied to this message on 2023-06-29 08:26.

Nuorodos:

Biržai | Biržų rajono savivaldybė (birzai.lt)

Informacinis pranešimas apie viešą visuomenės supažindinimą su UAB „Biržų vėjas" planuojamų iki 35 vėjo elektrinių Nemunėlio Radviliškio ir Parovėjos sen., Birž | Biržų rajono savivaldybė (birzai.lt)

Pagarbiai
Vaida Dževečkaitė-Klepeckienė
Visuomenės informavimo specialistė

Mob. tel. +370 616 73473
el. p. vaida.klepeckiene@birzai.lt
Biržų savivaldybės administracija
Vytauto g. 38, LT-41143 Biržai
http://www.birzai.lt

Biržų rajono savivaldybė 2035 – rekreacijos, relaksacijos, reabilitacijos paslaugų lyderis šiaurės Lietuvoje. Tvarus, atviras ir žalias galimybių kraštas.

RE: Raštas Nr. V1-603-23 dėl PAV ataskaitos

Reply | Reply All | Forward

kt 2023-06-29 08:51

V

vaida.klepeckiene@birzai.lt
To Ulinskaitė, Dovilė

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You replied to this message on 2023-06-29 09:13.

20230629_082907.jpg 4 MB | 20230629_082912.jpg 3 MB | 20230629_082920.jpg 3 MB

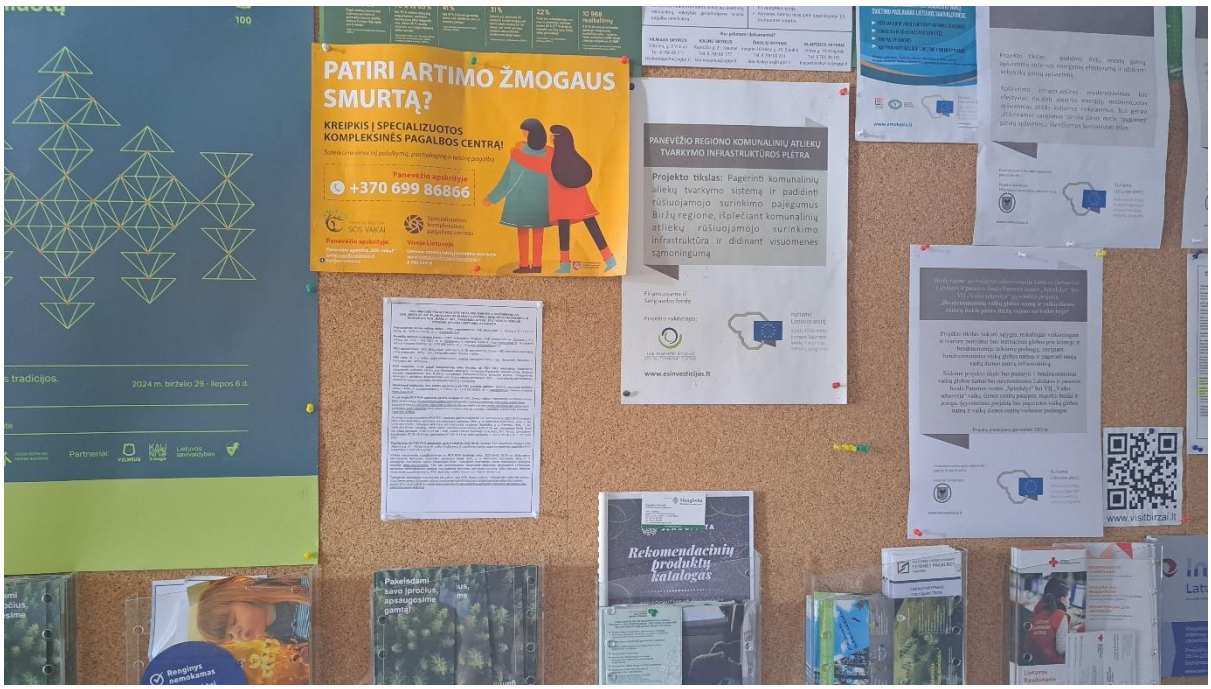
Jau patalpinta ir skelbimų lentoje 😊

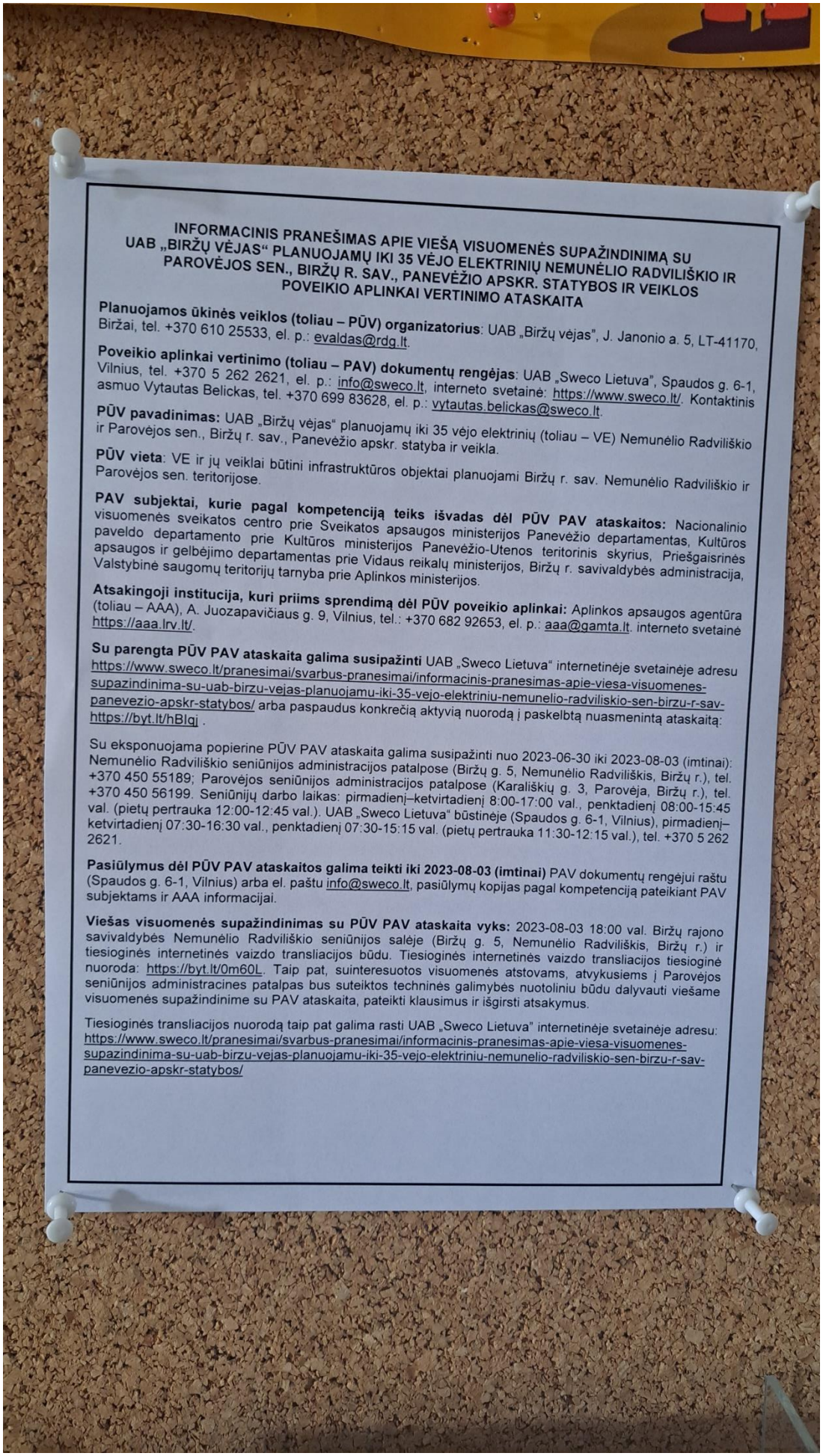
Kai siųsite laišką dėl viešinimo pridėkite ir man kopiją, kad išvengtume informacijos „nesuvaikščiojimo" .

Pagarbiai
Vaida Dževečkaitė-Klepeckienė
Visuomenės informavimo specialistė

Mob. tel. +370 616 73473
el. p. vaida.klepeckiene@birzai.lt
Biržų savivaldybės administracija
Vytauto g. 38, LT-41143 Biržai
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PŪV pavadinimas: UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių (toliau – VE) Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav., Panevėžio apskr. statyba ir veikla.

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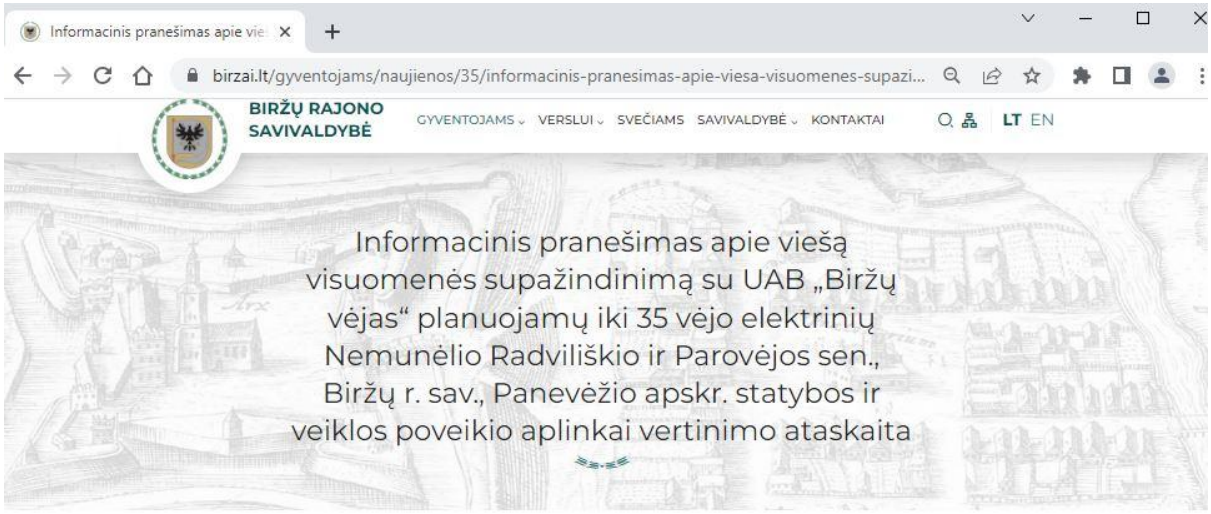
Su parengta PŪV PAV ataskaita galima susipažinti UAB „Sweco Lietuva“ internetinėje svetainėje adresu https://www.sweco.lt/pranesimai/svarbus-pranesimai/informacinis-pranesimas-apie-viesa-visuomenes-supazindinima-su-uab-birzu-vejas-planuojamu-iki-35-vejo-elektriniu-nemunelio-radviliskio-sen-birzu-r-sav-panevezio-apskr-statybos/ arba paspaudus konkrečią aktyvią nuorodą į paskelbtą nuasmenintą ataskaitą: https://byt.lt/hBlqj .

Su eksponuojama popierine PŪV PAV ataskaita galima susipažinti nuo 2023-06-30 iki 2023-08-03 (imtinai): Nemunėlio Radviliškio seniūnijos administracijos patalpose (Biržų g. 5, Nemunėlio Radviliškis, Biržų r.), tel. +370 450 55189; Parovėjos seniūnijos administracijos patalpose (Karališkių g. 3, Parovėja, Biržų r.), tel. +370 450 56199. Seniūnijų darbo laikas: pirmadienį–ketvirtadienį 8:00-17:00 val., penktadienį 08:00-15:45 val. (pietų pertrauka 12:00-12:45 val.). UAB „Sweco Lietuva“ būstinėje (Spaudos g. 6-1, Vilnius), pirmadienį–ketvirtadienį 07:30-16:30 val., penktadienį 07:30-15:15 val. (pietų pertrauka 11:30-12:15 val.), tel. +370 5 262 2621.

Pasiūlymus dėl PŪV PAV ataskaitos galima teikti iki 2023-08-03 (imtinai) PAV dokumentų rengėjui raštu (Spaudos g. 6-1, Vilnius) arba el. paštu info@sweco.lt, pasiūlymų kopijas pagal kompetenciją pateikiant PAV subjektams ir AAA informacijai.

Viešas visuomenės supažindinimas su PŪV PAV ataskaita vyks: 2023-08-03 18:00 val. Biržų rajono savivaldybės Nemunėlio Radviliškio seniūnijos salėje (Biržų g. 5, Nemunėlio Radviliškis, Biržų r.) ir tiesioginės internetinės vaizdo transliacijos būdu. Tiesioginės internetinės vaizdo transliacijos tiesioginė nuoroda: https://byt.lt/0m60L. Taip pat, suinteresuotos visuomenės atstovams, atvykusiems į Parovėjos seniūnijos administracines patalpas bus suteiktos techninės galimybės nuotoliniu būdu dalyvauti viešame visuomenės supažindinime su PAV ataskaita, pateikti klausimus ir išgirsti atsakymus.

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2023-06-29

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UAB „Sweco Lietuva" informacija

Dokumentą elektroniniu parašu
pasirašė EGIDIJUS,KUNEVIČIUS
Data: 2023-06-26 18:04:07

SWECO

Aplinkos apsaugos agentūrai 2023-06-26 Nr. V1-604-23

aaa@gamta.lt

2023-06-26

Ver
Autorius Dovilė Ulinskaitė
Projekto numeris 2202512205
Projektas UAB Biržų vėjas konsultacinės paslaugos
Užsakovas
Projekto vadovas Vytautas Belickas

DĖL POVEIKIO APLINKAI VERTINIMO ATASKAITOS VIEŠINIMO

UAB „Sweco Lietuva“ atlieka UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav., Panevėžio apskr. statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV) ir parengė PAV ataskaitą.

Vertinimo metu užtikrinamas visuomenės informavimas ir dalyvavimas PŪV PAV procese. Remiantis LR aplinkos ministro 2017 m. spalio 31 d. įsakymu Nr. D1-885 *„Dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo“* 75.1 ir 67.1 p. prašome informacinį pranešimą apie parengtą PAV ataskaitą paskelbti Aplinkos apsaugos agentūros interneto svetainėje.

PRIDEDAMA. Informacinis pranešimas apie parengtos PAV ataskaitos viešinimą, 1 lapas (*doc ir *pdf formatais).

Viceprezidentas Egidijus Kunevičius

Sweco
Dovilė Ulinskaitė
dovile.ulinskaite@sweco.lt
Mob. +37063583813

Spaudos g. 6-1
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Lithuania
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UAB „Sweco Lietuva“

INFORMACINIS PRANEŠIMAS APIE VIEŠĄ VISUOMENĖS SUPAŽINDINIMĄ SU UAB „BIRŽŲ VĖJAS“ PLANUOJAMŲ IKI 35 VĖJO ELEKTRINIŲ NEMUNĖLIO RADVILIŠKIO IR PAROVĖJOS SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR. STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITA

Planuojamos ūkinės veiklos (toliau – PŪV) organizatorius: UAB „Biržų vėjas”, J. Janonio a. 5, LT-41170, Biržai, tel. +370 610 25533, el. p.: evaldas@rdg.lt.

Poveikio aplinkai vertinimo (toliau – PAV) dokumentų rengėjas: UAB „Sweco Lietuva”, Spaudos g. 6-1, Vilnius, tel. +370 5 262 2621, el. p.: info@sweco.lt, interneto svetainė: https://www.sweco.lt/. Kontaktinis asmuo Vytautas Belickas, tel. +370 699 83628, el. p.: vytautas.belickas@sweco.lt.

PŪV pavadinimas: UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių (toliau – VE) Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav., Panevėžio apskr. statyba ir veikla.

PŪV vieta: VE ir jų veiklai būtini infrastruktūros objektai planuojami Biržų r. sav. Nemunėlio Radviliškio ir Parovėjos sen. teritorijose.

PAV subjektai, kurie pagal kompetenciją teiks išvadas dėl PŪV PAV ataskaitos: Nacionalinio visuomenės sveikatos centro prie Sveikatos apsaugos ministerijos Panevėžio departamentas, Kultūros paveldo departamento prie Kultūros ministerijos Panevėžio-Utenos teritorinis skyrius, Priešgaisrinės apsaugos ir gelbėjimo departamentas prie Vidaus reikalų ministerijos, Biržų r. savivaldybės administracija, Valstybinė saugomų teritorijų tarnyba prie Aplinkos ministerijos.

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RE: Raštas Nr. V1-604-23 dėl PAV ataskaitos

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Šioje žinutėje ir/arba jos prieduose pateikiama informacija yra skirta tik nurodytam adresatui ir gali būti konfidenciali. Jeigu ši žinutė pasiekė jus per klaidą, ji negali būti naudojama, platinama, skaitoma, persiunčiama, kopijuojama ar kitaip skleidžiama. Tokiu atveju, prašome šią žinutę ištrinti ir apie tai pranešti siuntėjui elektroniniu paštu.



	A	B	C	D
17				
18	**Panevėžio apskritis**			
19	2023-04-19	Projekto „Rail Baltica“ Panevėžio geležinkelių infrastruktūros priežiūros depas	Panevėžio rajono savivaldybės Panevėžio, Naujamiesčio ir Upytės seniūnijos	PAV ataskaita
20	2023-04-28	UAB „Biržų vėjas“, iki 73 vėjo elektrinių parko Širvėnos ir Vabalninko sen., Biržų r. sav. teritorijoje statyba ir veikla.	Vėjo elektrinių ir jų veiklai būtini infrastruktūros objektai planuojami Širvėnos ir Vabalninko sen. Biržų r. sav., Panevėžio apskr. teritorijose. Transformatorinės vieta numatyta Paberžės k., Parovėjos sen., Biržų r. sav.	https://www.sweco.lt/pranesimai/svarbus-pranesimai/informacinis-pranesimas-apie-viesa-visuomenes-supazindinima-su-uab-birzu-vejas-planuojamo-iki-73-vejo-elektriniu-parko-sirvenos-ir-vabalninko-sen-birzu-r-sav-panevezio-aps/
21	2023-05-25	Sunly Land, UAB, iki 51 vėjo elektrinių parkas Panevėžio r. sav., Krekenavos seniūnijoje	Panevėžio r. sav., Krekenavos sen., Anapolio vs., Baibokų k., Baimanų k., Bartkūnų k., Bernatonių vs., Bertašiūnų k., Bobiniškių k., Glitėnų k., Lipniškių k., Mackonių k., Miciūnų k., Noreikių k., Pabiržių k., Paskaisčių k., Pasodėlės k., Pempių k., Šventupių k., Vilkų k., Viržonų k., Žibartonių k.	https://nomineconsult.com/wp-content/uploads/2023/05/POVEIKIO-APLINKAI-VERTINIMO-ATASKAITA-IKI-51-VEJO-ELEKTRINIU-PARKAS-PANEVEZIO-R.-SAV.-KREKENAVOS-SEN..pdf
22	2023-06-06	UAB „Biržų vėjas“, iki 37 vėjo elektrinių parko Parovėjos ir Nemunėlio Radviliškio sen., Biržų r. sav., statyba ir veikla.	Parovėjos sen. ir Nemunėlio Radviliškio sen., Biržų r. sav.	PAV ataskaita
23	2023-06-27	UAB „Biržų vėjas“ iki 35 vėjo elektrinių Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav., Panevėžio apsk. statyba ir veikla	Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav.	PAV ataskaita
24	**Šiaulių apskritis**			
25	2023-03-01	UAB „Baltic Energy Group“ Vėjo elektrinių parko statyba ir eksploatacija	Pakruojo r. sav. Pašvitinio ir Žeimelio seniūnijų teritorijose. Vėjo elektrinių parko pajungimo į elektros perdavimo tinklą transformatorių pastotės įrengimo vietos alternatyvos analizuojamos Pakruojo r. sav. Žeimelio sen. ir Joniškio r. sav. Kepalių sen.	PAV ataskaita
26	2023-05-23	Kitos (fermų) paskirties pastatų, inžinerinių statinių ir biodujų jėgainės (Šiaulių apskr., Radviliškio r. sav., Radviliškio sen., Bebrujų k.) statyba ir eksploatacija.	Šiaulių apskr., Radviliškio r. sav., Radviliškio sen., Bebrujų k	Informacija apie Kitos (fermų) paskirties pastatų, inžinerinių statinių ir biodujų jėgainės (Bebrujų k., Radviliškio sen., Radviliškio r. sav.) statybos ir eksploatacijos poveikio aplinkai vertinimo (PAV) ataskaitą ir viešą susirinkimą - Infraplanas
27				
28	**Utenos apskritis**			



Išvyka karo pabėgėliams

Po formaliai šaltais projektų pavadinimais gali slypėti jautrus noras padėti žmonėms išgyventi siaubingus dalykus – pažinti šalį, priglaudusią juos, pabėgusius nuo karo. Tą rodo žinia apie neeilinę kelionę, surengtą neeiliniams išvykos dalyviams.

Alfreda Gudienė

Pažinti Klaipėdos kraštą ir... delfinus

Yra toks Biržų savivaldybės įgyvendinamas projektas „Pabėgėlių iš Ukrainos priėmimas ir ankstyva integracija“. Jis finansuojamas iš Prieglobsčio, migracijos ir integracijos fondo lėšų. Jų galima gauti ukrainiečių vaikų integracijai, lietuvių kalbos mokymui, pilietinio orientavimo, sociokultūrinių mokymų organizavimui.

Būtent sociokultūrinio mokymo įgyvendinimu galima pavadinti birželio 17 dieną vykusią mokomąją kelionę į Klaipėdos rajoną. Norėta ukrainiečius supažindinti su Lietuvos, Klaipėdos krašto istorija, mažuosius pradžiuginti apsilankymu delfinariume.

Pasak su karo pabėgėliais dirbančios savivaldybės ekstremalių situacijų operacijų centro materialinio techninio aprūpinimo centro vadovės Sandros Balčiūnienės, žmonių reakcija į kelionės idėją pranoko lūkesčius. Organizaciniais klausimais talkino ir ukrainietė Vasilina. Ji, pasak S. Balčiūnienės, padėjo apie būsimą kelionę papasakoti Biržuose gyvenantiems tėvynainiams.

Jau pirmąją registracijos dieną į išvyką užsiregistravo 60 karo pabėgėlių. Dėl riboto vietų skaičiaus buvo nuspręsta, kad į kelionę važiuos tik mamos su vaikais. Išvykoje, kurią organizavo Biržų turizmo ir verslo informacijos centras, dalyvavo 47 žmonės.

„Biržuose gyvenantiems karo pabėgėliams galimybė dalyvauti projekto veiklose yra labai reikšminga. Šį kartą jie turėjo galimybę pažinti mūsų šalies istoriją, pamatyti Klaipėdą, pabūti prie jūros. Mažieji galėjo žiūrėti delfinų pasirodymą. Tai buvo galimybė pailsėti nuo sunkių minčių, atitrūkti nuo informacijos sekimo apie karo siaubiamą šalį“, - sako nuo karo Ukrainoje pradžios su karo pabėgėliais dirbanti S. Balčiūnienė.

Ar įmanoma pasislėpti nuo gyvenimo?

Atkelta iš 2 psl.

Žiūrovui tai reiškė didžiulį repertuaro susiaurinimą, vienpusišką, propagandinį ir ideologizuotą produktą. Dalis kino teatrų savininkų buvo suimti ir ištremti. Kino teatrų šalyje sumažėjo iki 60. Atsiranda bėdų dėl kino technikos remonto ir atsarginių dalių – Lietuvoje vyravo vokiška kino aparatūra. Kino teatrų lankomumas smarkiai krenta.

1941 metais ateina vokiečiai. Pradžioje visi kino teatrai uždaromi, kol bus pristatyti vokiški filmai. Pasak A. Dambrausko, tokia pauzė truko atskirose vietovėse įvairiai – nuo poros savaičių iki mėnesio. Dalis kino teatrų visai nebebuvo atidaryti, Biržuose liko tik „Žvaigždė“. Kad vokiečiai yra tokie patys okupantai, pirmiausia pajunta žydai. Jie suvaromi į getus, apie jokius kino teatrų lankymus nėra kalbos.

Tačiau prie vokiečių kino teatrai atgimsta. Pirmiausia dėl plataus kino filmų repertuaro. Juose mažai politikos, daug komedijų, daug filmų apie meilę. Naujų filmų Vokietijoje per metus išleidžiami šimtai, nors Lietuvą jie pasiekia ir pavėluotai, tačiau pasirinkimas nepalyginamai platesnis nei sovietiniu laikotarpiu. Žmonės vėl ima grįžti į kino teatrus. Tai nėra labai saugi vieta, ypač nuo 1943 metų, kai jauni vyrai pradedami gaudyti darbams Vokietijoje. Bet kinas lieka populiarus, tai galimybė žmonėms atsipalaiduoti, užsimiršti, nors emocijomis trumpam atsidurti kitame pasaulyje, kuriame nėra grėsmingos ir slegiančios kasdienybės. Kino teatro bilietas tampa spekuliacijos objektu, nes norintys pasižiūrėti kino filmo nebetelpa į sales, bilietai perpardavinėjami „iš rankų“.

Pasak istoriko, kino kronika dažniausiai būdavo įgarsinta lietuviškai, o filmai buvo arba vokiečių kalba, arba su lietuviškais subtitrais.

Anot A. Dambrausko, vėl grįžtant į Lietuvą rusams, visi jau žinojo, ko iš jų galima laukti. Dalis kino teatrų savininkų ir lietuviško kino kūrėjų pasitraukia į Vakarus. Tų, kurie nepasitraukia, laukia tremtis. „Lietuviškame kine po Antrojo pasaulinio karo prasideda visiškai naujas etapas, bet koks tęstinumas su tarpukario kino kūrybine veikla nukertamas, senųjų kino kūrėjų nebėra, jų vietą užima nauji, mokslus jau baigę Maskvoje. Tęstinumas išlieka nebent kino teatrų pastatuose, nes jie ir toliau tarnauja šiam reikalui“, - sakė istorikas A. Dambrauskas.

Biržuose pirmas kinematografas buvo atidarytas dar 1921 m. Kanauninkų g. 9 (dabar Respublikos g. 12). Jo šeimininkas buvo Vaitiekus Vasiliauskas. Salė neoficialiai buvo vadinama jo vardu, tačiau 1933 metais pavadinta „Žvaigždė“. Salė talpino apie 350 žiūrovų. V. Vasiliausko salėje vykdavo ir teatro spektakliai, pasirodydavo gastroliuojantys Kauno, Šiaulių, Panevėžio teatrų artistai. Buvo rengiami šokiai, gimnazistų šventės. „Žvaigždė“ kiną rodė ir karo metais, tačiau 1944 metais pastatas sudegė. 1951 metais Vytauto g. pastatytas naujas kino teatras „Žvaigždė“. Iš čia kinas 1964 metais iškeliavo į taip pat jau išnykusį „Širvėnos“ kino teatrą.

Jūriniame konteineryje įkomponuotą parodą verta aplankyti. Ir ne vien todėl, kad, kaip juokavo A. Dambrauskas, tai mažiausia kino salė su keturiomis sėdimomis vietomis. Tai savotiškas nusikėlimas į praeitį, galimybė ekrane pamatyti kino teatrus, kurių jau nebėra, bet kuriuos dar lankėte jaunystėje, kai studijavote Vilniuje ar Kaune. Galima pasižiūrėti iš 1939 -1944 metų kino kronikos sumontuotą filmą apie istorinius įvykius ir grėsmingą laikmečio dvasią. Galima apžiūrėti to meto kino afišas, reklamą, susipažinti su tada dirbusių kino kūrėjų biografijomis ir likimais. Svarbiausia, kad galima ateiti bet kada, nors vidurnaktį ar ankstyvą rytą, kai vėsu ir tinkama nuotaika, nes paroda veikia ištisą parą. Nepriklausomybės aikštėje paroda viešės iki liepos 17 dienos.

INFORMACINIS PRANEŠIMAS APIE VIEŠĄ VISUOMENĖS SUPAŽINDINIMĄ SU UAB „BIRŽŲ VĖJAS“ PLANUOJAMŲ IKI 35 VĖJO ELEKTRINIŲ NEMUNĖLIO RADVILIŠKIO IR PAROVĖJOS SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR., STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITA

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(Užs. Nr. 3434-9)

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"Papilys - vėl parveda namo aukštaičio širdis..."
14 val. Šv. Mišios Papilio Nekaltosios Švč.Mergelės Marijos bažnyčioje
15 val. Teatralizuotas šventės atidarymas Papilio ev. reformatų bažnyčioje, koncertas "Su meile Jums"
15 - 17 val. Sporto varžybos Papilio mokyklos aikštyne
17 val. Kupiškio KC folkloro ansamblio "Kupkėmis" etnografinis vaidinimas "Galingas miežio grūdas"
18 - 21 val. Meno mėgėjų kolektyvų programa, atrakcijos, edukaciniai užsiėmimai
21 - 00 val. AC/DC project grupės "NOISY PARTY" koncertas, diskoteka.
Maloniai kviečiame!
Renginio metu bus filmuojama ir fotografuojama

Informacinis pranešimas apie viešą visuomenės supažindinimą su UAB „Biržų vėjas" planuojamų iki 35 vėjo elektrinių Nemunėlio Radviliškio sen., Biržų r. sav., Panevėžio apskr. statybos ir veiklos poveikio aplinkai vertinimo ataskaita

Paskelbta 2023-06-22

Planuojamos ūkinės veiklos (toliau – PŪV) organizatorius: UAB „Biržų vėjas", J. Janonio a. 5, LT-41170, Biržai, tel. +370 610 25533, el. p.: evaldas@rdg.lt.

Poveikio aplinkai vertinimo (toliau – PAV) dokumentų rengėjas: UAB „Sweco Lietuva", Spaudos g. 6-1, Vilnius, tel. +370 5 262 2621, el. p.: info@sweco.lt, interneto svetainė: https://www.sweco.lt/. Kontaktinis asmuo Vytautas Belickas, tel. +370 699 83628, el. p.: vytautas.belickas@sweco.lt.

PŪV pavadinimas: UAB „Biržų vėjas" planuojamų iki 35 vėjo elektrinių (toliau – VE) Nemunėlio Radviliškio ir Parovėjos sen. Biržų r. sav., Panevėžio apskr. statyba ir veikla.

PŪV vieta: VE ir jų veiklai būtini infrastruktūros objektai planuojami Biržų r. sav. Parovėjos ir Nemunėlio Radviliškio sen. teritorijose.

PAV subjektai, kurie pagal kompetenciją teiks išvadas dėl PŪV PAV ataskaitos: Nacionalinio visuomenės sveikatos centro prie Sveikatos apsaugos ministerijos Panevėžio departamentas, Kultūros paveldo departamento prie Kultūros ministerijos Panevėžio-Utenos teritorinis skyrius, Priešgaisrinės apsaugos ir gelbėjimo departamentas prie Vidaus reikalų ministerijos, Biržų r. savivaldybės administracija, Valstybinė saugomų teritorijų tarnyba prie Aplinkos ministerijos.

Atsakingoji institucija, kuri priims sprendimą dėl PŪV poveikio aplinkai: Aplinkos apsaugos agentūra (toliau – AAA), A. Juozapavičiaus g. 9, Vilnius, tel.: +370 682 92653, el. p.: aaa@gamta.lt, interneto svetainė https://aaa.lrv.lt/.

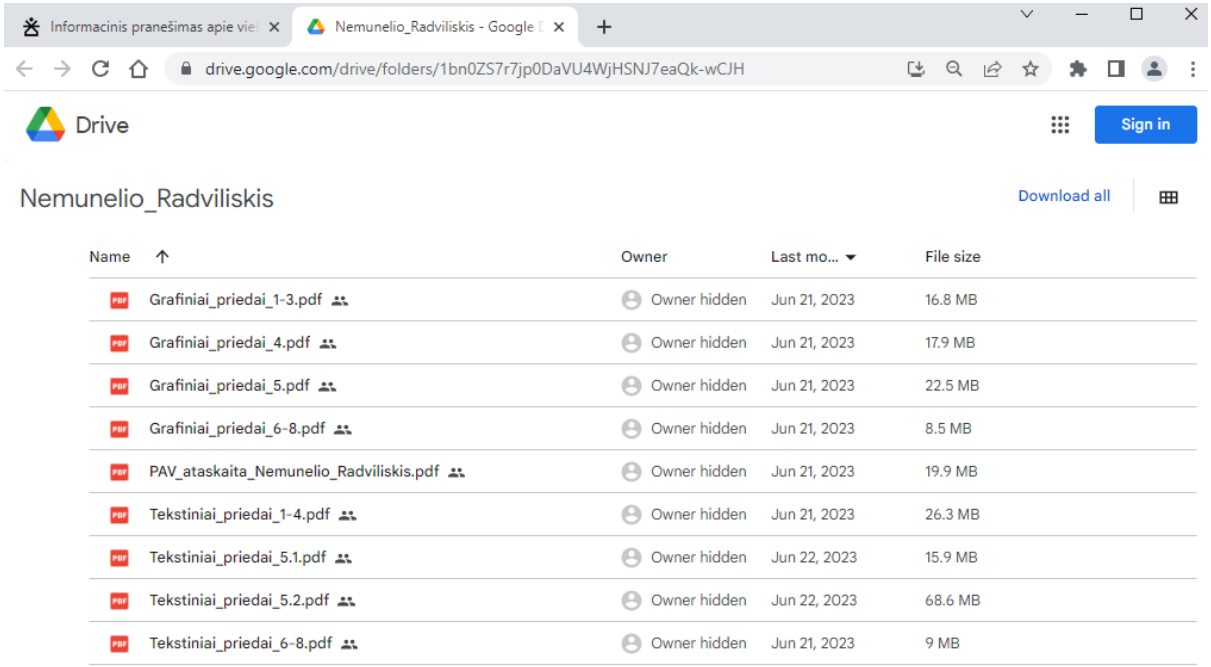
Su parengta PŪV PAV ataskaita galima susipažinti UAB „Sweco Lietuva" internetinėje svetainėje adresu https://www.sweco.lt/pranesimai/svarbus-pranesimai/informacinis-pranesimas-apie-viesa-visuomenes-supazindinima-su-uab-birzu-vejas-planuojamu-iki-35-vejo-elektriniu-nemunelio-radviliskio-sen-birzu-r-sav-panevezio-apskr-statybos/ arba paspaudus konkrečią aktyvią nuorodą į paskelbtą nuasmenintą ataskaitą: https://byt.lt/hBlqj.

Su eksponuojama popierine PŪV PAV ataskaita galima susipažinti nuo 2023-06-30 iki 2023-08-03 (imtinai): Nemunėlio Radviliškio seniūnijos administracijos patalpose (Biržų g. 5, Nemunėlio Radviliškis, Biržų r.), tel. +370 450 55189; Parovėjos seniūnijos administracijos patalpose (Karališkių g. 3, Parovėja, Biržų r.), tel. +370 450 56199. Seniūnijų darbo laikas: pirmadienį–ketvirtadienį 8.00-17.00 val., penktadienį 08.00-15.45 val. (pietų pertrauka 12.00-12.45 val.). UAB „Sweco Lietuva" būstinėje (Spaudos g. 6-1, Vilnius), pirmadienį–ketvirtadienį 07.30-16.30 val., penktadienį 07.30-15.15 val. (pietų pertrauka 11.30-12.15 val.), tel. +370 5 262 2621.

Pasiūlymus dėl PŪV PAV ataskaitos galima teikti iki 2023-08-03 (imtinai) PAV dokumentų rengėjui raštu (Spaudos g. 6-1, Vilnius) arba el. paštu info@sweco.lt, pasiūlymų kopijas pagal kompetenciją pateikiant PAV subjektams ir AAA informacijai.

Viešas visuomenės supažindinimas su PŪV PAV ataskaita vyks: 2023-08-03 18:00 val. Biržų rajono savivaldybės Nemunėlio Radviliškio seniūnijos administracijos patalpose (Biržų g. 5, Nemunėlio Radviliškis, Biržų r.) ir tiesioginės internetinės vaizdo transliacijos būdu. Tiesioginės internetinės vaizdo transliacijos tiesioginė nuoroda: https://byt.lt/0m60L. Taip pat, suinteresuotos visuomenės atstovams, atvykusiems į Parovėjos seniūnijos administracines patalpas bus suteiktos techninės galimybės nuotoliniu būdu dalyvauti viešame visuomenės supažindinime su PAV ataskaita, pateikti klausimus ir išgirsti atsakymus.

Su parengta nuasmeninta PŪV PAV ataskaita (2023-06-15, 0 laida) galima susipažinti čia.


Informacinis pranešimas apie vie
Nemunelio_Radviliskis - Google
drive.google.com/drive/folders/1bn0ZS7r7jp0DaVU4WjHSNJ7eaQk-wCJH
Drive
Sign in
Nemunelio_Radviliskis
Download all
Name
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File size
Grafiniai_priedai_1-3.pdf Owner hidden Jun 21, 2023 16.8 MB
Grafiniai_priedai_4.pdf Owner hidden Jun 21, 2023 17.9 MB
Grafiniai_priedai_5.pdf Owner hidden Jun 21, 2023 22.5 MB
Grafiniai_priedai_6-8.pdf Owner hidden Jun 21, 2023 8.5 MB
PAV_ataskaita_Nemunelio_Radviliskis.pdf Owner hidden Jun 21, 2023 19.9 MB
Tekstiniai_priedai_1-4.pdf Owner hidden Jun 21, 2023 26.3 MB
Tekstiniai_priedai_5.1.pdf Owner hidden Jun 22, 2023 15.9 MB
Tekstiniai_priedai_5.2.pdf Owner hidden Jun 22, 2023 68.6 MB
Tekstiniai_priedai_6-8.pdf Owner hidden Jun 21, 2023 9 MB



Planuojamos ūkinės veiklos organizatorius

UAB „Biržų vėjas“

Planuojamos ūkinės veiklos pavadinimas:

UAB „BIRŽŲ VĖJAS“ PLANUOJAMŲ IKI 35 VĖJO ELEKTRINIŲ NEMUNĖLIO RADVILIŠKIO IR PAROVĖJOS SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR. STATYBA IR VEIKLA

Dokumento tipas:

POVEIKIO APLINKAI VERTINIMO ATASKAITA

Projekto Nr. 22025

Išleidimo metai: 2023

Bylos Nr. PAV.AT-1

PLANUOJAMA ŪKINĖ VEIKLA PRISKIRIAMA VIRŠESNIAM VIEŠAJAM INTERESUI IR LAIKOMA SVARBIA VIEŠAJAM SAUGUMUI

Dokumentą rengėjas

SWECO

UAB „Sweco Lietuva“

VIEŠO VISUOMENĖS SUPAŽINDINIMO SU UAB „BIRŽŲ VĖJAS“ PLANUOJAMŲ IKI 35 VĖJO ELEKTRINIŲ NEMUNĖLIO RADVILIŠKIO SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR. STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITA (TOLIAU – ATASKAITA) PROTOKOLAS

(pavadinimas)

Viešo visuomenės supažindinimo su Ataskaita data ir vieta: 2023 m. rugpjūčio 3 d. 18:00 val., hibridiniu būdu[1] – Biržų rajono savivaldybės Nemunėlio Radviliškio seniūnijos administracijos patalpose (Biržų g. 5, Nemunėlio Radviliškis, Biržų r. sav.) ir tiesioginės internetinės vaizdo transliacijos būdu per „Microsoft Teams" programą. Taip pat, suinteresuotos visuomenės atstovams, atvykusiems į Parovėjos seniūnijos administracines patalpas buvo suteiktos techninės galimybės nuotoliniu būdu dalyvauti viešame visuomenės supažindinime su Ataskaita, pateikti klausimus ir išgirsti atsakymus.

Pirmininkaujantis: V. Belickas *(UAB „Sweco Lietuva“ Aplinkosaugos ir planavimo skyriaus vadovas, projekto vadovas)*.

Sekretoriaujanti: R. Šimkienė *(UAB „Sweco Lietuva“ Aplinkosaugos ir planavimo skyriaus vyresnioji projektų vadovė)*.

Viešo visuomenės supažindinimo su Ataskaita dalyviai:

Į viešą visuomenės supažindinimą su Ataskaita Biržų rajono savivaldybės Nemunėlio Radviliškio administracijos patalpose atvyko Poveikio aplinkai vertinimo (toliau – PAV) dokumentų rengėjo (UAB „Sweco Lietuva“) atstovai, planuojamos ūkinės veiklos (toliau – PŪV) organizatoriaus (UAB „Biržų vėjas“) atstovas, 5 visuomenės atstovai (žr. Priedas Nr. 1). 1 visuomenės atstovas ir 1 PAV dokumento rengėjo atstovas pristatymo susirinkime dalyvavo Parovėjos sen. administracijos patalpose (žr. Priedas Nr. 1). Į viešą visuomenės supažindinimą su Ataskaita nuotoliniu būdu prisijungė PAV dokumentų rengėjo (UAB „Sweco Lietuva“) atstovai, PŪV organizatoriaus (UAB „Biržų vėjas“) atstovas, VšĮ „Media ir aplinkos projektai“ suburti specialistai, šio PAV metu atlikę paukščių ir šikšnosparnių stebėjimus, suinteresuotos visuomenės atstovai nuotoliniu būdu prisijungę nebuvo (žr. Priedas Nr. 1).

Pristatomo PAV dokumento pavadinimas: „UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių Nemunėlio Radviliškio sen. Biržų r. sav., Panevėžio apskr. statybos ir veiklos poveikio aplinkai vertinimo ataskaita“.

Viešo visuomenės supažindinimo su Ataskaita tvarka:

Susirinkimą pradėjo *UAB „Sweco Lietuva“ Aplinkosaugos ir planavimo skyriaus vadovas* V. Belickas ir informavo, kad šio susirinkimo metu bus pristatoma UAB „Sweco Lietuva“ parengta „UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių Nemunėlio Radviliškio sen. Biržų r. sav., Panevėžio apskr. statybos ir veiklos poveikio aplinkai vertinimo ataskaita“.

V. Belickas susirinkimo dalyvius informavo apie PAV procedūras bei tvarką – susirinkime išrinkti susirinkimo primininką ir sekretorių, tad buvo pasiūlytos kandidatūros, o nesulaukus prieštaravimų, paskirti susirinkimo pirmininkas V. Belickas ir sekretorė R. Šimkienė (*UAB „Sweco Lietuva“ Aplinkosaugos ir planavimo skyriaus vyresnioji projektų vadovė*).

V. Belickas pristatė viešame visuomenės supažindinimo su PAV ataskaita susirinkime dalyvaujančius: planuojamos ūkinės veiklos organizatorių – UAB „Biržų vėjas“ direktorių Evaldą Losį, UAB „Sweco Lietuva“ atstovus (Laurą Stumbrienę, Renatą Šimkienę ir Vilių Sidaravičių) ir ekspertus (Aurelijų Narbutą, Deividą Makavičių ir Mantą Jancevičių), kurie atliko paukščių ir šikšnosparnių stebėjimus.

V. Belickas pristatė susirinkimo eigą; informavo, kad viešas visuomenės supažindinimas su Ataskaita vyksta hibridiniu būdu, susirinkimo dalyvius paskatino užsiregistruoti: prisijungusiems nuotoliniu būdu – komentarų skiltyje ir kontaktinius duomenis atsiųsti el. paštu: renata.simkiene@sweco.lt, esantiems salėje ar Parovėjos

[1] Remiantis Lietuvos Respublikos aplinkos ministro 2022 m. rugpjūčio 2 d. įsakymo Nr. D1-248 „Dėl Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo“ 74 punktu „Viešas visuomenės supažindinimas su ataskaita vykdomas hibridiniu būdu“.

seniūnijoje – pateiktoje registracijos formoje, pažymėjo, kad susirinkimo eiga įrašoma sudarant atsakingai institucijai galimybę ją perklausyti bei protokoluojama. Taip pat informavo, kad iki viešo susirinkimo pradžios iš visuomenės buvo gautas 1 paklausimas, į kurį atsakyta raštu, akcentuota, kad pasiūlymus galima teikti ir viso šio susirinkimo metu. Visi pasiūlymai bus registruojami, įvertinami, į juos atsakoma paklausėjui raštu. Taip pat bus parengtas suinteresuotos visuomenės pasiūlymų įvertinimas, kuris, kaip ir šis susirinkimo protokolas, bus įtrauktas į Ataskaitos priedą apie visuomenės informavimą ir dalyvavimą PAV procedūrose bei bus pateikta PAV subjektams. Taip pat informavo, kad pageidaujantieji pateikti klausimus ar pasiūlymus gali tai padaryti susirinkimo metu.

V. Belickas informavo, kad susirinkimo protokolas bus parengtas per 5 darbo dienas (terminą skaičiuojant nuo kitos darbo dienos po viešo supažindinimo) ir bus įtrauktas į PAV ataskaitos priedą. Šis protokolas per minėtą terminą bus paviešintas UAB „Sweco Lietuva" tinklalapyje: https://www.sweco.lt/pranesimai/svarbus-pranesimai/informacinis-pranesimas-apie-viesa-visuomenes-supazindinima-su-uab-birzu-vejas-planuojamu-iki-35-vejo-elektriniu-nemunelio-radviliskio-sen-birzu-r-sav-panevezio-apskr-statybos/

V. Belickas trumpai paaiškino PAV procedūras, procesą ir jo dalyvius. Vėliau apibūdino PŪV ir supažindino su jau atliktomis PAV procedūromis bei PŪV PAV rezultatais (pademonstruojant prezentaciją Power point formatu). Pateikė išvadą, kad atlikus PAV nustatyta, kad bet kuri planuojamų VE techninių parametrų alternatyva (A, B, C) aplinkos elementų ir visuomenės sveikatos atžvilgiu, pritaikius ir įgyvendinus siūlomus poveikį aplinkai mažinančių priemonių sprendinius, gali būti įgyvendinta. Neįgyvendinus siūlomų neigiamo poveikio išvengimo ir mažinimo priemonių kai kurių VE įgyvendinimas nebūtų galimas bet kurios alternatyvos atveju.

Po Ataskaitos rezultatų pristatymo, buvo atsakinėjama į susirinkime dalyvaujančių visuomenės atstovų klausimus. Nuotoliniu būdu dalyvaujantys susirinkimo dalyviai klausimus uždavė žodžiu. Raštu (komentarų skiltyje) klausimai nebuvo užduoti. Žodžiu galėjo užduoti klausimus visi susirinkimo dalyviai. Klausimai ir atsakymai pateikti žemiau.

Susirinkimo metu užduoti klausimai, pasisakymai:

Visuomenės atstovas (*pavardė žinoma*). Kokio gylio pamatas bus VE?

V. Belickas. Paprastai tiriama nuo 16 iki 30 metrų. Šioje teritorijoje, kurioje yra jautrios geologinės sąlygos, reikėtų konkretizuoti sprendinius po tyrimų, kad poliai būtų įsigręžti ir įrengti į tvirtą pagrindą.

Visuomenės atstovas (*pavardė žinoma*). 20 metrų gylyje yra pagrindiniai gruntiniai vandenys, kurie maitina upes.

V. Belickas. Taip, galiu pakomentuoti ir šį atvejį. Kadangi įrengiant pamatus nebus pavojingų medžiagų emisijų ir išmetimų, o tiesiog prasigręžiama ir įrengiami betoniniai poliai, kurie yra inertiškai stabilūs, todėl poveikio nuo pačių pamatų nebūtų, tik įrengimo metu turi būti darbai vykdomi taip, kad jokie galimi teršalai nepatektų į vandeningą sluoksnį. Pati VE ir jos pamatas jokių taršos emisijų tiek į požemį, tiek į vandenis nesudarys. Gipso sluoksnio tirpdymui – tai neturėtų įtakoti. Tik pakartoju, kad turi būti atlikti detalūs inžineriniai geologiniai tyrimai.

Visuomenės atstovas (*pavardė žinoma*). Ar išgręžus į tokį gylį nebus pažeisti visokie vandentiekiai?

V. Belickas. Kai yra spūdiniai vandeningi horizontai - tokios vietos yra jautrios, t.y. kur yra jau suslėgtas vanduo, todėl pragręžus vanduo gali fontanuoti. Tačiau tokiu atveju, atlikus inžinerinius geologinius tyrimus ir matant tokią tikimybę, yra pasirenkama ir taikoma tokia technologija, kad nebūtų atvertos konkretus spūdinis horizontas, ir būtų išvengta vandens fontanuojančio efekto. Tai nėra ypatingai sudėtingas dalykas, bet žinoma, į tai turi būti atsižvelgiama.

Visuomenės atstovas (*pavardė žinoma*). Jeigu yra technologijos, viskas aišku. Jos bus numatytos techniniame projekte. Ar su jomis bus galima susipažinti? Kas tai kontroliuos?

V. Belickas. Yra du aspektai (*V. Belickas supažindina su geologinių tyrimų standartais, jų skirtumais*). Atlikti inžinerinių geologinių tyrimų ataskaita teikiama Lietuvos geologijos tarnybai, gaunama išvada ar viskas tinkamai atlikta ir pagal tas išvadas parenkami pamatų techniniai sprendiniai. Paprastai techninis projektas irgi derinamas su institucijomis, viena iš jų – Lietuvos geologijos tarnyba, taip pat viešinamas ir visuomenė gali susipažinti. Taip pat, šio PAV metu Aplinkos apsaugos agentūra, jeigu turi neaiškumų gali pakviesti Lietuvos geologijos tarnybą kaip PAV subjektą, tada Ataskaita teikiama ir jai, o tarnyba pateikia savo išvadas.

Visuomenės atstovas (*pavardė žinoma*). Ar Lietuvoje jau yra tokio dydžio VE?

V. Belickas. Taip tiksliai nepasakysiu, bet iš didesnių jau yra pastatytos Kelmės rajone, veikla vykdoma. Gal organizatorius gali papildyti.

E. Losis. Kur Ataskaitoje vertinama alternatyvi VE, rinkoje jų dar nėra. Dabar rinkoje gaminamos 7,2 MW, bet Lietuvoje dabar statomos iki 6 MW.

Visuomenės atstovas (*pavardė žinoma*). Jau turite numatę kokią alternatyvą pasirinksite?

E. Losis. Priklausys nuo daug kriterijų, kokį gamintoją pasirinksim.

Visuomenės atstovas (*pavardė žinoma*). Ar yra atlikti pastatytų panašių VE vibracijos matavimai?

V. Belickas. Tokie matavimai neatlikti, bet Ataskaitoje, atskirame skyriuje yra aprašytas vibracijos galimas poveikis.

R. Šimkienė. Vibracijos poveikis visuomenei (gyvenamai, visuomeninei aplinkai) yra mažareikšmis, neigiamas poveikis nenumatomas. Patys gamintojai gamindami VE laikosi atitinkamų reikalavimų ir standartų reglamentuojančių mechaninės vibracijos poveikį pačiam įrenginiui, kad jis išliktų stabilus, nes vibracija pavojinga pačiam objektui.

V. Belickas. Pagrindiniai rizikos veiksniai yra sklindantis triukšmas ir šešėliavimas, jų poveikis.

Visuomenės atstovas (*pavardė žinoma*). Kada planuojate startuoti su statybomis ir per kiek laiko pastatoma viena VE?

E. Losis. Pačios jėgainės surenkamos pakankamai greitai – per kelias savaites, ilgiau gali užtrukti pamatų įrengimas. Kaip Ataskaitoje nurodyta, apie metus laiko po Agentūros teigiamo sprendimo priėmimo būtų vykdomas techninis projektas, gaunamas statybos leidimas ir tada statomos VE, bet priklausomai kada būtų galimybė jas gauti.

V. Belickas. Priminsiu, kad Agentūros išvada/sprendimas galioja 5 metus. Per tiek laiko turi būti įgyvendinti ar pradėti įgyvendinti sprendiniai.

Visuomenės atstovas *(pavardė žinoma)*. Kas finansuoja projektą?

E. Losis. Tiesiogiai tai nėra susiję su poveikio aplinkai vertinimu. Šis projektas finansuojamas įvairiomis priemonėmis, paskolomis.

Nesulaukus daugiau klausimų, taip pat negavus papildomų pasiūlymų susirinkimo metu, dar kartą pakartojus informaciją apie PŪV PAV procedūras, detalizuojant ir tarpvalstybinio poveikio procedūrą, konstatuota, kad viešas visuomenės supažindinimo su Ataskaita susirinkimas baigtas. Susirinkimo pabaiga –19:12 val.

Susitikimo įrašas saugomas UAB „Sweco Lietuva“, Spaudos g. 6-1, LT-05132, Vilnius.

Protokolo pasirašymo data: 2023-08-08

Susirinkimo pirmininkas: Vytautas Belickas

Susirinkimo sekretorė: Renata Šimkienė

PRIDEDAMA:

1. Viešo visuomenės supažindinimo su Ataskaita nuasmenintas susirinkimo dalyvių sąrašas (dalyvavusių Biržų rajono savivaldybės Nemunėlio Radviliškio sen. ir Parovėjos sen. administracijų patalpose ir prisijungusių per „Microsoft Teams" programą).

UAB „BIRŽŲ VĖJO“ PLANUOJAMŲ IKI 35 VĖJO ELEKTRINIŲ NEMUNĖLIO RADVILIŠKIO SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR. STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITA (TOLIAU – PAV ATASKAITA)

VIEŠO VISUOMENĖS SUPAŽINDINIMO SU PAV ATASKAITA SUSIRINKIMO DALYVIŲ SĄRAŠAS

2023 m. rugpjūčio 3 d., 18:00 val.
Biržų rajono savivaldybės Nemunėlio Radviliškio seniūnijos administracinės patalpos, Biržų g. 5, Nemunėlio Radviliškis, Biržų r. sav.

Eilės Nr.	Dalyvio vardas, pavardė	Kam atstovauja	Dalyvio adresas/el. pašto adresas	Parašas
1.				
2.				
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Asmens duomenys tvarkomi vadovaujantis Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo 28, 29 punktais bei laikantis duomenų privatumo nuostatų reikalavimais.

UAB „BIRŽŲ VĖJO“ PLANUOJAMŲ IKI 35 VĖJO ELEKTRINIŲ NEMUNĖLIO RADVILIŠKIO SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR. STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITA (TOLIAU – PAV ATASKAITA)

VIEŠO VISUOMENĖS SUPAŽINDINIMO SU PAV ATASKAITA SUSIRINKIMO DALYVIŲ SĄRAŠAS

2023 m. rugpjūčio 3 d., 18:00 val.
Biržų rajono savivaldybės Parovėjos seniūnijos administracinės patalpos, Karališkių g. 3, Parovėjos k., Biržų r. sav.

Eilės Nr.	Dalyvio vardas, pavardė	Kam atstovauja	Dalyvio adresas/el. pašto adresas	Parašas
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Asmens duomenys tvarkomi vadovaujantis Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo 28, 29 punktais bei laikantis duomenų privatumo nuostatų reikalavimais.

UAB „BIRŽŲ VĖJO“ PLANUOJAMŲ IKI 35 VĖJO ELEKTRINIŲ NEMUNĖLIO RADVILIŠKIO SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR. STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITA (TOLIAU – PAV ATASKAITA)

VIEŠO VISUOMENĖS SUPAŽINDINIMO SU PAV ATASKAITA SUSIRINKIMO DALYVIŲ SĄRAŠAS

2023 m. rugpjūčio 3 d., 18:00 val.
Tiesioginė internetinė vaizdo transliacija per „Microsoft Teams” programą

Eilės Nr.	Dalyvio vardas, pavardė	Kam atstovauja	Dalyvio adresas/el. pašto adresas
1.	V	U	v
2.	R	U	r
3.	L	U	l
4.	E	U	e
5.	A	d	v
6.	D	d	r
7.	M	V	-

METADUOMENYS	
Dokumento sudarytojas (-ai)	UAB „Sweco Lietuva“
Dokumento pavadinimas (antraštė)	Protokolas
Dokumento registracijos data ir numeris	–
Dokumento gavimo data ir dokumento gavimo registracijos numeris	–
Dokumento specifikacijos identifikavimo žymuo	ADOC-V1.0
Parašo paskirtis	Pasirašymas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	Renata Šimkienė, Vyresnioji projektų vadovė
Parašo sukūrimo data ir laikas	2023-08-08 11:20:07 (GMT+00:00)
Parašo formatas	XAdES-T
Laiko žymoje nurodytas laikas	2023-08-08 14:20:30 (GMT+03:00)
Informacija apie sertifikavimo paslaugų teikėją	EID-SK 2016, AS Sertifitseerimiskeskus, EE
Sertifikato galiojimo laikas	Galioja nuo 2023-02-28 iki 2028-02-27
Informacija apie būdus, naudotus metaduomenų vientisumui užtikrinti	–
Pagrindinio dokumento priedų skaičius	–
Pagrindinio dokumento pridedamų dokumentų skaičius	–
Programinės įrangos, kuria naudojantis sudarytas elektroninis dokumentas, pavadinimas	Signa Docs v1.9-SNAPSHOT
Informacija apie elektroninio dokumento ir elektroninio (-ių) parašo (-ų) tikrinimą (tikrinimo data)	Tikrinant dokumentą nenustatyta jokių klaidų (2023-08-08)
Elektroninio dokumento nuorašo atspausdinimo data ir jį atspausdinęs darbuotojas	2023-08-08 atspausdino Renata Šimkienė
Paieškos nuoroda	–
Papildomi metaduomenys	–

SUINTERESUOTOS VISUOMENĖS PASIŪLYMŲ DĖL UAB „BIRŽŲ VĖJAS“ PLANUOJAMŲ IKI 35 VĖJO ELEKTRINIŲ PARKO NEMUNĖLIO RADVILIŠKIO SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR. TERITORIJOJE STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO REGISTRACIJA

Eil. Nr.	Suinteresuotos visuomenės pasiūlymo gavimo diena	Suinteresuotos visuomenės pasiūlymo teikimo diena	Suinteresuotos visuomenės duomenys (fizinio asmens vardas, pavardė, juridinio asmens pavadinimas, adresas, telefono numeris, el. pašto adresas)	Suinteresuotos visuomenės pasiūlymai
1	2	3	4	5
Dėl pranešimo apie PAV ataskaitą				
1.	2023-06-28	2023-06-28	Giedrius Kubilius., El. p. velykionys@gmail.com	Priedas Nr.1_V2-472-23 Registravimas 2023 m. birželio 30 d. Nr. V2-472-23
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21.				

PRIDEDAMA:

1. 2023 m. birželio 30 d. raštas Nr. V2-472-23
2.

Suinteresuotos visuomenės pasiūlymus užregistravo:
Renata Šimkienė, UAB „Sweco Lietuva“ projekto vadovas, tel. +370 699 15667
2023-08-04

UAB „Sweco Lietuva“
GAUTA Nr. V2-472-23
Data 2023-06-28

Vingrytė-Skabeikienė, Jolita

From: Giedrius Kubilius <velykionys@gmail.com>
Sent: trečiadienis 2023 m. birželis 28 14:51
To: Ulinskaitė, Dovilė
Subject: PAV

Sveiki.

Norėčiau sužinoti, kokiu atstumu nuo Velykionių k. 3 gyvenamojo namo stovės jėgainės, kurių numeriai yra Nr. 11, Nr. 12, Nr.13, Nr. 17.

Prašau nurodyti kiekvienos jų nutolimą nuo gyvenamojo namo.

Ačiū.

SUINTERESUOTOS VISUOMENĖS PASIŪLYMŲ DĖL UAB „BIRŽŲ VĖJAS“ PLANUOJAMŲ IKI 35 VĖJO ELEKTRINIŲ NEMUNĖLIO RADVILIŠKIO SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR. STATYBOS IR VEIKLOS, JOS POVEIKIO APLINKAI VERTINIMO ĮVERTINIMAS

SUINTERESUOTOS VISUOMENĖS PASIŪLYMŲ DĖL UAB „BIRŽŲ VĖJAS“ PLANUOJAMŲ IKI 35 VĖJO ELEKTRINIŲ NEMUNĖLIO RADVILIŠKIO SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR. STATYBOS IR VEIKLOS, JOS POVEIKIO APLINKAI VERTINIMO ĮVERTINIMAS

Eil. Nr.	Suinteresuota visuomenė (fiziniai ar juridiniai asmenys)	Suinteresuotos visuomenės sugrupuotų pasiūlymų pobūdis pagal temas	Suinteresuotos visuomenės pasiūlymų motyvuotas įvertinimas
1	2	3	4
Dėl PAV ataskaitos (2023-03-17 laida 0)			
1	Giedrius Kubilius[1] *El. p.: velykionys@gmail.com*	**Atstumas nuo VE**	**Klausimas.** Norėčiau sužinoti, kokiu atstumu nuo Velykionių k. 3 gyvenamojo namo stovės jėgainės, kurių numeriai yra Nr. 11,Nr. 12, Nr.13, Nr. 17. Prašau nurodyti kiekvienos jų nutolimą nuo gyvenamojo namo. **Atsakymas.** Nuo gyvenamojo namo, esančio adresu Velykionių k. 3, Biržų r.,planuojamos vėjo elektrinės (toliau – VE) būtų šiuo atstumu: • Nuo VE N 11 – 1326 m; • Nuo VE N 12 – 1485 m; • Nuo VE N 13 – 1921 m; • Nuo VE N 17 – 974 m. **Atsižvelgiant į G. Kubiliaus pateiktą klausimą UAB „Sweco Lietuva“ 2023-06-30 d. raštu Nr. V1-629-23 D. Kubiliui teikė atsakymą ir informavo, kaip įvertintas jo pasiūlymas.**

PRIDEDAMA:
1. 2023 m. birželio 28 d. el. laiškas *„PAV“*.
2. 2023 m. birželio 30 d. raštas Nr. V1-629-23 *„Dėl gautų klausimų ir pasiūlymų UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių Nemunėlio Radviliškio sen., Biržų r. sav., Panevėžio apskr. statybos ir veiklos poveikio aplinkai vertinimo ataskaitai*“

Suinteresuotos visuomenės pasiūlymų įvertinimą parengė:

Vytautas Belickas, UAB „Sweco Lietuva“ projekto vadovas, tel. Nr. +370 699 83628

Evaldas Losis, UAB „Biržų vėjas“ direktorius, tel. Nr. +370 610 25533

2023-08-05

[1] 2023-06-28 el. laiškas *„PAV“*

PRIEDAI

1 PRIEDAS

UAB „Sweco Lietuva“
GAUTA Nr. V2-472-23
Data 2023-06-28

Vingrytė-Skabeikienė, Jolita

From: Giedrius Kubilius <velykionys@gmail.com>
Sent: trečiadienis 2023 m. birželis 28 14:51
To: Ulinskaitė, Dovilė
Subject: PAV

Sveiki.

Norėčiau sužinoti, kokiu atstumu nuo Velykionių k. 3 gyvenamojo namo stovės jėgainės, kurių numeriai yra Nr. 11, Nr. 12, Nr.13, Nr. 17.

Prašau nurodyti kiekvienos jų nutolimą nuo gyvenamojo namo.

Ačiū.

2 PRIEDAS

Dokumentą elektroniniu parašu
pasirašė EGIDIJUS,KUNEVIČIUS
Data: 2023-06-30 09:32:07

SWECO

Giedriui Kubiliui,
El. p. velykionys@gmail.com

2023-06-30 Nr. V1-629-23

Į 2023-06-28 Nr. -

2023-06-30

Autorius Vytautas Belickas
Projekto numeris 2202512202
Projektas UAB "Biržų vėjas" konsultacinės paslaugos
Užsakovas UAB "Biržų vėjas"
Projekto vadovas Vytautas Belickas

Kopija
UAB „Biržų vėjas“
El. p. evaldas@rdg.lt

DĖL GAUTŲ KLAUSIMŲ IR PASIŪLYMŲ UAB „BIRŽŲ VĖJAS‘ PLANUOJAMŲ IKI 35 VĖJO ELEKTRINIŲ NEMUNĖLIO RADVILIŠKIO SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR. STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITAI

2023 m. birželio 28 d. buvo atsiųstas ir 2023 m. birželio 28 d. Nr. V2-472-23 UAB „Sweco Lietuva“ registruotas Giedriaus Kubiliaus el. laiškas *„PAV“*.

Vadovaujantis Tvarkos aprašo[1] nuostatomis UAB „Sweco Lietuva“ Giedriaus Kubiliaus klausimą užregistravo ir įtraukė į gautų suinteresuotos visuomenės pasiūlymų įvertinimą (pagal Tvarkos aprašo[1] 2 ir 3 prieduose nustatytą formą), dokumentacija bus įtraukta į planuojamos ūkinės veiklos poveikio aplinkai vertinimo ataskaitos priedą.

Atsižvelgiant į minėtame el. laiške pateiktą klausimą UAB „Sweco Lietuva“ teikia atsakymą:

1. Dėl atstumo nuo VE: „Norėčiau sužinoti, kokiu atstumu nuo Velykionių k. 3 gyvenamojo namo stovės jėgainės, kurių numeriai yra Nr. 11, Nr. 12, Nr. 13, Nr. 17. Prašau nurodyti kiekvienos jų nutolimą nuo gyvenamojo namo“.

Atsakymas: Nuo gyvenamojo namo, esančio adresu Velykionių k. 3, Biržų r., planuojamos vėjo elektrinės (toliau – VE) būtų šiuo atstumu:

- Nuo VE N 11 – 1326 m;
- Nuo VE N 12 – 1485 m;
- Nuo VE N 13 – 1921 m;
- Nuo VE N 17 – 974 m.

Viceprezidentas Egidijus Kunevičius

[1] Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašas, patvirtintas Lietuvos Respublikos aplinkos ministro 2017-10-31 įsakymu Nr. D1-885 „Dėl Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo” (aktuali redakcija).

Sweco
Dovilė Ulinskaitė
dovile.ulinskaite@sweco.lt
Tel. nr. +370 635 83813

Spaudos g. 6-1
LT 05132 Vilnius
Lithuania
Telefonas +370 (8) 5 262 2621
www.sweco.lt

UAB „Sweco Lietuva“
Įm. k. 301135783
Reg. Biuras Vilnius

SWECO

TARPVALSTYBINIO VERTINIMO DERINIMO DOKUMENTŲ KOPIJOS

COPIES OF DOCUMENTS RELATED TO THE TRANSBOUNDARY IMPACT ASSESSMENT

LIETUVOS RESPUBLIKOS APLINKOS MINISTERIJA

Biudžetinė įstaiga, A. Jakšto g. 4, LT-01105 Vilnius,
tel. 8 626 22 252, el. p. info@am.lt, https://am.lrv.lt.
Duomenys kaupiami ir saugomi Juridinių asmenų registre, kodas 188602370

Aplinkos apsaugos agentūrai 2022-10- Nr.

Į Nr.

Kopija
UAB „Sweco Lietuva“
El. p. info@sweco.lt

DĖL PLANUOJAMOS ŪKINĖS VEIKLOS TARPVALSTYBINIO POVEIKIO APLINKAI VERTINIMO PROCEDŪRŲ TAIKYMO

Išnagrinėję Aplinkos apsaugos agentūros prašymą ir kartu persiųstą UAB „Biržų vėjas“ pranešimą apie planuojamos ūkinės veiklos – iki 35 vėjo jėgainių parko Biržų r. sav. Nemunėlio Radviliškio sen. ir Parovėjos sen. teritorijoje statybos ir veiklos poveikio aplinkai vertinimo pradžią ir atsižvelgdami į tai, kad planuojamos vėjo elektrinių statybos teritorija yra nutolusi mažiausiai apie 0,81 km atstumu nuo Latvijos Respublikos sienos bei gali daryti poveikį Latvijos Respublikai, informuojame, kad planuojamai ūkinei veiklai turi būti taikomos tarpvalstybinio poveikio aplinkai vertinimo procedūros.

Vadovaujantis Lietuvos Respublikos planuojamos ūkinės veiklos poveikio aplinkai vertinimo įstatymo 9 straipsnio 2 dalimi, prašome poveikio aplinkai vertinimo dokumentų rengėją pateikti Aplinkos ministerijai elektroninėmis ryšio priemonėmis arba skaitmeninėje laikmenoje aplinkos ministro nustatytos apimties informaciją apie planuojamą ūkinę veiklą (anglų kalba), atkreipiant ypatingą dėmesį į galimą planuojamos ūkinės veiklos reikšmingą tarpvalstybinį poveikį aplinkai.

Aplinkos viceministrė Raminta Radavičienė

R. Griškevičienė, +370 695 11585, el. p. rasa.griskeviciene@am.lt

DETALŪS METADUOMENYS	
Dokumento sudarytojas (-ai)	Lietuvos Respublikos aplinkos ministerija 188602370, A. Jakšto g. 4, LT-01105 Vilnius
Dokumento pavadinimas (antraštė)	Dėl planuojamos ūkinės veiklos tarpvalstybinio poveikio aplinkai vertinimo procedūrų taikymo
Dokumento registracijos data ir numeris	2022-10-28 Nr. D8(E)-5563
Dokumento gavimo data ir dokumento gavimo registracijos numeris	–
Dokumento specifikacijos identifikavimo žymuo	ADOC-V1.0
Parašo paskirtis	Pasirašymas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	Raminta Radavičienė, Viceministras
Sertifikatas išduotas	RAMINTA RADAVIČIENĖ, Lietuvos Respublikos aplinkos ministerija LT
Parašo sukūrimo data ir laikas	2022-10-27 18:02:46 (GMT+03:00)
Parašo formatas	XAdES-T
Laiko žymoje nurodytas laikas	2022-10-27 18:02:57 (GMT+03:00)
Informacija apie sertifikavimo paslaugų teikėją	ADIC CA-A, Asmens dokumentu israsymo centras prie LR VRM LT
Sertifikato galiojimo laikas	2021-01-28 09:06:18 – 2024-01-28 09:06:18
Informacija apie būdus, naudotus metaduomenų vientisumui užtikrinti	"Registravimas" paskirties metaduomenų vientisumas užtikrintas naudojant "RCSC IssuingCA, VI Registru centras - i.k. 124110246 LT" išduotą sertifikatą "DBSIS, Informatikos ir ryšių departamentas prie Lietuvos Respublikos vidaus reikalų ministerijos, į.k.188774822 LT", sertifikatas galioja nuo 2022-05-19 16:48:06 iki 2025-05-18 16:48:06
Pagrindinio dokumento priedų skaičius	–
Pagrindinio dokumento pridedamų dokumentų skaičius	–
Pridedamo dokumento sudarytojas (-ai)	–
Pridedamo dokumento pavadinimas (antraštė)	–
Pridedamo dokumento registracijos data ir numeris	–
Programinės įrangos, kuria naudojantis sudarytas elektroninis dokumentas, pavadinimas	DBSIS, versija 3.5.68
Informacija apie elektroninio dokumento ir elektroninio (-ių) parašo (-ų) tikrinimą (tikrinimo data)	Atitinka specifikacijos keliamus reikalavimus. Visi dokumente esantys elektroniniai parašai galioja (2022-10-28 08:19:45)
Paieškos nuoroda	–
Papildomi metaduomenys	Nuorašą suformavo 2022-10-28 08:19:46 DBSIS

Dokumentą elektroniniu parašu
pasirašė EGIDIJUS,KUNEVIČIUS
Data: 2023-06-27 09:52:31

SWECO

Lietuvos Respublikos aplinkos ministerijai 2023-06-27 Nr. V1-612-23

info@am.lt

2023-06-27

Ver
Autorius Dovilė Ulinskaitė
Projekto numeris 2202512205
Projektas UAB Biržų vėjas konsultacinės paslaugos
Užsakovas
Projekto vadovas Vytautas Belickas

DĖL PLANUOJAMOS ŪKINĖS VEIKLOS TARPVALSTYBINIO POVEIKIO APLINKAI VERTINIMO PROCEDŪRŲ TAIKYMO

UAB „Sweco Lietuva“ atlieka UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav., Panevėžio apskr. statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV) ir parengė PAV ataskaitą.

Vadovaujantis 2022 m. spalio 28 d. gautu raštu Nr. D8(E)-5563 „Dėl planuojamos ūkinės veiklos tarpvalstybinio poveikio aplinkai vertinimo procedūrų taikymo“ ir Planuojamos ūkinės veiklos tarpvalstybinio poveikio aplinkai vertinimo procedūrų tvarkos aprašo 11 punktu teikiame Aplinkos ministerijai informaciją apie planuojamą ūkinę veiklą (lietuvių ir anglų kalbomis). Prašome pranešimą apie planuojamą ūkinę veiklą siųsti poveikį aplinkai patiriančiai valstybei kaip numatyta Lietuvos Respublikos planuojamos ūkinės veiklos poveikio aplinkai vertinimo įstatymo 10 straipsnio 6 dalyje.

PRIDEDAMA. Informacija apie planuojamą ūkinę veiklą ir jos galimą tarpvalstybinį poveikį / Information on the Planned Economic Activity and its Possible Transboundary Impact, 9 lapai (*pdf formatu).

Viceprezidentas Egidijus Kunevičius

Sweco
Dovilė Ulinskaitė
dovile.ulinskaite@sweco.lt
Mob. +37063583813

Spaudos g. 6-1
LT 05132 Vilnius
Lithuania
Telefonas +370 (8) 5 262 2621
www.sweco.lt

UAB „Sweco Lietuva“

Dokumentą elektroniniu parašu
pasirašė EGIDIJUS,KUNEVIČIUS
Data: 2023-06-27 09:53:56

INFORMACIJA APIE PLANUOJAMĄ ŪKINĘ VEIKLĄ IR JOS GALIMĄ TARPVALSTYBINĮ POVEIKĮ

1. **Planuojamos ūkinės veiklos organizatoriaus duomenys**:

- UAB „Biržų vėjas", J. Janonio a. 5, LT-41170, Biržai, tel. +370 610 25533, el. p.: evaldas@rdg.lt.

2. Informacija apie planuojamą ūkinę veiklą:

2.1. **planuojamos ūkinės veiklos pavadinimas**:

- UAB „Biržų vėjas" planuojamo iki 35 vėjo elektrinių (toliau – VE) Nemunėlio Radviliškio ir Parovėjos sen., Biržų r. sav., Panevėžio apskr. statyba ir veikla.

2.2. **planuojamos ūkinės veiklos rūšis**:

- Planuojama ūkinė veikla (toliau – PŪV), skirta energijos gamybai iš atsinaujinančiųjų išteklių įrenginių, kaip ji suprantama 2022 m. gegužės 18 d. Komisijos rekomendacijoje (ES) 2022/822 dėl greitesnio leidimų atsinaujinančiųjų išteklių energijos projektams išdavimo procedūrų ir palankesnių sąlygų elektros energijos pirkimo sutartims.
  Ši veiklos rūšis įrašyta į Jungtinių Tautų Organizacijos 1991 m. Konvencijos dėl poveikio aplinkai vertinimo tarpvalstybiniame kontekste I priedą (Nr. 22).

2.3. **planuojamos ūkinės veiklos aprašymas**:

- PŪV sprendiniais Biržų r. sav. Nemunėlio Radviliškio ir Parovėjos sen. teritorijose privačios nuosavybės sklypuose planuojama pastatyti ir eksploatuoti iki 35 VE bei įrengti jų veiklai vykdyti būtiną infrastruktūrą (elektros transformatorių pastotę (toliau – TP), požeminius elektros energijos perdavimo kabelius, aptarnavimo aikšteles ir privažiavimo kelius bei kt.) (1 priedas). Poveikio aplinkai vertinimas atliekamas VE trims techninių sprendinių alternatyvoms. Planuojamų maksimaliųVE stiebo aukštis bus iki 180 m, bendras VE aukštis su pakelta mente – iki 270 m, rotoriaus su mentėmis skersmuo – iki 180 m. Vienos VE galia – iki 7,5 MW.

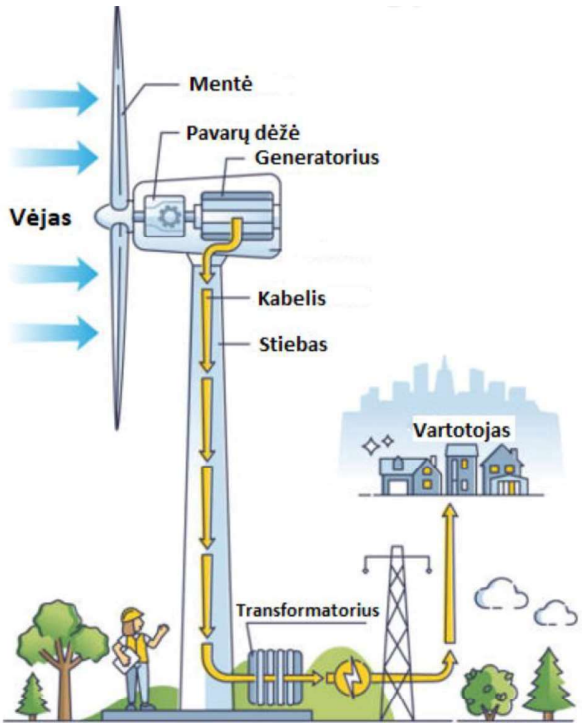
  PŪV pobūdis: elektros energijos gamyba iš atsinaujinančių vėjo energijos išteklių ir jos perdavimas į esamus elektros perdavimo tinklus, eksploatuojamus AB „Litgrid".

  Technologija. PŪV technologinį procesą sudaro du pagrindiniai etapai:

  - Elektros energijos gamyba VE;
  - Pagamintos energijos tiekimas/perdavimas į esamą elektros energijos perdavimo sistemą.

  Planuojamos VE generuos 33 kV įtampos elektros energiją. Pagaminta elektros energija nuo VE bus perduodama požeminiu elektros kabeliu į planuojamą TP, kurioje elektros energija bus transformuojama į 110 kV ar 330 kV įtampą ir perduodama į elektros perdavimo tinklus.

  Principinis VE vaizdas ir technologinio proceso schema pateikti 1 ir 2 pav.



1 pav. Principinė VE technologinio proceso schema



2 pav. Principinis VE vaizdas

2.4. **planuojamos ūkinės veiklos mastas**:

- Bendra planuojamo VE parko galia neviršys suminio 262,50 MW galingumo.

- Žemės sklypai, kuriuose numatoma PŪV, priklauso fiziniams/juridiniams asmenims. VE statybai ir veiklai numatomuose 35 neapgyvendintuose privačios nuosavybės žemės sklypuose bus suformuotos atskiros (iki ~ 0,3 ha) aikštelės su VE statybai ir veiklai reikiama infrastruktūra. VE veiklai numatytos žemės sklypų dalys nuomojamos pagal atskirus ilgalaikius susitarimus su minėtų žemės sklypų savininkais. Greta planuojamų VE esantys žemės sklypai neužstatyti, juose vyrauja ariama žemė ir pievos..
- PŪV numatoma maksimaliai naudoti vietos kelius (jų atkarpas), prieš tai, esant poreikiui, juos sustiprinus ir/ar renovavus, kur privažiavimo iki planuojamos VE vietos nėra, numatoma įrengti atskiras privažiavimo kelio atkarpas. Preliminariu vertinimu numatoma rekonstruoti/nutiesti apie 21 km privažiavimo kelių.
- PŪV poreikiams taip pat numatoma nutiesti požeminius elektros energijos tiekimo kabelius tarp VE ir iki planuojamos TP vietos. Preliminariu vertinimu numatoma nutiesti apie 69,7 km elektros energijos perdavimo požeminių kabelių.
- VE ir jų veiklai būtinos infrastruktūros objektų (aikštelių, kelių atkarpų, požeminių elektros kabelių, TP) statybos darbų metu, o taip pat PŪV vykdymo metu, reikšmingas neigiamas poveikis dirvožemiui ir žemės gelmėms nenumatomas.
- PŪV objektų eksploatacijos metu požeminis ir paviršinis vanduo naudojamas nebus. Buitinės ir gamybinės nuotekos nesusidarys.
- PŪV statybos ir įrengimo metu gali susidaryti tik nedideli metalo ir mišrių statybinių atliekų kiekiai. VE parko veiklos metu tiesioginis atliekų (pavojingų, nepavojingų, radioaktyvių) susidarymas nenumatomas, galimos tik epizodiškai remonto/rekonstravimo ar techninio aptarnavimo metu susidarančios atliekos, kurios būtų atiduodamos utilizavimui atliekas tvarkančioms įmonėms.
- Įgyvendinat ir vykdant PŪV, nebus naudojamos ir saugomos pavojingosios cheminės medžiagos.

2.5. **planuojamos ūkinės veiklos vykdymo laikotarpis**:

- Planuojami PŪV (įrengimo, statybos ir eksploatacijos) įgyvendinimo etapai pateikiami 1 lentelėje.

1 lentelė. Planuojami PŪV įgyvendinimo etapai

Etapo Nr.	Veiklos etapo pavadinimas	Veiklos etapo trukmė
I - as	Poveikio aplinkai vertinimas ir sprendimo dėl PŪV galimybių gavimas	12 mėn.
II - as	VE techninių/darbo projektų rengimas, derinimas ir leidimų statybai gavimas	6-12 mėn.
III - as	VE parko statyba ir reikiamos infrastruktūros įrengimas	apie 6 - 24 mėn. nuo leidimo statybai gavimo datos
IV- as	VE parko eksploatacija	Iki 35 metų*
V - as	VE demontavimas ir teritorijos atkūrimas/rekultivacija	apie 6 - 24 mėn.

* – pagal poreikį ir objekto technines galimybes eksploatacijos laikas gali būti pratęstas.

3. Informacija apie planuojamos ūkinės veiklos vietą

3.1. **planuojamos ūkinės veiklos vieta, jos aprašymas**:

- PŪV teritorija yra šiaurinėje Lietuvos Respublikos teritorijos dalyje Biržų r. sav. Panevėžio apskrityje (1 priedas). Mažiausias atstumas nuo PŪV tiesioginių sprendinių teritorijos iki Latvijos Respublikos teritorijos būtų apie 0,88 km. PŪV objektams artimiausia didesnė gyvenvietė (Skaistkalne) Latvijos Respublikos teritorijoje yra už apie 2,8 km (nuo planuojamos VE N17), o artimiausias gyvenamosios paskirties pastatas – už apie 1,2 km. PŪV vietai artimiausia saugoma gamtinė teritorija (kartu ir Natura 2000) Latvijos Respublikos teritorijoje yra gamtos paminklas/geologinis darinys – „Skaistkalnes karsta kritenes“, esanti už apie 1,2 km nuo planuojamos VE N6.
- PŪV objektai nepatenka į kultūros paveldo objektų ir vietovių teritorijas bei jų apsaugos zonas ir saugomas bei Europos ekologinio tinklo Natura 2000 teritorijas bei jų apsaugos zonas ir su jomis nesiriboja, nepatenka į miškų, Europos bendrijos svarbos natūralių buveinių teritorijas.
- Planuojamos VE nepatenka į Šiaurės Lietuvos karstinio regiono teritoriją, tačiau dalis planuojamų VE (N6, N11, N17, N20, N21) yra numatytos ties mažo aktyvumo karstinės teritorijos riba nuo 25 iki 74 m atstumu.

3.2. **planuojamos ūkinės veiklos vietos pasirinkimo pagrindimas**:

- Planuojamos ūkinės veiklos sprendinių įgyvendinimo vieta pasirinkta dėl mažo teritorijos apgyvendinimo, palankių geografinių sąlygų ir lygaus reljefo, vyraujančios žemės ūkio paskirties žemėnaudos, susitarimo su žemės sklypų savininkais galimybių bei esamos inžinerinės infrastruktūros.

3.3. **žemėlapiai ar kitos grafinės informacijos pateikimo priemonės**:

- 1 priedas.

4. Informacija apie galimą reikšmingą neigiamą tarpvalstybinį poveikį aplinkai:

- Atliktu PŪV poveikio aplinkai vertinimu nustatyta, kad vienokiu ar kitokiu lygmeniu PŪV sprendinių įgyvendinimo tiesioginės ir netiesioginės pasekmės įvairiems gamtinės aplinkos elementams (aplinkos orui, paviršiniam vandeniui, žemės gelmėms, dirvožemiui, kraštovaizdžiui, saugomoms teritorijoms, bioįvairovei) galėtų būti tikėtinos nuo keliasdešimt metrų iki kelių kilometrų atstumu aplink PŪV sprendinių teritoriją.
- Atliktu planuojamų VE triukšmo ir šešėlių mirgėjimo modeliavimo rezultatai rodo, kad šiais aspektais vertinto galimo viršnorminio poveikio zona nepatenka į Latvijos Respublikos teritoriją ir nedaro neigiamo poveikio jos gyvenamajai ir visuomeninės paskirties aplinkai.
- Planuojamos VE bus matomos iš Latvijos Respublikos teritorijos priklausomai nuo pasirinkto stebėjimo taško iki kelių kilometrų atstumu.
- Atliktas vertinimas rodo, kad įgyvendinant PŪV sprendinius ir vykdant PŪV, įgyvendinus siūlomas poveikio išvengimo ir sumažinimo priemones, aplinkinių užsienio valstybių teritorijoms ir jų gamtinei bei socialinei aplinkai bei gyventojams reikšmingo neigiamo poveikio nesitikima.

INFORMATION ON THE PLANNED ECONOMIC ACTIVITY AND ITS POSSIBLE TRANSBOUNDARY IMPACT

1. **Name (title), address, telephone, e-mail of the developer**:

- UAB „Biržų vėjas", J. Janonio a. 5, LT-41170, Biržai, Phone No: +370 610 25533, E-mail.: evaldas@rdg.lt.

2. Information on the nature of the proposed activity:

2.1. **title of the proposed economic activity**:

- Construction and operation of up to 35 wind power plants (hereinafter referred to as WPPs) planned by UAB "Biržų vėjas" in the administrative centres of Nemunėlis Radviliškis and Parovėja, Biržai District Municipality, Panevėžys County.

2.2. **type of activity**:

- A planned economic activity (hereinafter referred to as PEA) is to produce energy from renewable installations as defined in COMMISSION RECOMMENDATION (EU) 2022/822 of 18 May 2022 on speeding up permit-granting procedures for renewable energy projects and facilitating Power Purchase Agreements.
  This activity is listed in Annex I to the 1991 UN/ECE Convention on transboundary Environmental Impact Assessment (the Espoo Convention) (No 22).

2.3. **description of the proposed activity**:

- The PEA in Biržai District Municipality (administrative centres of Nemunėlis Radviliškis and Parovėja) covers construction and operation up to 35 WPPs on privately owned land plots, as well as installing a necessary infrastructure for their operation (an electricity transformer substation (hereinafter referred to as the ETS), underground electricity transmission cables, service yards and access roads, etc.) (Annex No. 1). The environmental impact assessment is carried out for the three technical alternatives. The WPPs will have a maximum mast height of up to 180 m, a total height of up to 270 m with a raised blade, and a rotor diameter with blades of up to 180 m. The capacity of each power plant will be up to 7,5 MW.

  Nature of the PEA: generation of electricity from renewable wind energy sources and its transmission to the existing electricity transmission grid operated by AB Litgrid.

  Technology. The technological process of the PEA consists of two main stages:
  - Electricity generation in WPP;
  - Supply/transmission of the generated energy to the existing electricity transmission system.

  The planned WPPs will generate electricity at 33 kV. The generated electricity will be transmitted from the power plant via an underground electricity cable to the planned ETS, where the electricity will be transformed upwards of a high voltage of 110 kV or 330 kV and transmitted to the electricity transmission grid.

  A schematic view of the WPP and the process flowsheet are shown in Figures 1 and 2.

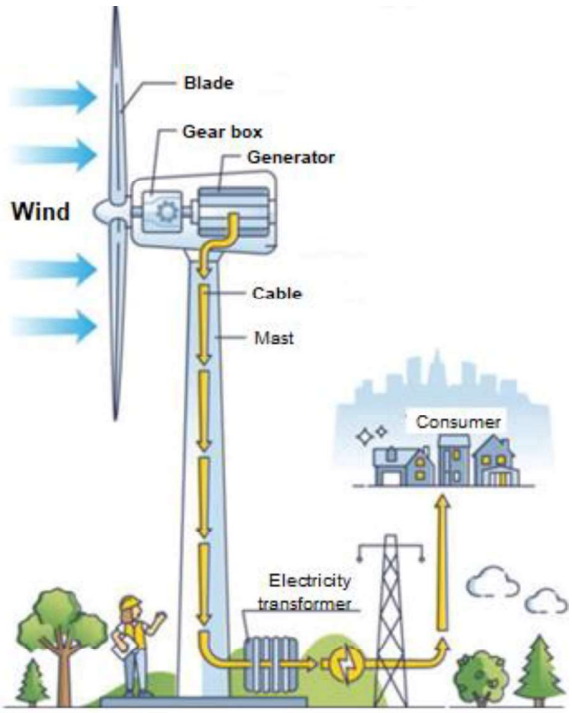


Figure 1: Principal diagram of a WPP process



Figure 2. Principal view of a WPP

2.4. **scale of the proposed activity**:

- The total capacity of the planned WPPs park will not exceed a combined capacity of 262.50 MW.
- The land plots on which the WPPs are planned are owned by natural or legal persons. These land plots are uninhabited. For the construction and operation of the WPPS the land plots

will be developed into separate 35 sites (up to ~ 0.3 ha) with the necessary infrastructure for the construction and operation of the WPPs. The land plots for the operation of the WPPs are leased on the basis of separate long-term agreements with the owners of these land plots. The land adjacent to the planned WPPs is undeveloped and predominantly arable land and grassland.

- The PEA shall make maximum use of local roads (or sections of roads), preceded by reinforcement and/or renovation where necessary. Construction of separate sections of access road is planned if there is no access to the planned location of the WPPs. Approximately 21 km of access roads are to be reconstructed/rebuilt according to a preliminary estimation.
- Underground electricity cables are also planned to be laid between the WPP and the planned location of the ETS. According to preliminary estimation – approx. 69.7 km of underground electricity transmission cables are planned to be laid underground.
- No significant negative effects on soil and subsoil are expected during the construction of the WPPs and the infrastructure necessary for their operation (sites, road sections, underground electricity cables, ETS), as well as during the operation of the WPPs.
- No groundwater or surface water will be used during the operation of the WPPs. There will be no generation of domestic and industrial wastewater.
- Only small amounts of metal and mixed construction waste may be generated during the construction and installation of the WPPs and its infrastructure. No direct generation of waste (hazardous, non-hazardous, radioactive) is foreseen during the operation of the WPP, only episodic waste from repair/refurbishment or maintenance is possible, which would be handed over for disposal to waste management companies.
- No hazardous chemicals will be used or stored during the implementation and operation of the WPPs.

2.5. **time-frame for proposed activity**:

- The planned phases for the implementation of the PEA (installation, construction and operation) are shown in Table 1.

Table 1. The planned phases for the implementation of the PEA

Phase No.	Name of the Operational Phase	Duration of the Action Phase
1st	Environmental impact assessment and decision on the feasibility of the PEA	12 months
2nd	Preparation, coordination and obtaining of technical/work designs and construction permits for WPPs	6-12 months
3rd	Construction of the WPPs Park and installation of the necessary infrastructure	approx. 6 - 24 months from the date of obtaining the construction permit
4th	Operation of the WPPs Park	up to 35 years *
5th	Dismantling of the WPPs and restoration/reclamation of the site	approx. 6 - 24 months

* The lifetime can be extended according to the demand and the technical capacity of the site.

3. Information on the location of the proposed activity:

3.1. **location and description of the location**:

- The territory of the PEA is located in the northern part of the territory of the Republic of Lithuania, in Biržai District Municipality, Panevėžys County (Annex No. 1). The minimum distance from the PEAs direct solution area to the territory of the Republic of Latvia would be approximately 0.88 km. The nearest larger settlement (Skaistkalne) to the PEA sites in the territory of the Republic of Latvia is approximately 2.8 km (from the planned WPP "N17") and the nearest residential building is approximately 1.2 km away. The nearest protected natural area (including Natura 2000) in the territory of the Republic of Latvia to the location of the WPPs is the natural monument/geological formation "Skaistkalnes karsta kritenes", which is located approximately 1.2 km from the planned WPP "N6".
- The objects of the PEA do not fall within and are not adjacent to the territories and protection zones of cultural heritage sites and sites and protected areas, as well as protected areas of the European Ecological Network Natura 2000, nor do they fall within the territories of forests, natural habitats of European Community importance.
- The planned WPPs do not fall within the territory of the karst region of Northern Lithuania, yet some of the planned WPPs ("N6", "N11", "N17", "N20", "N21") are located between 25 and 74 m away from the boundary of the low-activity karst area.

3.2. **rationale for location of the proposed activity**:

- The location of the planned economic activity has been chosen due to the low population density of the area, favourable geographical conditions and flat terrain, the predominantly agricultural land use, the possibility of reaching an agreement with the owners of the land plots and the existing engineering infrastructure.

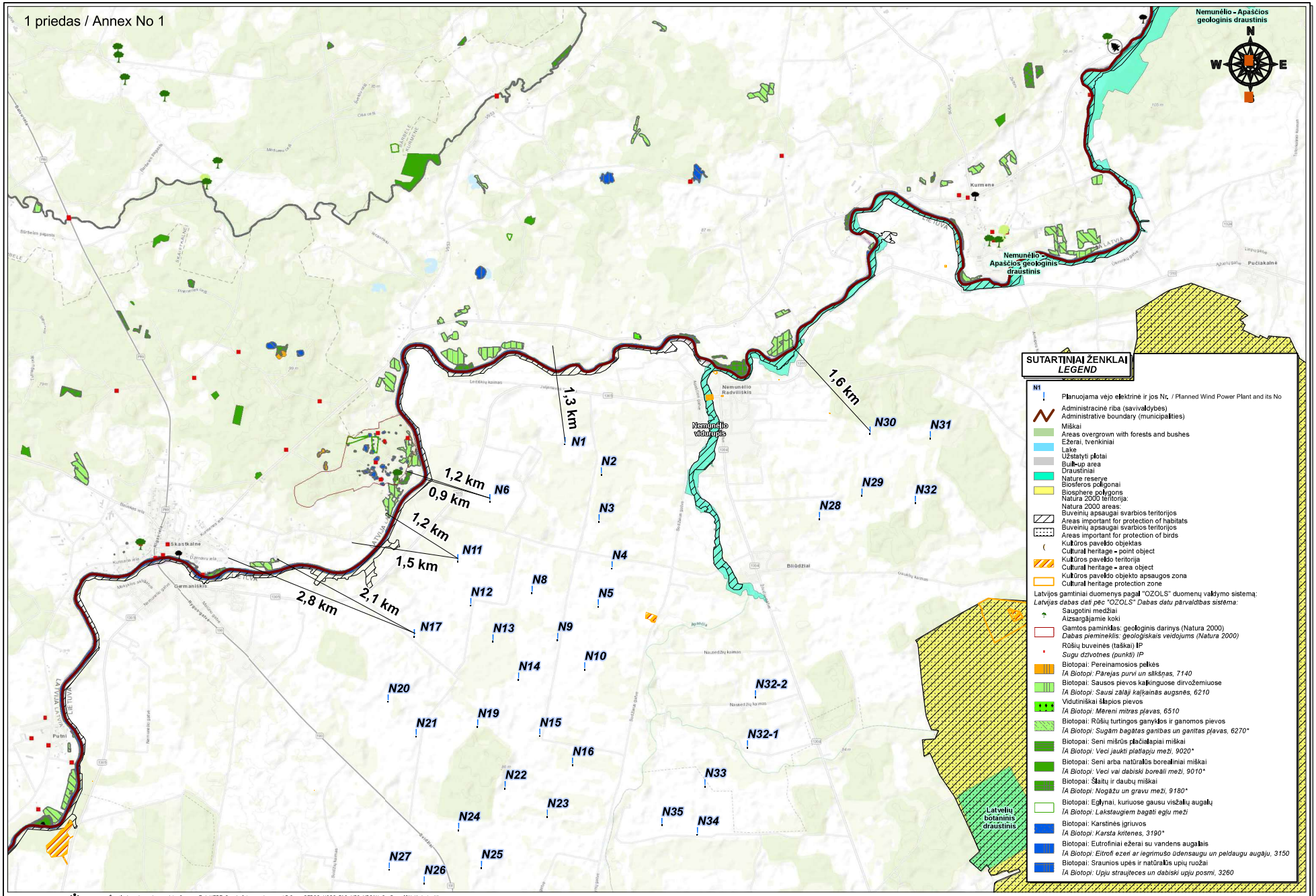
3.3. **maps and other pictorial documents related to the spatial boundaries of the proposed activity**:

- Annex No. 1.

4. Information on possible significant adverse transboundary impact of the proposed activity:

- The environmental impact assessment of the PEA has shown that direct and indirect effects of the PEA, at one level or another, on various elements of the natural environment (ambient air, surface water, subsoil, soil, landscape, protected areas, biodiversity) are likely to occur within a range of several tens of metres up to a few kilometres around the WPPs area.
- The results of the noise and shadow flicker modelling of the proposed WPPs show that the area of potential supra-normal effects is not within the territory of the Republic of Latvia and does not have a negative impact on its residential and public environment.
- The planned WPPs will be visible from the territory of the Republic of Latvia up to a distance of several kilometres, depending on the chosen observation point.
- The environmental impact assessment shows that after implementing proposed avoidance and mitigation measures no significant negative effects are expected on the territories of neighbouring foreign countries and their natural and social environment and inhabitants because of the implementation of the PEA and the operation of the WPPs.

1 priedas / Annex No 1



SUTARTINIAI ŽENKLAI
LEGEND

N1 Planuojama vėjo elektrinė ir jos Nr. / Planned Wind Power Plant and its No

Administracinė riba (savivaldybės)
Administrative boundary (municipalities)

Miškai
Areas overgrown with forests and bushes

Ežerai, tvenkiniai
Lake

Užstatyti plotai
Built-up area

Draustiniai
Nature reserve

Biosferos poligonai
Biosphere polygons

Natura 2000 teritorija:
Natura 2000 areas:

Buveinių apsaugai svarbios teritorijos
Areas important for protection of habitats

Buveinių apsaugai svarbios teritorijos
Areas important for protection of birds

Kultūros paveldo objektas
Cultural heritage - point object

Kultūros paveldo teritorija
Cultural heritage - area object

Kultūros paveldo objekto apsaugos zona
Cultural heritage protection zone

Latvijos gamtiniai duomenys pagal "OZOLS" duomenų valdymo sistemą:
Latvijas dabas dati pēc "OZOLS" Dabas datu pārvaldības sistēma:

Saugotini medžiai
Aizsargājamie koki

Gamtos paminklas: geologinis darinys (Natura 2000)
Dabas piemineklis: ģeoloģiskais veidojums (Natura 2000)

Rūšių buveinės (taškai) IP
Sugu dzīvotnes (punkti) IP

Biotopai: Pereinamosios pelkės
IA Biotopi: Pārejas purvi un slīkšņas, 7140

Biotopai: Sausos pievos kalkinguose dirvožemiuose
IA Biotopi: Sausi zālāji kaļķainās augsnēs, 6210

Vidutiniškai šlapios pievos
IA Biotopi: Mēreni mitras pļavas, 6510

Biotopai: Rūšių turtingos ganyklos ir ganomos pievos
*IA Biotopi: Sugām bagātas ganības un ganītas pļavas, 6270**

Biotopai: Seni mišrūs plačialapiai miškai
*IA Biotopi: Veci jaukti platlapju meži, 9020**

Biotopai: Seni arba natūralūs borealiniai miškai
*IA Biotopi: Veci vai dabiski boreāli meži, 9010**

Biotopai: Šlaitų ir daubų miškai
*IA Biotopi: Nogāžu un gravu meži, 9180**

Biotopai: Eglynai, kuriuose gausu višalių augalų
IA Biotopi: Lakstaugiem bagāti egļu meži

Biotopai: Karstinės įgriuvos
*IA Biotopi: Karsta kritenes, 3190**

Biotopai: Eutrofiniai ežerai su vandens augalais
IA Biotopi: Eitrofi ezeri ar iegrimušo ūdensaugu un peldaugu augāju, 3150

Biotopai: Sraunios upės ir natūralūs upių ruožai
IA Biotopi: Upju straujteces un dabiski upju posmi, 3260

SWECO
© UAB "Sweco Lietuva", 2022
Spaudos g. 6-1, LT-05132 Vilnius
Tel. (8 5) 262 2621
www.sweco.lt

Žemėlapio sudarymui panaudota: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Mastelis 1:45000
450 0 450 900 metrų

Planuojamos teritorijos vietos ir jos apylinkių apžvalginė schema
Overview scheme for PEA

UAB „Sweco Lietuva“
GAUTA Nr. V2-616-23
Data 2023-08-30

Elektroninio dokumento nuorašas

LIETUVOS RESPUBLIKOS APLINKOS MINISTERIJA

Biudžetinė įstaiga, A. Jakšto g. 4, LT-01105 Vilnius,
tel. 8 626 22252, el. p. info@am.lt, https://am.lrv.lt.
Duomenys kaupiami ir saugomi Juridinių asmenų registre, kodas 188602370

UAB „Sweco Lietuva“ 2023-08- Nr.

Į Nr.

DĖL PLANUOJAMOS ŪKINĖS VEIKLOS – 35 VĖJO ELEKTRINIŲ ĮRENGIMO BIRŽŲ RAJ. SAVIVALDYBĖJE TARPVALSTYBINIO POVEIKIO APLINKAI VERTINIMO PROCEDŪRŲ

Aplinkos ministerija gavo Latvijos aplinkos apsaugos biuro raštą, kuriame Latvijos Respublika informuoja, jog Latvija, kaip poveikį patirianti šalis, dalyvaus UAB „Biržų vėjas” planuojamos ūkinės veiklos – 35 vėjo elektrinių įrengimo Biržų raj. savivaldybėje (toliau – planuojama ūkinė veikla) tarpvalstybinio poveikio aplinkai vertinimo procese.

Remiantis gautu Latvijos raštu, Aplinkos ministerija, vadovaudamasi Lietuvos Respublikos planuojamos ūkinės veiklos poveikio aplinkai vertinimo įstatymo 10 straipsnio nuostatomis, konstatuoja, kad planuojamai ūkinei veiklai **reikia atlikti tarpvalstybinio poveikio aplinkai vertinimo procedūras**.

Vadovaudamiesi Lietuvos Respublikos planuojamos ūkinės veiklos poveikio aplinkai vertinimo įstatymo 10 straipsnio 8 dalimi poveikio aplinkai vertinimo dokumentų rengėjo prašome:

- išanalizuoti ir įvertinti Latvijos aplinkos apsaugos biuro rašte pateiktą informaciją ir pastabas,
- į poveikio aplinkai vertinimo ataskaitą įtraukti Latvijos aplinkos apsaugos biuro rašte pažymėtus vertinimo aspektus nurodyta apimtimi, būtinus tarpvalstybiniam poveikio aplinkai vertinimui (įskaitant grafinę medžiagą ir žemėlapius, susijusius su tarpvalstybinio poveikio aspektais),
- parengti poveikio aplinkai vertinimo ataskaitą anglų kalba, poveikio aplinkai vertinimo ataskaitos santrauką anglų kalba ir latvių kalba, atkreipiant ypatingą dėmesį į galimą planuojamos ūkinės veiklos reikšmingą tarpvalstybinį poveikį aplinkai,
- pateikti aukščiau nurodytą medžiagą Aplinkos ministerijai, kuri informaciją perduos Latvijos Respublikai.

Aplinkos ministerija atskiru laišku informavo planuojamos ūkinės veiklos organizatorių ir atsakingąją instituciją – Aplinkos apsaugos agentūrą apie tarpvalstybinio poveikio aplinkai vertinimo procedūrų vykdymą.

PRIDEDAMA. Latvijos aplinkos apsaugos biuro rašto kopija, 4 lapai.

Taršos prevencijos politikos grupės vadovas Vitalijus Auglys

R. Griškevičienė, +370 695 11585, el. p. rasa.griskeviciene@am.lt

Vides pārraudzības valsts birojs

Environment State Bureau of the Republic of Latvia

Rūpniecības iela 23, Rīga, LV-1045, Latvia, phone +371 67321173, e-mail pasts@vpvb.gov.lv, www.vpvb.gov.lv

Riga

09.08.2023 No. 5-05/966/2023

Ref. to: 29.06.2023. No D8(E)-3957

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vitalijus.auglys@am.lt

Beata Silobritiene
beata.silobritiene@am.lt

Regarding the transboundary environmental impact assessment of the planned wind power plants (wind turbines) in Biržai District Municipality (administrative centres of Nemunėlis Radviliškis and Parovėja)

The Environment State Bureau (hereinafter – the Bureau), acting as a Point of Contact regarding Notification in accordance with the Article 3 of the Convention on Environmental Impact Assessment in a Transboundary Context (hereinafter – the Espoo Convention) of Latvia and the competent authority on the environmental impact assessment (hereinafter – the EIA) in Latvia, express gratitude to the Ministry of Environment of the Republic of Lithuania for information concerning the economic activity proposed by a Lithuanian developer „*Biržų vėjas*" that comprises construction and operation of up to 35 wind power plants (wind turbines) in Biržai District Municipality (administrative centres of Nemunėlis Radviliškis and Parovėja) (hereinafter – the Project) with reference to Article 3 of the Espoo Convention.

The Bureau hereby acknowledges receipt of the notification and the prepared documentation. Considering the nature and scope of the Project and the possibility of the transboundary impacts, we hereby confirm that Latvia intends to take part in the proceedings on the EIA and transboundary consultations as an affected party.

Please be informed that the Bureau published received information regarding Project on the Bureau`s webpage[1] on 30th of June 2023 and send information directly to the involved authorities. The public concerned was given the opportunity to express comments from 30 of June till 31 of July. The Bureau has received opinions and comments regarding the Project and its potential transboundary impacts within the scope of competence from the Ministry of the Environment Protection and Regional Development of the Republic of Latvia, the Ministry of Foreign Affairs of the Republic of Latvia, the Ministry of Health of the Republic of Latvia, the

[1]https://www.vpvb.gov.lv/lv/parrobezu-ietekmes-uz-vidi-novertejumu-projekti/veja-parka-lidz-35-veja-elektrostaciju-buvnieciba-un-ekspluatacija-birzu-rajona-pasvaldibas-panevezys-apaksrajona-nemunelis-radviliskis-un-paroveja-ciemu-apkartne-lietuva.

Ministry of Interior of the Republic of Latvia, the Ministry of the Climate and Energy of the Republic of Latvia, the Nature Conservation Agency, the State Environmental Service, the Zemgale Planning Region and the Bauska County Municipality. The Bureau has not received written comments from the public.

Below mentioned authorities highlighted aspects that need to be stressed and foreseen in the transboundary EIA of the Project:

- The Ministry of the Environment Protection and Regional Development of the Republic of Latvia noted that:
  - Taking into account that in the vicinity of the planned wind power plants (at the nearest point ~ 0,9 km away) is a territory of the karst region – specially protected nature territory, geological and geomorphological natural monument *"Skaistkalnes karsta kritenes", Natura 2000* site (LV0402200)[2] and one of the aspects of the impact of the installation (possibly also operation) of the planned facilities (wind power plants) is the vibrations that will arise as a result of the use of heavy machinery, in the view of the Ministry, in the nearby area, including the territory of karst region in Latvia, it is necessary to evaluate effects on geological processes, as well as on *Natura 2000* site.
  - Considering the area of the planned wind farm, it is essential to evaluate the impact on bird migration routes.
  - Examining information about the Project, the Ministry concludes that the nearest wind generator is located approximately 0,9 km from the border of Latvia and approximately 1,2 km from the nearest residential houses, which could cause public concern about potential impacts, incl. impact on the landscape.
  - Considering the proximity of the planned wind farm to the border of Latvia, residential houses, and natural values, it is essential to provide the opportunity for Latvian society to get involved in solving environmental issues.
- The Nature Conservation Agency provides the following information:
  - In the Latvian nature data management system "*Ozols*" (https://ozols.gov.lv/pub), there is also available information about natural values in the territories near the Project area. This information should be considered during the scientific research of the Project. Data requests to the Nature Conservation Agency can be made according to the instructions published on the website: https://www.daba.gov.lv/en/services/use-geospatial-data-sets-natural-data-management-system.
  - The Project impact on the ornitho-fauna must be assessed and obligatory include:
    - **Breeding area of the lesser spotted eagle** (*Clanga pomarine*) – historically the lesser spotted eagle was nesting in the natural monument "*Skaistkalnes karsta kritenes*" (coordinates X 249942 Y 542951), in 2022 this nest was no longer found; however, bird pair was observed in the immediate vicinity of this area. It is recommended to include in the Project a precautionary threshold of 5 km from nesting sites of the lesser spotted eagle, if nesting is observed. Wind power stations No 6 and 11 are located very close to *the Natura 2000* site "*Skaistkalnes karsta kritenes*" and since this is a potential nesting place for the lesser spotted eagle, the impact on species population also must be assessed in this area.
    - **Migratory bird species research** in Project impact assessment and migration

[2] https://natura2000.eea.europa.eu/?data_id=dataSource_7-Layman_sites_2246%3A20186&page=Page-1&sitecode=LV0402200&views=Feature_Info_Sites_View_Species.

corridor determination. If the territory is used by migrating birds in spring/autumn (as a feeding place or it is included in the migration corridor), it is recommended to stop the operation of the turbines during the greatest migration flow.

- **Alternative evaluation**- to reduce the collisions of both predatory and migratory birds, use radars that stop the movement of the rotor blades when approaching both a large bird and a flock of birds.
- **Monitoring** before building the wind farm and in the exploitation of it. Monitoring results must be noted in the wind farm exploitation in future.

– It would be essential to evaluate the environmental impact of the utilization, recycling or disposal of worn-out parts and equipment after the end of the operational period of wind park equipment (towers, rotors, etc.) also in a cross-border context.

- The State Environmental Service asks for special attention to be paid to the potential impacts of the Project on the development of a hot process in Latvia and to carry out an assessment of potential impacts directly during the construction process on karst area, as well as, if necessary, to provide mitigation measures to mitigate negative impacts, to preserve the environmental quality of residential houses nearby the border (noise disturbance, vibration, electromagnetic radiation), noise, flashing effect and other aspects)[3], landscape changes (including solutions to minimize impacts) and bird and bat migration pathways (resulting in the development of best/least-performing technical solutions (alternatives) to minimize negative impacts). In view of the interest of the local community, the State Environmental Service asks to find effective solutions for informing the local public and for the public consultation of the Project.
- The Bauska County Municipality, on the basis of the Vecumnieki Municipality Council Binding Regulations No. 4 of 29 May 2013 "*On Approval of the Graphical Part of the Vecumnieki Municipality Spatial Plan, Territorial Use and Building Regulations*"[4], for the construction of wind power plant with height exceeding 20 m and capacity exceeding 20kW, sets the following requirements for the administrative territory of the Bauska County Municipality:

  – to observe the minimum distance from the outer safety boarder of the wind power plants zone to a residential area 300 m.

  – in accordance with the requirements of the Law on Environmental Impact Assessment and related regulatory acts prevent the border of the wind power plant's safety protection zone from entering a specially protected natural area and not causing adverse effects on the specially protected natural area.

  – in accordance with the requirements of the Cabinet Regulation No 16 "*Procedures for Noise Assessment and Management*" (07.01.2014.), to locate wind power plants in such a way that the environmental noise limit in the built-up territories of Latvia is not exceeded[5].

  – to take into account that the protected geological and geomorphological natural monument "*Skaistkalnes karsta kritenes*" is located in the vicinity of the planned wind

[3] In addition, the Ministry of Health of the Republic of Latvia suggested to include assessment of the impacts of the potentially generated infrasound as well.

[4] https://geolatvija.lv/geo/tapis#document_104.

[5] According to the Annex 2 of the Cabinet Regulation No 16 "*Procedures for Noise Assessment and Management*" (07.01.2014.) the noise limit for residential area of individual houses ((mansions, small floors or single houses), child institutions, medical treatment, health and social care institutions) is $L_{\text{day (7:00 – 19:00)}}$ 55 dB(A), $L_{\text{evening 19:00 – 23:00}}$ 50 dB(A) and $L_{\text{night 23:00 – 7:00}}$ 45 dB(A).

power plant, to assess and provide an expert opinion on the possible impact on the karst processes.

In addition, to promote effectiveness of participation of to the Latvian public and relevant authorities in the transboundary consultation process, we shortly give you an overview of the national requirements for the EIA procedures in the Republic of Latvia. We would like to draw your attention that Latvian legislation, in particular the Law on Environmental impact assessment, designates at least 30 days long term for the process of public consultation when elaborated EIA report is discussed. The time is being counted from the day a publication is published in a corresponding newspaper (national, regional, local) which will be ensured by the Republic of Latvia after receiving information. A public hearing meeting of the intended activity shall be held. According to the national legislation, a public hearing meeting shall be held no sooner than 7 days after publication is published and no later than 10 days before the end of the public consultation process. In this context we inform you that the public hearing meeting can be replaced with a video conference and video presentations. Afterwards the Bureau will compile the proposals submitted by the public and stakeholders and send them to the Ministry of Environment of the Republic of Lithuania.

We kindly ask you to prepare the EIA summary that reflects information to the extent and scope necessary for the transboundary EIA (including graphical materials and maps in relation to the transboundary impact aspects) in Latvian.

Looking forward to a further constructive and effective bilateral cooperation in the transboundary context,

Yours sincerely,

Indra Kramzaka (signature*) Deputy Director of the Environment State Bureau of the Republic of Latvia

**Document is sign with secure electronical signature*

Ilze Lielvalode, phone: +371 67770813
e-mail: ilze.lielvalode@vpvb.gov.lv

METADUOMENYS	
Dokumento sudarytojas (-ai)	Lietuvos Respublikos aplinkos ministerija
Dokumento pavadinimas (antraštė)	DĖL PLANUOJAMOS ŪKINĖS VEIKLOS – 35 VĖJO ELEKTRINIŲ ĮRENGIMO BIRŽŲ RAJ. SAVIVALDYBĖJE TARPVALSTYBINIO POVEIKIO APLINKAI VERTINIMO PROCEDŪRŲ
Dokumento registracijos data ir numeris	2023-08-30 Nr. D8(E)-5068
Dokumento gavimo data ir dokumento gavimo registracijos numeris	–
Dokumento specifikacijos identifikavimo žymuo	ADOC-V1.0
Parašo paskirtis	Pasirašymas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	Vitalijus Auglys, Grupės vadovas
Parašo sukūrimo data ir laikas	2023-08-30 15:00:16 (GMT+03:00)
Parašo formatas	XAdES-T
Laiko žymoje nurodytas laikas	2023-08-30 15:00:29 (GMT+03:00)
Informacija apie sertifikavimo paslaugų teikėją	ADIC CA-A, Asmens dokumentu israsymo centras prie LR VRM, LT
Sertifikato galiojimo laikas	Galioja nuo 2022-12-09 iki 2025-12-08
Informacija apie būdus, naudotus metaduomenų vientisumui užtikrinti	Registravimo metaduomenų vientisumas užtikrintas naudojant „DBSIS“ sertifikatą, sertifikatas galioja nuo 2022-05-19 iki 2025-05-18
Pagrindinio dokumento priedų skaičius	1
Pagrindinio dokumento pridedamų dokumentų skaičius	–
Programinės įrangos, kuria naudojantis sudarytas elektroninis dokumentas, pavadinimas	DBSIS, versija 3.5.74
Informacija apie elektroninio dokumento ir elektroninio (-ių) parašo (-ų) tikrinimą (tikrinimo data)	Tikrinant dokumentą nenustatyta jokių klaidų (2023-08-30)
Elektroninio dokumento nuorašo atspausdinimo data ir jį atspausdinęs darbuotojas	2023-08-30 atspausdino Jolita Vingrytė-Skabeikienė
Paieškos nuoroda	–
Papildomi metaduomenys	–

PAV ATASKAITOS DERINIMO DOKUMENTŲ KOPIJOS

COPIES OF DOCUMENTS RELATED TO THE EVALUATION OF EIA ENTITIES

Biržų rajono savivaldybės administracijai 2023-08-18 Nr. V1-798-23
savivaldybe@birzai.lt

Kultūros paveldo departamento prie Kultūros ministerijos Panevėžio-Utenos teritoriniam skyriui
centras@kpd.lt; panevezys-utena@kpd.lt

Nacionalinio visuomenės sveikatos centro prie Sveikatos apsaugos ministerijos Panevėžio departamentui
panevezys@nvsc.lt

Priešgaisrinės apsaugos ir gelbėjimo departamento prie Vidaus reikalų ministerijos Panevėžio priešgaisrinei gelbėjimo valdybai
pagd@vpgt.lt; panevezys.pgv@vpgt.lt

2023-08-18

Ver
Autorius Dovilė Ulinskaitė
Projekto numeris 2202512205
Projektas UAB Biržų vėjas konsultacinės paslaugos
Užsakovas
Projekto vadovas Vytautas Belickas

DĖL PŪV PAV ATASKAITOS NAGRINĖJIMO

UAB „Sweco Lietuva“ atlieka UAB „Biržų vėjas“ planuojamo iki 35 vėjo elektrinių (toliau – VE) parko Nemunėlio Radviliškio sen., Biržų r. sav., Panevėžio apskr. statybos ir veiklos poveikio aplinkai vertinimą (toliau – PAV). Šiuo metu yra parengta planuojamos ūkinės veiklos (toliau – PŪV) PAV ataskaita, pabaigtos visuomenės informavimo ir dalyvavimo procedūros.

Remiantis Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo, patvirtinto 2017 m. spalio 31 d. LR aplinkos ministro įsakymu Nr.D1-885 ir vėlesniais pakeitimais (toliau – Tvarkos aprašas) 39 p., teikiame parengtą PŪV PAV ataskaitą nagrinėjimui. Remiantis Tvarkos aprašo 40 p., prašome per 3 d. d. nuo PAV ataskaitos gavimo, informuoti PAV dokumentų rengėją apie ataskaitos gavimo faktą ir PAV ataskaitos gavimo datą el. paštu adresu: dovile.ulinskaite@sweco.lt.

Pažymime, kad remiantis Tvarkos aprašo 40 p. PAV subjektai per **15 d. d.** nuo viršesniam viešajam interesui priskiriamos ir svarbia viešajam saugumui laikomos PAV ataskaitos gavimo dienos išnagrinėja PAV ataskaitą ir suinteresuotos visuomenės pasiūlymų įvertinimą ir pagal kompetenciją PAV dokumentų rengėjui pateikia raštu motyvuotas išvadas dėl PAV ataskaitos ir PŪV poveikio aplinkai arba motyvuotus reikalavimus papildyti ar pataisyti PAV ataskaitą. Taip pat, remiantis Tvarkos aprašo 40^1 p. PAV subjektas, nustatęs PAV ataskaitos dėl viršesniam viešajam interesui priskiriamos ir svarbia viešajam saugumui laikomos planuojamos ūkinės veiklos trūkumų, prieš pateikdamas motyvuotus reikalavimus PAV dokumentų rengėjui papildyti ar pataisyti ataskaitą, ne vėliau kaip iki Tvarkos aprašo 40 p. nustatyto termino pabaigos elektroniniu paštu informuoja PAV dokumentų rengėją apie nustatytus trūkumus.

Jei PAV subjektai nepateikia išvadų dėl PAV ataskaitos ir PŪV poveikio aplinkai vertinimo per nustatytus terminus, laikoma, kad jie PAV ataskaitai pritaria.

PRIDEDAMA. PAV ataskaitos elektroninė versija, A laida (dokumentus prašome atsisiųsti per nuorodą:
https://filetransfer.swecogroup.com/message/2E0jC0ZzxUKC3l8OzGomA9

1. „Turinys“ (3 psl.,* pdf);

Sweco
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Spaudos g. 6-1
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Lithuania
Telefonas +370 (8) 5 262 2621
www.sweco.lt

UAB „Sweco Lietuva“

2. „1_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (202 psl., *pdf);
3. „2_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (146 psl., *pdf);
4. „3_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (22 psl., *pdf);
5. „4_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (21 psl., *pdf);
6. „5_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (5 psl., *pdf);
7. „6_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (5 psl., *pdf);
8. „7_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (33 psl., *pdf);
9. „8_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (131 psl., *pdf);
10. „9_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (120 psl., *pdf);
11. „10_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (130 psl., *pdf);
12. „11_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (130 psl., *pdf)‘
13. „12_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (130 psl., *pdf);
14. „13_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (147 psl., *pdf);
15. „14_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (74 psl., *pdf);
16. „15_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (34 psl., *pdf);
17. „16_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (9 psl., *pdf);
18. „17_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (6 psl., *pdf);
19. „18_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (7 psl., *pdf);
20. „19_dalis_22025_PAV_Nemunelio_AT-1_laida_A_2023-08-16“ (222 psl., *docx).

Skyriaus vadovas Kasparas Gražinskas

[] ADOC dokumentas

- Turinys
- Metaduomenys
- Parašai
- Tikrinimas

Pavadinimas: 2023_08_18_V1-798-23_PAV_AT_subjektams_NemRadv
Rinkmena: 2023_08_18_V1-798-23_PAV_AT_subjektams_NemRadv.adoc (ADOC-V1.0, GGeDOC)

Dokumento metaduomenys

PASIRAŠOMIEJI METADUOMENYS

El. dokumento turinį aprašantys metaduomenys

El. dokumento pavadinimas	Dokumento rūšis	Parašai
2023_08_18_V1-798-23_PAV_AT_subjektams_NemRadv	Kiti	

Sudarytojai

Statusas	Sudarytojas	Kodas	Adresas	Parašai
Juridinis asmuo	UAB „Sweco Lietuva"	301135783	Spaudos g. 6-1, LT-05132 Vilnius	

NEPASIRAŠOMIEJI METADUOMENYS

El. dokumento naudojimo metaduomenys

Techninė informacija

El. dokumento specifikacijos ID	Elektroninio dokumento grupė	eDVS pavadinimas ir versija	Parašai
ADOC-V1.0	GGeDOC	Signa Docs v1.9-SNAPSHOT	

Grįžti į paslaugos pagrindinį puslapį

[] ADOC dokumentas

- Turinys
- Metaduomenys
- Parašai
- Tikrinimas

Pavadinimas: 2023_08_18_V1-798-23_PAV_AT_subjektams_NemRadv
Rinkmena: 2023_08_18_V1-798-23_PAV_AT_subjektams_NemRadv.adoc (ADOC-V1.0, GGeDOC)

Dokumento parašai

Parašai

Kasparas Gražinskas, Vyresnysis projektų vadova...

Parašo informacija

Parašo duomenys

Šis parašas yra galiojantis.

Parašas

Pasirašymo laikas: 2023-08-18 14:56:06
Paskirtis: pasirašymas
Formatas: Trumpalaikio galiojimo (XAdES-T)
Laiko žyma: 2023-08-18 14:56:32

Pasirašantis asmuo

Vardas, pavardė: Kasparas Gražinskas
Pareigos: Vyresnysis projektų vadovas
Struktūrinis padalinys: UAB „Sweco Lietuva"

Sertifikatas

Turėtojas: KASPARAS GRAŽINSKAS
Leidėjas: EID-SK 2016
Galioja nuo 2023-04-20 iki 2028-04-18

Elementai pasirašyti parašu „Kasparas Gražinskas"

- TURINYS
  - 2023_08_18_V1-798-23_PAV_AT_subjektams_NemRadv.pdf
- METADUOMENYS
  - Dokumento pavadinimas: 2023_08_18_V1-798-23_PAV...
  - Sudarytojai
    - UAB „Sweco Lietuva". Kodas: 301135783. Adresas:...
  - Parašai
    - Pasirašymo data: 2023-08-18, Parašo paskirtis: ...

Grįžti į paslaugos pagrindinį puslapį

BIRŽŲ RAJONO SAVIVALDYBĖS MERAS
Vytauto g. 38, LT-41143 Biržai, tel. 8 672 63 713, el. p. meras@birzai.lt

UAB ,,Sweco Lietuva“

Aplinkos apsaugos agentūra

20 - -
Į 2023-08-18

Nr. SN-
Nr. V1-798-23

DĖL IŠVADOS APIE UAB „BIRŽŲ VĖJAS“ PLANUOJAMO IKI 35 VĖJO ELEKTRINIŲ PARKO NEMUNĖLIO RADVILIŠKIO SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR., TERITORIJOJE STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITĄ

Susipažinome su pateikta UAB ,,Biržų vėjas“ planuojamo iki 35 vėjo elektrinių parko Nemunėlio Radviliškio sen., Biržų r. sav., Panevėžio apskr., teritorijoje statybos ir veiklos poveikio aplinkai vertinimo ataskaita (toliau – Ataskaita) bei suinteresuotos visuomenės pasiūlymų įvertinimu.

Vadovaudamiesi Planuojamos ūkinės veiklos poveikio aplinkai vertinimo procedūrų vykdymo tvarkos aprašo, patvirtinto Lietuvos Respublikos aplinkos ministro 2017 m. spalio 31 d. įsakymu Nr. D1-885 ,,Dėl Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašų patvirtinimo“, 40 punktu, informuojame, kad Ataskaitai pritariame.

Taip pat informuojame, kad Ataskaita buvo pateikta Savivaldybės tarybai, kuri pritarė UAB ,,Biržų vėjas“ planuojamos ūkinės veiklos – planuojamo iki 35 vėjo elektrinių parko Nemunėlio Radviliškio sen., Biržų r. sav., Panevėžio apskr., teritorijoje statybos ir veiklos, galimybėms.

PRIDEDAMA. Biržų rajono savivaldybės tarybos 2023 m. rugpjūčio 25 d. sprendimo Nr. T-278 ,,Dėl UAB ,,Biržų vėjas“ planuojamos ūkinės veiklos – planuojamo iki 35 vėjo elektrinių parko Nemunėlio Radviliškio sen., Biržų r. sav., Panevėžio apskr., teritorijoje statybos ir veiklos, galimybių“ nuorašas, 3 lapai.

Savivaldybės meras Kęstutis Knizikevičius

Loreta Munikienė, mob. tel. 8 682 54 108, el. p. loreta.munikiene@birzai.lt
Nuorašas tikras
Biržų rajono savivaldybė
2023-08-28

Nuorašas tikras
Biržų rajono savivaldybė
2023-08-28

BIRŽŲ RAJONO SAVIVALDYBĖS TARYBA

SPRENDIMAS
DĖL UAB „BIRŽŲ VĖJAS“ PLANUOJAMOS ŪKINĖS VEIKLOS – PLANUOJAMO IKI 35 VĖJO ELEKTRINIŲ PARKO NEMUNĖLIO RADVILIŠKIO SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR., TERITORIJOJE STATYBOS IR VEIKLOS, GALIMYBIŲ

20 m. d. Nr.
Biržai

Vadovaudamasi Lietuvos Respublikos vietos savivaldos įstatymo 15 straipsnio 4 dalimi, Planuojamos ūkinės veiklos poveikio aplinkai vertinimo procedūrų vykdymo tvarkos aprašo, patvirtinto Lietuvos Respublikos aplinkos ministro 2017 m. spalio 31 d. įsakymu Nr. D1-885 „Dėl Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašų patvirtinimo“, 40 punktu, Biržų rajono savivaldybės taryba n u s p r e n d ž i a:

Pritarti UAB „Biržų vėjas“ planuojamos ūkinės veiklos – planuojamo iki 35 vėjo elektrinių parko Nemunėlio Radviliškio sen., Biržų r. sav., Panevėžio apskr., teritorijoje statybos ir veiklos, galimybėms.

Šis sprendimas per vieną mėnesį gali būti apskundžiamas Lietuvos administracinių ginčų komisijos Panevėžio apygardos skyriui (Respublikos g. 62, 35158 Panevėžys) Lietuvos Respublikos ikiteisminio administracinių ginčų nagrinėjimo tvarkos įstatymo nustatyta tvarka, Regionų apygardos administracinio teismo Panevėžio rūmams (Respublikos g. 62, 35158 Panevėžys) Lietuvos Respublikos administracinių bylų teisenos įstatymo nustatyta tvarka.

Savivaldybės meras Kęstutis Knizikevičius

Parengė

Loreta Munikienė
2023-08-21
Nuorašas tikras

Biržų rajono savivaldybė

2023-08-28

Nuorašas tikras
Biržų rajono savivaldybė
2023-08-28

DETALŪS METADUOMENYS	
Dokumento sudarytojas (-ai)	Biržų rajono savivaldybė 188642660, LT-41143 Vytauto g. 38, Biržai
Dokumento pavadinimas (antraštė)	DĖL UAB „BIRŽŲ VĖJAS“ PLANUOJAMOS ŪKINĖS VEIKLOS – PLANUOJAMO IKI 35 VĖJO ELEKTRINIŲ PARKO NEMUNĖLIO RADVILIŠKIO SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR., TERITORIJOJE STATYBOS IR VEIKLOS, GALIMYBIŲ
Dokumento registracijos data ir numeris	2023-08-25 Nr. T-278
Dokumento gavimo data ir dokumento gavimo registracijos numeris	–
Dokumento specifikacijos identifikavimo žymuo	ADOC-V1.0
Parašo paskirtis	Pasirašymas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	KĘSTUTIS KNIZIKEVIČIUS, Savivaldybės meras, Biržų rajono savivaldybės taryba
Sertifikatas išduotas	KĘSTUTIS KNIZIKEVIČIUS LT
Parašo sukūrimo data ir laikas	2023-08-25 09:06:20 (GMT+03:00)
Parašo formatas	XAdES-T
Laiko žymoje nurodytas laikas	2023-08-25 09:06:32 (GMT+03:00)
Informacija apie sertifikavimo paslaugų teikėją	EID-SK 2016, AS Sertifitseerimiskeskus EE
Sertifikato galiojimo laikas	2023-07-03 09:54:47 – 2028-07-01 23:59:59
Informacija apie būdus, naudotus metaduomenų vientisumui užtikrinti	"Registravimas" paskirties metaduomenų vientisumas užtikrintas naudojant "RCSC IssuingCA, VI Registru centras - i.k. 124110246 LT" išduotą sertifikatą "Dokumentų valdymo sistema Avilys, Biržų rajono savivaldybės administracija, į.k. 188642660 LT", sertifikatas galioja nuo 2021-12-20 12:33:46 iki 2024-12-19 12:33:46
Pagrindinio dokumento priedų skaičius	–
Pagrindinio dokumento pridedamų dokumentų skaičius	–
Pridedamo dokumento sudarytojas (-ai)	–
Pridedamo dokumento pavadinimas (antraštė)	–
Pridedamo dokumento registracijos data ir numeris	–
Programinės įrangos, kuria naudojantis sudarytas elektroninis dokumentas, pavadinimas	Dokumentų valdymo sistema Avilys, versija 3.5.70
Informacija apie elektroninio dokumento ir elektroninio (-ių) parašo (-ų) tikrinimą (tikrinimo data)	Atitinka specifikacijos keliamus reikalavimus. Visi dokumente esantys elektroniniai parašai galioja (2023-08-25 12:19:25)
Paieškos nuoroda	–
Papildomi metaduomenys	Nuorašą suformavo 2023-08-25 12:19:25 Dokumentų valdymo sistema Avilys

Nuorašas tikras

Biržų rajono savivaldybė

2023-08-28

DETALŪS METADUOMENYS	
Dokumento sudarytojas (-ai)	Biržų rajono savivaldybės meras 111106080
Dokumento pavadinimas (antraštė)	DĖL IŠVADOS APIE UAB „BIRŽŲ VĖJAS“ PLANUOJAMO IKI 35 VĖJO ELEKTRINIŲ PARKO NEMUNĖLIO RADVILIŠKIO SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR., TERITORIJOJE STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITĄ
Dokumento registracijos data ir numeris	2023-08-28 Nr. SN-1273
Dokumento gavimo data ir dokumento gavimo registracijos numeris	–
Dokumento specifikacijos identifikavimo žymuo	ADOC-V1.0
Parašo paskirtis	Pasirašymas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	KĘSTUTIS KNIZIKEVIČIUS, Savivaldybės meras, Biržų rajono savivaldybės taryba
Sertifikatas išduotas	KĘSTUTIS KNIZIKEVIČIUS LT
Parašo sukūrimo data ir laikas	2023-08-28 10:13:07 (GMT+03:00)
Parašo formatas	XAdES-T
Laiko žymoje nurodytas laikas	2023-08-28 10:13:20 (GMT+03:00)
Informacija apie sertifikavimo paslaugų teikėją	EID-SK 2016, AS Sertifitseerimiskeskus EE
Sertifikato galiojimo laikas	2023-07-03 09:54:47 – 2028-07-01 23:59:59
Informacija apie būdus, naudotus metaduomenų vientisumui užtikrinti	"Registravimas" paskirties metaduomenų vientisumas užtikrintas naudojant "RCSC IssuingCA, VI Registru centras - i.k. 124110246 LT" išduotą sertifikatą "Dokumentų valdymo sistema Avilys, Biržų rajono savivaldybės administracija, į.k. 188642660 LT", sertifikatas galioja nuo 2021-12-20 12:33:46 iki 2024-12-19 12:33:46
Pagrindinio dokumento priedų skaičius	1
Pagrindinio dokumento pridedamų dokumentų skaičius	–
Pridedamo dokumento sudarytojas (-ai)	–
Pridedamo dokumento pavadinimas (antraštė)	–
Pridedamo dokumento registracijos data ir numeris	–
Programinės įrangos, kuria naudojantis sudarytas elektroninis dokumentas, pavadinimas	Dokumentų valdymo sistema Avilys, versija 3.5.70
Informacija apie elektroninio dokumento ir elektroninio (-ių) parašo (-ų) tikrinimą (tikrinimo data)	Metaduomens „Sudarytojo adresas“ reikšmė turi būti nurodyta Visi dokumente esantys elektroniniai parašai galioja (2023-08-28 10:29:44)
Paieškos nuoroda	–
Papildomi metaduomenys	Nuorašą suformavo 2023-08-28 10:29:44 Dokumentų valdymo sistema Avilys

Nuorašas tikras

Biržų rajono savivaldybė

2023-08-28

UAB „Sweco Lietuva“
GAUTA Nr. V2-607-23
Data 2023-08-28

Elektroninio dokumento nuorašas

KULTŪROS PAVELDO DEPARTAMENTO
PRIE KULTŪROS MINISTERIJOS
PANEVĖŽIO-UTENOS TERITORINIS SKYRIUS

UAB „Sweco Lietuva”
el.p. info@sweco.lt
dovile.ulinskaite@sweco.lt

2023-08- Nr.
Į 2023-08-18 Nr. V1-798-23

DĖL UAB „BIRŽŲ VĖJAS“ PLANUOJAMO IKI 35 VĖJO ELEKTRINIŲ PARKO NEMUNĖLIO RADVILIŠKIO SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR. STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITOS

Kultūros paveldo departamento prie Kultūros ministerijos Panevėžio-Utenos teritorinis skyrius išnagrinėjo UAB „Sweco Lietuva“ parengtą UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių (toliau – VE) parko Nemunėlio Radviliškio sen., Biržų r. sav., Panevėžio apskr. teritorijoje statybos ir veiklos poveikio aplinkai vertinimo ataskaitą. Ataskaitoje pateikti duomenys, kad nei viena iš planuojamų VE ir nepatenka į registruotų Kultūros vertybių registre kultūros paveldo objektų teritoriją, vietovę ir (ar) jų apsaugos zonas, o artimiausi 7 kultūros paveldo objektai yra išsidėstę nuo 0,6 km iki 1,7 km atstumu nuo planuojamos ūkinės veiklos (toliau – PŪV) objektų. Dauguma artimiausių kultūros paveldo objektų yra kapavietės ir atmintinos sodybos, šiose vietose nėra apylinkių apžvalgos taškų, jos apaugę medžiais, todėl didžioji dalis planuojamų VE bus nematomos arba beveik nematomos. Planuojamų VE ir jų veiklai reikalingos infrastruktūros žemės sklypuose registruotų nekilnojamojo kultūros paveldo objektų nėra, jie nepatenka ir į kultūros paveldo objektų ir vietovių apsaugos zonas, reikšmingas neigiamas PŪV poveikis kultūros vertybėms PŪV objektų statybos ir veiklos metu nenumatomas nei vienos PŪV alternatyvos sprendinių įgyvendinimo atveju.

Atkreipiame dėmesį, kad vadovaujantis paveldo tvarkybos reglamento PTR 2.13.01:2022 „Archeologinio kultūros paveldo tvarkyba“ III skyriaus 7.8 punktu, konkrečiose vėjo elektrinių ir susijusios infrastruktūros įrengimo vietose turi būti numatyti archeologiniai tyrimai, jei darbai būtų vykdomi didesniame, nei 1 ha plote.

Pritariame pateiktai poveikio aplinkai vertinimo ataskaitai ir planuojamai ūkinei veiklai be pastabų.

Vedėjas Arūnas Giraitis

Birutė Beresnevičienė, tel. (8 45) 468626, el. p. birute.beresneviciene@kpd.lt

METADUOMENYS	
Dokumento sudarytojas (-ai)	Kultūros paveldo departamentas prie Kultūros ministerijos
Dokumento pavadinimas (antraštė)	DĖL UAB „BIRŽŲ VĖJAS“ PLANUOJAMO IKI 35 VĖJO ELEKTRINIŲ PARKO NEMUNĖLIO RADVILIŠKIO SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKR. STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITOS
Dokumento registracijos data ir numeris	2023-08-25 Nr. 2PU-1045-(9.38-PU E)
Dokumento gavimo data ir dokumento gavimo registracijos numeris	–
Dokumento specifikacijos identifikavimo žymuo	ADOC-V1.0
Parašo paskirtis	Pasirašymas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	Arūnas Giraitis, Vedėjas
Parašo sukūrimo data ir laikas	2023-08-25 11:34:15 (GMT+03:00)
Parašo formatas	XAdES-T
Laiko žymoje nurodytas laikas	2023-08-25 11:34:26 (GMT+03:00)
Informacija apie sertifikavimo paslaugų teikėją	ADIC CA-B, Asmens dokumentu israsymo centras prie LR VRM, LT
Sertifikato galiojimo laikas	Galioja nuo 2023-06-19 iki 2026-06-18
Informacija apie būdus, naudotus metaduomenų vientisumui užtikrinti	Registravimo metaduomenų vientisumas užtikrintas naudojant „DBSIS“ sertifikatą, sertifikatas galioja nuo 2022-05-19 iki 2025-05-18
Pagrindinio dokumento priedų skaičius	–
Pagrindinio dokumento pridedamų dokumentų skaičius	–
Programinės įrangos, kuria naudojantis sudarytas elektroninis dokumentas, pavadinimas	DBSIS, versija 3.5.73.4
Informacija apie elektroninio dokumento ir elektroninio (-ių) parašo (-ų) tikrinimą (tikrinimo data)	Tikrinant dokumentą nenustatyta jokių klaidų (2023-08-28)
Elektroninio dokumento nuorašo atspausdinimo data ir jį atspausdinęs darbuotojas	2023-08-28 atspausdino Jolita Vingrytė-Skabeikienė
Paieškos nuoroda	–
Papildomi metaduomenys	–

UAB „Sweco Lietuva“
GAUTA Nr. V2-610-23
Data 2023-08-29

Elektroninio dokumento nuorašas

**NACIONALINIO VISUOMENĖS SVEIKATOS CENTRO
PRIE SVEIKATOS APSAUGOS MINISTERIJOS
PANEVĖŽIO DEPARTAMENTAS**

Biudžetinė įstaiga, Kalvarijų g. 153, LT-08352 Vilnius.
Duomenys kaupiami ir saugomi Juridinių asmenų registre, kodas 291349070.
Departamento duomenys: Respublikos g. 13, LT-35185 Panevėžys, tel. (8 45) 46 10 81, faks. (8 45) 59 64 45,
el. p. panevezys@nvsc.lt

UAB „Sweco Lietuva“

2023-08- Nr. (5-11 14.3.3 Mr)2-
Į 2023-08-18 Nr. V1-798-23

IŠVADA DĖL UAB „BIRŽŲ VĖJAS“ PLANUOJAMO IKI 35 VĖJO ELEKTRINIŲ PARKO STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITOS IR POVEIKIO APLINKAI

1. Planuojamos ūkinės veiklos pavadinimas.

UAB „Biržų vėjas“ planuojamų iki 35 vėjo elektrinių Parovėjos ir Nemunėlio Radviliškio sen., Biržų r. sav., Panevėžio apskr. statyba ir veikla.

2. Išvados dėl planuojamos ūkinės veiklos poveikio aplinkai pobūdis – pritariama.

3. Motyvai dėl pritarimo ar nepritarimo planuojamai ūkinei veiklai.

Planuojamai ūkinei veiklai pritariama atsižvelgus į Ataskaitoje pateiktus vėjo elektrinių sukeliamo triukšmo modeliavimo rezultatus artimiausių ūkinei veiklai gyvenamųjų pastatų aplinkoje ir palyginus apskaičiuotus triukšmo dydžius (ekvivalentinį garso slėgio lygį) su Lietuvos higienos normos HN 33:2011 „Triukšmo ribiniai dydžiai gyvenamuosiuose ir visuomeninės paskirties pastatuose bei jų aplinkoje“ (toliau – HN 33:2011), patvirtintos Lietuvos Respublikos sveikatos apsaugos ministro 2011 m. birželio 13 d. įsakymu Nr. V-604 „Dėl Lietuvos higienos normos HN 33:2011 „Triukšmo ribiniai dydžiai gyvenamuosiuose ir visuomeninės paskirties pastatuose bei jų aplinkoje“ patvirtinimo“, 1 lentelės 4 p. nurodytu nakties meto triukšmo ribiniu dydžiu. Gyvenamojoje aplinkoje, kurioje nebus galimybės užtikrinti HN 33:2011 1 lentelės 4 p. nurodytą nakties meto triukšmo ribinį dydį (adresu - Nausėdžių k. 8, Nemunėlio Radviliškio sen., Biržų r. sav.), bus taikoma triukšmo poveikio išvengimo ir/ar sumažinimo/kompensavimo priemonė: PŪV organizatorius įsipareigoja išpirkti gyvenamosios paskirties žemės sklypą su gyvenamuoju pastatu, gyvenamosios paskirties pastatą nugriauti ir išregistruoti iš nekilnojamojo turto registro. Pagal Ataskaitoje pateiktą vertinimą kitos fizikinės taršos, kurios ribiniai dydžiai yra reglamentuojami Lietuvos teisės aktuose - vibracija, infragarsu, elektromagnetine spinduliuote, sukeliami lygiai, eksploatuojant vėjo jėgaines yra per maži, kad keltų riziką gyventojų sveikatai.

4. Alternatyva (-os), kuriai (-oms) pritariama ar nepritariama.

Ataskaitoje nurodytoms A, B, C alternatyvoms pritariame, jei iki objektų statybos leidimo išdavimo bus įgyvendintos Ataskaitos 4.10.3.1 lentelėje nurodytos priemonės ūkinės veiklos neigiamam poveikiui sumažinti.

5. Siūlomos nustatyti planuojamos ūkinės veiklos įgyvendinimo sąlygos, susijusios su atliktu poveikio aplinkai vertinimu:

Iki objektų statybos leidimo išdavimo turi būti įgyvendintos Ataskaitos 4.10.3.1 lentelėje nurodytos priemonės ūkinės veiklos neigiamam poveikiui sumažinti.

6. Nuomonė dėl vertinimo metodų, rezultatų, ataskaitos kokybės

Manome, kad Ataskaitoje naudojami metodai ūkinės veiklos taršai įvertinti ir taršos įvertinimo rezultatai pateikti tinkamai. Ūkinės veiklos sukeliamo triukšmo modeliavimas atliktas pagal HN 33:2011 nurodyto standarto LST ISO 9613-2 „Akustika. Atviroje erdvėje sklindančio

garso silpninimas. 2 dalis. Bendrasis skaičiavimo metodas“ reikalavimus. Ataskaitai pastabų dėl kokybės neturime.

7. Siūlomos nustatyti priemonės galimam reikšmingam neigiamam poveikiui aplinkai išvengti, jį sumažinti, kompensuoti, atkurti tai, kas pažeista:

7.1. Iki objektų statybos leidimo išdavimo turi būti įgyvendintos Ataskaitos 4.10.3.1 lentelėje nurodytos priemonės ūkinės veiklos sukeliamam poveikiui mažinti – gyvenamosios paskirties pastato išpirkimas, nugriovimas, išregistravimas iš nekilnojamojo turto registro A, B ir C alternatyvų atveju – adresu Nausėdžių k. 8, Nemunėlio Radviliškio sen., Biržų r. sav. VE „Anti-flickering system“ įdiegimas šešėliavimo poveikiui sumažinti: A alternatyvos atveju VE Nr. N34, N35, N22, N16, N23, N32-1, N8; B alternatyvos atveju VE Nr. N34, N16, N33, N26, N23, N15, N32-1, N8, N5, N32-2, N22; C alternatyvos atveju – VE Nr. N35, N15, N24, N34, N33, N16, N22, N32-1, N8, N5, N32-2, N23. Turi būti pateiktas transformatoriaus pastotės (TP) keliamo triukšmo įvertinimas gyvenamojoje aplinkoje, pasirinkus TP įrengimo vietą ir modelį.

7.2. Objektų statybos metu: siekiant išvengti VE statybos ir jų veiklai reikalingos inžinerinės infrastruktūros įrengimo darbų keliamo triukšmo, būtina statybos darbų neorganizuoti nakties metu bei poilsio/šventinėmis dienomis.

8. Informacija apie poveikio aplinkai vertinimo metu nustatytą sanitarinės apsaugos zoną – Vėjo elektrinių veiklai sanitarinės apsaugos zonos ribos nereglamentuojamos.

Panevėžio departamento direktorius A.V. Eugenijus Vilčinskas

P. Bružas, Mob. +370 666 81 850, el. p. povilas.bruzas@nvsc.lt

ISO 9001 BUREAU VERITAS Certification UKAS MANAGEMENT SYSTEMS

METADUOMENYS	
Dokumento sudarytojas (-ai)	Nacionalinis visuomenės sveikatos centras prie Sveikatos apsaugos ministerijos
Dokumento pavadinimas (antraštė)	IŠVADA DĖL UAB „BIRŽŲ VĖJAS“ PLANUOJAMO IKI 35 VĖJO ELEKTRINIŲ PARKO STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITOS IR POVEIKIO APLINKAI
Dokumento registracijos data ir numeris	2023-08-29 Nr. (5-11 14.3.3 Mr)2-39521
Dokumento gavimo data ir dokumento gavimo registracijos numeris	–
Dokumento specifikacijos identifikavimo žymuo	ADOC-V1.0
Parašo paskirtis	Pasirašymas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	Eugenijus Vilčinskas, Panevėžio departamento direktorius
Parašo sukūrimo data ir laikas	2023-08-29 10:55:42 (GMT+03:00)
Parašo formatas	XAdES-T
Laiko žymoje nurodytas laikas	2023-08-29 10:55:49 (GMT+03:00)
Informacija apie sertifikavimo paslaugų teikėją	RCSC IssuingCA, VI Registru centras - i.k. 124110246, LT
Sertifikato galiojimo laikas	Galioja nuo 2021-12-08 iki 2023-12-08
Informacija apie būdus, naudotus metaduomenų vientisumui užtikrinti	Registravimo metaduomenų vientisumas užtikrintas naudojant „Dokumentų valdymo sistema Avilys“ sertifikatą, sertifikatas galioja nuo 2022-12-08 iki 2025-12-07
Pagrindinio dokumento priedų skaičius	–
Pagrindinio dokumento pridedamų dokumentų skaičius	–
Programinės įrangos, kuria naudojantis sudarytas elektroninis dokumentas, pavadinimas	Dokumentų valdymo sistema Avilys, versija 3.5.68
Informacija apie elektroninio dokumento ir elektroninio (-ių) parašo (-ų) tikrinimą (tikrinimo data)	Tikrinant dokumentą nenustatyta jokių klaidų (2023-08-29)
Elektroninio dokumento nuorašo atspausdinimo data ir jį atspausdinęs darbuotojas	2023-08-29 atspausdino Jolita Vingrytė-Skabeikienė
Paieškos nuoroda	–
Papildomi metaduomenys	–

Suformuota: 2023 m. rugpjūčio 29 d. 11:11

Suformavo: Dokumentų valdymo ir konsultavimo skyriaus visuomenės sveikatos administratorė Kristina Augėnienė

Siunčiamasis dokumentas

Registracijos duomenys	
Paslaugos sprendimo tipas	Teigiamas sprendimas
Skyriaus indeksas	Panevėžio departamento Visuomenės sveikatos saugos skyrius
Būsena	Registruota
Registracijos data	2023-08-29
Registracijos numeris	(5-11 14.3.3 Mr)2-39521
Registras	2: Siunčiamų dokumentų registras
Byla	2023: 14.3.3 Mr: Poveikio aplinkai vertinimo ataskaitų derinimo dokumentai (prašymai, išvados)
Bylos forma	Mišri byla
Procesas	templ.snakeProcess.default
Registratorius	Dokumentų valdymo ir konsultavimo skyriaus visuomenės sveikatos administratorė Kristina Augėnienė
Elektroninis dokumentas	Taip
Dokumento informacija	
Siuntėjai	Panevėžio departamentas
Gavėjai	UAB „Sweco Lietuva“, Spaudos g. 6-1, LT- 05132 Vilnius, info@sweco.lt
Gavėjas (pristatymo būdas)	UAB „Sweco Lietuva“, Spaudos g. 6-1, LT- 05132 Vilnius, info@sweco.lt
Dokumentą parengė	Panevėžio departamento Visuomenės sveikatos saugos skyriaus vyriausiasis specialistas Povilas Bružas
Dokumentą pasirašė	Panevėžio departamento direktorius Eugenijus Vilčinskas
Dokumentą tvirtino	
Dokumentą vizavo	Panevėžio departamento Visuomenės sveikatos saugos skyriaus vedėja Regina Abromaitytė
Dokumentą derino	
Antraštė	IŠVADA DĖL UAB „BIRŽŲ VĖJAS“ PLANUOJAMO IKI 35 VĖJO ELEKTRINIŲ PARKO STATYBOS IR VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITOS IR POVEIKIO APLINKAI
Planuojamos ūkinės veiklos pavadinimas	iki 35 vėjo elektrinių parkas
Planuojamos ūkinės veiklos adresas	Nemunėlio Radviliškio sen., Biržų r. sav., Panevėžio apskr.
Poveikio aplinkai vertinimo programos/ataskaitos rengėjo duomenys (Juridinio asmens pavadinimas / fizinio asmens vardas pavardė, kodas, adresas, telefono Nr., el. paštas)	UAB „SWECO LIETUVA“, Spaudos g. 6-1, Vilnius, +370 (8) 526 22 621
Dokumento rūšis	PAV išvados dėl ataskaitos
Visi dokumentai gauti	
Pritarta/nepritarta programai/ataskaitai	Pritarta
Motyvuoti reikalavimai papildyti ar pataisyti programą/ataskaitą	
Gauto dokumento data (siuntėjo data)	2023-08-18
Gauto dokumento numeris (siuntėjo numeris)	V1-798-23
Susieti dokumentai	

Elektroninė paslauga (1)

15386401	2023-08-21	Įvykdyta	Panevėžio departamento Visuomenės sveikatos saugos skyriaus vyriausiasis specialistas Povilas Bružas	2023-08-29

ADOC	

PAV ataskaitos įvertinimo išvada.adoc		
PAV ataskaitos įvertinimo išvada.docx		
Priedai		
Pridedami dokumentai		
Pasibaigę darbai		
Panevėžio departamento Visuomenės sveikatos saugos skyriaus vedėja Regina Abromaitytė	2023-08-29 10:46:27	Teigiamai vizuota versija 2.0. Pastabos:
Panevėžio departamento direktorius Eugenijus Vilčinskas	2023-08-29 10:55:49	Pasirašyta versija 2.0. Pastabos:
Dokumentų valdymo ir konsultavimo skyriaus visuomenės sveikatos administratorė Kristina Augėnienė	2023-08-29 11:00:57	Registruotas dokumentas: 2: Siunčiamų dokumentų registras 2023: 14.3.3 Mr: Poveikio aplinkai vertinimo ataskaitų derinimo dokumentai (prašymai, išvados)

Elektroninio dokumento nuorašas

UAB „Sweco Lietuva“
GAUTA Nr. V2-600-23
Data 2023-08-24

PRIEŠGAISRINĖS APSAUGOS IR GELBĖJIMO DEPARTAMENTO PRIE VIDAUS REIKALŲ MINISTERIJOS PANEVĖŽIO PRIEŠGAISRINĖ GELBĖJIMO VALDYBA

Biudžetinė įstaiga, Švitrigailos g. 18, 03223 Vilnius.
E. pristatymo dėžutės adresas 188601311.
Duomenys kaupiami ir saugomi Juridinių asmenų registre, kodas 188601311.
Valdybos duomenys: Ramygalos g. 14, 36231 Panevėžys, tel. (8 707) 69 696, el. p. panevezys.pgv@vpgt.lt

UAB „Sweco Lietuva“

2023-08- Nr.
Į 2023-08-18 Nr. V1-798-23

DĖL PLANUOJAMOS ŪKINĖS VEIKLOS POVEIKIO APLINKAI VERTINIMO ATASKAITOS

Siunčiame išvadą dėl „Iki 35 vėjo elektrinių parko Nemunėlio Radviliškio sen., Biržų r. sav., Panevėžio apskrities teritorijoje“ statybos ir veiklos poveikio aplinkai vertinimo ataskaitos.

Pritariame planuojamai ūkinei veiklai ir poveikio aplinkai vertinimo ataskaitai be pastabų ir pasiūlymų.

PRIDEDAMA. 2 lapai.

Viršininko pavaduotojas Darius Marciuška

Asta Vanagaitė-Černiauskienė, tel. (8 707) 65 860, el. p. asta.cerniauskiene@vpgt.lt

IŠVADA DĖL IKI 35 VĖJO ELEKTRINIŲ PARKO NEMUNĖLIO RADVILIŠKIO SEN., BIRŽŲ R. SAV., PANEVĖŽIO APSKRITIES TERITORIJOJE, POVEIKIO APLINKAI

VERTINIMO ATASKAITOS IR POVEIKIO APLINKAI

1. Planuojamos ūkinės veiklos pavadinimas: Iki 35 vėjo elektrinių parko Nemunėlio Radviliškio sen., Biržų r. sav., Panevėžio apskrities teritorijoje statybos ir veikla.

2. Išvados dėl planuojamos ūkinės veiklos poveikio aplinkai pobūdis – **pritariama.**

3. Motyvai dėl pritarimo ar nepritarimo planuojamai ūkinei veiklai

Pritariama planuojamai ūkinei veiklai ir poveikio aplinkai vertinimo ataskaitai **be pastabų**.

(atsižvelgiant į aplinkos apsaugos, visuomenės sveikatos, nekilnojamojo kultūros paveldo apsaugos, gaisrinės saugos ir civilinės saugos teisės aktų reikalavimus ir pateikiant nuorodas į juos).

4. Alternatyva (-os), kuriai (-oms) pritariama ar nepritariama.

_____.

(nurodoma, jeigu ataskaitoje nagrinėtos alternatyvos)

5. Siūlomos nustatyti planuojamos ūkinės veiklos įgyvendinimo sąlygos, susijusios su atliktu poveikio aplinkai vertinimu (nurodoma, jeigu tokias sąlygas reikia ir galima nustatyti pagal teisės aktų reikalavimus):

5.1. iki veiklos vykdymo pradžios: techninių projektų rengimo metu

5.2. statybos etape_____;
5.3. veiklos vykdymo etape_____;
5.4. veiklos nutraukimo etape_____.

6. Nuomonė dėl vertinimo metodų, rezultatų, ataskaitos kokybės

_____.

(pagrindžiama teisės aktų ar tarptautinių standartų reikalavimais, moksline literatūra)

7. Siūlomos nustatyti priemonės galimam reikšmingam neigiamam poveikiui aplinkai išvengti, jį sumažinti, kompensuoti, atkurti tai, kas pažeista:

7.1. iki veiklos vykdymo pradžios_____;
7.2. statybos etape_____;
7.3. veiklos vykdymo etape_____;
7.4. veiklos nutraukimo etape_____.

8. Informacija apie poveikio aplinkai vertinimo metu nustatytą sanitarinės apsaugos zoną – pritariama ar nepritariama (ko nereikia, ištrinama. Pildo tik sveikatos apsaugos ministro įgaliota institucija).

(Išvada teikiama pagal Lietuvos Respublikos planuojamos ūkinės veiklos poveikio aplinkai vertinimo įstatymo 6 straipsnio 5 dalyje nurodytą kompetenciją: 1) sveikatos apsaugos ministro įgaliotos institucijos – dėl planuojamos ūkinės veiklos veiksnių, darančių įtaką visuomenės sveikatai, galimo poveikio visuomenės sveikatai; 2) kultūros ministro įgaliotos institucijos, atsakingos už kultūros vertybių apsaugą, – nekilnojamojo kultūros paveldo apsaugos srityje dėl galimo planuojamos ūkinės veiklos poveikio nekilnojamajam kultūros paveldui; 3) vidaus reikalų ministro įgaliotos institucijos, atsakingos už gaisrinę ir civilinę saugą, – dėl planuojamos ūkinės veiklos vykdymo metu galimų įvykių, ekstremaliųjų įvykių, ekstremaliųjų situacijų, numatomų priemonių joms išvengti ar sušvelninti ir padariniams likviduoti; 4) aplinkos ministro įgaliotos saugomų teritorijų institucijos – dėl planuojamos ūkinės veiklos įgyvendinimo poveikio valstybės saugomoms teritorijoms, įskaitant Europos ekologinio tinklo „Natura 2000“ teritorijas; Vyriausybės tvirtinamame Lietuvos Respublikos teritorijos bendrajame plane apibrėžtoms ypač saugomo kraštovaizdžio teritorijoms ir ypač raiškiems kraštovaizdžio kompleksams; saugomų rūšių radavietėms ar augavietėms; 5) savivaldybės vykdomoji institucija – dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo ir šios veiklos galimo poveikio aplinkai, atsižvelgdama į patvirtintų ir galiojančių teritorijų planavimo dokumentų sprendinius, galimybes pagal teritorijų planavimą reglamentuojančių teisės aktų reikalavimus juos keisti, galimą poveikį savivaldybės įsteigtoms saugomoms teritorijoms ir pagal Lietuvos Respublikos aplinkos monitoringo įstatymą vykdomos savivaldybės aplinkos stebėsenos (monitoringo) duomenis. Kiti anksčiau nenurodyti PAV subjektai išvadas teikia pagal jiems įstatymuose nustatytą kompetenciją.)

DETALŪS METADUOMENYS	
Dokumento sudarytojas (-ai)	Priešgaisrinės apsaugos ir gelbėjimo departamentas prie Vidaus reikalų ministerijos 188601311, Švitrigailos g. 18, LT-03223 Vilnius
Dokumento pavadinimas (antraštė)	Dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo ataskaitos
Dokumento registracijos data ir numeris	2023-08-24 Nr. 9.4-5-843 /2023(11.5.119 E)
Dokumento gavimo data ir dokumento gavimo registracijos numeris	–
Dokumento specifikacijos identifikavimo žymuo	ADOC-V1.0
Parašo paskirtis	Pasirašymas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	Darius Marciuška, Viršininko pavaduotojas, Panevėžio priešgaisrinė gelbėjimo valdyba
Sertifikatas išduotas	DARIUS MARCIUŠKA, Priešgaisrinės apsaugos ir gelbėjimo departamentas prie VRM LT
Parašo sukūrimo data ir laikas	2023-08-24 07:37:08 (GMT+03:00)
Parašo formatas	XAdES-T
Laiko žymoje nurodytas laikas	2023-08-24 07:37:16 (GMT+03:00)
Informacija apie sertifikavimo paslaugų teikėją	ADIC CA ECC, Asmens dokumentu israsymo centras prie LR VRM LT
Sertifikato galiojimo laikas	2023-07-19 09:50:25 – 2027-07-18 09:50:25
Informacija apie būdus, naudotus metaduomenų vientisumui užtikrinti	"Registravimas" paskirties metaduomenų vientisumas užtikrintas naudojant "RCSC IssuingCA, VI Registru centras - i.k. 124110246 LT" išduotą sertifikatą "DBSIS, Informatikos ir ryšių departamentas prie Lietuvos Respublikos vidaus reikalų ministerijos, į.k.188774822 LT", sertifikatas galioja nuo 2022-05-19 16:48:06 iki 2025-05-18 16:48:06
Pagrindinio dokumento priedų skaičius	1
Pagrindinio dokumento pridedamų dokumentų skaičius	–
Pridedamo dokumento sudarytojas (-ai)	–
Pridedamo dokumento pavadinimas (antraštė)	–
Pridedamo dokumento registracijos data ir numeris	–
Programinės įrangos, kuria naudojantis sudarytas elektroninis dokumentas, pavadinimas	DBSIS, versija 3.5.73.4
Informacija apie elektroninio dokumento ir elektroninio (-ių) parašo (-ų) tikrinimą (tikrinimo data)	Atitinka specifikacijos keliamus reikalavimus. Visi dokumente esantys elektroniniai parašai galioja (2023-08-24 07:44:17)
Paieškos nuoroda	–
Papildomi metaduomenys	Nuorašą suformavo 2023-08-24 07:44:17 DBSIS

Suformuota: 2023 m. rugpjūčio 24 d. 07:44
Suformavo: Vyriausioji specialistė Laimutė Bulovaitė

Siunčiamasis dokumentas

Antraštė	Dėl planuojamos ūkinės veiklos poveikio aplinkai vertinimo ataskaitos
Būsena	Registruota
Registracijos duomenys	
Registracijos data	2023-08-24
Registracijos numeris	9.4-5-843 /2023(11.5.119 E)
Registras	9.4-5: Siunčiamų dokumentų registras
Byla	2023: 11.5.119 E: Susirašinėjimo su valstybės ir savivaldybių institucijomis ir įstaigomis civilinės saugos klausimais dokumentai
Elektroninis dokumentas	Taip
Dokumento informacija	
Siuntėjai	Panevėžio priešgaisrinė gelbėjimo valdyba
Gavėjai	UAB "Sweco Lietuva", Vilnius, Spaudos g. 6-1, 301135783
Dokumentą parengė	Vyresnioji specialistė Asta Vanagaitė-Černiauskienė
Dokumentą derino	pavaduojanti (-s) Deivydas Sankauskas (nuo 2023-08-16 iki 2023-09-01, Kasmetinės , pavaduojamas Skyriaus viršininkas Vaidas Katuškevičius)
Dokumentą pasirašė	Viršininko pavaduotojas Darius Marciuška
Dokumentą registravo	Vyriausioji specialistė Laimutė Bulovaitė
Dokumento rūšis	RAŠTAS
Lapų skaičius	1
Priedų lapų sk.	2
Nuoroda į dokumentą kitoje DVS	
Laikinas Nr.	35693595
Susieti dokumentai	

Pradinis dokumentas (1)

3-5-731 /2023(11.5.119 E)	2023-08-21	Dėl PŪV PAV ataskaitos nagrinėjimo	Kiti	Įvykdyta	Vyresnioji specialistė Asta Vanagaitė-Černiauskienė	2023-08-23

Užduotys (1)

35484217	2023-08-22			Baigta	Vyresnioji specialistė Asta Vanagaitė-Černiauskienė	2023-08-23

ADOC

UAB Biržų vėjas.adoc

UAB Biržų vėjas.docx

Priedai

UAB Biržų vėjas 2pr.docx

Pridedami dokumentai

Pasibaigę darbai

Vyriausioji specialistė Laimutė Bulovaitė	2023-08-23 13:34:10	Peržiūrėta.
pavaduojanti (-s) Deivydas Sankauskas (nuo 2023-08-16 iki 2023-09-01, Kasmetinės , pavaduojamas Skyriaus viršininkas Vaidas Katuškevičius)	2023-08-23 15:47:07	Teigiamai derinta versija 1.0. Pastabos:
Viršininko pavaduotojas Darius Marciuška	2023-08-24 07:37:16	Pasirašyta versija 1.0. Pastabos:
Vyriausioji specialistė Laimutė Bulovaitė	2023-08-24 07:44:12	Registruotas dokumentas: 9.4-5: Siunčiamų dokumentų registras 2023: 11.5.119 E: Susirašinėjimo su valstybės ir savivaldybių institucijomis ir įstaigomis civilinės saugos klausimais dokumentai

Elektroninio dokumento nuorašas

LIETUVOS GEOLOGIJOS TARNYBA
PRIE APLINKOS MINISTERIJOS

Biudžetinė įstaiga, S.Konarskio g. 35, LT-03123 Vilnius, tel.: (8 5) 233 2889, 233 2482,
el. p. lgt@lgt.lt, http://www.lgt.lt.
Duomenys kaupiami ir saugomi Juridinių asmenų registre, kodas 188710780

Aplinkos apsaugos agentūrai 2023-10- Nr. (4)-1-7-

Kopija Į 2023-09-15 (30-2)-A4E-9433
UAB „Sweco Lietuva“

UAB „Sweco Lietuva“
GAUTA Nr. V2-767-23
Data 2023-10-13

DĖL 35 VĖJO JĖGAINIŲ POVEIKIO APLINKAI VERTINIMO

Lietuvos geologijos tarnyba prie Aplinkos ministerijos (toliau- Tarnyba) pagal kompetenciją išnagrinėjo Aplinkos apsaugos agentūros tinklalapyje pateiktą UAB „Biržų vėjas“ planuojamos ūkinės veiklos (toliau – PŪV) – iki 35 vėjo elektrinių Nemunėlio Radviliškio ir Parovėjos sen. Biržų r. sav., Panevėžio apskr. statybos ir veiklos poveikio aplinkai vertinimo (toliau – PAV) ataskaitą.

Pažymime, kad PŪV teritorija ribojasi su Šiaurės Lietuvos karstiniame regionu, kurio ribos ir žemių ekologinis pažeidžiamumas yra patvirtinti Lietuvos Respublikos aplinkos ministro 2008 m. gruodžio 4 d. įsakymu Nr. D1-655 „Dėl Šiaurės Lietuvos karstinio rajono ribų ir intensyvaus karsto žemių grupių nustatymo“ (su vėlesniais pakeitimais).

Pagal PAV ataskaitoje pateiktus duomenis nagrinėjamų alternatyvų vertinimas nepriklauso nuo galimo poveikio žemės gelmėms (vertinama, kad poveikis visų alternatyvų atveju vienodas).

Tarnyba PŪV pritaria.

Išnagrinėtai PAV ataskaitai pastabų ar pasiūlymų neturime.

Laikinai einanti direktoriaus pareigas Jolanta Čyžienė

Roma Kanopienė, tel. (8 5) 233 22 86, el. p. roma.kanopiene@lgt.lt,

METADUOMENYS	
Dokumento sudarytojas (-ai)	Lietuvos geologijos tarnyba prie Aplinkos ministerijos
Dokumento pavadinimas (antraštė)	DĖL 35 VĖJO JĖGAINIŲ POVEIKIO APLINKAI VERTINIMO
Dokumento registracijos data ir numeris	2023-10-13 Nr. (4)-1-7-4674
Dokumento gavimo data ir dokumento gavimo registracijos numeris	–
Dokumento specifikacijos identifikavimo žymuo	ADOC-V1.0
Parašo paskirtis	Pasirašymas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	Jolanta Čyžienė, Laikinai einantis direktoriaus pareigas
Parašo sukūrimo data ir laikas	2023-10-13 14:08:20 (GMT+03:00)
Parašo formatas	XAdES-T
Laiko žymoje nurodytas laikas	2023-10-13 14:08:25 (GMT+03:00)
Informacija apie sertifikavimo paslaugų teikėją	ADIC CA-A, Asmens dokumentu israsymo centras prie LR VRM, LT
Sertifikato galiojimo laikas	Galioja nuo 2023-06-02 iki 2026-06-01
Informacija apie būdus, naudotus metaduomenų vientisumui užtikrinti	Registravimo metaduomenų vientisumas užtikrintas naudojant „DBSIS“ sertifikatą, sertifikatas galioja nuo 2022-05-19 iki 2025-05-18
Pagrindinio dokumento priedų skaičius	–
Pagrindinio dokumento pridedamų dokumentų skaičius	–
Programinės įrangos, kuria naudojantis sudarytas elektroninis dokumentas, pavadinimas	DBSIS, versija 3.5.74.2
Informacija apie elektroninio dokumento ir elektroninio (-ių) parašo (-ų) tikrinimą (tikrinimo data)	Tikrinant dokumentą nenustatyta jokių klaidų (2023-10-16)
Elektroninio dokumento nuorašo atspausdinimo data ir jį atspausdinęs darbuotojas	2023-10-16 atspausdino Jolita Vingrytė-Skabeikienė
Paieškos nuoroda	–
Papildomi metaduomenys	–

Suformuota: 2023 m. spalio 13 d. 15:07

Suformavo: Vyriausiasis specialistas Irena Remeikienė (nuo 2023-09-30 iki 2023-10-31, Nebuvimas, pavaduojamas Vyresnysis referentas Ina Levčenkaitė)

Siunčiamasis dokumentas

Registracijos duomenys	
Būsena	Registruota
Registracijos data	2023-10-13
Registracijos numeris	(4)-1-7-4674
Dalinys	Inžinerinės geologijos skyrius
Registras	1-7: Siunčiamų dokumentų registras
Byla	2023: 1.22 Mr: Susirašinėjimo su Lietuvos Respublikos įstaigomis, įmonėmis, organizacijomis informacinio pobūdžio geologijos klausimais dokumentai
Bylos forma	Elektroniniai dokumentai
Registratorius	Vyriausiasis specialistas Irena Remeikienė (nuo 2023-09-30 iki 2023-10-31, Nebuvimas, pavaduojamas Vyresnysis referentas Ina Levčenkaitė)
Elektroninis dokumentas	Taip
Darbų eiga	611b3f00d9e011ecb458b9b122d3c1fe
Dokumento informacija	
Siuntėjai	Lietuvos geologijos tarnyba prie Aplinkos ministerijos
Gavėjai	Aplinkos apsaugos agentūra
Dokumentą parengė	Skyriaus vedėjas Roma Kanopienė
Dokumentą pasirašė	Laikinai einantis direktoriaus pareigas Jolanta Čyžienė
Antraštė	DĖL 35 VĖJO JĖGAINIŲ POVEIKIO APLINKAI VERTINIMO
Dokumento rūšis	RAŠTAS
Dokumento siuntimo būdas	El. paštu
Lapų skaičius	1
Laikinas Nr.	42806705

Susieti dokumentai

Pradinis dokumentas (1)

13-3724	2023-09-15	DĖL KVIETIMO DALYVAUTI POVEIKIO APLINKAI VERTINIMO PROCESE (35 VE)	RAŠTAS	Įvykdyta	Skyriaus vedėjas Roma Kanopienė	2023-10-12

Užduotys (1)

42806424	2023-10-12	Užduotis		Baigta	Skyriaus vedėjas Roma Kanopienė	2023-10-12

ADOC

Rast_AAA_35_VE_Birzu_r.adoc

Rast_AAA_35_VE_Birzu_r.docx

Priedai

Pridedami dokumentai

Pasibaigę darbai

Laikinai einantis direktoriaus pareigas Jolanta Čyžienė	2023-10-13 14:08:25	Pasirašyta versija 1.0. Pastabos:
Vyriausiasis specialistas Irena Remeikienė (nuo 2023-09-30 iki 2023-10-31, Nebuvimas, pavaduojamas Vyresnysis referentas Ina Levčenkaitė)	2023-10-13 15:06:11	Registruotas dokumentas: 1-7: Siunčiamų dokumentų registras 2023: 1.22 Mr: Susirašinėjimo su Lietuvos Respublikos įstaigomis, įmonėmis, organizacijomis informacinio pobūdžio geologijos klausimais dokumentai

Elektroninio dokumento nuorašas

UAB „Sweco Lietuva“
GAUTA Nr. V2-1279-24
Data 2024-10-18

VALSTYBINĖ SAUGOMŲ TERITORIJŲ TARNYBA PRIE APLINKOS MINISTERIJOS

Biudžetinė įstaiga, Antakalnio g. 25, 10312 Vilnius. Tel. +370 659 29483, el. p. vstt@vstt.lt, https://vstt.lrv.lt.
Duomenys kaupiami ir saugomi Juridinių asmenų registre, kodas 188724381

UAB „Sweco Lietuva“ 2024-10- Nr. V3-
Į 2024-09-11 Nr. V1-1151-24

DĖL UAB „BIRŽŲ VĖJAS“ PLANUOJAMO IKI 35 VĖJO ELEKTRINIŲ PARKO ĮRENGIMO IR EKSPLOATACIJOS BIRŽŲ R. SAV. NEMUNĖLIO RADVILIŠKIO SEN. POVEIKIO APLINKAI VERTINIMO ATASKAITOS IR POVEIKIO APLINKAI

Valstybinė saugomų teritorijų tarnyba prie Aplinkos ministerijos (toliau - Tarnyba), išnagrinėjo UAB „Sweco Lietuva“ 2024 m. rugsėjo 11 d. raštą Nr. V1-1151-24 (toliau – Raštas) ir su juo pateiktą UAB „Biržų vėjas“ planuojamos ūkinės veiklos (toliau – PŪV) – iki 35 vėjo elektrinių (toliau – VE) parko įrengimo ir eksploatavimo Biržų r. sav., Nemunėlio Radviliškio ir Parovėjos sen. poveikio aplinkai vertinimo (toliu – PAV) ataskaitą (toliau – Ataskaita). Tarnyba pagal Planuojamos ūkinės veiklos poveikio aplinkai vertinimo įstatymo 6 str. 5 d. 4 p. nurodytą kompetenciją teikia pakartotines pastabas Ataskaitai:

1. Ataskaitos 5 tekstiniame priede nurodoma, kad PŪV teritorijoje ir gretimoje teritorijoje (kurios 5 tekstiniame priede apibrėžiamos taip: „*PŪV teritorija – tai teritorija, ribojama planuojamo vėjo elektrinių parko įrengimui skirto sklypo išorinių kraštinių, o gretima teritorija – tai teritorija iki 2 km atstumu nuo planuojamų vėjo elektrinių parkų sklypų išorinių kraštinių*“) ekspertiniu vertinimu gali perėti 8-10 paprastojo suopio porų, 5-7 – mažojo erelio rėksnio, 4-6 paukštvanagio, 6-8 nendrinių lingių poros.

Visuotinai pripažinta, kad paukščio susidūrimo su VE rizika priklauso nuo atstumo nuo VE iki paukščio lizdo (*It is generally accepted that the risk of a bird colliding with a wind turbine depends on the distance of the turbine from the bird's nest*)[1]. Tačiau nors Ataskaitoje nurodoma, kad ekspertiniu vertinimu PŪV ir gretimoje teorijoje gali perėti nuo 23 iki 31 VE jautrių paukščių rūšių porų, informacija pateikiama tiktai apie vieną sketsakalio lizdą, 1 mažojo erelio rėksnio lizdą (nenurodyta ar naudojamas, viena lizdavietė nurodoma, kaip sunykusi), tris paprastojo suopio lizdavietes (užimtumas nenurodytas). Taigi teritorijoje nustatyta tik maža dalis lizdaviečių, iš kurių 3 yra Saugomų rūšių informacinės sistemos (toliau – SRIS) duomenys, nuo 23-31 nustatytos ekspertinio vertinimo metu.

SRIS duomenimis Spingučių miške stebėtas (2024-08-25) lizdą palikęs mažojo erelio rėksnio jauniklis, tarp Spingučių ir Velykonių miškų tris kartus stebėtas mažojo erelio rėksnio teritorinis elgesys (2024 m. rugpjūtis), kuris demonstruojamas ginant lizdinę teritoriją, tai rodo, kad viename iš šių miškų ar net abejuose (didelis rūšies tankumas šiaurinėje Lietuvos dalyje tai patvirtina) peri mažieji ereliai rėksniai.

Tarnyba nesutinka su Rašte formuojama pozicija, kad Spingučių, Jokūbiškio, Pagojų ir Pladiškio miškai (apie Velykonių mišką, net neužsimenama) netinkami arba mažai tinkami plėšriesiems paukščiams perėti. Vadovaujantis Valstybės miškų kadastro duomenimis visuose miškuose yra brandžių medynų tinkamų plėšriesiems paukščiams krauti lizdus. Taip pat remiantis SRIS duomenis mažieji ereliai rėksniai ir paprastieji suopiai

[1] DOI:10.13140/RG.2.2.24295.78243

peri panašaus dydžio ir net mažesniuose miškuose, nei PŪV teritorijoje, ir panašiai ar net daugiau miškų kirtimų paveiktuose miškuose.

Atkreipiame Ataskaitos rengėjų dėmesį, kad Mažojo erelio rėksnio apsaugos plane[2] (toliau – Planas) pateikta informacija apie mažųjų erelių rėksnių gausumą ir paskirstymą nėra teorinės prielaidos, kaip interpretuojama Rašte. Plane yra pateikiami apibendrinti Lietuvoje atliktų tyrimų duomenys. Dar daugiau Ataskaitoje pateikti gausūs rūšies (kuriai būdingas griežtas teritorinis pasiskirstymas) perskridimai ir ekspertų vertinimas, kad PŪV teritorijoje ir gretimoje aplinkoje gali perėti 5-7 mažojo erelio rėksnio poros, o Ataskaitoje pateikiami duomenys tik apie vieną lizdavietę, nepaneigia Plano teiginių.

Atsižvelgiant į aukščiau išdėstytus argumentus ir Tarnybos darbo tvarka (2024-08-23) teiktas pastabas, Tarnybos nuomone PAV ataskaita neatitinka PŪV PAV teisės aktų reikalavimų, t. y. Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo (toliau – PAV aprašas)[3], 1 priedo 93 punkto ir 96.2. papunkčio. Todėl negalima įvertinti PŪV poveikio biologinei įvairovei, pagal PŪV PAV įstatymo 4 straipsnį.

2. Pakartotinai teikiame pastabą „*Gausūs VE jautrių plėšriųjų paukščių rūšių perskridimai, taip pat ir identifikuotos maitinimosi teritorijos buvo fiksuoti(os) beveik visose planuojamų VE vietose (PAV ataskaitos 122-123 psl. ir 6 priedo plėšriųjų paukščių perskridimo žemėlapiai). Vadovaujantis Laukinės gyvūnijos įstatymo 28 str. 1 d. „Planuojamos ūkinės veiklos organizatoriai ir asmenys, kurie verčiasi ūkine veikla, privalo laikytis miškotvarkos, žemėtvarkos ir vandentvarkos projektų reikalavimų ir **užtikrinti, kad dėl jų plėtojamos ūkinės veiklos, galinčios neigiamai veikti laukinius gyvūnus, jų buveines, veisimosi, maitinimosi, žiemojimo, trumpalaikio apsistojimo migracijų metu sąlygas ar migracijos kelius, nebus neigiamo poveikio laukinei gyvūnijai arba jis bus minimalus**“. VE parkai jautrioms paukščių rūšims kelia tiesioginę žūties riziką, todėl poveikio mažinimo priemonės turėtų būti pateiktos ir VE esančioms atokiau nuo lizdaviečių, ten kur fiksuoti gausūs jautrių rūšių perskridimai, maitinimosi vietos*“. Planuojamos PŪV vietovėje apsaugoti VE jautrių plėšriųjų paukščių maitinimosi, perskridimo teritorijas labai svarbu ir dėl to, kad planuojamas VE parkas yra išsidėstęs, tarp dvejų “Natura 2000” tinklo teritorijų (Biržų girios Lietuvos Respublikos teritorijoje ir Skaistkalnes karsta kritenes Latvijos Respublikos teritorijoje) skirtų mažojo erelio rėksnio apsaugai. Buveinių direktyvos[4] 1, 3. 4, 6 str. akcentuojama, kad labai svarbu palaikyti “Natura 2000” tinklo vientisumą.

3. Atkreipiame dėmesį, kad SRIS duomenys yra atsitiktinio pobūdžio, kuomet tyrėjai, gamtininkai, gamtos entuziastai pateikia savo stebėjimų duomenis, todėl SRIS duomenys negali atstoti tyrimų reikalaujamų pagal PAV aprašą.

4. Nei Ataskaitoje, nei Rašte nepateikti visi Tarnybos darbo tvarka prašyti siūlomos poveikio mažinimo priemonės automatinės paukščius identifikuojančios ir VE stabdančios sistemos (toliau – ATS) parametrai (nepateikta: fiksuojamų paukščių dydis (priemonės siūlomos dėl sketsakalio, o pavyzdyje pateikta sistema išbandyta su ruduoju ir juoduoju pesliais, gerokai didesniais paukščiais), ilgiausias VE sustojimo laikas, stabdymą inicijuojant su ATS ar ATS buvo išbandyta realiomis sąlygomis, su poveikį patirsiančiomis ar panašiomis rūšimis(t. y. kartu inicijuojant ir VE stabdymą)), nenurodyti ATS parametrai, kuriuos turės atitikti PŪV vykdytojų įsigyjama sistema. Todėl Tarnyba negali įvertinti ar ATS bus pakankamai efektyvi. Atkreipiame dėmesį, kad Tarnyba neprašo pateikti konkretaus ATS gamintojo, o tik ATS parametrus. Kelios VE yra planuojamos nustatytoje sketsakalio lizdavietės reikšmingo neigiamo poveikio zonoje, taip pat pagal SRIS duomenis ir

[2] Patvirtintas Lietuvos Respublikos aplinkos ministro 2015 m. vasario 27 d. įsakymu Nr. D1-185 „Dėl mažojo erelio rėksnio (*Aquila pomarina*) apsaugos plano patvirtinimo“.

[3] Patvirtinto Lietuvos Respublikos aplinkos ministro 2017 m. spalio mėn. 31 d. įsakymu Nr. D1-885 „Dėl Planuojamos ūkinės veiklos poveikio aplinkai vertinimo tvarkos aprašo patvirtinimo“.

[4] Tarybos Direktyva 92/43/EEB 1992 m. gegužės 21 d. dėl natūralių buveinių ir laukinės faunos bei floros apsaugos

Ataskaitoje pateiktus perskridimų duomenis ir mažųjų erelių rėksnių lizdaviečių reikšmingo neigiamo poveikio zonose.

5. Pagal rašte pateiktą informaciją VE Nr. 12 yra planuojama mažesniu nei 2 km atstumu nuo Latvijos Respublikos teritorijoje mažajam ereliui rėksniui įsteigtos "Natura 2000" tinklo teritorijos. Šiai VE nepateiktos poveikio mažinimo priemonės. Atkreipiame dėmesį, kad visa saugoma teritorija yra skirta rūšies apsaugai, todėl išskirti tik miškus ir atstumą skaičiuoti tik nuo jų nėra objektyvu, tai rūšis naudojanti tiek miškus, tiek atviras teritorijas.

6. 4 punkto kontekste prašome pateikti informaciją kokioje stadijoje yra tarptautinio vertinimo procedūra, nes Ataskaitoje yra pateikta informacija tik apie gautas pastabas iš Latvijos Respublikos kompetentingų institucijų, tačiau nėra pateikta išvada?

7. Pakartotiniai teikiame pastabą dėl gamtinio karkaso „Vadovaujantis Gamtinio karkaso nuostatų[5] 14 p. „*Gamtinio karkaso teritorijoje planuojant ūkinę veiklą, įrašytą į Lietuvos Respublikos planuojamos ūkinės veiklos poveikio aplinkai vertinimo įstatymo 1 ir 2 priedus, atliekamos atitinkamos poveikio gamtiniam kraštovaizdžiui ir biologinei įvairovei vertinimo procedūros,* ***numatomos priemonės antropogeniniam poveikiui kompensuoti, gamtiniam kraštovaizdžiui ir biologinei įvairovei išsaugoti ar atkurti***". Tačiau jokių antropogeninio poveikio kompensavimo priemonių dėl VE statybos ir joms reikalingos infrastruktūros statybos gamtinio karkaso teritorijose PAV ataskaitoje nepateikta, nors Tarnyba šią pastabą jau buvo pateikusi. Prašome pateikti kompensavimo priemones". VE aikštelių ir kita susijusi infrastruktūra pakeis gamtiniame karkase nusistovėjusią aplinką, kurią naudoja ir PŪV teritorijoje sutinkamos rūšys, todėl pasikeis ir šių rūšių PŪV teritorijos naudojimas.

8. Dėl Ataskaitoje naudojamų sąvokų: mažai reikšmingas, vidutiniškai reikšmingas ar labai reikšmingas poveikis, Ataskaitoje turi būti aiškiai nurodoma, kas yra laikoma reikšmingai neigiamu poveikiu pagal PŪV PAV įstatymo reikalavimus.

9. Kaip poveikio mažinimo priemonės šikšnosparniams yra siūlomos taikyti 2 priemonės „*VE stabdymas tamsiu paros metu, nuo saulės nusileidimo iki aušros (išskyrus naktis, kai vėjo greitis didesnis kaip 6 m/s, taip pat lyjant vidutiniam lietui (nuo 2,5 iki < 10 mm/val.) ir (ar) stipriam lietui (nuo 10 mm/val.) bei kai oro temperatūra naktį nesiekia +7oC) arba įrengiama efektyvi automatiškai šikšnosparnius identifikuojanti ir kritiniu atveju (jei fiksuojami > 3 skrydžiai per minutę) VE veiklą stabdanti sistema. Priemonės taikomos nuo balandžio 30 d. iki spalio 1 d. tamsiu paros metu*". Abejonių kelia pastaroji priemonė, nes pagal 6 priede pateiktus šikšnosparnių stebėjimų PŪV teritorijoje duomenis, skaičiuojant vidurkius, toks aktyvumas nei viename stebėjimų taške nebuvo pasiektas. Pakartotinai prašome pakomentuoti šį nesutapimą, nes Rašte pateikta tiktai nuomonė, kad šikšnosparnių migracijos laikotarpis gali išsitęsti laike, tačiau nepateikiama jokių duomenų apie priemonės efektyvumą. Daugiau Ataskaitos 6 tekstiniame priede Ataskaitos rengėjų pasitelkti konsultantai, rekomenduoja taikyti tik pirmąją poveikio mažinimo priemonę.

10. Tarnybos pirmose, darbo tvarka teiktose pastabose, buvo prašoma argumentuoti, kodėl šikšnosparniams reikšmingas neigiamas poveikis laikomas tik prie miškų didesnių nei 50 ha. Pakartotinai prašome pateikti tokią nuomonę pagrindžiančius argumentus.

Biologinės įvairovės skyriaus vedėja Gintarė Bevainienė

A. Kamarauskaitė, tel. +370 671 23852, el. p. ausra.kamarauskaite@vstt.lt

[5] Patvirtinti Lietuvos Respublikos aplinkos ministro 2007 m. vasario 14 d. įsakymu Nr. D1-96 „Dėl Gamtinio karkaso nuostatų patvirtinimo"

Informuojame, kad kreipiantis raštu į Valstybinę saugomų teritorijų tarnybą su paklausimu, prašymu arba skundu, Jūs pateikiate savo asmens duomenis. Susipažinti, kaip tvarkomi Jūsų asmens duomenys, galite internetinės svetainės https://vstt.lrv.lt/lt/ skiltyje *Asmens duomenų apsauga* Privatumo pranešimas (skirtas fiziniams asmenims, kurie kreipiasi raštu į Valstybinę saugomų teritorijų tarnybą prie Aplinkos ministerijos su paklausimu, prašymu arba skundu).

DETALŪS METADUOMENYS	
Dokumento sudarytojas (-ai)	Valstybinė saugomų teritorijų tarnyba prie Aplinkos ministerijos 188724381, Antakalnio g. 25, LT-10312 Vilnius
Dokumento pavadinimas (antraštė)	DĖL UAB „BIRŽŲ VĖJAS“ PLANUOJAMO IKI 35 VĖJO ELEKTRINIŲ PARKO ĮRENGIMO IR EKSPLOATACIJOS BIRŽŲ R. SAV. NEMUNĖLIO RADVILIŠKIO SEN. POVEIKIO APLINKAI VERTINIMO ATASKAITOS IR POVEIKIO APLINKAI VERTINIMO ATASKAITOS IR POVEIKIO APLINKAI
Dokumento registracijos data ir numeris	2024-10-18 Nr. V3-2454
Dokumento gavimo data ir dokumento gavimo registracijos numeris	–
Dokumento specifikacijos identifikavimo žymuo	ADOC-V1.0
Parašo paskirtis	Pasirašymas
Parašą sukūrusio asmens vardas, pavardė ir pareigos	Gintarė Bevainienė, Skyriaus vedėjas, Biologinės įvairovės skyrius
Sertifikatas išduotas	GINTARĖ BEVAINIENĖ LT
Parašo sukūrimo data ir laikas	2024-10-18 14:10:42 (GMT+03:00)
Parašo formatas	XAdES-T
Laiko žymoje nurodytas laikas	2024-10-18 14:10:53 (GMT+03:00)
Informacija apie sertifikavimo paslaugų teikėją	EID-SK 2016, AS Sertifitseerimiskeskus EE
Sertifikato galiojimo laikas	2021-10-05 12:15:14 – 2026-10-04 23:59:59
Informacija apie būdus, naudotus metaduomenų vientisumui užtikrinti	"Registravimas" paskirties metaduomenų vientisumas užtikrintas naudojant "RCSC IssuingCA, VI Registru centras - i.k. 124110246 LT" išduotą sertifikatą "DBSIS, Informatikos ir ryšių departamentas prie Lietuvos Respublikos vidaus reikalų ministerijos, į.k.188774822 LT", sertifikatas galioja nuo 2022-05-19 16:48:06 iki 2025-05-18 16:48:06
Pagrindinio dokumento priedų skaičius	–
Pagrindinio dokumento pridedamų dokumentų skaičius	–
Pridedamo dokumento sudarytojas (-ai)	–
Pridedamo dokumento pavadinimas (antraštė)	–
Pridedamo dokumento registracijos data ir numeris	–
Programinės įrangos, kuria naudojantis sudarytas elektroninis dokumentas, pavadinimas	DBSIS, versija 3.5.79.2
Informacija apie elektroninio dokumento ir elektroninio (-ių) parašo (-ų) tikrinimą (tikrinimo data)	Atitinka specifikacijos keliamus reikalavimus. Visi dokumente esantys elektroniniai parašai galioja (2024-10-18 15:24:50)
Paieškos nuoroda	–
Papildomi metaduomenys	Nuorašą suformavo 2024-10-18 15:24:50 DBSIS

TEXT ANNEX 10. MODELLING DATA

Project:
Nemunelio_Radviliskis

Licensed user:
UAB Sweco Lietuva
Spaudos g. 6-1
LT-05132 Vilnius
+370 691 44893

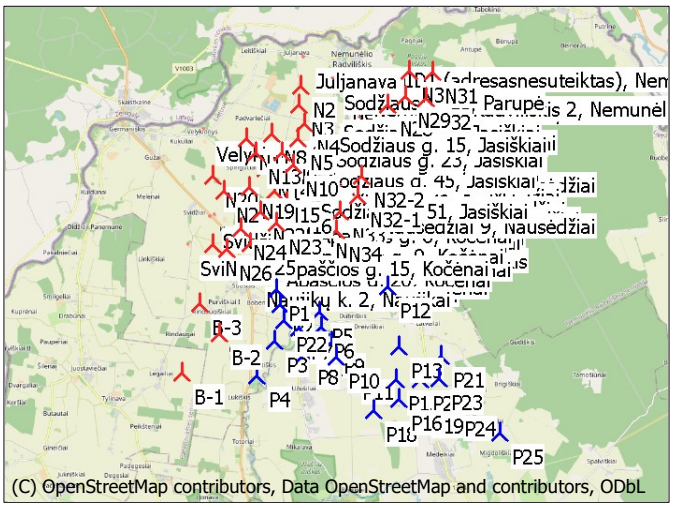
Calculated:
2024-06-03 14:33/4.0.540

DECIBEL - Main Result

Calculation: Noise_SUMINIS

Noise calculation model:
ISO 9613-2 General
Wind speed (at 10 m height):
10,0 m/s
Ground attenuation:
General, Ground factor: 0,7
Meteorological coefficient, C0:
Selected option: Fixed value: 0,0 dB
Type of demand in calculation:
1: WTG noise is compared to demand (DK, DE, SE, NL etc.)
Noise values in calculation:
All noise values are mean values (Lwa) (Normal)
Pure tones:
Fixed penalty added to source noise of WTGs with pure tones
Model: 5,0 dB(A)
Height above ground level, when no value in NSA object:
2,0 m; Allow override of model height with height from NSA object
Uncertainty margin:
0,0 dB; Uncertainty margin in model has priority
Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:
0,0 dB(A)

All coordinates are in
Lithuanian TM LKS94-LKS94 (LT)



Scale 1:250 000

New WTG Noise sensitive area

WTGs

	Y	X	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator	Name	Wind speed	LwA,ref	
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]	
B-1	542 029	6 240 992	53,9	Siemens Gamesa SG 6....	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	EMD	(AM 0, 6.2MW) - 106dB(A)	10,0	106,0	g
B-2	543 286	6 242 345	51,4	Siemens Gamesa SG 6....	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	EMD	(AM 0, 6.2MW) - 106dB(A)	10,0	106,0	g
B-3	542 582	6 243 382	48,3	Siemens Gamesa SG 6....	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	EMD	(AM 0, 6.2MW) - 106dB(A)	10,0	106,0	g
N10	545 698	6 248 113	50,2	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N12	544 141	6 248 992	45,9	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N13	544 443	6 248 494	49,3	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N14	544 794	6 247 974	51,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N15	545 084	6 247 205	50,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N16	545 531	6 246 809	49,1	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N19	544 234	6 247 330	52,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N2	545 926	6 250 780	49,3	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N20	543 009	6 247 672	46,1	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N21	543 391	6 247 200	48,7	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N22	544 610	6 246 488	52,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N23	545 186	6 246 098	46,3	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N24	543 972	6 245 918	50,3	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N25	544 286	6 245 398	51,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N26	543 502	6 245 186	48,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N27	543 025	6 245 373	47,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N28	548 911	6 250 172	45,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N29	549 492	6 250 491	46,1	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N3	545 896	6 250 138	50,2	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N30	549 603	6 251 337	46,1	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N31	550 427	6 251 277	49,2	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N32	550 222	6 250 390	47,7	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N32-1	547 926	6 247 047	46,7	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N32-2	548 034	6 247 730	47,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N33	547 343	6 246 514	47,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N34	547 242	6 245 857	48,7	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N35	546 755	6 245 984	47,3	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N4	546 072	6 249 494	48,7	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N5	545 883	6 248 975	50,1	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N8	544 979	6 249 159	50,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N9	545 330	6 248 515	51,7	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P1	545 201	6 243 866	48,5	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P10	547 288	6 241 576	49,9	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P11	547 762	6 241 229	50,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P12	548 989	6 243 972	51,3	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P13	549 396	6 241 949	51,2	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P15	549 338	6 240 866	50,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P16	549 408	6 240 174	51,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P18	548 583	6 239 764	51,5	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h

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DECIBEL - Main Result

Calculation: Noise_SUMINIS

...continued from previous page

					WTG type							Noise data			
	Y	X	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Creator	Name	Wind speed	LwA,ref	
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]	
P19	550 132	6 240 099	50,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P2	545 340	6 243 350	46,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P20	550 137	6 240 842	52,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P21	550 845	6 241 658	49,9	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P22	545 460	6 242 801	45,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P23	550 775	6 240 903	50,3	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P24	551 230	6 240 018	50,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P25	552 889	6 239 060	57,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P3	545 136	6 242 130	45,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P4	544 576	6 240 918	42,7	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P5	546 670	6 243 096	46,9	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P6	546 741	6 242 582	47,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P7	545 998	6 242 560	45,6	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P8	546 202	6 241 687	46,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
P9	547 078	6 242 100	51,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h

h) Generic octave distribution used
g) Data calculated from data for other wind speed (uncertain)

Calculation Results

Sound level

Noise sensitive area						Demands	Sound level	Demands fulfilled ?
No.	Name	Y	X	Z	Immission height	Noise	From WTGs	Noise
				[m]	[m]	[dB(A)]	[dB(A)]	
Apaščios g. 10, Kočėnai	Noise sensitive area: User defined (19)	546 218	6 246 377	45,6	2,0	45,0	44,0	Yes
Apaščios g. 12, Kočėnai	Noise sensitive area: User defined (18)	546 166	6 246 275	45,0	2,0	45,0	44,0	Yes
Apaščios g. 14, Kočėnai	Noise sensitive area: User defined (16)	546 126	6 246 144	43,0	2,0	45,0	43,9	Yes
Apaščios g. 15, Kočėnai	Noise sensitive area: User defined (9)	545 034	6 245 414	50,1	2,0	45,0	43,7	Yes
Apaščios g. 16, Kočėnai	Noise sensitive area: User defined (15)	546 098	6 246 078	43,7	2,0	45,0	43,8	Yes
Apaščios g. 18, Kočėnai	Noise sensitive area: User defined (10)	545 809	6 245 394	48,8	2,0	45,0	41,7	Yes
Apaščios g. 2, Kočėnai	Noise sensitive area: User defined (24)	546 484	6 246 955	46,0	2,0	45,0	42,8	Yes
Apaščios g. 20, Kočėnai	Noise sensitive area: User defined (8)	545 061	6 245 023	50,1	2,0	45,0	42,2	Yes
Apaščios g. 22, Kočėnai	Noise sensitive area: User defined (7)	544 965	6 244 775	50,1	2,0	45,0	42,0	Yes
Apaščios g. 4, Kočėnai	Noise sensitive area: User defined (23)	546 155	6 246 525	47,0	2,0	45,0	43,9	Yes
Apaščios g. 5, Kočėnai	Noise sensitive area: User defined (17)	546 009	6 246 221	44,0	2,0	45,0	43,9	Yes
Apaščios g. 6, Kočėnai	Noise sensitive area: User defined (22)	546 152	6 246 500	47,1	2,0	45,0	43,9	Yes
Apaščios g. 7, Kočėnai	Noise sensitive area: User defined (14)	545 985	6 246 022	44,6	2,0	45,0	43,6	Yes
Apaščios g. 8, Kočėnai	Noise sensitive area: User defined (21)	546 148	6 246 472	47,9	2,0	45,0	43,9	Yes
Apaščios g. 8A, Kočėnai	Noise sensitive area: User defined (20)	546 145	6 246 460	47,3	2,0	45,0	44,0	Yes
Apaščios g. 9, Kočėnai	Noise sensitive area: User defined (13)	545 853	6 245 869	46,0	2,0	45,0	43,4	Yes
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	Noise sensitive area: User defined (49)	549 115	6 251 778	54,1	2,0	45,0	40,8	Yes
Juljanava 6, Juljanava	Noise sensitive area: User defined (57)	546 031	6 251 701	49,7	2,0	45,0	37,7	Yes
Kaimynų g. 2, Kočėnai	Noise sensitive area: User defined (11)	545 896	6 245 452	46,1	2,0	45,0	41,8	Yes
Naujikų k. 2, Naujikai	Noise sensitive area: User defined (5)	544 495	6 244 330	48,7	2,0	45,0	41,7	Yes
Naujikų k. 3, Naujikai	Noise sensitive area: User defined (6)	544 727	6 244 472	49,4	2,0	45,0	42,2	Yes
Nausėdžiai 2A, Nausėdžiai	Noise sensitive area: User defined (52)	547 940	6 248 206	48,0	2,0	45,0	43,2	Yes
Nausėdžiai 4, Nausėdžiai	Noise sensitive area: User defined (53)	547 158	6 247 813	46,0	2,0	45,0	41,5	Yes
Nausėdžiai 6, Nausėdžiai	Noise sensitive area: User defined (54)	547 404	6 247 389	49,3	2,0	45,0	43,8	Yes
Nausėdžiai 8, Nausėdžiai	Noise sensitive area: User defined (55)	547 850	6 247 067	47,0	2,0	45,0	52,0	**No**
Nausėdžiai 9, Nausėdžiai	Noise sensitive area: User defined (56)	548 321	6 246 869	47,6	2,0	45,0	44,5	Yes
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	Noise sensitive area: User defined (50)	548 075	6 250 829	46,7	2,0	45,0	38,2	Yes
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	Noise sensitive area: User defined (47)	547 234	6 250 675	40,0	2,0	45,0	37,9	Yes
Sodžiaus g. 11, Jasiškiai	Noise sensitive area: User defined (44)	546 848	6 249 637	51,7	2,0	45,0	41,5	Yes
Sodžiaus g. 12, Jasiškiai	Noise sensitive area: User defined (37)	546 784	6 249 077	50,0	2,0	45,0	41,9	Yes
Sodžiaus g. 13, Jasiškiai	Noise sensitive area: User defined (43)	546 847	6 249 619	52,3	2,0	45,0	41,5	Yes
Sodžiaus g. 14, Jasiškiai	Noise sensitive area: User defined (29)	546 582	6 248 633	43,2	2,0	45,0	42,6	Yes
Sodžiaus g. 15, Jasiškiai	Noise sensitive area: User defined (42)	546 834	6 249 568	52,1	2,0	45,0	41,7	Yes
Sodžiaus g. 16, Parupė	Noise sensitive area: User defined (48)	547 008	6 250 999	47,9	2,0	45,0	38,0	Yes
Sodžiaus g. 17, Jasiškiai	Noise sensitive area: User defined (38)	546 792	6 249 262	50,5	2,0	45,0	42,0	Yes
Sodžiaus g. 19, Jasiškiai	Noise sensitive area: User defined (36)	546 751	6 249 138	50,5	2,0	45,0	42,2	Yes
Sodžiaus g. 23, Jasiškiai	Noise sensitive area: User defined (35)	546 736	6 249 077	49,1	2,0	45,0	42,3	Yes
Sodžiaus g. 25, Jasiškiai	Noise sensitive area: User defined (34)	546 731	6 249 062	48,9	2,0	45,0	42,3	Yes
Sodžiaus g. 27, Jasiškiai	Noise sensitive area: User defined (33)	546 725	6 249 031	47,5	2,0	45,0	42,3	Yes
Sodžiaus g. 29, Jasiškiai	Noise sensitive area: User defined (32)	546 717	6 249 011	46,7	2,0	45,0	42,3	Yes
Sodžiaus g. 31, Jasiškiai	Noise sensitive area: User defined (31)	546 707	6 248 980	46,1	2,0	45,0	42,3	Yes
Sodžiaus g. 33, Jasiškiai	Noise sensitive area: User defined (30)	546 703	6 248 963	45,9	2,0	45,0	42,3	Yes
Sodžiaus g. 4, Jasiškiai	Noise sensitive area: User defined (46)	546 960	6 249 994	48,6	2,0	45,0	40,3	Yes
Sodžiaus g. 45, Jasiškiai	Noise sensitive area: User defined (28)	546 461	6 248 408	42,6	2,0	45,0	43,0	Yes

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Licensed user:
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+370 691 44893

Calculated:
2024-06-03 14:33/4.0.540

DECIBEL - Main Result

Calculation: Noise_SUMINIS

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Noise sensitive area No.	Name	Y	X	Z [m]	Immission height [m]	Demands Noise [dB(A)]	Sound level From WTGs [dB(A)]	Demands fulfilled ? Noise
Sodžiaus g. 47, Jasiškiai	Noise sensitive area: User defined (27)	546 435	6 248 310	43,8	2,0	45,0	43,1	Yes
Sodžiaus g. 49, Jasiškiai	Noise sensitive area: User defined (26)	546 296	6 247 653	48,6	2,0	45,0	42,9	Yes
Sodžiaus g. 51, Jasiškiai	Noise sensitive area: User defined (25)	546 248	6 247 366	47,9	2,0	45,0	42,9	Yes
Sodžiaus g. 7, Jasiškiai	Noise sensitive area: User defined (45)	546 877	6 249 889	48,7	2,0	45,0	40,9	Yes
Strazdiškis 1, Strazdiškis	Noise sensitive area: User defined (12)	546 197	6 245 676	44,7	2,0	45,0	43,1	Yes
Svidžiai 15, Svidžiai	Noise sensitive area: User defined (4)	542 216	6 245 357	45,0	2,0	45,0	39,6	Yes
Svidžiai 16, Svidžiai	Noise sensitive area: User defined (2)	542 954	6 246 275	47,8	2,0	45,0	41,9	Yes
Svidžiai 17, Svidžiai	Noise sensitive area: User defined (3)	543 107	6 246 366	48,8	2,0	45,0	42,5	Yes
Upės g. 1, Jasiškiai	Noise sensitive area: User defined (39)	546 990	6 249 194	52,0	2,0	45,0	40,6	Yes
Upės g. 3, Jasiškiai	Noise sensitive area: User defined (40)	547 024	6 249 192	51,7	2,0	45,0	40,5	Yes
Upės g. 5, Jasiškiai	Noise sensitive area: User defined (41)	547 056	6 249 139	51,9	2,0	45,0	40,3	Yes
Velykionys 3, Velykionys	Noise sensitive area: User defined (1)	542 711	6 249 231	46,0	2,0	45,0	37,0	Yes
Žilvičių g. 2, Bliūdžiai	Noise sensitive area: User defined (51)	548 008	6 249 737	45,0	2,0	45,0	38,7	Yes

Distances (m)

	WTG																					
NSA	B-1	B-2	B-3	N10	N12	N13	N14	N15	N16	N19	N2	N20	N21	N22	N23	N24	N25	N26	N27	N28	N29	N3
Apaščios g. 10, Kočėnai	6794	4959	4672	1716	3243	2667	2045	1315	724	2117	4319	3379	2866	1541	1011	2232	2117	2914	3291	4581	5187	3681
Apaščios g. 12, Kočėnai	6641	4805	4528	1833	3310	2730	2104	1342	745	2112	4456	3362	2834	1479	906	2133	1990	2792	3180	4741	5347	3816
Apaščios g. 14, Kočėnai	6496	4658	4402	1974	3411	2830	2203	1420	828	2158	4607	3392	2851	1469	850	2074	1893	2701	3103	4888	5490	3967
Apaščios g. 15, Kočėnai	5281	3463	3131	2767	3686	3133	2567	1785	1464	2076	5429	3032	2426	1154	689	1169	727	1522	1988	6103	6720	4791
Apaščios g. 16, Kočėnai	6422	4583	4336	2040	3457	2875	2248	1457	870	2177	4678	3403	2855	1464	824	2041	1840	2650	3059	4961	5562	4037
Apaščios g. 18, Kočėnai	5737	3891	3751	2719	3966	3388	2773	1951	1441	2494	5385	3604	3011	1619	938	1895	1497	2286	2757	5676	6265	4742
Apaščios g. 2, Kočėnai	7438	5606	5280	1320	3034	2489	1911	1376	932	2236	3776	3501	3061	1903	1540	2695	2679	3450	3783	3944	4557	3148
Apaščios g. 20, Kočėnai	4991	3157	2936	3137	4068	3518	2954	2170	1827	2447	5805	3351	2744	1529	1067	1410	859	1558	2059	6390	6997	5166
Apaščios g. 22, Kočėnai	4760	2922	2746	3376	4271	3728	3172	2398	2068	2636	6042	3485	2880	1725	1302	1506	917	1520	2031	6624	7228	5404
Apaščios g. 4, Kočėnai	6883	5049	4747	1622	3170	2596	1975	1263	682	2079	4221	3346	2844	1545	1055	2264	2176	2967	3333	4498	5107	3582
Apaščios g. 5, Kočėnai	6507	4671	4398	1912	3342	2760	2133	1351	758	2092	4551	3330	2791	1417	810	2037	1871	2677	3072	4868	5474	3910
Apaščios g. 6, Kočėnai	6861	5027	4727	1643	3185	2610	1990	1273	691	2088	4244	3354	2849	1542	1042	2255	2160	2953	3321	4521	5131	3606
Apaščios g. 7, Kočėnai	6331	4491	4248	2110	3496	2914	2287	1486	909	2180	4756	3394	2838	1438	780	1987	1768	2579	2994	5056	5657	4115
Apaščios g. 8, Kočėnai	6838	5004	4708	1665	3201	2625	2004	1282	697	2093	4267	3357	2850	1538	1028	2243	2143	2937	3307	4540	5148	3629
Apaščios g. 8A, Kočėnai	6816	4981	4687	1687	3218	2642	2019	1292	703	2098	4292	3361	2852	1534	1016	2234	2127	2923	3296	4563	5170	3653
Apaščios g. 9, Kočėnai	6136	4297	4060	2244	3561	2980	2356	1541	992	2180	4905	3364	2794	1383	697	1864	1604	2417	2844	5234	5834	4263
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	12874	11058	10603	4972	5648	5662	5713	6058	6093	6561	3280	7308	7284	6911	6874	7759	7967	8621	8799	1606	1338	3558
Juljanava 6, Juljanava	11431	9750	9004	3603	3296	3575	3926	4595	4917	4724	927	5028	5213	5403	5666	6138	6540	6987	7003	3233	3632	1569
Kaimynų g. 2, Kočėnai	5836	3990	3853	2667	3951	3371	2752	1931	1405	2504	5326	3635	3047	1645	955	1961	1581	2375	2842	5582	6170	4684
Naujikų k. 2, Naujikai	4072	2250	2042	3941	4628	4121	3618	2902	2661	2964	6574	3593	3013	2122	1871	1612	1036	1228	1715	7306	7917	5943
Naujikų k. 3, Naujikai	4350	2520	2329	3706	4474	3951	3426	2686	2412	2815	6354	3535	2941	1939	1628	1534	930	1315	1823	7026	7634	5719
Nausėdžiai 2A, Nausėdžiai	9304	7462	7181	2184	3810	3444	3096	2980	2746	3756	3166	4903	4607	3706	3436	4542	4576	5333	5634	2100	2676	2715
Nausėdžiai 4, Nausėdžiai	8486	6654	6314	1401	3147	2709	2283	2086	1847	2885	3127	4068	3738	2804	2555	3641	3694	4440	4734	2895	3512	2557
Nausėdžiai 6, Nausėdžiai	8287	6444	6192	1754	3536	3060	2575	2232	1870	3074	3620	4306	3921	2845	2483	3646	3617	4397	4733	3128	3706	3052
Nausėdžiai 8, Nausėdžiai	8343	6496	6351	2307	4094	3607	3100	2682	2247	3538	4113	4790	4373	3205	2751	3960	3854	4655	5030	3247	3768	3568
Nausėdžiai 9, Nausėdžiai	8573	6733	6687	2903	4688	4204	3694	3249	2782	4108	4583	5368	4935	3720	3214	4438	4276	5086	5487	3327	3771	4068
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	11502	9699	9205	3557	4271	4252	4290	4647	4712	5137	2065	5903	5863	5503	5499	6348	6574	7212	7380	1063	1453	2210
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	10990	9213	8648	2984	3522	3542	3640	4080	4219	4493	1303	5184	5181	4939	5009	5766	6041	6636	6769	1672	2180	1442
Sodžiaus g. 11, Jasiškiai	9878	8094	7555	1895	2783	2660	2636	2989	3098	3478	1445	4310	4224	3848	3888	4687	4935	5554	5715	2039	2687	1068
Sodžiaus g. 12, Jasiškiai	9356	7561	7058	1439	2645	2411	2268	2513	2567	3082	1882	4024	3870	3364	3356	4213	4426	5073	5263	2303	2966	1368
Sodžiaus g. 13, Jasiškiai	9857	8073	7535	1875	2776	2650	2619	2970	3076	3461	1461	4298	4209	3828	3866	4668	4915	5534	5696	2047	2696	1075
Sodžiaus g. 14, Jasiškiai	8860	7062	6571	1011	2467	2140	1897	2046	2070	2671	2225	3693	3487	2887	2857	3740	3935	4595	4802	2715	3375	1639
Sodžiaus g. 15, Jasiškiai	9813	8028	7492	1833	2754	2619	2582	2927	3032	3423	1491	4267	4174	3785	3822	4625	4870	5492	5656	2066	2717	1087
Sodžiaus g. 16, Parupė	11173	9415	8807	3165	3499	3585	3747	4250	4436	4598	1098	5202	5245	5105	5222	5916	6223	6786	6891	2008	2461	1406
Sodžiaus g. 17, Jasiškiai	9518	7727	7210	1570	2664	2468	2368	2654	2731	3194	1728	4099	3969	3509	3521	4355	4582	5218	5398	2219	2880	1243
Sodžiaus g. 19, Jasiškiai	9380	7588	7076	1446	2612	2390	2263	2525	2592	3082	1822	4011	3865	3378	3382	4226	4446	5088	5273	2312	2974	1307
Sodžiaus g. 23, Jasiškiai	9328	7535	7026	1401	2596	2363	2224	2477	2540	3040	1863	3978	3826	3329	3329	4178	4395	5039	5226	2348	3011	1339
Sodžiaus g. 25, Jasiškiai	9305	7512	7004	1382	2590	2352	2209	2456	2517	3023	1882	3965	3812	3308	3306	4157	4373	5018	5206	2366	3028	1353
Sodžiaus g. 27, Jasiškiai	9279	7486	6978	1359	2584	2340	2190	2432	2490	3002	1902	3950	3792	3283	3280	4132	4347	4993	5182	2385	3048	1369
Sodžiaus g. 29, Jasiškiai	9254	7459	6954	1337	2575	2328	2172	2409	2464	2982	1921	3935	3774	3259	3254	4109	4323	4969	5160	2402	3065	1384
Sodžiaus g. 31, Jasiškiai	9225	7430	6926	1312	2565	2312	2151	2382	2435	2958	1943	3915	3752	3232	3225	4081	4294	4941	5133	2423	3085	1402
Sodžiaus g. 33, Jasiškiai	9205	7410	6907	1296	2562	2305	2138	2364	2415	2944	1960	3906	3740	3213	3204	4063	4275	4923	5116	2437	3100	1415
Sodžiaus g. 4, Jasiškiai	10254	8474	7922	2257	2992	2929	2958	3353	3478	3808	1277	4582	4530	4212	4269	5047	5308	5915	6064	1868	2487	1070
Sodžiaus g. 45, Jasiškiai	8614	6817	6327	813	2392	2020	1719	1814	1824	2467	2394	3527	3294	2649	2612	3503	3691	4356	4569	2933	3591	1787
Sodžiaus g. 47, Jasiškiai	8515	6716	6234	760	2392	2000	1673	1732	1726	2403	2491	3483	3236	2562	2512	3417	3596	4267	4486	3017	3673	1878
Sodžiaus g. 49, Jasiškiai	7878	6067	5633	752	2536	2035	1536	1283	1114	2083	3122	3285	2936	2032	1880	2881	2995	3706	3970	3560	4202	2492
Sodžiaus g. 51, Jasiškiai	7618	5802	5395	908	2652	2121	1573	1174	895	2014	3386	3253	2862	1850	1633	2687	2761	3493	3779	3788	4422	2753
Sodžiaus g. 7, Jasiškiai	10118	8339	7785	2120	2879	2803	2823	3216	3344	3672	1281	4456	4398	4076	4134	4910	5171	5778	5927	1959	2588	1008
Strazdiškis 1, Strazdiškis	6173	4327	4181	2458	3854	3272	2645	1840	1268	2504	5089	3691	3120	1709	1019	2151	1836	2643	3092	5250	5833	4449
Svidžiai 15, Svidžiai	4306	3150	1955	4439	4101	3838	3670	3411	3619	2819	6562	2431	2176	2648	3061	1843	2070	1294	809	8245	8904	6026
Svidžiai 16, Svidžiai	5325	3917	2881	3287	2924	2640	2482	2314	2625	1639	5364	1341	984	1665	2237	1079	1594	1207	878	7103	7764	4826
Svidžiai 17, Svidžiai	5414	3968	2963	3123	2805	2501	2325	2147	2464	1478	5226	1273	863	1508	2095	963	1506	1199	934	6939	7600	4682
Upės g. 1, Jasiškiai	9570	7770	7282	1678	2856	2641	2509	2746	2781	3322	1881	4260	4111	3594	3567	4445	4647	5303	5498	2067	2730	1427
Upės g. 3, Jasiškiai	9579	7776	7294	1698	2890	2671	2533	2762	2789	3345	1908	4289	4136	3608	3575	4460	4658	5317	5516	2038	2701	1460
Upės g. 5, Jasiškiai	9557	7752	7278	1696	2919	2691	2542	2753	2769	3348	1967	4304	4144	3597	3553	4450	4641	5305	5508	2032	2695	1516

To be continued on next page...

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DECIBEL - Main Result

Calculation: Noise_SUMINIS

...continued from previous page

	WTG																						
NSA	B-1	B-2	B-3	N10	N12	N13	N14	N15	N16	N19	N2	N20	N21	N22	N23	N24	N25	N26	N27	N28	N29	N3
Velykionys 3, Velykionys	8248	6897	5834	3188	1446	1881	2433	3121	3718	2435	3544	1578	2136	3335	3992	3540	4139	4112	3858	6258	6883	3294
Žilvičių g. 2, Bliūdžiai	10502	8681	8264	2730	3851	3686	3574	3774	3743	4383	2261	5318	5176	4608	4513	5463	5624	6312	6530	1002	1664	2071

	WTG																					
NSA	N30	N31	N32	N32-1	N32-2	N33	N34	N35	N4	N5	N8	N9	P1	P10	P11	P12	P13	P15	P16	P18	P19	P2
Apaščios g. 10, Kočėnai	5932	6390	5603	1792	2207	1105	1142	663	3027	2525	2949	2218	2693	4918	5374	3668	5450	6333	6975	7023	7398	3141
Apaščios g. 12, Kočėnai	6093	6549	5759	1914	2353	1198	1153	655	3166	2657	3048	2322	2539	4803	5267	3638	5387	6254	6891	6922	7325	2988
Apaščios g. 14, Kočėnai	6240	6690	5894	2014	2478	1272	1147	644	3319	2806	3177	2455	2382	4662	5133	3574	5287	6142	6775	6792	7217	2830
Apaščios g. 15, Kočėnai	7447	7928	7148	3268	3744	2501	2184	1751	4197	3649	3740	3106	1464	4353	4898	4121	5474	6163	6727	6574	7266	1992
Apaščios g. 16, Kočėnai	6314	6761	5963	2069	2543	1319	1158	658	3390	2876	3237	2516	2304	4600	5074	3553	5247	6094	6723	6734	7171	2752
Apaščios g. 18, Kočėnai	7030	7454	6638	2651	3197	1863	1455	1075	4105	3579	3855	3157	1567	4001	4506	3403	4883	5648	6247	6182	6743	2015
Apaščios g. 2, Kočėnai	5292	5766	4994	1387	1660	933	1319	1002	2483	2020	2589	1862	3344	5436	5862	3877	5778	6714	7375	7485	7754	3782
Apaščios g. 20, Kočėnai	7739	8198	7401	3453	3972	2670	2269	1888	4565	4018	4125	3488	1082	4011	4564	3979	5220	5869	6418	6236	6973	1611
Apaščios g. 22, Kočėnai	7974	8427	7625	3658	4191	2871	2439	2084	4805	4258	4350	3721	870	3870	4432	4011	5164	5777	6309	6097	6880	1404
Apaščios g. 4, Kočėnai	5847	6312	5529	1753	2145	1093	1189	726	2929	2427	2860	2128	2793	5019	5473	3732	5532	6421	7065	7119	7484	3242
Apaščios g. 5, Kočėnai	6219	6676	5886	2029	2478	1299	1203	700	3264	2749	3111	2389	2411	4721	5193	3638	5353	6206	6838	6853	7282	2866
Apaščios g. 6, Kočėnai	5871	6336	5553	1768	2166	1099	1179	712	2952	2450	2879	2148	2770	4996	5450	3718	5514	6402	7046	7098	7465	3219
Apaščios g. 7, Kočėnai	6408	6856	6058	2153	2636	1396	1199	705	3470	2953	3295	2578	2215	4541	5019	3551	5222	6058	6683	6683	7138	2666
Apaščios g. 8, Kočėnai	5890	6353	5569	1775	2179	1102	1171	699	2976	2473	2900	2169	2744	4973	5429	3705	5497	6384	7027	7077	7447	3193
Apaščios g. 8A, Kočėnai	5913	6375	5589	1787	2196	1108	1163	687	3000	2497	2920	2189	2720	4950	5406	3693	5480	6364	7007	7055	7429	3168
Apaščios g. 9, Kočėnai	6586	7031	6231	2308	2805	1541	1285	811	3624	3099	3402	2695	2031	4416	4904	3544	5162	5978	6595	6573	7063	2490
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	658	1400	1775	4860	4171	5533	6190	6233	3757	4234	4845	4953	8801	10349	10622	7797	9824	10905	11599	12016	11715	9210
Juljanava 6, Juljanava	3546	4372	4355	5019	4440	5348	5966	5762	2207	2730	2750	3262	7879	10202	10613	8271	10312	11325	12008	12205	12301	8380
Kaimynų g. 2, Kočėnai	6937	7357	6540	2548	3098	1760	1356	972	4044	3521	3818	3114	1654	4026	4524	3349	4861	5641	6246	6197	6733	2092
Naujikų k. 2, Naujikai	8653	9120	8325	4367	4896	3580	3137	2792	5370	4818	4816	4234	836	3907	4490	4508	5443	5944	6422	6111	7037	1276
Naujikų k. 3, Naujikai	8375	8835	8037	4075	4606	3287	2846	2499	5136	4586	4619	4018	768	3865	4441	4288	5307	5854	6355	6084	6953	1274
Nausėdžiai 2A, Nausėdžiai	3453	3869	3083	1159	486	1785	2443	2504	2178	2118	3035	2562	5115	6659	6979	4363	6425	7473	8166	8467	8398	5493
Nausėdžiai 4, Nausėdžiai	4244	4724	3970	1085	876	1299	1941	1846	1911	1632	2468	1866	4367	6220	6597	4249	6269	7272	7954	8162	8260	4784
Nausėdžiai 6, Nausėdžiai	4483	4895	4091	623	704	842	1504	1494	2405	2104	2905	2261	4095	5780	6140	3753	5776	6784	7468	7690	7767	4480
Nausėdžiai 8, Nausėdžiai	4584	4911	4060	78	652	680	1296	1468	2934	2661	3470	2822	4086	5477	5800	3275	5321	6349	7039	7306	7307	4420
Nausėdžiai 9, Nausėdžiai	4615	4843	3957	433	900	1022	1443	1773	3455	3221	4051	3414	4293	5328	5599	2893	4956	6010	6705	7036	6926	4569
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	1591	2379	2187	3765	3081	4351	5016	4991	2342	2811	3449	3530	7496	9265	9586	6905	8965	10029	10725	11060	10914	7928
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	2365	3156	2917	3668	3022	4144	4801	4701	1657	2170	2717	2879	7098	9082	9441	6900	8961	10005	10697	10972	10936	7557
Sodžiaus g. 11, Jasiškiai	3150	3847	3365	2747	2180	3114	3755	3614	789	1165	1929	1882	5973	8030	8411	5998	8043	9063	9749	9975	10031	6435
Sodžiaus g. 12, Jasiškiai	3530	4169	3588	2255	1753	2564	3196	3045	822	907	1807	1555	5412	7466	7853	5491	7524	8535	9218	9426	9515	5870
Sodžiaus g. 13, Jasiškiai	3162	3858	3372	2726	2161	3090	3731	3591	785	1151	1922	1866	5950	8005	8387	5977	8021	9041	9727	9951	10009	6412
Sodžiaus g. 14, Jasiškiai	3983	4590	3961	1991	1616	2176	2782	2591	989	778	1687	1254	4916	7027	7429	5166	7175	8166	8844	9021	9165	5378
Sodžiaus g. 15, Jasiškiai	3192	3883	3390	2687	2127	3048	3688	3546	766	1117	1900	1831	5905	7962	8345	5938	7982	9001	9687	9910	9970	6367
Sodžiaus g. 16, Parupė	2532	3347	3196	4033	3399	4480	5130	5007	1770	2312	2739	2995	7349	9411	9781	7275	9334	10373	11064	11324	11312	7819
Sodžiaus g. 17, Jasiškiai	3413	4072	3522	2418	1894	2745	3380	3230	757	950	1816	1635	5591	7650	8037	5661	7698	8711	9395	9608	9687	6051
Sodžiaus g. 19, Jasiškiai	3526	4173	3603	2317	1817	2619	3250	3094	765	879	1771	1542	5450	7517	7906	5552	7584	8593	9276	9482	9575	5910
Sodžiaus g. 23, Jasiškiai	3570	4212	3636	2278	1788	2572	3201	3041	780	858	1759	1508	5395	7466	7857	5509	7540	8548	9230	9434	9530	5856
Sodžiaus g. 25, Jasiškiai	3590	4230	3652	2261	1775	2550	3179	3018	786	850	1755	1495	5372	7444	7835	5491	7520	8527	9209	9412	9511	5831
Sodžiaus g. 27, Jasiškiai	3613	4251	3668	2242	1761	2527	3155	2993	795	843	1751	1481	5344	7419	7811	5470	7499	8505	9187	9388	9489	5804
Sodžiaus g. 29, Jasiškiai	3632	4269	3683	2225	1749	2504	3130	2967	802	834	1745	1465	5318	7393	7786	5451	7478	8484	9166	9365	9469	5778
Sodžiaus g. 31, Jasiškiai	3657	4291	3701	2205	1736	2478	3103	2938	812	823	1737	1447	5288	7365	7759	5427	7453	8458	9139	9338	9444	5748
Sodžiaus g. 33, Jasiškiai	3675	4306	3714	2188	1724	2458	3083	2917	821	820	1736	1438	5267	7344	7738	5410	7436	8440	9122	9318	9427	5727
Sodžiaus g. 4, Jasiškiai	2872	3603	3194	3058	2458	3468	4115	3989	1019	1479	2150	2198	6359	8394	8769	6311	8364	9392	10081	10323	10348	6821
Sodžiaus g. 45, Jasiškiai	4213	4809	4161	1916	1623	2020	2604	2385	1122	797	1658	1136	4677	6825	7237	5032	7025	8005	8679	8839	9015	5142
Sodžiaus g. 47, Jasiškiai	4305	4892	4235	1867	1607	1939	2517	2291	1211	852	1681	1124	4574	6731	7145	4958	6944	7921	8594	8749	8934	5039
Sodžiaus g. 49, Jasiškiai	4883	5422	4709	1644	1648	1461	1951	1660	1828	1365	1994	1291	3898	6091	6520	4477	6412	7361	8025	8142	8393	4362
Sodžiaus g. 51, Jasiškiai	5121	5641	4908	1616	1730	1301	1730	1404	2092	1613	2176	1453	3616	5823	6258	4282	6190	7125	7785	7887	8166	4077
Sodžiaus g. 7, Jasiškiai	2993	3716	3288	2977	2391	3366	4009	3874	895	1344	2033	2063	6230	8286	8665	6230	8279	9304	9991	10224	10265	6694
Strazdiškis 1, Strazdiškis	6605	7018	6198	2207	2755	1420	1056	637	3799	3289	3653	2934	1974	4177	4652	3241	4867	5694	6317	6314	6776	2392
Svidžiai 15, Svidžiai	9502	10121	9456	5955	6283	5256	5051	4582	5651	5148	4692	4431	3323	6306	6893	6908	7935	8403	8845	8451	9485	3696
Svidžiai 16, Svidžiai	8338	8976	8338	5026	5276	4392	4307	3810	4456	3961	3492	3242	3290	6388	6966	6460	7759	8365	8878	8602	9466	3769
Svidžiai 17, Svidžiai	8176	8813	8173	4867	5112	4238	4165	3667	4303	3804	3352	3086	3234	6331	6907	6342	7668	8290	8811	8550	9393	3722
Upės g. 1, Jasiškiai	3293	3931	3357	2287	1734	2661	3307	3186	960	1128	2011	1791	5598	7586	7962	5538	7583	8604	9290	9520	9571	6048
Upės g. 3, Jasiškiai	3271	3904	3325	2262	1705	2645	3292	3176	997	1159	2046	1820	5598	7572	7946	5514	7560	8582	9269	9502	9547	6046
Upės g. 5, Jasiškiai	3279	3902	3312	2208	1647	2597	3246	3135	1042	1184	2077	1834	5567	7526	7898	5460	7507	8530	9217	9452	9494	6013
Velykionys 3, Velykionys	7188	7966	7587	5653	5529	5370	5650	5187	3362	3177	2262	2713	5911	8917	9461	8190	9885	10671	11263	11139	11766	6438
Žilvičių g. 2, Bliūdžiai	2258	2867	2307	2616	1934	3209	3874	3871	1865	2168	2996	2852	6419	8115	8436	5781	7844	8903	9597	9918	9805	6834

	WTG												
NSA	P20	P21	P22	P23	P24	P25	P3	P4	P5	P6	P7	P8	P9
Apaščios g. 10, Kočėnai	6782	6609	3646	7123	8097	9902	4372	5689	3310	3829	3818	4686	4361
Apaščios g. 12, Kočėnai	6717	6566	3498	7068	8038	9853	4222	5536	3187	3706	3679	4550	4244
Apaščios g. 14, Kočėnai	6616	6486	3339	6977	7943	9766	4063	5378	3042	3560	3523	4397	4103
Apaščios g. 15, Kočėnai	6754	6824	2553	7205	8119	10006	3195	4433	2739	3209	2915	3809	3796
Apaščios g. 16, Kočėnai	6574	6456	3263	6941	7905	9733	3986	5300	2977	3495	3450	4325	4040
Apaščios g. 18, Kočėnai	6190	6183	2532	6606	7544	9410	3250	4562	2360	2869	2751	3638	3436
Apaščios g. 2, Kočėnai	7108	6843	4279	7403	8390	10149	5010	6331	3862	4379	4422	5275	4888
Apaščios g. 20, Kočėnai	6481	6598	2173	6950	7849	9746	2814	4059	2416	2870	2545	3437	3458
Apaščios g. 22, Kočėnai	6407	6563	1966	6891	7776	9679	2588	3822	2305	2737	2366	3251	3324
Apaščios g. 4, Kočėnai	6864	6679	3749	7199	8175	9975	4475	5790	3413	3932	3923	4790	4463
Apaščios g. 5, Kočėnai	6681	6552	3379	7043	8009	9832	4100	5412	3099	3617	3571	4447	4161
Apaščios g. 6, Kočėnai	6846	6664	3726	7182	8158	9958	4451	5767	3390	3909	3898	4766	4440
Apaščios g. 7, Kočėnai	6548	6444	3180	6921	7882	9716	3901	5213	2913	3430	3374	4252	3980

To be continued on next page...

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Calculated:
2024-06-03 14:33/4.0.540

DECIBEL - Main Result

Calculation: Noise_SUMINIS

...continued from previous page

	WTG												
NSA	P20	P21	P22	P23	P24	P25	P3	P4	P5	P6	P7	P8	P9
Apaščios g. 8, Kočėnai	6829	6649	3701	7167	8142	9944	4426	5741	3366	3885	3874	4742	4417
Apaščios g. 8A, Kočėnai	6812	6635	3676	7151	8126	9929	4401	5716	3342	3861	3849	4717	4394
Apaščios g. 9, Kočėnai	6483	6408	3009	6870	7824	9669	3726	5034	2783	3298	3217	4099	3853
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	10976	10261	9669	10995	11943	13263	10413	11746	9001	9479	9710	10484	9874
Juljanava 6, Juljanava	11604	11130	8918	11788	12781	14373	9613	10881	8628	9146	9141	10015	9657
Kaimynų g. 2, Kočėnai	6172	6149	2601	6581	7523	9384	3324	4641	2387	2900	2804	3687	3462
Naujikų k. 2, Naujikai	6625	6884	1785	7147	7988	9902	2257	3366	2493	2835	2304	3123	3399
Naujikų k. 3, Naujikai	6515	6734	1819	7023	7882	9793	2364	3537	2381	2762	2293	3147	3339
Nausėdžiai 2A, Nausėdžiai	7685	7162	5934	7833	8824	10397	6679	8014	5259	5745	5961	6740	6163
Nausėdžiai 4, Nausėdžiai	7574	7171	5259	7795	8790	10460	5999	7329	4719	5226	5352	6175	5694
Nausėdžiai 6, Nausėdžiai	7079	6673	4930	7297	8292	9963	5674	7009	4315	4814	4983	5785	5264
Nausėdžiai 8, Nausėdžiai	6608	6165	4828	6803	7798	9444	5573	6906	4091	4571	4817	5575	4982
Nausėdžiai 9, Nausėdžiai	6211	5702	4927	6364	7356	8957	5662	6983	4064	4512	4844	5543	4866
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	10186	9571	8410	10277	11253	12708	9148	10476	7833	8329	8496	9304	8763
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	10222	9678	8061	10360	11347	12879	8789	10104	7585	8093	8196	9033	8560
Sodžiaus g. 11, Jasiškiai	9332	8862	6944	9516	10509	12116	7669	8981	6504	7016	7092	7939	7498
Sodžiaus g. 12, Jasiškiai	8823	8384	6376	9024	10019	11654	7103	8417	5934	6447	6521	7368	6932
Sodžiaus g. 13, Jasiškiai	9311	8842	6921	9495	10489	12097	7646	8958	6480	6992	7070	7916	7474
Sodžiaus g. 14, Jasiškiai	8485	8092	5888	8713	9708	11380	6612	7923	5476	5991	6045	6899	6487
Sodžiaus g. 15, Jasiškiai	9272	8805	6876	9457	10451	12061	7601	8913	6435	6947	7024	7870	7430
Sodžiaus g. 16, Parupė	10601	10066	8332	10746	11734	13274	9054	10361	7896	8407	8487	9334	8884
Sodžiaus g. 17, Jasiškiai	8993	8546	6558	9190	10185	11812	7285	8598	6119	6631	6706	7553	7117
Sodžiaus g. 19, Jasiškiai	8883	8446	6418	9086	10081	11717	7144	8457	5983	6496	6567	7415	6983
Sodžiaus g. 23, Jasiškiai	8840	8406	6363	9045	10040	11680	7089	8402	5930	6443	6513	7361	6932
Sodžiaus g. 25, Jasiškiai	8821	8389	6339	9027	10022	11663	7065	8378	5907	6421	6489	7338	6909
Sodžiaus g. 27, Jasiškiai	8800	8370	6313	9007	10002	11645	7038	8351	5882	6395	6463	7312	6884
Sodžiaus g. 29, Jasiškiai	8780	8352	6286	8989	9984	11628	7012	8325	5856	6369	6437	7286	6858
Sodžiaus g. 31, Jasiškiai	8756	8331	6256	8966	9961	11608	6982	8294	5827	6340	6407	7256	6830
Sodžiaus g. 33, Jasiškiai	8739	8314	6235	8949	9944	11592	6961	8274	5805	6319	6385	7235	6808
Sodžiaus g. 4, Jasiškiai	9644	9149	7328	9812	10804	12387	8054	9367	6878	7388	7474	8317	7866
Sodžiaus g. 45, Jasiškiai	8341	7973	5654	8583	9577	11268	6376	7686	5264	5780	5820	6677	6283
Sodžiaus g. 47, Jasiškiai	8262	7903	5553	8509	9503	11200	6275	7583	5166	5683	5720	6578	6188
Sodžiaus g. 49, Jasiškiai	7739	7441	4875	8018	9008	10746	5597	6906	4511	5029	5048	5911	5543
Sodžiaus g. 51, Jasiškiai	7520	7249	4590	7813	8800	10554	5312	6622	4235	4753	4764	5628	5272
Sodžiaus g. 7, Jasiškiai	9564	9080	7203	9739	10732	12326	7928	9239	6763	7274	7353	8199	7755
Strazdiškis 1, Strazdiškis	6190	6107	2884	6572	7529	9370	3616	4940	2555	3073	3044	3914	3616
Svidžiai 15, Svidžiai	9102	9377	4109	9634	10461	12376	4324	4988	4981	5292	4684	5394	5834
Svidžiai 16, Svidžiai	9004	9142	4277	9487	10373	12277	4672	5578	4888	5286	4797	5614	5865
Svidžiai 17, Svidžiai	8921	9043	4238	9397	10290	12191	4657	5595	4814	5222	4750	5577	5803
Upės g. 1, Jasiškiai	8872	8407	6548	9058	10052	11665	7278	8597	6073	6582	6678	7517	7058
Upės g. 3, Jasiškiai	8848	8380	6545	9033	10026	11638	7276	8595	6062	6571	6672	7508	7045
Upės g. 5, Jasiškiai	8794	8324	6509	8977	9971	11580	7241	8562	6019	6528	6632	7467	7000
Velykionys 3, Velykionys	11203	11114	6989	11592	12548	14389	7498	8511	7300	7773	7434	8309	8360
Žilvičių g. 2, Bliūdžiai	9082	8503	7303	9196	10179	11685	8044	9376	6693	7186	7369	8168	7614

Project:
Nemunelio_Radviliskis

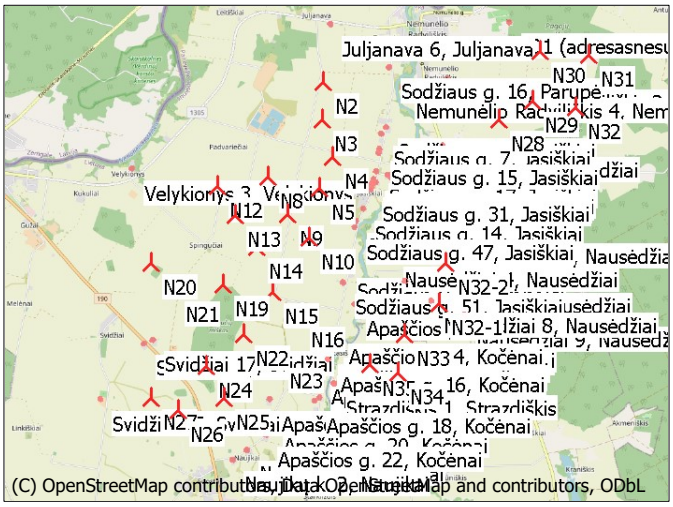
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Calculated:
2023-11-13 15:44/4.0.422

DECIBEL - Main Result

Noise calculation model:
ISO 9613-2 General
Wind speed (at 10 m height):
10,0 m/s
Ground attenuation:
General, Ground factor: 0,7
Meteorological coefficient, C0:
Selected option: Fixed value: 0,0 dB
Type of demand in calculation:
1: WTG noise is compared to demand (DK, DE, SE, NL etc.)
Noise values in calculation:
All noise values are mean values (Lwa) (Normal)
Pure tones:
Fixed penalty added to source noise of WTGs with pure tones
Model: 5,0 dB(A)
Height above ground level, when no value in NSA object:
2,0 m; Allow override of model height with height from NSA object
Uncertainty margin:
0,0 dB; Uncertainty margin in model has priority
Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:
0,0 dB(A)

All coordinates are in
Lithuanian TM LKS94-LKS94 (LT)



Scale 1:125 000

New WTG Noise sensitive area

WTGs

	Y	X	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator	Name	Wind speed	LwA,ref
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]
N10	545 698	6 248 113	50,2	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N12	544 141	6 248 992	45,9	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N13	544 443	6 248 494	49,3	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N14	544 794	6 247 974	51,0	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N15	545 084	6 247 205	50,0	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N16	545 531	6 246 809	49,1	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N19	544 234	6 247 330	52,0	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N2	545 926	6 250 780	49,3	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N20	543 009	6 247 672	46,1	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N21	543 391	6 247 200	48,7	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N22	544 610	6 246 488	52,0	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N23	545 186	6 246 098	46,3	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N24	543 972	6 245 918	50,3	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N25	544 286	6 245 398	51,0	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N26	543 502	6 245 186	48,0	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N27	543 025	6 245 373	47,0	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N28	548 911	6 250 172	45,0	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N29	549 492	6 250 491	46,1	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N3	545 896	6 250 138	50,2	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N30	549 603	6 251 337	46,1	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N31	550 427	6 251 277	49,2	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N32	550 222	6 250 390	47,7	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N32-1	547 926	6 247 047	46,7	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N32-2	548 034	6 247 730	47,0	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N33	547 343	6 246 514	47,0	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N34	547 242	6 245 857	48,7	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N35	546 755	6 245 984	47,3	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N4	546 072	6 249 494	48,7	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N5	545 883	6 248 975	50,1	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N8	544 979	6 249 159	50,0	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
N9	545 330	6 248 515	51,7	ENERCON E-160 EP5 ...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8

Calculation Results

Sound level

Noise sensitive area No.	Name	Y	X	Z [m]	Immission height [m]	Demands Noise [dB(A)]	Sound level From WTGs [dB(A)]
Apaščios g. 10, Kočėnai	Noise sensitive area: User defined (19)	546 229	6 246 388	45,6	2,0	45,0	40,7

To be continued on next page...

DECIBEL - Main Result

...continued from previous page

Noise sensitive area						Demands	Sound level
No.	Name	Y	X	Z [m]	Immission height [m]	Noise [dB(A)]	From WTGs [dB(A)]
Apaščios g. 12, Kočėnai	Noise sensitive area: User defined (18)	546 166	6 246 275	45,0	2,0	45,0	40,7
Apaščios g. 14, Kočėnai	Noise sensitive area: User defined (16)	546 128	6 246 132	43,0	2,0	45,0	40,6
Apaščios g. 15, Kočėnai	Noise sensitive area: User defined (9)	545 034	6 245 414	50,1	2,0	45,0	40,2
Apaščios g. 16, Kočėnai	Noise sensitive area: User defined (15)	546 098	6 246 078	43,7	2,0	45,0	40,4
Apaščios g. 18, Kočėnai	Noise sensitive area: User defined (10)	545 817	6 245 396	48,8	2,0	45,0	37,4
Apaščios g. 2, Kočėnai	Noise sensitive area: User defined (24)	546 484	6 246 955	46,0	2,0	45,0	39,2
Apaščios g. 20, Kočėnai	Noise sensitive area: User defined (8)	545 061	6 245 023	50,1	2,0	45,0	37,5
Apaščios g. 22, Kočėnai	Noise sensitive area: User defined (7)	544 979	6 244 798	50,1	2,0	45,0	36,5
Apaščios g. 4, Kočėnai	Noise sensitive area: User defined (23)	546 155	6 246 525	47,0	2,0	45,0	40,6
Apaščios g. 5, Kočėnai	Noise sensitive area: User defined (17)	546 009	6 246 221	44,0	2,0	45,0	40,6
Apaščios g. 6, Kočėnai	Noise sensitive area: User defined (22)	546 152	6 246 500	47,1	2,0	45,0	40,6
Apaščios g. 7, Kočėnai	Noise sensitive area: User defined (14)	546 000	6 246 025	44,6	2,0	45,0	40,1
Apaščios g. 8, Kočėnai	Noise sensitive area: User defined (21)	546 148	6 246 472	47,9	2,0	45,0	40,6
Apaščios g. 8A, Kočėnai	Noise sensitive area: User defined (20)	546 145	6 246 460	47,3	2,0	45,0	40,6
Apaščios g. 9, Kočėnai	Noise sensitive area: User defined (13)	545 853	6 245 869	46,0	2,0	45,0	39,9
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	Noise sensitive area: User defined (49)	549 115	6 251 778	54,1	2,0	45,0	37,7
Juljanava 6, Juljanava	Noise sensitive area: User defined (57)	546 031	6 251 701	49,7	2,0	45,0	34,2
Kaimynų g. 2, Kočėnai	Noise sensitive area: User defined (11)	545 905	6 245 454	46,1	2,0	45,0	37,6
Naujikų k. 2, Naujikai	Noise sensitive area: User defined (5)	544 430	6 244 372	48,7	2,0	45,0	35,4
Naujikų k. 3, Naujikai	Noise sensitive area: User defined (6)	544 659	6 244 546	49,4	2,0	45,0	36,0
Nausėdžiai 2A, Nausėdžiai	Noise sensitive area: User defined (52)	547 940	6 248 206	48,0	2,0	45,0	40,4
Nausėdžiai 4, Nausėdžiai	Noise sensitive area: User defined (53)	547 158	6 247 813	46,0	2,0	45,0	37,9
Nausėdžiai 6, Nausėdžiai	Noise sensitive area: User defined (54)	547 404	6 247 389	49,3	2,0	45,0	40,8
Nausėdžiai 8, Nausėdžiai	Noise sensitive area: User defined (55)	547 850	6 247 067	47,0	2,0	45,0	52,5
Nausėdžiai 9, Nausėdžiai	Noise sensitive area: User defined (56)	548 321	6 246 869	47,6	2,0	45,0	41,9
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	Noise sensitive area: User defined (50)	548 075	6 250 829	46,7	2,0	45,0	34,6
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	Noise sensitive area: User defined (47)	547 234	6 250 675	40,0	2,0	45,0	34,1
Sodžiaus g. 11, Jasiškiai	Noise sensitive area: User defined (44)	546 848	6 249 637	51,7	2,0	45,0	38,1
Sodžiaus g. 12, Jasiškiai	Noise sensitive area: User defined (37)	546 784	6 249 077	50,0	2,0	45,0	38,5
Sodžiaus g. 13, Jasiškiai	Noise sensitive area: User defined (43)	546 847	6 249 619	52,3	2,0	45,0	38,1
Sodžiaus g. 14, Jasiškiai	Noise sensitive area: User defined (29)	546 582	6 248 633	43,2	2,0	45,0	39,2
Sodžiaus g. 15, Jasiškiai	Noise sensitive area: User defined (42)	546 834	6 249 568	52,1	2,0	45,0	38,3
Sodžiaus g. 16, Parupė	Noise sensitive area: User defined (48)	547 008	6 250 999	47,9	2,0	45,0	34,3
Sodžiaus g. 17, Jasiškiai	Noise sensitive area: User defined (38)	546 792	6 249 262	50,5	2,0	45,0	38,7
Sodžiaus g. 19, Jasiškiai	Noise sensitive area: User defined (36)	546 751	6 249 138	50,5	2,0	45,0	38,9
Sodžiaus g. 23, Jasiškiai	Noise sensitive area: User defined (35)	546 736	6 249 077	49,1	2,0	45,0	38,9
Sodžiaus g. 25, Jasiškiai	Noise sensitive area: User defined (34)	546 731	6 249 062	48,9	2,0	45,0	38,9
Sodžiaus g. 27, Jasiškiai	Noise sensitive area: User defined (33)	546 725	6 249 031	47,5	2,0	45,0	38,9
Sodžiaus g. 29, Jasiškiai	Noise sensitive area: User defined (32)	546 717	6 249 011	46,7	2,0	45,0	39,0
Sodžiaus g. 31, Jasiškiai	Noise sensitive area: User defined (31)	546 707	6 248 980	46,1	2,0	45,0	39,0
Sodžiaus g. 33, Jasiškiai	Noise sensitive area: User defined (30)	546 703	6 248 963	45,9	2,0	45,0	39,0
Sodžiaus g. 4, Jasiškiai	Noise sensitive area: User defined (46)	546 960	6 249 994	48,6	2,0	45,0	36,7
Sodžiaus g. 45, Jasiškiai	Noise sensitive area: User defined (28)	546 461	6 248 408	42,6	2,0	45,0	39,7
Sodžiaus g. 47, Jasiškiai	Noise sensitive area: User defined (27)	546 435	6 248 310	43,8	2,0	45,0	39,7
Sodžiaus g. 49, Jasiškiai	Noise sensitive area: User defined (26)	546 296	6 247 653	48,6	2,0	45,0	39,5
Sodžiaus g. 51, Jasiškiai	Noise sensitive area: User defined (25)	546 248	6 247 366	47,9	2,0	45,0	39,3
Sodžiaus g. 7, Jasiškiai	Noise sensitive area: User defined (45)	546 877	6 249 889	48,7	2,0	45,0	37,5
Strazdiškis 1, Strazdiškis	Noise sensitive area: User defined (12)	546 197	6 245 676	44,7	2,0	45,0	39,6
Svidžiai 15, Svidžiai	Noise sensitive area: User defined (4)	542 216	6 245 357	45,0	2,0	45,0	36,0
Svidžiai 16, Svidžiai	Noise sensitive area: User defined (2)	542 954	6 246 275	47,8	2,0	45,0	38,4
Svidžiai 17, Svidžiai	Noise sensitive area: User defined (3)	543 107	6 246 366	48,8	2,0	45,0	39,1
Upės g. 1, Jasiškiai	Noise sensitive area: User defined (39)	546 990	6 249 211	52,0	2,0	45,0	37,0
Upės g. 3, Jasiškiai	Noise sensitive area: User defined (40)	547 024	6 249 192	51,7	2,0	45,0	36,8
Upės g. 5, Jasiškiai	Noise sensitive area: User defined (41)	547 056	6 249 139	51,9	2,0	45,0	36,6
Velykionys 3, Velykionys	Noise sensitive area: User defined (1)	542 711	6 249 231	46,0	2,0	45,0	33,0
Žilvičių g. 2, Bliūdžiai	Noise sensitive area: User defined (51)	548 008	6 249 737	45,0	2,0	45,0	35,0

Distances (m)

	WTG																				
NSA	N10	N12	N13	N14	N15	N16	N19	N2	N20	N21	N22	N23	N24	N25	N26	N27	N28	N29	N3	N30	N31	N32
Apaščios g. 10, Kočėnai	1716	3243	2667	2045	1315	724	2117	4319	3379	2866	1541	1011	2232	2117	2914	3291	4581	5187	3681	5932	6390	5603
Apaščios g. 12, Kočėnai	1833	3310	2730	2104	1342	745	2112	4456	3362	2834	1479	906	2133	1990	2792	3180	4741	5347	3816	6093	6549	5759
Apaščios g. 14, Kočėnai	1974	3411	2830	2203	1420	828	2158	4607	3392	2851	1469	850	2074	1893	2701	3103	4888	5490	3967	6240	6690	5894
Apaščios g. 15, Kočėnai	2767	3686	3133	2567	1785	1464	2076	5429	3032	2426	1154	689	1169	727	1522	1988	6103	6720	4791	7447	7928	7148
Apaščios g. 16, Kočėnai	2040	3457	2875	2248	1457	870	2177	4678	3403	2855	1464	824	2041	1840	2650	3059	4961	5562	4037	6314	6761	5963

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DECIBEL - Main Result

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	WTG																				
NSA	N10	N12	N13	N14	N15	N16	N19	N2	N20	N21	N22	N23	N24	N25	N26	N27	N28	N29	N3	N30	N31	N32
Apaščios g. 18, Kočėnai	2719	3966	3388	2773	1951	1441	2494	5385	3604	3011	1619	938	1895	1497	2286	2757	5676	6265	4742	7030	7454	6638
Apaščios g. 2, Kočėnai	1320	3034	2489	1911	1376	932	2236	3776	3501	3061	1903	1540	2695	2679	3450	3783	3944	4557	3148	5292	5766	4994
Apaščios g. 20, Kočėnai	3137	4068	3518	2954	2170	1827	2447	5805	3351	2744	1529	1067	1410	859	1558	2059	6390	6997	5166	7739	8198	7401
Apaščios g. 22, Kočėnai	3376	4271	3728	3172	2398	2068	2636	6042	3485	2880	1725	1302	1506	917	1520	2031	6624	7228	5404	7974	8427	7625
Apaščios g. 4, Kočėnai	1622	3170	2596	1975	1263	682	2079	4221	3346	2844	1545	1055	2264	2176	2967	3333	4498	5107	3582	5847	6312	5529
Apaščios g. 5, Kočėnai	1912	3342	2760	2133	1351	758	2092	4551	3330	2791	1417	810	2037	1871	2677	3072	4868	5474	3910	6219	6676	5886
Apaščios g. 6, Kočėnai	1643	3185	2610	1990	1273	691	2088	4244	3354	2849	1542	1042	2255	2160	2953	3321	4521	5131	3606	5871	6336	5553
Apaščios g. 7, Kočėnai	2110	3496	2914	2287	1486	909	2180	4756	3394	2838	1438	780	1987	1768	2579	2994	5056	5657	4115	6408	6856	6058
Apaščios g. 8, Kočėnai	1665	3201	2625	2004	1282	697	2093	4267	3357	2850	1538	1028	2243	2143	2937	3307	4540	5148	3629	5890	6353	5569
Apaščios g. 8A, Kočėnai	1687	3218	2642	2019	1292	703	2098	4292	3361	2852	1534	1016	2234	2127	2923	3296	4563	5170	3653	5913	6375	5589
Apaščios g. 9, Kočėnai	2244	3561	2980	2356	1541	992	2180	4905	3364	2794	1383	697	1864	1604	2417	2844	5234	5834	4263	6586	7031	6231
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	4972	5648	5662	5713	6058	6093	6561	3280	7308	7284	6911	6874	7759	7967	8621	8799	1606	1338	3558	658	1400	1775
Juljanava 6, Juljanava	3603	3296	3575	3926	4595	4917	4724	927	5028	5213	5403	5666	6138	6540	6987	7003	3233	3632	1569	3546	4372	4355
Kaimynų g. 2, Kočėnai	2667	3951	3371	2752	1931	1405	2504	5326	3635	3047	1645	955	1961	1581	2375	2842	5582	6170	4684	6937	7357	6540
Naujikų k. 2, Naujikai	3941	4628	4121	3618	2902	2661	2964	6574	3593	3013	2122	1871	1612	1036	1228	1715	7306	7917	5943	8653	9120	8325
Naujikų k. 3, Naujikai	3706	4474	3951	3426	2686	2412	2815	6354	3535	2941	1939	1628	1534	930	1315	1823	7026	7634	5719	8375	8835	8037
Nausėdžiai 2A, Nausėdžiai	2184	3810	3444	3096	2980	2746	3756	3166	4903	4607	3706	3436	4542	4576	5333	5634	2100	2676	2715	3453	3869	3083
Nausėdžiai 4, Nausėdžiai	1401	3147	2709	2283	2086	1847	2885	3127	4068	3738	2804	2555	3641	3694	4440	4734	2895	3512	2557	4244	4724	3970
Nausėdžiai 6, Nausėdžiai	1754	3536	3060	2575	2232	1870	3074	3620	4306	3921	2845	2483	3646	3617	4397	4733	3128	3706	3052	4483	4895	4091
Nausėdžiai 8, Nausėdžiai	2307	4094	3607	3100	2682	2247	3538	4113	4790	4373	3205	2751	3960	3854	4655	5030	3247	3768	3568	4584	4911	4060
Nausėdžiai 9, Nausėdžiai	2903	4688	4204	3694	3249	2782	4108	4583	5368	4935	3720	3214	4438	4276	5086	5487	3327	3771	4068	4615	4843	3957
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	3557	4271	4252	4290	4647	4712	5137	2065	5903	5863	5503	5499	6348	6574	7212	7380	1063	1453	2210	1591	2379	2187
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	2984	3522	3542	3640	4080	4219	4493	1303	5184	5181	4939	5009	5766	6041	6636	6769	1672	2180	1442	2365	3156	2917
Sodžiaus g. 11, Jasiškiai	1895	2783	2660	2636	2989	3098	3478	1445	4310	4224	3848	3888	4687	4935	5554	5715	2039	2687	1068	3150	3847	3365
Sodžiaus g. 12, Jasiškiai	1439	2645	2411	2268	2513	2567	3082	1882	4024	3870	3364	3356	4213	4426	5073	5263	2303	2966	1368	3530	4169	3588
Sodžiaus g. 13, Jasiškiai	1875	2776	2650	2619	2970	3076	3461	1461	4298	4209	3828	3866	4668	4915	5534	5696	2047	2696	1075	3162	3858	3372
Sodžiaus g. 14, Jasiškiai	1011	2467	2140	1897	2046	2070	2671	2225	3693	3487	2887	2857	3740	3935	4595	4802	2715	3375	1639	3983	4590	3961
Sodžiaus g. 15, Jasiškiai	1833	2754	2619	2582	2927	3032	3423	1491	4267	4174	3785	3822	4625	4870	5492	5656	2066	2717	1087	3192	3883	3390
Sodžiaus g. 16, Parupė	3165	3499	3585	3747	4250	4436	4598	1098	5202	5245	5105	5222	5916	6223	6786	6891	2008	2461	1406	2532	3347	3196
Sodžiaus g. 17, Jasiškiai	1570	2664	2468	2368	2654	2731	3194	1728	4099	3969	3509	3521	4355	4582	5218	5398	2219	2880	1243	3413	4072	3522
Sodžiaus g. 19, Jasiškiai	1446	2612	2390	2263	2525	2592	3082	1822	4011	3865	3378	3382	4226	4446	5088	5273	2312	2974	1307	3526	4173	3603
Sodžiaus g. 23, Jasiškiai	1401	2596	2363	2224	2477	2540	3040	1863	3978	3826	3329	3329	4178	4395	5039	5226	2348	3011	1339	3570	4212	3636
Sodžiaus g. 25, Jasiškiai	1382	2590	2352	2209	2456	2517	3023	1882	3965	3812	3308	3306	4157	4373	5018	5206	2366	3028	1353	3590	4230	3652
Sodžiaus g. 27, Jasiškiai	1359	2584	2340	2190	2432	2490	3002	1902	3950	3792	3283	3280	4132	4347	4993	5182	2385	3048	1369	3613	4251	3668
Sodžiaus g. 29, Jasiškiai	1337	2575	2328	2172	2409	2464	2982	1921	3935	3774	3259	3254	4109	4323	4969	5160	2402	3065	1384	3632	4269	3683
Sodžiaus g. 31, Jasiškiai	1312	2565	2312	2151	2382	2435	2958	1943	3915	3752	3232	3225	4081	4294	4941	5133	2423	3085	1402	3657	4291	3701
Sodžiaus g. 33, Jasiškiai	1296	2562	2305	2138	2364	2415	2944	1960	3906	3740	3213	3204	4063	4275	4923	5116	2437	3100	1415	3675	4306	3714
Sodžiaus g. 4, Jasiškiai	2257	2992	2929	2958	3353	3478	3808	1277	4582	4530	4212	4269	5047	5308	5915	6064	1868	2487	1070	2872	3603	3194
Sodžiaus g. 45, Jasiškiai	813	2392	2020	1719	1814	1824	2467	2394	3527	3294	2649	2612	3503	3691	4356	4569	2933	3591	1787	4213	4809	4161
Sodžiaus g. 47, Jasiškiai	760	2392	2000	1673	1732	1726	2403	2491	3483	3236	2562	2512	3417	3596	4267	4486	3017	3673	1878	4305	4892	4235
Sodžiaus g. 49, Jasiškiai	752	2536	2035	1536	1283	1114	2083	3122	3285	2936	2032	1880	2881	2995	3706	3970	3560	4202	2492	4883	5422	4709
Sodžiaus g. 51, Jasiškiai	908	2652	2121	1573	1174	895	2014	3386	3253	2862	1850	1633	2687	2761	3493	3779	3788	4422	2753	5121	5641	4908
Sodžiaus g. 7, Jasiškiai	2120	2879	2803	2823	3216	3344	3672	1281	4456	4398	4076	4134	4910	5171	5778	5927	1959	2588	1008	2993	3716	3288
Strazdiškis 1, Strazdiškis	2458	3854	3272	2645	1840	1268	2504	5089	3691	3120	1709	1019	2151	1836	2643	3092	5250	5833	4449	6605	7018	6198
Svidžiai 15, Svidžiai	4439	4101	3838	3670	3411	3619	2819	6562	2431	2176	2648	3061	1843	2070	1294	809	8245	8904	6026	9502	10121	9456
Svidžiai 16, Svidžiai	3287	2924	2640	2482	2314	2625	1639	5364	1341	984	1665	2237	1079	1594	1207	878	7103	7764	4826	8338	8976	8338
Svidžiai 17, Svidžiai	3123	2805	2501	2325	2147	2464	1478	5226	1273	863	1508	2095	963	1506	1199	934	6939	7600	4682	8176	8813	8173
Upės g. 1, Jasiškiai	1678	2856	2641	2509	2746	2781	3322	1881	4260	4111	3594	3567	4445	4647	5303	5498	2067	2730	1427	3293	3931	3357
Upės g. 3, Jasiškiai	1698	2890	2671	2533	2762	2789	3345	1908	4289	4136	3608	3575	4460	4658	5317	5516	2038	2701	1460	3271	3904	3325
Upės g. 5, Jasiškiai	1696	2919	2691	2542	2753	2769	3348	1967	4304	4144	3597	3553	4450	4641	5305	5508	2032	2695	1516	3279	3902	3312
Velykionys 3, Velykionys	3188	1446	1881	2433	3121	3718	2435	3544	1578	2136	3335	3992	3540	4139	4112	3858	6258	6883	3294	7188	7966	7587
Žilvičių g. 2, Bliūdžiai	2730	3851	3686	3574	3774	3743	4383	2261	5318	5176	4608	4513	5463	5624	6312	6530	1002	1664	2071	2258	2867	2307

	WTG								
NSA	N32-1	N32-2	N33	N34	N35	N4	N5	N8	N9
Apaščios g. 10, Kočėnai	1792	2207	1105	1142	663	3027	2525	2949	2218
Apaščios g. 12, Kočėnai	1914	2353	1198	1153	655	3166	2657	3048	2322
Apaščios g. 14, Kočėnai	2014	2478	1272	1147	644	3319	2806	3177	2455
Apaščios g. 15, Kočėnai	3268	3744	2501	2184	1751	4197	3649	3740	3106
Apaščios g. 16, Kočėnai	2069	2543	1319	1158	658	3390	2876	3237	2516
Apaščios g. 18, Kočėnai	2651	3197	1863	1455	1075	4105	3579	3855	3157
Apaščios g. 2, Kočėnai	1387	1660	933	1319	1002	2483	2020	2589	1862
Apaščios g. 20, Kočėnai	3453	3972	2670	2269	1888	4565	4018	4125	3488
Apaščios g. 22, Kočėnai	3658	4191	2871	2439	2084	4805	4258	4350	3721
Apaščios g. 4, Kočėnai	1753	2145	1093	1189	726	2929	2427	2860	2128
Apaščios g. 5, Kočėnai	2029	2478	1299	1203	700	3264	2749	3111	2389
Apaščios g. 6, Kočėnai	1768	2166	1099	1179	712	2952	2450	2879	2148
Apaščios g. 7, Kočėnai	2153	2636	1396	1199	705	3470	2953	3295	2578
Apaščios g. 8, Kočėnai	1775	2179	1102	1171	699	2976	2473	2900	2169
Apaščios g. 8A, Kočėnai	1787	2196	1108	1163	687	3000	2497	2920	2189
Apaščios g. 9, Kočėnai	2308	2805	1541	1285	811	3624	3099	3402	2695
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	4860	4171	5533	6190	6233	3757	4234	4845	4953
Juljanava 6, Juljanava	5019	4440	5348	5966	5762	2207	2730	2750	3262

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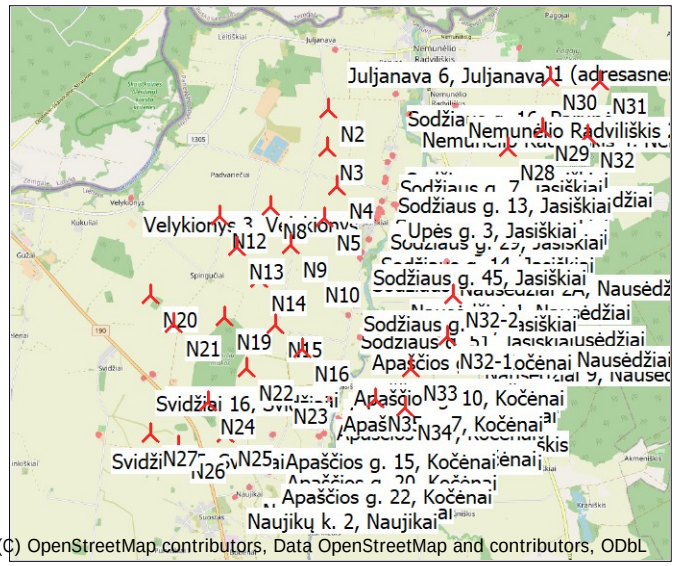
	WTG								
NSA	N32-1	N32-2	N33	N34	N35	N4	N5	N8	N9
Kaimynų g. 2, Kočėnai	2548	3098	1760	1356	972	4044	3521	3818	3114
Naujikų k. 2, Naujikai	4367	4896	3580	3137	2792	5370	4818	4816	4234
Naujikų k. 3, Naujikai	4075	4606	3287	2846	2499	5136	4586	4619	4018
Nausėdžiai 2A, Nausėdžiai	1159	486	1785	2443	2504	2178	2118	3035	2562
Nausėdžiai 4, Nausėdžiai	1085	876	1299	1941	1846	1911	1632	2468	1866
Nausėdžiai 6, Nausėdžiai	623	704	842	1504	1494	2405	2104	2905	2261
Nausėdžiai 8, Nausėdžiai	78	652	680	1296	1468	2934	2661	3470	2822
Nausėdžiai 9, Nausėdžiai	433	900	1022	1443	1773	3455	3221	4051	3414
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	3765	3081	4351	5016	4991	2342	2811	3449	3530
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	3668	3022	4144	4801	4701	1657	2170	2717	2879
Sodžiaus g. 11, Jasiškiai	2747	2180	3114	3755	3614	789	1165	1929	1882
Sodžiaus g. 12, Jasiškiai	2255	1753	2564	3196	3045	822	907	1807	1555
Sodžiaus g. 13, Jasiškiai	2726	2161	3090	3731	3591	785	1151	1922	1866
Sodžiaus g. 14, Jasiškiai	1991	1616	2176	2782	2591	989	778	1687	1254
Sodžiaus g. 15, Jasiškiai	2687	2127	3048	3688	3546	766	1117	1900	1831
Sodžiaus g. 16, Parupė	4033	3399	4480	5130	5007	1770	2312	2739	2995
Sodžiaus g. 17, Jasiškiai	2418	1894	2745	3380	3230	757	950	1816	1635
Sodžiaus g. 19, Jasiškiai	2317	1817	2619	3250	3094	765	879	1771	1542
Sodžiaus g. 23, Jasiškiai	2278	1788	2572	3201	3041	780	858	1759	1508
Sodžiaus g. 25, Jasiškiai	2261	1775	2550	3179	3018	786	850	1755	1495
Sodžiaus g. 27, Jasiškiai	2242	1761	2527	3155	2993	795	843	1751	1481
Sodžiaus g. 29, Jasiškiai	2225	1749	2504	3130	2967	802	834	1745	1465
Sodžiaus g. 31, Jasiškiai	2205	1736	2478	3103	2938	812	823	1737	1447
Sodžiaus g. 33, Jasiškiai	2188	1724	2458	3083	2917	821	820	1736	1438
Sodžiaus g. 4, Jasiškiai	3058	2458	3468	4115	3989	1019	1479	2150	2198
Sodžiaus g. 45, Jasiškiai	1916	1623	2020	2604	2385	1122	797	1658	1136
Sodžiaus g. 47, Jasiškiai	1867	1607	1939	2517	2291	1211	852	1681	1124
Sodžiaus g. 49, Jasiškiai	1644	1648	1461	1951	1660	1828	1365	1994	1291
Sodžiaus g. 51, Jasiškiai	1616	1730	1301	1730	1404	2092	1613	2176	1453
Sodžiaus g. 7, Jasiškiai	2977	2391	3366	4009	3874	895	1344	2033	2063
Strazdiškis 1, Strazdiškis	2207	2755	1420	1056	637	3799	3289	3653	2934
Svidžiai 15, Svidžiai	5955	6283	5256	5051	4582	5651	5148	4692	4431
Svidžiai 16, Svidžiai	5026	5276	4392	4307	3810	4456	3961	3492	3242
Svidžiai 17, Svidžiai	4867	5112	4238	4165	3667	4303	3804	3352	3086
Upės g. 1, Jasiškiai	2287	1734	2661	3307	3186	960	1128	2011	1791
Upės g. 3, Jasiškiai	2262	1705	2645	3292	3176	997	1159	2046	1820
Upės g. 5, Jasiškiai	2208	1647	2597	3246	3135	1042	1184	2077	1834
Velykionys 3, Velykionys	5653	5529	5370	5650	5187	3362	3177	2262	2713
Žilvičių g. 2, Bliūdžiai	2616	1934	3209	3874	3871	1865	2168	2996	2852

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DECIBEL - Main Result

Noise calculation model:
ISO 9613-2 General
Wind speed (at 10 m height):
10,0 m/s
Ground attenuation:
General, Ground factor: 0,7
Meteorological coefficient, C0:
Selected option: Fixed value: 0,0 dB
Type of demand in calculation:
1: WTG noise is compared to demand (DK, DE, SE, NL etc.)
Noise values in calculation:
All noise values are mean values (Lwa) (Normal)
Pure tones:
Fixed penalty added to source noise of WTGs with pure tones
Model: 5,0 dB(A)
Height above ground level, when no value in NSA object:
2,0 m; Allow override of model height with height from NSA object
Uncertainty margin:
0,0 dB; Uncertainty margin in model has priority
Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:
0,0 dB(A)

All coordinates are in
Lithuanian TM LKS94-LKS94 (LT)



(C) OpenStreetMap contributors, Data OpenStreetMap and contributors, ODbL

Scale 1:125 000

New WTG

Noise sensitive area

WTGs

	Y	X	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Noise data Creator	Name	Wind speed [m/s]	LwA,ref [dB(A)]	
			[m]												
N10	545 698	6 248 113	50,2	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N12	544 141	6 248 992	45,9	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N13	544 443	6 248 494	49,3	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N14	544 794	6 247 974	51,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N15	545 084	6 247 205	50,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N16	545 531	6 246 809	49,1	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N19	544 234	6 247 330	52,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N2	545 926	6 250 780	49,3	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N20	543 009	6 247 672	46,1	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N21	543 391	6 247 200	48,7	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N22	544 610	6 246 488	52,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N23	545 186	6 246 098	46,3	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N24	543 972	6 245 918	50,3	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N25	544 286	6 245 398	51,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N26	543 502	6 245 186	48,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N27	543 025	6 245 373	47,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N28	548 911	6 250 172	45,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N29	549 492	6 250 491	46,1	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N3	545 896	6 250 138	50,2	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N30	549 603	6 251 337	46,1	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N31	550 427	6 251 277	49,2	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N32	550 222	6 250 390	47,7	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N32-1	547 926	6 247 047	46,7	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N32-2	548 034	6 247 730	47,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N33	547 343	6 246 514	47,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N34	547 242	6 245 857	48,7	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N35	546 755	6 245 984	47,3	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N4	546 072	6 249 494	48,7	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N5	545 883	6 248 975	50,1	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N8	544 979	6 249 159	50,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N9	545 330	6 248 515	51,7	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h

h) Generic octave distribution used

Calculation Results

Sound level

Noise sensitive area No.	Name	Y	X	Z [m]	Immission height [m]	Demands Noise [dB(A)]	Sound level From WTGs [dB(A)]
Apaðèios g. 10, Koèënai	Noise sensitive area: User defined (19)	546 229	6 246 388	45,6	2,0	45,0	41,7
Apaðèios g. 12, Koèënai	Noise sensitive area: User defined (18)	546 166	6 246 275	45,0	2,0	45,0	41,7

To be continued on next page...

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DECIBEL - Main Result

...continued from previous page

Noise sensitive area

No.	Name	Y	X	Z	Immission height	Demands Noise	Sound level From WTGs
				[m]	[m]	[dB(A)]	[dB(A)]
Apaðèios g. 14, Koèënai	Noise sensitive area: User defined (16)	546 126	6 246 144	43,0	2,0	45,0	41,6
Apaðèios g. 15, Koèënai	Noise sensitive area: User defined (9)	545 034	6 245 414	50,1	2,0	45,0	41,2
Apaðèios g. 16, Koèënai	Noise sensitive area: User defined (15)	546 098	6 246 078	43,7	2,0	45,0	41,5
Apaðèios g. 18, Koèënai	Noise sensitive area: User defined (10)	545 817	6 245 396	48,8	2,0	45,0	38,8
Apaðèios g. 2, Koèënai	Noise sensitive area: User defined (24)	546 484	6 246 955	46,0	2,0	45,0	40,5
Apaðèios g. 20, Koèënai	Noise sensitive area: User defined (8)	545 061	6 245 023	50,1	2,0	45,0	38,8
Apaðèios g. 22, Koèënai	Noise sensitive area: User defined (7)	544 979	6 244 798	50,1	2,0	45,0	37,9
Apaðèios g. 4, Koèënai	Noise sensitive area: User defined (23)	546 155	6 246 525	47,0	2,0	45,0	41,7
Apaðèios g. 5, Koèënai	Noise sensitive area: User defined (17)	546 009	6 246 221	44,0	2,0	45,0	41,7
Apaðèios g. 6, Koèënai	Noise sensitive area: User defined (22)	546 152	6 246 500	47,1	2,0	45,0	41,7
Apaðèios g. 7, Koèënai	Noise sensitive area: User defined (14)	546 000	6 246 025	44,6	2,0	45,0	41,3
Apaðèios g. 8, Koèënai	Noise sensitive area: User defined (21)	546 148	6 246 472	47,9	2,0	45,0	41,7
Apaðèios g. 8A, Koèënai	Noise sensitive area: User defined (20)	546 145	6 246 460	47,3	2,0	45,0	41,7
Apaðèios g. 9, Koèënai	Noise sensitive area: User defined (13)	545 853	6 245 869	46,0	2,0	45,0	41,0
ID1 (adresasnesuteiktas), Nemunëlio Radviliðkis	Noise sensitive area: User defined (49)	549 115	6 251 778	54,1	2,0	45,0	38,7
Juljanava 6, Juljanava	Noise sensitive area: User defined (57)	546 031	6 251 701	49,7	2,0	45,0	35,6
Kaimynø g. 2, Koèënai	Noise sensitive area: User defined (11)	545 905	6 245 454	46,1	2,0	45,0	39,0
Naujikø k. 2, Naujikai	Noise sensitive area: User defined (5)	544 430	6 244 372	48,7	2,0	45,0	36,8
Naujikø k. 3, Naujikai	Noise sensitive area: User defined (6)	544 659	6 244 546	49,4	2,0	45,0	37,4
Nausëdþiai 2A, Nausëdþiai	Noise sensitive area: User defined (52)	547 940	6 248 206	48,0	2,0	45,0	41,1
Nausëdþiai 4, Nausëdþiai	Noise sensitive area: User defined (53)	547 158	6 247 813	46,0	2,0	45,0	39,3
Nausëdþiai 6, Nausëdþiai	Noise sensitive area: User defined (54)	547 404	6 247 389	49,3	2,0	45,0	41,7
Nausëdþiai 8, Nausëdþiai	Noise sensitive area: User defined (55)	547 850	6 247 067	47,0	2,0	45,0	50,4
Nausëdþiai 9, Nausëdþiai	Noise sensitive area: User defined (56)	548 321	6 246 869	47,6	2,0	45,0	42,4
Nemunëlio Radviliðkis 2, Nemunëlio Radviliðkis	Noise sensitive area: User defined (50)	548 075	6 250 829	46,7	2,0	45,0	36,1
Nemunëlio Radviliðkis 4, Nemunëlio Radviliðkis	Noise sensitive area: User defined (47)	547 234	6 250 675	40,0	2,0	45,0	35,7
Sodþiaus g. 11, Jasiðkiai	Noise sensitive area: User defined (44)	546 848	6 249 637	51,7	2,0	45,0	39,4
Sodþiaus g. 12, Jasiðkiai	Noise sensitive area: User defined (37)	546 784	6 249 077	50,0	2,0	45,0	39,8
Sodþiaus g. 13, Jasiðkiai	Noise sensitive area: User defined (43)	546 847	6 249 619	52,3	2,0	45,0	39,4
Sodþiaus g. 14, Jasiðkiai	Noise sensitive area: User defined (29)	546 582	6 248 633	43,2	2,0	45,0	40,5
Sodþiaus g. 15, Jasiðkiai	Noise sensitive area: User defined (42)	546 834	6 249 568	52,1	2,0	45,0	39,5
Sodþiaus g. 16, Parupë	Noise sensitive area: User defined (48)	547 008	6 250 999	47,9	2,0	45,0	35,8
Sodþiaus g. 17, Jasiðkiai	Noise sensitive area: User defined (38)	546 792	6 249 262	50,5	2,0	45,0	39,9
Sodþiaus g. 19, Jasiðkiai	Noise sensitive area: User defined (36)	546 751	6 249 138	50,5	2,0	45,0	40,1
Sodþiaus g. 23, Jasiðkiai	Noise sensitive area: User defined (35)	546 736	6 249 077	49,1	2,0	45,0	40,1
Sodþiaus g. 25, Jasiðkiai	Noise sensitive area: User defined (34)	546 731	6 249 062	48,9	2,0	45,0	40,1
Sodþiaus g. 27, Jasiðkiai	Noise sensitive area: User defined (33)	546 725	6 249 031	47,5	2,0	45,0	40,2
Sodþiaus g. 29, Jasiðkiai	Noise sensitive area: User defined (32)	546 717	6 249 011	46,7	2,0	45,0	40,2
Sodþiaus g. 31, Jasiðkiai	Noise sensitive area: User defined (31)	546 707	6 248 980	46,1	2,0	45,0	40,2
Sodþiaus g. 33, Jasiðkiai	Noise sensitive area: User defined (30)	546 703	6 248 963	45,9	2,0	45,0	40,2
Sodþiaus g. 4, Jasiðkiai	Noise sensitive area: User defined (46)	546 960	6 249 994	48,6	2,0	45,0	38,1
Sodþiaus g. 45, Jasiðkiai	Noise sensitive area: User defined (28)	546 461	6 248 408	42,6	2,0	45,0	40,9
Sodþiaus g. 47, Jasiðkiai	Noise sensitive area: User defined (27)	546 435	6 248 310	43,8	2,0	45,0	40,9
Sodþiaus g. 49, Jasiðkiai	Noise sensitive area: User defined (26)	546 296	6 247 653	48,6	2,0	45,0	40,8
Sodþiaus g. 51, Jasiðkiai	Noise sensitive area: User defined (25)	546 248	6 247 366	47,9	2,0	45,0	40,7
Sodþiaus g. 7, Jasiðkiai	Noise sensitive area: User defined (45)	546 877	6 249 889	48,7	2,0	45,0	38,8
Strazdiðkis 1, Strazdiðkis	Noise sensitive area: User defined (12)	546 197	6 245 676	44,7	2,0	45,0	40,7
Svidþiai 15, Svidþiai	Noise sensitive area: User defined (4)	542 216	6 245 357	45,0	2,0	45,0	37,2
Svidþiai 16, Svidþiai	Noise sensitive area: User defined (2)	542 954	6 246 275	47,8	2,0	45,0	39,7
Svidþiai 17, Svidþiai	Noise sensitive area: User defined (3)	543 107	6 246 366	48,8	2,0	45,0	40,3
Upës g. 1, Jasiðkiai	Noise sensitive area: User defined (39)	546 990	6 249 194	52,0	2,0	45,0	38,5
Upës g. 3, Jasiðkiai	Noise sensitive area: User defined (40)	547 024	6 249 192	51,7	2,0	45,0	38,3
Upës g. 5, Jasiðkiai	Noise sensitive area: User defined (41)	547 056	6 249 139	51,9	2,0	45,0	38,1
Velykionys 3, Velykionys	Noise sensitive area: User defined (1)	542 711	6 249 231	46,0	2,0	45,0	34,8
Þilvièiø g. 2, Bliûdþiai	Noise sensitive area: User defined (51)	548 008	6 249 737	45,0	2,0	45,0	36,5

Distances (m)

NSA	WTG N10	N12	N13	N14	N15	N16	N19	N2	N20	N21	N22	N23	N24	N25	N26	N27	N28	N29	N3	N30	N31	N32
Apaðèios g. 10, Koèënai	1716	3243	2667	2045	1315	724	2117	4319	3379	2866	1541	1011	2232	2117	2914	3291	4581	5187	3681	5932	6390	5603
Apaðèios g. 12, Koèënai	1833	3310	2730	2104	1342	745	2112	4456	3362	2834	1479	906	2133	1990	2792	3180	4741	5347	3816	6093	6549	5759
Apaðèios g. 14, Koèënai	1974	3411	2830	2203	1420	828	2158	4607	3392	2851	1469	850	2074	1893	2701	3103	4888	5490	3967	6240	6690	5894
Apaðèios g. 15, Koèënai	2767	3686	3133	2567	1785	1464	2076	5429	3032	2426	1154	689	1169	727	1522	1988	6103	6720	4791	7447	7928	7148
Apaðèios g. 16, Koèënai	2040	3457	2875	2248	1457	870	2177	4678	3403	2855	1464	824	2041	1840	2650	3059	4961	5562	4037	6314	6761	5963
Apaðèios g. 18, Koèënai	2719	3966	3388	2773	1951	1441	2494	5385	3604	3011	1619	938	1895	1497	2286	2757	5676	6265	4742	7030	7454	6638
Apaðèios g. 2, Koèënai	1320	3034	2489	1911	1376	932	2236	3776	3501	3061	1903	1540	2695	2679	3450	3783	3944	4557	3148	5292	5766	4994

To be continued on next page...

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Calculated:
2023-11-13 15:46/4.0.422

DECIBEL - Main Result

...continued from previous page

NSA	WTG N10	N12	N13	N14	N15	N16	N19	N2	N20	N21	N22	N23	N24	N25	N26	N27	N28	N29	N3	N30	N31	N32
Apaðèios g. 20, Koèëenai	3137	4068	3518	2954	2170	1827	2447	5805	3351	2744	1529	1067	1410	859	1558	2059	6390	6997	5166	7739	8198	7401
Apaðèios g. 22, Koèëenai	3376	4271	3728	3172	2398	2068	2636	6042	3485	2880	1725	1302	1506	917	1520	2031	6624	7228	5404	7974	8427	7625
Apaðèios g. 4, Koèëenai	1622	3170	2596	1975	1263	682	2079	4221	3346	2844	1545	1055	2264	2176	2967	3333	4498	5107	3582	5847	6312	5529
Apaðèios g. 5, Koèëenai	1912	3342	2760	2133	1351	758	2092	4551	3330	2791	1417	810	2037	1871	2677	3072	4868	5474	3910	6219	6676	5886
Apaðèios g. 6, Koèëenai	1643	3185	2610	1990	1273	691	2088	4244	3354	2849	1542	1042	2255	2160	2953	3321	4521	5131	3606	5871	6336	5553
Apaðèios g. 7, Koèëenai	2110	3496	2914	2287	1486	909	2180	4756	3394	2838	1438	780	1987	1768	2579	2994	5056	5657	4115	6408	6856	6058
Apaðèios g. 8, Koèëenai	1665	3201	2625	2004	1282	697	2093	4267	3357	2850	1538	1028	2243	2143	2937	3307	4540	5148	3629	5890	6353	5569
Apaðèios g. 8A, Koèëenai	1687	3218	2642	2019	1292	703	2098	4292	3361	2852	1534	1016	2234	2127	2923	3296	4563	5170	3653	5913	6375	5589
Apaðèios g. 9, Koèëenai	2244	3561	2980	2356	1541	992	2180	4905	3364	2794	1383	697	1864	1604	2417	2844	5234	5834	4263	6586	7031	6231
ID1 (adresasnesuteiktas), Nemunëlio Radviliðkis	4972	5648	5662	5713	6058	6093	6561	3280	7308	7284	6911	6874	7759	7967	8621	8799	1606	1338	3558	658	1400	1775
Juljanava 6, Juljanava	3603	3296	3575	3926	4595	4917	4724	927	5028	5213	5403	5666	6138	6540	6987	7003	3233	3632	1569	3546	4372	4355
Kaimynø g. 2, Koèëenai	2667	3951	3371	2752	1931	1405	2504	5326	3635	3047	1645	955	1961	1581	2375	2842	5582	6170	4684	6937	7357	6540
Naujikø k. 2, Naujikai	3941	4628	4121	3618	2902	2661	2964	6574	3593	3013	2122	1871	1612	1036	1228	1715	7306	7917	5943	8653	9120	8325
Naujikø k. 3, Naujikai	3706	4474	3951	3426	2686	2412	2815	6354	3535	2941	1939	1628	1534	930	1315	1823	7026	7634	5719	8375	8835	8037
Nausëdþiai 2A, Nausëdþiai	2184	3810	3444	3096	2980	2746	3756	3166	4903	4607	3706	3436	4542	4576	5333	5634	2100	2676	2715	3453	3869	3083
Nausëdþiai 4, Nausëdþiai	1401	3147	2709	2283	2086	1847	2885	3127	4068	3738	2804	2555	3641	3694	4440	4734	2895	3512	2557	4244	4724	3970
Nausëdþiai 6, Nausëdþiai	1754	3536	3060	2575	2232	1870	3074	3620	4306	3921	2845	2483	3646	3617	4397	4733	3128	3706	3052	4483	4895	4091
Nausëdþiai 8, Nausëdþiai	2307	4094	3607	3100	2682	2247	3538	4113	4790	4373	3205	2751	3960	3854	4655	5030	3247	3768	3568	4584	4911	4060
Nausëdþiai 9, Nausëdþiai	2903	4688	4204	3694	3249	2782	4108	4583	5368	4935	3720	3214	4438	4276	5086	5487	3327	3771	4068	4615	4843	3957
Nemunëlio Radviliðkis 2, Nemunëlio Radviliðkis	3557	4271	4252	4290	4647	4712	5137	2065	5903	5863	5503	5499	6348	6574	7212	7380	1063	1453	2210	1591	2379	2187
Nemunëlio Radviliðkis 4, Nemunëlio Radviliðkis	2984	3522	3542	3640	4080	4219	4493	1303	5184	5181	4939	5009	5766	6041	6636	6769	1672	2180	1442	2365	3156	2917
Sodþiaus g. 11, Jasiðkiai	1895	2783	2660	2636	2989	3098	3478	1445	4310	4224	3848	3888	4687	4935	5554	5715	2039	2687	1068	3150	3847	3365
Sodþiaus g. 12, Jasiðkiai	1439	2645	2411	2268	2513	2567	3082	1882	4024	3870	3364	3356	4213	4426	5073	5263	2303	2966	1368	3530	4169	3588
Sodþiaus g. 13, Jasiðkiai	1875	2776	2650	2619	2970	3076	3461	1461	4298	4209	3828	3866	4668	4915	5534	5696	2047	2696	1075	3162	3858	3372
Sodþiaus g. 14, Jasiðkiai	1011	2467	2140	1897	2046	2070	2671	2225	3693	3487	2887	2857	3740	3935	4595	4802	2715	3375	1639	3983	4590	3961
Sodþiaus g. 15, Jasiðkiai	1833	2754	2619	2582	2927	3032	3423	1491	4267	4174	3785	3822	4625	4870	5492	5656	2066	2717	1087	3192	3883	3390
Sodþiaus g. 16, Parupë	3165	3499	3585	3747	4250	4436	4598	1098	5202	5245	5105	5222	5916	6223	6786	6891	2008	2461	1406	2532	3347	3196
Sodþiaus g. 17, Jasiðkiai	1570	2664	2468	2368	2654	2731	3194	1728	4099	3969	3509	3521	4355	4582	5218	5398	2219	2880	1243	3413	4072	3522
Sodþiaus g. 19, Jasiðkiai	1446	2612	2390	2263	2525	2592	3082	1822	4011	3865	3378	3382	4226	4446	5088	5273	2312	2974	1307	3526	4173	3603
Sodþiaus g. 23, Jasiðkiai	1401	2596	2363	2224	2477	2540	3040	1863	3978	3826	3329	3329	4178	4395	5039	5226	2348	3011	1339	3570	4212	3636
Sodþiaus g. 25, Jasiðkiai	1382	2590	2352	2209	2456	2517	3023	1882	3965	3812	3308	3306	4157	4373	5018	5206	2366	3028	1353	3590	4230	3652
Sodþiaus g. 27, Jasiðkiai	1359	2584	2340	2190	2432	2490	3002	1902	3950	3792	3283	3280	4132	4347	4993	5182	2385	3048	1369	3613	4251	3668
Sodþiaus g. 29, Jasiðkiai	1337	2575	2328	2172	2409	2464	2982	1921	3935	3774	3259	3254	4109	4323	4969	5160	2402	3065	1384	3632	4269	3683
Sodþiaus g. 31, Jasiðkiai	1312	2565	2312	2151	2382	2435	2958	1943	3915	3752	3232	3225	4081	4294	4941	5133	2423	3085	1402	3657	4291	3701
Sodþiaus g. 33, Jasiðkiai	1296	2562	2305	2138	2364	2415	2944	1960	3906	3740	3213	3204	4063	4275	4923	5116	2437	3100	1415	3675	4306	3714
Sodþiaus g. 4, Jasiðkiai	2257	2992	2929	2958	3353	3478	3808	1277	4582	4530	4212	4269	5047	5308	5915	6064	1868	2487	1070	2872	3603	3194
Sodþiaus g. 45, Jasiðkiai	813	2392	2020	1719	1814	1824	2467	2394	3527	3294	2649	2612	3503	3691	4356	4569	2933	3591	1787	4213	4809	4161
Sodþiaus g. 47, Jasiðkiai	760	2392	2000	1673	1732	1726	2403	2491	3483	3236	2562	2512	3417	3596	4267	4486	3017	3673	1878	4305	4892	4235
Sodþiaus g. 49, Jasiðkiai	752	2536	2035	1536	1283	1114	2083	3122	3285	2936	2032	1880	2881	2995	3706	3970	3560	4202	2492	4883	5422	4709
Sodþiaus g. 51, Jasiðkiai	908	2652	2121	1573	1174	895	2014	3386	3253	2862	1850	1633	2687	2761	3493	3779	3788	4422	2753	5121	5641	4908
Sodþiaus g. 7, Jasiðkiai	2120	2879	2803	2823	3216	3344	3672	1281	4456	4398	4076	4134	4910	5171	5778	5927	1959	2588	1008	2993	3716	3288
Strazdiðkis 1, Strazdiðkis	2458	3854	3272	2645	1840	1268	2504	5089	3691	3120	1709	1019	2151	1836	2643	3092	5250	5833	4449	6605	7018	6198
Svidþiai 15, Svidþiai	4439	4101	3838	3670	3411	3619	2819	6562	2431	2176	2648	3061	1843	2070	1294	809	8245	8904	6026	9502	10121	9456
Svidþiai 16, Svidþiai	3287	2924	2640	2482	2314	2625	1639	5364	1341	984	1665	2237	1079	1594	1207	878	7103	7764	4826	8338	8976	8338
Svidþiai 17, Svidþiai	3123	2805	2501	2325	2147	2464	1478	5226	1273	863	1508	2095	963	1506	1199	934	6939	7600	4682	8176	8813	8173
Upës g. 1, Jasiðkiai	1678	2856	2641	2509	2746	2781	3322	1881	4260	4111	3594	3567	4445	4647	5303	5498	2067	2730	1427	3293	3931	3357
Upës g. 3, Jasiðkiai	1698	2890	2671	2533	2762	2789	3345	1908	4289	4136	3608	3575	4460	4658	5317	5516	2038	2701	1460	3271	3904	3325
Upës g. 5, Jasiðkiai	1696	2919	2691	2542	2753	2769	3348	1967	4304	4144	3597	3553	4450	4641	5305	5508	2032	2695	1516	3279	3902	3312
Velykionys 3, Velykionys	3188	1446	1881	2433	3121	3718	2435	3544	1578	2136	3335	3992	3540	4139	4112	3858	6258	6883	3294	7188	7966	7587
Þilvièiø g. 2, Bliûdþiai	2730	3851	3686	3574	3774	3743	4383	2261	5318	5176	4608	4513	5463	5624	6312	6530	1002	1664	2071	2258	2867	2307

NSA	WTG N32-1	N32-2	N33	N34	N35	N4	N5	N8	N9
Apaðèios g. 10, Koèëenai	1792	2207	1105	1142	663	3027	2525	2949	2218
Apaðèios g. 12, Koèëenai	1914	2353	1198	1153	655	3166	2657	3048	2322
Apaðèios g. 14, Koèëenai	2014	2478	1272	1147	644	3319	2806	3177	2455
Apaðèios g. 15, Koèëenai	3268	3744	2501	2184	1751	4197	3649	3740	3106
Apaðèios g. 16, Koèëenai	2069	2543	1319	1158	658	3390	2876	3237	2516
Apaðèios g. 18, Koèëenai	2651	3197	1863	1455	1075	4105	3579	3855	3157
Apaðèios g. 2, Koèëenai	1387	1660	933	1319	1002	2483	2020	2589	1862
Apaðèios g. 20, Koèëenai	3453	3972	2670	2269	1888	4565	4018	4125	3488
Apaðèios g. 22, Koèëenai	3658	4191	2871	2439	2084	4805	4258	4350	3721
Apaðèios g. 4, Koèëenai	1753	2145	1093	1189	726	2929	2427	2860	2128
Apaðèios g. 5, Koèëenai	2029	2478	1299	1203	700	3264	2749	3111	2389
Apaðèios g. 6, Koèëenai	1768	2166	1099	1179	712	2952	2450	2879	2148
Apaðèios g. 7, Koèëenai	2153	2636	1396	1199	705	3470	2953	3295	2578
Apaðèios g. 8, Koèëenai	1775	2179	1102	1171	699	2976	2473	2900	2169
Apaðèios g. 8A, Koèëenai	1787	2196	1108	1163	687	3000	2497	2920	2189
Apaðèios g. 9, Koèëenai	2308	2805	1541	1285	811	3624	3099	3402	2695
ID1 (adresasnesuteiktas), Nemunëlio Radviliðkis	4860	4171	5533	6190	6233	3757	4234	4845	4953
Juljanava 6, Juljanava	5019	4440	5348	5966	5762	2207	2730	2750	3262
Kaimynø g. 2, Koèëenai	2548	3098	1760	1356	972	4044	3521	3818	3114
Naujikø k. 2, Naujikai	4367	4896	3580	3137	2792	5370	4818	4816	4234
Naujikø k. 3, Naujikai	4075	4606	3287	2846	2499	5136	4586	4619	4018
Nausëdþiai 2A, Nausëdþiai	1159	486	1785	2443	2504	2178	2118	3035	2562
Nausëdþiai 4, Nausëdþiai	1085	876	1299	1941	1846	1911	1632	2468	1866
Nausëdþiai 6, Nausëdþiai	623	704	842	1504	1494	2405	2104	2905	2261

To be continued on next page...

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DECIBEL - Main Result

...continued from previous page

NSA	WTG N32-1	N32-2	N33	N34	N35	N4	N5	N8	N9
Nausëdþiai 8, Nausëdþiai	78	652	680	1296	1468	2934	2661	3470	2822
Nausëdþiai 9, Nausëdþiai	433	900	1022	1443	1773	3455	3221	4051	3414
Nemunëlio Radviliðkis 2, Nemunëlio Radviliðkis	3765	3081	4351	5016	4991	2342	2811	3449	3530
Nemunëlio Radviliðkis 4, Nemunëlio Radviliðkis	3668	3022	4144	4801	4701	1657	2170	2717	2879
Sodþiaus g. 11, Jasiðkiai	2747	2180	3114	3755	3614	789	1165	1929	1882
Sodþiaus g. 12, Jasiðkiai	2255	1753	2564	3196	3045	822	907	1807	1555
Sodþiaus g. 13, Jasiðkiai	2726	2161	3090	3731	3591	785	1151	1922	1866
Sodþiaus g. 14, Jasiðkiai	1991	1616	2176	2782	2591	989	778	1687	1254
Sodþiaus g. 15, Jasiðkiai	2687	2127	3048	3688	3546	766	1117	1900	1831
Sodþiaus g. 16, Parupë	4033	3399	4480	5130	5007	1770	2312	2739	2995
Sodþiaus g. 17, Jasiðkiai	2418	1894	2745	3380	3230	757	950	1816	1635
Sodþiaus g. 19, Jasiðkiai	2317	1817	2619	3250	3094	765	879	1771	1542
Sodþiaus g. 23, Jasiðkiai	2278	1788	2572	3201	3041	780	858	1759	1508
Sodþiaus g. 25, Jasiðkiai	2261	1775	2550	3179	3018	786	850	1755	1495
Sodþiaus g. 27, Jasiðkiai	2242	1761	2527	3155	2993	795	843	1751	1481
Sodþiaus g. 29, Jasiðkiai	2225	1749	2504	3130	2967	802	834	1745	1465
Sodþiaus g. 31, Jasiðkiai	2205	1736	2478	3103	2938	812	823	1737	1447
Sodþiaus g. 33, Jasiðkiai	2188	1724	2458	3083	2917	821	820	1736	1438
Sodþiaus g. 4, Jasiðkiai	3058	2458	3468	4115	3989	1019	1479	2150	2198
Sodþiaus g. 45, Jasiðkiai	1916	1623	2020	2604	2385	1122	797	1658	1136
Sodþiaus g. 47, Jasiðkiai	1867	1607	1939	2517	2291	1211	852	1681	1124
Sodþiaus g. 49, Jasiðkiai	1644	1648	1461	1951	1660	1828	1365	1994	1291
Sodþiaus g. 51, Jasiðkiai	1616	1730	1301	1730	1404	2092	1613	2176	1453
Sodþiaus g. 7, Jasiðkiai	2977	2391	3366	4009	3874	895	1344	2033	2063
Strazdiðkis 1, Strazdiðkis	2207	2755	1420	1056	637	3799	3289	3653	2934
Svidþiai 15, Svidþiai	5955	6283	5256	5051	4582	5651	5148	4692	4431
Svidþiai 16, Svidþiai	5026	5276	4392	4307	3810	4456	3961	3492	3242
Svidþiai 17, Svidþiai	4867	5112	4238	4165	3667	4303	3804	3352	3086
Upës g. 1, Jasiðkiai	2287	1734	2661	3307	3186	960	1128	2011	1791
Upës g. 3, Jasiðkiai	2262	1705	2645	3292	3176	997	1159	2046	1820
Upës g. 5, Jasiðkiai	2208	1647	2597	3246	3135	1042	1184	2077	1834
Velykionys 3, Velykionys	5653	5529	5370	5650	5187	3362	3177	2262	2713
Þilvièiø g. 2, Bliûdþiai	2616	1934	3209	3874	3871	1865	2168	2996	2852

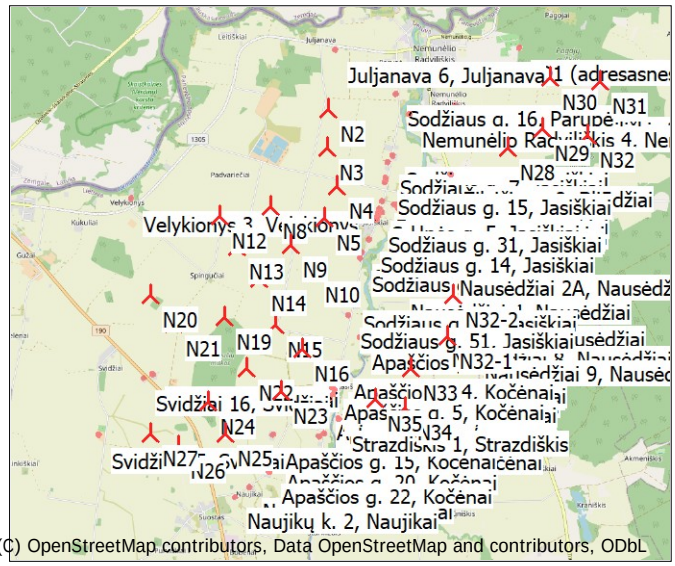
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Calculated:
2023-11-13 15:46/4.0.422

DECIBEL - Main Result

Noise calculation model:
ISO 9613-2 General
Wind speed (at 10 m height):
10,0 m/s
Ground attenuation:
General, Ground factor: 0,7
Meteorological coefficient, C0:
Selected option: Fixed value: 0,0 dB
Type of demand in calculation:
1: WTG noise is compared to demand (DK, DE, SE, NL etc.)
Noise values in calculation:
All noise values are mean values (Lwa) (Normal)
Pure tones:
Fixed penalty added to source noise of WTGs with pure tones
Model: 5,0 dB(A)
Height above ground level, when no value in NSA object:
2,0 m; Allow override of model height with height from NSA object
Uncertainty margin:
0,0 dB; Uncertainty margin in model has priority
Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:
0,0 dB(A)

All coordinates are in
Lithuanian TM LKS94-LKS94 (LT)



Scale 1:125 000

New WTG

Noise sensitive area

WTGs

	Y	X	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator	Name	Wind speed	LwA,ref	
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]	
N10	545 698	6 248 113	50,2	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N12	544 141	6 248 992	45,9	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N13	544 443	6 248 494	49,3	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N14	544 794	6 247 974	51,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N15	545 084	6 247 205	50,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N16	545 531	6 246 809	49,1	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N19	544 234	6 247 330	52,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N2	545 926	6 250 780	49,3	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N20	543 009	6 247 672	46,1	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N21	543 391	6 247 200	48,7	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N22	544 610	6 246 488	52,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N23	545 186	6 246 098	46,3	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N24	543 972	6 245 918	50,3	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N25	544 286	6 245 398	51,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N26	543 502	6 245 186	48,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N27	543 025	6 245 373	47,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N28	548 911	6 250 172	45,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N29	549 492	6 250 491	46,1	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N3	545 896	6 250 138	50,2	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N30	549 603	6 251 337	46,1	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N31	550 427	6 251 277	49,2	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N32	550 222	6 250 390	47,7	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N32-1	547 926	6 247 047	46,7	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N32-2	548 034	6 247 730	47,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N33	547 343	6 246 514	47,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N34	547 242	6 245 857	48,7	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N35	546 755	6 245 984	47,3	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N4	546 072	6 249 494	48,7	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N5	545 883	6 248 975	50,1	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N8	544 979	6 249 159	50,0	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h
N9	545 330	6 248 515	51,7	Alternatyva 7.5/180m ...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	USER	Noise (3)	10,0	109,0	h

h) Generic octave distribution used

Calculation Results

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DECIBEL - Main Result

Sound level

Noise sensitive area

No.	Name	Y	X	Z	Immission height	Demands Noise	Sound level From WTGs
				[m]	[m]	[dB(A)]	[dB(A)]
Apaðèios g. 10, Koèënai	Noise sensitive area: User defined (19)	546 229	6 246 388	45,6	2,0	45,0	43,8
Apaðèios g. 12, Koèënai	Noise sensitive area: User defined (18)	546 166	6 246 275	45,0	2,0	45,0	43,8
Apaðèios g. 14, Koèënai	Noise sensitive area: User defined (16)	546 126	6 246 144	43,0	2,0	45,0	43,7
Apaðèios g. 15, Koèënai	Noise sensitive area: User defined (9)	545 034	6 245 414	50,1	2,0	45,0	43,3
Apaðèios g. 16, Koèënai	Noise sensitive area: User defined (15)	546 098	6 246 078	43,7	2,0	45,0	43,5
Apaðèios g. 18, Koèënai	Noise sensitive area: User defined (10)	545 817	6 245 396	48,8	2,0	45,0	40,9
Apaðèios g. 2, Koèënai	Noise sensitive area: User defined (24)	546 484	6 246 955	46,0	2,0	45,0	42,6
Apaðèios g. 20, Koèënai	Noise sensitive area: User defined (8)	545 061	6 245 023	50,1	2,0	45,0	40,9
Apaðèios g. 22, Koèënai	Noise sensitive area: User defined (7)	544 979	6 244 798	50,1	2,0	45,0	40,0
Apaðèios g. 4, Koèënai	Noise sensitive area: User defined (23)	546 155	6 246 525	47,0	2,0	45,0	43,8
Apaðèios g. 5, Koèënai	Noise sensitive area: User defined (17)	546 009	6 246 221	44,0	2,0	45,0	43,7
Apaðèios g. 6, Koèënai	Noise sensitive area: User defined (22)	546 152	6 246 500	47,1	2,0	45,0	43,8
Apaðèios g. 7, Koèënai	Noise sensitive area: User defined (14)	546 000	6 246 025	44,6	2,0	45,0	43,3
Apaðèios g. 8, Koèënai	Noise sensitive area: User defined (21)	546 148	6 246 472	47,9	2,0	45,0	43,8
Apaðèios g. 8A, Koèënai	Noise sensitive area: User defined (20)	546 145	6 246 460	47,3	2,0	45,0	43,8
Apaðèios g. 9, Koèënai	Noise sensitive area: User defined (13)	545 853	6 245 869	46,0	2,0	45,0	43,1
ID1 (adresasnesuteiktas), Nemunëlio Radviliðkis	Noise sensitive area: User defined (49)	549 115	6 251 778	54,1	2,0	45,0	40,7
Juljanava 6, Juljanava	Noise sensitive area: User defined (57)	546 031	6 251 701	49,7	2,0	45,0	37,6
Kaimynø g. 2, Koèënai	Noise sensitive area: User defined (11)	545 905	6 245 454	46,1	2,0	45,0	41,1
Naujikø k. 2, Naujikai	Noise sensitive area: User defined (5)	544 430	6 244 372	48,7	2,0	45,0	38,9
Naujikø k. 3, Naujikai	Noise sensitive area: User defined (6)	544 659	6 244 546	49,4	2,0	45,0	39,5
Nausëdþiai 2A, Nausëdþiai	Noise sensitive area: User defined (52)	547 940	6 248 206	48,0	2,0	45,0	43,1
Nausëdþiai 4, Nausëdþiai	Noise sensitive area: User defined (53)	547 158	6 247 813	46,0	2,0	45,0	41,3
Nausëdþiai 6, Nausëdþiai	Noise sensitive area: User defined (54)	547 404	6 247 389	49,3	2,0	45,0	43,7
Nausëdþiai 8, Nausëdþiai	Noise sensitive area: User defined (55)	547 850	6 247 067	47,0	2,0	45,0	52,0
Nausëdþiai 9, Nausëdþiai	Noise sensitive area: User defined (56)	548 321	6 246 869	47,6	2,0	45,0	44,4
Nemunëlio Radviliðkis 2, Nemunëlio Radviliðkis	Noise sensitive area: User defined (50)	548 075	6 250 829	46,7	2,0	45,0	38,2
Nemunëlio Radviliðkis 4, Nemunëlio Radviliðkis	Noise sensitive area: User defined (47)	547 234	6 250 675	40,0	2,0	45,0	37,8
Sodþiaus g. 11, Jasiðkiai	Noise sensitive area: User defined (44)	546 848	6 249 637	51,7	2,0	45,0	41,4
Sodþiaus g. 12, Jasiðkiai	Noise sensitive area: User defined (37)	546 784	6 249 077	50,0	2,0	45,0	41,8
Sodþiaus g. 13, Jasiðkiai	Noise sensitive area: User defined (43)	546 847	6 249 619	52,3	2,0	45,0	41,5
Sodþiaus g. 14, Jasiðkiai	Noise sensitive area: User defined (29)	546 582	6 248 633	43,2	2,0	45,0	42,6
Sodþiaus g. 15, Jasiðkiai	Noise sensitive area: User defined (42)	546 834	6 249 568	52,1	2,0	45,0	41,6
Sodþiaus g. 16, Parupë	Noise sensitive area: User defined (48)	547 008	6 250 999	47,9	2,0	45,0	37,9
Sodþiaus g. 17, Jasiðkiai	Noise sensitive area: User defined (38)	546 792	6 249 262	50,5	2,0	45,0	42,0
Sodþiaus g. 19, Jasiðkiai	Noise sensitive area: User defined (36)	546 751	6 249 138	50,5	2,0	45,0	42,2
Sodþiaus g. 23, Jasiðkiai	Noise sensitive area: User defined (35)	546 736	6 249 077	49,1	2,0	45,0	42,2
Sodþiaus g. 25, Jasiðkiai	Noise sensitive area: User defined (34)	546 731	6 249 062	48,9	2,0	45,0	42,2
Sodþiaus g. 27, Jasiðkiai	Noise sensitive area: User defined (33)	546 725	6 249 031	47,5	2,0	45,0	42,2
Sodþiaus g. 29, Jasiðkiai	Noise sensitive area: User defined (32)	546 717	6 249 011	46,7	2,0	45,0	42,2
Sodþiaus g. 31, Jasiðkiai	Noise sensitive area: User defined (31)	546 707	6 248 980	46,1	2,0	45,0	42,3
Sodþiaus g. 33, Jasiðkiai	Noise sensitive area: User defined (30)	546 703	6 248 963	45,9	2,0	45,0	42,3
Sodþiaus g. 4, Jasiðkiai	Noise sensitive area: User defined (46)	546 960	6 249 994	48,6	2,0	45,0	40,2
Sodþiaus g. 45, Jasiðkiai	Noise sensitive area: User defined (28)	546 461	6 248 408	42,6	2,0	45,0	43,0
Sodþiaus g. 47, Jasiðkiai	Noise sensitive area: User defined (27)	546 435	6 248 310	43,8	2,0	45,0	43,0
Sodþiaus g. 49, Jasiðkiai	Noise sensitive area: User defined (26)	546 296	6 247 653	48,6	2,0	45,0	42,8
Sodþiaus g. 51, Jasiðkiai	Noise sensitive area: User defined (25)	546 248	6 247 366	47,9	2,0	45,0	42,8
Sodþiaus g. 7, Jasiðkiai	Noise sensitive area: User defined (45)	546 877	6 249 889	48,7	2,0	45,0	40,9
Strazdiðkis 1, Strazdiðkis	Noise sensitive area: User defined (12)	546 197	6 245 676	44,7	2,0	45,0	42,7
Svidþiai 15, Svidþiai	Noise sensitive area: User defined (4)	542 216	6 245 357	45,0	2,0	45,0	39,3
Svidþiai 16, Svidþiai	Noise sensitive area: User defined (2)	542 954	6 246 275	47,8	2,0	45,0	41,8
Svidþiai 17, Svidþiai	Noise sensitive area: User defined (3)	543 107	6 246 366	48,8	2,0	45,0	42,4
Upës g. 1, Jasiðkiai	Noise sensitive area: User defined (39)	546 990	6 249 194	52,0	2,0	45,0	40,6
Upës g. 3, Jasiðkiai	Noise sensitive area: User defined (40)	547 024	6 249 192	51,7	2,0	45,0	40,4
Upës g. 5, Jasiðkiai	Noise sensitive area: User defined (41)	547 056	6 249 139	51,9	2,0	45,0	40,2
Velykionys 3, Velykionys	Noise sensitive area: User defined (1)	542 711	6 249 231	46,0	2,0	45,0	36,8
Þilvièiø g. 2, Bliûdþiai	Noise sensitive area: User defined (51)	548 008	6 249 737	45,0	2,0	45,0	38,6

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Calculated:
2023-11-13 15:46/4.0.422

DECIBEL - Main Result

Distances (m)

	WTG																					
NSA	N10	N12	N13	N14	N15	N16	N19	N2	N20	N21	N22	N23	N24	N25	N26	N27	N28	N29	N3	N30	N31	N32
Apaðèios g. 10, Koèënai	1716	3243	2667	2045	1315	724	2117	4319	3379	2866	1541	1011	2232	2117	2914	3291	4581	5187	3681	5932	6390	5603
Apaðèios g. 12, Koèënai	1833	3310	2730	2104	1342	745	2112	4456	3362	2834	1479	906	2133	1990	2792	3180	4741	5347	3816	6093	6549	5759
Apaðèios g. 14, Koèënai	1974	3411	2830	2203	1420	828	2158	4607	3392	2851	1469	850	2074	1893	2701	3103	4888	5490	3967	6240	6690	5894
Apaðèios g. 15, Koèënai	2767	3686	3133	2567	1785	1464	2076	5429	3032	2426	1154	689	1169	727	1522	1988	6103	6720	4791	7447	7928	7148
Apaðèios g. 16, Koèënai	2040	3457	2875	2248	1457	870	2177	4678	3403	2855	1464	824	2041	1840	2650	3059	4961	5562	4037	6314	6761	5963
Apaðèios g. 18, Koèënai	2719	3966	3388	2773	1951	1441	2494	5385	3604	3011	1619	938	1895	1497	2286	2757	5676	6265	4742	7030	7454	6638
Apaðèios g. 2, Koèënai	1320	3034	2489	1911	1376	932	2236	3776	3501	3061	1903	1540	2695	2679	3450	3783	3944	4557	3148	5292	5766	4994
Apaðèios g. 20, Koèënai	3137	4068	3518	2954	2170	1827	2447	5805	3351	2744	1529	1067	1410	859	1558	2059	6390	6997	5166	7739	8198	7401
Apaðèios g. 22, Koèënai	3376	4271	3728	3172	2398	2068	2636	6042	3485	2880	1725	1302	1506	917	1520	2031	6624	7228	5404	7974	8427	7625
Apaðèios g. 4, Koèënai	1622	3170	2596	1975	1263	682	2079	4221	3346	2844	1545	1055	2264	2176	2967	3333	4498	5107	3582	5847	6312	5529
Apaðèios g. 5, Koèënai	1912	3342	2760	2133	1351	758	2092	4551	3330	2791	1417	810	2037	1871	2677	3072	4868	5474	3910	6219	6676	5886
Apaðèios g. 6, Koèënai	1643	3185	2610	1990	1273	691	2088	4244	3354	2849	1542	1042	2255	2160	2953	3321	4521	5131	3606	5871	6336	5553
Apaðèios g. 7, Koèënai	2110	3496	2914	2287	1486	909	2180	4756	3394	2838	1438	780	1987	1768	2579	2994	5056	5657	4115	6408	6856	6058
Apaðèios g. 8, Koèënai	1665	3201	2625	2004	1282	697	2093	4267	3357	2850	1538	1028	2243	2143	2937	3307	4540	5148	3629	5890	6353	5569
Apaðèios g. 8A, Koèënai	1687	3218	2642	2019	1292	703	2098	4292	3361	2852	1534	1016	2234	2127	2923	3296	4563	5170	3653	5913	6375	5589
Apaðèios g. 9, Koèënai	2244	3561	2980	2356	1541	992	2180	4905	3364	2794	1383	697	1864	1604	2417	2844	5234	5834	4263	6586	7031	6231
ID1 (adresasnesuteiktas), Nemunëlio Radviliðkis	4972	5648	5662	5713	6058	6093	6561	3280	7308	7284	6911	6874	7759	7967	8621	8799	1606	1338	3558	658	1400	1775
Juljanava 6, Juljanava	3603	3296	3575	3926	4595	4917	4724	927	5028	5213	5403	5666	6138	6540	6987	7003	3233	3632	1569	3546	4372	4355
Kaimynø g. 2, Koèënai	2667	3951	3371	2752	1931	1405	2504	5326	3635	3047	1645	955	1961	1581	2375	2842	5582	6170	4684	6937	7357	6540
Naujikø k. 2, Naujikai	3941	4628	4121	3618	2902	2661	2964	6574	3593	3013	2122	1871	1612	1036	1228	1715	7306	7917	5943	8653	9120	8325
Naujikø k. 3, Naujikai	3706	4474	3951	3426	2686	2412	2815	6354	3535	2941	1939	1628	1534	930	1315	1823	7026	7634	5719	8375	8835	8037
Nausëdþiai 2A, Nausëdþiai	2184	3810	3444	3096	2980	2746	3756	3166	4903	4607	3706	3436	4542	4576	5333	5634	2100	2676	2715	3453	3869	3083
Nausëdþiai 4, Nausëdþiai	1401	3147	2709	2283	2086	1847	2885	3127	4068	3738	2804	2555	3641	3694	4440	4734	2895	3512	2557	4244	4724	3970
Nausëdþiai 6, Nausëdþiai	1754	3536	3060	2575	2232	1870	3074	3620	4306	3921	2845	2483	3646	3617	4397	4733	3128	3706	3052	4483	4895	4091
Nausëdþiai 8, Nausëdþiai	2307	4094	3607	3100	2682	2247	3538	4113	4790	4373	3205	2751	3960	3854	4655	5030	3247	3768	3568	4584	4911	4060
Nausëdþiai 9, Nausëdþiai	2903	4688	4204	3694	3249	2782	4108	4583	5368	4935	3720	3214	4438	4276	5086	5487	3327	3771	4068	4615	4843	3957
Nemunëlio Radviliðkis 2, Nemunëlio Radviliðkis	3557	4271	4252	4290	4647	4712	5137	2065	5903	5863	5503	5499	6348	6574	7212	7380	1063	1453	2210	1591	2379	2187
Nemunëlio Radviliðkis 4, Nemunëlio Radviliðkis	2984	3522	3542	3640	4080	4219	4493	1303	5184	5181	4939	5009	5766	6041	6636	6769	1672	2180	1442	2365	3156	2917
Sodþiaus g. 11, Jasiðkiai	1895	2783	2660	2636	2989	3098	3478	1445	4310	4224	3848	3888	4687	4935	5554	5715	2039	2687	1068	3150	3847	3365
Sodþiaus g. 12, Jasiðkiai	1439	2645	2411	2268	2513	2567	3082	1882	4024	3870	3364	3356	4213	4426	5073	5263	2303	2966	1368	3530	4169	3588
Sodþiaus g. 13, Jasiðkiai	1875	2776	2650	2619	2970	3076	3461	1461	4298	4209	3828	3866	4668	4915	5534	5696	2047	2696	1075	3162	3858	3372
Sodþiaus g. 14, Jasiðkiai	1011	2467	2140	1897	2046	2070	2671	2225	3693	3487	2887	2857	3740	3935	4595	4802	2715	3375	1639	3983	4590	3961
Sodþiaus g. 15, Jasiðkiai	1833	2754	2619	2582	2927	3032	3423	1491	4267	4174	3785	3822	4625	4870	5492	5656	2066	2717	1087	3192	3883	3390
Sodþiaus g. 16, Parupë	3165	3499	3585	3747	4250	4436	4598	1098	5202	5245	5105	5222	5916	6223	6786	6891	2008	2461	1406	2532	3347	3196
Sodþiaus g. 17, Jasiðkiai	1570	2664	2468	2368	2654	2731	3194	1728	4099	3969	3509	3521	4355	4582	5218	5398	2219	2880	1243	3413	4072	3522
Sodþiaus g. 19, Jasiðkiai	1446	2612	2390	2263	2525	2592	3082	1822	4011	3865	3378	3382	4226	4446	5088	5273	2312	2974	1307	3526	4173	3603
Sodþiaus g. 23, Jasiðkiai	1401	2596	2363	2224	2477	2540	3040	1863	3978	3826	3329	3329	4178	4395	5039	5226	2348	3011	1339	3570	4212	3636
Sodþiaus g. 25, Jasiðkiai	1382	2590	2352	2209	2456	2517	3023	1882	3965	3812	3308	3306	4157	4373	5018	5206	2366	3028	1353	3590	4230	3652
Sodþiaus g. 27, Jasiðkiai	1359	2584	2340	2190	2432	2490	3002	1902	3950	3792	3283	3280	4132	4347	4993	5182	2385	3048	1369	3613	4251	3668
Sodþiaus g. 29, Jasiðkiai	1337	2575	2328	2172	2409	2464	2982	1921	3935	3774	3259	3254	4109	4323	4969	5160	2402	3065	1384	3632	4269	3683
Sodþiaus g. 31, Jasiðkiai	1312	2565	2312	2151	2382	2435	2958	1943	3915	3752	3232	3225	4081	4294	4941	5133	2423	3085	1402	3657	4291	3701
Sodþiaus g. 33, Jasiðkiai	1296	2562	2305	2138	2364	2415	2944	1960	3906	3740	3213	3204	4063	4275	4923	5116	2437	3100	1415	3675	4306	3714
Sodþiaus g. 4, Jasiðkiai	2257	2992	2929	2958	3353	3478	3808	1277	4582	4530	4212	4269	5047	5308	5915	6064	1868	2487	1070	2872	3603	3194
Sodþiaus g. 45, Jasiðkiai	813	2392	2020	1719	1814	1824	2467	2394	3527	3294	2649	2612	3503	3691	4356	4569	2933	3591	1787	4213	4809	4161
Sodþiaus g. 47, Jasiðkiai	760	2392	2000	1673	1732	1726	2403	2491	3483	3236	2562	2512	3417	3596	4267	4486	3017	3673	1878	4305	4892	4235
Sodþiaus g. 49, Jasiðkiai	752	2536	2035	1536	1283	1114	2083	3122	3285	2936	2032	1880	2881	2995	3706	3970	3560	4202	2492	4883	5422	4709
Sodþiaus g. 51, Jasiðkiai	908	2652	2121	1573	1174	895	2014	3386	3253	2862	1850	1633	2687	2761	3493	3779	3788	4422	2753	5121	5641	4908
Sodþiaus g. 7, Jasiðkiai	2120	2879	2803	2823	3216	3344	3672	1281	4456	4398	4076	4134	4910	5171	5778	5927	1959	2588	1008	2993	3716	3288
Strazdiðkis 1, Strazdiðkis	2458	3854	3272	2645	1840	1268	2504	5089	3691	3120	1709	1019	2151	1836	2643	3092	5250	5833	4449	6605	7018	6198
Svidþiai 15, Svidþiai	4439	4101	3838	3670	3411	3619	2819	6562	2431	2176	2648	3061	1843	2070	1294	809	8245	8904	6026	9502	10121	9456
Svidþiai 16, Svidþiai	3287	2924	2640	2482	2314	2625	1639	5364	1341	984	1665	2237	1079	1594	1207	878	7103	7764	4826	8338	8976	8338
Svidþiai 17, Svidþiai	3123	2805	2501	2325	2147	2464	1478	5226	1273	863	1508	2095	963	1506	1199	934	6939	7600	4682	8176	8813	8173
Upës g. 1, Jasiðkiai	1678	2856	2641	2509	2746	2781	3322	1881	4260	4111	3594	3567	4445	4647	5303	5498	2067	2730	1427	3293	3931	3357
Upës g. 3, Jasiðkiai	1698	2890	2671	2533	2762	2789	3345	1908	4289	4136	3608	3575	4460	4658	5317	5516	2038	2701	1460	3271	3904	3325
Upës g. 5, Jasiðkiai	1696	2919	2691	2542	2753	2769	3348	1967	4304	4144	3597	3553	4450	4641	5305	5508	2032	2695	1516	3279	3902	3312
Velykionys 3, Velykionys	3188	1446	1881	2433	3121	3718	2435	3544	1578	2136	3335	3992	3540	4139	4112	3858	6258	6883	3294	7188	7966	7587
Þilvièiø g. 2, Bliûdþiai	2730	3851	3686	3574	3774	3743	4383	2261	5318	5176	4608	4513	5463	5624	6312	6530	1002	1664	2071	2258	2867	2307

	WTG								
NSA	N32-1	N32-2	N33	N34	N35	N4	N5	N8	N9
Apaðèios g. 10, Koèënai	1792	2207	1105	1142	663	3027	2525	2949	2218
Apaðèios g. 12, Koèënai	1914	2353	1198	1153	655	3166	2657	3048	2322
Apaðèios g. 14, Koèënai	2014	2478	1272	1147	644	3319	2806	3177	2455
Apaðèios g. 15, Koèënai	3268	3744	2501	2184	1751	4197	3649	3740	3106
Apaðèios g. 16, Koèënai	2069	2543	1319	1158	658	3390	2876	3237	2516
Apaðèios g. 18, Koèënai	2651	3197	1863	1455	1075	4105	3579	3855	3157
Apaðèios g. 2, Koèënai	1387	1660	933	1319	1002	2483	2020	2589	1862
Apaðèios g. 20, Koèënai	3453	3972	2670	2269	1888	4565	4018	4125	3488
Apaðèios g. 22, Koèënai	3658	4191	2871	2439	2084	4805	4258	4350	3721
Apaðèios g. 4, Koèënai	1753	2145	1093	1189	726	2929	2427	2860	2128
Apaðèios g. 5, Koèënai	2029	2478	1299	1203	700	3264	2749	3111	2389
Apaðèios g. 6, Koèënai	1768	2166	1099	1179	712	2952	2450	2879	2148
Apaðèios g. 7, Koèënai	2153	2636	1396	1199	705	3470	2953	3295	2578
Apaðèios g. 8, Koèënai	1775	2179	1102	1171	699	2976	2473	2900	2169
Apaðèios g. 8A, Koèënai	1787	2196	1108	1163	687	3000	2497	2920	2189
Apaðèios g. 9, Koèënai	2308	2805	1541	1285	811	3624	3099	3402	2695
ID1 (adresasnesuteiktas), Nemunëlio Radviliðkis	4860	4171	5533	6190	6233	3757	4234	4845	4953
Juljanava 6, Juljanava	5019	4440	5348	5966	5762	2207	2730	2750	3262

To be continued on next page...

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DECIBEL - Main Result

...continued from previous page

NSA	WTG N32-1	N32-2	N33	N34	N35	N4	N5	N8	N9
Kaimynø g. 2, Koèënai	2548	3098	1760	1356	972	4044	3521	3818	3114
Naujikø k. 2, Naujikai	4367	4896	3580	3137	2792	5370	4818	4816	4234
Naujikø k. 3, Naujikai	4075	4606	3287	2846	2499	5136	4586	4619	4018
Nausëdþiai 2A, Nausëdþiai	1159	486	1785	2443	2504	2178	2118	3035	2562
Nausëdþiai 4, Nausëdþiai	1085	876	1299	1941	1846	1911	1632	2468	1866
Nausëdþiai 6, Nausëdþiai	623	704	842	1504	1494	2405	2104	2905	2261
Nausëdþiai 8, Nausëdþiai	78	652	680	1296	1468	2934	2661	3470	2822
Nausëdþiai 9, Nausëdþiai	433	900	1022	1443	1773	3455	3221	4051	3414
Nemunëlio Radviliðkis 2, Nemunëlio Radviliðkis	3765	3081	4351	5016	4991	2342	2811	3449	3530
Nemunëlio Radviliðkis 4, Nemunëlio Radviliðkis	3668	3022	4144	4801	4701	1657	2170	2717	2879
Sodþiaus g. 11, Jasiðkiai	2747	2180	3114	3755	3614	789	1165	1929	1882
Sodþiaus g. 12, Jasiðkiai	2255	1753	2564	3196	3045	822	907	1807	1555
Sodþiaus g. 13, Jasiðkiai	2726	2161	3090	3731	3591	785	1151	1922	1866
Sodþiaus g. 14, Jasiðkiai	1991	1616	2176	2782	2591	989	778	1687	1254
Sodþiaus g. 15, Jasiðkiai	2687	2127	3048	3688	3546	766	1117	1900	1831
Sodþiaus g. 16, Parupë	4033	3399	4480	5130	5007	1770	2312	2739	2995
Sodþiaus g. 17, Jasiðkiai	2418	1894	2745	3380	3230	757	950	1816	1635
Sodþiaus g. 19, Jasiðkiai	2317	1817	2619	3250	3094	765	879	1771	1542
Sodþiaus g. 23, Jasiðkiai	2278	1788	2572	3201	3041	780	858	1759	1508
Sodþiaus g. 25, Jasiðkiai	2261	1775	2550	3179	3018	786	850	1755	1495
Sodþiaus g. 27, Jasiðkiai	2242	1761	2527	3155	2993	795	843	1751	1481
Sodþiaus g. 29, Jasiðkiai	2225	1749	2504	3130	2967	802	834	1745	1465
Sodþiaus g. 31, Jasiðkiai	2205	1736	2478	3103	2938	812	823	1737	1447
Sodþiaus g. 33, Jasiðkiai	2188	1724	2458	3083	2917	821	820	1736	1438
Sodþiaus g. 4, Jasiðkiai	3058	2458	3468	4115	3989	1019	1479	2150	2198
Sodþiaus g. 45, Jasiðkiai	1916	1623	2020	2604	2385	1122	797	1658	1136
Sodþiaus g. 47, Jasiðkiai	1867	1607	1939	2517	2291	1211	852	1681	1124
Sodþiaus g. 49, Jasiðkiai	1644	1648	1461	1951	1660	1828	1365	1994	1291
Sodþiaus g. 51, Jasiðkiai	1616	1730	1301	1730	1404	2092	1613	2176	1453
Sodþiaus g. 7, Jasiðkiai	2977	2391	3366	4009	3874	895	1344	2033	2063
Strazdiðkis 1, Strazdiðkis	2207	2755	1420	1056	637	3799	3289	3653	2934
Svidþiai 15, Svidþiai	5955	6283	5256	5051	4582	5651	5148	4692	4431
Svidþiai 16, Svidþiai	5026	5276	4392	4307	3810	4456	3961	3492	3242
Svidþiai 17, Svidþiai	4867	5112	4238	4165	3667	4303	3804	3352	3086
Upës g. 1, Jasiðkiai	2287	1734	2661	3307	3186	960	1128	2011	1791
Upës g. 3, Jasiðkiai	2262	1705	2645	3292	3176	997	1159	2046	1820
Upës g. 5, Jasiðkiai	2208	1647	2597	3246	3135	1042	1184	2077	1834
Velykionys 3, Velykionys	5653	5529	5370	5650	5187	3362	3177	2262	2713
Þilvièiø g. 2, Bliûdþiai	2616	1934	3209	3874	3871	1865	2168	2996	2852

Project:

Nemunelio_Radviliskis

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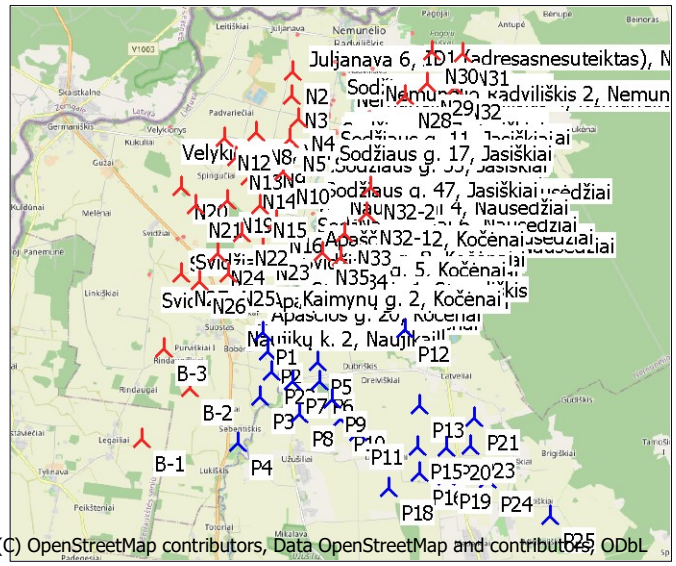
Calculated:
2024-06-04 09:43/4.0.540

DECIBEL - Main Result

Calculation: Copy of SUMINIS

Noise calculation model:
ISO 9613-2 General
Wind speed (at 10 m height):
10,0 m/s
Ground attenuation:
General, Ground factor: 0,7
Meteorological coefficient, C0:
Selected option: Fixed value: 0,0 dB
Type of demand in calculation:
1: WTG noise is compared to demand (DK, DE, SE, NL etc.)
Noise values in calculation:
All noise values are mean values (Lwa) (Normal)
Pure tones:
Fixed penalty added to source noise of WTGs with pure tones
Model: 5,0 dB(A)
Height above ground level, when no value in NSA object:
2,0 m; Allow override of model height with height from NSA object
Uncertainty margin:
0,0 dB; Uncertainty margin in model has priority
Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:
0,0 dB(A)

All coordinates are in
Lithuanian TM LKS94-LKS94 (LT)



Scale 1:200 000

New WTG Noise sensitive area

WTGs

	Y	X	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator	Name	Wind speed	LwA,ref	
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]	
B-1	542 029	6 240 992	53,9	Siemens Gamesa SG 6.0-17...	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	EMD	(AM 0, 6.2MW) - 106dB(A)	10,0	106,0	g
B-2	543 286	6 242 345	51,4	Siemens Gamesa SG 6.0-17...	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	EMD	(AM 0, 6.2MW) - 106dB(A)	10,0	106,0	g
B-3	542 582	6 243 382	48,3	Siemens Gamesa SG 6.0-17...	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	EMD	(AM 0, 6.2MW) - 106dB(A)	10,0	106,0	g
N10	545 698	6 248 113	50,2	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N12	544 141	6 248 992	45,9	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N13	544 443	6 248 494	49,3	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N14	544 794	6 247 974	51,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N15	545 084	6 247 205	50,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N16	545 531	6 246 809	49,1	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N19	544 234	6 247 330	52,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N2	545 926	6 250 780	49,3	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N20	543 009	6 247 672	46,1	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N21	543 391	6 247 200	48,7	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N22	544 610	6 246 488	52,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N23	545 186	6 246 098	46,3	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N24	543 972	6 245 918	50,3	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N25	544 286	6 245 398	51,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N26	543 502	6 245 186	48,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N27	543 025	6 245 373	47,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N28	548 911	6 250 172	45,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N29	549 492	6 250 491	46,1	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N3	545 896	6 250 138	50,2	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N30	549 603	6 251 337	46,1	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N31	550 427	6 251 277	49,2	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N32	550 222	6 250 390	47,7	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N32-1	547 926	6 247 047	46,7	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N32-2	548 034	6 247 730	47,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N33	547 343	6 246 514	47,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N34	547 242	6 245 857	48,7	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N35	546 755	6 245 984	47,3	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N4	546 072	6 249 494	48,7	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N5	545 883	6 248 975	50,1	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N8	544 979	6 249 159	50,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
N9	545 330	6 248 515	51,7	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P1	545 201	6 243 866	48,5	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P10	547 288	6 241 576	49,9	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P11	547 762	6 241 229	50,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P12	548 989	6 243 972	51,3	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P13	549 396	6 241 949	51,2	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P15	549 338	6 240 866	50,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P16	549 408	6 240 174	51,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P18	548 583	6 239 764	51,5	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P19	550 132	6 240 099	50,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P2	545 340	6 243 350	46,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P20	550 137	6 240 842	52,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P21	550 845	6 241 658	49,9	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P22	545 460	6 242 801	45,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P23	550 775	6 240 903	50,3	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P24	551 230	6 240 018	50,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P25	552 889	6 239 060	57,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	
P3	545 136	6 242 130	45,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8	

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DECIBEL - Main Result

Calculation: Copy of SUMINIS

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	Y	X	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator	Name	Wind speed	LwA,ref
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]
P4	544 576	6 240 918	42,7	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
P5	546 670	6 243 096	46,9	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
P6	546 741	6 242 582	47,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
P7	545 998	6 242 560	45,6	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
P8	546 202	6 241 687	46,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8
P9	547 078	6 242 100	51,0	ENERCON E-160 EP5 E3 55...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	EMD	Mode 00 - OM 0 s (5560 kW)	10,0	106,8

g) Data calculated from data for other wind speed (uncertain)

Calculation Results

Sound level

Noise sensitive area No.	Name	Y	X	Z	Immission height	Demands Noise	Sound level From WTGs
				[m]	[m]	[dB(A)]	[dB(A)]
Apaščios g. 10, Kočėnai	Noise sensitive area: User defined (19)	546 229	6 246 388	45,6	2,0	45,0	40,8
Apaščios g. 12, Kočėnai	Noise sensitive area: User defined (18)	546 162	6 246 261	45,0	2,0	45,0	40,8
Apaščios g. 14, Kočėnai	Noise sensitive area: User defined (16)	546 128	6 246 132	43,0	2,0	45,0	40,7
Apaščios g. 15, Kočėnai	Noise sensitive area: User defined (9)	545 034	6 245 414	50,1	2,0	45,0	40,6
Apaščios g. 16, Kočėnai	Noise sensitive area: User defined (15)	546 098	6 246 078	43,7	2,0	45,0	40,6
Apaščios g. 18, Kočėnai	Noise sensitive area: User defined (10)	545 809	6 245 394	48,8	2,0	45,0	38,1
Apaščios g. 2, Kočėnai	Noise sensitive area: User defined (24)	546 484	6 246 955	46,0	2,0	45,0	39,3
Apaščios g. 20, Kočėnai	Noise sensitive area: User defined (8)	545 061	6 245 023	50,1	2,0	45,0	38,7
Apaščios g. 22, Kočėnai	Noise sensitive area: User defined (7)	544 963	6 244 760	50,1	2,0	45,0	38,6
Apaščios g. 4, Kočėnai	Noise sensitive area: User defined (23)	546 155	6 246 525	47,0	2,0	45,0	40,8
Apaščios g. 5, Kočėnai	Noise sensitive area: User defined (17)	546 009	6 246 221	44,0	2,0	45,0	40,7
Apaščios g. 6, Kočėnai	Noise sensitive area: User defined (22)	546 152	6 246 500	47,1	2,0	45,0	40,8
Apaščios g. 7, Kočėnai	Noise sensitive area: User defined (14)	546 000	6 246 025	44,6	2,0	45,0	40,4
Apaščios g. 8, Kočėnai	Noise sensitive area: User defined (21)	546 148	6 246 472	47,9	2,0	45,0	40,8
Apaščios g. 8A, Kočėnai	Noise sensitive area: User defined (20)	546 143	6 246 444	47,3	2,0	45,0	40,8
Apaščios g. 9, Kočėnai	Noise sensitive area: User defined (13)	545 844	6 245 860	46,0	2,0	45,0	40,1
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	Noise sensitive area: User defined (49)	549 115	6 251 778	54,1	2,0	45,0	37,8
Juljanava 6, Juljanava	Noise sensitive area: User defined (57)	546 031	6 251 701	49,7	2,0	45,0	34,3
Kaimynų g. 2, Kočėnai	Noise sensitive area: User defined (11)	545 905	6 245 454	46,1	2,0	45,0	38,3
Naujikų k. 2, Naujikai	Noise sensitive area: User defined (5)	544 493	6 244 312	48,7	2,0	45,0	38,4
Naujikų k. 3, Naujikai	Noise sensitive area: User defined (6)	544 727	6 244 472	49,4	2,0	45,0	38,9
Nausėdžiai 2A, Nausėdžiai	Noise sensitive area: User defined (52)	547 940	6 248 206	48,0	2,0	45,0	40,5
Nausėdžiai 4, Nausėdžiai	Noise sensitive area: User defined (53)	547 158	6 247 813	46,0	2,0	45,0	38,0
Nausėdžiai 6, Nausėdžiai	Noise sensitive area: User defined (54)	547 404	6 247 389	49,3	2,0	45,0	40,8
Nausėdžiai 8, Nausėdžiai	Noise sensitive area: User defined (55)	547 850	6 247 067	47,0	2,0	45,0	52,5
Nausėdžiai 9, Nausėdžiai	Noise sensitive area: User defined (56)	548 321	6 246 869	47,6	2,0	45,0	41,9
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	Noise sensitive area: User defined (50)	548 075	6 250 829	46,7	2,0	45,0	34,6
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	Noise sensitive area: User defined (47)	547 234	6 250 675	40,0	2,0	45,0	34,2
Sodžiaus g. 11, Jasiškiai	Noise sensitive area: User defined (44)	546 848	6 249 637	51,7	2,0	45,0	38,2
Sodžiaus g. 12, Jasiškiai	Noise sensitive area: User defined (37)	546 784	6 249 077	50,0	2,0	45,0	38,6
Sodžiaus g. 13, Jasiškiai	Noise sensitive area: User defined (43)	546 847	6 249 619	52,3	2,0	45,0	38,2
Sodžiaus g. 14, Jasiškiai	Noise sensitive area: User defined (29)	546 582	6 248 633	43,2	2,0	45,0	39,3
Sodžiaus g. 15, Jasiškiai	Noise sensitive area: User defined (42)	546 834	6 249 568	52,1	2,0	45,0	38,4
Sodžiaus g. 16, Parupė	Noise sensitive area: User defined (48)	547 008	6 250 999	47,9	2,0	45,0	34,4
Sodžiaus g. 17, Jasiškiai	Noise sensitive area: User defined (38)	546 792	6 249 262	50,5	2,0	45,0	38,7
Sodžiaus g. 19, Jasiškiai	Noise sensitive area: User defined (36)	546 751	6 249 138	50,5	2,0	45,0	38,9
Sodžiaus g. 23, Jasiškiai	Noise sensitive area: User defined (35)	546 736	6 249 077	49,1	2,0	45,0	39,0
Sodžiaus g. 25, Jasiškiai	Noise sensitive area: User defined (34)	546 731	6 249 062	48,9	2,0	45,0	39,0
Sodžiaus g. 27, Jasiškiai	Noise sensitive area: User defined (33)	546 725	6 249 031	47,5	2,0	45,0	39,0
Sodžiaus g. 29, Jasiškiai	Noise sensitive area: User defined (32)	546 717	6 249 011	46,7	2,0	45,0	39,0
Sodžiaus g. 31, Jasiškiai	Noise sensitive area: User defined (31)	546 707	6 248 980	46,1	2,0	45,0	39,0
Sodžiaus g. 33, Jasiškiai	Noise sensitive area: User defined (30)	546 703	6 248 963	45,9	2,0	45,0	39,0
Sodžiaus g. 4, Jasiškiai	Noise sensitive area: User defined (46)	546 960	6 249 994	48,6	2,0	45,0	36,8
Sodžiaus g. 45, Jasiškiai	Noise sensitive area: User defined (28)	546 461	6 248 408	42,6	2,0	45,0	39,7
Sodžiaus g. 47, Jasiškiai	Noise sensitive area: User defined (27)	546 435	6 248 310	43,8	2,0	45,0	39,8
Sodžiaus g. 49, Jasiškiai	Noise sensitive area: User defined (26)	546 296	6 247 653	48,6	2,0	45,0	39,6
Sodžiaus g. 51, Jasiškiai	Noise sensitive area: User defined (25)	546 248	6 247 366	47,9	2,0	45,0	39,5
Sodžiaus g. 7, Jasiškiai	Noise sensitive area: User defined (45)	546 877	6 249 889	48,7	2,0	45,0	37,6
Strazdiškis 1, Strazdiškis	Noise sensitive area: User defined (12)	546 197	6 245 676	44,7	2,0	45,0	40,0
Svidžiai 15, Svidžiai	Noise sensitive area: User defined (4)	542 217	6 245 338	45,0	2,0	45,0	36,5
Svidžiai 16, Svidžiai	Noise sensitive area: User defined (2)	542 954	6 246 275	47,8	2,0	45,0	38,6
Svidžiai 17, Svidžiai	Noise sensitive area: User defined (3)	543 107	6 246 366	48,8	2,0	45,0	39,2

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Calculated:
2024-06-04 09:43/4.0.540

DECIBEL - Main Result

Calculation: Copy of SUMINIS

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Noise sensitive area No.	Name	Y	X	Z	Immission height	Demands Noise	Sound level From WTGs
				[m]	[m]	[dB(A)]	[dB(A)]
Upės g. 1, Jasiškiai	Noise sensitive area: User defined (39)	546 990	6 249 211	52,0	2,0	45,0	37,1
Upės g. 3, Jasiškiai	Noise sensitive area: User defined (40)	547 024	6 249 192	51,7	2,0	45,0	36,9
Upės g. 5, Jasiškiai	Noise sensitive area: User defined (41)	547 056	6 249 139	51,9	2,0	45,0	36,7
Velykionys 3, Velykionys	Noise sensitive area: User defined (1)	542 711	6 249 231	46,0	2,0	45,0	33,2
Žilvičių g. 2, Bliūdžiai	Noise sensitive area: User defined (51)	548 008	6 249 737	45,0	2,0	45,0	35,1

Distances (m)

	WTG																				
NSA	B-1	B-2	B-3	N10	N12	N13	N14	N15	N16	N19	N2	N20	N21	N22	N23	N24	N25	N26	N27	N28	N29	N3
Apaščios g. 10, Kočėnai	6794	4959	4672	1716	3243	2667	2045	1315	724	2117	4319	3379	2866	1541	1011	2232	2117	2914	3291	4581	5187	3681
Apaščios g. 12, Kočėnai	6641	4805	4528	1833	3310	2730	2104	1342	745	2112	4456	3362	2834	1479	906	2133	1990	2792	3180	4741	5347	3816
Apaščios g. 14, Kočėnai	6496	4658	4402	1974	3411	2830	2203	1420	828	2158	4607	3392	2851	1469	850	2074	1893	2701	3103	4888	5490	3967
Apaščios g. 15, Kočėnai	5281	3463	3131	2767	3686	3133	2567	1785	1464	2076	5429	3032	2426	1154	689	1169	727	1522	1988	6103	6720	4791
Apaščios g. 16, Kočėnai	6422	4583	4336	2040	3457	2875	2248	1457	870	2177	4678	3403	2855	1464	824	2041	1840	2650	3059	4961	5562	4037
Apaščios g. 18, Kočėnai	5737	3891	3751	2719	3966	3388	2773	1951	1441	2494	5385	3604	3011	1619	938	1895	1497	2286	2757	5676	6265	4742
Apaščios g. 2, Kočėnai	7438	5606	5280	1320	3034	2489	1911	1376	932	2236	3776	3501	3061	1903	1540	2695	2679	3450	3783	3944	4557	3148
Apaščios g. 20, Kočėnai	4991	3157	2936	3137	4068	3518	2954	2170	1827	2447	5805	3351	2744	1529	1067	1410	859	1558	2059	6390	6997	5166
Apaščios g. 22, Kočėnai	4760	2922	2746	3376	4271	3728	3172	2398	2068	2636	6042	3485	2880	1725	1302	1506	917	1520	2031	6624	7228	5404
Apaščios g. 4, Kočėnai	6883	5049	4747	1622	3170	2596	1975	1263	682	2079	4221	3346	2844	1545	1055	2264	2176	2967	3333	4498	5107	3582
Apaščios g. 5, Kočėnai	6507	4671	4398	1912	3342	2760	2133	1351	758	2092	4551	3330	2791	1417	810	2037	1871	2677	3072	4868	5474	3910
Apaščios g. 6, Kočėnai	6861	5027	4727	1643	3185	2610	1990	1273	691	2088	4244	3354	2849	1542	1042	2255	2160	2953	3321	4521	5131	3606
Apaščios g. 7, Kočėnai	6331	4491	4248	2110	3496	2914	2287	1486	909	2180	4756	3394	2838	1438	780	1987	1768	2579	2994	5056	5657	4115
Apaščios g. 8, Kočėnai	6838	5004	4708	1665	3201	2625	2004	1282	697	2093	4267	3357	2850	1538	1028	2243	2143	2937	3307	4540	5148	3629
Apaščios g. 8A, Kočėnai	6816	4981	4687	1687	3218	2642	2019	1292	703	2098	4292	3361	2852	1534	1016	2234	2127	2923	3296	4563	5170	3653
Apaščios g. 9, Kočėnai	6136	4297	4060	2244	3561	2980	2356	1541	992	2180	4905	3364	2794	1383	697	1864	1604	2417	2844	5234	5834	4263
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	12874	11058	10603	4972	5648	5662	5713	6058	6093	6561	3280	7308	7284	6911	6874	7759	7967	8621	8799	1606	1338	3558
Juljanava 6, Juljanava	11431	9750	9004	3603	3296	3575	3926	4595	4917	4724	927	5028	5213	5403	5666	6138	6540	6987	7003	3233	3632	1569
Kaimynų g. 2, Kočėnai	5836	3990	3853	2667	3951	3371	2752	1931	1405	2504	5326	3635	3047	1645	955	1961	1581	2375	2842	5582	6170	4684
Naujikų k. 2, Naujikai	4072	2250	2042	3941	4628	4121	3618	2902	2661	2964	6574	3593	3013	2122	1871	1612	1036	1228	1715	7306	7917	5943
Naujikų k. 3, Naujikai	4350	2520	2329	3706	4474	3951	3426	2686	2412	2815	6354	3535	2941	1939	1628	1534	930	1315	1823	7026	7634	5719
Nausėdžiai 2A, Nausėdžiai	9304	7462	7181	2184	3810	3444	3096	2980	2746	3756	3166	4903	4607	3706	3436	4542	4576	5333	5634	2100	2676	2715
Nausėdžiai 4, Nausėdžiai	8486	6654	6314	1401	3147	2709	2283	2086	1847	2885	3127	4068	3738	2804	2555	3641	3694	4440	4734	2895	3512	2557
Nausėdžiai 6, Nausėdžiai	8287	6444	6192	1754	3536	3060	2575	2232	1870	3074	3620	4306	3921	2845	2483	3646	3617	4397	4733	3128	3706	3052
Nausėdžiai 8, Nausėdžiai	8343	6496	6351	2307	4094	3607	3100	2682	2247	3538	4113	4790	4373	3205	2751	3960	3854	4655	5030	3247	3768	3568
Nausėdžiai 9, Nausėdžiai	8573	6733	6687	2903	4688	4204	3694	3249	2782	4108	4583	5368	4935	3720	3214	4438	4276	5086	5487	3327	3771	4068
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	11502	9699	9205	3557	4271	4252	4290	4647	4712	5137	2065	5903	5863	5503	5499	6348	6574	7212	7380	1063	1453	2210
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	10990	9213	8648	2984	3522	3542	3640	4080	4219	4493	1303	5184	5181	4939	5009	5766	6041	6636	6769	1672	2180	1442
Sodžiaus g. 11, Jasiškiai	9878	8094	7555	1895	2783	2660	2636	2989	3098	3478	1445	4310	4224	3848	3888	4687	4935	5554	5715	2039	2687	1068
Sodžiaus g. 12, Jasiškiai	9356	7561	7058	1439	2645	2411	2268	2513	2567	3082	1882	4024	3870	3364	3356	4213	4426	5073	5263	2303	2966	1368
Sodžiaus g. 13, Jasiškiai	9857	8073	7535	1875	2776	2650	2619	2970	3076	3461	1461	4298	4209	3828	3866	4668	4915	5534	5696	2047	2696	1075
Sodžiaus g. 14, Jasiškiai	8860	7062	6571	1011	2467	2140	1897	2046	2070	2671	2225	3693	3487	2887	2857	3740	3935	4595	4802	2715	3375	1639
Sodžiaus g. 15, Jasiškiai	9813	8028	7492	1833	2754	2619	2582	2927	3032	3423	1491	4267	4174	3785	3822	4625	4870	5492	5656	2066	2717	1087
Sodžiaus g. 16, Parupė	11173	9415	8807	3165	3499	3585	3747	4250	4436	4598	1098	5202	5245	5105	5222	5916	6223	6786	6891	2008	2461	1406
Sodžiaus g. 17, Jasiškiai	9518	7727	7210	1570	2664	2468	2368	2654	2731	3194	1728	4099	3969	3509	3521	4355	4582	5218	5398	2219	2880	1243
Sodžiaus g. 19, Jasiškiai	9380	7588	7076	1446	2612	2390	2263	2525	2592	3082	1822	4011	3865	3378	3382	4226	4446	5088	5273	2312	2974	1307
Sodžiaus g. 23, Jasiškiai	9328	7535	7026	1401	2596	2363	2224	2477	2540	3040	1863	3978	3826	3329	3329	4178	4395	5039	5226	2348	3011	1339
Sodžiaus g. 25, Jasiškiai	9305	7512	7004	1382	2590	2352	2209	2456	2517	3023	1882	3965	3812	3308	3306	4157	4373	5018	5206	2366	3028	1353
Sodžiaus g. 27, Jasiškiai	9279	7486	6978	1359	2584	2340	2190	2432	2490	3002	1902	3950	3792	3283	3280	4132	4347	4993	5182	2385	3048	1369
Sodžiaus g. 29, Jasiškiai	9254	7459	6954	1337	2575	2328	2172	2409	2464	2982	1921	3935	3774	3259	3254	4109	4323	4969	5160	2402	3065	1384
Sodžiaus g. 31, Jasiškiai	9225	7430	6926	1312	2565	2312	2151	2382	2435	2958	1943	3915	3752	3232	3225	4081	4294	4941	5133	2423	3085	1402
Sodžiaus g. 33, Jasiškiai	9205	7410	6907	1296	2562	2305	2138	2364	2415	2944	1960	3906	3740	3213	3204	4063	4275	4923	5116	2437	3100	1415
Sodžiaus g. 4, Jasiškiai	10254	8474	7922	2257	2992	2929	2958	3353	3478	3808	1277	4582	4530	4212	4269	5047	5308	5915	6064	1868	2487	1070
Sodžiaus g. 45, Jasiškiai	8614	6817	6327	813	2392	2020	1719	1814	1824	2467	2394	3527	3294	2649	2612	3503	3691	4356	4569	2933	3591	1787
Sodžiaus g. 47, Jasiškiai	8515	6716	6234	760	2392	2000	1673	1732	1726	2403	2491	3483	3236	2562	2512	3417	3596	4267	4486	3017	3673	1878
Sodžiaus g. 49, Jasiškiai	7878	6067	5633	752	2536	2035	1536	1283	1114	2083	3122	3285	2936	2032	1880	2881	2995	3706	3970	3560	4202	2492
Sodžiaus g. 51, Jasiškiai	7618	5802	5395	908	2652	2121	1573	1174	895	2014	3386	3253	2862	1850	1633	2687	2761	3493	3779	3788	4422	2753
Sodžiaus g. 7, Jasiškiai	10118	8339	7785	2120	2879	2803	2823	3216	3344	3672	1281	4456	4398	4076	4134	4910	5171	5778	5927	1959	2588	1008
Strazdiškis 1, Strazdiškis	6173	4327	4181	2458	3854	3272	2645	1840	1268	2504	5089	3691	3120	1709	1019	2151	1836	2643	3092	5250	5833	4449
Svidžiai 15, Svidžiai	4306	3150	1955	4439	4101	3838	3670	3411	3619	2819	6562	2431	2176	2648	3061	1843	2070	1294	809	8245	8904	6026
Svidžiai 16, Svidžiai	5325	3917	2881	3287	2924	2640	2482	2314	2625	1639	5364	1341	984	1665	2237	1079	1594	1207	878	7103	7764	4826
Svidžiai 17, Svidžiai	5414	3968	2963	3123	2805	2501	2325	2147	2464	1478	5226	1273	863	1508	2095	963	1506	1199	934	6939	7600	4682
Upės g. 1, Jasiškiai	9570	7770	7282	1678	2856	2641	2509	2746	2781	3322	1881	4260	4111	3594	3567	4445	4647	5303	5498	2067	2730	1427
Upės g. 3, Jasiškiai	9579	7776	7294	1698	2890	2671	2533	2762	2789	3345	1908	4289	4136	3608	3575	4460	4658	5317	5516	2038	2701	1460
Upės g. 5, Jasiškiai	9557	7752	7278	1696	2919	2691	2542	2753	2769	3348	1967	4304	4144	3597	3553	4450	4641	5305	5508	2032	2695	1516
Velykionys 3, Velykionys	8248	6897	5834	3188	1446	1881	2433	3121	3718	2435	3544	1578	2136	3335	3992	3540	4139	4112	3858	6258	6883	3294
Žilvičių g. 2, Bliūdžiai	10502	8681	8264	2730	3851	3686	3574	3774	3743	4383	2261	5318	5176	4608	4513	5463	5624	6312	6530	1002	1664	2071

	WTG																				
NSA	N30	N31	N32	N32-1	N32-2	N33	N34	N35	N4	N5	N8	N9	P1	P10	P11	P12	P13	P15	P16	P18	P19	P2
Apaščios g. 10, Kočėnai	5932	6390	5603	1792	2207	1105	1142	663	3027	2525	2949	2218	2693	4918	5374	3668	5450	6333	6975	7023	7398	3141
Apaščios g. 12, Kočėnai	6093	6549	5759	1914	2353	1198	1153	655	3166	2657	3048	2322	2539	4803	5267	3638	5387	6254	6891	6922	7325	2988
Apaščios g. 14, Kočėnai	6240	6690	5894	2014	2478	1272	1147	644	3319	2806	3177	2455	2382	4662	5133	3574	5287	6142	6775	6792	7217	2830
Apaščios g. 15, Kočėnai	7447	7928	7148	3268	3744	2501	2184	1751	4197	3649	3740	3106	1464	4353	4898	4121	5474	6163	6727	6574	7266	1992
Apaščios g. 16, Kočėnai	6314	6761	5963	2069	2543	1319	1158	658	3390	2876	3237	2516	2304	4600	5074	3553	5247	6094	6723	6734	7171	2752
Apaščios g. 18, Kočėnai	7030	7454	6638	2651	3197	1863	1455	1075	4105	3579	3855	3157	1567	4001	4506	3403	4883	5648	6247	6182	6743	2015
Apaščios g. 2, Kočėnai	5292	5766	4994	1387	1660	933	1319	1002	2483	2020	2589	1862	3344	5436	5862	3877	5778	6714	7375	7485	7754	3782
Apaščios g. 20, Kočėnai	7739	8198	7401	3453	3972	2670	2269	1888	4565	4018	4125	3488	1082	4011	4564	3979	5220	5869	6418	6236	6973	1611
Apaščios g. 22, Kočėnai	7974	8427	7625	3658	4191	2871	2439	2084	4805	4258	4350	3721	870	3870	4432	4011	5164	5777	6309	6097	6880	1404
Apaščios g. 4, Kočėnai	5847	6312	5529	1753	2145	1093	1189	726	2929	2427	2860	2128	2793	5019	5473	3732	5532	6421	7065	7119	7484	3242
Apaščios g. 5, Kočėnai	6219	6676	5886	2029	2478	1299	1203	700	3264	2749	3111	2389	2411	4721	5193	3638	5353	6206	6838	6853	7282	2866

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DECIBEL - Main Result

Calculation: Copy of SUMINIS

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	WTG																					
NSA	N30	N31	N32	N32-1	N32-2	N33	N34	N35	N4	N5	N8	N9	P1	P10	P11	P12	P13	P15	P16	P18	P19	P2
Apaščios g. 6, Kočėnai	5871	6336	5553	1768	2166	1099	1179	712	2952	2450	2879	2148	2770	4996	5450	3718	5514	6402	7046	7098	7465	3219
Apaščios g. 7, Kočėnai	6408	6856	6058	2153	2636	1396	1199	705	3470	2953	3295	2578	2215	4541	5019	3551	5222	6058	6683	6683	7138	2666
Apaščios g. 8, Kočėnai	5890	6353	5569	1775	2179	1102	1171	699	2976	2473	2900	2169	2744	4973	5429	3705	5497	6384	7027	7077	7447	3193
Apaščios g. 8A, Kočėnai	5913	6375	5589	1787	2196	1108	1163	687	3000	2497	2920	2189	2720	4950	5406	3693	5480	6364	7007	7055	7429	3168
Apaščios g. 9, Kočėnai	6586	7031	6231	2308	2805	1541	1285	811	3624	3099	3402	2695	2031	4416	4904	3544	5162	5978	6595	6573	7063	2490
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	658	1400	1775	4860	4171	5533	6190	6233	3757	4234	4845	4953	8801	10349	10622	7797	9824	10905	11599	12016	11715	9210
Juljanava 6, Juljanava	3546	4372	4355	5019	4440	5348	5966	5762	2207	2730	2750	3262	7879	10202	10613	8271	10312	11325	12008	12205	12301	8380
Kaimynų g. 2, Kočėnai	6937	7357	6540	2548	3098	1760	1356	972	4044	3521	3818	3114	1654	4026	4524	3349	4861	5641	6246	6197	6733	2092
Naujikų k. 2, Naujikai	8653	9120	8325	4367	4896	3580	3137	2792	5370	4818	4816	4234	836	3907	4490	4508	5443	5944	6422	6111	7037	1276
Naujikų k. 3, Naujikai	8375	8835	8037	4075	4606	3287	2846	2499	5136	4586	4619	4018	768	3865	4441	4288	5307	5854	6355	6084	6953	1274
Nausėdžiai 2A, Nausėdžiai	3453	3869	3083	1159	486	1785	2443	2504	2178	2118	3035	2562	5115	6659	6979	4363	6425	7473	8166	8467	8398	5493
Nausėdžiai 4, Nausėdžiai	4244	4724	3970	1085	876	1299	1941	1846	1911	1632	2468	1866	4367	6220	6597	4249	6269	7272	7954	8162	8260	4784
Nausėdžiai 6, Nausėdžiai	4483	4895	4091	623	704	842	1504	1494	2405	2104	2905	2261	4095	5780	6140	3753	5776	6784	7468	7690	7767	4480
Nausėdžiai 8, Nausėdžiai	4584	4911	4060	78	652	680	1296	1468	2934	2661	3470	2822	4086	5477	5800	3275	5321	6349	7039	7306	7307	4420
Nausėdžiai 9, Nausėdžiai	4615	4843	3957	433	900	1022	1443	1773	3455	3221	4051	3414	4293	5328	5599	2893	4956	6010	6705	7036	6926	4569
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	1591	2379	2187	3765	3081	4351	5016	4991	2342	2811	3449	3530	7496	9265	9586	6905	8965	10029	10725	11060	10914	7928
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	2365	3156	2917	3668	3022	4144	4801	4701	1657	2170	2717	2879	7098	9082	9441	6900	8961	10005	10697	10972	10936	7557
Sodžiaus g. 11, Jasiškiai	3150	3847	3365	2747	2180	3114	3755	3614	789	1165	1929	1882	5973	8030	8411	5998	8043	9063	9749	9975	10031	6435
Sodžiaus g. 12, Jasiškiai	3530	4169	3588	2255	1753	2564	3196	3045	822	907	1807	1555	5412	7466	7853	5491	7524	8535	9218	9426	9515	5870
Sodžiaus g. 13, Jasiškiai	3162	3858	3372	2726	2161	3090	3731	3591	785	1151	1922	1866	5950	8005	8387	5977	8021	9041	9727	9951	10009	6412
Sodžiaus g. 14, Jasiškiai	3983	4590	3961	1991	1616	2176	2782	2591	989	778	1687	1254	4916	7027	7429	5166	7175	8166	8844	9021	9165	5378
Sodžiaus g. 15, Jasiškiai	3192	3883	3390	2687	2127	3048	3688	3546	766	1117	1900	1831	5905	7962	8345	5938	7982	9001	9687	9910	9970	6367
Sodžiaus g. 16, Parupė	2532	3347	3196	4033	3399	4480	5130	5007	1770	2312	2739	2995	7349	9411	9781	7275	9334	10373	11064	11324	11312	7819
Sodžiaus g. 17, Jasiškiai	3413	4072	3522	2418	1894	2745	3380	3230	757	950	1816	1635	5591	7650	8037	5661	7698	8711	9395	9608	9687	6051
Sodžiaus g. 19, Jasiškiai	3526	4173	3603	2317	1817	2619	3250	3094	765	879	1771	1542	5450	7517	7906	5552	7584	8593	9276	9482	9575	5910
Sodžiaus g. 23, Jasiškiai	3570	4212	3636	2278	1788	2572	3201	3041	780	858	1759	1508	5395	7466	7857	5509	7540	8548	9230	9434	9530	5856
Sodžiaus g. 25, Jasiškiai	3590	4230	3652	2261	1775	2550	3179	3018	786	850	1755	1495	5372	7444	7835	5491	7520	8527	9209	9412	9511	5831
Sodžiaus g. 27, Jasiškiai	3613	4251	3668	2242	1761	2527	3155	2993	795	843	1751	1481	5344	7419	7811	5470	7499	8505	9187	9388	9489	5804
Sodžiaus g. 29, Jasiškiai	3632	4269	3683	2225	1749	2504	3130	2967	802	834	1745	1465	5318	7393	7786	5451	7478	8484	9166	9365	9469	5778
Sodžiaus g. 31, Jasiškiai	3657	4291	3701	2205	1736	2478	3103	2938	812	823	1737	1447	5288	7365	7759	5427	7453	8458	9139	9338	9444	5748
Sodžiaus g. 33, Jasiškiai	3675	4306	3714	2188	1724	2458	3083	2917	821	820	1736	1438	5267	7344	7738	5410	7436	8440	9122	9318	9427	5727
Sodžiaus g. 4, Jasiškiai	2872	3603	3194	3058	2458	3468	4115	3989	1019	1479	2150	2198	6359	8394	8769	6311	8364	9392	10081	10323	10348	6821
Sodžiaus g. 45, Jasiškiai	4213	4809	4161	1916	1623	2020	2604	2385	1122	797	1658	1136	4677	6825	7237	5032	7025	8005	8679	8839	9015	5142
Sodžiaus g. 47, Jasiškiai	4305	4892	4235	1867	1607	1939	2517	2291	1211	852	1681	1124	4574	6731	7145	4958	6944	7921	8594	8749	8934	5039
Sodžiaus g. 49, Jasiškiai	4883	5422	4709	1644	1648	1461	1951	1660	1828	1365	1994	1291	3898	6091	6520	4477	6412	7361	8025	8142	8393	4362
Sodžiaus g. 51, Jasiškiai	5121	5641	4908	1616	1730	1301	1730	1404	2092	1613	2176	1453	3616	5823	6258	4282	6190	7125	7785	7887	8166	4077
Sodžiaus g. 7, Jasiškiai	2993	3716	3288	2977	2391	3366	4009	3874	895	1344	2033	2063	6230	8286	8665	6230	8279	9304	9991	10224	10265	6694
Strazdiškis 1, Strazdiškis	6605	7018	6198	2207	2755	1420	1056	637	3799	3289	3653	2934	1974	4177	4652	3241	4867	5694	6317	6314	6776	2392
Svidžiai 15, Svidžiai	9502	10121	9456	5955	6283	5256	5051	4582	5651	5148	4692	4431	3323	6306	6893	6908	7935	8403	8845	8451	9485	3696
Svidžiai 16, Svidžiai	8338	8976	8338	5026	5276	4392	4307	3810	4456	3961	3492	3242	3290	6388	6966	6460	7759	8365	8878	8602	9466	3769
Svidžiai 17, Svidžiai	8176	8813	8173	4867	5112	4238	4165	3667	4303	3804	3352	3086	3234	6331	6907	6342	7668	8290	8811	8550	9393	3722
Upės g. 1, Jasiškiai	3293	3931	3357	2287	1734	2661	3307	3186	960	1128	2011	1791	5598	7586	7962	5538	7583	8604	9290	9520	9571	6048
Upės g. 3, Jasiškiai	3271	3904	3325	2262	1705	2645	3292	3176	997	1159	2046	1820	5598	7572	7946	5514	7560	8582	9269	9502	9547	6046
Upės g. 5, Jasiškiai	3279	3902	3312	2208	1647	2597	3246	3135	1042	1184	2077	1834	5567	7526	7898	5460	7507	8530	9217	9452	9494	6013
Velykionys 3, Velykionys	7188	7966	7587	5653	5529	5370	5650	5187	3362	3177	2262	2713	5911	8917	9461	8190	9885	10671	11263	11139	11766	6438
Žilvičių g. 2, Bliūdžiai	2258	2867	2307	2616	1934	3209	3874	3871	1865	2168	2996	2852	6419	8115	8436	5781	7844	8903	9597	9918	9805	6834

	WTG													
NSA	P20	P21	P22	P23	P24	P25	P3	P4	P5	P6	P7	P8	P9	
Apaščios g. 10, Kočėnai	6782	6609	3646	7123	8097	9902	4372	5689	3310	3829	3818	4686	4361	
Apaščios g. 12, Kočėnai	6717	6566	3498	7068	8038	9853	4222	5536	3187	3706	3679	4550	4244	
Apaščios g. 14, Kočėnai	6616	6486	3339	6977	7943	9766	4063	5378	3042	3560	3523	4397	4103	
Apaščios g. 15, Kočėnai	6754	6824	2553	7205	8119	10006	3195	4433	2739	3209	2915	3809	3796	
Apaščios g. 16, Kočėnai	6574	6456	3263	6941	7905	9733	3986	5300	2977	3495	3450	4325	4040	
Apaščios g. 18, Kočėnai	6190	6183	2532	6606	7544	9410	3250	4562	2360	2869	2751	3638	3436	
Apaščios g. 2, Kočėnai	7108	6843	4279	7403	8390	10149	5010	6331	3862	4379	4422	5275	4888	
Apaščios g. 20, Kočėnai	6481	6598	2173	6950	7849	9746	2814	4059	2416	2870	2545	3437	3458	
Apaščios g. 22, Kočėnai	6407	6563	1966	6891	7776	9679	2588	3822	2305	2737	2366	3251	3324	
Apaščios g. 4, Kočėnai	6864	6679	3749	7199	8175	9975	4475	5790	3413	3932	3923	4790	4463	
Apaščios g. 5, Kočėnai	6681	6552	3379	7043	8009	9832	4100	5412	3099	3617	3571	4447	4161	
Apaščios g. 6, Kočėnai	6846	6664	3726	7182	8158	9958	4451	5767	3390	3909	3898	4766	4440	
Apaščios g. 7, Kočėnai	6548	6444	3180	6921	7882	9716	3901	5213	2913	3430	3374	4252	3980	
Apaščios g. 8, Kočėnai	6829	6649	3701	7167	8142	9944	4426	5741	3366	3885	3874	4742	4417	
Apaščios g. 8A, Kočėnai	6812	6635	3676	7151	8126	9929	4401	5716	3342	3861	3849	4717	4394	
Apaščios g. 9, Kočėnai	6483	6408	3009	6870	7824	9669	3726	5034	2783	3298	3217	4099	3853	
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	10976	10261	9669	10995	11943	13263	10413	11746	9001	9479	9710	10484	9874	
Juljanava 6, Juljanava	11604	11130	8918	11788	12781	14373	9613	10881	8628	9146	9141	10015	9657	
Kaimynų g. 2, Kočėnai	6172	6149	2601	6581	7523	9384	3324	4641	2387	2900	2804	3687	3462	
Naujikų k. 2, Naujikai	6625	6884	1785	7147	7988	9902	2257	3366	2493	2835	2304	3123	3399	
Naujikų k. 3, Naujikai	6515	6734	1819	7023	7882	9793	2364	3537	2381	2762	2293	3147	3339	
Nausėdžiai 2A, Nausėdžiai	7685	7162	5934	7833	8824	10397	6679	8014	5259	5745	5961	6740	6163	
Nausėdžiai 4, Nausėdžiai	7574	7171	5259	7795	8790	10460	5999	7329	4719	5226	5352	6175	5694	
Nausėdžiai 6, Nausėdžiai	7079	6673	4930	7297	8292	9963	5674	7009	4315	4814	4983	5785	5264	
Nausėdžiai 8, Nausėdžiai	6608	6165	4828	6803	7798	9444	5573	6906	4091	4571	4817	5575	4982	
Nausėdžiai 9, Nausėdžiai	6211	5702	4927	6364	7356	8957	5662	6983	4064	4512	4844	5543	4866	
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	10186	9571	8410	10277	11253	12708	9148	10476	7833	8329	8496	9304	8763	
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	10222	9678	8061	10360	11347	12879	8789	10104	7585	8093	8196	9033	8560	
Sodžiaus g. 11, Jasiškiai	9332	8862	6944	9516	10509	12116	7669	8981	6504	7016	7092	7939	7498	
Sodžiaus g. 12, Jasiškiai	8823	8384	6376	9024	10019	11654	7103	8417	5934	6447	6521	7368	6932	

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	WTG												
NSA	P20	P21	P22	P23	P24	P25	P3	P4	P5	P6	P7	P8	P9
Sodžiaus g. 13, Jasiškiai	9311	8842	6921	9495	10489	12097	7646	8958	6480	6992	7070	7916	7474
Sodžiaus g. 14, Jasiškiai	8485	8092	5888	8713	9708	11380	6612	7923	5476	5991	6045	6899	6487
Sodžiaus g. 15, Jasiškiai	9272	8805	6876	9457	10451	12061	7601	8913	6435	6947	7024	7870	7430
Sodžiaus g. 16, Parupė	10601	10066	8332	10746	11734	13274	9054	10361	7896	8407	8487	9334	8884
Sodžiaus g. 17, Jasiškiai	8993	8546	6558	9190	10185	11812	7285	8598	6119	6631	6706	7553	7117
Sodžiaus g. 19, Jasiškiai	8883	8446	6418	9086	10081	11717	7144	8457	5983	6496	6567	7415	6983
Sodžiaus g. 23, Jasiškiai	8840	8406	6363	9045	10040	11680	7089	8402	5930	6443	6513	7361	6932
Sodžiaus g. 25, Jasiškiai	8821	8389	6339	9027	10022	11663	7065	8378	5907	6421	6489	7338	6909
Sodžiaus g. 27, Jasiškiai	8800	8370	6313	9007	10002	11645	7038	8351	5882	6395	6463	7312	6884
Sodžiaus g. 29, Jasiškiai	8780	8352	6286	8989	9984	11628	7012	8325	5856	6369	6437	7286	6858
Sodžiaus g. 31, Jasiškiai	8756	8331	6256	8966	9961	11608	6982	8294	5827	6340	6407	7256	6830
Sodžiaus g. 33, Jasiškiai	8739	8314	6235	8949	9944	11592	6961	8274	5805	6319	6385	7235	6808
Sodžiaus g. 4, Jasiškiai	9644	9149	7328	9812	10804	12387	8054	9367	6878	7388	7474	8317	7866
Sodžiaus g. 45, Jasiškiai	8341	7973	5654	8583	9577	11268	6376	7686	5264	5780	5820	6677	6283
Sodžiaus g. 47, Jasiškiai	8262	7903	5553	8509	9503	11200	6275	7583	5166	5683	5720	6578	6188
Sodžiaus g. 49, Jasiškiai	7739	7441	4875	8018	9008	10746	5597	6906	4511	5029	5048	5911	5543
Sodžiaus g. 51, Jasiškiai	7520	7249	4590	7813	8800	10554	5312	6622	4235	4753	4764	5628	5272
Sodžiaus g. 7, Jasiškiai	9564	9080	7203	9739	10732	12326	7928	9239	6763	7274	7353	8199	7755
Strazdiškis 1, Strazdiškis	6190	6107	2884	6572	7529	9370	3616	4940	2555	3073	3044	3914	3616
Svidžiai 15, Svidžiai	9102	9377	4109	9634	10461	12376	4324	4988	4981	5292	4684	5394	5834
Svidžiai 16, Svidžiai	9004	9142	4277	9487	10373	12277	4672	5578	4888	5286	4797	5614	5865
Svidžiai 17, Svidžiai	8921	9043	4238	9397	10290	12191	4657	5595	4814	5222	4750	5577	5803
Upės g. 1, Jasiškiai	8872	8407	6548	9058	10052	11665	7278	8597	6073	6582	6678	7517	7058
Upės g. 3, Jasiškiai	8848	8380	6545	9033	10026	11638	7276	8595	6062	6571	6672	7508	7045
Upės g. 5, Jasiškiai	8794	8324	6509	8977	9971	11580	7241	8562	6019	6528	6632	7467	7000
Velykionys 3, Velykionys	11203	11114	6989	11592	12548	14389	7498	8511	7300	7773	7434	8309	8360
Žilvičių g. 2, Bliūdžiai	9082	8503	7303	9196	10179	11685	8044	9376	6693	7186	7369	8168	7614

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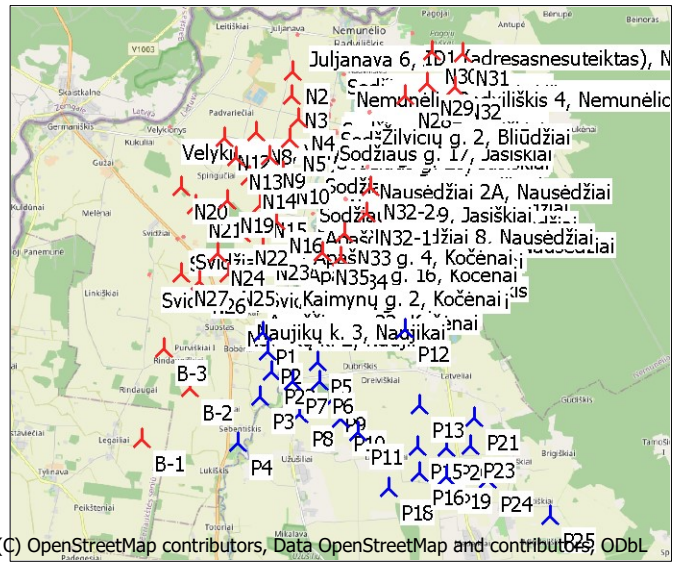
Calculated:
2024-06-04 11:45/4.0.540

DECIBEL - Main Result

Calculation: Copy of SUMINISnoise

Noise calculation model:
ISO 9613-2 General
Wind speed (at 10 m height):
10,0 m/s
Ground attenuation:
General, Ground factor: 0,7
Meteorological coefficient, C0:
Selected option: Fixed value: 0,0 dB
Type of demand in calculation:
1: WTG noise is compared to demand (DK, DE, SE, NL etc.)
Noise values in calculation:
All noise values are mean values (Lwa) (Normal)
Pure tones:
Fixed penalty added to source noise of WTGs with pure tones
Model: 5,0 dB(A)
Height above ground level, when no value in NSA object:
2,0 m; Allow override of model height with height from NSA object
Uncertainty margin:
0,0 dB; Uncertainty margin in model has priority
Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:
0,0 dB(A)

All coordinates are in
Lithuanian TM LKS94-LKS94 (LT)



Scale 1:200 000

New WTG Noise sensitive area

WTGs

	Y	X	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Noise data Creator	Name	Wind speed	LwA,ref	
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]	
B-1	542 029	6 240 992	53,9	Siemens Gamesa SG 6.0-1...	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	EMD	(AM 0, 6.2MW) - 106dB(A)	10,0	106,0	g
B-2	543 286	6 242 345	51,4	Siemens Gamesa SG 6.0-1...	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	EMD	(AM 0, 6.2MW) - 106dB(A)	10,0	106,0	g
B-3	542 582	6 243 382	48,3	Siemens Gamesa SG 6.0-1...	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	EMD	(AM 0, 6.2MW) - 106dB(A)	10,0	106,0	g
N10	545 698	6 248 113	50,2	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N12	544 141	6 248 992	45,9	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N13	544 443	6 248 494	49,3	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N14	544 794	6 247 974	51,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N15	545 084	6 247 205	50,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N16	545 531	6 246 809	49,1	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N19	544 234	6 247 330	52,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N2	545 926	6 250 780	49,3	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N20	543 009	6 247 672	46,1	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N21	543 391	6 247 200	48,7	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N22	544 610	6 246 488	52,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N23	545 186	6 246 098	46,3	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N24	543 972	6 245 918	50,3	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N25	544 286	6 245 398	51,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N26	543 502	6 245 186	48,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N27	543 025	6 245 373	47,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N28	548 911	6 250 172	45,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N29	549 492	6 250 491	46,1	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N3	545 896	6 250 138	50,2	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N30	549 603	6 251 337	46,1	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N31	550 427	6 251 277	49,2	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N32	550 222	6 250 390	47,7	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N32-1	547 926	6 247 047	46,7	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N32-2	548 034	6 247 730	47,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N33	547 343	6 246 514	47,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N34	547 242	6 245 857	48,7	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N35	546 755	6 245 984	47,3	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N4	546 072	6 249 494	48,7	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N5	545 883	6 248 975	50,1	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N8	544 979	6 249 159	50,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
N9	545 330	6 248 515	51,7	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P1	545 201	6 243 866	48,5	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P10	547 288	6 241 576	49,9	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P11	547 762	6 241 229	50,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P12	548 989	6 243 972	51,3	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P13	549 396	6 241 949	51,2	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P15	549 338	6 240 866	50,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P16	549 408	6 240 174	51,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P18	548 583	6 239 764	51,5	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P19	550 132	6 240 099	50,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P2	545 340	6 243 350	46,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P20	550 137	6 240 842	52,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P21	550 845	6 241 658	49,9	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P22	545 460	6 242 801	45,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P23	550 775	6 240 903	50,3	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P24	551 230	6 240 018	50,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h

To be continued on next page...

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DECIBEL - Main Result

Calculation: Copy of SUMINISnoise

...continued from previous page

					WTG type							Noise data			
	Y	X	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Creator	Name	Wind speed	LwA,ref	
			[m]					[kW]	[m]	[m]			[m/s]	[dB(A)]	
P25	552 889	6 239 060	57,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P3	545 136	6 242 130	45,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P4	544 576	6 240 918	42,7	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P5	546 670	6 243 096	46,9	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P6	546 741	6 242 582	47,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P7	545 998	6 242 560	45,6	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P8	546 202	6 241 687	46,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h
P9	547 078	6 242 100	51,0	VESTAS V172-7.2 7200 17...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	USER	Level 0 - Measured - PO7200	10,0	106,9	h

h) Generic octave distribution used
g) Data calculated from data for other wind speed (uncertain)

Calculation Results

Sound level

Noise sensitive area No.	Name	Y	X	Z	Immission height	Demands Noise	Sound level From WTGs	Demands fulfilled ? Noise
				[m]	[m]	[dB(A)]	[dB(A)]	
Apaščios g. 10, Kočėnai	Noise sensitive area: User defined (19)	546 218	6 246 377	45,6	2,0	45,0	41,9	Yes
Apaščios g. 12, Kočėnai	Noise sensitive area: User defined (18)	546 166	6 246 275	45,0	2,0	45,0	41,9	Yes
Apaščios g. 14, Kočėnai	Noise sensitive area: User defined (16)	546 126	6 246 144	43,0	2,0	45,0	41,8	Yes
Apaščios g. 15, Kočėnai	Noise sensitive area: User defined (9)	545 034	6 245 414	50,1	2,0	45,0	41,7	Yes
Apaščios g. 16, Kočėnai	Noise sensitive area: User defined (15)	546 098	6 246 078	43,7	2,0	45,0	41,7	Yes
Apaščios g. 18, Kočėnai	Noise sensitive area: User defined (10)	545 809	6 245 394	48,8	2,0	45,0	39,6	Yes
Apaščios g. 2, Kočėnai	Noise sensitive area: User defined (24)	546 484	6 246 955	46,0	2,0	45,0	40,7	Yes
Apaščios g. 20, Kočėnai	Noise sensitive area: User defined (8)	545 061	6 245 023	50,1	2,0	45,0	40,1	Yes
Apaščios g. 22, Kočėnai	Noise sensitive area: User defined (7)	544 965	6 244 775	50,1	2,0	45,0	39,9	Yes
Apaščios g. 4, Kočėnai	Noise sensitive area: User defined (23)	546 155	6 246 525	47,0	2,0	45,0	41,9	Yes
Apaščios g. 5, Kočėnai	Noise sensitive area: User defined (17)	546 009	6 246 221	44,0	2,0	45,0	41,9	Yes
Apaščios g. 6, Kočėnai	Noise sensitive area: User defined (22)	546 152	6 246 500	47,1	2,0	45,0	41,9	Yes
Apaščios g. 7, Kočėnai	Noise sensitive area: User defined (14)	546 000	6 246 025	44,6	2,0	45,0	41,5	Yes
Apaščios g. 8, Kočėnai	Noise sensitive area: User defined (21)	546 148	6 246 472	47,9	2,0	45,0	41,9	Yes
Apaščios g. 8A, Kočėnai	Noise sensitive area: User defined (20)	546 145	6 246 460	47,3	2,0	45,0	41,9	Yes
Apaščios g. 9, Kočėnai	Noise sensitive area: User defined (13)	545 853	6 245 869	46,0	2,0	45,0	41,3	Yes
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	Noise sensitive area: User defined (49)	549 115	6 251 778	54,1	2,0	45,0	38,7	Yes
Juljanava 6, Juljanava	Noise sensitive area: User defined (57)	546 031	6 251 701	49,7	2,0	45,0	35,6	Yes
Kaimynų g. 2, Kočėnai	Noise sensitive area: User defined (11)	545 896	6 245 452	46,1	2,0	45,0	39,7	Yes
Naujikų k. 2, Naujikai	Noise sensitive area: User defined (5)	544 495	6 244 330	48,7	2,0	45,0	39,7	Yes
Naujikų k. 3, Naujikai	Noise sensitive area: User defined (6)	544 727	6 244 472	49,4	2,0	45,0	40,1	Yes
Nausėdžiai 2A, Nausėdžiai	Noise sensitive area: User defined (52)	547 940	6 248 206	48,0	2,0	45,0	41,1	Yes
Nausėdžiai 4, Nausėdžiai	Noise sensitive area: User defined (53)	547 158	6 247 813	46,0	2,0	45,0	39,4	Yes
Nausėdžiai 6, Nausėdžiai	Noise sensitive area: User defined (54)	547 404	6 247 389	49,3	2,0	45,0	41,8	Yes
Nausėdžiai 8, Nausėdžiai	Noise sensitive area: User defined (55)	547 850	6 247 067	47,0	2,0	45,0	50,5	**No**
Nausėdžiai 9, Nausėdžiai	Noise sensitive area: User defined (56)	548 321	6 246 869	47,6	2,0	45,0	42,5	Yes
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	Noise sensitive area: User defined (50)	548 075	6 250 829	46,7	2,0	45,0	36,1	Yes
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	Noise sensitive area: User defined (47)	547 234	6 250 675	40,0	2,0	45,0	35,8	Yes
Sodžiaus g. 11, Jasiškiai	Noise sensitive area: User defined (44)	546 848	6 249 637	51,7	2,0	45,0	39,4	Yes
Sodžiaus g. 12, Jasiškiai	Noise sensitive area: User defined (37)	546 784	6 249 077	50,0	2,0	45,0	39,8	Yes
Sodžiaus g. 13, Jasiškiai	Noise sensitive area: User defined (43)	546 847	6 249 619	52,3	2,0	45,0	39,5	Yes
Sodžiaus g. 14, Jasiškiai	Noise sensitive area: User defined (29)	546 582	6 248 633	43,2	2,0	45,0	40,5	Yes
Sodžiaus g. 15, Jasiškiai	Noise sensitive area: User defined (42)	546 834	6 249 568	52,1	2,0	45,0	39,6	Yes
Sodžiaus g. 16, Parupė	Noise sensitive area: User defined (48)	547 008	6 250 999	47,9	2,0	45,0	35,9	Yes
Sodžiaus g. 17, Jasiškiai	Noise sensitive area: User defined (38)	546 792	6 249 262	50,5	2,0	45,0	39,9	Yes
Sodžiaus g. 19, Jasiškiai	Noise sensitive area: User defined (36)	546 751	6 249 138	50,5	2,0	45,0	40,2	Yes
Sodžiaus g. 23, Jasiškiai	Noise sensitive area: User defined (35)	546 736	6 249 077	49,1	2,0	45,0	40,2	Yes
Sodžiaus g. 25, Jasiškiai	Noise sensitive area: User defined (34)	546 731	6 249 062	48,9	2,0	45,0	40,2	Yes
Sodžiaus g. 27, Jasiškiai	Noise sensitive area: User defined (33)	546 725	6 249 031	47,5	2,0	45,0	40,2	Yes
Sodžiaus g. 29, Jasiškiai	Noise sensitive area: User defined (32)	546 717	6 249 011	46,7	2,0	45,0	40,2	Yes
Sodžiaus g. 31, Jasiškiai	Noise sensitive area: User defined (31)	546 707	6 248 980	46,1	2,0	45,0	40,3	Yes
Sodžiaus g. 33, Jasiškiai	Noise sensitive area: User defined (30)	546 703	6 248 963	45,9	2,0	45,0	40,3	Yes
Sodžiaus g. 4, Jasiškiai	Noise sensitive area: User defined (46)	546 960	6 249 994	48,6	2,0	45,0	38,2	Yes
Sodžiaus g. 45, Jasiškiai	Noise sensitive area: User defined (28)	546 461	6 248 408	42,6	2,0	45,0	41,0	Yes
Sodžiaus g. 47, Jasiškiai	Noise sensitive area: User defined (27)	546 435	6 248 310	43,8	2,0	45,0	41,0	Yes
Sodžiaus g. 49, Jasiškiai	Noise sensitive area: User defined (26)	546 296	6 247 653	48,6	2,0	45,0	40,9	Yes
Sodžiaus g. 51, Jasiškiai	Noise sensitive area: User defined (25)	546 248	6 247 366	47,9	2,0	45,0	40,8	Yes
Sodžiaus g. 7, Jasiškiai	Noise sensitive area: User defined (45)	546 877	6 249 889	48,7	2,0	45,0	38,9	Yes
Strazdiškis 1, Strazdiškis	Noise sensitive area: User defined (12)	546 197	6 245 676	44,7	2,0	45,0	41,1	Yes
Svidžiai 15, Svidžiai	Noise sensitive area: User defined (4)	542 217	6 245 338	45,0	2,0	45,0	37,6	Yes
Svidžiai 16, Svidžiai	Noise sensitive area: User defined (2)	542 954	6 246 275	47,8	2,0	45,0	39,9	Yes
Svidžiai 17, Svidžiai	Noise sensitive area: User defined (3)	543 107	6 246 366	48,8	2,0	45,0	40,4	Yes
Upės g. 1, Jasiškiai	Noise sensitive area: User defined (39)	546 990	6 249 194	52,0	2,0	45,0	38,6	Yes
Upės g. 3, Jasiškiai	Noise sensitive area: User defined (40)	547 024	6 249 192	51,7	2,0	45,0	38,4	Yes
Upės g. 5, Jasiškiai	Noise sensitive area: User defined (41)	547 056	6 249 139	51,9	2,0	45,0	38,2	Yes
Velykionys 3, Velykionys	Noise sensitive area: User defined (1)	542 711	6 249 231	46,0	2,0	45,0	34,9	Yes
Žilvičių g. 2, Bliūdžiai	Noise sensitive area: User defined (51)	548 008	6 249 737	45,0	2,0	45,0	36,6	Yes

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Calculated:
2024-06-04 11:45/4.0.540

DECIBEL - Main Result

Calculation: Copy of SUMINISnoise

Distances (m)

	WTG																					
NSA	B-1	B-2	B-3	N10	N12	N13	N14	N15	N16	N19	N2	N20	N21	N22	N23	N24	N25	N26	N27	N28	N29	N3
Apaščios g. 10, Kočėnai	6794	4959	4672	1716	3243	2667	2045	1315	724	2117	4319	3379	2866	1541	1011	2232	2117	2914	3291	4581	5187	3681
Apaščios g. 12, Kočėnai	6641	4805	4528	1833	3310	2730	2104	1342	745	2112	4456	3362	2834	1479	906	2133	1990	2792	3180	4741	5347	3816
Apaščios g. 14, Kočėnai	6496	4658	4402	1974	3411	2830	2203	1420	828	2158	4607	3392	2851	1469	850	2074	1893	2701	3103	4888	5490	3967
Apaščios g. 15, Kočėnai	5281	3463	3131	2767	3686	3133	2567	1785	1464	2076	5429	3032	2426	1154	689	1169	727	1522	1988	6103	6720	4791
Apaščios g. 16, Kočėnai	6422	4583	4336	2040	3457	2875	2248	1457	870	2177	4678	3403	2855	1464	824	2041	1840	2650	3059	4961	5562	4037
Apaščios g. 18, Kočėnai	5737	3891	3751	2719	3966	3388	2773	1951	1441	2494	5385	3604	3011	1619	938	1895	1497	2286	2757	5676	6265	4742
Apaščios g. 2, Kočėnai	7438	5606	5280	1320	3034	2489	1911	1376	932	2236	3776	3501	3061	1903	1540	2695	2679	3450	3783	3944	4557	3148
Apaščios g. 20, Kočėnai	4991	3157	2936	3137	4068	3518	2954	2170	1827	2447	5805	3351	2744	1529	1067	1410	859	1558	2059	6390	6997	5166
Apaščios g. 22, Kočėnai	4760	2922	2746	3376	4271	3728	3172	2398	2068	2636	6042	3485	2880	1725	1302	1506	917	1520	2031	6624	7228	5404
Apaščios g. 4, Kočėnai	6883	5049	4747	1622	3170	2596	1975	1263	682	2079	4221	3346	2844	1545	1055	2264	2176	2967	3333	4498	5107	3582
Apaščios g. 5, Kočėnai	6507	4671	4398	1912	3342	2760	2133	1351	758	2092	4551	3330	2791	1417	810	2037	1871	2677	3072	4868	5474	3910
Apaščios g. 6, Kočėnai	6861	5027	4727	1643	3185	2610	1990	1273	691	2088	4244	3354	2849	1542	1042	2255	2160	2953	3321	4521	5131	3606
Apaščios g. 7, Kočėnai	6331	4491	4248	2110	3496	2914	2287	1486	909	2180	4756	3394	2838	1438	780	1987	1768	2579	2994	5056	5657	4115
Apaščios g. 8, Kočėnai	6838	5004	4708	1665	3201	2625	2004	1282	697	2093	4267	3357	2850	1538	1028	2243	2143	2937	3307	4540	5148	3629
Apaščios g. 8A, Kočėnai	6816	4981	4687	1687	3218	2642	2019	1292	703	2098	4292	3361	2852	1534	1016	2234	2127	2923	3296	4563	5170	3653
Apaščios g. 9, Kočėnai	6136	4297	4060	2244	3561	2980	2356	1541	992	2180	4905	3364	2794	1383	697	1864	1604	2417	2844	5234	5834	4263
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	12874	11058	10603	4972	5648	5662	5713	6058	6093	6561	3280	7308	7284	6911	6874	7759	7967	8621	8799	1606	1338	3558
Juljanava 6, Juljanava	11431	9750	9004	3603	3296	3575	3926	4595	4917	4724	927	5028	5213	5403	5666	6138	6540	6987	7003	3233	3632	1569
Kaimynų g. 2, Kočėnai	5836	3990	3853	2667	3951	3371	2752	1931	1405	2504	5326	3635	3047	1645	955	1961	1581	2375	2842	5582	6170	4684
Naujikų k. 2, Naujikai	4072	2250	2042	3941	4628	4121	3618	2902	2661	2964	6574	3593	3013	2122	1871	1612	1036	1228	1715	7306	7917	5943
Naujikų k. 3, Naujikai	4350	2520	2329	3706	4474	3951	3426	2686	2412	2815	6354	3535	2941	1939	1628	1534	930	1315	1823	7026	7634	5719
Nausėdžiai 2A, Nausėdžiai	9304	7462	7181	2184	3810	3444	3096	2980	2746	3756	3166	4903	4607	3706	3436	4542	4576	5333	5634	2100	2676	2715
Nausėdžiai 4, Nausėdžiai	8486	6654	6314	1401	3147	2709	2283	2086	1847	2885	3127	4068	3738	2804	2555	3641	3694	4440	4734	2895	3512	2557
Nausėdžiai 6, Nausėdžiai	8287	6444	6192	1754	3536	3060	2575	2232	1870	3074	3620	4306	3921	2845	2483	3646	3617	4397	4733	3128	3706	3052
Nausėdžiai 8, Nausėdžiai	8343	6496	6351	2307	4094	3607	3100	2682	2247	3538	4113	4790	4373	3205	2751	3960	3854	4655	5030	3247	3768	3568
Nausėdžiai 9, Nausėdžiai	8573	6733	6687	2903	4688	4204	3694	3249	2782	4108	4583	5368	4935	3720	3214	4438	4276	5086	5487	3327	3771	4068
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	11502	9699	9205	3557	4271	4252	4290	4647	4712	5137	2065	5903	5863	5503	5499	6348	6574	7212	7380	1063	1453	2210
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	10990	9213	8648	2984	3522	3542	3640	4080	4219	4493	1303	5184	5181	4939	5009	5766	6041	6636	6769	1672	2180	1442
Sodžiaus g. 11, Jasiškiai	9878	8094	7555	1895	2783	2660	2636	2989	3098	3478	1445	4310	4224	3848	3888	4687	4935	5554	5715	2039	2687	1068
Sodžiaus g. 12, Jasiškiai	9356	7561	7058	1439	2645	2411	2268	2513	2567	3082	1882	4024	3870	3364	3356	4213	4426	5073	5263	2303	2966	1368
Sodžiaus g. 13, Jasiškiai	9857	8073	7535	1875	2776	2650	2619	2970	3076	3461	1461	4298	4209	3828	3866	4668	4915	5534	5696	2047	2696	1075
Sodžiaus g. 14, Jasiškiai	8860	7062	6571	1011	2467	2140	1897	2046	2070	2671	2225	3693	3487	2887	2857	3740	3935	4595	4802	2715	3375	1639
Sodžiaus g. 15, Jasiškiai	9813	8028	7492	1833	2754	2619	2582	2927	3032	3423	1491	4267	4174	3785	3822	4625	4870	5492	5656	2066	2717	1087
Sodžiaus g. 16, Parupė	11173	9415	8807	3165	3499	3585	3747	4250	4436	4598	1098	5202	5245	5105	5222	5916	6223	6786	6891	2008	2461	1406
Sodžiaus g. 17, Jasiškiai	9518	7727	7210	1570	2664	2468	2368	2654	2731	3194	1728	4099	3969	3509	3521	4355	4582	5218	5398	2219	2880	1243
Sodžiaus g. 19, Jasiškiai	9380	7588	7076	1446	2612	2390	2263	2525	2592	3082	1822	4011	3865	3378	3382	4226	4446	5088	5273	2312	2974	1307
Sodžiaus g. 23, Jasiškiai	9328	7535	7026	1401	2596	2363	2224	2477	2540	3040	1863	3978	3826	3329	3329	4178	4395	5039	5226	2348	3011	1339
Sodžiaus g. 25, Jasiškiai	9305	7512	7004	1382	2590	2352	2209	2456	2517	3023	1882	3965	3812	3308	3306	4157	4373	5018	5206	2366	3028	1353
Sodžiaus g. 27, Jasiškiai	9279	7486	6978	1359	2584	2340	2190	2432	2490	3002	1902	3950	3792	3283	3280	4132	4347	4993	5182	2385	3048	1369
Sodžiaus g. 29, Jasiškiai	9254	7459	6954	1337	2575	2328	2172	2409	2464	2982	1921	3935	3774	3259	3254	4109	4323	4969	5160	2402	3065	1384
Sodžiaus g. 31, Jasiškiai	9225	7430	6926	1312	2565	2312	2151	2382	2435	2958	1943	3915	3752	3232	3225	4081	4294	4941	5133	2423	3085	1402
Sodžiaus g. 33, Jasiškiai	9205	7410	6907	1296	2562	2305	2138	2364	2415	2944	1960	3906	3740	3213	3204	4063	4275	4923	5116	2437	3100	1415
Sodžiaus g. 4, Jasiškiai	10254	8474	7922	2257	2992	2929	2958	3353	3478	3808	1277	4582	4530	4212	4269	5047	5308	5915	6064	1868	2487	1070
Sodžiaus g. 45, Jasiškiai	8614	6817	6327	813	2392	2020	1719	1814	1824	2467	2394	3527	3294	2649	2612	3503	3691	4356	4569	2933	3591	1787
Sodžiaus g. 47, Jasiškiai	8515	6716	6234	760	2392	2000	1673	1732	1726	2403	2491	3483	3236	2562	2512	3417	3596	4267	4486	3017	3673	1878
Sodžiaus g. 49, Jasiškiai	7878	6067	5633	752	2536	2035	1536	1283	1114	2083	3122	3285	2936	2032	1880	2881	2995	3706	3970	3560	4202	2492
Sodžiaus g. 51, Jasiškiai	7618	5802	5395	908	2652	2121	1573	1174	895	2014	3386	3253	2862	1850	1633	2687	2761	3493	3779	3788	4422	2753
Sodžiaus g. 7, Jasiškiai	10118	8339	7785	2120	2879	2803	2823	3216	3344	3672	1281	4456	4398	4076	4134	4910	5171	5778	5927	1959	2588	1008
Strazdiškis 1, Strazdiškis	6173	4327	4181	2458	3854	3272	2645	1840	1268	2504	5089	3691	3120	1709	1019	2151	1836	2643	3092	5250	5833	4449
Svidžiai 15, Svidžiai	4306	3150	1955	4439	4101	3838	3670	3411	3619	2819	6562	2431	2176	2648	3061	1843	2070	1294	809	8245	8904	6026
Svidžiai 16, Svidžiai	5325	3917	2881	3287	2924	2640	2482	2314	2625	1639	5364	1341	984	1665	2237	1079	1594	1207	878	7103	7764	4826
Svidžiai 17, Svidžiai	5414	3968	2963	3123	2805	2501	2325	2147	2464	1478	5226	1273	863	1508	2095	963	1506	1199	934	6939	7600	4682
Upės g. 1, Jasiškiai	9570	7770	7282	1678	2856	2641	2509	2746	2781	3322	1881	4260	4111	3594	3567	4445	4647	5303	5498	2067	2730	1427
Upės g. 3, Jasiškiai	9579	7776	7294	1698	2890	2671	2533	2762	2789	3345	1908	4289	4136	3608	3575	4460	4658	5317	5516	2038	2701	1460
Upės g. 5, Jasiškiai	9557	7752	7278	1696	2919	2691	2542	2753	2769	3348	1967	4304	4144	3597	3553	4450	4641	5305	5508	2032	2695	1516
Velykionys 3, Velykionys	8248	6897	5834	3188	1446	1881	2433	3121	3718	2435	3544	1578	2136	3335	3992	3540	4139	4112	3858	6258	6883	3294
Žilvičių g. 2, Bliūdžiai	10502	8681	8264	2730	3851	3686	3574	3774	3743	4383	2261	5318	5176	4608	4513	5463	5624	6312	6530	1002	1664	2071

	WTG																					
NSA	N30	N31	N32	N32-1	N32-2	N33	N34	N35	N4	N5	N8	N9	P1	P10	P11	P12	P13	P15	P16	P18	P19	P2
Apaščios g. 10, Kočėnai	5932	6390	5603	1792	2207	1105	1142	663	3027	2525	2949	2218	2693	4918	5374	3668	5450	6333	6975	7023	7398	3141
Apaščios g. 12, Kočėnai	6093	6549	5759	1914	2353	1198	1153	655	3166	2657	3048	2322	2539	4803	5267	3638	5387	6254	6891	6922	7325	2988
Apaščios g. 14, Kočėnai	6240	6690	5894	2014	2478	1272	1147	644	3319	2806	3177	2455	2382	4662	5133	3574	5287	6142	6775	6792	7217	2830
Apaščios g. 15, Kočėnai	7447	7928	7148	3268	3744	2501	2184	1751	4197	3649	3740	3106	1464	4353	4898	4121	5474	6163	6727	6574	7266	1992
Apaščios g. 16, Kočėnai	6314	6761	5963	2069	2543	1319	1158	658	3390	2876	3237	2516	2304	4600	5074	3553	5247	6094	6723	6734	7171	2752
Apaščios g. 18, Kočėnai	7030	7454	6638	2651	3197	1863	1455	1075	4105	3579	3855	3157	1567	4001	4506	3403	4883	5648	6247	6182	6743	2015
Apaščios g. 2, Kočėnai	5292	5766	4994	1387	1660	933	1319	1002	2483	2020	2589	1862	3344	5436	5862	3877	5778	6714	7375	7485	7754	3782
Apaščios g. 20, Kočėnai	7739	8198	7401	3453	3972	2670	2269	1888	4565	4018	4125	3488	1082	4011	4564	3979	5220	5869	6418	6236	6973	1611
Apaščios g. 22, Kočėnai	7974	8427	7625	3658	4191	2871	2439	2084	4805	4258	4350	3721	870	3870	4432	4011	5164	5777	6309	6097	6880	1404
Apaščios g. 4, Kočėnai	5847	6312	5529	1753	2145	1093	1189	726	2929	2427	2860	2128	2793	5019	5473	3732	5532	6421	7065	7119	7484	3242
Apaščios g. 5, Kočėnai	6219	6676	5886	2029	2478	1299	1203	700	3264	2749	3111	2389	2411	4721	5193	3638	5353	6206	6838	6853	7282	2866
Apaščios g. 6, Kočėnai	5871	6336	5553	1768	2166	1099	1179	712	2952	2450	2879	2148	2770	4996	5450	3718	5514	6402	7046	7098	7465	3219
Apaščios g. 7, Kočėnai	6408	6856	6058	2153	2636	1396	1199	705	3470	2953	3295	2578	2215	4541	5019	3551	5222	6058	6683	6683	7138	2666
Apaščios g. 8, Kočėnai	5890	6353	5569	1775	2179	1102	1171	699	2976	2473	2900	2169	2744	4973	5429	3705	5497	6384	7027	7077	7447	3193
Apaščios g. 8A, Kočėnai	5913	6375	5589	1787	2196	1108	1163	687	3000	2497	2920	2189	2720	4950	5406	3693	5480	6364	7007	7055	7429	3168
Apaščios g. 9, Kočėnai	6586	7031	6231	2308	2805	1541	1285	811	3624	3099	3402	2695	2031	4416	4904	3544	5162	5978	6595	6573	7063	2490
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	658	1400	1775	4860	4171	5533	6190	6233	3757	4234	4845	4953	8801	10349	10622	7797	9824	10905	11599	12016	11715	9210
Juljanava 6, Juljanava	3546	4372	4355	5019	4440	5348	5966	5762	2207	2730	2750	3262	7879	10202	10613	8271	10312	11325	12008	12205	12301	8380
Kaimynų g. 2, Kočėnai	6937	7357	6540	2548	3098	1760	1356	972	4044	3521	3818	3114	1654	4026	4524	3349	4861	5641	6246	6197	6733	2092
Naujikų k. 2, Naujikai	8653	9120	8325	4367	4896	3580	3137	2792	5370	4818	4816	4234	836	3907	4490	4508	5443	5944	6422	6111	7037	1276
Naujikų k. 3, Naujikai	8375	8835	8037	4075	4606	3287	2846	2499	5136	4586	4619	4018	768	3865	4441	4288	5307	5854	6355	6084	6953	1274
Nausėdžiai 2A, Nausėdžiai	3453	3869	3083	1159	486	1785	2443	2504	2178	2118	3035	2562	5115	6659	6979	4363	6425	7473	8166	8467	8398	5493
Nausėdžiai 4, Nausėdžiai	4244	4724	3970	1085	876	1299	1941	1846	1911	1632	2468	1866	4367	6220	6597	4249	6269	7272	7954	8162	8260	4784
Nausėdžiai 6, Nausėdžiai	4483	4895	4091	623	704	842	1504	1494	2405	2104	2905	2261	4095	5780	6140	3753	5776	6784	7468	7690	7767	4480
Nausėdžiai 8, Nausėdžiai	4584	4911	4060	78	652	680	1296	1468	2934	2661	3470	2822	4086	5477	5800	3275	5321	6349	7039	7306	7307	4420
Nausėdžiai 9, Nausėdžiai	4615	4843	3957	433	900	1022	1443	1773	3455	3221	4051	3414	4293	5328	5599	2893	4956	6010	6705	7036	6926	4569
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	1591	2379	2187	3765	3081	4351	5016	4991	2342	2811	3449	3530	7496	9265	9586	6905	8965	10029	10725	11060	10914	7928

To be continued on next page...

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Calculated:
2024-06-04 11:45/4.0.540

DECIBEL - Main Result

Calculation: Copy of SUMINISnoise

...continued from previous page

	WTG																					
NSA	N30	N31	N32	N32-1	N32-2	N33	N34	N35	N4	N5	N8	N9	P1	P10	P11	P12	P13	P15	P16	P18	P19	P2
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	2365	3156	2917	3668	3022	4144	4801	4701	1657	2170	2717	2879	7098	9082	9441	6900	8961	10005	10697	10972	10936	7557
Sodžiaus g. 11, Jasiškiai	3150	3847	3365	2747	2180	3114	3755	3614	789	1165	1929	1882	5973	8030	8411	5998	8043	9063	9749	9975	10031	6435
Sodžiaus g. 12, Jasiškiai	3530	4169	3588	2255	1753	2564	3196	3045	822	907	1807	1555	5412	7466	7853	5491	7524	8535	9218	9426	9515	5870
Sodžiaus g. 13, Jasiškiai	3162	3858	3372	2726	2161	3090	3731	3591	785	1151	1922	1866	5950	8005	8387	5977	8021	9041	9727	9951	10009	6412
Sodžiaus g. 14, Jasiškiai	3983	4590	3961	1991	1616	2176	2782	2591	989	778	1687	1254	4916	7027	7429	5166	7175	8166	8844	9021	9165	5378
Sodžiaus g. 15, Jasiškiai	3192	3883	3390	2687	2127	3048	3688	3546	766	1117	1900	1831	5905	7962	8345	5938	7982	9001	9687	9910	9970	6367
Sodžiaus g. 16, Parupė	2532	3347	3196	4033	3399	4480	5130	5007	1770	2312	2739	2995	7349	9411	9781	7275	9334	10373	11064	11324	11312	7819
Sodžiaus g. 17, Jasiškiai	3413	4072	3522	2418	1894	2745	3380	3230	757	950	1816	1635	5591	7650	8037	5661	7698	8711	9395	9608	9687	6051
Sodžiaus g. 19, Jasiškiai	3526	4173	3603	2317	1817	2619	3250	3094	765	879	1771	1542	5450	7517	7906	5552	7584	8593	9276	9482	9575	5910
Sodžiaus g. 23, Jasiškiai	3570	4212	3636	2278	1788	2572	3201	3041	780	858	1759	1508	5395	7466	7857	5509	7540	8548	9230	9434	9530	5856
Sodžiaus g. 25, Jasiškiai	3590	4230	3652	2261	1775	2550	3179	3018	786	850	1755	1495	5372	7444	7835	5491	7520	8527	9209	9412	9511	5831
Sodžiaus g. 27, Jasiškiai	3613	4251	3668	2242	1761	2527	3155	2993	795	843	1751	1481	5344	7419	7811	5470	7499	8505	9187	9388	9489	5804
Sodžiaus g. 29, Jasiškiai	3632	4269	3683	2225	1749	2504	3130	2967	802	834	1745	1465	5318	7393	7786	5451	7478	8484	9166	9365	9469	5778
Sodžiaus g. 31, Jasiškiai	3657	4291	3701	2205	1736	2478	3103	2938	812	823	1737	1447	5288	7365	7759	5427	7453	8458	9139	9338	9444	5748
Sodžiaus g. 33, Jasiškiai	3675	4306	3714	2188	1724	2458	3083	2917	821	820	1736	1438	5267	7344	7738	5410	7436	8440	9122	9318	9427	5727
Sodžiaus g. 4, Jasiškiai	2872	3603	3194	3058	2458	3468	4115	3989	1019	1479	2150	2198	6359	8394	8769	6311	8364	9392	10081	10323	10348	6821
Sodžiaus g. 45, Jasiškiai	4213	4809	4161	1916	1623	2020	2604	2385	1122	797	1658	1136	4677	6825	7237	5032	7025	8005	8679	8839	9015	5142
Sodžiaus g. 47, Jasiškiai	4305	4892	4235	1867	1607	1939	2517	2291	1211	852	1681	1124	4574	6731	7145	4958	6944	7921	8594	8749	8934	5039
Sodžiaus g. 49, Jasiškiai	4883	5422	4709	1644	1648	1461	1951	1660	1828	1365	1994	1291	3898	6091	6520	4477	6412	7361	8025	8142	8393	4362
Sodžiaus g. 51, Jasiškiai	5121	5641	4908	1616	1730	1301	1730	1404	2092	1613	2176	1453	3616	5823	6258	4282	6190	7125	7785	7887	8166	4077
Sodžiaus g. 7, Jasiškiai	2993	3716	3288	2977	2391	3366	4009	3874	895	1344	2033	2063	6230	8286	8665	6230	8279	9304	9991	10224	10265	6694
Strazdiškis 1, Strazdiškis	6605	7018	6198	2207	2755	1420	1056	637	3799	3289	3653	2934	1974	4177	4652	3241	4867	5694	6317	6314	6776	2392
Svidžiai 15, Svidžiai	9502	10121	9456	5955	6283	5256	5051	4582	5651	5148	4692	4431	3323	6306	6893	6908	7935	8403	8845	8451	9485	3696
Svidžiai 16, Svidžiai	8338	8976	8338	5026	5276	4392	4307	3810	4456	3961	3492	3242	3290	6388	6966	6460	7759	8365	8878	8602	9466	3769
Svidžiai 17, Svidžiai	8176	8813	8173	4867	5112	4238	4165	3667	4303	3804	3352	3086	3234	6331	6907	6342	7668	8290	8811	8550	9393	3722
Upės g. 1, Jasiškiai	3293	3931	3357	2287	1734	2661	3307	3186	960	1128	2011	1791	5598	7586	7962	5538	7583	8604	9290	9520	9571	6048
Upės g. 3, Jasiškiai	3271	3904	3325	2262	1705	2645	3292	3176	997	1159	2046	1820	5598	7572	7946	5514	7560	8582	9269	9502	9547	6046
Upės g. 5, Jasiškiai	3279	3902	3312	2208	1647	2597	3246	3135	1042	1184	2077	1834	5567	7526	7898	5460	7507	8530	9217	9452	9494	6013
Velykionys 3, Velykionys	7188	7966	7587	5653	5529	5370	5650	5187	3362	3177	2262	2713	5911	8917	9461	8190	9885	10671	11263	11139	11766	6438
Žilvičių g. 2, Bliūdžiai	2258	2867	2307	2616	1934	3209	3874	3871	1865	2168	2996	2852	6419	8115	8436	5781	7844	8903	9597	9918	9805	6834

	WTG													
NSA	P20	P21	P22	P23	P24	P25	P3	P4	P5	P6	P7	P8	P9	
Apaščios g. 10, Kočėnai	6782	6609	3646	7123	8097	9902	4372	5689	3310	3829	3818	4686	4361	
Apaščios g. 12, Kočėnai	6717	6566	3498	7068	8038	9853	4222	5536	3187	3706	3679	4550	4244	
Apaščios g. 14, Kočėnai	6616	6486	3339	6977	7943	9766	4063	5378	3042	3560	3523	4397	4103	
Apaščios g. 15, Kočėnai	6754	6824	2553	7205	8119	10006	3195	4433	2739	3209	2915	3809	3796	
Apaščios g. 16, Kočėnai	6574	6456	3263	6941	7905	9733	3986	5300	2977	3495	3450	4325	4040	
Apaščios g. 18, Kočėnai	6190	6183	2532	6606	7544	9410	3250	4562	2360	2869	2751	3638	3436	
Apaščios g. 2, Kočėnai	7108	6843	4279	7403	8390	10149	5010	6331	3862	4379	4422	5275	4888	
Apaščios g. 20, Kočėnai	6481	6598	2173	6950	7849	9746	2814	4059	2416	2870	2545	3437	3458	
Apaščios g. 22, Kočėnai	6407	6563	1966	6891	7776	9679	2588	3822	2305	2737	2366	3251	3324	
Apaščios g. 4, Kočėnai	6864	6679	3749	7199	8175	9975	4475	5790	3413	3932	3923	4790	4463	
Apaščios g. 5, Kočėnai	6681	6552	3379	7043	8009	9832	4100	5412	3099	3617	3571	4447	4161	
Apaščios g. 6, Kočėnai	6846	6664	3726	7182	8158	9958	4451	5767	3390	3909	3898	4766	4440	
Apaščios g. 7, Kočėnai	6548	6444	3180	6921	7882	9716	3901	5213	2913	3430	3374	4252	3980	
Apaščios g. 8, Kočėnai	6829	6649	3701	7167	8142	9944	4426	5741	3366	3885	3874	4742	4417	
Apaščios g. 8A, Kočėnai	6812	6635	3676	7151	8126	9929	4401	5716	3342	3861	3849	4717	4394	
Apaščios g. 9, Kočėnai	6483	6408	3009	6870	7824	9669	3726	5034	2783	3298	3217	4099	3853	
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	10976	10261	9669	10995	11943	13263	10413	11746	9001	9479	9710	10484	9874	
Juljanava 6, Juljanava	11604	11130	8918	11788	12781	14373	9613	10881	8628	9146	9141	10015	9657	
Kaimynų g. 2, Kočėnai	6172	6149	2601	6581	7523	9384	3324	4641	2387	2900	2804	3687	3462	
Naujikų k. 2, Naujikai	6625	6884	1785	7147	7988	9902	2257	3366	2493	2835	2304	3123	3399	
Naujikų k. 3, Naujikai	6515	6734	1819	7023	7882	9793	2364	3537	2381	2762	2293	3147	3339	
Nausėdžiai 2A, Nausėdžiai	7685	7162	5934	7833	8824	10397	6679	8014	5259	5745	5961	6740	6163	
Nausėdžiai 4, Nausėdžiai	7574	7171	5259	7795	8790	10460	5999	7329	4719	5226	5352	6175	5694	
Nausėdžiai 6, Nausėdžiai	7079	6673	4930	7297	8292	9963	5674	7009	4315	4814	4983	5785	5264	
Nausėdžiai 8, Nausėdžiai	6608	6165	4828	6803	7798	9444	5573	6906	4091	4571	4817	5575	4982	
Nausėdžiai 9, Nausėdžiai	6211	5702	4927	6364	7356	8957	5662	6983	4064	4512	4844	5543	4866	
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	10186	9571	8410	10277	11253	12708	9148	10476	7833	8329	8496	9304	8763	
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	10222	9678	8061	10360	11347	12879	8789	10104	7585	8093	8196	9033	8560	
Sodžiaus g. 11, Jasiškiai	9332	8862	6944	9516	10509	12116	7669	8981	6504	7016	7092	7939	7498	
Sodžiaus g. 12, Jasiškiai	8823	8384	6376	9024	10019	11654	7103	8417	5934	6447	6521	7368	6932	
Sodžiaus g. 13, Jasiškiai	9311	8842	6921	9495	10489	12097	7646	8958	6480	6992	7070	7916	7474	
Sodžiaus g. 14, Jasiškiai	8485	8092	5888	8713	9708	11380	6612	7923	5476	5991	6045	6899	6487	
Sodžiaus g. 15, Jasiškiai	9272	8805	6876	9457	10451	12061	7601	8913	6435	6947	7024	7870	7430	
Sodžiaus g. 16, Parupė	10601	10066	8332	10746	11734	13274	9054	10361	7896	8407	8487	9334	8884	
Sodžiaus g. 17, Jasiškiai	8993	8546	6558	9190	10185	11812	7285	8598	6119	6631	6706	7553	7117	
Sodžiaus g. 19, Jasiškiai	8883	8446	6418	9086	10081	11717	7144	8457	5983	6496	6567	7415	6983	
Sodžiaus g. 23, Jasiškiai	8840	8406	6363	9045	10040	11680	7089	8402	5930	6443	6513	7361	6932	
Sodžiaus g. 25, Jasiškiai	8821	8389	6339	9027	10022	11663	7065	8378	5907	6421	6489	7338	6909	
Sodžiaus g. 27, Jasiškiai	8800	8370	6313	9007	10002	11645	7038	8351	5882	6395	6463	7312	6884	
Sodžiaus g. 29, Jasiškiai	8780	8352	6286	8989	9984	11628	7012	8325	5856	6369	6437	7286	6858	
Sodžiaus g. 31, Jasiškiai	8756	8331	6256	8966	9961	11608	6982	8294	5827	6340	6407	7256	6830	

To be continued on next page...

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DECIBEL - Main Result

Calculation: Copy of SUMINISnoise

...continued from previous page

	WTG												
NSA	P20	P21	P22	P23	P24	P25	P3	P4	P5	P6	P7	P8	P9
Sodžiaus g. 33, Jasiškiai	8739	8314	6235	8949	9944	11592	6961	8274	5805	6319	6385	7235	6808
Sodžiaus g. 4, Jasiškiai	9644	9149	7328	9812	10804	12387	8054	9367	6878	7388	7474	8317	7866
Sodžiaus g. 45, Jasiškiai	8341	7973	5654	8583	9577	11268	6376	7686	5264	5780	5820	6677	6283
Sodžiaus g. 47, Jasiškiai	8262	7903	5553	8509	9503	11200	6275	7583	5166	5683	5720	6578	6188
Sodžiaus g. 49, Jasiškiai	7739	7441	4875	8018	9008	10746	5597	6906	4511	5029	5048	5911	5543
Sodžiaus g. 51, Jasiškiai	7520	7249	4590	7813	8800	10554	5312	6622	4235	4753	4764	5628	5272
Sodžiaus g. 7, Jasiškiai	9564	9080	7203	9739	10732	12326	7928	9239	6763	7274	7353	8199	7755
Strazdiškis 1, Strazdiškis	6190	6107	2884	6572	7529	9370	3616	4940	2555	3073	3044	3914	3616
Svidžiai 15, Svidžiai	9102	9377	4109	9634	10461	12376	4324	4988	4981	5292	4684	5394	5834
Svidžiai 16, Svidžiai	9004	9142	4277	9487	10373	12277	4672	5578	4888	5286	4797	5614	5865
Svidžiai 17, Svidžiai	8921	9043	4238	9397	10290	12191	4657	5595	4814	5222	4750	5577	5803
Upės g. 1, Jasiškiai	8872	8407	6548	9058	10052	11665	7278	8597	6073	6582	6678	7517	7058
Upės g. 3, Jasiškiai	8848	8380	6545	9033	10026	11638	7276	8595	6062	6571	6672	7508	7045
Upės g. 5, Jasiškiai	8794	8324	6509	8977	9971	11580	7241	8562	6019	6528	6632	7467	7000
Velykionys 3, Velykionys	11203	11114	6989	11592	12548	14389	7498	8511	7300	7773	7434	8309	8360
Žilvičių g. 2, Bliūdžiai	9082	8503	7303	9196	10179	11685	8044	9376	6693	7186	7369	8168	7614

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Calculated:
2023-11-14 09:44/4.0.422

SHADOW - Main Result

Assumptions for shadow calculations

Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

Minimum sun height over horizon for influence	3 °
Day step for calculation	1 days
Time step for calculation	1 minutes

Sunshine probability S (Average daily sunshine hours) [KAUNAS]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,41	2,36	4,03	5,55	8,35	8,36	8,16	7,72	5,06	3,23	1,33	0,98

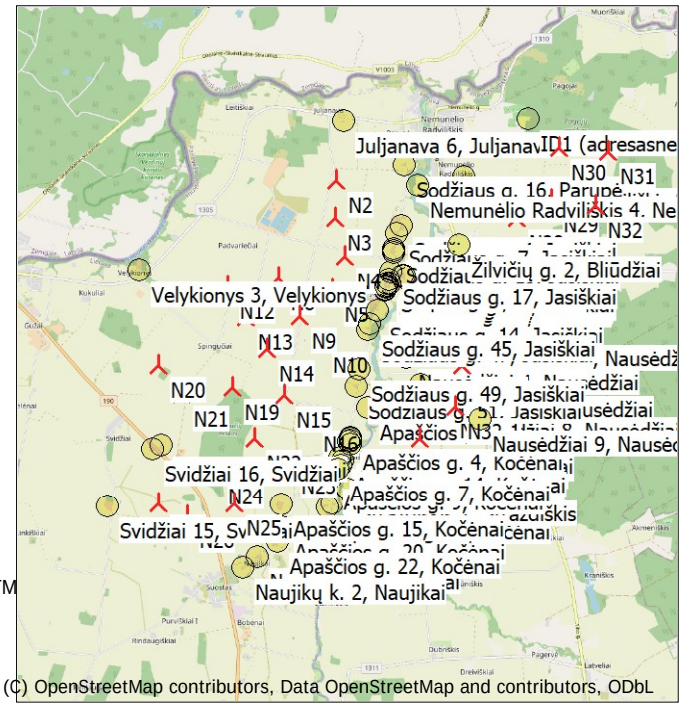
Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW
314	227	250	265	302	582	914	513	652	686	935	959

W	WNW	NW	NNW	Sum
809	464	477	407	8 756

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
Height contours used: Project Wizard Elevation Data Grid (SRTM: Shuttle DTM
Area object(s) used in calculation:
Project Wizard Roughness Areas (Corine land cover 2018 - 100 m grid)
Receptor grid resolution: 1,0 m

All coordinates are in
Lithuanian TM LKS94-LKS94 (LT)



Scale 1:125 000

New WTG Shadow receptor

WTGs

	Y	X	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Shadow data Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
N10	545 698	6 248 113	50,2	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N12	544 141	6 248 992	45,9	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N13	544 443	6 248 494	49,3	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N14	544 794	6 247 974	51,0	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N15	545 084	6 247 205	50,0	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N16	545 531	6 246 809	49,1	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N19	544 234	6 247 330	52,0	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N2	545 926	6 250 780	49,3	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N20	543 009	6 247 672	46,1	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N21	543 391	6 247 200	48,7	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N22	544 610	6 246 488	52,0	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N23	545 186	6 246 098	46,3	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N24	543 972	6 245 918	50,3	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N25	544 286	6 245 398	51,0	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N26	543 502	6 245 186	48,0	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N27	543 025	6 245 373	47,0	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N28	548 911	6 250 172	45,0	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N29	549 492	6 250 491	46,1	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N3	545 896	6 250 138	50,2	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N30	549 603	6 251 337	46,1	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N31	550 427	6 251 277	49,2	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N32	550 222	6 250 390	47,7	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N32-1	547 926	6 247 047	46,7	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N32-2	548 034	6 247 730	47,0	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N33	547 343	6 246 514	47,0	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N34	547 242	6 245 857	48,7	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N35	546 755	6 245 984	47,3	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N4	546 072	6 249 494	48,7	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N5	545 883	6 248 975	50,1	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N8	544 979	6 249 159	50,0	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N9	545 330	6 248 515	51,7	ENERCON E-160 EP5 E3 55...	Yes	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6

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SHADOW - Main Result

Shadow receptor-Input

No.	Y	X	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
Apaðèios g. 10, Koèënai	546 196	6 246 420	45,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 12, Koèënai	546 119	6 246 281	44,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 14, Koèënai	546 081	6 246 128	43,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 15, Koèënai	545 055	6 245 374	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 16, Koèënai	546 055	6 246 057	43,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 18, Koèënai	545 827	6 245 353	48,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 2, Koèënai	546 492	6 246 999	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 20, Koèënai	545 091	6 244 991	50,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 22, Koèënai	545 007	6 244 765	50,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 4, Koèënai	546 201	6 246 522	47,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 5, Koèënai	546 037	6 246 180	44,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 6, Koèënai	546 198	6 246 498	47,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 7, Koèënai	546 003	6 245 979	44,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 8, Koèënai	546 194	6 246 474	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 8A, Koèënai	546 188	6 246 450	47,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 9, Koèënai	545 880	6 245 828	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
ID1 (adresasnesuteiktas), Nemunëlio Radviliðkis	549 086	6 251 814	53,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Juljanava 6, Juljanava	546 034	6 251 748	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Kaimynø g. 2, Koèënai	545 912	6 245 411	46,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikø k. 2, Naujikai	544 441	6 244 331	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikø k. 3, Naujikai	544 677	6 244 507	49,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausëdþiai 2A, Nausëdþiai	547 927	6 248 248	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausëdþiai 4, Nausëdþiai	547 120	6 247 840	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausëdþiai 6, Nausëdþiai	547 356	6 247 402	49,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausëdþiai 8, Nausëdþiai	547 806	6 247 072	46,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausëdþiai 9, Nausëdþiai	548 363	6 246 843	47,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunëlio Radviliðkis 2, Nemunëlio Radviliðkis	548 037	6 250 854	46,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunëlio Radviliðkis 4, Nemunëlio Radviliðkis	547 275	6 250 702	40,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 11, Jasiðkiai	546 893	6 249 643	51,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 12, Jasiðkiai	546 831	6 249 075	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 13, Jasiðkiai	546 892	6 249 620	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 14, Jasiðkiai	546 627	6 248 619	43,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 15, Jasiðkiai	546 882	6 249 575	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 16, Parupë	547 043	6 251 030	48,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 17, Jasiðkiai	546 838	6 249 258	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 19, Jasiðkiai	546 797	6 249 124	50,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 23, Jasiðkiai	546 783	6 249 072	49,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 25, Jasiðkiai	546 777	6 249 049	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 27, Jasiðkiai	546 770	6 249 022	47,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 29, Jasiðkiai	546 762	6 248 997	46,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 31, Jasiðkiai	546 754	6 248 970	46,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 33, Jasiðkiai	546 750	6 248 948	45,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 4, Jasiðkiai	547 003	6 250 012	48,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 45, Jasiðkiai	546 507	6 248 406	42,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 47, Jasiðkiai	546 481	6 248 304	43,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 49, Jasiðkiai	546 342	6 247 639	48,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 51, Jasiðkiai	546 295	6 247 362	47,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 7, Jasiðkiai	546 924	6 249 900	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Strazdiðkis 1, Strazdiðkis	546 156	6 245 648	44,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidþiai 15, Svidþiai	542 175	6 245 341	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidþiai 16, Svidþiai	542 911	6 246 292	47,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidþiai 17, Svidþiai	543 064	6 246 356	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upës g. 1, Jasiðkiai	547 033	6 249 203	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upës g. 3, Jasiðkiai	547 069	6 249 193	51,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upës g. 5, Jasiðkiai	547 102	6 249 143	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Velykionys 3, Velykionys	542 677	6 249 258	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Þilvièiø g. 2, Bliûdþiai	547 969	6 249 708	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0

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SHADOW - Main Result

Calculation Results

Shadow receptor

No.	Shadow, expected values Shadow hours per year [h/year]
Apaðèios g. 10, Koèënai	43:14
Apaðèios g. 12, Koèënai	23:23
Apaðèios g. 14, Koèënai	26:37
Apaðèios g. 15, Koèënai	22:44
Apaðèios g. 16, Koèënai	29:26
Apaðèios g. 18, Koèënai	16:25
Apaðèios g. 2, Koèënai	23:30
Apaðèios g. 20, Koèënai	22:09
Apaðèios g. 22, Koèënai	2:51
Apaðèios g. 4, Koèënai	54:50
Apaðèios g. 5, Koèënai	24:18
Apaðèios g. 6, Koèënai	52:02
Apaðèios g. 7, Koèënai	33:22
Apaðèios g. 8, Koèënai	49:01
Apaðèios g. 8A, Koèënai	45:52
Apaðèios g. 9, Koèënai	48:40
ID1 (adresasnesuteiktas), Nemunëlio Radviliðkis	10:00
Juljanava 6, Juljanava	1:35
Kaimynø g. 2, Koèënai	18:55
Naujikø k. 2, Naujikai	4:21
Naujikø k. 3, Naujikai	9:09
Nausëdþiai 2A, Nausëdþiai	13:03
Nausëdþiai 4, Nausëdþiai	12:15
Nausëdþiai 6, Nausëdþiai	37:13
Nausëdþiai 8, Nausëdþiai	181:03
Nausëdþiai 9, Nausëdþiai	38:40
Nemunëlio Radviliðkis 2, Nemunëlio Radviliðkis	7:11
Nemunëlio Radviliðkis 4, Nemunëlio Radviliðkis	7:19
Sodþiaus g. 11, Jasiðkiai	23:17
Sodþiaus g. 12, Jasiðkiai	26:54
Sodþiaus g. 13, Jasiðkiai	23:48
Sodþiaus g. 14, Jasiðkiai	31:51
Sodþiaus g. 15, Jasiðkiai	24:13
Sodþiaus g. 16, Parupë	5:22
Sodþiaus g. 17, Jasiðkiai	24:40
Sodþiaus g. 19, Jasiðkiai	29:59
Sodþiaus g. 23, Jasiðkiai	26:28
Sodþiaus g. 25, Jasiðkiai	24:47
Sodþiaus g. 27, Jasiðkiai	22:36
Sodþiaus g. 29, Jasiðkiai	20:31
Sodþiaus g. 31, Jasiðkiai	18:53
Sodþiaus g. 33, Jasiðkiai	18:16
Sodþiaus g. 4, Jasiðkiai	17:20
Sodþiaus g. 45, Jasiðkiai	17:05
Sodþiaus g. 47, Jasiðkiai	21:15
Sodþiaus g. 49, Jasiðkiai	20:21
Sodþiaus g. 51, Jasiðkiai	18:18
Sodþiaus g. 7, Jasiðkiai	14:18
Strazdiðkis 1, Strazdiðkis	49:25
Svidþiai 15, Svidþiai	11:38
Svidþiai 16, Svidþiai	14:58
Svidþiai 17, Svidþiai	12:18
Upës g. 1, Jasiðkiai	16:27
Upës g. 3, Jasiðkiai	15:51
Upës g. 5, Jasiðkiai	14:51
Velykionys 3, Velykionys	1:56
Þilvièiø g. 2, Bliûdþiai	14:29

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SHADOW - Main Result

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Expected [h/year]
N10	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (97)	31:24
N12	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (95)	1:56
N13	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (94)	0:00
N14	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (93)	7:42
N15	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (92)	22:29
N16	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (91)	50:33
N19	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (89)	4:13
N2	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (104)	15:27
N20	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (88)	0:00
N21	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (87)	0:00
N22	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (86)	23:50
N23	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (85)	66:23
N24	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (84)	18:15
N25	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (73)	34:41
N26	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (83)	21:03
N27	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (82)	16:39
N28	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (78)	18:49
N29	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (77)	4:54
N3	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (103)	35:47
N30	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (81)	10:34
N31	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (80)	1:45
N32	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (79)	0:00
N32-1	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (72)	221:42
N32-2	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (71)	54:04
N33	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (74)	51:28
N34	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (75)	33:38
N35	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (76)	88:22
N4	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (102)	65:07
N5	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (101)	48:43
N8	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (99)	9:59
N9	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (98)	16:34

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

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Calculated:
2023-11-14 09:43/4.0.422

SHADOW - Main Result

Assumptions for shadow calculations

Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

Minimum sun height over horizon for influence	3	°
Day step for calculation	1	days
Time step for calculation	1	minutes

Sunshine probability S (Average daily sunshine hours) [KAUNAS]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,41	2,36	4,03	5,55	8,35	8,36	8,16	7,72	5,06	3,23	1,33	0,98

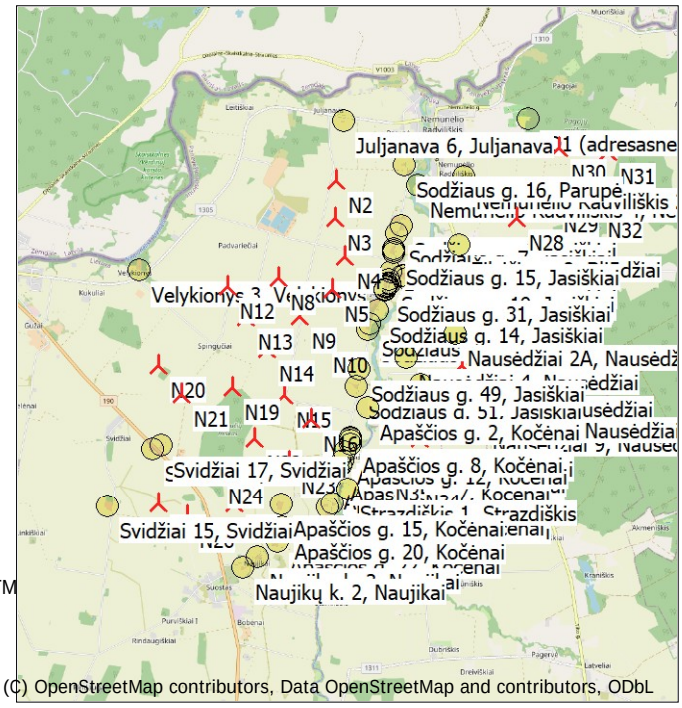
Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW
314	227	250	265	302	582	914	513	652	686	935	959

W	WNW	NW	NNW	Sum
809	464	477	407	8 756

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
Height contours used: Project Wizard Elevation Data Grid (SRTM: Shuttle DTM
Area object(s) used in calculation:
Project Wizard Roughness Areas (Corine land cover 2018 - 100 m grid)
Receptor grid resolution: 1,0 m

All coordinates are in
Lithuanian TM LKS94-LKS94 (LT)



Scale 1:125 000

New WTG Shadow receptor

WTGs

	Y	X	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Shadow data Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
N10	545 698	6 248 113	50,2	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N12	544 141	6 248 992	45,9	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N13	544 443	6 248 494	49,3	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N14	544 794	6 247 974	51,0	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N15	545 084	6 247 205	50,0	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N16	545 531	6 246 809	49,1	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N19	544 234	6 247 330	52,0	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N2	545 926	6 250 780	49,3	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N20	543 009	6 247 672	46,1	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N21	543 391	6 247 200	48,7	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N22	544 610	6 246 488	52,0	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N23	545 186	6 246 098	46,3	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N24	543 972	6 245 918	50,3	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N25	544 286	6 245 398	51,0	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N26	543 502	6 245 186	48,0	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N27	543 025	6 245 373	47,0	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N28	548 911	6 250 172	45,0	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N29	549 492	6 250 491	46,1	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N3	545 896	6 250 138	50,2	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N30	549 603	6 251 337	46,1	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N31	550 427	6 251 277	49,2	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N32	550 222	6 250 390	47,7	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N32-1	547 926	6 247 047	46,7	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N32-2	548 034	6 247 730	47,0	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N33	547 343	6 246 514	47,0	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N34	547 242	6 245 857	48,7	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N35	546 755	6 245 984	47,3	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N4	546 072	6 249 494	48,7	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N5	545 883	6 248 975	50,1	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N8	544 979	6 249 159	50,0	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N9	545 330	6 248 515	51,7	VESTAS V172-7.2 7200 172.0 !O...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-

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SHADOW - Main Result

Shadow receptor-Input

No.	Y	X	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
Apaðèios g. 10, Koèënai	546 196	6 246 420	45,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 12, Koèënai	546 119	6 246 281	44,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 14, Koèënai	546 081	6 246 128	43,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 15, Koèënai	545 055	6 245 374	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 16, Koèënai	546 055	6 246 057	43,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 18, Koèënai	545 827	6 245 353	48,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 2, Koèënai	546 492	6 246 999	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 20, Koèënai	545 091	6 244 991	50,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 22, Koèënai	545 007	6 244 765	50,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 4, Koèënai	546 201	6 246 522	47,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 5, Koèënai	546 037	6 246 180	44,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 6, Koèënai	546 198	6 246 498	47,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 7, Koèënai	546 003	6 245 979	44,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 8, Koèënai	546 194	6 246 474	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 8A, Koèënai	546 188	6 246 450	47,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaðèios g. 9, Koèënai	545 880	6 245 828	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
ID1 (adresasnesuteiktas), Nemunëlio Radviliðkis	549 086	6 251 814	53,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Juljanava 6, Juljanava	546 034	6 251 748	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Kaimynø g. 2, Koèënai	545 912	6 245 411	46,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikø k. 2, Naujikai	544 441	6 244 331	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikø k. 3, Naujikai	544 677	6 244 507	49,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausëdþiai 2A, Nausëdþiai	547 927	6 248 248	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausëdþiai 4, Nausëdþiai	547 120	6 247 840	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausëdþiai 6, Nausëdþiai	547 356	6 247 402	49,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausëdþiai 8, Nausëdþiai	547 806	6 247 072	46,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausëdþiai 9, Nausëdþiai	548 363	6 246 843	47,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunëlio Radviliðkis 2, Nemunëlio Radviliðkis	548 037	6 250 854	46,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunëlio Radviliðkis 4, Nemunëlio Radviliðkis	547 275	6 250 702	40,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 11, Jasiðkiai	546 893	6 249 643	51,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 12, Jasiðkiai	546 831	6 249 075	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 13, Jasiðkiai	546 892	6 249 620	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 14, Jasiðkiai	546 627	6 248 619	43,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 15, Jasiðkiai	546 882	6 249 575	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 16, Parupë	547 043	6 251 030	48,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 17, Jasiðkiai	546 838	6 249 258	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 19, Jasiðkiai	546 797	6 249 124	50,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 23, Jasiðkiai	546 783	6 249 072	49,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 25, Jasiðkiai	546 777	6 249 049	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 27, Jasiðkiai	546 770	6 249 022	47,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 29, Jasiðkiai	546 762	6 248 997	46,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 31, Jasiðkiai	546 754	6 248 970	46,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 33, Jasiðkiai	546 750	6 248 948	45,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 4, Jasiðkiai	547 003	6 250 012	48,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 45, Jasiðkiai	546 507	6 248 406	42,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 47, Jasiðkiai	546 481	6 248 304	43,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 49, Jasiðkiai	546 342	6 247 639	48,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 51, Jasiðkiai	546 295	6 247 362	47,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodþiaus g. 7, Jasiðkiai	546 924	6 249 900	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Strazdiðkis 1, Strazdiðkis	546 156	6 245 648	44,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidþiai 15, Svidþiai	542 175	6 245 341	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidþiai 16, Svidþiai	542 911	6 246 292	47,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidþiai 17, Svidþiai	543 064	6 246 356	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upës g. 1, Jasiðkiai	547 033	6 249 203	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upës g. 3, Jasiðkiai	547 069	6 249 193	51,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upës g. 5, Jasiðkiai	547 102	6 249 143	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Velykionys 3, Velykionys	542 677	6 249 258	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Þilvièiø g. 2, Bliûdþiai	547 969	6 249 708	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0

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SHADOW - Main Result

Calculation Results

Shadow receptor

No.	Shadow, expected values Shadow hours per year [h/year]
Apaðèios g. 10, Koèënai	42:52
Apaðèios g. 12, Koèënai	29:46
Apaðèios g. 14, Koèënai	35:13
Apaðèios g. 15, Koèënai	31:09
Apaðèios g. 16, Koèënai	39:20
Apaðèios g. 18, Koèënai	17:04
Apaðèios g. 2, Koèënai	33:27
Apaðèios g. 20, Koèënai	20:03
Apaðèios g. 22, Koèënai	4:08
Apaðèios g. 4, Koèënai	56:07
Apaðèios g. 5, Koèënai	31:46
Apaðèios g. 6, Koèënai	52:43
Apaðèios g. 7, Koèënai	45:12
Apaðèios g. 8, Koèënai	49:33
Apaðèios g. 8A, Koèënai	45:41
Apaðèios g. 9, Koèënai	59:04
ID1 (adresasnesuteiktas), Nemunëlio Radviliðkis	13:18
Juljanava 6, Juljanava	4:15
Kaimynø g. 2, Koèënai	17:21
Naujikø k. 2, Naujikai	4:39
Naujikø k. 3, Naujikai	10:50
Nausëdþiai 2A, Nausëdþiai	18:13
Nausëdþiai 4, Nausëdþiai	16:18
Nausëdþiai 6, Nausëdþiai	39:26
Nausëdþiai 8, Nausëdþiai	80:55
Nausëdþiai 9, Nausëdþiai	25:09
Nemunëlio Radviliðkis 2, Nemunëlio Radviliðkis	10:21
Nemunëlio Radviliðkis 4, Nemunëlio Radviliðkis	10:14
Sodþiaus g. 11, Jasiðkiai	28:03
Sodþiaus g. 12, Jasiðkiai	25:59
Sodþiaus g. 13, Jasiðkiai	27:47
Sodþiaus g. 14, Jasiðkiai	32:03
Sodþiaus g. 15, Jasiðkiai	27:02
Sodþiaus g. 16, Parupë	7:04
Sodþiaus g. 17, Jasiðkiai	35:43
Sodþiaus g. 19, Jasiðkiai	29:00
Sodþiaus g. 23, Jasiðkiai	23:55
Sodþiaus g. 25, Jasiðkiai	21:43
Sodþiaus g. 27, Jasiðkiai	18:56
Sodþiaus g. 29, Jasiðkiai	16:22
Sodþiaus g. 31, Jasiðkiai	17:20
Sodþiaus g. 33, Jasiðkiai	20:08
Sodþiaus g. 4, Jasiðkiai	19:11
Sodþiaus g. 45, Jasiðkiai	23:10
Sodþiaus g. 47, Jasiðkiai	31:34
Sodþiaus g. 49, Jasiðkiai	16:53
Sodþiaus g. 51, Jasiðkiai	27:14
Sodþiaus g. 7, Jasiðkiai	18:40
Strazdiðkis 1, Strazdiðkis	48:59
Svidþiai 15, Svidþiai	14:56
Svidþiai 16, Svidþiai	21:31
Svidþiai 17, Svidþiai	18:37
Upës g. 1, Jasiðkiai	22:13
Upës g. 3, Jasiðkiai	21:26
Upës g. 5, Jasiðkiai	20:39
Velykionys 3, Velykionys	2:45
Þilvièiø g. 2, Bliûdþiai	18:41

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SHADOW - Main Result

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Expected [h/year]
N10	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (97)	28:53
N12	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (95)	2:45
N13	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (94)	0:00
N14	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (93)	11:58
N15	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (92)	25:39
N16	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (91)	46:21
N19	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (89)	4:11
N2	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (104)	18:40
N20	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (88)	0:00
N21	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (87)	0:00
N22	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (86)	36:06
N23	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (85)	76:25
N24	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (84)	22:45
N25	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (73)	39:26
N26	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (83)	30:27
N27	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (82)	24:40
N28	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (78)	23:10
N29	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (77)	8:59
N3	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (103)	41:28
N30	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (81)	13:26
N31	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (80)	2:36
N32	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (79)	0:00
N32-1	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (72)	109:28
N32-2	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (71)	63:19
N33	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (74)	66:53
N34	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (75)	45:49
N35	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (76)	95:53
N4	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (102)	70:19
N5	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (101)	52:48
N8	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (99)	17:42
N9	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (98)	21:30

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

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SHADOW - Main Result

Assumptions for shadow calculations

Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

Minimum sun height over horizon for influence	3 °
Day step for calculation	1 days
Time step for calculation	1 minutes

Sunshine probability S (Average daily sunshine hours) [KAUNAS]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,41	2,36	4,03	5,55	8,35	8,36	8,16	7,72	5,06	3,23	1,33	0,98

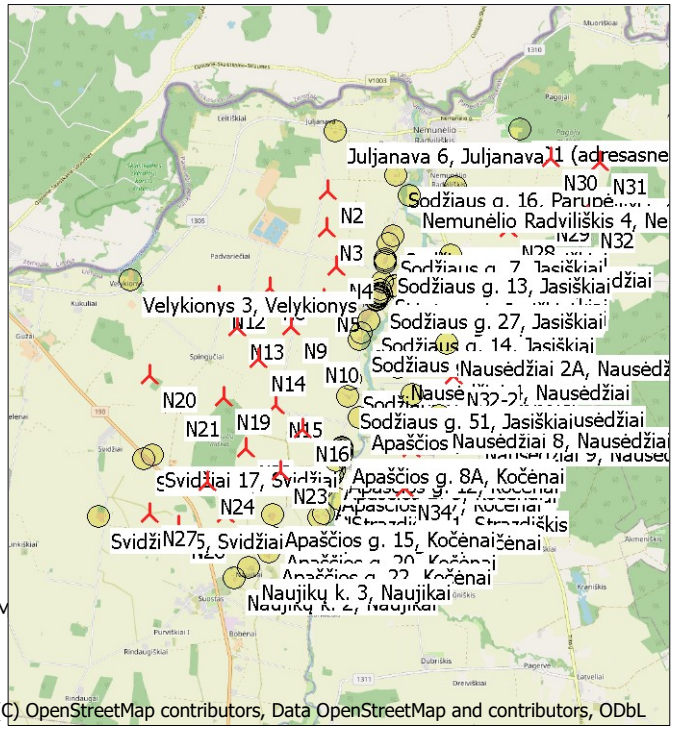
Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW
314	227	250	265	302	582	914	513	652	686	935	959

W	WNW	NW	NNW	Sum
809	464	477	407	8 756

Yearly aggregation of real case reduction
A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
Height contours used: Project Wizard Elevation Data Grid (SRTM: Shuttle DTM
Area object(s) used in calculation:
Project Wizard Roughness Areas (Corine land cover 2018 - 100 m grid)
Receptor grid resolution: 1,0 m

All coordinates are in
Lithuanian TM LKS94-LKS94 (LT)



Scale 1:125 000

New WTG Shadow receptor

WTGs

	Y	X	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Shadow data Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
N10	545 698	6 248 113	50,2	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N12	544 141	6 248 992	45,9	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N13	544 443	6 248 494	49,3	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N14	544 794	6 247 974	51,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N15	545 084	6 247 205	50,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N16	545 531	6 246 809	49,1	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N19	544 234	6 247 330	52,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N2	545 926	6 250 780	49,3	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N20	543 009	6 247 672	46,1	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N21	543 391	6 247 200	48,7	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N22	544 610	6 246 488	52,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N23	545 186	6 246 098	46,3	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N24	543 972	6 245 918	50,3	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N25	544 286	6 245 398	51,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N26	543 502	6 245 186	48,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N27	543 025	6 245 373	47,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N28	548 911	6 250 172	45,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N29	549 492	6 250 491	46,1	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N3	545 896	6 250 138	50,2	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N30	549 603	6 251 337	46,1	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N31	550 427	6 251 277	49,2	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N32	550 222	6 250 390	47,7	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N32-1	547 926	6 247 047	46,7	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N32-2	548 034	6 247 730	47,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N33	547 343	6 246 514	47,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N34	547 242	6 245 857	48,7	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N35	546 755	6 245 984	47,3	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N4	546 072	6 249 494	48,7	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N5	545 883	6 248 975	50,1	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N8	544 979	6 249 159	50,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N9	545 330	6 248 515	51,7	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-

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SHADOW - Main Result

Shadow receptor-Input

No.	Y	X	Z [m]	Width [m]	Height [m]	Elevation a.g.l. [m]	Slope of window [°]	Direction mode	Eye height (ZVI) a.g.l. [m]
Apaščios g. 10, Kočėnai	546 196	6 246 420	45,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 12, Kočėnai	546 119	6 246 281	44,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 14, Kočėnai	546 081	6 246 128	43,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 15, Kočėnai	545 055	6 245 374	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 16, Kočėnai	546 055	6 246 057	43,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 18, Kočėnai	545 827	6 245 353	48,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 2, Kočėnai	546 492	6 246 999	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 20, Kočėnai	545 091	6 244 991	50,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 22, Kočėnai	545 007	6 244 765	50,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 4, Kočėnai	546 201	6 246 522	47,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 5, Kočėnai	546 037	6 246 180	44,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 6, Kočėnai	546 198	6 246 498	47,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 7, Kočėnai	546 003	6 245 979	44,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 8, Kočėnai	546 194	6 246 474	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 8A, Kočėnai	546 188	6 246 450	47,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 9, Kočėnai	545 880	6 245 828	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	549 086	6 251 814	53,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Juljanava 6, Juljanava	546 034	6 251 748	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Kaimynų g. 2, Kočėnai	545 912	6 245 411	46,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikų k. 2, Naujikai	544 441	6 244 331	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikų k. 3, Naujikai	544 677	6 244 507	49,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 2A, Nausėdžiai	547 927	6 248 248	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 4, Nausėdžiai	547 120	6 247 840	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 6, Nausėdžiai	547 356	6 247 402	49,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 8, Nausėdžiai	547 806	6 247 072	46,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 9, Nausėdžiai	548 363	6 246 843	47,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	548 037	6 250 854	46,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	547 275	6 250 702	40,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 11, Jasiškiai	546 893	6 249 643	51,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 12, Jasiškiai	546 831	6 249 075	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 13, Jasiškiai	546 892	6 249 620	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 14, Jasiškiai	546 627	6 248 619	43,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 15, Jasiškiai	546 882	6 249 575	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 16, Parupė	547 043	6 251 030	48,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 17, Jasiškiai	546 838	6 249 258	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 19, Jasiškiai	546 797	6 249 124	50,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 23, Jasiškiai	546 783	6 249 072	49,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 25, Jasiškiai	546 777	6 249 049	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 27, Jasiškiai	546 770	6 249 022	47,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 29, Jasiškiai	546 762	6 248 997	46,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 31, Jasiškiai	546 754	6 248 970	46,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 33, Jasiškiai	546 750	6 248 948	45,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 4, Jasiškiai	547 003	6 250 012	48,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 45, Jasiškiai	546 507	6 248 406	42,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 47, Jasiškiai	546 481	6 248 304	43,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 49, Jasiškiai	546 342	6 247 639	48,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 51, Jasiškiai	546 295	6 247 362	47,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 7, Jasiškiai	546 924	6 249 900	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Strazdiškis 1, Strazdiškis	546 156	6 245 648	44,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 15, Svidžiai	542 175	6 245 341	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 16, Svidžiai	542 911	6 246 292	47,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 17, Svidžiai	543 064	6 246 356	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 1, Jasiškiai	547 033	6 249 203	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 3, Jasiškiai	547 069	6 249 193	51,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 5, Jasiškiai	547 102	6 249 143	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Velykionys 3, Velykionys	542 677	6 249 258	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Žilvičių g. 2, Bliūdžiai	547 969	6 249 708	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0

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SHADOW - Main Result

Calculation Results

Shadow receptor

No.	Shadow, expected values Shadow hours per year [h/year]
Apaščios g. 10, Kočėnai	43:22
Apaščios g. 12, Kočėnai	33:04
Apaščios g. 14, Kočėnai	39:32
Apaščios g. 15, Kočėnai	33:57
Apaščios g. 16, Kočėnai	44:20
Apaščios g. 18, Kočėnai	17:12
Apaščios g. 2, Kočėnai	37:31
Apaščios g. 20, Kočėnai	19:26
Apaščios g. 22, Kočėnai	4:44
Apaščios g. 4, Kočėnai	57:15
Apaščios g. 5, Kočėnai	35:31
Apaščios g. 6, Kočėnai	53:47
Apaščios g. 7, Kočėnai	51:20
Apaščios g. 8, Kočėnai	50:19
Apaščios g. 8A, Kočėnai	46:23
Apaščios g. 9, Kočėnai	62:27
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	15:02
Juljanava 6, Juljanava	5:04
Kaimynų g. 2, Kočėnai	16:31
Naujikų k. 2, Naujikai	0:00
Naujikų k. 3, Naujikai	10:48
Nausėdžiai 2A, Nausėdžiai	19:55
Nausėdžiai 4, Nausėdžiai	18:41
Nausėdžiai 6, Nausėdžiai	40:55
Nausėdžiai 8, Nausėdžiai	60:36
Nausėdžiai 9, Nausėdžiai	21:55
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	11:32
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	11:18
Sodžiaus g. 11, Jasiškiai	29:41
Sodžiaus g. 12, Jasiškiai	26:09
Sodžiaus g. 13, Jasiškiai	29:12
Sodžiaus g. 14, Jasiškiai	32:40
Sodžiaus g. 15, Jasiškiai	28:14
Sodžiaus g. 16, Parupė	7:45
Sodžiaus g. 17, Jasiškiai	38:08
Sodžiaus g. 19, Jasiškiai	29:09
Sodžiaus g. 23, Jasiškiai	23:43
Sodžiaus g. 25, Jasiškiai	21:25
Sodžiaus g. 27, Jasiškiai	18:33
Sodžiaus g. 29, Jasiškiai	16:46
Sodžiaus g. 31, Jasiškiai	17:47
Sodžiaus g. 33, Jasiškiai	18:30
Sodžiaus g. 4, Jasiškiai	19:52
Sodžiaus g. 45, Jasiškiai	24:04
Sodžiaus g. 47, Jasiškiai	31:06
Sodžiaus g. 49, Jasiškiai	18:41
Sodžiaus g. 51, Jasiškiai	25:39
Sodžiaus g. 7, Jasiškiai	20:56
Strazdiškis 1, Strazdiškis	43:47
Svidžiai 15, Svidžiai	16:48
Svidžiai 16, Svidžiai	23:18
Svidžiai 17, Svidžiai	20:20
Upės g. 1, Jasiškiai	22:30
Upės g. 3, Jasiškiai	21:29
Upės g. 5, Jasiškiai	23:12
Velykionys 3, Velykionys	3:01
Žilvičių g. 2, Bliūdžiai	19:27

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SHADOW - Main Result

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Expected [h/year]
N10	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (97)	31:26
N12	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (95)	3:01
N13	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (94)	0:00
N14	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (93)	12:12
N15	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (92)	24:35
N16	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (91)	43:39
N19	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (89)	3:36
N2	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (104)	19:32
N20	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (88)	0:00
N21	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (87)	0:00
N22	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (86)	37:24
N23	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (85)	80:32
N24	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (84)	23:35
N25	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (73)	41:46
N26	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (83)	33:03
N27	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (82)	23:00
N28	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (78)	24:03
N29	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (77)	10:52
N3	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (103)	42:49
N30	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (81)	14:54
N31	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (80)	2:50
N32	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (79)	0:00
N32-1	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (72)	86:50
N32-2	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (71)	61:21
N33	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (74)	73:03
N34	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (75)	50:05
N35	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (76)	100:50
N4	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (102)	71:37
N5	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (101)	54:51
N8	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (99)	17:08
N9	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (98)	23:45

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

Project:
Nemunelio_Radviliskis

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Calculated:
2024-06-05 09:22/4.0.540

SHADOW - Main Result

Calculation: Shadow_priemones

Assumptions for shadow calculations

Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

Minimum sun height over horizon for influence	3 °
Day step for calculation	1 days
Time step for calculation	1 minutes

Sunshine probability S (Average daily sunshine hours) [KAUNAS]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,41	2,36	4,03	5,55	8,35	8,36	8,16	7,72	5,06	3,23	1,33	0,98

Operational time

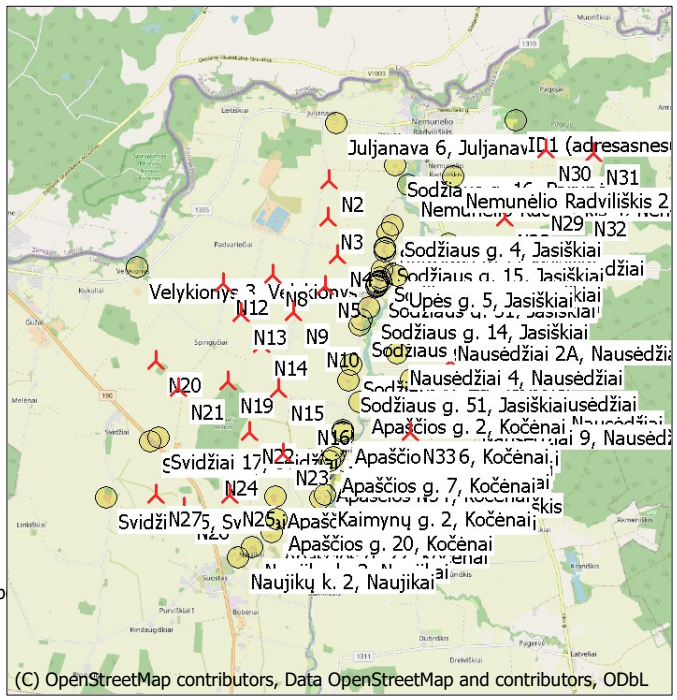
N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW
314	227	250	265	302	582	914	513	652	686	935	959

W	WNW	NW	NNW	Sum
809	464	477	407	8 756

Monthly aggregation of real case reduction
Flicker curtailment by stopping specific turbines

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
Height contours used: Elevation Grid Data Object: Nemunelio_Radviliskis_Alternatyva_b
Area object(s) used in calculation:
Project Wizard Roughness Areas (Corine land cover 2018 - 100 m grid)
Receptor grid resolution: 1,0 m

All coordinates are in
Lithuanian TM LKS94-LKS94 (LT)



Scale 1:125 000

New WTG Shadow receptor

WTGs

	Y	X	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Shadow data Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
N10	545 698	6 248 113	50,2	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N12	544 141	6 248 992	45,9	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N13	544 443	6 248 494	49,3	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N14	544 794	6 247 974	51,0	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N15	545 084	6 247 205	50,0	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N16	545 531	6 246 809	49,1	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N19	544 234	6 247 330	52,0	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N2	545 926	6 250 780	49,3	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N20	543 009	6 247 672	46,1	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N21	543 391	6 247 200	48,7	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N22	544 610	6 246 488	52,0	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N23	545 186	6 246 098	46,3	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N24	543 972	6 245 918	50,3	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N25	544 286	6 245 398	51,0	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N26	543 502	6 245 186	48,0	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N27	543 025	6 245 373	47,0	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N28	548 911	6 250 172	45,0	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N29	549 492	6 250 491	46,1	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N3	545 896	6 250 138	50,2	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N30	549 603	6 251 337	46,1	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N31	550 427	6 251 277	49,2	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N32	550 222	6 250 390	47,7	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N32-1	547 926	6 247 047	46,7	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N32-2	548 034	6 247 730	47,0	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N33	547 343	6 246 514	47,0	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N34	547 242	6 245 857	48,7	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N35	546 755	6 245 984	47,3	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N4	546 072	6 249 494	48,7	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N5	545 883	6 248 975	50,1	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6

To be continued on next page...

SHADOW - Main Result

Calculation: Shadow_priemones

...continued from previous page

					WTG type							Shadow data	
	Y	X	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
N8	544 979	6 249 159	50,0	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N9	545 330	6 248 515	51,7	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 1...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6

Shadow receptor-Input

No.	Y	X	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
Apaščios g. 10, Kočėnai	546 196	6 246 420	45,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 12, Kočėnai	546 119	6 246 281	44,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 14, Kočėnai	546 081	6 246 128	43,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 15, Kočėnai	545 055	6 245 374	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 16, Kočėnai	546 055	6 246 057	43,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 18, Kočėnai	545 827	6 245 353	48,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 2, Kočėnai	546 492	6 246 999	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 20, Kočėnai	545 091	6 244 991	50,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 22, Kočėnai	545 007	6 244 765	50,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 4, Kočėnai	546 201	6 246 522	47,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 5, Kočėnai	546 037	6 246 180	44,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 6, Kočėnai	546 198	6 246 498	47,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 7, Kočėnai	546 003	6 245 979	44,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 8, Kočėnai	546 194	6 246 474	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 8A, Kočėnai	546 188	6 246 450	47,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 9, Kočėnai	545 880	6 245 828	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	549 086	6 251 814	53,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Juljanava 6, Juljanava	546 034	6 251 748	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Kaimynų g. 2, Kočėnai	545 912	6 245 411	46,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikų k. 2, Naujikai	544 441	6 244 331	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikų k. 3, Naujikai	544 677	6 244 507	49,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 2A, Nausėdžiai	547 927	6 248 248	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 4, Nausėdžiai	547 120	6 247 840	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 6, Nausėdžiai	547 356	6 247 402	49,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 8, Nausėdžiai	547 806	6 247 072	46,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 9, Nausėdžiai	548 363	6 246 843	47,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	548 037	6 250 854	46,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	547 275	6 250 702	40,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 11, Jasiškiai	546 893	6 249 643	51,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 12, Jasiškiai	546 831	6 249 075	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 13, Jasiškiai	546 892	6 249 620	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 14, Jasiškiai	546 627	6 248 619	43,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 15, Jasiškiai	546 882	6 249 575	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 16, Parupė	547 043	6 251 030	48,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 17, Jasiškiai	546 838	6 249 258	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 19, Jasiškiai	546 797	6 249 124	50,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 23, Jasiškiai	546 783	6 249 072	49,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 25, Jasiškiai	546 777	6 249 049	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 27, Jasiškiai	546 770	6 249 022	47,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 29, Jasiškiai	546 762	6 248 997	46,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 31, Jasiškiai	546 754	6 248 970	46,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 33, Jasiškiai	546 750	6 248 948	45,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 4, Jasiškiai	547 003	6 250 012	48,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 45, Jasiškiai	546 507	6 248 406	42,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 47, Jasiškiai	546 481	6 248 304	43,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 49, Jasiškiai	546 342	6 247 639	48,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 51, Jasiškiai	546 295	6 247 362	47,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 7, Jasiškiai	546 924	6 249 900	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Strazdiškis 1, Strazdiškis	546 156	6 245 648	44,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 15, Svidžiai	542 175	6 245 341	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 16, Svidžiai	542 911	6 246 292	47,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 17, Svidžiai	543 064	6 246 356	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 1, Jasiškiai	547 033	6 249 203	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 3, Jasiškiai	547 069	6 249 193	51,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 5, Jasiškiai	547 102	6 249 143	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Velykionys 3, Velykionys	542 677	6 249 258	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Žilvičių g. 2, Bliūdžiai	547 969	6 249 708	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0

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SHADOW - Main Result

Calculation: Shadow_priemones

Calculation Results

Shadow receptor

No.	Shadow, expected values	
	Shadow hours per year [h/year]	Avoided hours per year [h/year]
Apaščios g. 10, Kočėnai*	11:33	31:40
Apaščios g. 12, Kočėnai*	4:22	19:01
Apaščios g. 14, Kočėnai*	4:32	22:04
Apaščios g. 15, Kočėnai*	11:14	11:27
Apaščios g. 16, Kočėnai*	4:32	24:54
Apaščios g. 18, Kočėnai*	0:00	16:25
Apaščios g. 2, Kočėnai*	10:24	13:21
Apaščios g. 20, Kočėnai*	3:27	18:41
Apaščios g. 22, Kočėnai*	2:33	0:18
Apaščios g. 4, Kočėnai*	13:56	40:59
Apaščios g. 5, Kočėnai*	3:52	20:26
Apaščios g. 6, Kočėnai*	13:30	38:35
Apaščios g. 7, Kočėnai*	4:14	29:07
Apaščios g. 8, Kočėnai*	12:54	36:07
Apaščios g. 8A, Kočėnai*	12:11	33:40
Apaščios g. 9, Kočėnai*	3:27	45:11
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	10:01	
Juljanava 6, Juljanava	1:35	
Kaimynų g. 2, Kočėnai*	0:00	18:55
Naujikų k. 2, Naujikai	4:21	
Naujikų k. 3, Naujikai	9:09	
Nausėdžiai 2A, Nausėdžiai	13:03	
Nausėdžiai 4, Nausėdžiai*	9:22	2:57
Nausėdžiai 6, Nausėdžiai*	27:48	9:45
Nausėdžiai 8, Nausėdžiai*	8:16	173:09
Nausėdžiai 9, Nausėdžiai*	4:06	34:31
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	7:13	
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis*	6:13	1:07
Sodžiaus g. 11, Jasiškiai*	15:35	7:39
Sodžiaus g. 12, Jasiškiai*	8:57	17:52
Sodžiaus g. 13, Jasiškiai*	15:53	7:51
Sodžiaus g. 14, Jasiškiai*	29:35	2:14
Sodžiaus g. 15, Jasiškiai*	15:37	8:30
Sodžiaus g. 16, Parupė	5:23	
Sodžiaus g. 17, Jasiškiai*	7:18	17:22
Sodžiaus g. 19, Jasiškiai*	9:03	20:52
Sodžiaus g. 23, Jasiškiai*	9:54	16:28
Sodžiaus g. 25, Jasiškiai*	10:21	14:20
Sodžiaus g. 27, Jasiškiai*	10:57	11:35
Sodžiaus g. 29, Jasiškiai*	11:34	8:54
Sodžiaus g. 31, Jasiškiai*	13:11	5:43
Sodžiaus g. 33, Jasiškiai*	13:42	4:36
Sodžiaus g. 4, Jasiškiai*	13:28	3:48
Sodžiaus g. 45, Jasiškiai*	13:44	3:20
Sodžiaus g. 47, Jasiškiai*	16:03	5:15
Sodžiaus g. 49, Jasiškiai*	16:23	3:59
Sodžiaus g. 51, Jasiškiai*	9:59	8:25
Sodžiaus g. 7, Jasiškiai*	9:11	5:07
Strazdiškis 1, Strazdiškis*	6:58	42:26
Svidžiai 15, Svidžiai	11:38	
Svidžiai 16, Svidžiai*	12:12	2:54
Svidžiai 17, Svidžiai*	8:58	3:25
Upės g. 1, Jasiškiai*	7:23	9:10
Upės g. 3, Jasiškiai*	7:38	8:18
Upės g. 5, Jasiškiai*	7:00	7:57
Velykionys 3, Velykionys	1:56	
Žilvičių g. 2, Bliūdžiai	14:29	

** Receptors where shadow flicker is reduced by curtailment*

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SHADOW - Main Result

Calculation: Shadow_priemones

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Stopped due to flicker curtailment [h/year]	Expected [h/year]
N10	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (97)		31:24
N12	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (95)		1:56
N13	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (94)		0:00
N14	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (93)		7:42
N15	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (92)		22:29
N16	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (91)	203:42	0:00
N19	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (89)		4:13
N2	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (104)		15:27
N20	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (88)		0:00
N21	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (87)		0:00
N22	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (86)	81:04	0:00
N23	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (85)	243:25	0:00
N24	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (84)		18:15
N25	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (73)	126:56	0:00
N26	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (83)		21:03
N27	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (82)		16:39
N28	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (78)		18:49
N29	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (77)		4:54
N3	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (103)		35:47
N30	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (81)		10:34
N31	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (80)		1:45
N32	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (79)		0:00
N32-1	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (72)	757:35	0:00
N32-2	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (71)		54:04
N33	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (74)		51:28
N34	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (75)	172:08	0:00
N35	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (76)	380:54	0:00
N4	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (102)	236:04	0:00
N5	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (101)		48:43
N8	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (99)	32:33	0:00
N9	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (98)		16:34

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

Project:
Nemunelio_Radviliskis

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Calculated:
2024-06-05 09:32/4.0.540

SHADOW - Main Result

Calculation: Shadow Priemones

Assumptions for shadow calculations

Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

Minimum sun height over horizon for influence	3 °
Day step for calculation	1 days
Time step for calculation	1 minutes

Sunshine probability S (Average daily sunshine hours) [KAUNAS]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,41	2,36	4,03	5,55	8,35	8,36	8,16	7,72	5,06	3,23	1,33	0,98

Operational time

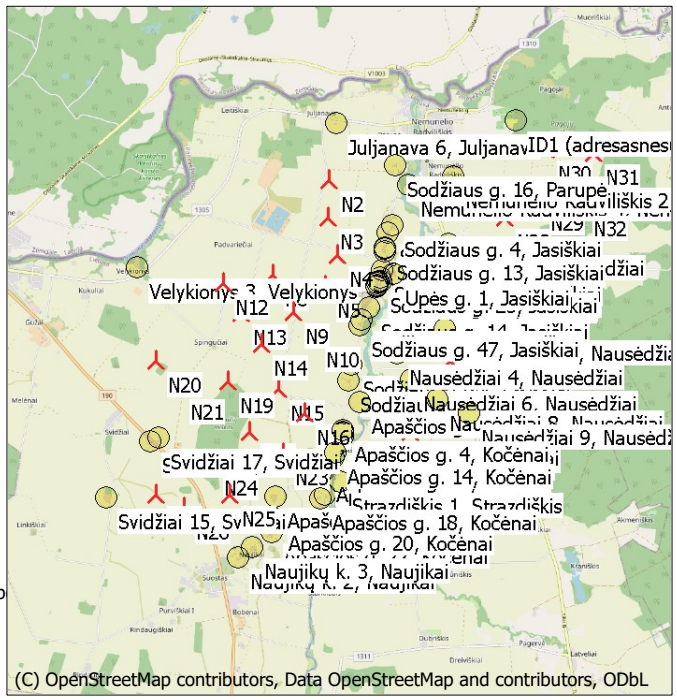
N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW
314	227	250	265	302	582	914	513	652	686	935	959

W	WNW	NW	NNW	Sum
809	464	477	407	8 756

Monthly aggregation of real case reduction
Flicker curtailment by stopping specific turbines

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
Height contours used: Elevation Grid Data Object: Nemunelio_Radviliskis_Alternatyva_b
Area object(s) used in calculation:
Project Wizard Roughness Areas (Corine land cover 2018 - 100 m grid)
Receptor grid resolution: 1,0 m

All coordinates are in
Lithuanian TM LKS94-LKS94 (LT)



Scale 1:125 000

New WTG Shadow receptor

WTGs

	Y	X	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Shadow data Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
N10	545 698	6 248 113	50,2	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N12	544 141	6 248 992	45,9	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N13	544 443	6 248 494	49,3	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N14	544 794	6 247 974	51,0	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N15	545 084	6 247 205	50,0	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N16	545 531	6 246 809	49,1	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N19	544 234	6 247 330	52,0	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N2	545 926	6 250 780	49,3	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N20	543 009	6 247 672	46,1	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N21	543 391	6 247 200	48,7	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N22	544 610	6 246 488	52,0	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N23	545 186	6 246 098	46,3	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N24	543 972	6 245 918	50,3	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N25	544 286	6 245 398	51,0	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N26	543 502	6 245 186	48,0	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N27	543 025	6 245 373	47,0	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N28	548 911	6 250 172	45,0	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N29	549 492	6 250 491	46,1	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N3	545 896	6 250 138	50,2	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N30	549 603	6 251 337	46,1	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N31	550 427	6 251 277	49,2	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N32	550 222	6 250 390	47,7	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N32-1	547 926	6 247 047	46,7	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N32-2	548 034	6 247 730	47,0	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N33	547 343	6 246 514	47,0	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N34	547 242	6 245 857	48,7	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N35	546 755	6 245 984	47,3	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N4	546 072	6 249 494	48,7	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N5	545 883	6 248 975	50,1	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-

To be continued on next page...

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SHADOW - Main Result

Calculation: Shadow Priemones

...continued from previous page

					WTG type							Shadow data	
	Y	X	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
N8	544 979	6 249 159	50,0	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N9	545 330	6 248 515	51,7	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (T...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-

Shadow receptor-Input

No.	Y	X	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
Apaščios g. 10, Kočėnai	546 196	6 246 420	45,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 12, Kočėnai	546 119	6 246 281	44,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 14, Kočėnai	546 081	6 246 128	43,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 15, Kočėnai	545 055	6 245 374	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 16, Kočėnai	546 055	6 246 057	43,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 18, Kočėnai	545 827	6 245 353	48,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 2, Kočėnai	546 492	6 246 999	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 20, Kočėnai	545 091	6 244 991	50,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 22, Kočėnai	545 007	6 244 765	50,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 4, Kočėnai	546 201	6 246 522	47,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 5, Kočėnai	546 037	6 246 180	44,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 6, Kočėnai	546 198	6 246 498	47,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 7, Kočėnai	546 003	6 245 979	44,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 8, Kočėnai	546 194	6 246 474	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 8A, Kočėnai	546 188	6 246 450	47,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 9, Kočėnai	545 880	6 245 828	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	549 086	6 251 814	53,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Juljanava 6, Juljanava	546 034	6 251 748	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Kaimynų g. 2, Kočėnai	545 912	6 245 411	46,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikų k. 2, Naujikai	544 441	6 244 331	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikų k. 3, Naujikai	544 677	6 244 507	49,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 2A, Nausėdžiai	547 927	6 248 248	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 4, Nausėdžiai	547 120	6 247 840	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 6, Nausėdžiai	547 356	6 247 402	49,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 8, Nausėdžiai	547 806	6 247 072	46,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 9, Nausėdžiai	548 363	6 246 843	47,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	548 037	6 250 854	46,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	547 275	6 250 702	40,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 11, Jasiškiai	546 893	6 249 643	51,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 12, Jasiškiai	546 831	6 249 075	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 13, Jasiškiai	546 892	6 249 620	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 14, Jasiškiai	546 627	6 248 619	43,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 15, Jasiškiai	546 882	6 249 575	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 16, Parupė	547 043	6 251 030	48,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 17, Jasiškiai	546 838	6 249 258	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 19, Jasiškiai	546 797	6 249 124	50,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 23, Jasiškiai	546 783	6 249 072	49,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 25, Jasiškiai	546 777	6 249 049	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 27, Jasiškiai	546 770	6 249 022	47,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 29, Jasiškiai	546 762	6 248 997	46,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 31, Jasiškiai	546 754	6 248 970	46,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 33, Jasiškiai	546 750	6 248 948	45,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 4, Jasiškiai	547 003	6 250 012	48,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 45, Jasiškiai	546 507	6 248 406	42,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 47, Jasiškiai	546 481	6 248 304	43,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 49, Jasiškiai	546 342	6 247 639	48,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 51, Jasiškiai	546 295	6 247 362	47,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 7, Jasiškiai	546 924	6 249 900	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Strazdiškis 1, Strazdiškis	546 156	6 245 648	44,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 15, Svidžiai	542 175	6 245 341	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 16, Svidžiai	542 911	6 246 292	47,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 17, Svidžiai	543 064	6 246 356	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 1, Jasiškiai	547 033	6 249 203	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 3, Jasiškiai	547 069	6 249 193	51,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 5, Jasiškiai	547 102	6 249 143	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Velykionys 3, Velykionys	542 677	6 249 258	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Žilvičių g. 2, Bliūdžiai	547 969	6 249 708	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0

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Calculated:
2024-06-05 09:32/4.0.540

SHADOW - Main Result

Calculation: Shadow Priemones

Calculation Results

Shadow receptor

No.	Shadow, expected values	
	Shadow hours per year [h/year]	Avoided hours per year [h/year]
Apaščios g. 10, Kočėnai*	11:38	31:14
Apaščios g. 12, Kočėnai*	5:56	23:51
Apaščios g. 14, Kočėnai*	6:29	28:44
Apaščios g. 15, Kočėnai*	28:33	2:34
Apaščios g. 16, Kočėnai*	6:36	32:44
Apaščios g. 18, Kočėnai*	3:00	14:04
Apaščios g. 2, Kočėnai*	14:26	19:26
Apaščios g. 20, Kočėnai*	16:58	3:04
Apaščios g. 22, Kočėnai*	0:00	4:08
Apaščios g. 4, Kočėnai*	15:09	41:02
Apaščios g. 5, Kočėnai*	5:31	26:14
Apaščios g. 6, Kočėnai*	14:19	38:26
Apaščios g. 7, Kočėnai*	6:23	38:48
Apaščios g. 8, Kočėnai*	13:32	36:02
Apaščios g. 8A, Kočėnai*	12:25	33:16
Apaščios g. 9, Kočėnai*	7:45	51:17
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	13:19	
Juljanava 6, Juljanava	4:15	
Kaimynų g. 2, Kočėnai*	2:35	14:45
Naujikų k. 2, Naujikai	4:39	
Naujikų k. 3, Naujikai*	0:00	10:50
Nausėdžiai 2A, Nausėdžiai*	16:47	1:26
Nausėdžiai 4, Nausėdžiai*	12:45	3:40
Nausėdžiai 6, Nausėdžiai*	27:07	12:43
Nausėdžiai 8, Nausėdžiai*	8:52	72:26
Nausėdžiai 9, Nausėdžiai*	5:10	19:57
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	10:24	
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis*	8:39	1:36
Sodžiaus g. 11, Jasiškiai*	15:10	12:50
Sodžiaus g. 12, Jasiškiai*	4:23	21:32
Sodžiaus g. 13, Jasiškiai*	14:24	13:19
Sodžiaus g. 14, Jasiškiai*	10:31	21:30
Sodžiaus g. 15, Jasiškiai*	12:20	14:38
Sodžiaus g. 16, Parupė	7:05	
Sodžiaus g. 17, Jasiškiai*	3:36	32:08
Sodžiaus g. 19, Jasiškiai*	4:16	24:40
Sodžiaus g. 23, Jasiškiai*	4:37	19:13
Sodžiaus g. 25, Jasiškiai*	4:47	16:53
Sodžiaus g. 27, Jasiškiai*	4:58	13:57
Sodžiaus g. 29, Jasiškiai*	5:08	11:15
Sodžiaus g. 31, Jasiškiai*	6:44	10:41
Sodžiaus g. 33, Jasiškiai*	6:54	13:20
Sodžiaus g. 4, Jasiškiai*	12:26	6:43
Sodžiaus g. 45, Jasiškiai*	17:35	5:34
Sodžiaus g. 47, Jasiškiai*	21:38	10:01
Sodžiaus g. 49, Jasiškiai*	11:35	5:24
Sodžiaus g. 51, Jasiškiai*	14:45	12:41
Sodžiaus g. 7, Jasiškiai*	9:54	8:47
Strazdiškis 1, Strazdiškis*	6:21	42:37
Svidžiai 15, Svidžiai*	11:25	3:31
Svidžiai 16, Svidžiai*	15:23	6:21
Svidžiai 17, Svidžiai*	12:56	5:50
Upės g. 1, Jasiškiai*	4:35	17:48
Upės g. 3, Jasiškiai*	5:18	16:17
Upės g. 5, Jasiškiai*	4:46	16:02
Velykionys 3, Velykionys	2:45	
Žilvičių g. 2, Bliūdžiai	18:41	

** Receptors where shadow flicker is reduced by curtailment*

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SHADOW - Main Result

Calculation: Shadow Priemones

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Stopped due to flicker curtailment [h/year]	Expected [h/year]
N10	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (97)		28:53
N12	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (95)		2:45
N13	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (94)		0:00
N14	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (93)		11:58
N15	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (92)		25:39
N16	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (91)	196:40	0:00
N19	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (89)		4:11
N2	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (104)		18:40
N20	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (88)		0:00
N21	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (87)		0:00
N22	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (86)	121:11	0:00
N23	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (85)	278:01	0:00
N24	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (84)		22:45
N25	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (73)		39:26
N26	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (83)	149:04	0:00
N27	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (82)		24:40
N28	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (78)		23:10
N29	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (77)		8:59
N3	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (103)		41:28
N30	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (81)		13:26
N31	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (80)		2:36
N32	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (79)		0:00
N32-1	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (72)	400:40	0:00
N32-2	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (71)		63:19
N33	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (74)		66:53
N34	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (75)	230:22	0:00
N35	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (76)	424:15	0:00
N4	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (102)	253:15	0:00
N5	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (101)	207:21	0:00
N8	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (99)	57:28	0:00
N9	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (98)		21:30

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

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Calculated:
2024-06-05 09:15/4.0.540

SHADOW - Main Result

Calculation: Shadow Priemones

Assumptions for shadow calculations

Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

Minimum sun height over horizon for influence	3 °
Day step for calculation	1 days
Time step for calculation	1 minutes

Sunshine probability S (Average daily sunshine hours) [KAUNAS]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,41	2,36	4,03	5,55	8,35	8,36	8,16	7,72	5,06	3,23	1,33	0,98

Operational time

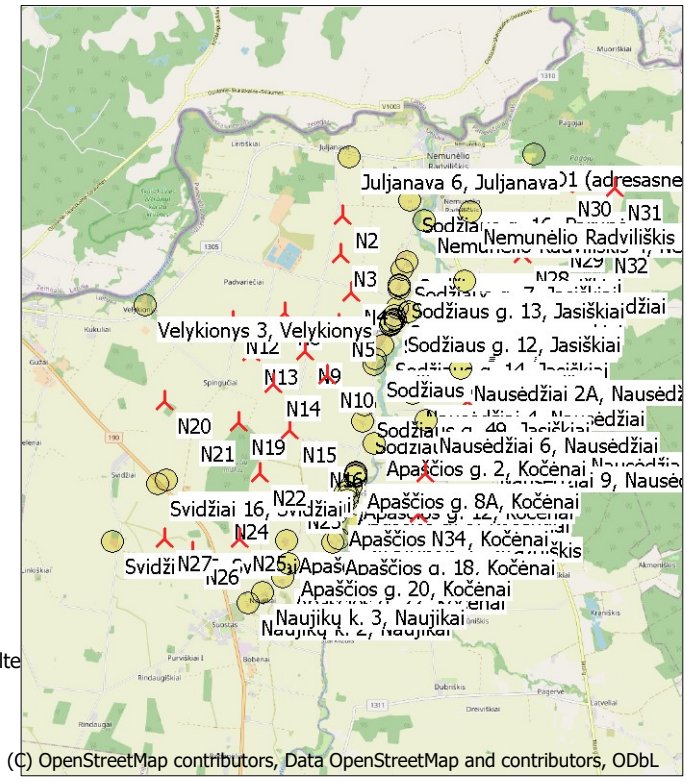
N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW
314	227	250	265	302	582	914	513	652	686	935	959

W	WNW	NW	NNW	Sum
809	464	477	407	8 756

Monthly aggregation of real case reduction
Flicker curtailment by stopping specific turbines

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
Height contours used: Elevation Grid Data Object: Nemunelio_Radviliskis_Alte
Area object(s) used in calculation:
Project Wizard Roughness Areas (Corine land cover 2018 - 100 m grid)
Receptor grid resolution: 1,0 m

All coordinates are in
Lithuanian TM LKS94-LKS94 (LT)



Scale 1:125 000

New WTG Shadow receptor

WTGs

	Y	X	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Shadow data Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
N10	545 698	6 248 113	50,2	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N12	544 141	6 248 992	45,9	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N13	544 443	6 248 494	49,3	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N14	544 794	6 247 974	51,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N15	545 084	6 247 205	50,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N16	545 531	6 246 809	49,1	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N19	544 234	6 247 330	52,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N2	545 926	6 250 780	49,3	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N20	543 009	6 247 672	46,1	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N21	543 391	6 247 200	48,7	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N22	544 610	6 246 488	52,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N23	545 186	6 246 098	46,3	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N24	543 972	6 245 918	50,3	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N25	544 286	6 245 398	51,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N26	543 502	6 245 186	48,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N27	543 025	6 245 373	47,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N28	548 911	6 250 172	45,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N29	549 492	6 250 491	46,1	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N3	545 896	6 250 138	50,2	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N30	549 603	6 251 337	46,1	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N31	550 427	6 251 277	49,2	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N32	550 222	6 250 390	47,7	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N32-1	547 926	6 247 047	46,7	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N32-2	548 034	6 247 730	47,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N33	547 343	6 246 514	47,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N34	547 242	6 245 857	48,7	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N35	546 755	6 245 984	47,3	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N4	546 072	6 249 494	48,7	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N5	545 883	6 248 975	50,1	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-

To be continued on next page...

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SHADOW - Main Result

Calculation: Shadow Priemones

...continued from previous page

					WTG type							Shadow data	
	Y	X	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Calculation distance	RPM	
			[m]					[kW]	[m]	[m]	[m]	[RPM]	
N8	544 979	6 249 159	50,0	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-	
N9	545 330	6 248 515	51,7	Alternatyva 7.5/180m 8 180.0 !...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-	

Shadow receptor-Input

No.	Y	X	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
Apaščios g. 10, Kočėnai	546 196	6 246 420	45,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 12, Kočėnai	546 119	6 246 281	44,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 14, Kočėnai	546 081	6 246 128	43,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 15, Kočėnai	545 055	6 245 374	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 16, Kočėnai	546 055	6 246 057	43,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 18, Kočėnai	545 827	6 245 353	48,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 2, Kočėnai	546 492	6 246 999	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 20, Kočėnai	545 091	6 244 991	50,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 22, Kočėnai	545 007	6 244 765	50,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 4, Kočėnai	546 201	6 246 522	47,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 5, Kočėnai	546 037	6 246 180	44,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 6, Kočėnai	546 198	6 246 498	47,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 7, Kočėnai	546 003	6 245 979	44,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 8, Kočėnai	546 194	6 246 474	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 8A, Kočėnai	546 188	6 246 450	47,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 9, Kočėnai	545 880	6 245 828	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	549 086	6 251 814	53,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Juljanava 6, Juljanava	546 034	6 251 748	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Kaimynų g. 2, Kočėnai	545 912	6 245 411	46,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikų k. 2, Naujikai	544 441	6 244 331	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikų k. 3, Naujikai	544 677	6 244 507	49,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 2A, Nausėdžiai	547 927	6 248 248	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 4, Nausėdžiai	547 120	6 247 840	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 6, Nausėdžiai	547 356	6 247 402	49,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 8, Nausėdžiai	547 806	6 247 072	46,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 9, Nausėdžiai	548 363	6 246 843	47,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	548 037	6 250 854	46,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	547 275	6 250 702	40,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 11, Jasiškiai	546 893	6 249 643	51,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 12, Jasiškiai	546 831	6 249 075	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 13, Jasiškiai	546 892	6 249 620	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 14, Jasiškiai	546 627	6 248 619	43,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 15, Jasiškiai	546 882	6 249 575	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 16, Parupė	547 043	6 251 030	48,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 17, Jasiškiai	546 838	6 249 258	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 19, Jasiškiai	546 797	6 249 124	50,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 23, Jasiškiai	546 783	6 249 072	49,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 25, Jasiškiai	546 777	6 249 049	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 27, Jasiškiai	546 770	6 249 022	47,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 29, Jasiškiai	546 762	6 248 997	46,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 31, Jasiškiai	546 754	6 248 970	46,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 33, Jasiškiai	546 750	6 248 948	45,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 4, Jasiškiai	547 003	6 250 012	48,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 45, Jasiškiai	546 507	6 248 406	42,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 47, Jasiškiai	546 481	6 248 304	43,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 49, Jasiškiai	546 342	6 247 639	48,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 51, Jasiškiai	546 295	6 247 362	47,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 7, Jasiškiai	546 924	6 249 900	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Strazdiškis 1, Strazdiškis	546 156	6 245 648	44,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 15, Svidžiai	542 175	6 245 341	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 16, Svidžiai	542 911	6 246 292	47,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 17, Svidžiai	543 064	6 246 356	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 1, Jasiškiai	547 033	6 249 203	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 3, Jasiškiai	547 069	6 249 193	51,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 5, Jasiškiai	547 102	6 249 143	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0

To be continued on next page...

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Calculated:
2024-06-05 09:15/4.0.540

SHADOW - Main Result

Calculation: Shadow Priemones

...continued from previous page

No.	Y	X	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
Velykionys 3, Velykionys	542 677	6 249 258	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Žilvičių g. 2, Bliūdžiai	547 969	6 249 708	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0

Calculation Results

Shadow receptor

No.	Shadow, expected values: Shadow hours per year [h/year]	Shadow, expected values: Avoided hours per year [h/year]
Apaščios g. 10, Kočėnai*	11:34	31:49
Apaščios g. 12, Kočėnai*	6:42	26:23
Apaščios g. 14, Kočėnai*	7:18	32:14
Apaščios g. 15, Kočėnai*	17:02	16:54
Apaščios g. 16, Kočėnai*	7:29	36:51
Apaščios g. 18, Kočėnai*	0:00	17:11
Apaščios g. 2, Kočėnai*	16:13	21:45
Apaščios g. 20, Kočėnai*	3:30	15:56
Apaščios g. 22, Kočėnai	4:44	
Apaščios g. 4, Kočėnai*	15:25	41:54
Apaščios g. 5, Kočėnai*	6:13	29:18
Apaščios g. 6, Kočėnai*	14:32	39:18
Apaščios g. 7, Kočėnai*	7:17	44:02
Apaščios g. 8, Kočėnai*	13:38	36:42
Apaščios g. 8A, Kočėnai*	12:25	33:59
Apaščios g. 9, Kočėnai*	6:30	55:55
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	15:04	
Juljanava 6, Juljanava	5:04	
Kaimynų g. 2, Kočėnai*	0:00	16:31
Naujikų k. 2, Naujikai	0:00	
Naujikų k. 3, Naujikai	10:48	
Nausėdžiai 2A, Nausėdžiai*	17:42	2:12
Nausėdžiai 4, Nausėdžiai*	14:47	4:02
Nausėdžiai 6, Nausėdžiai*	27:02	14:18
Nausėdžiai 8, Nausėdžiai*	9:43	51:14
Nausėdžiai 9, Nausėdžiai*	5:40	16:13
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	11:35	
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis*	9:35	1:44
Sodžiaus g. 11, Jasiškiai*	19:19	10:19
Sodžiaus g. 12, Jasiškiai*	13:12	12:53
Sodžiaus g. 13, Jasiškiai*	18:22	10:46
Sodžiaus g. 14, Jasiškiai*	28:28	4:10
Sodžiaus g. 15, Jasiškiai*	16:15	11:55
Sodžiaus g. 16, Parupė	7:45	
Sodžiaus g. 17, Jasiškiai*	10:38	27:31
Sodžiaus g. 19, Jasiškiai*	13:04	16:02
Sodžiaus g. 23, Jasiškiai*	14:27	9:12
Sodžiaus g. 25, Jasiškiai*	15:09	6:15
Sodžiaus g. 27, Jasiškiai*	16:02	2:32
Sodžiaus g. 29, Jasiškiai	16:48	
Sodžiaus g. 31, Jasiškiai	17:50	
Sodžiaus g. 33, Jasiškiai	18:33	
Sodžiaus g. 4, Jasiškiai*	14:41	5:10
Sodžiaus g. 45, Jasiškiai*	17:28	6:35
Sodžiaus g. 47, Jasiškiai*	22:27	8:36
Sodžiaus g. 49, Jasiškiai*	12:47	5:59
Sodžiaus g. 51, Jasiškiai*	13:29	12:17
Sodžiaus g. 7, Jasiškiai*	14:03	6:54
Strazdiškis 1, Strazdiškis*	5:48	37:59
Svidžiai 15, Svidžiai	16:48	
Svidžiai 16, Svidžiai*	18:30	5:00
Svidžiai 17, Svidžiai*	14:46	5:43
Upės g. 1, Jasiškiai*	6:46	15:45
Upės g. 3, Jasiškiai*	7:29	14:00

To be continued on next page...

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SHADOW - Main Result

Calculation: Shadow Priemones

...continued from previous page

No.	Shadow, expected values	
	Shadow hours per year [h/year]	Avoided hours per year [h/year]
Upės g. 5, Jasiškiai*	9:20	14:03
Velykionys 3, Velykionys	3:01	
Žilvičių g. 2, Bliūdžiai	19:27	

** Receptors where shadow flicker is reduced by curtailment*

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Stopped due to flicker curtailment [h/year]	Expected [h/year]
N10	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (97)		31:26
N12	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (95)		3:01
N13	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (94)		0:00
N14	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (93)		12:12
N15	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (92)		24:35
N16	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (91)	173:54	0:00
N19	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (89)		3:36
N2	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (104)		19:32
N20	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (88)		0:00
N21	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (87)		0:00
N22	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (86)	125:07	0:00
N23	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (85)	291:54	0:00
N24	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (84)		23:35
N25	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (73)	152:51	0:00
N26	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (83)		33:03
N27	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (82)		23:00
N28	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (78)		24:03
N29	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (77)		10:52
N3	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (103)		42:49
N30	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (81)		14:54
N31	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (80)		2:50
N32	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (79)		0:00
N32-1	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (72)	337:13	0:00
N32-2	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (71)		61:21
N33	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (74)		73:03
N34	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (75)	248:29	0:00
N35	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (76)	448:10	0:00
N4	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (102)	258:15	0:00
N5	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (101)		54:51
N8	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (99)	54:40	0:00
N9	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (98)		23:45

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

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Calculated:
2024-06-04 09:20/4.0.540

SHADOW - Main Result

Calculation: Copy of SUMINIS

Assumptions for shadow calculations

Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

Minimum sun height over horizon for influence	3 °
Day step for calculation	1 days
Time step for calculation	1 minutes

Sunshine probability S (Average daily sunshine hours) [KAUNAS]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,41	2,36	4,03	5,55	8,35	8,36	8,16	7,72	5,06	3,23	1,33	0,98

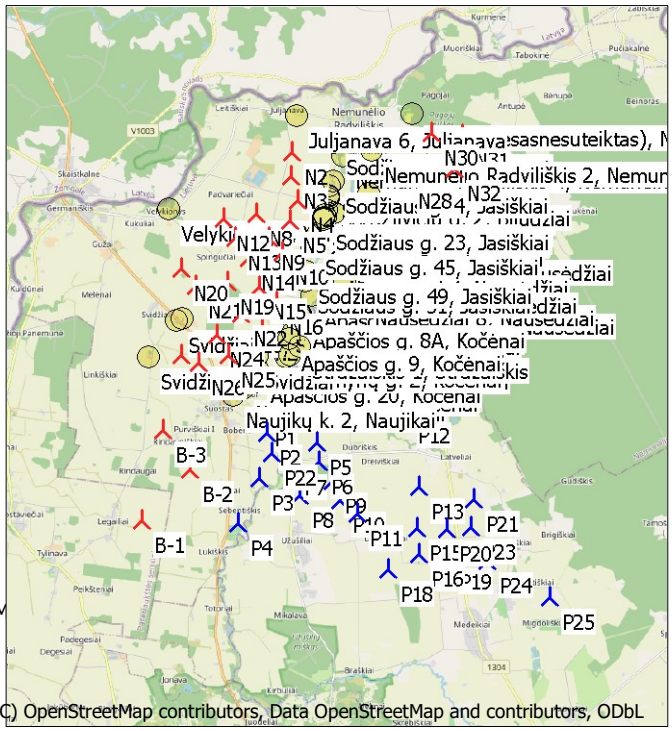
Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW
314	227	250	265	302	582	914	513	652	686	935	959

W	WNW	NW	NNW	Sum
809	464	477	407	8 756

Monthly aggregation of real case reduction
A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
Height contours used: Project Wizard Elevation Data Grid (SRTM: Shuttle DTM
Area object(s) used in calculation:
Project Wizard Roughness Areas (Corine land cover 2018 - 100 m grid)
Receptor grid resolution: 1,0 m

All coordinates are in
Lithuanian TM LKS94-LKS94 (LT)



Scale 1:200 000

New WTG Shadow receptor

WTGs

	Y	X	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Shadow data Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
B-1	542 029	6 240 992	53,9	Siemens Gamesa SG ...	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	2 040	8,8
B-2	543 286	6 242 345	51,4	Siemens Gamesa SG ...	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	2 040	8,8
B-3	542 582	6 243 382	48,3	Siemens Gamesa SG ...	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	2 040	8,8
N10	545 698	6 248 113	50,2	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N12	544 141	6 248 992	45,9	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N13	544 443	6 248 494	49,3	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N14	544 794	6 247 974	51,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N15	545 084	6 247 205	50,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N16	545 531	6 246 809	49,1	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N19	544 234	6 247 330	52,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N2	545 926	6 250 780	49,3	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N20	543 009	6 247 672	46,1	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N21	543 391	6 247 200	48,7	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N22	544 610	6 246 488	52,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N23	545 186	6 246 098	46,3	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N24	543 972	6 245 918	50,3	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N25	544 286	6 245 398	51,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N26	543 502	6 245 186	48,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N27	543 025	6 245 373	47,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N28	548 911	6 250 172	45,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N29	549 492	6 250 491	46,1	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N3	545 896	6 250 138	50,2	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N30	549 603	6 251 337	46,1	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N31	550 427	6 251 277	49,2	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N32	550 222	6 250 390	47,7	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N32-1	547 926	6 247 047	46,7	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N32-2	548 034	6 247 730	47,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N33	547 343	6 246 514	47,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N34	547 242	6 245 857	48,7	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N35	546 755	6 245 984	47,3	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6
N4	546 072	6 249 494	48,7	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6

To be continued on next page...

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SHADOW - Main Result

Calculation: Copy of SUMINIS

...continued from previous page

					WTG type							Shadow data	
	Y	X	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Calculation distance	RPM	
			[m]					[kW]	[m]	[m]	[m]	[RPM]	
N5	545 883	6 248 975	50,1	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
N8	544 979	6 249 159	50,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
N9	545 330	6 248 515	51,7	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P1	545 201	6 243 866	48,5	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P10	547 288	6 241 576	49,9	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P11	547 762	6 241 229	50,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P12	548 989	6 243 972	51,3	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P13	549 396	6 241 949	51,2	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P15	549 338	6 240 866	50,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P16	549 408	6 240 174	51,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P18	548 583	6 239 764	51,5	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P19	550 132	6 240 099	50,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P2	545 340	6 243 350	46,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P20	550 137	6 240 842	52,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P21	550 845	6 241 658	49,9	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P22	545 460	6 242 801	45,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P23	550 775	6 240 903	50,3	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P24	551 230	6 240 018	50,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P25	552 889	6 239 060	57,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P3	545 136	6 242 130	45,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P4	544 576	6 240 918	42,7	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P5	546 670	6 243 096	46,9	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P6	546 741	6 242 582	47,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P7	545 998	6 242 560	45,6	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P8	546 202	6 241 687	46,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	
P9	547 078	6 242 100	51,0	ENERCON E-160 EP5...	No	ENERCON	E-160 EP5 E3-5 560	5 560	160,0	119,8	1 785	9,6	

Shadow receptor-Input

No.	Y	X	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
Apaščios g. 10, Kočėnai	546 196	6 246 420	45,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 12, Kočėnai	546 119	6 246 281	44,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 14, Kočėnai	546 081	6 246 128	43,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 15, Kočėnai	545 055	6 245 374	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 16, Kočėnai	546 055	6 246 057	43,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 18, Kočėnai	545 827	6 245 353	48,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 2, Kočėnai	546 492	6 246 999	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 20, Kočėnai	545 091	6 244 991	50,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 22, Kočėnai	545 007	6 244 765	50,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 4, Kočėnai	546 201	6 246 522	47,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 5, Kočėnai	546 037	6 246 180	44,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 6, Kočėnai	546 198	6 246 498	47,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 7, Kočėnai	546 003	6 245 979	44,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 8, Kočėnai	546 194	6 246 474	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 8A, Kočėnai	546 188	6 246 450	47,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 9, Kočėnai	545 880	6 245 828	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	549 086	6 251 814	53,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Juljanava 6, Juljanava	546 034	6 251 748	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Kaimynų g. 2, Kočėnai	545 912	6 245 411	46,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikų k. 2, Naujikai	544 441	6 244 331	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikų k. 3, Naujikai	544 677	6 244 507	49,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 2A, Nausėdžiai	547 927	6 248 248	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 4, Nausėdžiai	547 120	6 247 840	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 6, Nausėdžiai	547 356	6 247 402	49,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 8, Nausėdžiai	547 806	6 247 072	46,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 9, Nausėdžiai	548 363	6 246 843	47,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	548 037	6 250 854	46,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	547 275	6 250 702	40,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 11, Jasiškiai	546 893	6 249 643	51,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 12, Jasiškiai	546 831	6 249 075	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 13, Jasiškiai	546 892	6 249 620	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0

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Calculated:
2024-06-04 09:20/4.0.540

SHADOW - Main Result

Calculation: Copy of SUMINIS

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No.	Y	X	Z [m]	Width [m]	Height [m]	Elevation a.g.l. [m]	Slope of window [°]	Direction mode	Eye height (ZVI) a.g.l. [m]
Sodžiaus g. 14, Jasiškiai	546 627	6 248 619	43,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 15, Jasiškiai	546 882	6 249 575	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 16, Parupė	547 043	6 251 030	48,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 17, Jasiškiai	546 838	6 249 258	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 19, Jasiškiai	546 797	6 249 124	50,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 23, Jasiškiai	546 783	6 249 072	49,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 25, Jasiškiai	546 777	6 249 049	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 27, Jasiškiai	546 770	6 249 022	47,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 29, Jasiškiai	546 762	6 248 997	46,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 31, Jasiškiai	546 754	6 248 970	46,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 33, Jasiškiai	546 750	6 248 948	45,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 4, Jasiškiai	547 003	6 250 012	48,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 45, Jasiškiai	546 507	6 248 406	42,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 47, Jasiškiai	546 481	6 248 304	43,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 49, Jasiškiai	546 342	6 247 639	48,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 51, Jasiškiai	546 295	6 247 362	47,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 7, Jasiškiai	546 924	6 249 900	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Strazdiškis 1, Strazdiškis	546 156	6 245 648	44,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 15, Svidžiai	542 175	6 245 341	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 16, Svidžiai	542 911	6 246 292	47,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 17, Svidžiai	543 064	6 246 356	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 1, Jasiškiai	547 033	6 249 203	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 3, Jasiškiai	547 069	6 249 193	51,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 5, Jasiškiai	547 102	6 249 143	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Velykionys 3, Velykionys	542 677	6 249 258	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Žilvičių g. 2, Bliūdžiai	547 969	6 249 708	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0

Calculation Results

Shadow receptor

No.	Shadow, expected values: Shadow hours per year [h/year]
Apaščios g. 10, Kočėnai	43:13
Apaščios g. 12, Kočėnai	23:24
Apaščios g. 14, Kočėnai	26:37
Apaščios g. 15, Kočėnai	22:42
Apaščios g. 16, Kočėnai	29:27
Apaščios g. 18, Kočėnai	16:25
Apaščios g. 2, Kočėnai	23:45
Apaščios g. 20, Kočėnai	22:09
Apaščios g. 22, Kočėnai	5:27
Apaščios g. 4, Kočėnai	54:56
Apaščios g. 5, Kočėnai	24:18
Apaščios g. 6, Kočėnai	52:05
Apaščios g. 7, Kočėnai	33:21
Apaščios g. 8, Kočėnai	49:02
Apaščios g. 8A, Kočėnai	45:52
Apaščios g. 9, Kočėnai	48:38
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	10:01
Juljanava 6, Juljanava	1:35
Kaimynų g. 2, Kočėnai	18:55
Naujikų k. 2, Naujikai	11:56
Naujikų k. 3, Naujikai	17:54
Nausėdžiai 2A, Nausėdžiai	13:03
Nausėdžiai 4, Nausėdžiai	12:20
Nausėdžiai 6, Nausėdžiai	37:34
Nausėdžiai 8, Nausėdžiai	181:26
Nausėdžiai 9, Nausėdžiai	38:37
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	7:13
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	7:20
Sodžiaus g. 11, Jasiškiai	23:14
Sodžiaus g. 12, Jasiškiai	26:50

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SHADOW - Main Result

Calculation: Copy of SUMINIS

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Shadow, expected values

No.		Shadow hours per year [h/year]
	Sodžiaus g. 13, Jasiškiai	23:44
	Sodžiaus g. 14, Jasiškiai	31:49
	Sodžiaus g. 15, Jasiškiai	24:08
	Sodžiaus g. 16, Parupė	5:23
	Sodžiaus g. 17, Jasiškiai	24:41
	Sodžiaus g. 19, Jasiškiai	29:55
	Sodžiaus g. 23, Jasiškiai	26:23
	Sodžiaus g. 25, Jasiškiai	24:42
	Sodžiaus g. 27, Jasiškiai	22:32
	Sodžiaus g. 29, Jasiškiai	20:28
	Sodžiaus g. 31, Jasiškiai	18:55
	Sodžiaus g. 33, Jasiškiai	18:18
	Sodžiaus g. 4, Jasiškiai	17:17
	Sodžiaus g. 45, Jasiškiai	17:04
	Sodžiaus g. 47, Jasiškiai	21:19
	Sodžiaus g. 49, Jasiškiai	20:22
	Sodžiaus g. 51, Jasiškiai	18:25
	Sodžiaus g. 7, Jasiškiai	14:18
	Strazdiškis 1, Strazdiškis	49:24
	Svidžiai 15, Svidžiai	11:38
	Svidžiai 16, Svidžiai	15:06
	Svidžiai 17, Svidžiai	12:23
	Upės g. 1, Jasiškiai	16:33
	Upės g. 3, Jasiškiai	15:57
	Upės g. 5, Jasiškiai	14:58
	Velykionys 3, Velykionys	1:56
	Žilvičių g. 2, Bliūdžiai	14:29

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Expected [h/year]
B-1	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 125,0 m (TOT: 210,0 m) (181)	0:00
B-2	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 125,0 m (TOT: 210,0 m) (182)	0:00
B-3	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 125,0 m (TOT: 210,0 m) (183)	0:00
N10	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (97)	31:24
N12	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (95)	1:56
N13	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (94)	0:00
N14	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (93)	7:42
N15	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (92)	22:29
N16	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (91)	50:33
N19	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (89)	4:13
N2	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (104)	15:27
N20	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (88)	0:00
N21	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (87)	0:00
N22	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (86)	23:50
N23	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (85)	66:23
N24	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (84)	18:15
N25	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (73)	34:41
N26	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (83)	21:03
N27	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (82)	16:39
N28	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (78)	18:49
N29	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (77)	4:54
N3	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (103)	35:47
N30	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (81)	10:34
N31	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (80)	1:45
N32	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (79)	0:00
N32-1	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (72)	221:42
N32-2	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (71)	54:04
N33	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (74)	51:28
N34	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (75)	33:38
N35	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (76)	88:22
N4	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (102)	65:07

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SHADOW - Main Result

Calculation: Copy of SUMINIS

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No.	Name	Expected [h/year]
N5	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (101)	48:43
N8	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (99)	9:59
N9	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (98)	16:34
P1	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (179)	14:41
P10	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (170)	0:00
P11	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (169)	0:00
P12	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (152)	0:00
P13	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (144)	0:00
P15	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (168)	0:00
P16	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (167)	0:00
P18	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (166)	0:00
P19	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (165)	0:00
P2	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (178)	4:13
P20	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (164)	0:00
P21	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (163)	0:00
P22	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (143)	0:00
P23	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (162)	0:00
P24	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (161)	0:00
P25	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (160)	0:00
P3	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (177)	0:00
P4	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (176)	0:00
P5	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (175)	0:00
P6	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (174)	0:00
P7	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (173)	0:00
P8	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (172)	0:00
P9	ENERCON E-160 EP5 E3 5560 160.0 !O! hub: 119,8 m (TOT: 199,8 m) (171)	0:00

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

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Calculated:
2024-06-04 11:20/4.0.540

SHADOW - Main Result

Calculation: Copy of SUMINIS

Assumptions for shadow calculations

Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

Minimum sun height over horizon for influence	3 °
Day step for calculation	1 days
Time step for calculation	1 minutes

Sunshine probability S (Average daily sunshine hours) [KAUNAS]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,41	2,36	4,03	5,55	8,35	8,36	8,16	7,72	5,06	3,23	1,33	0,98

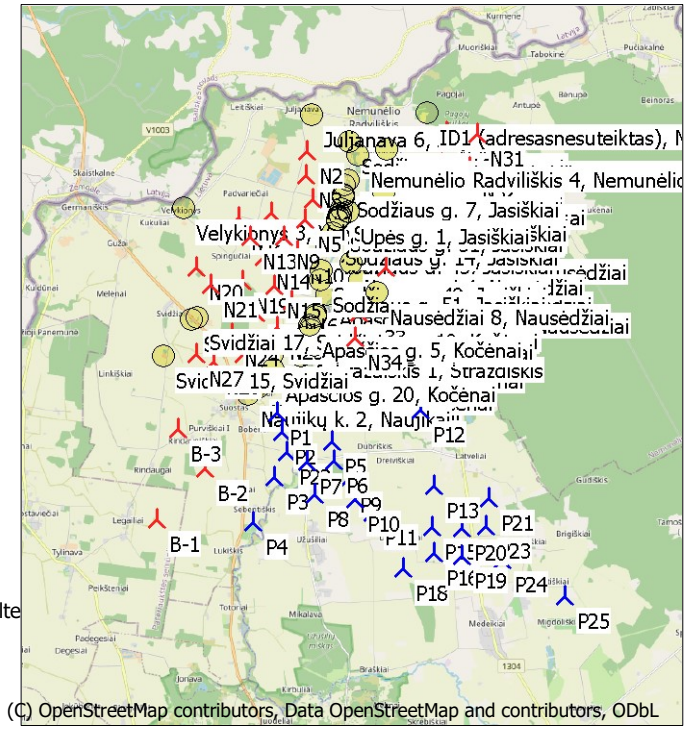
Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW
314	227	250	265	302	582	914	513	652	686	935	959

W	WNW	NW	NNW	Sum
809	464	477	407	8 756

Monthly aggregation of real case reduction
A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
Height contours used: Elevation Grid Data Object: Nemunelio_Radviliskis_Alte
Area object(s) used in calculation:
Project Wizard Roughness Areas (Corine land cover 2018 - 100 m grid)
Receptor grid resolution: 1,0 m

All coordinates are in
Lithuanian TM LKS94-LKS94 (LT)



Scale 1:200 000

New WTG Shadow receptor

WTGs

					WTG type						Shadow data	
	Y	X	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
B-1	542 029	6 240 992	53,9	Siemens Gamesa SG 6...	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	2 040	8,8
B-2	543 286	6 242 345	51,4	Siemens Gamesa SG 6...	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	2 040	8,8
B-3	542 582	6 243 382	48,3	Siemens Gamesa SG 6...	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	2 040	8,8
N10	545 698	6 248 113	50,2	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N12	544 141	6 248 992	45,9	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N13	544 443	6 248 494	49,3	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N14	544 794	6 247 974	51,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N15	545 084	6 247 205	50,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N16	545 531	6 246 809	49,1	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N19	544 234	6 247 330	52,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N2	545 926	6 250 780	49,3	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N20	543 009	6 247 672	46,1	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N21	543 391	6 247 200	48,7	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N22	544 610	6 246 488	52,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N23	545 186	6 246 098	46,3	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N24	543 972	6 245 918	50,3	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N25	544 286	6 245 398	51,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N26	543 502	6 245 186	48,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N27	543 025	6 245 373	47,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N28	548 911	6 250 172	45,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N29	549 492	6 250 491	46,1	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N3	545 896	6 250 138	50,2	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N30	549 603	6 251 337	46,1	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N31	550 427	6 251 277	49,2	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N32	550 222	6 250 390	47,7	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N32-1	547 926	6 247 047	46,7	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N32-2	548 034	6 247 730	47,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N33	547 343	6 246 514	47,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N34	547 242	6 245 857	48,7	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-
N35	546 755	6 245 984	47,3	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-

To be continued on next page...

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SHADOW - Main Result

Calculation: Copy of SUMINIS

...continued from previous page

					WTG type							Shadow data	
	Y	X	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Calculation distance	RPM	
			[m]					[kW]	[m]	[m]	[m]	[RPM]	
N4	546 072	6 249 494	48,7	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
N5	545 883	6 248 975	50,1	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
N8	544 979	6 249 159	50,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
N9	545 330	6 248 515	51,7	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P1	545 201	6 243 866	48,5	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P10	547 288	6 241 576	49,9	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P11	547 762	6 241 229	50,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P12	548 989	6 243 972	51,3	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P13	549 396	6 241 949	51,2	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P15	549 338	6 240 866	50,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P16	549 408	6 240 174	51,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P18	548 583	6 239 764	51,5	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P19	550 132	6 240 099	50,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P2	545 340	6 243 350	46,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P20	550 137	6 240 842	52,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P21	550 845	6 241 658	49,9	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P22	545 460	6 242 801	45,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P23	550 775	6 240 903	50,3	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P24	551 230	6 240 018	50,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P25	552 889	6 239 060	57,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P3	545 136	6 242 130	45,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P4	544 576	6 240 918	42,7	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P5	546 670	6 243 096	46,9	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P6	546 741	6 242 582	47,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P7	545 998	6 242 560	45,6	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P8	546 202	6 241 687	46,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	
P9	547 078	6 242 100	51,0	VESTAS V172-7.2 720...	Yes	VESTAS	V172-7.2-7 200	7 200	172,0	166,0	1 784	-	

Shadow receptor-Input

No.	Y	X	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
Apaščios g. 10, Kočėnai	546 196	6 246 420	45,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 12, Kočėnai	546 119	6 246 281	44,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 14, Kočėnai	546 081	6 246 128	43,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 15, Kočėnai	545 055	6 245 374	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 16, Kočėnai	546 055	6 246 057	43,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 18, Kočėnai	545 827	6 245 353	48,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 2, Kočėnai	546 492	6 246 999	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 20, Kočėnai	545 091	6 244 991	50,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 22, Kočėnai	545 007	6 244 765	50,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 4, Kočėnai	546 201	6 246 522	47,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 5, Kočėnai	546 037	6 246 180	44,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 6, Kočėnai	546 198	6 246 498	47,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 7, Kočėnai	546 003	6 245 979	44,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 8, Kočėnai	546 194	6 246 474	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 8A, Kočėnai	546 188	6 246 450	47,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Apaščios g. 9, Kočėnai	545 880	6 245 828	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	549 086	6 251 814	53,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Juljanava 6, Juljanava	546 034	6 251 748	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Kaimynų g. 2, Kočėnai	545 912	6 245 411	46,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikų k. 2, Naujikai	544 441	6 244 331	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Naujikų k. 3, Naujikai	544 677	6 244 507	49,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 2A, Nausėdžiai	547 927	6 248 248	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 4, Nausėdžiai	547 120	6 247 840	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 6, Nausėdžiai	547 356	6 247 402	49,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 8, Nausėdžiai	547 806	6 247 072	46,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nausėdžiai 9, Nausėdžiai	548 363	6 246 843	47,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	548 037	6 250 854	46,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	547 275	6 250 702	40,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 11, Jasiškiai	546 893	6 249 643	51,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 12, Jasiškiai	546 831	6 249 075	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0

To be continued on next page...

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SHADOW - Main Result

Calculation: Copy of SUMINIS

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No.	Y	X	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
			[m]	[m]	[m]	[m]	[°]		[m]
Sodžiaus g. 13, Jasiškiai	546 892	6 249 620	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 14, Jasiškiai	546 627	6 248 619	43,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 15, Jasiškiai	546 882	6 249 575	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 16, Parupė	547 043	6 251 030	48,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 17, Jasiškiai	546 838	6 249 258	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 19, Jasiškiai	546 797	6 249 124	50,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 23, Jasiškiai	546 783	6 249 072	49,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 25, Jasiškiai	546 777	6 249 049	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 27, Jasiškiai	546 770	6 249 022	47,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 29, Jasiškiai	546 762	6 248 997	46,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 31, Jasiškiai	546 754	6 248 970	46,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 33, Jasiškiai	546 750	6 248 948	45,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 4, Jasiškiai	547 003	6 250 012	48,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 45, Jasiškiai	546 507	6 248 406	42,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 47, Jasiškiai	546 481	6 248 304	43,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 49, Jasiškiai	546 342	6 247 639	48,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 51, Jasiškiai	546 295	6 247 362	47,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 7, Jasiškiai	546 924	6 249 900	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Strazdiškis 1, Strazdiškis	546 156	6 245 648	44,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 15, Svidžiai	542 175	6 245 341	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 16, Svidžiai	542 911	6 246 292	47,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 17, Svidžiai	543 064	6 246 356	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 1, Jasiškiai	547 033	6 249 203	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 3, Jasiškiai	547 069	6 249 193	51,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 5, Jasiškiai	547 102	6 249 143	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Velykionys 3, Velykionys	542 677	6 249 258	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Žilvičių g. 2, Bliūdžiai	547 969	6 249 708	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0

Calculation Results

Shadow receptor

No.	Shadow, expected values Shadow hours per year [h/year]
Apaščios g. 10, Kočėnai	42:53
Apaščios g. 12, Kočėnai	29:48
Apaščios g. 14, Kočėnai	35:13
Apaščios g. 15, Kočėnai	31:07
Apaščios g. 16, Kočėnai	39:21
Apaščios g. 18, Kočėnai	18:14
Apaščios g. 2, Kočėnai	33:52
Apaščios g. 20, Kočėnai	22:15
Apaščios g. 22, Kočėnai	9:21
Apaščios g. 4, Kočėnai	56:12
Apaščios g. 5, Kočėnai	31:46
Apaščios g. 6, Kočėnai	52:46
Apaščios g. 7, Kočėnai	45:11
Apaščios g. 8, Kočėnai	49:35
Apaščios g. 8A, Kočėnai	45:42
Apaščios g. 9, Kočėnai	59:03
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	13:19
Juljanava 6, Juljanava	4:15
Kaimynų g. 2, Kočėnai	18:34
Naujikų k. 2, Naujikai	13:42
Naujikų k. 3, Naujikai	20:54
Nausėdžiai 2A, Nausėdžiai	18:13
Nausėdžiai 4, Nausėdžiai	16:25
Nausėdžiai 6, Nausėdžiai	39:51
Nausėdžiai 8, Nausėdžiai	81:18
Nausėdžiai 9, Nausėdžiai	25:08
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	10:24
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	10:16
Sodžiaus g. 11, Jasiškiai	28:00

To be continued on next page...

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SHADOW - Main Result

Calculation: Copy of SUMINIS

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No.		Shadow, expected values Shadow hours per year [h/year]
	Sodžiaus g. 12, Jasiškiai	25:56
	Sodžiaus g. 13, Jasiškiai	27:43
	Sodžiaus g. 14, Jasiškiai	32:02
	Sodžiaus g. 15, Jasiškiai	26:58
	Sodžiaus g. 16, Parupė	7:05
	Sodžiaus g. 17, Jasiškiai	35:44
	Sodžiaus g. 19, Jasiškiai	28:57
	Sodžiaus g. 23, Jasiškiai	23:51
	Sodžiaus g. 25, Jasiškiai	21:41
	Sodžiaus g. 27, Jasiškiai	18:56
	Sodžiaus g. 29, Jasiškiai	16:24
	Sodžiaus g. 31, Jasiškiai	17:26
	Sodžiaus g. 33, Jasiškiai	20:14
	Sodžiaus g. 4, Jasiškiai	19:09
	Sodžiaus g. 45, Jasiškiai	23:09
	Sodžiaus g. 47, Jasiškiai	31:40
	Sodžiaus g. 49, Jasiškiai	16:59
	Sodžiaus g. 51, Jasiškiai	27:26
	Sodžiaus g. 7, Jasiškiai	18:41
	Strazdiškis 1, Strazdiškis	48:58
	Svidžiai 15, Svidžiai	14:57
	Svidžiai 16, Svidžiai	21:44
	Svidžiai 17, Svidžiai	18:47
	Upės g. 1, Jasiškiai	22:24
	Upės g. 3, Jasiškiai	21:35
	Upės g. 5, Jasiškiai	20:49
	Velykionys 3, Velykionys	2:45
	Žilvičių g. 2, Bliūdžiai	18:41

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Expected [h/year]
B-1	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 125,0 m (TOT: 210,0 m) (180)	0:00
B-2	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 125,0 m (TOT: 210,0 m) (181)	0:00
B-3	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 125,0 m (TOT: 210,0 m) (182)	0:00
N10	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (97)	28:53
N12	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (95)	2:45
N13	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (94)	0:00
N14	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (93)	11:58
N15	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (92)	25:39
N16	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (91)	46:21
N19	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (89)	4:11
N2	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (104)	18:40
N20	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (88)	0:00
N21	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (87)	0:00
N22	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (86)	36:06
N23	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (85)	76:25
N24	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (84)	22:45
N25	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (73)	39:26
N26	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (83)	30:27
N27	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (82)	24:40
N28	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (78)	23:10
N29	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (77)	8:59
N3	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (103)	41:28
N30	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (81)	13:26
N31	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (80)	2:36
N32	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (79)	0:00
N32-1	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (72)	109:28
N32-2	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (71)	63:19
N33	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (74)	66:53
N34	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (75)	45:49
N35	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (76)	95:53

To be continued on next page...

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SHADOW - Main Result

Calculation: Copy of SUMINIS

...continued from previous page

No.	Name	Expected [h/year]
N4	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (102)	70:19
N5	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (101)	52:48
N8	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (99)	17:42
N9	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (98)	21:30
P1	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (179)	21:31
P10	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (170)	0:00
P11	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (169)	0:00
P12	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (152)	0:00
P13	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (144)	0:00
P15	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (168)	0:00
P16	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (167)	0:00
P18	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (166)	0:00
P19	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (165)	0:00
P2	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (178)	6:15
P20	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (164)	0:00
P21	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (163)	0:00
P22	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (143)	0:00
P23	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (162)	0:00
P24	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (161)	0:00
P25	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (160)	0:00
P3	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (177)	0:00
P4	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (176)	0:00
P5	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (175)	0:00
P6	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (174)	0:00
P7	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (173)	0:00
P8	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (172)	0:00
P9	VESTAS V172-7.2 7200 172.0 !O! hub: 166,0 m (TOT: 252,0 m) (171)	0:00

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

Project:
Nemunelio_Radviliskis

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Calculated:
2024-06-03 16:27/4.0.540

SHADOW - Main Result

Calculation: Shadow_SUMINIS

Assumptions for shadow calculations

Maximum distance for influence
Calculate only when more than 20 % of sun is covered by the blade
Please look in WTG table

Minimum sun height over horizon for influence	3 °
Day step for calculation	1 days
Time step for calculation	1 minutes

Sunshine probability S (Average daily sunshine hours) [KAUNAS]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1,41	2,36	4,03	5,55	8,35	8,36	8,16	7,72	5,06	3,23	1,33	0,98

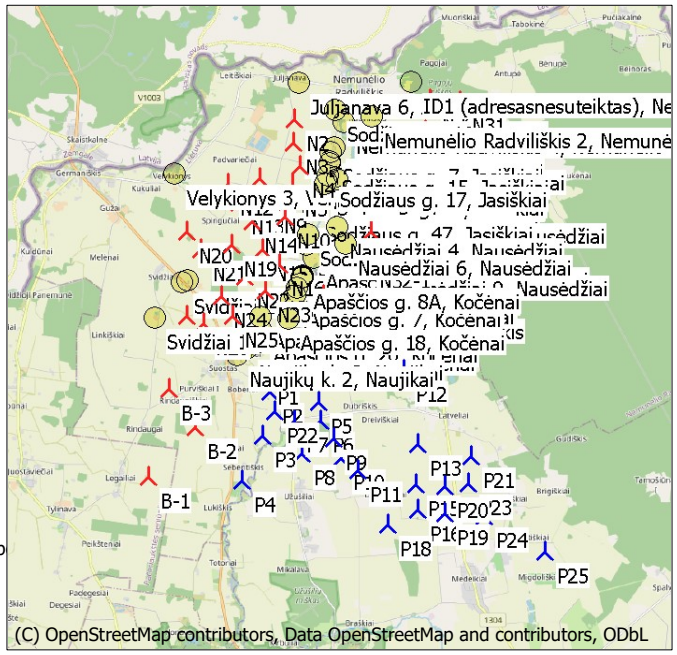
Operational time

N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW
314	227	250	265	302	582	914	513	652	686	935	959

W	WNW	NW	NNW	Sum
809	464	477	407	8 756

Monthly aggregation of real case reduction
A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
Height contours used: Elevation Grid Data Object: Nemunelio_Radviliskis_Alternatyva_b
Area object(s) used in calculation:
Project Wizard Roughness Areas (Corine land cover 2018 - 100 m grid)
Receptor grid resolution: 1,0 m

All coordinates are in
Lithuanian TM LKS94-LKS94 (LT)



Scale 1:200 000

New WTG Shadow receptor

WTGs

	Y	X	Z	Row data/Description	WTG type Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Shadow data Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
B-1	542 029	6 240 992	53,9	Siemens Gamesa SG 6.0-170 6200 170.0 !...	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	2 040	8,8
B-2	543 286	6 242 345	51,4	Siemens Gamesa SG 6.0-170 6200 170.0 !...	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	2 040	8,8
B-3	542 582	6 243 382	48,3	Siemens Gamesa SG 6.0-170 6200 170.0 !...	No	Siemens Gamesa	SG 6.0-170-6 200	6 200	170,0	125,0	2 040	8,8
N10	545 698	6 248 113	50,2	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N12	544 141	6 248 992	45,9	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N13	544 443	6 248 494	49,3	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N14	544 794	6 247 974	51,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N15	545 084	6 247 205	50,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N16	545 531	6 246 809	49,1	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N19	544 234	6 247 330	52,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N2	545 926	6 250 780	49,3	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N20	543 009	6 247 672	46,1	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N21	543 391	6 247 200	48,7	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N22	544 610	6 246 488	52,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N23	545 186	6 246 098	46,3	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N24	543 972	6 245 918	50,3	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N25	544 286	6 245 398	51,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N26	543 502	6 245 186	48,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N27	543 025	6 245 373	47,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N28	548 911	6 250 172	45,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N29	549 492	6 250 491	46,1	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N3	545 896	6 250 138	50,2	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N30	549 603	6 251 337	46,1	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N31	550 427	6 251 277	49,2	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N32	550 222	6 250 390	47,7	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N32-1	547 926	6 247 047	46,7	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N32-2	548 034	6 247 730	47,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N33	547 343	6 246 514	47,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N34	547 242	6 245 857	48,7	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N35	546 755	6 245 984	47,3	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N4	546 072	6 249 494	48,7	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-

To be continued on next page...

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SHADOW - Main Result

Calculation: Shadow_SUMINIS

...continued from previous page

					WTG type						Shadow data	
	Y	X	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated	Rotor diameter	Hub height	Calculation distance	RPM
			[m]					[kW]	[m]	[m]	[m]	[RPM]
N5	545 883	6 248 975	50,1	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N8	544 979	6 249 159	50,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
N9	545 330	6 248 515	51,7	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P1	545 201	6 243 866	48,5	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P10	547 288	6 241 576	49,9	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P11	547 762	6 241 229	50,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P12	548 989	6 243 972	51,3	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P13	549 396	6 241 949	51,2	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P15	549 338	6 240 866	50,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P16	549 408	6 240 174	51,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P18	548 583	6 239 764	51,5	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P19	550 132	6 240 099	50,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P2	545 340	6 243 350	46,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P20	550 137	6 240 842	52,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P21	550 845	6 241 658	49,9	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P22	545 460	6 242 801	45,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P23	550 775	6 240 903	50,3	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P24	551 230	6 240 018	50,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P25	552 889	6 239 060	57,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P3	545 136	6 242 130	45,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P4	544 576	6 240 918	42,7	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P5	546 670	6 243 096	46,9	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P6	546 741	6 242 582	47,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P7	545 998	6 242 560	45,6	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P8	546 202	6 241 687	46,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-
P9	547 078	6 242 100	51,0	Alternatyva 7.5/180m 8 180.0 !O! hub: 18...	Yes	Alternatyva	7.5/180m-8	8	180,0	180,0	1 749	-

Shadow receptor-Input

No.		Y	X	Z	Width	Height	Elevation a.g.l.	Slope of window	Direction mode	Eye height (ZVI) a.g.l.
				[m]	[m]	[m]	[m]	[°]		[m]
	Apaščios g. 10, Kočėnai	546 196	6 246 420	45,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Apaščios g. 12, Kočėnai	546 119	6 246 281	44,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Apaščios g. 14, Kočėnai	546 081	6 246 128	43,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Apaščios g. 15, Kočėnai	545 055	6 245 374	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Apaščios g. 16, Kočėnai	546 055	6 246 057	43,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Apaščios g. 18, Kočėnai	545 827	6 245 353	48,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Apaščios g. 2, Kočėnai	546 492	6 246 999	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Apaščios g. 20, Kočėnai	545 091	6 244 991	50,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Apaščios g. 22, Kočėnai	545 007	6 244 765	50,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Apaščios g. 4, Kočėnai	546 201	6 246 522	47,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Apaščios g. 5, Kočėnai	546 037	6 246 180	44,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Apaščios g. 6, Kočėnai	546 198	6 246 498	47,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Apaščios g. 7, Kočėnai	546 003	6 245 979	44,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Apaščios g. 8, Kočėnai	546 194	6 246 474	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Apaščios g. 8A, Kočėnai	546 188	6 246 450	47,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Apaščios g. 9, Kočėnai	545 880	6 245 828	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
ID1 (adresasnesuteiktas),	Nemunėlio Radviliškis	549 086	6 251 814	53,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Juljanava 6, Juljanava	546 034	6 251 748	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Kaimynų g. 2, Kočėnai	545 912	6 245 411	46,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Naujikų k. 2, Naujikai	544 441	6 244 331	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Naujikų k. 3, Naujikai	544 677	6 244 507	49,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Nausėdžiai 2A, Nausėdžiai	547 927	6 248 248	47,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Nausėdžiai 4, Nausėdžiai	547 120	6 247 840	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Nausėdžiai 6, Nausėdžiai	547 356	6 247 402	49,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Nausėdžiai 8, Nausėdžiai	547 806	6 247 072	46,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Nausėdžiai 9, Nausėdžiai	548 363	6 246 843	47,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	548 037	6 250 854	46,8	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	547 275	6 250 702	40,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Sodžiaus g. 11, Jasiškiai	546 893	6 249 643	51,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Sodžiaus g. 12, Jasiškiai	546 831	6 249 075	49,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Sodžiaus g. 13, Jasiškiai	546 892	6 249 620	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
	Sodžiaus g. 14, Jasiškiai	546 627	6 248 619	43,3	1,0	1,0	1,0	90,0	"Green house mode"	2,0

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SHADOW - Main Result

Calculation: Shadow_SUMINIS

...continued from previous page

No.	Y	X	Z [m]	Width [m]	Height [m]	Elevation a.g.l. [m]	Slope of window [°]	Direction mode	Eye height (ZVI) a.g.l. [m]
Sodžiaus g. 15, Jasiškiai	546 882	6 249 575	52,2	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 16, Parupė	547 043	6 251 030	48,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 17, Jasiškiai	546 838	6 249 258	50,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 19, Jasiškiai	546 797	6 249 124	50,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 23, Jasiškiai	546 783	6 249 072	49,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 25, Jasiškiai	546 777	6 249 049	48,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 27, Jasiškiai	546 770	6 249 022	47,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 29, Jasiškiai	546 762	6 248 997	46,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 31, Jasiškiai	546 754	6 248 970	46,1	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 33, Jasiškiai	546 750	6 248 948	45,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 4, Jasiškiai	547 003	6 250 012	48,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 45, Jasiškiai	546 507	6 248 406	42,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 47, Jasiškiai	546 481	6 248 304	43,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 49, Jasiškiai	546 342	6 247 639	48,5	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 51, Jasiškiai	546 295	6 247 362	47,9	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Sodžiaus g. 7, Jasiškiai	546 924	6 249 900	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Strazdiškis 1, Strazdiškis	546 156	6 245 648	44,4	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 15, Svidžiai	542 175	6 245 341	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 16, Svidžiai	542 911	6 246 292	47,6	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Svidžiai 17, Svidžiai	543 064	6 246 356	48,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 1, Jasiškiai	547 033	6 249 203	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 3, Jasiškiai	547 069	6 249 193	51,7	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Upės g. 5, Jasiškiai	547 102	6 249 143	52,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Velykionys 3, Velykionys	542 677	6 249 258	46,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0
Žilvičių g. 2, Bliūdžiai	547 969	6 249 708	45,0	1,0	1,0	1,0	90,0	"Green house mode"	2,0

Calculation Results

Shadow receptor

No.	Shadow, expected values Shadow hours per year [h/year]
Apaščios g. 10, Kočėnai	43:24
Apaščios g. 12, Kočėnai	33:06
Apaščios g. 14, Kočėnai	39:33
Apaščios g. 15, Kočėnai	33:56
Apaščios g. 16, Kočėnai	44:20
Apaščios g. 18, Kočėnai	18:49
Apaščios g. 2, Kočėnai	37:59
Apaščios g. 20, Kočėnai	22:25
Apaščios g. 22, Kočėnai	10:48
Apaščios g. 4, Kočėnai	57:19
Apaščios g. 5, Kočėnai	35:31
Apaščios g. 6, Kočėnai	53:50
Apaščios g. 7, Kočėnai	51:20
Apaščios g. 8, Kočėnai	50:21
Apaščios g. 8A, Kočėnai	46:24
Apaščios g. 9, Kočėnai	62:26
ID1 (adresasnesuteiktas), Nemunėlio Radviliškis	15:04
Juljanava 6, Juljanava	5:04
Kaimynų g. 2, Kočėnai	18:09
Naujikų k. 2, Naujikai	9:52
Naujikų k. 3, Naujikai	21:49
Nausėdžiai 2A, Nausėdžiai	19:55
Nausėdžiai 4, Nausėdžiai	18:49
Nausėdžiai 6, Nausėdžiai	41:20
Nausėdžiai 8, Nausėdžiai	60:58
Nausėdžiai 9, Nausėdžiai	21:54
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis	11:35
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis	11:20
Sodžiaus g. 11, Jasiškiai	29:39
Sodžiaus g. 12, Jasiškiai	26:06
Sodžiaus g. 13, Jasiškiai	29:09
Sodžiaus g. 14, Jasiškiai	32:39

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SHADOW - Main Result

Calculation: Shadow_SUMINIS

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No.		Shadow, expected values Shadow hours per year [h/year]
	Sodžiaus g. 15, Jasiškiai	28:10
	Sodžiaus g. 16, Parupė	7:45
	Sodžiaus g. 17, Jasiškiai	38:10
	Sodžiaus g. 19, Jasiškiai	29:06
	Sodžiaus g. 23, Jasiškiai	23:40
	Sodžiaus g. 25, Jasiškiai	21:24
	Sodžiaus g. 27, Jasiškiai	18:34
	Sodžiaus g. 29, Jasiškiai	16:48
	Sodžiaus g. 31, Jasiškiai	17:50
	Sodžiaus g. 33, Jasiškiai	18:33
	Sodžiaus g. 4, Jasiškiai	19:51
	Sodžiaus g. 45, Jasiškiai	24:03
	Sodžiaus g. 47, Jasiškiai	31:04
	Sodžiaus g. 49, Jasiškiai	18:47
	Sodžiaus g. 51, Jasiškiai	25:47
	Sodžiaus g. 7, Jasiškiai	20:57
	Strazdiškis 1, Strazdiškis	43:47
	Svidžiai 15, Svidžiai	16:48
	Svidžiai 16, Svidžiai	23:31
	Svidžiai 17, Svidžiai	20:30
	Upės g. 1, Jasiškiai	22:31
	Upės g. 3, Jasiškiai	21:30
	Upės g. 5, Jasiškiai	23:24
	Velykionys 3, Velykionys	3:01
	Žilvičių g. 2, Bliūdžiai	19:27

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Expected [h/year]
B-1	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 125,0 m (TOT: 210,0 m) (211)	0:00
B-2	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 125,0 m (TOT: 210,0 m) (212)	0:00
B-3	Siemens Gamesa SG 6.0-170 6200 170.0 !O! hub: 125,0 m (TOT: 210,0 m) (213)	0:00
N10	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (97)	31:26
N12	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (95)	3:01
N13	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (94)	0:00
N14	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (93)	12:12
N15	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (92)	24:35
N16	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (91)	43:39
N19	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (89)	3:36
N2	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (104)	19:32
N20	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (88)	0:00
N21	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (87)	0:00
N22	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (86)	37:24
N23	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (85)	80:32
N24	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (84)	23:35
N25	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (73)	41:46
N26	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (83)	33:03
N27	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (82)	23:00
N28	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (78)	24:03
N29	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (77)	10:52
N3	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (103)	42:49
N30	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (81)	14:54
N31	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (80)	2:50
N32	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (79)	0:00
N32-1	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (72)	86:50
N32-2	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (71)	61:21
N33	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (74)	73:03
N34	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (75)	50:05
N35	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (76)	100:50
N4	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (102)	71:37
N5	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (101)	54:51
N8	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (99)	17:08
N9	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (98)	23:45

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SHADOW - Main Result

Calculation: Shadow_SUMINIS

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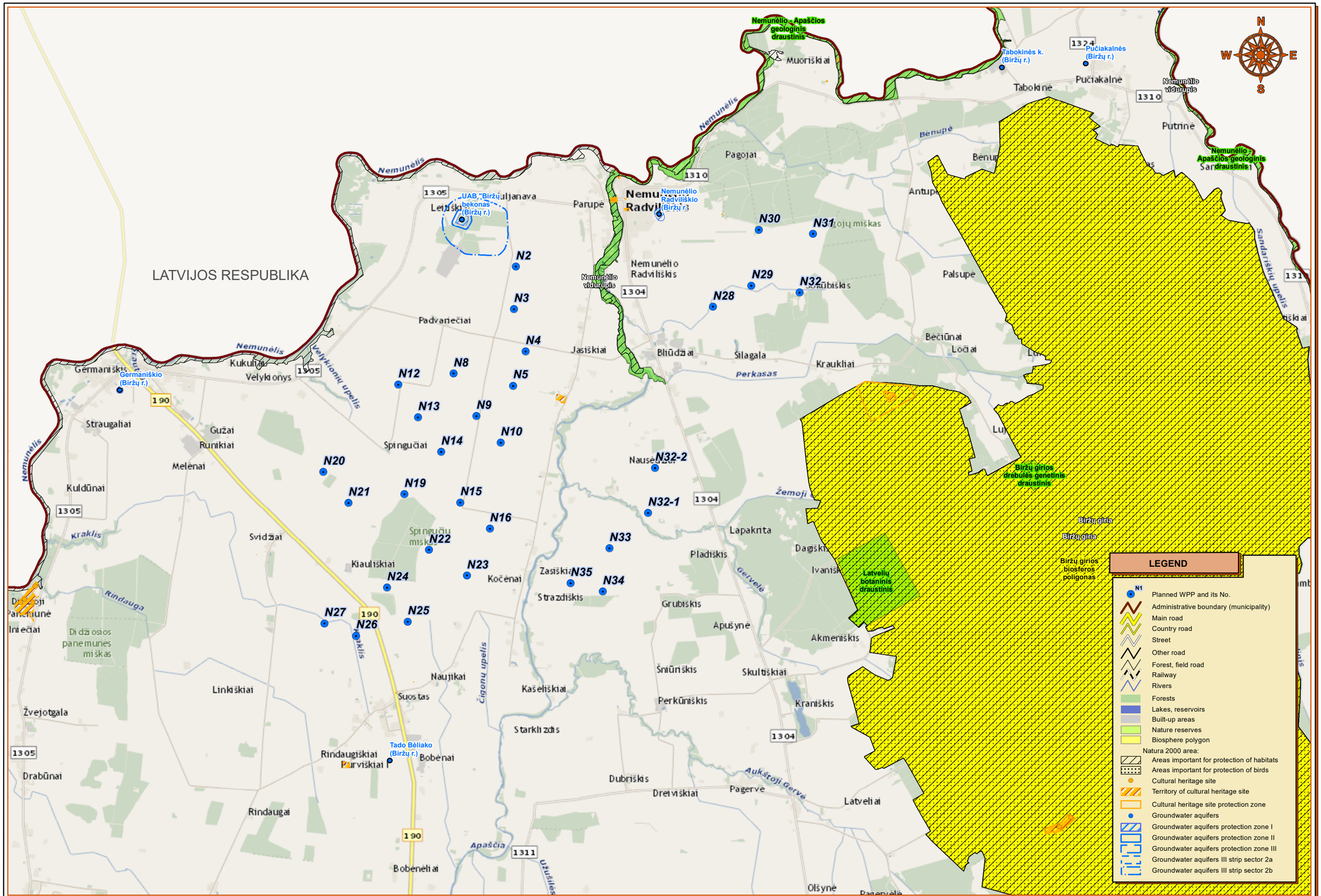
No.	Name	Expected [h/year]
P1	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (202)	24:25
P10	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (193)	0:00
P11	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (192)	0:00
P12	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (175)	0:00
P13	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (167)	0:00
P15	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (191)	0:00
P16	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (190)	0:00
P18	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (189)	0:00
P19	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (188)	0:00
P2	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (201)	7:28
P20	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (187)	0:00
P21	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (186)	0:00
P22	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (166)	0:00
P23	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (185)	0:00
P24	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (184)	0:00
P25	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (183)	0:00
P3	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (200)	0:00
P4	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (199)	0:00
P5	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (198)	0:00
P6	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (197)	0:00
P7	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (196)	0:00
P8	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (195)	0:00
P9	Alternatyva 7.5/180m 8 180.0 !O! hub: 180,0 m (TOT: 270,0 m) (194)	0:00

Total times in Receptor wise and WTG wise tables can differ, as a WTG can lead to flicker at 2 or more receptors simultaneously and/or receptors may receive flicker from 2 or more WTGs simultaneously.

The calculation of the total expected values for a given receptor assumes a weighted average directional reduction for all WTGs contributing to shadow flicker within the same day. In the case where shadow flicker from different WTGs is not concurrent within the day, the total expected time at a given receptor may deviate marginally from the individual flicker time caused by each turbine separately.

GRAPHIC ANNEXES

GRAPHIC ANNEX 1. SCHEMATIC OVERVIEW OF THE PEA LOCATION AND ITS ENVIRONS



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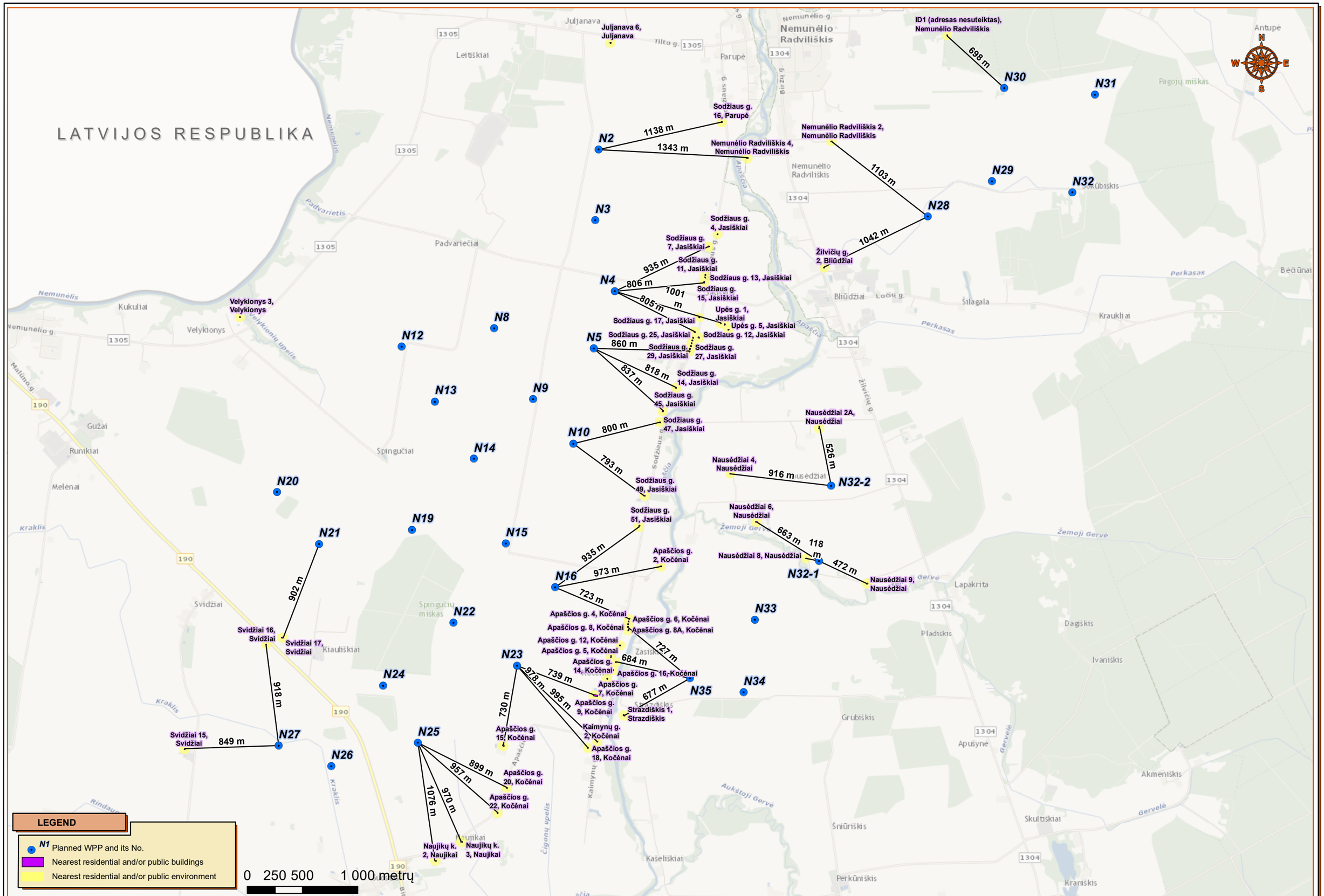
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Mastelis 1:50000

500 0 500 1 000 metrų

Location of planned wind power plants and overview of their surroundings

GRAPHIC ANNEX 2. RESIDENTIAL ENVIRONMENT CLOSEST TO THE PEA LOCATION



LEGEND

- *N1* Planned WPP and its No.
- Nearest residential and/or public buildings
- Nearest residential and/or public environment

0 250 500 1 000 metrų

Mastelis 1:30000

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Overview of planned wind power plants in relation to the nearest residential buildings

GRAPHIC ANNEX 3. PEA LOCATION IN RELATION TO CULTURAL HERITAGE SITES

LATVIJOS RESPUBLIKA

N W E S

Muoriškių pilkapių vieta

Muoriškių pilkapių vieta II

Nemunėlio Radviliškio evangelikų reformatų senosios kapinės

Lietuvos nepriklausomybės akto signataro, visuomenės, kultūros veikėjo Jokūbo Šerno kapas

Antrojo pasaulinio karo Sovietų sąjungos karių palaidojimo vieta

Nemunėlio Radviliškio tiltas

Pastatas

Nemunėlio Radviliškio žydų žudynių vieta ir kapas

1740 m

590 m

N2

N3

N4

N5

N8

N12

N13

N9

N10

N14

N20

N21

N19

N15

N16

N22

N23

N24

N25

N26

N27

N30

N31

N29

N32

N28

N33

N34

N35

N32-1

N32-2

670 m

1660 m

1918 m. vasario 16-osios Lietuvos Nepriklausomybės Akto signataro Jokūbo Šerno gimtosios sodybos vieta

Krauklių stiklo gaminių dirbtuvės vieta, vad. Stiklo pečiumi

Lietuvos partizano Jono Šlėgerio kapas

Lietuvos partizanų kautynių ir žūties vieta

1050 m

Lietuvos partizano Jokūbo Katino kapas

Lietuvos partizano Alfonso Juškos kapas

1941 m. birželio sukilėlio, rezistento Petro Šerno kapas

Lietuvos partizanų Juliaus Valainio ir Voldžio Jasiūno kapas

Knygnešio, publicisto Jurgio Bielinio kapas

Knygnešio Jurgio Bielinio gimtosios sodybos vieta

1863-1864 m. sukilimo Gudiškio mūšio vietos kompleksas

Lietuvos partizano Liudviko Šerno kapas

Poeto, vertėjo Stanislovo Dagilio kapas

Pirmojo pasaulinio karo Vokietijos imperijos karių kapai

TP1

1500 m

TP2

1130 m

TP3

Drąseikių kapinynas

Rinkuškių, Juodelių piliakalnis, vad. Velniakalniu

Skrebiškių alkakalnis vad. Bažnyčios kalnu

Kirkilų kaimo kapinių stogastulpis

Lietuvos partizano Jono Kairio kapas

Nepriklausomybės kovų dalyvio Jono Variakojo gimtosios sodybos vieta

Astravo dvaro sodyba

Lietuvos partizano Povilo Šepečio kapas

Lietuvos partizano Viliaus Gatavynos kapas

Biržų žydų - holokausto aukų kapas

Biržų, Astravo kapinynas

Astravo dvaro palivarko sodyba

Lietuvos kariuomenės kūrėjo savanorio, generolo leitenanto Stasio Nastopkos kapas

Biržų senojo miesto vieta

Vinkšninių kapinynas, vad. Milžinkapiais, Švedkapiais

LEGEND

- N1 — Planned WPP and its No.
- Alternatives of planned transformer substation location
- Cultural heritage site
- Territory of cultural heritage site
- Protection zone of the cultural heritage site or area

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Mastelis 1:60 000

0 600 1 200 metrų

Location of PEA and the nearest cultural heritage sites

GRAPHIC ANNEX 4. WT ACOUSTIC NOISE DISPERSION MAPS

L A T V I J O S R E S P U B L I K A

N
W
E
S

Šidliški
Ločerai
Muoriškiai
Nemunėlis
Bėnupė
Pagojai
Antupė
Leitiškiai
Juljanava 6, Juljanava
Parupė
ID1 (adresas nesuteiktas), Nemunėlio Radviliškis
Sodžiaus g. 16, Parupė
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis
Palsupė
Padvarnečiai
Sodžiaus g. 4, Jasiškiai
Sodžiaus g. 7, Jasiškiai
Žilvičių g. 2, Bliūdžiai
Sodžiaus g. 11, Jasiškiai
Sodžiaus g. 15, Jasiškiai
Sodžiaus g. 17, Jasiškiai
Upės g. 1, Jasiškiai
Sodžiaus g. 25, Jasiškiai
Sodžiaus g. 27, Jasiškiai
Sodžiaus g. 33, Jasiškiai
Sodžiaus g. 14, Jasiškiai
Sodžiaus g. 45, Jasiškiai
Sodžiaus g. 47, Jasiškiai
Nausėdžiai 2A, Nausėdžiai
Nausėdžiai 4, Nausėdžiai
Sodžiaus g. 49, Jasiškiai
Sodžiaus g. 51, Jasiškiai
Nausėdžiai 6, Nausėdžiai
Apaščios g. 2, Kočėnai
Nausėdžiai 8, Nausėdžiai
Nausėdžiai 9, Nausėdžiai
Apaščios g. 6, Kočėnai
Apaščios g. 8A, Kočėnai
Apaščios g. 12, Kočėnai
Apaščios g. 16, Kočėnai
Apaščios g. 7, Kočėnai
Apaščios g. 9, Kočėnai
Strazdiškis 1, Strazdiškis
Kaimynų g. 2, Kočėnai
Apaščios g. 18, Kočėnai
Apaščios g. 20, Kočėnai
Apaščios g. 22, Kočėnai
Naujikų k. 3, Naujikai
Naujikų k. 2, Naujikai
Velykionys 3, Velykionys
Velykionys
Kukuliai
Guzai
Rumkiai
Melėnai
Svidžiai
Svidžiai 17, Svidžiai
Svidžiai 16, Svidžiai
Svidžiai 15, Svidžiai
Kiauliškiai
Linkiškiai
Kašeliškiai
Spingučiai
Spingučių miškas
Radviliškis
Žemoji Gervė
Gervelė
Lapakrūta
Pladiškis
Dagiškis
Ivaniškis
Grabiškis
Apušynė
Akmeniškis
Šniūniškis
Skultiškiai
Perkūniškis
Kraniškis
Starklizdis
Rindaugiškiai
Purviškiai I
Bobėnai
Rindaugai
Bobėnėliai
Legailiai
Sebentiškis
Lukiškis
Peikšteniai
Mikalava
Dubriškis
Dreiviškiai
Pagervė
Aukštoji Gervė
Latveliai
Olšynė
Pagervėlė
Užušilis
Užušilės kanalas
Užušiliai
Daukniškiai
Apaščia
Bėčiūnai
Locia
Kraukliai
Šilagala
Perkasas
Bliūdžiai
Jasiškiai
Nausėdžiai
Nemunėlio miškas
Gervelės miškas
Nemunėlis
Velykionių upelis

N2 N3 N4 N5 N8 N9 N10 N12 N13 N14 N15 N16 N19 N20 N21 N22 N23 N24 N25 N26 N27 N28 N29 N30 N31 N32 N32-1 N32-2 N33 N34 N35

1305 1310 1304 1311 190



SUTARTINIAI ŽENKLAI

- N23 — Planuojama vėjo elektrinė ir jos Nr.
- Valstybės riba
- Artimiausi gyvenamosios paskirties pastatai
- Artimiausi gyvenamosios paskirties pastatų aplinka
- Artimiausia gyvenamosios paskirties pastatų aplinka patenkanti į višnorminio triukšmo zoną
- Triukšmo izolinija (laiptas 5 dBA)
- Triukšmo ribinio dydžio izolinija (Ln - 45 dBA, HN 33:2011)

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Mastelis 1:50 000

500 0 500 1 000 metrų

Planuojamų Enercon E-160 EP5 vėjo elektrinių akustinio triukšmo sklaidos matematinio modeliavimo rezultatų schema (Lnaktis)

L A T V I J O S R E S P U B L I K A

N
W
E
S

Šidliški
Ločerai
Muoriškiai
Nemunėlis
Bėnupė
Pagojai
Bėnupė
Antupė
Leitiškiai
Parupė
Nemunėlio Radviliškis
Palsupė
Padvarnėčiai
Bėčiūnai
Ločiai
Kukuliai
Velykionys
Šilagala
Kraukliai
Perkasas
Gužai
Runikiai
Melėnai
Spingučiai
Nausėdžiai
Žemoji Gervė
Svidžiai
Kiauliškiai
Lapakrita
Dagiškis
Pladiškis
Ivaniškis
Gervelė
Grubiškis
Apušynė
Akmeniškis
Šniūniškis
Skultiškiai
Linkiškiai
Kašeliškiai
Perkūniškis
Kraniškis
Starklizdis
Rindaugiškiai
Purviškiai I
Bobėnai
Dubriškis
Dreiviškiai
Pagervė
Aukštoji Gervė
Latveliai
Rindaugai
Apaščia
Užušilės kanalas
Olšynė
Pagervėlė
Bobėnėliai
Legailiai
Sebentiškis
Užušilės
Užušiliai
Daukniškiai
Lukiškis
Peikšteniai
Mikalava

1305
1310
1304
1311
190

30
35
40
45
50

ID1 (adresas nesuteiktas), Nemunėlio Radviliškis
Juljanava 6, Juljanava
Sodžiaus g. 16, Parupė
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis
Sodžiaus g. 4, Jasiškiai
Sodžiaus g. 7, Jasiškiai
Žilvičių g. 2, Bliūdžiai
Sodžiaus g. 11, Jasiškiai
Sodžiaus g. 15, Jasiškiai
Sodžiaus g. 17, Jasiškiai
Upės g. 1, Jasiškiai
Sodžiaus g. 25, Jasiškiai
Sodžiaus g. 27, Jasiškiai
Sodžiaus g. 33, Jasiškiai
Sodžiaus g. 14, Jasiškiai
Sodžiaus g. 45, Jasiškiai
Sodžiaus g. 47, Jasiškiai
Nausėdžiai 2A, Nausėdžiai
Nausėdžiai 4, Nausėdžiai
Sodžiaus g. 49, Jasiškiai
Sodžiaus g. 51, Jasiškiai
Nausėdžiai 6, Nausėdžiai
Apaščios g. 2, Kočėnai
Nausėdžiai 8, Nausėdžiai
Nausėdžiai 9, Nausėdžiai
Apaščios g. 6, Kočėnai
Apaščios g. 8A, Kočėnai
Apaščios g. 12, Kočėnai
Apaščios g. 7, Kočėnai
Apaščios g. 16, Kočėnai
Apaščios g. 9, Kočėnai
Strazdiškis 1, Strazdiškis
Kaimynų g. 2, Kočėnai
Apaščios g. 15, Kočėnai
Apaščios g. 18, Kočėnai
Apaščios g. 20, Kočėnai
Apaščios g. 22, Kočėnai
Naujikų k. 3, Naujikai
Naujikų k. 2, Naujikai
Velykionys 3, Velykionys
Svidžiai 17, Svidžiai
Svidžiai 16, Svidžiai
Svidžiai 15, Svidžiai

N2
N3
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N29
N30
N31
N32
N32-1
N32-2
N33
N34
N35

Nausėdžiai 8, Nausėdžiai

SUTARTINIAI ŽENKLAI

- N23 — Planuojama vėjo elektrinė ir jos Nr.
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- Artimiausi gyvenamosios paskirties pastatų aplinka
- Artimiausia gyvenamosios paskirties pastatų aplinka patenkanti į višnorminio triukšmo zoną
- Triukšmo izolinija (laiptas 5 dBA)
- Triukšmo ribinio dydžio izolinija (Ln - 45 dBA, HN 33:2011)

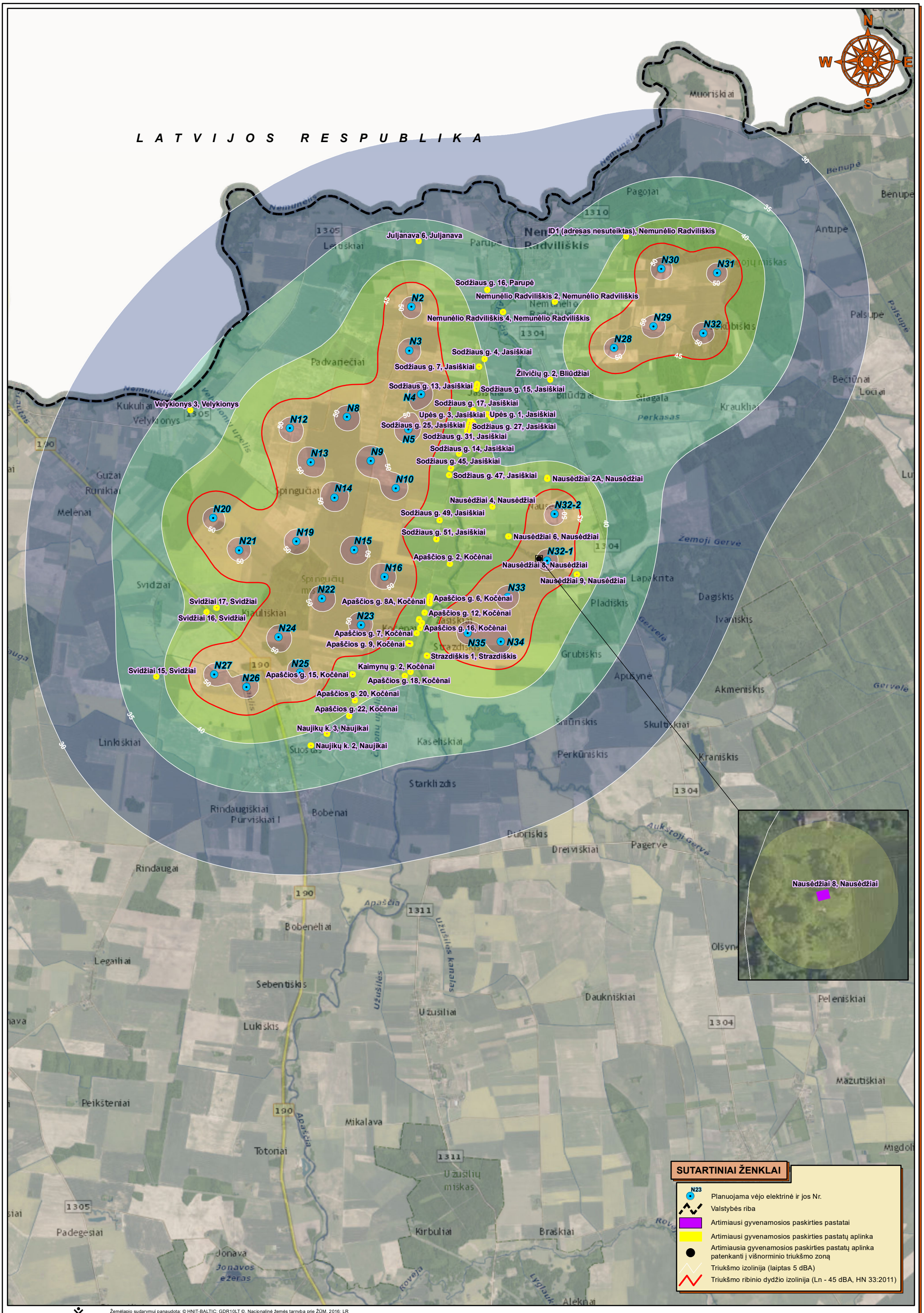
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Mastelis 1:50 000

500 0 500 1 000 metrų

Planuojamų Vestas V172-7.2 vėjo elektrinių akustinio triukšmo sklaidos matematinio modeliavimo rezultatų schema (Lnaktis)



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Mastelis 1:50 000

500 0 500 1 000 metrų

Planuojamų alternatyvių vėjo elektrinių akustinio triukšmo sklaidos matematinio modeliavimo rezultatų schema (Lnaktis)

L A T V I J O S R E S P U B L I K A

N
W
E
S

Šidliškiai
Ločerai
Muoriškiai
Tabokinė
Pagojai
Benupė
Antupė
Leitiškiai
Parupė
Radviliškis
Padvarnečiai
Kukučiai
Velykionys
Gužai
Rumikiai
Melėnai
Spinguičiai
Svidžiai
Kiauliškiai
Linkiškiai
Šiaušas
Kašeliškiai
Bobėnai
Purviškiai I
Rindaugiškiai
Rindaugai
Bobėnėliai
Legailiai
Lukiškis
Peikšteniai
Užusilės
Užusiliai
Šebentiškis
Strazdiškis
Perkūniškis
Kraniškis
Dubriškis
Dreiviškiai
Pagervė
Latveliai
Gudiškis
Olšynė
Pagervėlė
Daukniškiai
Apušynė
Akmeniškis
Šmūniškis
Skultiškiai
Grubiškis
Plaviškis
Dagiškis
Ivaniškis
Lapakrita
Šilagala
Kraukliai
Bliūdžiai
Bečiūnai
Locai
Palsupė
Kūbiškis
Antupės miškas
Žemoji Gervė
Aukštoji Gervė
Gervelė
Perkasas
Palsupė
Nemunėlis
Velykionių upelis
Apušia
Kaimynų kanalas

1305
1310
1304
1311
190

30 35 40 45 50

ID1 (adresas nesuteiktas), Nemunėlio Radviliškis
Juljanava 6, Juljanava
Sodžiaus g. 16, Parupė
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis
Sodžiaus g. 4, Jasiškiai
Sodžiaus g. 7, Jasiškiai
Žilvičių g. 2, Bliūdžiai
Sodžiaus g. 11, Jasiškiai
Sodžiaus g. 15, Jasiškiai
Sodžiaus g. 17, Jasiškiai
Upės g. 1, Jasiškiai
Sodžiaus g. 25, Jasiškiai
Sodžiaus g. 27, Jasiškiai
Sodžiaus g. 33, Jasiškiai
Sodžiaus g. 14, Jasiškiai
Sodžiaus g. 45, Jasiškiai
Sodžiaus g. 47, Jasiškiai
Nausėdžiai 2A, Nausėdžiai
Nausėdžiai 4, Nausėdžiai
Sodžiaus g. 49, Jasiškiai
Sodžiaus g. 51, Jasiškiai
Nausėdžiai 6, Nausėdžiai
Apaščios g. 2, Kočėnai
Nausėdžiai 8, Nausėdžiai
Nausėdžiai 9, Nausėdžiai
Apaščios g. 6, Kočėnai
Apaščios g. 8A, Kočėnai
Apaščios g. 12, Kočėnai
Apaščios g. 16, Kočėnai
Apaščios g. 7, Kočėnai
Apaščios g. 9, Kočėnai
Strazdiškis 1, Strazdiškis
Svidžiai 17, Svidžiai
Svidžiai 16, Svidžiai
Svidžiai 15, Svidžiai
Apaščios g. 15, Kočėnai
Kaimynų g. 2, Kočėnai
Apaščios g. 18, Kočėnai
Apaščios g. 20, Kočėnai
Apaščios g. 22, Kočėnai
Naujikų k. 3, Naujikai
Naujikų k. 2, Naujikai
Velykionys 3, Velykionys

N1 N2 N3 N4 N5 N8 N9 N10 N12 N13 N14 N15 N16 N19 N20 N21 N22 N23 N24 N25 N26 N27 N28 N29 N30 N31 N32 N32-1 N32-2 N33 N34 N35

P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P15 P16 P18 P19 P20 P21 P22

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Nausėdžiai 8, Nausėdžiai

SUTARTINIAI ŽENKLAI

- N23 — Planuojama vėjo elektrinė ir jos Nr.
- N23 — Suminio vertinimo metu vertintos gretimos vėjo elektrinės
- Valstybės riba
- Artimiausi gyvenamosios paskirties pastatai
- Artimiausi gyvenamosios paskirties pastatų aplinka
- Artimiausia gyvenamosios paskirties pastatų aplinka patenkanti į višnorminio triukšmo zoną
- Triukšmo izolinija (laiptas 5 dBA)
- Triukšmo ribinio dydžio izolinija (Ln - 45 dBA, HN 33:2011)

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Mastelis 1:50 000

500 0 500 1 000 metrų

Planuojamų Enercon E-160 EP5 vėjo elektrinių akustinio triukšmo suminio sklaidos matematinio modeliavimo rezultatų schema (Lnaktis)

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Nemunėlio Radviliškis 4, Nemunėlio Radviliškis
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Žilvičių g. 2, Bliūdžiai
Sodžiaus g. 11, Jasiškiai
Sodžiaus g. 15, Jasiškiai
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Švidžiai 15, Švidžiai
Apaščios g. 15, Kočėnai
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Šniūriškis
Skultiškiai
Naujikų k. 3, Naujikai
Naujikų k. 2, Naujikai
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Nausėdžiai 8, Nausėdžiai

SUTARTINIAI ŽENKLAI

- N23 — Planuojama vėjo elektrinė ir jos Nr.
- P23 — Suminio vertinimo metu vertintos gretimos vėjo elektrinės
- Valstybės riba
- Artimiausi gyvenamosios paskirties pastatai
- Artimiausi gyvenamosios paskirties pastatų aplinka
- Artimiausia gyvenamosios paskirties pastatų aplinka patenkanti į višnorminio triukšmo zoną
- Triukšmo izolinija (laiptas 5 dBA)
- Triukšmo ribinio dydžio izolinija (Ln - 45 dBA, HN 33:2011)

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Mastelis 1:50 000

500 0 500 1 000 metrų

Planuojamų Vestas V172-7.2 vėjo elektrinių akustinio triukšmo suminio sklaidos matematinio modeliavimo rezultatų schema (Lnaktis)

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Nemunėlio Radviliškis 4, Nemunėlio Radviliškis
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P11
Olšynė
Legaičiai
B-1
P4
P15
Sebentiškis
Užusilės kanalas
Daukniškiai
P16
Užusiliai
Lukiškis
P18
Peikšteniai

Nausėdžiai 8, Nausėdžiai

SUTARTINIAI ŽENKLAI

- N23 — Planuojama vėjo elektrinė ir jos Nr.
- N23 — Suminio vertinimo metu vertintos gretimos vėjo elektrinės
- Valstybės riba
- Artimiausi gyvenamosios paskirties pastatai
- Artimiausi gyvenamosios paskirties pastatų aplinka
- Artimiausia gyvenamosios paskirties pastatų aplinka patenkanti į višnorminio triukšmo zoną
- Triukšmo izolinija (laiptas 5 dBA)
- Triukšmo ribinio dydžio izolinija (Ln - 45 dBA, HN 33:2011)

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Mastelis 1:50 000

500 0 500 1 000 metrų

Planuojamų alternatyvių vėjo elektrinių akustinio triukšmo suminio sklaidos matematinio modeliavimo rezultatų schema (Lnaktis)

GRAPHIC ANNEX 5. WT SHADOW FLICKER DISPERSION MAPS

LATVIJOS RESPUBLIKA

N
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E
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ID1 (adresas nesutei̇ktas), Nemunėlio Radviliškis
Juljanava 6, Juljanava
Sodžiaus g. 16, Parupė
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Nemunėlio Radviliškis 4, Nemunėlio Radviliškis
Sodžiaus g. 4, Jasiškiai
Sodžiaus g. 7, Jasiškiai
Sodžiaus g. 11, Jasiškiai
Žilvičių g. 2, Bliūdžiai
Sodžiaus g. 13, Jasiškiai
Sodžiaus g. 15, Jasiškiai
Sodžiaus g. 17, Jasiškiai
Upės g. 1, Jasiškiai
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Sodžiaus g. 51, Jasiškiai
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Nausėdžiai 8, Nausėdžiai
Nausėdžiai 9, Nausėdžiai
Apaščios g. 8A, Kočėnai
Apaščios g. 6, Kočėnai
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Apaščios g. 14, Kočėnai
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Apaščios g. 9, Kočėnai
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LEGENDA

Šešėliavimas val/metus

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SUTARTINIAI ŽENKLAI

N23 Planuojama vėjo elektrinė ir jos Nr.

Artimiausi gyvenamieji ir/ar visuomeniniai pastatai

Artimiausi gyvenamieji ir/ar visuomeniniai pastatai patenkantys į viršnorminio poveikio zoną

Šešėlio izolinija (laiptas 1 val/metus)

Šešėlio ribinio dydžio izolinija (30 val./metus)

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Mastelis 1:50 000

500 0 500 1 000 metrų

Planuojamų Enercon E-160 EP5 vėjo elektrinių šešėlių mirgėjimo (val./metus) modeliavimo rezultatų schema

LATVIJOS RESPUBLIKA

N
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ID1 (adresas nesuteiktas), Nemunėlio Radviliškis
Juljanava 6, Juljanava
Sodžiaus g. 16, Parupė
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis
Sodžiaus g. 4, Jasiškiai
Sodžiaus g. 7, Jasiškiai
Sodžiaus g. 11, Jasiškiai
Žilvičių g. 2, Bliūdžiai
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Sodžiaus g. 15, Jasiškiai
Sodžiaus g. 17, Jasiškiai
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Nausėdžiai 2A, Nausėdžiai
Nausėdžiai 4, Nausėdžiai
Sodžiaus g. 49, Jasiškiai
Sodžiaus g. 51, Jasiškiai
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Nausėdžiai 8, Nausėdžiai
Nausėdžiai 9, Nausėdžiai
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Apaščios g. 14, Kočėnai
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Svidžiai 15, Svidžiai
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LEGENDA

Šešėliavimas val/metus
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

SUTARTINIAI ŽENKLAI

N23 Planuojama vėjo elektrinė ir jos Nr.
Artimiausi gyvenamieji ir/ar visuomeniniai pastatai
Artimiausi gyvenamieji ir/ar visuomeniniai pastatai patenkantys į viršnorminio poveikio zoną
Šešėlio izolinija (laiptas 1 val/metus)
Šešėlio ribinio dydžio izolinija (30 val./metus)

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Mastelis 1:50 000

500 0 500 1 000 metrų

Planuojamų Vestas V172-7.2 vėjo elektrinių šešėlių mirgėjimo (val/metus) modeliavimo rezultatų schema

N

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Sodžiaus g. 7, Jasiškiai

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Sodžiaus g. 11, Jasiškiai

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Sodžiaus g. 33, Jasiškiai

Sodžiaus g. 14, Jasiškiai

Sodžiaus g. 45, Jasiškiai

Sodžiaus g. 47, Jasiškiai

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Nausėdžiai 4, Nausėdžiai

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Naujikų k. 2, Naujikai

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Spingučiai

Spingučių miškas

Kiaukliškiai

Kočėnai

Parupė

Lėnkiškiai

Šilagala

Perkasas

Kraukliai

Bliūdžiai

Žemoji Gervė

Apleista

Dagiškis

Ivaniškis

Apušynė

Akmeniškis

Šniūriškis

Skultiškiai

Kašeliškiai

Perkūniškis

Kraniškis

Starkliz dis

Rindaugiškiai

Purviškiai I

Bobėnai

Dubriškis

Dreiviškiai

Pagervė

Aukštoji Gervė

Rindaugai

Bobėnėliai

Legailiai

Sebentiškis

Daukniškiai

Linkiškiai

Suostas

Apaščia

Užusilės kanalas

1305 1310 1304 190 1311 1304

LEGENDA

Šešėliavimas val/metus

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

SUTARTINIAI ŽENKLAI

N23 Planuojama vėjo elektrinė ir jos Nr.

Artimiausi gyvenamieji ir/ar visuomeniniai pastatai

Artimiausi gyvenamieji ir/ar visuomeniniai pastatai patenkantys į viršnorminio poveikio zoną

Šešėlio izolinija (laiptas 1 val/metus)

Šešėlio ribinio dydžio izolinija (30 val./metus)

SWECO

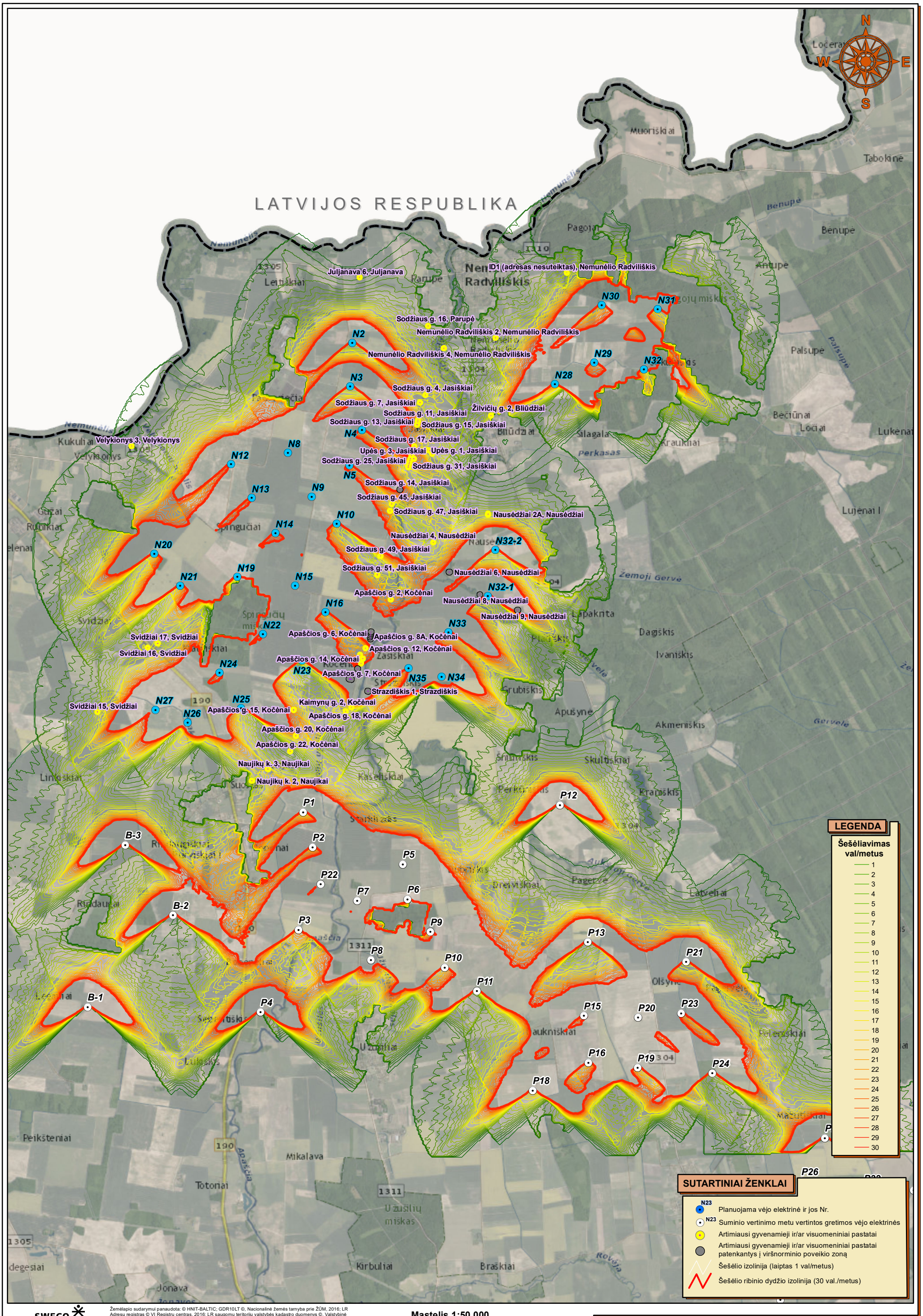
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Mastelis 1:50 000

500 0 500 1 000 metrų

Planuojamų alternatyvių vėjo elektrinių šešėlių mirgėjimo (val/metus) modeliavimo rezultatų schema


LATVIJOS RESPUBLIKA
N
W
E
S
Muoriškiai
Tabokinė
Benupė
Pagojai
Juljanava 6, Juljanava
Parupė
ID1 (adresas nesuteiktas), Nemunėlio Radviliškis
Radviliškis
Anupė
Sodžiaus g. 16, Parupė
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis
Palsupė
Sodžiaus g. 4, Jasiškiai
Sodžiaus g. 7, Jasiškiai
Sodžiaus g. 11, Jasiškiai
Žilvičių g. 2, Bliūdžiai
Sodžiaus g. 13, Jasiškiai
Sodžiaus g. 15, Jasiškiai
Bėčiūnai
Lukėnai
Velykionys 3, Velykionys
Sodžiaus g. 17, Jasiškiai
Upės g. 3, Jasiškiai
Upės g. 1, Jasiškiai
Sodžiaus g. 25, Jasiškiai
Sodžiaus g. 31, Jasiškiai
Sodžiaus g. 14, Jasiškiai
Sodžiaus g. 45, Jasiškiai
Sodžiaus g. 47, Jasiškiai
Nausėdžiai 2A, Nausėdžiai
Nausėdžiai 4, Nausėdžiai
Sodžiaus g. 49, Jasiškiai
Sodžiaus g. 51, Jasiškiai
Nausėdžiai 6, Nausėdžiai
Apaščios g. 2, Kočėnai
Nausėdžiai 8, Nausėdžiai
Nausėdžiai 9, Nausėdžiai
Apaščios g. 6, Kočėnai
Apaščios g. 8A, Kočėnai
Apaščios g. 12, Kočėnai
Apaščios g. 14, Kočėnai
Apaščios g. 7, Kočėnai
Strazdiškis 1, Strazdiškis
Svidžiai 17, Svidžiai
Svidžiai 16, Svidžiai
Svidžiai 15, Svidžiai
Kaimynų g. 2, Kočėnai
Apaščios g. 15, Kočėnai
Apaščios g. 18, Kočėnai
Apaščios g. 20, Kočėnai
Apaščios g. 22, Kočėnai
Naujikų k. 3, Naujikai
Naujikų k. 2, Naujikai
Žemoji Gerve
Gervelė
Apušynė
Akmeniškis
Dagiškis
Ivaniškis
Lujėnai I
Kraniškis
Latvėliai
Peikšteniai
Mikalava
Totoriai
Kirbuliai
Braškiai
Užusilių miškas
Apaščia
Nemunėlis
N2
N3
N4
N5
N8
N9
N10
N12
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N14
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N32-2
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P23
P24
P26
B-1
B-2
B-3
LEGENDA
Šešėliavimas val/metus
1
2
3
4
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28
29
30
SUTARTINIAI ŽENKLAI
N23
Planuojama vėjo elektrinė ir jos Nr.
N23
Suminio vertinimo metu vertintos gretimos vėjo elektrinės
Artimiausi gyvenamieji ir/ar visuomeniniai pastatai
Artimiausi gyvenamieji ir/ar visuomeniniai pastatai patenkantys į viršnorminio poveikio zoną
Šešėlio izolinija (laiptas 1 val/metus)
Šešėlio ribinio dydžio izolinija (30 val./metus)
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Mastelis 1:50 000
500 0 500 1 000 metrų
Planuojamų Enercon E-160 EP5 vėjo elektrinių šešėlių mirgėjimo (val./metus) suminio modeliavimo rezultatų schema

LATVIJOS RESPUBLIKA

N
W
E
S

Šidliškiai
Ločerai
Muoriškiai
Tabokinė
Bėnupė
Pagojai
Nemunėlis
Radviliškis
Juljanava 6, Juljanava
Leitiškiai
Parupė
Palsupė
Bėčiūnai
Locėnai
Lukėnai
Šilagala
Kraukliai
Perkasas
Bliūdžiai
Kukuliai
Velykionys
Gudai
Rumkiai
Melėnai
Spingučiai
Lujėnai I
Nausėdžiai
Žemoji Gerve
Apakrita
Dagiškis
Ivaniškis
Svidžiai
Kočėnai
Žasliškiai
Strazdiškis
Grubiškis
Apusynė
Akmeniškis
Skuliškiai
Kaseliškiai
Pervalkis
Kraniškis
Olšynė
Daukniškiai
Pagervė
Latveliai
Linkuškiai
Ridaukai
Peikšteniai
Stanišiškis
Dubrovkis
Sreliškiai
Užmaliai

ID1 (adresas nesuteiktas), Nemunėlio Radviliškis
Sodžiaus g. 16, Parupė
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis
Sodžiaus g. 4, Jasiškiai
Sodžiaus g. 7, Jasiškiai
Sodžiaus g. 11, Jasiškiai
Sodžiaus g. 15, Jasiškiai
Žilvičių g. 2, Bliūdžiai
Sodžiaus g. 17, Jasiškiai
Upės g. 3, Jasiškiai
Upės g. 1, Jasiškiai
Sodžiaus g. 27, Jasiškiai
Sodžiaus g. 31, Jasiškiai
Sodžiaus g. 14, Jasiškiai
Sodžiaus g. 45, Jasiškiai
Sodžiaus g. 47, Jasiškiai
Nausėdžiai 2A, Nausėdžiai
Nausėdžiai 4, Nausėdžiai
Sodžiaus g. 49, Jasiškiai
Sodžiaus g. 51, Jasiškiai
Nausėdžiai 6, Nausėdžiai
Apaščios g. 2, Kočėnai
Nausėdžiai 8, Nausėdžiai
Nausėdžiai 9, Nausėdžiai
Apaščios g. 6, Kočėnai
Apaščios g. 8A, Kočėnai
Apaščios g. 12, Kočėnai
Apaščios g. 14, Kočėnai
Apaščios g. 7, Kočėnai
Strazdiškis 1, Strazdiškis
Kaimynų g. 2, Kočėnai
Apaščios g. 15, Kočėnai
Apaščios g. 18, Kočėnai
Apaščios g. 20, Kočėnai
Apaščios g. 22, Kočėnai
Naujikų k. 3, Naujikai
Naujikų k. 2, Naujikai
Svidžiai 17, Svidžiai
Svidžiai 16, Svidžiai
Svidžiai 15, Svidžiai
Velykionys 3, Velykionys

N1 N2 N3 N4 N5 N8 N9 N10 N12 N13 N14 N15 N16 N19 N20 N21 N22 N23 N24 N25 N26 N27 N28 N29 N30 N31 N32 N32-1 N32-2 N33 N34 N35
P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P15 P16 P18 P19 P20 P21 P22 P23
B-1 B-2 B-3

LEGENDA

Šešėliavimas val/metus

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

SUTARTINIAI ŽENKLAI

- N23 — Planuojama vėjo elektrinė ir jos Nr.
- N23 — Suminio vertinimo metu vertintos gretimos vėjo elektrinės
- Artimiausi gyvenamieji ir/ar visuomeniniai pastatai
- Artimiausi gyvenamieji ir/ar visuomeniniai pastatai patenkantys į viršnorminio poveikio zoną
- Šešėlio izolinija (laiptas 1 val/metus)
- Šešėlio ribinio dydžio izolinija (30 val./metus)

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Mastelis 1:50 000

500 0 500 1 000 metrų

Planuojamų Vestas V172-7.2 vėjo elektrinių šešėlių mirgėjimo (val/metus) suminio modeliavimo rezultatų schema

LATVIJOS RESPUBLIKA

N
W
E
S

Juljanava 6, Juljanava
ID1 (adresas nesuteiktas), Nemunėlio Radviliškis
Sodžiaus g. 16, Parupė
Nemunėlio Radviliškis 2, Nemunėlio Radviliškis
Nemunėlio Radviliškis 4, Nemunėlio Radviliškis
Sodžiaus g. 4, Jasiškiai
Sodžiaus g. 7, Jasiškiai
Žilvičių g. 2, Bliūdžiai
Sodžiaus g. 11, Jasiškiai
Sodžiaus g. 15, Jasiškiai
Sodžiaus g. 17, Jasiškiai
Upės g. 1, Jasiškiai
Sodžiaus g. 12, Jasiškiai
Sodžiaus g. 27, Jasiškiai
Sodžiaus g. 33, Jasiškiai
Sodžiaus g. 14, Jasiškiai
Sodžiaus g. 45, Jasiškiai
Sodžiaus g. 47, Jasiškiai
Nausėdžiai 2A, Nausėdžiai
Nausėdžiai 4, Nausėdžiai
Sodžiaus g. 49, Jasiškiai
Sodžiaus g. 51, Jasiškiai
Nausėdžiai 6, Nausėdžiai
Apaščios g. 2, Kočėnai
Nausėdžiai 8, Nausėdžiai
Nausėdžiai 9, Nausėdžiai
Apaščios g. 6, Kočėnai
Apaščios g. 8A, Kočėnai
Apaščios g. 12, Kočėnai
Apaščios g. 16, Kočėnai
Apaščios g. 7, Kočėnai
Apaščios g. 9, Kočėnai
Strazdiškis 1, Strazdiškis
Kaimynų g. 2, Kočėnai
Apaščios g. 15, Kočėnai
Apaščios g. 18, Kočėnai
Apaščios g. 20, Kočėnai
Apaščios g. 22, Kočėnai
Naujikų k. 3, Naujikai
Naujikų k. 2, Naujikai
Velykionys 3, Velykionys
Svidžiai 17, Svidžiai
Svidžiai 16, Svidžiai
Svidžiai 15, Svidžiai

N1 N2 N3 N4 N5 N8 N9 N10 N11 N12 N13 N14 N15 N16 N19 N20 N21 N22 N23 N24 N25 N26 N27 N28 N29 N30 N31 N32 N32-1 N32-2 N33 N34 N35

P1 P2 P3 P4 P5 P6 P7 P8 P9 P10 P11 P12 P13 P15 P16 P18 P20 P21 P22 P23

B-1 B-2 B-3

LEGENDA

Šešėliavimas val/metus
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

SUTARTINIAI ŽENKLAI

- N23 — Planuojama vėjo elektrinė ir jos Nr.
- N23 — Suminio vertinimo metu vertintos gretimos vėjo elektrinės
- Artimiausi gyvenamieji ir/ar visuomeniniai pastatai
- Artimiausi gyvenamieji ir/ar visuomeniniai pastatai patenkantys į viršnorminio poveikio zoną
- Šešėlio izolinija (laiptas 1 val/metus)
- Šešėlio ribinio dydžio izolinija (30 val./metus)

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Mastelis 1:50 000

500 0 500 1 000 metrų

Planuojamų alternatyvių vėjo elektrinių šešėlių mirgėjimo (val/metus) suminio modeliavimo rezultatų schema

GRAPHIC ANNEX 6. SCHEMATIC LAYOUT OF ENGINEERING INFRASTRUCTURE IN ADJACENT AREAS

LATVIJOS
RESPUBLIKA

N1 N2 N3 N4 N5 N8 N9 N10 N12 N13 N14 N15 N16 N19 N20 N21 N22 N23 N24 N25 N26 N27 N28 N29 N30 N31 N32 N32-1 N32-2 N33 N34 N35

TP1 TP2 TP3

Nemunėlio Radviliškis
Juliana va
Parupė
Leitiškiai
Antupė
Palsupė
Padvarnėčiai
Jasiškiai
Bliūdžiai
Šilagala
Kraukliai
Bėčiūnai
Lėčiai
Lukėnai
Lujėnai I
Kukuliai
Velykiony s
Gužai
Runikiai
Melėnai
Spingučiai
Naus ėdžiai
Lapakrita
Dagiškis
Pladiškis
Ivaniškis
Svidžiai
Kiauliškiai
Kočėnai
Zasiškiai
Strazdiškis
Grubiškiai
Apušynė
Akmeniškis
Linkiškiai
Suostas
Naujikai
Kašeliškiai
Šniūriškis
Skultiškiai
Perkūniškis
Kraniškis
Starkli zdis
Rindaugiškiai
Purviškiai I
Bobėnai
Dubriškis
Dreiviškiai
Pagervė
Latveliai
Rindaugai
Bobėnėliai
Olšynė
Pagervėlė
Legailiai
Sebentiškis
Užušilės
Užušiliai
Daukniškiai
Peleniškiai
Brigiškiai
Lukiškis
Mažutiškiai
Peikšteniai
Mikalava
Totoriai
Medeikiai
Migdoliškiai
Padegesiai
Jonava
Kirbuliai
Braškiai
Alekiai
Skrebiškiai
Paberžiai
Rimgailiai
Ripeikiai
Juodeliai
Ubiškiai
Pitiškis
Parovėja
Kirkilai
Varnupis
Lyglaukiai
Paežeriai
Liesiškis
Stačkūnai
Rinkuškiai
Kvietkeliai
Ruoliškis
Izdonikis
Pajukniškis
Jukniškiai
Vinkšnių
Gudiškis

Nemunėlis
Velykionių upelis
Apaščia
Užušilės kanalas
Čigonų upelis
Perkasas
Žemoji Gervė
Gervelė
Aukštoji Gervė
Rovėja
Lyglaukių griovys
Jonavos ežeras
Kirkilų ežeras
Ripeikių ežerėlis
Drąseikių ežeras
ež. Skaistė
ež. Dubužė
Sirvenos ežeras

1305 1310 1304 190 1311 1307 1313

Spiginčių miškas
Užušilių miškas
Kirkilų-Kalnų miškas

LEGEND

- N1 — Planned WPP and its No.
- Planned power cable
- Alternatives of planned transformer substation location
- 330 kV overhead power lines
- 110 kV overhead power lines
- Protection zone for overhead power lines
- Dj — Main gas pipeline route
- Protection zones for main gas pipelines
- Oil pipeline route
- Protection zones for oil pipelines

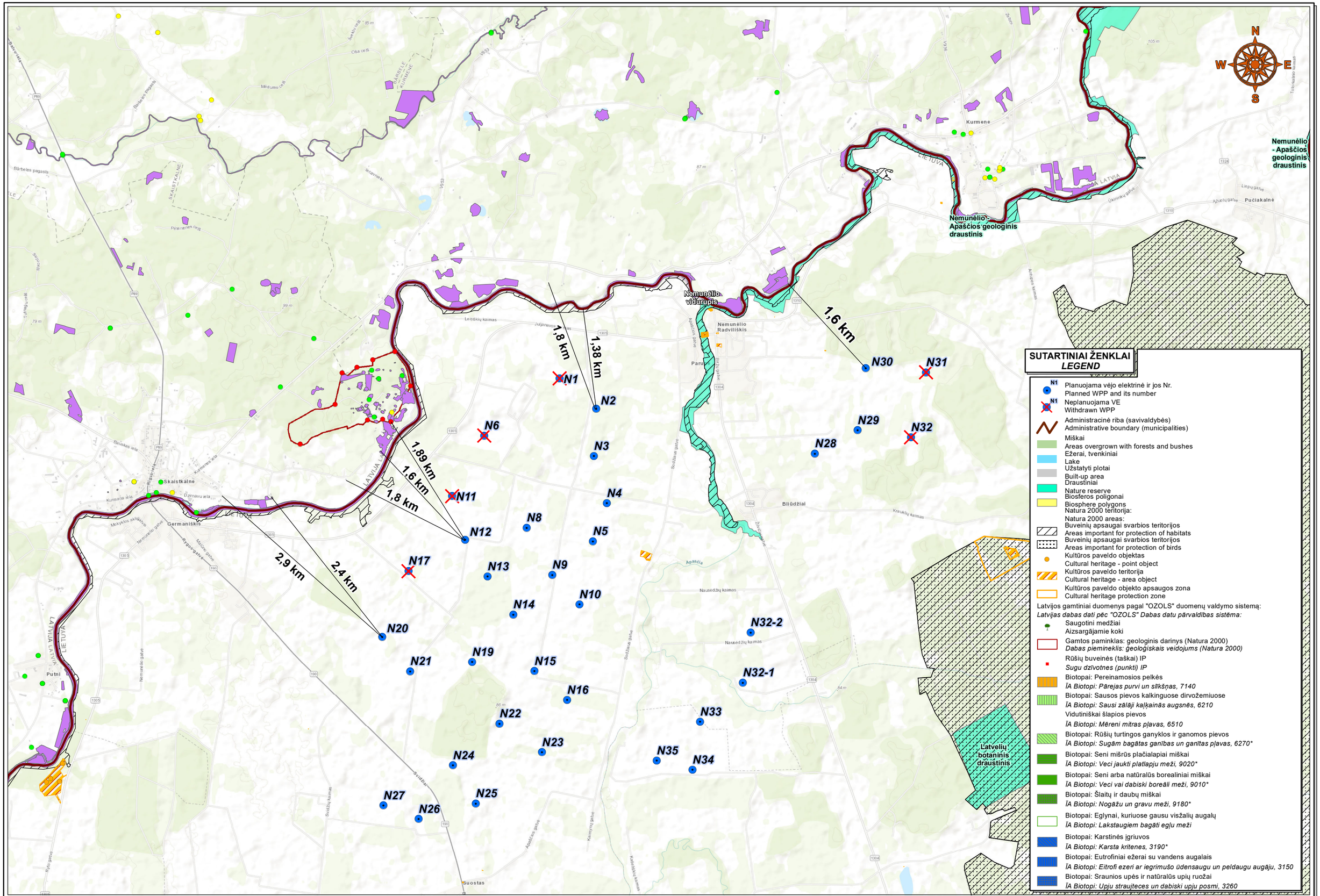
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Mastelis 1:55 000
0 550 1 100 metrų

Location of planned wind power plants in relation to engineering infrastructure

GRAPHIC ANNEX 7. SCHEMATIC LAYOUT OF AREAS ADJACENT TO THE PEA AREA INCLUDING THE TERRITORY OF THE REPUBLIC OF LATVIA



SUTARTINIAI ŽENKLAI
LEGEND

- Planuojama vėjo elektrinė ir jos Nr.
  Planned WPP and its number
- Neplanuojama VE
  Withdrawn WPP
- Administracinė riba (savivaldybės)
  Administrative boundary (municipalities)
- Miškai
  Areas overgrown with forests and bushes
- Ežerai, tvenkiniai
  Lake
- Užstatyti plotai
  Built-up area
- Draustiniai
  Nature reserve
- Biosferos poligonai
  Biosphere polygons
- Natura 2000 teritorija:
  Natura 2000 areas:
- Buveinių apsaugai svarbios teritorijos
  Areas important for protection of habitats
- Buveinių apsaugai svarbios teritorijos
  Areas important for protection of birds
- Kultūros paveldo objektas
  Cultural heritage - point object
- Kultūros paveldo teritorija
  Cultural heritage - area object
- Kultūros paveldo objekto apsaugos zona
  Cultural heritage protection zone

Latvijos gamtiniai duomenys pagal "OZOLS" duomenų valdymo sistemą:
Latvijas dabas dati pēc "OZOLS" Dabas datu pārvaldības sistēma:

- Saugotini medžiai
  Aizsargājamie koki
- Gamtos paminklas: geologinis darinys (Natura 2000)
  Dabas piemineklis: ģeoloģiskais veidojums (Natura 2000)
- Rūšių buveinės (taškai) IP
  Sugu dzīvotnes (punkti) IP
- Biotopai: Pereinamosios pelkės
  ĪA Biotopi: Pārejas purvi un slīkšņas, 7140
- Biotopai: Sausos pievos kalkinguose dirvožemiuose
  ĪA Biotopi: Sausi zālāji kaļķainās augsnēs, 6210
- Vidutiniškai šlapios pievos
  ĪA Biotopi: Mēreni mitras pļavas, 6510
- Biotopai: Rūšių turtingos ganyklos ir ganomos pievos
  *ĪA Biotopi: Sugām bagātas ganības un ganītas pļavas, 6270**
- Biotopai: Seni mišrūs plačialapiai miškai
  *ĪA Biotopi: Veci jaukti platlapju meži, 9020**
- Biotopai: Seni arba natūralūs borealiniai miškai
  *ĪA Biotopi: Veci vai dabiski boreāli meži, 9010**
- Biotopai: Šlaitų ir daubų miškai
  *ĪA Biotopi: Nogāžu un gravu meži, 9180**
- Biotopai: Eglynai, kuriuose gausu viršalių augalų
  ĪA Biotopi: Lakstaugiem bagāti egļu meži
- Biotopai: Karstinės įgriuvos
  *ĪA Biotopi: Karsta kritenes, 3190**
- Biotopai: Eutrofiniai ežerai su vandens augalais
  ĪA Biotopi: Eitrofi ezeri ar iegrimušo ūdensaugu un peldaugu augāju, 3150
- Biotopai: Sraunios upės ir natūralūs upių ruožai
  ĪA Biotopi: Upju straujteces un dabiski upju posmi, 3260

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Mastelis 1:45000
450 0 450 900 metrų

Planuojamos teritorijos vietos ir jos apylinkių apžvalginė schema
Overview scheme for PEA

GRAPHIC ANNEX 8. SCHEMATIC LAYOUT OF PROTECTED SPECIES HABITATS

LATVIJOS RESPUBLIKA

N

W E

S

Muoriškiai

Nemunėlis

Baltasis gandras

Paprastasis tulžys

Vaiskioji uolenė

Totorinė maludė

Didysis dančiasnapis

Paprastasis suopis

Mažasis erelis rėksnys

Nemunėlio Radviliškis

Padvariečiai

Jasiškiai

Kukuliai

Velykionys

Gužai

Spingučiai

Leitiškiai

Svidžiai

Spingučių miškas

Kiauliškiai

Kočėnai

Zasiškiai

Strazdiškis

Grubiškis

Apušynė

Akmeniškis

Naujikai

Linkiškiai

Suostas

Kašeliškiai

Perkūniškis

Kraniškis

Šniūriškis

Skultiškiai

Rindaugiškiai

Purviškiai I

Bobėnai

Dubriškis

Dreiviškiai

Pagervė

Latveliai

Rindaugai

Bobėnėliai

Legailiai

Sebentiškis

Užušilių kaimas

Daukniškiai

Olšynė

Pagervėlė

Starkliziškis

Lapakrita

Dagiškis

Pladiškis

Ivaniškis

Plačioji platužė

Žemoji Gervė

Gervelė

Aukštoji Gervė

Apaščia

Užušilės kanalas

Užušilės

Čigonų upelis

Velžionių upelis

Nemunėlio

Antup

Ben

Pe

1310

1304

1311

190

N2 N3 N4 N5 N8 N9 N10 N12 N13 N14 N15 N16 N19 N20 N21 N22 N23 N24 N25 N26 N27 N29 N30 N31 N32 N32-1 N32-2 N33 N34 N35

Baltasis gandras

LEGEND

N1 Planned WPP and its No.

Locations and habitats of protected species (according to SRIS data from 06/09/2024)

Areas of locations and habitats of protected species (according to SRIS data from 06/09/2024)

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Mastelis 1:43 000

0 430 860 metrų

Location of the planned wind power plant and the nearest protected species and their territories (according to SRIS data as of 06/09/2024)