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Site by Site

# ENVIRONMENTAL IMPACT REPORT

## for the Draženci–IBC Gruškovje motorway section with the inclusion of the parallel regional road



The project was co-financed by the European Union from the budget of the trans-European transport network

**NOTEBOOK I – SUMMARY OF THE REPORT**  
**T – TEXT PART**  
**G – GRAPHIC PART**

**DRUŽBA ZA AVTOCESTE V REPUBLIKI SLOVENIJI d.d.**  
Ulica XIV. divizije 4  
3000 Celje

## Environmental Impact Report for the Draženci–IBC Gruškovje motorway section with the inclusion of the parallel regional road

<b>Client:</b>	DRUŽBA ZA AVTOCESTE V REPUBLIKI SLOVENIJI d.d. Ulica XIV. divizije 4 3000 Celje	
<b>Prepared by:</b>	OIKOS, svetovanje za razvoj, d.o.o. Glavni trg 19 1241 Kamnik	Stamp
	<i>Director:</i> Anes DURGUTOVIČ, BSc in Geotechnology and Mining	Signature:
	<i>Project Manager:</i> Mojca HRABAR, BSc in Biology	Signature:
<b>Road:</b>	A4 SLIVNICA–DRAŽENCI–GRUŠKOVJE MOTORWAY	
<b>Section:</b>	Section 0093: Draženci junction – Podlehnik connection Section 0094: Podlehnik connection – IBC Gruškovje	
<b>Phase:</b>	Environmental impact report (EIR) for the acquisition of the environmental protection consent (EPC)	
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# 1 Introductory explanation

## 1.1 Purpose of the report

Pursuant to the *Environment Protection Act (ZVO-1)* (Official Gazette of the Republic of Slovenia, Nos. 41/04, 17/06, 20/06, 28/06 Constitutional Court Decision: U-I-51/06-5, 39/06-Official Consolidated Text 1, 49/06-ZMetD, 66/06 Constitutional Court Decision: U-I-51/06-10, 112/06 Constitutional Court Decision: U-I-40/06-10, 33/07-ZPNačrt, 57/08-ZFO-1A, 70/08, 108/09) and the *Decree on the content of report on the effects of the intended activity into the environment and its method of drawing up* (Official Gazette of the Republic of Slovenia, No. 36/09), the purpose of the report is to provide the information needed for the environmental impact assessment of the intended activity regarding the type and features of the intended activity, as well as regarding features and characteristics of the environment or its parts which could be affected by the activity impacts.

The basic purpose of the environmental impact report is to implement the environmental impact assessment on the basis of the information included in, and provided by, the report. The purpose of the report is to evaluate and anticipate environmental impacts, and provide proposals for improving the project and give an assessment of the implementation suitability of the anticipated arrangements on the basis of the situation determined.

The environmental impact report will be used in the procedure for acquiring the environmental protection consent for the implementation of the planned activity.

## 1.2 Subject and contents of the report

The environmental impact report was prepared on the basis of the *Decree on the content of the report on the effects of the intended activity into the environment and its method of drawing up* (Official Gazette of the Republic of Slovenia, No. 36/09).

The subject of the report is the description and analysis of the intended activity in the environment during its implementation, duration and termination in relation to the environment in which it is sited, and the establishment and assessment of all potential impacts of the activity which could significantly affect humans and their health, flora and fauna, soil, water, air, climatic conditions, real estate, cultural heritage, landscape and their mutual relationships.

In accordance with the *Rules on the assessment of the acceptability of impacts caused by the execution of plans and activities affecting nature in protected areas* (Official Gazette of the Republic of Slovenia, Nos. 130/04, 53/06, 38/10, 3/11, 3/11), a separate detailed report to the EIR – Appendix for the acceptability assessment of impacts of the activity in protected areas (OIKOS d.o.o., December 2012, supplemented in March 2012), is an appendix to this report (see Notebook V).

## 1.3 Methodological basis for impact assessment

When selecting the basis and methods for the assessment, and when assessing the environmental impacts of the activity, the basic objectives and principles of environmental, nature, natural resource and cultural heritage protection, and all regulations determining limit emission values, levels of environmental pollution reduction and associated measures, rules of conduct to prevent and reduce environmental burden and other prescribed values, and conduct associated with the permissible environmental burden or permitted scope of changes to it are taken into consideration.

All expected impacts which are a consequence of the activity itself or its modification, associated use of natural resources and its burden on the environment during construction, operation, and suspension and after it are considered. A six-level value scale has been used for the impact assessment or evaluation:

Impact level	Descriptive assessment	Impact level significance
+	Positive impact	Impact is positive.
0	No impact	The activity does not have a negative impact on the environmental component, change (physical or quality) in the environmental component

		is minor.
1	Impact is minor.	The change (physical or quality) in the environmental component is minor but detectable.
2	Impact is moderate.	The change (physical or quality) in the environmental component is detectable and moderate.
3	Impact is significant.	The change (physical or quality) in the environmental component is significant but within permissible limits.
4	Impact is very significant and inadmissible.	The change (physical or quality) in the environmental component is too great or exceeds statutory limits.

The value scale is used to assess the rate of the burden individual environmental components impose on the environment and acceptability of these burdens; thus this is not a direct conversion of quantities of environmental components into value assessments, but is for an adequate interpretation of expected changes, considering the situation in the environment prior to the activity or its change and vulnerability in the area of the activity. The standards and norms (limit values) for some components are prescribed, whereas for others, the impact assessment is a matter of the professional assessment of the assessor.

The impact assessment method used is often employed in preparing environmental impact reports in practice. Its advantage is, *inter alia*, that it facilitates the identification of components or parts of the environment which are most affected by the activity or its modification.

## 2 Basic information on the activity

### 2.1 Information on the holder of the activity

The holder of the activity is DRUŽBA ZA AVTOCESTE V REPUBLIKI SLOVENIJI, d.d.

### 2.2 Name of the activity

The name of the activity is: Construction of the Draženci–IBC Gruškovje motorway section and implementation of accompanying arrangements.

### 2.3 Purpose and basic presentation of the activity

The purpose of the activity is

- the construction of the Draženci–Gruškovje International Border Crossing (IBC) motorway section,
- the construction of the parallel regional road: *the parallel road from Pobrežje to the existing overpass above the motorway at km 12+960, where it connects to the existing local road LC457031 (Kozminci–Tri Vode). The route of the parallel road begins in the settlement of Pobrežje, and then runs partly along new routes and partly along the routes of the existing regional and local roads.*
- the implementation of accompanying arrangements.

**The motorway** with a length of 13.05 km will be constructed as a four-lane motorway, with two emergency lanes and a median barrier. The motorway will include three slip roads/access points: Lancova vas, Podlehnik and Zakl.

The motorway route from km 0+000 to km 9+100 follows the elements of the existing main road, whereby the motorway axis is positioned so that all necessary expansions to achieve the motorway profile will be implemented only on one side of the existing road (uninterrupted traffic). Further along the route, from km 9+100 to IBC Gruškovje, the harmonisation of the elements of the existing and new axis is no longer as great; nevertheless, the widening of the carriageway will predominantly be one-sided.

At the beginning, the motorway route runs in mild curves near Lancova vas and Tržec up to the crossing of the Dravinja River. Thereafter, it continues into the Rogatnica Stream valley, where the route must be adapted to spatial restrictions and the Rogatnica riverbed, which is protected as a valuable natural feature. In this area, the route comes considerably close to the settlements of Dežno pri Podlehniku and Stara Cerkev. South of the existing rest area, with its service station and decaying motel, the route turns south-west towards Zakl, where the Rogatnica valley narrows even more, and the most demanding section of the route through the hilly area begins, which is also the beginning of extensive cuts. The route again turns to the south at km 10+100 and continues in this direction up to IBC Gruškovje. As the route passes into the Maceljčica Stream valley, more intensive adaptation to the terrain's configuration becomes necessary. Prior to the motorway's extending onto the existing IBC Gruškovje platform, the route cuts through a high steep slope with a short tunnel, requiring both directions of the carriageway to be separated.

**A parallel road** will be constructed along the entire motorway section. The route of the parallel regional road runs mainly along the sections of the existing regional roads and their deviations, and sections of local roads and their deviations. Its northern section from the Podlehnik connection runs along the eastern side of the motorway, then along its western side and crosses over to the eastern side again, immediately before the border crossing. The route of the regional road runs towards the south along the routes of the existing local roads and the regional road up to the Majolka Inn in Tržec, and the route deviates only in the area of the Lancova vas connection due to the construction of the connection. After the Majolka Inn, 1,100 metres of the route of the regional road runs along a new route immediately adjacent to the eastern side of the motorway, with a new bridge over the Dravinja River and the Rogatnica Stream, connecting with the route of the existing Tržec–Podlehnik local road. In the area of the Podlehnik connection, it crosses the motorway with an overpass and runs along the new route west of the motorway, thus circumventing the centre of the settlement of Podlehnik. On the western side, it runs along the new route past the Podlehnik service station and then connects with the route of the existing Podlehnik–Žetale–Rogatec regional road. After the settlement near Nova Cerkev, a minor 440-metre long relocation of the route is planned; 500 metres of the route then runs along the existing route, while in the area of Zakl a new route is planned again along the western edge of the motorway with a total length of 1,045 m up to the

Zakl connection. The road then runs along the route of the existing regional road and then along the route of the existing Kozminci–Zg. Gruškovje local road, which will be suitably reconstructed and rerouted in individual sections, up to the border crossing.

## 2. 4 Name of the spatial act which is the basis for the activity's implementation

The activity in question is planned on the basis of the adopted spatial act *Governmental decree on detailed plan of national importance for Draženci–Gruškovje International Border Crossing (Official Gazette of the Republic of Slovenia, No. 75/10)*.

### 2.4.1 Compliance of the activity with the spatial act

The planned activity complies with the *Governmental decree on the detailed plan of national importance for the Draženci–Gruškovje International Border Crossing (Official Gazette of the Republic of Slovenia, No. 75/10)*.

Exceptions or deviations which arose in the phase of the activity implementation after the adoption of the aforementioned decree in the project design phase of the planned activity are:

- **noise barriers** – the scope of noise barriers differs in the Decree on the NSP and the project of the intended activity. For the information to be more precise, the information from the project of the intended activity is considered in the environmental impact report.
- **demolition of buildings** – the number and designations of the buildings intended for demolition differs in the Decree on the NSP and the project of the intended activity. For the information to be more precise, the information from the project of the intended activity is considered in the environmental impact report.

Due to the implementation of the activity, 25 residential buildings and a large number of other facilities are expected to be demolished at 32 locations. The discrepancy (24 or 25 residential buildings) arose because indent 26 of Article 14 of the Decree on the NSP stated two residential buildings (Stanošina 9 on plot number 577/2 and Stanošina 9A on plot number 609), but was harmonised in the preparation phase of the project for the intended activity. Thus all information stated in the project of the intended activity is to be considered.

In accordance with the expert basis for the NSP, the Detailed plan on noise pollution with a proposal for noise barriers (Urbis d.o.o., project number 302, plan number 2008-SP/168, September 2009, update November 2009; hereinafter referred to as the noise study) and the NSP, 8.310 m of noise barriers are planned. The Decree on the NSP does not mention the following sections of noise barriers: NB 5-4, 4.0 m high, between km 5+200 and km 5+600, NB 5-5, 3.5 m high, between km 5+600 and km 6+000, and NB 8-3, 2.5 m high, between km 7+300 and km 7+700, which makes a total of 1,200 m. These noise barrier sections are necessary to ensure suitable protection against noise; thus the information from the project of the intended activity are considered with the assessment.

After additional verification in the expert basis for the NSP (study of noise), the Zakl 30G facility, which is not stated in the Decree on the NSP, is anticipated to be verified on the necessity to implement passive protection. In accordance with the aforementioned study of noise, the verification of the need to implement passive protection is not required for the Zakl 30C facility, which is stated in the Decree. This is only an administrative error; therefore, the implementation of passive protection for the anticipated facility Zakl 30G and not Zakl 30C is considered within the assessment.

## 2. 5 Information on the performed CEIA procedure

The procedure for the comprehensive environmental impact assessment (CEIA) was implemented and completed within the procedure for the preparation and adoption of the national spatial plan for the Draženci–IBC Gruškovje motorway section. At the conclusion of the CEIA procedure, the decision on the approval of the plan (no. 35409-101/2009 of 19 July 2010) was issued by the Comprehensive Environmental Impact Assessment Division at the Ministry of the Environment and Spatial Planning.

## 2. 6 Project for the implementation of the intended activity

The project for the implementation of the intended activity in the environment, which was the basis for the description of the activity and impact assessment, comprises

- a preliminary design (BPI d.o.o., project number 302, November 2011),
- a preliminary design – MAIN FILE (BPI d.o.o., project number 302, November 2011).



The review situation of the activity is displayed in graphic appendix G.1. Review situation (wider area).

## 3 Key findings for each individual environmental segment

### 3.1 Air quality

The Draženci–IBC Gruškovje motorway section runs through the municipalities of Videm, Podlehnik and Žetale. In accordance with the Decree on ambient air quality, this area is classified as an S11 air pollution area, which is air pollution of level II. In the existing state, emissions of pollutants occur in the area of the Draženci–IBC Gruškovje motorway section predominantly due to the operation of the main road G1-9 between Hajdina and IBC Gruškovje, and partially the regional road network and local roads in the wider area. Additional emissions of pollutants are predominantly due to agricultural production and the operation of small-scale combustion sources.

During the construction of the motorway section and arrangement of the parallel road network, air pollution will increase due to dust particles in areas comprising larger construction platforms, in areas where bridging structures are being constructed, and along transport and construction routes. Pollution mainly due to PM10 particles will occur and could cause overburdening of the environment at the nearest residential structures in periods of dry and windy weather. According to an estimate, motorway construction works will take two and a half years, so the impact during the motorway construction will not be short-term.

To reduce emissions of dust particles and other pollutants during construction, measures to prevent dust rising from exposed sections of the planning area, traffic and handling surfaces, and material disposal facilities, the regular cleaning of traffic surfaces in the planning area and public traffic surfaces, the construction of fences between the motorway construction site and the parallel main road, the implementation of construction fences in areas where the construction site is very close to residential structures (Lancova vas, Tržec, Jurovci, Dežno, Kozminci, Stanošina, Sedlašek), and observation of emission norms in accordance with regulations governing the area of emissions for temporary construction facilities, utilised construction machinery and transport means are anticipated.

The supervision of the suitability of construction machinery is anticipated during construction, as well as supervision of the fulfilment of measures to limit dusting along access transport roads and the planning area, with the monitoring of air quality with PM10 particles also carried out at six locations.

In the 20-year planning period to 2032, the anticipated traffic burdening of the motorway reaches 31,900 vehicles per day on the Draženci–Lancova vas section and 21,100 vehicles per day on the Zakl connection–Gruškovje border crossing section. During the operation of the Draženci–IBC Gruškovje motorway section and other roads included in the NSP, emissions of pollutants will increase due to the anticipated escalation in traffic. The motorway will assume the majority of transit and a greater share of regional transport, which will subsequently unburden the parallel road network. The remote impacts of the motorway construction on the remaining road network, in terms of protecting air quality, will be positive, with no excessive effects on air quality during the operation of the motorway and parallel road network expected.

**From the aspect of protecting air quality, the construction of the Draženci–IBC Gruškovje motorway section and parallel road network is an acceptable activity in the environment, while its impact on the burdening of the environment, taking into account the mitigation measures, is assessed as moderate (grade 2).**

### 3.2 Noise

The Draženci–Gruškovje motorway section runs along the undeveloped agricultural surfaces of the municipalities of Videm, Podlehnik and Žetale, partially through areas comprising mixed business-residential spaces and areas of dispersed construction. The motorway comes closest to residential structures in the settlements of Lancova vas, Tržec, Jurovci, Podlehnik, Dežno, Zakl, Kozminci, Sedlašek and Stanošina. In accordance with the Decree on limit values for environment noise indicators, the residential structures along the motorway are all classified in Area 3, while agricultural and forest land, and production areas are classified in Area 4 of noise protection. According to valid spatial plans, there are no peaceful settled areas within the area of influence of the motorway. Natura 2000 areas are classified as open-air peaceful areas under the same Decree; however in the entire area affected by the motorway, this area is classified in Area 3, since it lies within a 1,000-metre belt of a significant traffic route.

The existing noise pollution is predominantly the consequence of road traffic along the G1-9 main road on segments 351, 352 and 362 between Hajdina and IBC Gruškovje, and partially of traffic on the regional road network (R3-690 and R3 689) and traffic on local roads in the wider area. The impact of production and agricultural sources of noise is limited to the local area. According to the assessment in 2007, 137 buildings with 375 residents were overburdened with noise in the wider area affected by the motorway, while the critical level of nocturnal noise was exceeded in 41 buildings. The majority of the buildings experiencing excessive limit noise values are located along the G1-9 main road in the settlements of Lancova vas, Jurovci, Gorca, Zakl, Podlehnik, Dežno pri Podlehniku, Stanošina and Kozminci, while individual burdened buildings are also located on the local road network in the areas of Podlehnik and Kozminci.

During the construction of the motorway section and arrangement of the parallel road network, noise burdening will increase, particularly in areas of larger construction platforms, in areas where bridging structures are being constructed and along transport routes. The duration of increased burdening will be limited. General measures for supervising the construction machinery, time limitations for the construction, use of transport routes outside settlements, and, if required, the implementation of temporary noise protection if limit values are exceeded are anticipated to reduce noise burdening. Noise monitoring for the entire planned implementation area is anticipated during the period of motorway construction.

In the 20-year planning period to 2032, the anticipated traffic burdening of the motorway reaches 31,900 vehicles per day on the Draženci–Lancova vas section and 21,100 vehicles per day on the Zakl connection–Gruškovje border crossing section. In the Podlehnik area, the motorway will be burdened with 25,000 vehicles per day. The estimated number of vehicles with weights exceeding 3.5 tonnes is between 4,400 and 4,800 per day. The parallel transport network will be less burdened; the estimated density of traffic in 2032 on the local road between Lancova vas and Tržec is 2,600 vehicles per day, on the regional roads in the Podlehnik area 3,200 vehicles per day, and in the area between Zakl and Kozminci 5,800 vehicles per day.

The assessment of noise burdening in the planning period to 2032 shows that burdening will be greater in the settlement areas of Lancova vas, Tržec, Jurovci, Podlehnik, Dežno, Zakl, Kozminci, Sedlašek and Stanošina. The majority of the aforementioned areas are already exposed to noise burdening, predominantly due to traffic along the G1-9 main road between Draženci and Gruškovje, and partially due to traffic along the regional and local road networks. The effect of the motorway's operation on noise burdening will be ongoing and constant, and will rise, particularly during summer tourist traffic peaks. As the motorway will assume the majority of transit and a considerable portion of regional traffic, this will unburden the parallel road network, so that the remote effects of the construction of the motorway on the remaining road network will be positive in terms of noise protection.

The Environment Protection Act and regulations implemented on its basis impose the implementation of sanitation measures on producers of excessive environmental noise burdening. These anti-noise measures must encompass measures to reduce noise emissions at their source, measures to prevent the expansion of noise into the environment and the expansion of noise to protected spaces. As the basic measure, the proposed anti-noise measures anticipate the use of partial absorption covers, extensive active protection of compact residential structures with noise barriers and passive protection of protected spaces in buildings where active measures cannot provide satisfactory protection. The proposal for noise barriers in the NSP comprises:

- recoating the motorway, regional road, all deviations and connections with a partial absorption coating to reduce noise emissions to between 1 and 3 dB(A);
- implementing of 13 sets of noise barriers over a length of 8,310 m and total area of 26,670 m<sup>2</sup>. The barriers are between 2.0 and 4.0 m high. Noise barriers are anticipated to protect residential structures in the settlements of Lancova vas (both sides of the road), Tržec, Jurovci, Podlehnik, Dežno pri Podlehniku (both sides of the road); Zakl, Kozminci and Stanošina on both sides of the road;
- passive protection for a total of 38 residential buildings. Buildings anticipated for passive protection are mainly exposed to noise from the regional road (27 residential facilities), while for 11 buildings the predominant source of noise will be motorway traffic;
- additional demolition of individual residential buildings alongside the motorway.

In accordance with item 6 of Article 3 of the Decree on limit values for environment noise indicators, the motorway arrangement areas and parallel road network during construction will be a source of noise for which monitoring is required. During the operation of the motorway, regular monitoring of noise from road traffic will be needed periodically, i.e. every five years. Noise monitoring during construction and operation must be implemented in accordance with the provisions of the Decree on the assessment and management of environmental noise (Official Gazette of the Republic of Slovenia, No. 121/04) and Decree on limit values for environmental noise indicators (Official Gazette of the Republic of

Slovenia, Nos. 105/05, 34/08, 109/09, 61/10) in accordance with the Rules on initial measurements and operational monitoring of noise sources, and on conditions for their implementation (Official Gazette of the Republic of Slovenia, No. 105/08). The subject responsible for the implementation of the monitoring programme during construction is the contractor for construction works, and during operation, the road manager. Monitoring and supervision results must be public.

**From the aspect of protection against noise, the construction of the Draženci–Gruškovje motorway section and the parallel road network is an acceptable activity in the environment if the mitigation measures are taken into account, while its impact on burdening the environment, taking into account the mitigation measures, is assessed as significant (grade 3).**

### 3.3 Surface waters

Based on the given spatial and hydrological conditions, the treated area may be divided into three units, i.e. the Dravsko–Ptujsko polje Plain, the Rogatnica Valley with predominantly level slopes, and the Maceljčica Valley with its steep and hilly slopes. Due to the activity, the impacts on surface water will be as follows:

- impact on the morphological state of watercourses,
- impact on the quality of watercourses in terms of physical-chemical properties.

On the basis of the morphological categorisation of watercourses, the Polskava and the Dravinja rivers have been classified Class 3, as technically-regulated watercourses. The Rogatnica Stream is in several sections categorised as a partially naturally-regulated watercourse, and classified under Classes 1 and 2. Prior to its emptying into the Dravinja River, the Rogatnica Stream is classified as a technically-regulated watercourse. Other watercourses are not categorised (source: Environmental atlas of Slovenia, August 2010).

Regular chemical and microbiological analyses of surface waters are implemented on the Dravinja River at the measuring point at Videm pri Ptuj during national monitoring. On the basis of the requirements of the Decree on the chemical status of surface waters, the chemical state of the Dravinja River in 2005 and 2006 was assessed as poor (MESP SEA, 2007). Considering the biological quality criteria, the river was classified Class 2. In 2005 and 2006, higher concentrations of chemical oxygen requirements, ammonia, nitrate, phenolic substances, pesticides, orthophosphates and detergents were found at the gauging station at Dravinja–Videm.

**The impacts on surface waters are assessed as moderate (grade 2) if the mitigation measures are taken into account.**

### 3.4 Groundwater

On the basis of their hydrogeological structure, the area affected by the activity may be divided into three units, i.e.:

- the well-disbursed Dravsko–Ptujsko polje Plain aquifer,
- the poorly-disbursed aquifer in the valley of the Rogatnica and the Maceljčica streams, and
- the poorly permeable to impermeable sediments in the Maceljčica Valley and the hilly area of Haloze.

Numerous drinking water pumping stations are located along the Dravsko–Ptujsko polje Plain aquifer, where the collected water is protected via water protection areas. The plan runs in the area between Draženci and Tržec (around 3.2 km in length) past the wider water protection area of the Dravsko–Ptujsko polje Plain aquifer. A deviation 0093-1, 1-1 is anticipated from the area of Draženci to Lancova vas, which for a length of approx. 430 m runs along the border of the narrowest water protection area (WPA I) and wider (WPA III) Lancova vas pumping station. Groundwater is protected through the *Decree on determining the drinking water protection area for the Dravsko Ptujsko polje body of water*.

In March 2010, a risk analysis for the pollution of groundwater was carried out for the area of the anticipated activity in the water protection area. The risk analysis established that the entire activity is located outside the affected area of the Lancova vas pumping station. From the hydrogeological aspect, the area of the activity on the Dravsko–Ptujsko polje Plain is extremely vulnerable; therefore, any pollution of the groundwater whatsoever is unacceptable (Zagoda, Janež, 2010).

The anticipated plan also runs through a poorer-disbursed aquifer in the Rogatnica Valley. In this area, the MESP SEA granted a few water permits (MESP SEA, Environmental atlas of Slovenia, August 2010). Four reservoirs in the surroundings of Tržec are located within the wider water protection area (WPA III) of the Dravsko-Ptujsko polje Plain. Five further reservoirs (3 boreholes and 2 springs) are located between Podlehnik and Gruškovje, for which a water permit has been granted and which lie outside water protection areas. Two reservoirs pertain to the facilities planned for demolition. Considering the hydrogeological construction and route of the motorway, a spring which is in direct proximity to the Majski farm in the Rogatnica Valley is threatened.

The mitigation measures during the construction and operation are:

- the measures stated in the risk analysis for the pollution of groundwater must be concurrently observed for activities anticipated in water protection areas (Geologija d.o.o. Idrija, project no.: 2132-019/2010-01).
- A new water source must be ensured if the implementation of the activity destroys a reservoir with a water permit (e.g. disappearance of the spring at the Majski farm).

**The impacts on surface waters are assessed as moderate (grade 1) if the mitigation measures are taken into account.**

### 3.5 Flood safety

In accordance with the provided guidelines, a hydrological–hydraulic study was carried out and the impact of the motorway on the high-water regime assessed (Expert groundwork for the NSP, project number 302, Regulation plan 3/11, no. 7-R (DHD d.o.o., September 2008, supplemented in December 2009 and February 2010)). Taking into consideration the findings of the aforementioned expert groundwork, it can be concluded **that the impact of the construction of the Draženci–IBC Gruškovje motorway section with connections and the parallel regional road in the space from the aspect of its impact on a change to flood safety is minor (1).**

The existing state of the threat of flooding to buildings will not change with the implementation of the activity. Arrangements foreseen within the scope of the activity anticipate solutions for anti-flooding protection of the motorway body and facilities which could potentially be threatened due to the activity's implementation. Nevertheless, measures are planned that will not raise the number of facilities threatened by flooding. The area of the surface (flood surface) is somewhat changed.

### 3.6 Flora and fauna

This chapter discusses the impacts of the construction and operation of the Draženci–IBC Gruškovje motorway section and the parallel regional road on flora and fauna. In its original state, the sensitivity of the treated area at the beginning of the route running on the Dravsko–Ptujsko polje Plain was assessed as medium from the aspect of flora, fauna and habitat types. This area comprises mainly intensive agricultural surfaces without the presence of priority habitat types, and which are not central areas of the habitats of protected species. The remaining section of the route is of considerable importance, as the planning area hosts habitats and species which are protected according to Slovenian and European criteria.

The construction and operation of the Draženci–IBC Gruškovje motorway section and the parallel regional road will have the following impacts on the segment discussed: loss of habitat types and worsening of the state of habitat types; changes to special structures, use and/or natural processes; changes to ecological conditions as a consequence of pollution, illumination and noise; changes to the water regime and natural dynamics of watercourses; habitat fragmentation; obstacles erected in habitat types and an increased mortality rates.

**The impact of the activity on flora and fauna during the construction without the implementation of the mitigation measures was assessed as negative and significant (3), while with the implementation of the mitigation measures, it was assessed as moderate (2). The impact on flora and fauna during operation without the implementation of the mitigation measures will be moderate (2), and with the implementation of the mitigation measures also moderate (2).**

The key mitigation measures are:

- arrangement of a replacement habitat of extensively cultivated lowland meadows,
- preservation of the existing hydrological regime,
- arrangement of passages and protective fences for animals,
- adjustment of the construction time to the life-cycles of animals and plants.

### 3. 7 Ecologically important areas and valuable natural features

In its original state, the sensitivity of the treated area as an ecologically important area with valuable natural features is defined as *great* for the Rogatnica and Tržec – gravel pit which are natural features of national significance, while Haloze is protected within the scope of the national ecological network. The construction and operation of the Draženci-IBC Gruškovje motorway section and parallel regional road will change the characteristics for which the area was naturally preserved.

**The impact of the construction on ecologically important areas and valuable natural features without the implementation of the mitigation measures will be significant (3), while with the implementation of the mitigation measures, it will be moderate (2). The impact of the operation on ecologically important areas and valuable natural features without the implementation of the mitigation measures will be moderate (2), and with the implementation of the mitigation measures also moderate (2).**

The mitigation measures and recommendations are enumerated in the Flora and fauna section, and also apply to ecologically important areas and valuable natural features.

### 3. 8 Protected areas

In its original state, the sensitivity of the treated area from the aspect of the Protected areas section is defined as *very significant*, as the Natura 2000 areas are part of the European network of specially protected areas defined by EU Member States. The construction and operation of the Draženci-IBC Gruškovje motorway section and parallel regional road will change the characteristics for which the area was naturally preserved.

**The impact of the construction and operation on the Protected areas section will be minor (1) with or without the implementation of mitigation measures.**

The mitigation measures and recommendations are enumerated in the Flora and fauna section, and also apply to the Protected areas section.

### 3. 9 Forestry

The motorway route crosses fragmented wooded stands of oak and white beech in the habitat of the *Quercocarpinetum*, which are quite similar in terms of composition, growing stock and development phases. In addition to basic tree stands, other tree species are present here, such as spruce (*Picea abies*), silver fir (*Abies alba*), Scots pine (*Pinus sylvestris*), beech (*Fagus sylvatica*), sessile oak (*Quercus petraea*), sycamore maple (*Acer pseudoplatanus*), aspen (*Populus tremula*) and wild cherry (*Prunus avium*). The stands are in the timber phase. Regeneration in this phase due to the dense canopy closure is not present. The growing stock predominantly comprises hornbeam (*Carpinus betulus*), which has already attained a development potential and hinders the development of oaks, which as a result comprise a lower share of growing stock than the expected and desired amount. The growing stock in stands through which the anticipated route will pass comprises 438 m<sup>3</sup>/ha. Similarly to the growing stock, the annual growth in these stands due to the development phase is above average for the forest management area and comprises 15.1 m<sup>3</sup>/ha. In the past, timber necessary for the development of farms and firewood were obtained from the forests through which the route passes, but no investments in the forests were made. Due to this form of management in the past, the quality of potential wood types is low. Firewood prevails among the potential types.

Due to the activity, a total of 6.75 ha of forest will be lost (cumulative impact). The total area of forests within the Municipality of Ptuj will thus be reduced by 0.9%. As the area through which the route will run is wooded, the loss of these surfaces will not have a significant impact on the forest as a whole. The impact on the wooded surfaces will be minor, with reduced growth in these forests being very small. The impact on the forests will also increase due to the

required arrangement of forest edges. The forest structure will change due to activities in the forest and forest edges. The impacts on the productive function of the forests will not be significant due to the placement of the road body in the space. The estimated annual loss in forest growth amounts to approximately 100 m<sup>3</sup> per year.

The greatest impacts on the forests are from deforestation of the area and earth works for the road arrangement, which will also have an impact on the remaining stands in close proximity, predominantly due to the reformation of the forest edges. In the event of unsuitably implemented measures, negative impacts of erosion may also arise. The impacts will be direct and remote, and also synergic, due to the erection of fences, since a fenced-in impact will arise with wildlife unable to cross the area, thereby causing greater damage to young trees in the immediate surroundings of the newly-constructed road. A greater impact can be expected here, especially on oak regeneration, which is already aggravated, with wildlife representing one of the most important causes of damage, particularly to oaks. From the management aspect, the greatest impact is associated with interrupted transport paths for removing timber.

**The impact with the implementation of mitigation measures was assessed as moderate (2).**

### 3. 10 Agricultural surfaces

The activity area is located in the municipalities of Hajdina, Videm, Podlehnik and Žetale. The activity affects agricultural surfaces of effective and eligible use, and areas with hydro-amelioration. The activity comprises the road body of the motorway, and appertaining connections and arrangements of deviations and regulations. Deviations have been planned for existing regional roads; however, it should be highlighted these have been included in existing spatial acts in areas with superior eligible use of agricultural surfaces. The total surface of eligible use areas shows a loss of superior agricultural surfaces in the Municipality of Videm with an area of 38.5 ha, and in Podlehnik of 92 ha, with a total surface area comprising 132.5 ha of superior agricultural surfaces and 15 ha of other agricultural land. From the aspect of the actual use of soil in the NSP area, this predominantly comprises the loss of fields and gardens (33%), and permanent meadows (29%) The already developed land which will change comprises 17% of the treated area and forest comprises nearly 9% of the surface of the activity. Some agricultural surfaces were also improved through drainage systems. The route of the planned road intervenes in the amelioration drainage systems with a total surface of 20.58 ha.

During construction, the following negative impacts may be expected: impaired access to, and management of, agricultural surfaces in the surroundings of the route; occasional occupancy of individual agricultural surfaces due to the arrangement of the construction site and manipulation surfaces and paths; dust due to construction surface manipulation in dry weather, which reduces the productivity of plants; non-functioning of hydro-amelioration; risks of emissions into the soil due to spillages of fuel, oils and lubricants from construction machines, and certain insulation and construction materials.

The following negative impacts on agriculture may be expected during the operation of the road section: permanent loss of agricultural surfaces and changed land allotment; poorer flows of streams and individual amelioration channels in the event of unsuitable implementation of traverse; traffic emissions causing pollution to roadside surfaces (soil and vegetation) with heavy metals (e.g. cadmium), nitrogen oxides, benzene, dust particles, fuels and oils washed from the carriageway; tire remnants and waste thrown from vehicles; greater attractiveness of the area for settlement, due to which changes in the eligible use of buildable surfaces will arise.

Reversibility in terms of restoring the previous condition and balancing the impacts is more of a theoretical than an actual possibility. Technically, the procedures for rehabilitating and recultivating the developed land are extremely demanding and also costly. If the activity is suspended, it is generally possible to restore the previous condition of the terrain.

**The impact with the implementation of mitigation measures was assessed as moderate (2).**

### 3. 11 Landscape

Considering the given description of the characteristics of the activity and existing state, impacts on the visual image of the area and cultural landscape, agricultural landscape, water and riparian landscape, wooded landscape, relief, landscape with recognised characteristics on the national level and impacts on spatial dominants may be expected.

From the aspect of their nature and types, the following impacts are expected to arise: direct impact, temporary impact, permanent impact and remote impact. Major activities which could have a cumulative impact from the aspect of the landscape are not anticipated in the wider activity area.

During construction, impacts on the landscape and visual quality of the space will arise, predominantly due to visual exposure to the construction site (transport routes, manipulation and other auxiliary construction areas, operation of heavy construction machinery, establishment of construction plants (separation, concrete mixing plants) and due to excavated material depots. The exact organisation of the construction site is not yet known at this phase; therefore, its scope cannot be precisely defined. Greater impacts during the construction period are temporary excavated material disposal facilities, activities in aquatic and riparian landscapes, and activities in the relief of the area and wooded space. The impact on the landscape and visual quality of the area during the construction and restoration of the roadside area is direct and temporary (short-term), and assessed as significant (3). Measures which could mitigate the impact during the construction are stated in the sections Surface waters, Agricultural surfaces and Forestry. Other direct measures to mitigate impacts on the landscape are not anticipated.

Permanent impacts following the construction of the roads: construction of the motorway, parallel road and accompanying facilities will have a permanent impact on the image of the area and the quality and recognisability of the landscape. Following the construction of the roads, part of the agricultural landscape on Dravsko polje Plain, the Dravinja and Rogatnica valleys will be permanently changed due to the loss of agricultural surfaces. The water and riparian landscape will be permanently changed in areas where the roads cross the Poskava and the Dravinja watercourses, in areas of regulation and relocation of the Rogatnica watercourse, a larger portion of the Maceljčica watercourse extending to the Gruškovje border crossing, for which regulation is anticipated for a larger part, retaining walls in three locations, and in the lower stretch and estuaries of the Rogatnica and the Maceljčica, which will be regulated. Following the construction of the roads, part of the wooded landscape of shrubs will be permanently changed, as part of the forest will be deforested by the activity, predominantly in the Maceljčica Valley and in several sections in the Rogatnica Valley. Permanent impacts also arise from the redesign of the relief of the Rogatnica Valley in the area of the Zakl connection, at several locations in the Rogatnica and Maceljčica valleys, where the slopes and road will be protected by retaining walls, and in the area of the tunnel entrances and exits. The construction of the roads will have a permanent impact on the landscape region which has recognised characteristics on the national level. The impacts on the spatial dominants, which through suitable measures will be visible from the roads, will also be permanent.

**The impact on the landscape and visual quality of the environment and the recognition of the landscape will be permanent, direct and, in places, remote. The impact of the construction of the motorway and parallel road with accompanying facilities will be significant (3), but minor to moderate (1-2) if the mitigation measures are considered.**

### 3. 12 Cultural heritage

The impacts of the activity on cultural heritage are direct due to activities in cultural heritage on the motorway section route and parallel road route, or indirect due to the placement of a new element in the visual area of important facilities of architectural cultural heritage. In terms of their duration, they may be permanent (changed use, excavations, ex-situ conservation) or temporary (impacts due to the arrangements of access paths, operation of the construction site).

Due to the siting of the parallel road and arrangement of the Draženci–IBC Gruškovje motorway section, potential impacts on the following cultural heritage units may occur:

- Zakl – Archaeological area (HRN 14509),
- Stanošina – Gojkova archaeological site (HRN 14508),
- Podlehnik – Church of the Mother of God (HRN 3462),
- Podlehnik – Homestead, Podlehnik 14 (HRN 6651),
- Lancova vas – Prehistoric settlement of Srednje polje (HRN 27971),
- Lancova vas – Roman-era settlement (HRN 27972),
- Podlehnik – Archaeological area along the Rogatnica (HRN 620023),
- Podlehnik – Archaeological area under the ancient fort (HRN 620024),
- Stanošina – Archaeological area along Mavčič (HRN 620025),
- Podlehnik – Church of Our Lady of Sorrow (HRN 3463).



Considering the established state, the combined impact on the cultural heritage units is moderate (2), as suitable mitigation measures may prevent negative impacts on an individual cultural heritage unit.

**From the aspect of potential impacts on cultural heritage units, the impact of the activity (construction and operation) was assessed as significant (3). Suitable mitigation measures may prevent negative impacts on individual cultural heritage units. Taking into account the implementation of mitigation measures, the impact was assessed as moderate (2).**

The key mitigation measures are:

- prior to the activities, accurate preliminary archaeological research and protective excavations of the discovered sites need to be implemented in the area of the following units: *Lancova vas – Prehistoric settlement of Srednje polje (HRN 27971)*, *Lancova vas – Roman-era settlement (HRN 27972)*, *Zakl – Archaeological area (HRN 14509) and Stanošina – Gojkova archaeological site (14508)*; *Podlehnik – Archaeological area along the Rogatnica (HRN 620023)*, *Podlehnik – Archaeological area under the ancient fort (HRN 620024)*, *Stanošina – Archaeological area along Mavčič (HRN 620025)*.
- during construction, measures to protect against damage in the vicinity of the area of cultural heritage units of the *Podlehnik Homestead (HRN 6651)* and *Zakl – Church of Our Lady of Sorrow (ID 3463, sacral heritage building)* need priority implementation. Measures to prevent potential physical damage to these units need to be implemented. Prior to the implementation of works in the vicinity of these two units, the competent Institute for the Protection of Cultural Heritage must be notified.

### 3.13 Waste

The inappropriate management of arising waste may cause soil and water pollution, which can affect the state of flora and fauna. Water protection areas are located on parts of the route; therefore, inappropriate waste management may also threaten the quality of drinking water and, consequently, people's health. Special attention should be paid to suitable hazardous waste management, which may especially threaten the environment and people's health.

Mass balance prepared by an architect shows manageable quantities of surplus excavated material. Within the project, realistic possibilities are provided for these quantities to be built into the area of the construction of the motorway and its connections.

During construction, agents which may produce hazardous waste will be used for various types of work and maintenance. There will also be packaging waste. Hazardous waste comprises packaging in which dangerous substances are kept. Construction machinery is used for the construction. Its maintenance and servicing generate waste which may include hazardous waste. Generating waste will affect changes in the environment. Waste disposal will affect the occupancy of the disposal facility and there will be negative impacts on air due to the transport of waste. During construction, the investor will have to respect the guidelines on management of this type of waste.

Waste silt from retaining basins and oil collectors washed from the carriageways will arise during the operation of the new road, which is classified as hazardous waste. During the winter, salt will be spread on the carriageways. Phytopharmaceuticals will be used along the roadsides to control weeds. The remnants of these phytopharmaceuticals and their packaging are hazardous waste. Mixed municipal waste will be present in the treated area. Biological waste suitable for composting will arise during the mowing of slopes, embankments and excavations. Smaller quantities of waste anticipated during construction may arise during road maintenance. During the operation of the road, the activities will have a significant impact on environmental components if the mitigation measures are not taken in consideration. Waste generation and inappropriate waste management will affect changes in the environment. Non-hazardous and hazardous waste will arise in moderate quantities. Waste disposal will affect the occupancy of the disposal facility, and air pollution will occur due to the transport of waste.

**The impact of the road's operation was assessed as moderate (2) in the case of non-compliance with the mitigation measures.**

### 3. 14 Vibrations

Slovenian legislation does not contain regulations which regulate environmental protection and the protection of buildings against vibrations; therefore, potential impacts during the construction and operation of the motorway and parallel road network were assessed on the basis of the relevant international and foreign standards.

Increased environmental burdening through vibrations will occur during the construction of the motorway and parallel road network due to construction works and additional transportation of construction machinery. The vibrations caused by the construction works will be short-term, and to a lesser extent, permanent, with the vibration-affected area assessed at 10 m from the edge of the construction activities and transport routes.

The burdening of all buildings in the immediate surroundings of the planning area will rise during the construction of the motorway and parallel road network for a short period of time. The influence area was assessed at 10 m from the edge of the construction activities. 19 buildings are located within a 10 m belt of the anticipated activities, 15 of which are residential buildings and two recorded as protected cultural heritage units (HRN 6651 and HRN 3463). All the buildings are located directly along the regional and local road network, with none located in the affected motorway and connections area. In accordance with the Environment Protection Act, the construction works contractor must ensure the required greater level of protection (cultural heritage and residential buildings) during the construction for nearby buildings and that the permissible speed of vibrations is not exceeded. The expected rise in vibration burdening will not have permanent consequences nor significantly affect health or property.

During the operation of the Draženci–IBC Gruškovje motorway section and remaining roads included in the NSP, the majority of vibrations will be caused by transit cargo traffic on the motorway, while the parallel road network will be significantly less burdened by cargo traffic. Additional impacts regarding the burdening of exposed buildings and residents with vibrations following the conclusion of the construction are not expected, while remote effects of the motorway construction on the remainder of the road network will be positive from the aspect of vibrations. The burdening of the environment by vibrations in the area directly alongside the motorway will gradually increase due to the anticipated growth in traffic, especially cargo traffic, but will remain within the scope of permissible values.

**The expected impact on the burdening of buildings with vibrations during the construction of the motorway and parallel road network will be significant (3) if the mitigation measures are observed. The expected impact on the burdening of the environment with vibrations during the motorway operation was assessed as moderate (2).**

### 3. 15 Light pollution

By implementing the activity, the siting of new light pollution sources is anticipated. The motorway route is not anticipated to be illuminated. Illumination is only anticipated at critical spots, i.e. junctions (motorway entrances and exits) and the car park of the service station. The following important buildings were selected for illumination:

- all connections,
- junctions,
- the tunnel on motorway 0094-1, 8-1 from km motorway 12+599 to km 12+700,
- pedestrian underpass 0093-1, 3-1 and deviation 0093-1, 1-2,
- overpass 0094-1, 4-3 and deviation 0094-1, 1-2b,
- overpass 0094-1, 4-4, deviation 0094-1, 1-5, deviation 0094-1, 1-1b and deviation 0094-1, 1-1c,
- overpass 0094-1, 4-5 and deviation 0094-1, 1-15,
- Podlehnik East and West Service Station.

The requirement for illumination prescribed by the Decree is that only luminaires whose share of luminous flux radiating upwards is 0% may be used.

During construction, which includes demolitions, earthworks and excavations, light pollution may occur at the location of the activity or construction site if works are carried out when there is no daylight. According to the information from the architect and investor, works in such arrangements do not usually take place at night due to the possible excessive impact of noise on the environment. Light pollution during construction is not expected, except in the case of evening work. Such situations may occur for a short period if works take place in winter.

The impact of activity during the construction due to light pollution was assessed as **minor (1)**.

The project of the intended activity includes the bases and requirement to observe the provisions of *the Decree on limit values due to light pollution of environment (Official Gazette of the Republic of Slovenia, Nos. 81/07, 109/07, 62/10)*, which, according to the architect, will be observed in the project (values stipulated in the Decree regarding light pollution will be observed; flat-glass luminaires are anticipated; at night-time, illumination will be reduced).

**The direct impact of light pollution of the activity was assessed as minor (1).**

## 4 Areas in which the activity will cause environmental burdening which may affect health and property

In accordance with the provision of item 6 of the second paragraph of Article 54 of the *Environment Protection Act (Official consolidated text - ZVO-1-UPB1; Official Gazette of the Republic of Slovenia, Nos. 39/06, 49/06-ZMetD, 66/06 Constitutional Court Decision: U-I-51/06-10, 112/06 Constitutional Court Decision: U-I-40/06- 10, 33/07-ZPNačrt, 57/08-ZFO-1A, 70/08-ZVO-1B, 108/09-ZVO-1C)*, the environmental impact report must define the area where the intended activity will cause environmental burdens which may affect people's health and property.

Article 15 of the Decree on the content of report on the effects of the intended activity into the environment and its method of drawing up (*Official Gazette of the Republic of Slovenia, No. 36/09*) stipulates that areas where an activity causes environmental burdening which may affect health or property must be defined in the report by taking into consideration the expected burdening of the environment as a consequence of the impacts of the activity on the environment, particularly due to:

- emission of substances into the air, including odours,
- emission of substances into water,
- waste generation and management,
- use of dangerous substances and the risks related to their use,
- burdening of the environment with noise or vibrations,
- burdening of the environment with electromagnetic or ionised radiation, or
- light pollution of the environment.

The Decree indicates that the area referred to in the previous paragraph shall be determined within the rules of the profession the subject of which is environmental impact assessment. Bases and methods to determine the area referred to in the first paragraph must be stated and described in the report, so that the verification of their suitability, advantages and disadvantages, and wider applicability is possible.

When defining the areas of influence of the intended activity on health and property, the anticipated impacts on individual parts of the environment caused by the construction and operation of the road in question were considered. Some of the anticipated impacts were able to be precisely spatially defined and, if necessary, need to be mitigated with the implementation of the recommended measures (facilities for cleaning polluted water from the carriageway, noise protection and similar). Certain impacts cannot be defined spatially, either due to subjective assessment (visual characteristics) or due to the practically unlimited impact of the area (impact of emissions of substances from traffic into the atmosphere). These, as well as the majority of indirect impacts which are difficult to anticipate, could not be observed in defining the areas influenced by the road's arrangement.

When determining the boundaries of the area of influence of the intended activity on health and property, the impact assessments shown in this report were used as the basis. Based on these findings, the area of influence may be defined only for the noise segment.

To mitigate the impacts on the change in noise burdening, noise protection with noise barriers (active noise protection) is anticipated. Passive noise protection of dwelling areas in overburdened residential floors is anticipated for residential buildings along the motorway and parallel road network which cannot be adequately protected with active protection or which are located along the local road network. The need to implement passive protection for 38 residential buildings is anticipated; building land of these buildings is classified among those areas where the motorway's operation could have an indirect impact on health.

The scope of the area of influence of the intended activity on the health and property of people corresponds to the activity area and includes the plots enumerated in the chapter 3.1.2 Activity Area.

The area of influence also includes facilities which require the verification of additional passive noise protection. These facilities are specially designated in graphic appendices G.8.1, G.8.2 and G.8.3, and are stated in the table below. Graphic appendices are part of Notebook III.

**Table 1: Buildings with assessment of potential impact on health in the area of the Draženci–Gruškovje motorway from the aspect of noise protection**

No.	Building	Predominant source	Cadastral municipality	Plot number
1	Tržec 45A	Parallel road	Jurovci (446)	*133
2	Tržec 47C	Parallel road	Jurovci (446)	248/11
3	Tržec 52	Parallel road	Jurovci (446)	248/2
4	Jurovci 5	Parallel road	Jurovci (446)	*22
5	Jurovci 5	Motorway	Jurovci (446)	386/2
6	Jurovci 6	Parallel road	Jurovci (446)	*21
7	Podlehnik 15	Motorway	Podlehnik (457)	*23/1
8	Dežno pri Podlehniku 4 /	Motorway	Dežno (456)	418
9	Zakl 38A	Parallel road	Zakl (455)	*68
10	Stanošina 36	Parallel road	Stanošina (494)	*54
11	Stanošina b.š. (with no number)	Parallel road	Stanošina (494)	88/4
12	Zakl 26	Parallel road	Zakl (455)	*67
13	Stanošina 38	Motorway	Stanošina (494)	62/2
14	Stanošina 33	Motorway	Stanošina (494)	127/2
15	Zakl 36	Parallel road	Zakl (455)	86/5
16	Zakl 35	Parallel road	Zakl (455)	94/3
17	Zakl b.š. zraven 35 (with no number, next to 35)	Parallel road	Zakl (455)	95
18	Zakl 30G	Parallel road	Zakl (455)	112/6
19	Zakl 19B	Parallel road	Zakl (455)	175/3
20	Stanošina 16A	Parallel road	Stanošina (494)	317/1
21	Zakl 19	Parallel road	Zakl (455)	*34/1
22	Stanošina 15	Motorway	Stanošina (494)	*71, 381
23	Stanošina 11	Motorway	Stanošina (494)	*61, 522/3
24	Kozminci 23	Motorway	Strajna (496)	*145, 310/1
25	Kozminci 22	Parallel road	Kozminci (495)	3/3
26	Kozminci 21	Parallel road	Kozminci (495)	*59/1
27	Kozminci 20	Parallel road	Kozminci (495)	349/7
28	Kozminci 25A	Parallel road	Kozminci (495)	6/2
29	Stanošina 8B	Parallel road	Stanošina (494)	587/3
30	Stanošina 8C	Parallel road	Stanošina (494)	587/4
31	Kozminci 19	Parallel road	Kozminci (495)	*2
32	Sedlašek 128	Motorway	Sedlašek (493)	990
33	Stanošina 8A	Parallel road	Stanošina (494)	597/1
34	Kozminci 16	Parallel road	Kozminci (495)	25/1, 25/4
35	Kozminci 16A	Parallel road	Kozminci (495)	86/2
36	Kozminci 15A	Parallel road	Kozminci (495)	26/4
37	Sedlašek 127	Motorway	Sedlašek (493)	1127/1
38	Sedlašek 126	Motorway	Sedlašek (493)	1132/6

The area of influence of the anticipated activity is shown in graphic appendices G.8.1, G.8.2 and G.8.3.

The activity in question has no impact on the area of neighbouring Croatia.

## 5 Final assessment

The previous chapters discussed possible impacts which may arise during the implementation of the anticipated activity. In a special chapter, several mitigation measures to reduce the impacts are described. The assessment of impacts of the construction and operation of the treated spatial arrangement on individual environmental segments are presented in the table below.

**Table 2: Impact assessments on individual segments with and without mitigation measures**

Environmental component	Impact during construction		Impact during operation	
	Without mitigation measures	With mitigation measures	Without mitigation measures	With mitigation measures
Air	Impact is very significant (3)	Impact is moderate (2)	Impact is moderate (2)	Impact is moderate (2)
Noise	Impact is very significant (4)	Impact is significant (3)	Impact is very significant (4)	Impact is significant (3)
Surface water	Impact is significant (3)	Impact is moderate (2)	Impact is significant (3)	Impact is moderate (2)
Groundwater	Impact is minor (1)	Impact is minor (1)	Impact is moderate (2)	Impact is minor (1)
Flood safety	Impact is minor (1)	Impact is minor (1)	Impact is minor (1)	Impact is minor (1)
Flora and fauna	Impact is significant (3)	Impact is moderate (2)	Impact is moderate (2)	Impact is moderate (2)
Ecologically important areas and valuable natural features	Impact is significant (3)	Impact is moderate (2)	Impact is moderate (2)	Impact is moderate (2)
Protected natural areas	Impact is minor (1)	Impact is minor (1)	Impact is minor (1)	Impact is minor (1)
Forestry	Impact is moderate (2)	Impact is minor (1)	Impact is moderate (2)	Impact is minor (1)
Agriculture	Impact is significant (3)	Impact is moderate (2)	Impact is significant (3)	Impact is moderate (2)
Landscape	Impact is significant (3)	Minor to moderate impact (1-2)	Impact is significant (3)	Minor to moderate impact (1-2)
Cultural heritage	Impact is significant (3)	Impact is moderate (2)	Impact is significant (3)	Impact is moderate (2)
Waste	Impact is moderate (2)	Minor to moderate impact (1-2)	Impact is moderate (2)	Impact is minor (1)
Vibrations	Impact is significant (3)	Impact is significant (3)	Impact is moderate (2)	Impact is moderate (2)
Light pollution	Impact is minor (1)	Impact is minor (1)	Impact is moderate (2)	Impact is moderate (2)

The mitigation measures are also enumerated in a special chapter. The mitigation measures are decisive in reducing the impacts of the anticipated activity on the environment; if they are not observed, the impacts on the environment may become excessive and therefore unacceptable.

**On the basis of the established state of the assessed impacts on the individual segments, we believe that the proposed arrangement described and assessed in this report is acceptable regarding the impacts of implementing the activity on the environment, and natural and cultural heritage, in conjunction with the implementation of the mitigation measures stated in this report and compliance with legislative requirements.**