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I. THE CLAIMANT

1. NAME

National Motorway Company, joint-stock company

2. ID No.

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3. REGISTERED OFFICE

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II. NAME OF THE MODIFICATION TO THE PROPOSED ACTIVITY

R7 Dunajská Lužná - Holice Expressway

III. INFORMATION ON MODIFICATION TO THE PROPOSED ACTIVITY

1. LOCATION OF THE PROPOSED ACTIVITY

Region: Bratislava, Trnava

District: Senec, Dunajská Streda

Cadastral area: Jánošíková, Šamorín, Kvetoslavov, Bučuháza, Čukárska Paka, Trnávka, Macov, Blatná na Ostrove, Čéfa, Kostolná Gala, Poteho Osada

2. Brief description of technical and technological solutions

2.1 BRIEF DESCRIPTION OF EXPRESSWAY

At present, the traffic in the section of Dunajská Lužná - Holice is run along the existing road I/63 which no longer meets current traffic loads for its condition and technical parameters and degrades the environment and threatens the safety of residents in the surrounding villages by emissions and noise.

The purpose of the planned construction is building a capacity, divided four-lane directional communication, in the optimal route in terms of traffic flow and safety. The transit traffic is excluded from the territory of neighbouring municipalities by construction and operation of expressway and thereby the impact of transport on the population and the environment is improved.

The section of R7 expressway is part of the express route defined by the Government Resolution no. 523 of June 2003 and is part of the basic network of motorways and expressways in the corridor Bratislava - Dunajská Streda - Nové Zámky - Veľký Krtíš - Lučenec. After the construction of the R7 expressway in the section Bratislava - Dunajská Streda this one will be also part of E575, the international European route, in the direction of Bratislava - Dunajská Streda - Medveďov - Vámószabadi - Győr and the main link between the capital city of Bratislava with the southern centres of Trnava and Nitra region.

The relevant construction of the R7 expressway is in line with the development strategy of Slovakia, as well as international agreements and other documentation. The construction is in accordance with the Slovak Spatial Development Perspective (KURS) and the Concept of development of road and motorway network of the SR.

The section of R7 expressway begins between the village of Dunajská Lužná and the town of Šamorín, where construction is linked on the section included within DZP (Documentation for zoning permit) "R7 expressway, Bratislava - Dunajská Lužná" right after the Dunajská Lužná interchange. R7 is run along the left side of the road I/63 (to the north) in its entire length mostly on agricultural lands. From the connection to the previous section the route starts to deviate from the road I/63 to the north so as to bypass Šamorín on the north. At about 0.800 km the route crosses a regional bio-corridor Danube - Little Danube by an overpass, paving the way for its elevated junction below R7. Furthermore, the route gets into the space between the town of Šamorín and the village of Kvetoslavov (closer to Kvetoslavov). At this point it crosses the road II/503, to which it is connected via elevated junction of Šamorín. It continues north around the village of Šamot, to the south around the village of Čukárska Paka. At about 9.000 km, near the site called Tarnoki, an ecoduct over R7 is designed to ensure the migration of game animals through R7. At this point, the route crosses the border of the II. degree protection zone of natural healing waters in Čilistov (the route is in 0.000 to 0.900 km of the PZ). Then the route passes between the village of Trnávka and Macov with sports and recreation centre (shooting range) on the right side of R7, which is not affected by the structure (found only in the protection zone of R7). Finally, the route is run north of the village of Blatná na Ostrove and once again it comes close to the road I/63. The route of this section of R7 ends between the villages of Holice and Čechová in Holice elevated junction with connection to the road III/06324 and the road I/63. The end of the section of R7 is at 17,380 km, where it joins to the line "R7 Holice - Dunajská Streda".

The R7 expressway is proposed in category R 31.5/120 at 0.000 - 0.360 km, a four-lane road with broader middle dividing strip in order to allow the perspective extension to a six-lane road towards the axis of the expressway. In the section of 0.360 km - CA (Cadastral area) it is designed in category R 24.5 C/120 as four-lane expressway. The total length of the section of R7 is **17.380 km**.

2.2 DESCRIPTION OF CHANGES TO THE PROPOSED ACTIVITY

The relevant construction was assessed under Act no. 24/2006 Coll. on the assessment of impacts on the environment and on amendments to certain acts, as amended. Final opinion to the report on the evaluation of the "R7 expressway of Dunajská Lužná - Holice" construction was issued by Ministry of Environment of the SR on 28 June 2010 under the number 4191/ 09-3.4/ml.

In the process of preparing **documentation for territorial decision (DTD)** some changes have occurred, the most important one was to shift the beginning of R7 expressway Dunajská Lužná past the Dunajská Lužná interchange, approx. 280 m in stationing direction, as the whole interchange with an adjacent R7 section was included in the section of R7 Bratislava - Dunajská Lužná. In the section from 0.000 to 2.500 km, the route of the expressway was moved about 41 m southwards in the farthest point, in the section from 2.500 to 4.000 km, the route of the expressway was moved about 13 m northwards at the farthest point.

Other changes concerned the following structures:

- changes in interchanges,
- changes in relocations and reconstruction of roads,
- relocations and reconstruction of roads, proposed within DTD, which were not mentioned in the Evaluation report,
- changes in bridge structures, resulting from changes in position of R7,
- bridge structures, proposed within DTD, which were not mentioned in the Evaluation report,
- changes in the structures of the Expressway Management and Maintenance Centre,
- changes in parking area structures,
- changes in relocations of utilities, resulting from a detailed geodetic survey, comments of network administrators and coordination with other structures of the relevant construction,
- changes in noise control measures.

All changes incurred in the preparation of project documentation as a result of route optimization based on the comments of representatives of the affected communities, authorities and professional organizations, competent to comment on technical solution of the proposed construction. The above changes in the position of the expressway imply changes in the detailed arrangement of other structures. The route of the projected expressway is run in the corridor of an option, which was recommended by the Final opinion of Ministry of Environment of the SR dated on 28 June 2010.

The changes were subject to Notification of the modification to the proposed activity, submitted by Dopravoprojekt, a.s. in June 2013. Following the assessment of the Notification of the modification to the proposed activity the Ministry of Environment of the SR issued a statement No. 6634/2013-3.4/ml on 26.8.2013, according to which the modification to the proposed activity of "R7 expressway, Dunajská Lužná - Holice" does not foresee significant adverse effects on the environment and, therefore, is not subject to mandatory assessment pursuant to § 18 par. 4) of the Act.

Within the documentation for planning permission (DPP) **some minimal changes have occurred compared to the documentation for zoning permit (DZP)** being subject of this notification. Conceptually, DPP is in accordance with DZP. The most significant change is the incorporation of guidelines of Ministry of Transport, Construction and Regional Development of the SR dated on 2 April 2013 - the requirement for physical separation of opposite directions of elevated junctions. This change is related to the technical solution of Šamorín and Holice elevated junctions.

102 Šamorín Interchange

The requirement of the Ministry of Transport and National Motorway Company a.s. for physical separation of opposite directions of interchange branches necessitated a change in width arrangement and insertion of concrete barrier at the point of overlapping branches. This change resulted in an adjustment for

horizontal and vertical conduct of branches V3 and V7. The documentation for zoning permit states the return of branches from the road II/503 to the R7 expressway routed as two sub-lines (disconnection of road II/503 and connection to the branch V1, respectively V5 - branch V3, respectively branch V7, disconnection from branch V1, respectively V5 and connection to R7 - branch V2, respectively V6). For the sake of clarity in the documentation, the branches V2 and V3 were replaced by branch V3, likewise the second return branch was replaced by a branch V7. Also, there have occurred some slight changes to the vertical alignment of branches V4 and V8.

103 Holice Interchange

The requirement of the Ministry of Transport and National Motorway Company a.s. for physical separation of opposite directions necessitated a change in width arrangement and insertion of concrete barrier at the point of overlapping branches. This change resulted in an adjustment for horizontal and vertical conduct of branches 1 to 4. Branches 1 to 4 have been changed in their entire length to one-way single-lane branch. Also, there have occurred some slight changes to the vertical alignment of branch 5.

Changes of other structures compared to DZP

136 Cycle trail at 4.108 km of R7

Rain water is drained into the road ditch, before and behind the bridge. At the end of the road ditch in 0.057 310 and 0.103 132 km of the cycle trail there are some spaces designed for storage of water, the seepage pits.

160 Access road to the lands at 15.255 km of R7 on the left

Within DZP and DSZ the structure was designed only schematically as an access road running along a country road relocation. There were some slight adjustments to ranges made in DPP.

161 Access road to the lands at 15.255 km of R7 on the right

Within DZP and DSZ the structure was designed only schematically as an access road running along a country road relocation. There were some slight adjustments to ranges made in DPP.

162 Access road to the lands at 16.500 km of R7 on the right

Within DZP and DSZ the structure was designed only schematically as an access road running along a country road relocation. There were some slight adjustments to ranges made in DPP.

163 Access road to the lands at 16.600 km of R7 on the left

Within DZP and DSZ the structure was designed only schematically as an access road running along a country road relocation. There were some slight adjustments to ranges made in DPP.

164 Access road to the lands at 16.790 km of R7 on the left

Within DZP and DSZ the structure was designed only schematically as an access road running along a country road relocation. There were some slight adjustments to ranges made in DPP.

165 Access road to the lands at 17.007 km of R7 on the left

Within DZP and DSZ the structure was designed only schematically as an access road running along a country road relocation. There were some slight adjustments to ranges made in DPP.

184 Bypass in building a roundabout at I/63 at 16.7 km of R7

DPP was added with targeting the ground at the site of the proposed interim communication. This affected the precise horizontal and vertical fit of the proposed communication.

203 Bridge on R7 over the cycle trail at 4.108 km of R7

R7 expressway is provided with noise barriers on the bridge, so there has been an increase in width of the support structure from 33.0 m to 35.2 m.

204 Bridge over R7 on the road relocation II/503 at 4.684 km of R7 at Šamorín interchange

There was a change of deposit of the support structure. A change of the type of the support structure was made to DPP compared to DZP. The original slab construction of 1.40 m high was changed to the 4-beam construction of 1.30 m high.

206 Bridge over R7 on the road relocation III/06311 at 7.499 km of R7:

All of bridge supports are shifted by about 233 mm in stationing direction of the road III/06311 (SO 121). In addition, there was a change of deposit of the support structure on top of supports, the unilateral extension of the body of road embankments III/06311 bounded with reinforced retaining walls in the area of both supports. The unilateral shift of wall edges parallel to the axis of the transferred communication by about 400 mm away from the axis was obtained by observing the allowable slope of embankment bodies. This change does not affect compliance with the borders of permanent occupation.

208 Bridge over R7 on the road relocation III/06313 at 10.908 km of R7

Changing the type of retaining wall foundation at the support 1 and 3 from the surface to pile one. Retaining wall will be set up by the width of 3.0 m and height of 1.5 m. Piles of 900 mm in diameter arranged under foundations in raster of 2.0x2.0m.

211 Bridge over R7 on the country road relocation at 15.235 km of R7

The way of bridge foundation was changed to the surface with subsoil adjusted under the foundations by vibration compaction.

212 Bridge over R7 on the road relocation III/06324 at 16.776 km at Holice interchange

The way of bridge foundation was changed to the surface with subsoil adjusted under the foundations by vibration compaction.

401-01 Hard surfaces

There were no such changes in DPP that would require a change in technical arrangement of parking areas. The outer edge was added with a space for weighing vehicles.

401-04 Outdoor lighting of parking areas

The number and spacing of poles and lamps was changed, the type of lamps changed to LED lighting.

401-05 Rainwater drainage

Sewerage of parking areas was changed through gutters.

401-11 Fire water supply

Based on the opinion of NDS on DZP to minimize pipeline route under the roadway and parking, a route of fire water supply was designed concurrently with other networks in the green area between R7 and parking area.

401-12 Phone connection

The connections are designed by optical line instead of metallic line in DZP.

402-01 Hard surfaces

There were no such changes in DPP that would require a change in technical arrangement of parking areas. The outer edge was added with a space for weighing vehicles.

402-04 Outdoor lighting of parking areas

The number and spacing of poles and lamps was changed, the type of lamps changed to LED lighting.

402-05 Rainwater drainage

Sewerage of parking areas was changed through gutters.

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Based on the opinion of NDS on DZP to minimize pipeline route under the roadway and parking, a route of fire water supply was designed concurrently with other networks in the green area between R7 and parking area.

402-12 Phone connection

The connections are designed by optical line instead of metallic line in DZP.

450-10 Roads and hard surfaces

Due to technical solution SO 103-00, there was a decrease in the number of parking places by two places.

450-31 Operating building

Minor changes compared to DZP arose by a detailed analysis of attachments at the DPP level. The biggest change is in the design of the roof over the 3rd floor from the original arc beam to the newly designed shed roof.

450-32 Garages for OV

Minor changes compared to DZP arose by a detailed analysis of attachments at the DPP level. The biggest change is in the design of the roof from the original arc beam to the newly designed shed roof.

450-36 Garages I

450-37 Garages II

Compared to DZP the EPS devices have been removed, since the fire protection project in this facility did not require them. However, a preparation is suggested for sufficient equipment of the building with EPS devices.

450-40 Salt storage

Minor changes compared to DZP arose by a detailed analysis of attachments at the DPP level. The biggest change is in the design of the roof from the original wooden arc beam to the newly designed saddle wooden truss.

450-41 Maintenance of vehicles and mechanisms

Minor changes compared to DZP arose by a detailed analysis of attachments at the DPP level. The biggest change is in the design of the roof from the original wooden arc beam to the newly designed saddle wooden truss.

450-43 Inert gritting material storage

Minor changes compared to DZP arose by a detailed analysis of attachments at the DPP level. The biggest change is in the design of the roof from the original wooden arc beam to the newly designed saddle wooden truss.

450-64 HV Connection 22 kV

The first support point is mounted in a distance of 10m from the HV of the distribution line.

603 HV Connection 22 kV for IRSC at 3,500 km of R7

The first support point is mounted in a distance of 10m from the HV of the distribution line.

607 HV Connection 22 kV for IRSC at 7,444 km of R7

The first support point is mounted in a distance of 10m from the HV of the distribution line.

626 Public lighting of roundabouts K1 and K2

Changing the cable type to CYKY-J 4x10, the type of lighting to LED 100W and the number and height of columns.

627 Public lighting of roundabout on the road I/63

Changing the cable type to CYKY-J 4x10.

630 Relocation of overhead lines LV at 10.800 km of R7

Change of AlFe 4x25 bare wires to NFA2X 4x25 overhead lines without increasing the cost of SO.

701 Relocation of high-pressure gas pipeline DN 300 and DN 150 at the Šamorín interchange

In principle, the documentation for planning permission respects the processed and approved DZP of the structure. This structure does not include the double protector protection. For crossing high-pressure gas pipeline and temporary road (during the construction of a bridge and slip roads) it was agreed on the protective structure. The gas pipeline will be mounted directly without protectors.

702 HP Gas pipeline protection et 9.192 km of R7

703 HP Gas pipeline protection (relocation) at 13.176 km of R7

In dealing with these structures, there is no maintenance-free protection solution, but a "classical" protector inserted.

2.3 BRIEF DESCRIPTION OF THE MEASURES RELEVANT IN TERMS OF ENVIRONMENTAL PROTECTION

Documentation for planning permission deals with technical and organizational measures designed to mitigate as much as possible or eliminate negative impacts of construction and operation of the expressway on the individual components of the environment, through accessible and technically feasible methods.

Most of the technical measures are standard procedures arising from the needs of the harmonization of the activity with applicable laws and include the following procedures:

- to protect the population against noise and vibrations,
- to reduce dust,
- to protect protected areas, facilities and protection zones,
- to ensure the integration of a building into the landscape through landscaping,
- to protect surface and groundwater from pollution.

2.3.1 Measures to eliminate the adverse effects of noise

During construction

During construction of the expressway it will be impossible to protect the population from the annoying traffic noise of construction machinery or the activities that accompany construction procedures, especially in the immediate vicinity of material transport trails. By means of good organization of work on site or exclusion of works at night one can only eliminate the impact of noise to an acceptable level tolerated during the period of construction work.

The basic framework of permissible values of environmental noise, which must not be exceeded by construction activity is defined in the Decree of the Ministry of Healthcare No. 549/2007 Coll., establishing

details on the permissible values of noise, infra sound and vibrations and on the requirements for the objectification of noise, infra sound and vibrations in the environment, as amended.

Under the annex to the Decree of the Ministry of Healthcare No. 549/2007 Coll. and Article 7 the following is stated:

On weekdays from 7 am to 9 pm and on Saturday from 8 am to 1 pm, the assessed value is determined when assessing noise from outdoor construction activities by adding the correction $K = (-10)$ dB to an equivalent level of A sound in indicated periods of time. These periods shall not apply corrections according to Table 2 of the Decree (corrections to the specific noise - especially disturbing noise, tonal noise, current impulsive noise, highly impulsive noise and high energy impulsive noise).

Based on the above facts it can be concluded as follows:

- noisy construction works can be carried out on weekdays from 7 am to 9 pm,
- over the weekend, noisy construction works can be carried out only on Saturday from 8 am to 1 pm,
- construction works can be performed out of these hours, but works that exceed the limit values of environmental noise can be carried out only at the time specified in the preceding paragraphs. Outside this time the construction works might be related to the noise limits in the Table 2 for noise from other sources.

According to Government Regulation No. 26/20060 Coll. the following permissible sound power levels in dB are provided for the individual devices used at the construction.

Table 1 Devices with the maximum permissible noise emission values

Type of device	Net installed power P (kW)	Permissible sound power level in dB/1 pW since 3 January 2006
Compaction equipment	$8 < P \leq 70$	106
	$P > 70$	$86 + 11 \lg P$
Crawler dozers, crawler loaders	$P \leq 55$	103
	$P > 55$	$84 + 11 \lg P$
Wheel dozers, wheel loaders, dumpers, graders, paver-finishers	$P \leq 55$	101
	$P > 55$	$82 + 11 \lg P$
Compressors	$P \leq 15$	97
	$P > 15$	$95 + 2 \lg P$

It is seen in the table that the noise in the vicinity of the earthmoving machines reaches a relatively high level. The noise from these machines is temporary and significantly variable, intermittent and depends on the type of activity carried out and the currently implemented technologies (dredging, gritting, compaction, loading, etc.). Also the interaction of individual sources of noise during simultaneous operation of several machines and equipment is common.

The built area along the access roads leading to the site will also be attacked by the noise from construction works.

During operation

In order to minimize the adverse effect of noise on population during operation there will be noise reducing measures applied in the form of noise barriers. The overview is presented in Table 2.

All noise barriers are designed in category B2 of airborne sound insulation and also sound absorption A2 in case of absorbing walls. Absorbing walls were suggested with a medium sound absorption coefficient $\alpha = 0.6$. At the beginning of section after 0.750 km it is recommended to implement concrete crash barrier of 1.1 m high. There is an equestrian centre near the route, which is assessed on the daily limit in the area category. III.

Table 2 Proposed reducing measures on R7 in the section Dunajská Lužná - Holice

protected area	stationing in km	length / height in m	location	barrier surface	note
Šamorín	2.855 – 0.180*	1675/2.5	on the right	p	* ends on the branch 5
Kvetoslavov	3.185 – 4.565	1380/3.0	on the left	p	
New zone Kvetoslavov – Šámot	0.070* – 6.000	1460/4**	on the right	p	* begins on the branch 6 **noise barrier height from 5.550 km is 3 m
Čukárska Paka	7.555 – 9.210	1655/2.5	on the left	p/o	
Trnávka	9.655 – 11.250	1595 ¹ /3.0	on the right	p/o	
Macov	11.000 – 13.100	2100/3.0*	on the left	p/o	*noise barrier height in 11.670 – 12.270 km is 4.5 m
Blatná na Ostrove	12.150 – 13.880	1730/2.5*	on the right	p/o	*noise barrier height in 12.700-13.600 is 3.5m
Čechová	15.270 – 16.630	1360/3.0	on the left	p/o	
Holice	16.085 – 0.110*	815/3.0	on the right	p/o	* ends on the branch 3
Holice	0.000 – 0.1335*	135 ² /2.5	on the right	p/o	*stationing of branch 4

p - absorbing material, o - reflecting material, p/o - absorbing or reflecting

¹ - Absorbing wall is prolonged in these places also due to required protection in local sports and recreation centre (shooting range).

² - Absorbing wall is not necessarily to be built, it is sufficient to create a land reserve for the absorbing wall with its continuation until the end of the section.

All noise barriers are designed in category B2 of airborne sound insulation and also sound absorption A2 in case of absorbing walls. Absorbing walls were suggested with a medium sound absorption coefficient $\alpha = 0.6$. At the beginning of section after 0.750 km it is recommended to implement concrete crash barrier of 1.1 m high. There is an equestrian centre near the route, which is assessed on the daily limit in the area category. III. Compared to the draft of noise reducing measures at DZP level, there was an increase in the length of noise barriers by 30 m. The changes occurred at the Holice interchange on the branch 3 by 20 m and on the branch 4 by 10 m.

2.3.2 Measures to protect the population from adverse effects of air pollution

During construction the air pollution is mainly expected due to increased dust and high content of the exhaust gases from freight directly on site and routes transporting soil and materials. In a later stage of the project documentation a construction procedure and organization is developed for the selected variant, which will include the principles of environmental protection during construction.

Basic measures to mitigate the adverse effects of dust and elevated levels of emissions from traffic in the municipality are:

- to organize the construction works so that these are performed only on weekdays and consistently observe public holidays,
- the contractor shall provide consistent maintenance of access roads, construction sites, building yards and dumps particularly by careful dust removal - sweeping, for drought by spraying and removal of mud from surfaces.

Increased amount of air pollutants from construction transport during construction can not be eliminated. By the aforementioned organizational measures and certain limits a state can be achieved accepted by residents for a limited period of time.

2.3.3 Measures to protect surface and ground water

Technical measures are designed to eliminate, resp. mitigate the negative effects of construction and operation of the designed construction on the environment by complementing technical solution of the structure and individual structures.

The route of R7 expressway is situated in important water management protected area Rye Island, so it will be necessary to pay more attention to the protection of groundwater. The route of the expressway extends into a II. degree protected zone of natural healing waters in Čilistov.

During construction

It is important to use and prefer water-friendly technological processes and to carry out earthworks to avoid disruption of water regime.

The equipment on construction site can be a source of groundwater pollution. Its negative impact can be significantly reduced if they comply with the generally applicable legislation, safety, technical and organizational measures in their construction and in the actual mode of operation.

It is essentially the following approaches:

- ensure preventive measures to protect waters - hard surfaces, watertight tanks and tubs, a sufficient amount of absorbent materials and tools to deal with possible leaks of pollutants,
- not to establish construction yards near the water resource protection zones,
- waste water from social and sanitation facilities needs to be accumulated in watertight cesspools and exported to an appropriate waste water treatment plant,
- not to establish special yards in areas where the permeable rock environment is based directly on the surface,
- perform engineering and geological survey of the review of hydrogeological conditions.

To avoid any adverse impacts on groundwater and surface water for the period of construction and operation of the facilities of the expressway it will be necessary to draw up an emergency plan in accordance with the Decree of the Ministry of Environment No. 100/2005 Coll. laying down details on the handling with hazardous substances, the particulars of the emergency plan and how to resolve the

exceptional water deterioration. The draft emergency plan will be discussed with the manager of the flows in the area of interest (Slovak Water Management Enterprise) and submitted to the Slovak Inspection of Environment for approval.

It is generally important to keep safety regulations when handling petroleum products during construction and periodically check the technical condition of construction machinery.

Security measures during construction will be an obligation of future construction contractor.

During operation

To ensure the protection of water the following technical measures are suggested within DPP:

The section of R7 expressway will be canalized. Rainwater from the road surface will be collected by longitudinal gutters on the edge of the hard shoulder and through the drains discharged into sewers. Sewer network is divided into twenty-two complexes, designated as sewer "A" to "Z" with gravity drain.

Individual sewer will be drained into the lowest points of the expressway, where the water is cleaned in oil separators, thus avoiding pollution of surface and groundwater. When the purification to the desired level is done (up to 0.1 mg/l NEL) the waste water is drained by sewerage into acquisition devices located along the road R7, resp. sewer "J" and "K" into open retention tanks (with infiltration) located at the "Šamorín" interchange branch of R7 expressway. Overall, 38 oil separators are designed.

The oil separators will be designed for the required amount of rainwater. Considering the route level, the water will be drained by means of infiltration channels. Due to the high groundwater vulnerability of gravel-sand sediments and location in Rye Island protected area it is necessary to provide checks of oil separators functions.

Protection of Rye Island protected area and sanitary protection zone of II. degree of natural healing resources in Čilistov will be ensured by drainage of R7 expressway through the road drainage (object 501) via oil separators with rainwater outlet through soaks into the permeable gravel layers of subsoil. Rainwater drained through road drainage must be pre-treated in oil separators (ORL) with the purification degree of 0.1 mg/l NEL at the outlet that will be placed in the (off) road embankment. Oil separators are fitted at the inlet with settling tank to capture solids. Another part of oil separators are tanks to capture hydrocarbons while the tanks are equipped with sorption filters.

SSÚR Holice - waste water from the parking will be pre-treated in oil catchers. Sewage will be cleaned by a separate waste water treatment plants, resp. will outlet to the municipal sewerage of Holice. Water from WWTP is collected in the clean water tank and used for watering in summer and collected in the seeping drainage in winter. Due to the location in Rye Island protected area it is advised to drain the sewage to the municipal sewerage of Holice.

Particularly in winter it is necessary to ensure the maintenance of the road by an inert material to avoid excessive increases in the concentration of chlorides and total mineralization of water drained off the road surface.

The monitoring is proposed in order to verify the effectiveness of measures to protect groundwater and surface water. Waste water monitoring from oil separators will be provided by the future administrator.

2.3.4 Measures to protect biota

In the final statement regarding the assessment report dated on 28 June 2010 the Ministry of Environment introduced measures to be fulfilled presented by the following overview:

- *the felling of trees and non-forest tree and shrub vegetation to be carried out only in the non-breeding season*

In the next stage of project documentation the nature protection authority in its agreement with the felling of trees determines the conditions of the felling and other conditions - substitute planting or financial compensation in the amount of calculated social value of woods. The requirement for a period of felling shall be respected by construction contractor.

➤ *keep a free space under the bridge to allow passage of animals*

There are sufficient conditions for the free movement of animals under each bridge structure. There are places built for passage of animals recommended by experts of nature and interest organizations - hunting associations to ensure migration of animals. In addition to these objects other elevated crossings will be built for smaller deer and other animals.

Other elevated crossings for smaller deer and animals through R7 expressway will be possible through designed culverts:

- at 1.725 km, Frame culvert of prefabricates IZM 65/19 (light size / h: 2.0/1.0 m),
- at 2.835 km, Frame culvert of prefabricates IZM 65/19 (light size / h: 2.0/1.0 m),
- at 3.567 km, Frame culvert of prefabricates IZM 65/19 (light size / h: 2.0/1.0 m),
- at 5.237 km, Frame culvert of prefabricates IZM 65/19 (light size / h: 2.0/1.0 m),
- at 6.185 km, Frame culvert of prefabricates IZM 65/19 (light size / h: 2.0/1.0 m),
- at 6.750 km, Frame culvert of prefabricates IZM 65/19 (light size / h: 2.0/1.0 m),
- at 7.865 km, Frame culvert of prefabricates IZM 65/19 (light size / h: 2.0/1.0 m),
- at 13.379 km, Frame culvert of prefabricates IZM 65/19 (light size / h: 2.0/1.0 m).

➤ *install fencing along the road in sections of the expressway crossings through the forest stretches to prevent access by animals on the road, thereby avoiding unnecessary collisions with animals*

Despite the fact that the route of expressway does not pass through the sections with continuous forests, the route will be fenced in its entire length (object 301)

➤ *place construction yards, technology parks and other pertinent civil structures in areas with low species diversity*

Construction yards, deposited soil and other objects are typically located near large civil structures such as bridges, interchanges, parking areas, EMMC and road relocations to be reasonable in terms of distances to dispatching site. The task of the future contractor is to optimize the location of the designed construction yards.

➤ *restrict the movement of building mechanisms only to the construction, handling belts and access roads within the construction program outside the valuable areas and minimize it in the space of biocorridors*

This condition shall be ensured by the future contractor

➤ *perform substitute reclamation and greening of sites disturbed by construction after completion of construction works*

A part of DPP was to develop facilities addressing the reverse reclamation of temporary occupations, rehabilitating abandoned sections of 2nd- and 3rd-class roads and landscaping that addresses this issue.

➤ *develop bio-revitalization project of the area in sections of road routing through or near valuable habitats in order to ensure their protection by defining necessary occupation and protection by fencing against damage by mechanisms*

A reclamation object of temporary occupation surfaces is part of project documentation. During construction, it is necessary to protect the surrounding greenery under the regulations.

- *carry out an inventory and social evaluation of species in the next stage of the project documentation, which needs to be disposed of and to make a substitute landscaping in areas designated by the competent authorities of nature protection in the determined amount of social value*

A part of DPP is also part I.2 Inventory and social assessment of trees growing outside the forest, which describes occupation of trees and the calculated social value of species.

- *implement landscaping of road slopes - cuttings or embankments and inner-interchange spaces*

Within the landscaping it is counted with the planting of trees on the slopes of the expressway and in inner-interchange areas. Guidance greenery in biocorridor is also designed - underpass for deer underneath the bridge structure.

2.3.5 Measures to preserve the landscape, integrating technical work into the landscape

Measures to improve the aesthetic effect of the horizontal and vertical construction management and integrating technical work into the landscape will include landscaping on expressway slopes. At the same time, these modifications will contribute to the strengthening of non-forest tree and shrub vegetation in the agricultural landscape. Selection of species composition of trees and shrubs must be focused on the original typical species of observed area. In terms of aesthetic perception of construction by inhabitants it is necessary to design appropriate architectural solution of individual structures.

The next step, which will assist in integrating new element in the landscape, is the reclamation of the damaged area, which will create favourable conditions for subsequent restoration, i.e. restoration of biotic component, both by physical as well as functional perspective.

Ministry of the Environment of the SR established the following measures in the final statement :

- *In the next step of structure preparation, complete the measures designed to prevent, eliminate, minimize and compensate the environmental impacts that would specify conditions under which they could preserve function of elements of ÚSES RBK XVI. Danube - Little Danube and other migration routes of animals in the affected area, the proposed measures to be discussed with NNP SR Protected Area Administration of Dunajské Luhý.*

The function of XVI Danube - Little Danube bio-corridor of regional importance is ensured by constructing a bridge on the expressway through which the link will be provided on both sides of R7 expressway. A guidance greenery is also designed on both sides of R7 expressway. Another structure allowing the animal migration is ecoduct at 9.00 km. There are other passages designed for smaller animals. Structures location has been consulted with the experts on nature during negotiations held on 20 August 2012.

- *Specify wood composition of expressway landscaping so that it is the most similar to potential vegetation of the area.*

Wood species composition that should be used in landscaping is designed to use identical or similar species to those currently occurring in the area. It is proposed to use undemanding native species.

- *Bridge structures designed in a way to act as migration corridors.*

Bridge structures are designed to ensure the migration of animals.

- *Map all woods intended for felling and habitats that will be affected by the construction and add compensatory measures accordingly.*

Within the DPP there were field surveys conducted - habitat inventory and inventory of trees growing outside the forest. Survey results are contained in separate annexes.

2.3.6 Compensatory measures

Compensatory measures in the social economic sphere

During the construction of the expressway a close cooperation of investor, contractor and affected municipalities is expected in order to minimize the adverse impacts of construction on the population of the area.

Compensatory measures for agricultural land occupation

Compensatory measures related to soils result from the relevant legislative provisions, namely from the Act No. 220/2004 Coll. on the protection and use of agricultural land and amending Act No. 245/2003 Coll. on integrated prevention and control of environmental pollution and on amendment of certain laws.

Compensatory measures for forest land occupation

Compensatory measures related to forests result from the relevant legislative provisions, namely from the Act No. 326/2005 Coll. on forests. Despite the measures in the sites disturbed by construction where the expressway passes through forests, some more significant damage to the affected area may occur (i.e. wind storm). In such cases, some entitlements to compensation for loss of timber production may arise.

2.3.7 Other measures

Measures to preserve humus

Before the construction is launched in the area of permanent occupation an overburden of agricultural land humus must be carried out under the methodological guidance of the Ministry of Agriculture No. 2341/2006-910 and ensure its efficient and economical use. This means to collect, transport and distribute the soil on other agricultural lands of equivalent quality, fertilization of less fertile agricultural lands and its use for the production of compost or garden soil. If the overburden of agricultural land humus (HHPP) is deposited for some time, the investor shall provide protection against degradation and subsequent spreading out on specific lands according to the HHPP overburden balance. It is anticipated that the HHPP overburden will be used for further construction works, such as humus added in the expressway slopes. It is necessary to handle the cultural humus layer carefully so as to prevent the erosion and degradation.

Measures to preserve archaeological sites

In case of archaeological findings it will be necessary to perform a rescue research and observe the related provisions under the Act No. 49/2002 on the protection of monuments. In accordance with the provision of Section 30, par. 4 and Section 41, par. 4 of Monuments Act, before the start of land-use proceedings, it is necessary to request the Regional Monuments Board for an opinion, or a decision on the arrangements for the construction implementation, which will determine conditions for construction implementation and conducting archaeological research in areas designated in the situation of the structure. A part of the archaeological excavations will be carried out in the form of rescue researches in advance and another part by monitoring of excavation works during construction work.

2.4 Construction procedure

Mitigation of impacts on the environment and the population can be achieved by good organization of the construction process and optimization of timetable. The procedure of construction works recommended in DPP is as follows:

- stakeout network establishment, set out the main points of the route and property boundaries, site preparation, felling of trees and shrubs,
- establishment of a construction yard, and if necessary, a temporary access road to SD1

- humus removal from the topsoil,
- archaeological research,
- relocations of utilities,
- replacement of unsuitable subsoil, earthworks, works on individual road structures, bridges,
- construction of bridge foundations and supports, then the supporting structure and eventually bridge accessories,
- sewer construction, oil separators, noise barriers,
- ISRC, traffic signs portals,
- other finishing works, landscaping, horizontal and vertical road signs throughout the structure,
- disposal of temporary soil dumps, humus, construction yards and any temporary access roads,
- reverse reclamation of temporary land occupations.

2.5 Input requirements

The decisive construction requirement in terms of inputs is the land use. Total land use in the route change of R7 Dunajská Lužná - Holice as indicated in DPP presented in the following table.

Table 3 Land use

Cadaster	Agricultural land use			Forest land use		
	Permanent land use (ha)	Temporary land use (ha)	Use up to 1 year (ha)	Permanent land use (ha)	Temporary land use (ha)	Use up to 1 year (ha)
Blatná na Ostrove	13.9564	1.1828	1.7937	0.3631	0.1049	0.0673
Bučuháza	9.4041	0.7736	0.7962	0.0570	0.0299	0.0034
Čéfa	4.0905	0.0333	0.0971	0	0	0
Čukárska Paka	7.0956	0.9037	0.2054	0	0	0
Jánoššíkova	4.7185	0	0.0709	0	0	0
Kostolná Gala	18.7796	3.4157	2.3789	0	0	0
Kvetoslavov	20.6825	4.1193	1.84	0	0	0
Macov	3.7559	0.7397	0.1263	0	0	0
Poteho osada	1.6068	0	0.3746	0	0	0
Šamorín	3.6026	0.0191	0.3616	0.0426	0	0
Trnávka	11.3889	2.7972	0.1078	0	0	0
Total for the entire structure	99.0814	13.9844	8.1557	0.4627	0.1348	0.0707

Table 4 Comparison of the modification to the proposed activity in terms of land use

R7 expressway	permanent agricultural land use in ha	permanent forest land use in ha
original draft	68.462	0.438
proposed modification	99.0814	0.4627

The difference in the agricultural land use is related to geodetic intent of the structure and detailed elaboration of the designed structure at DPP level.

Other requirements include water drainage during construction works, energetic resources and raw material. The modification to the proposed activity has no impact on the change of requirements for the inputs.

2.6 INPUT DATA

2.6.1 Air

After putting into operation the route R7 will be a line source of air pollution, while car traffic is in accordance with the Act No. 137/2010 Coll. on air classified as a mobile source.

In relation to the processing of documentation for planning permission a dispersion study was prepared (Dopravoprojekt, a.s. Bratislava 12/2013), which assessed annual concentrations of NO₂ and PM₁₀ for the specific technical solutions of R7 at selected points along the R7 expressway in the projection period of 10 years after the launch of the expressway in 2028.

Limit values for the external environment pollution on human health protection for the substances are specified in Decree of the Ministry of Agriculture, Environment and Regional Development No. 360/2010 Coll. on air quality; these are listed in the following table.

Table 5 Limit values for the human health protection pursuant to Decree No. 360/2010 Coll.

<i>Pollutant</i>	<i>Averaged period</i>	<i>Limit value</i>	<i>Margin of tolerance</i>
NO ₂	1 hour	200 µg/m ³ not to be exceeded more than 18 times a calendar year	no
	calendar year	40 µg/m ³	no
PM ₁₀	1 day	50 µg/m ³ not to be exceeded more than 35 times a calendar year	50 %
	calendar year	40 µg/m ³	20 %

In terms of model calculations there is no direct intervention of the population by increased amount of pollutants exceeding the limit annual values of NO₂ and PM₁₀ on health protection from traffic impacts on R7 in the reference section Dunajská Lužná - Holice during 10 years after putting into operation. Maximum concentration values of NO₂ are moving close to the road body from 0.5 µg.m⁻³ to 2.5 µg.m⁻³, i.e. it is well below the concentration limits. Maximum concentration values of PM₁₀ are moving close to the road body from 1.5 µg.m⁻³ to 2.2 µg.m⁻³, i.e. it is also well below the concentration limits.

It should be noted that the dispersion study was modelled for adverse weather conditions. Thus, the achieved levels of NO₂ concentration were simulated for conditions that are not present every day. Finally, it can be concluded that based on the expected pollution load in the projection period of 10 years after the construction of the R7 expressway is put into operation, there will be no exceeded maximum of permissible concentrations of harmful substances for the calendar year.

2.3.2 Waste water

During the construction of the route R7 it is necessary to consider multiple sources of waste water, e.g.:

- waste water from construction yards, including sanitation,
- waste water from parking areas of construction machinery.

During operation of R7 waste water and water from surface run-off will arise from:

- rainwater flush from the road surface and hard surface of Blatná na Ostrove parking area,

- waste (sewage) water from the parking area operation.

The way of ensuring water protection against negative impacts of construction and operation is given in Chapter III.2.3.3.

2.3.3 Waste

During the construction and operation of the route R7 Dunajská Lužná - Holice various types and quantities of waste will be formed. Waste types and categories classified under the Decree of the Ministry of Environment No. 284/2001 Coll. establishing the Waste Catalogue, as amended, are presented as follows:

Table 6 Types of waste resulting from the construction of the expressway

Cat. No.	Name of the waste type	Category
15 01 10	Packaging containing residues of hazardous substances or contaminated by dangerous substances	N
17 01 01	Concrete	O
17 02 01	Wood	O
17 02 03	Plastic	O
17 02 04	Glass, plastic and wood containing DS or contaminated by DS	N
17 03 02	Bituminous mixtures other than those mentioned in 170301	O
17 04 05	Iron and steel	O
17 04 07	Mixed metals	O
17 04 11	Cables other than those mentioned in 170410	O
17 05 04	Soil and stones other than those mentioned in 170503	O
17 05 06	Dredging spoils other than those mentioned in 170505	O
17 06 03	Insulation materials consisting of dangerous substances or containing dangerous substances	N
17 06 04	Insulation materials other than those mentioned in 170601 and 170601	O
17 06 05	Construction materials containing asbestos	N
20 02 01	Biodegradable waste	O

Table 7 Types of waste resulting from the operation of the expressway

Cat. No.	Name of the waste type	Category
13 05 06	Oil from oil/water separators	N
13 05 01	Solids from grit chambers and oil separators	N
13 02 06	Synthetic engine, gear and lubricating oils	N
15 01 10	Packaging containing residues of hazardous substances or contaminated by dangerous substances	N
15 02 02	Absorbents, filter materials including oil filters not otherwise specified, wiping cloths, protective clothing contaminated by dangerous substances	N
16 01 04	Old vehicles	N
16 02 13	Discarded equipment containing dangerous components other than those mentioned in 160209 to 160212	N
17 02 01	Wood	O
17 02 02	Glass	O

Cat. No.	Name of the waste type	Category
17 02 03	Plastic	O
17 03 02	Bituminous mixtures other than those mentioned in 170301	O
17 04 05	Iron and steel	O
17 05 03	Soil and stones containing dangerous substances	N
17 05 04	Soil and stones other than those mentioned in 170503	O
20 02 01	Biodegradable waste	O

An increased noise levels can be expected during the construction, especially in areas using heavy construction machinery as well as in places of their passage in close proximity to residential buildings. There are more places in the considered territory, given the need to transport raw materials and materials for the construction of the expressway. In that event the noise and vibrations are temporary for the duration of construction of R7.

2.3.4 Noise

During construction

An increased noise levels can be expected during the construction, especially in areas using heavy construction machinery as well as in places of their passage in close proximity to residential buildings. There are more places in the considered territory, given the need to transport raw materials and materials for the construction of the expressway. In that event the noise and vibrations are temporary for the duration of construction of R7.

Measures for noise protection are set out in Chapitre III.2.3.1.

During operation

Prognosis for acoustic conditions related to the operation of R7 was prepared on the basis of the updated noise study, which was part of the documentation for planning permission (Dopravoprojekt, a.s. Bratislava 12/2013).

By updating a noise study of documentation for zoning permit it has been verified timeliness of measures designed for the new projection year 2028 (10 years after the structure is put into operation).

The annex shows the noise maps calculated for the affected area. Noise contours were counted for the height of 4.0 m. The permissible noise levels will be exceeded in the road section of R7 Dunajská Lužná - Holice in the existing urban area as well as development areas and relatively large noise control measures are therefore proposed.

These are listed as a noise barrier. The impact of reflection and shielding from buildings and other terrain obstacles was considered in the used model calculation within the technical design. Concerning the health security of inhabitants from affected municipalities, the residential buildings in the distance of over 100 m from the road centre line were considered in category II. of the area which brings greater demands on the extent of noise reducing measures.

Minor changes in the scope of noise barriers compared to DZP were performed for another technical design of "Holice" interchange. It will be necessary to build 13.905 m long absorptive noise barriers in the section of R7 at height from 2.5 to 4.5 m in order to protect the inhabitants of the affected villages from noise levels exceeding the permissible limit values set out in annex to the Decree No. 549/2007 Coll.. The proposed noise barriers are intended to adequately protect the population and contribute to the observance of limit values within the law.

Summary of the proposed noise barriers is given in Chapter III.2.3.1.

2.3.5 Vibrations

Development of significant vibrations during operation is not expected, they will be short-term during construction in earthworks. Effects on the health of the population living in the area may be excluded in relation to vibrations.

2.3.6 Significant landscaping

Landscaping related to the interventions of construction of R7 to a substantially homogeneous flat area is not any significant. Landscaping is related to the construction of embankments by which a major part of the route is conducted. Differences between the original technical solution and the proposed changes are negligible.

3. LINKS WITH OTHER PLANNED AND IMPLEMENTED ACTIVITIES IN THE AFFECTED AREA AND POTENTIAL RISKS OF ACCIDENTS

At present the National Motorway Company, Inc. is preparing the following constructions in the vicinity of the proposed structure:

"R7 expressway Bratislava - Dunajská Lužná"

"R7 expressway Holice – Dunajská Streda"

According to available data, as provided by the municipalities, currently no other structures are being prepared in the territory of the construction. Coordination with the intentions of other builders should be ensured by zoning plans of the affected municipalities, and within the zoning and planing permission process.

Cumulative and synergistic effects in combination with other planned and implemented activities in the affected area are not anticipated.

Risks associated with the implementation and operation of the proposed activity change may result from:

- failure of technical and other measures,
- failure of human factor,
- external factors effects (natural forces, weather, etc.).

The formation and effect of risks could adversely affect:

- geological environment, surface and groundwater quality,
- air quality in view of the increase or excess of air pollution limits,
- health and fortune of road users in case of accident,
- health and fortune of residents in the wider area in the event of accident of vehicles carrying dangerous substances.

The causes of such conditions may include:

- leakage of harmful substances from construction machinery, machinery and equipment, heavy goods and passenger vehicles during construction and operation,
- traffic collapse due to extreme weather,
- other emergency situations.

The above potential accidents that might threaten the quality of the individual components of the environment in that area are not significant and do not pose larger risks. Their limitations, resp. minimization will be ensured by technical and organizational measures, control of the observance of laws and regulations, etc. .. Risks of human origin are taken into account in particular solution of the management, control and monitoring.

4. TYPE OF REQUIRED PERMIT FOR THE PROPOSED ACTIVITY ACCORDING TO SPECIAL REGULATIONS

The relevant structure has a valid planning permission granted pursuant to Act No. 50/1976 Coll. on Territorial Planning and Building Code (Construction Act).

5. STATEMENT ON THE EXPECTED TRANSBOUNDARY IMPACTS OF THE PROPOSED ACTIVITY

Transboundary environmental impacts of the proposed activity change are not expected.

6. BASIC INFORMATION ABOUT THE CURRENT STATE OF THE ENVIRONMENT, INCLUDING HUMAN HEALTH

Information about the current state of the environment were analysed in detail in the following documentation:

- R7 expressway Dunajská Lužná - Holice, evaluation report, Dopravoprojekt, a.s. Bratislava 2009
- R7 expressway Dunajská Lužná - Holice, documentation for zoning permit, Dopravoprojekt, a.s. Bratislava 2012
- R7 expressway Dunajská Lužná - Holice, notification on the modification to the proposed activity , Dopravoprojekt, a.s. Bratislava 06/2013
- R7 expressway Dunajská Lužná - Holice, documentation for planning permission, Dopravoprojekt, a.s. Bratislava 12/2013.

There is a brief overview below.

6.1 CHARACTERISTICS OF THE NATURAL ENVIRONMENT

6.1.1 Geomorphologic conditions

In terms of geomorphological subdivision (Mazúr, Lukniš 1984) the territory belongs to the Little Danube Basin sub-province, the western edge of the Danubian Lowland, the Danubian Plain as a whole. The terrain is flat with a slight slope towards the south-east and from geomorphological perspective it is a young structural plane which is forming even today. Ongoing subsidence and accumulation processes of the Danube were the main geomorphological factors acting in its formation. The height difference is about 3 m and is set by the general slope of the surface to the south-east, the relative height differences are not greater than 0.5 to 1.5 m.

6.1.2 Geologic conditions

In terms of regional geological division of the Western Carpathians the interest area makes part of a single geotectonic and structural unit - Danubian Lowland. Danubian Lowland forms a pan filled with sediments of Neogene. The sub-base of Neogene forms crystalline composition of the Small Carpathians, which was exposed to severe denudation during the Mesozoic and early Tertiary era and its surface was significantly aligned. Neogene era, however, is a significant change in the geological development of the Danube Plain. Sedimentation in its periphery starts with the sea transgression in upper Tortonian. The dominant member of upper Tortonian sediments are grey fine sandy marl clays, based on sand, gravel and granite fragments. In this period a tectonic secession of the Small Carpathians mountain occurs associated with the formation of margin subsidence ruptures that bound the Danube Basin on the north-west.

Neogene filling is formed by molasse-like deposits, mostly continental-marine (Miocene) and lake-river (Pliocene) deposits, reaching a thickness of up to several thousand meters. The territory represents predominantly marly clays and clay shales, sand clays, silts and siltstones, with positions of gravel and sands, often paved to sandstones. Soils are grey and brown with shades in green, blue and rusty, of solid to rigid consistency. Reinforced positions are rare. The presence of calcareous concretions is common. Sands are bound to disintegrating sandstone and siltstone.

Quaternary sediments are dominated by fluvial sediments of the Danube, top layer is formed by polygenic (fluvial and fluvial-eolian) sediments, sporadic occurrence of anthropogenic sediments (mainly transport roads embankments, or local landfills stored at the former gravel pits). Fluvial sediments achieve significant powers - a few tens to hundreds of meters. The whole complex of fluvial sediments can be divided into:

- stream bed facio - variation in layers of sandy gravel, gravel and sand with gravel,
- offshore shoal facio - sandy sediments are represented by fine to mid-granular and silt sands,
- aggradation bank facio - silt sands settled in torrential conditions,
- alluvial sediments facio - low and medium plastic clays and silts, often sandy,
- dead branches facio - sandy and fine-grained soil, often with an admixture of organic matter.

Road sub-base in the relevant section of the expressway is formed by quaternary soils. The surface is covered with alluvial floodplain sediments represented by silts, sandy silts, clays, sandy clays and silty sands; sediments vary in irregular horizontal and vertical turns and are mutually wedging also with loessal silts and clays. The thickness of these sediments is about 1-4 m. An incoherent complex of fluvial sands and relatively powerful complex of fluvial gravels is found underneath. Local occurrence of dead river branches, often filled with soils with organic additions.

Seismicity

According to STN EN 1998-1/NA/Z2 - Design of structures for earthquake resistance the area is located in an area of seismic hazard with the reference value of peak seismic acceleration $a_{gR} = 0.4 \text{ ms}^{-2}$.

Mineral deposits

The area of interest is formed by layers of sand-gravel, some of them are already exploited (Nové Košariská), currently being mined in Rovinka and Podunajské Biskupice, or are ready to be exploited (Ketelec). Not extracted gravel deposits are used mostly for recreational purposes (Nové Košariská Lake, partially Rovinka Lake).

There are some local gravel deposits which had been used for the local mining without adequate legislation and are currently unused, or are flooded and used for recreational purposes or fish farming. Many of them are buried (illegal dumps) mostly with shambles or industrial and municipal waste (e.g. by the road I/63 behind the village of D. Lužná) and reclaimed.

According to mineral resources, the gravel deposits in the Danube inundation were balanced at the stage of searching survey, which are currently a part of the water reservoir Hrušov after construction of Gabčíkovo dam. It is a quality gravel deposits, which have not been exploited so far, or only in small quantities for the purposes of construction of Gabčíkovo dam.

To cover needs of missing usable soil in road embankments or replacing unusable soil from the excavation, it can be used sand-gravel, which are mined in nearby deposits of Podunajské Biskupice, Kalinkovo, Nové Košariská or Rovinka.

6.1.3 Soil conditions

Agricultural soil

Along the whole route of the R7 expressway in the section Dunajská Lužná - Holice there is a predominance of muck soil, represented by alternating subtypes of typical muck soil and mollisols. In addition to the muck soil there are locally also fluvisols and mollisols. Their substrate is sandy loam to sandy alluvial sediments of the Danube. It is a quality deep soil with deep to very deep quality predominantly sandy loam humus, usually without a skeleton in its profile.

In terms of soil types classification the majority of soils along the route belongs to the category of mid-heavy sandy loam (less loamy) soils. Heavy - loamy clay and light - loam sandy soil only occur locally. Almost all soils on the route are deep and without a skeleton.

Most of the route runs through the lands included in BPEJ among the highest quality specially protected lands of first four quality groups according to Annex no. 3 of the Act 220/2004 "on Soil Protection".

Table 8 BPEJ Overview and characteristics

BPEJ code	Quality group	Soil type, sub-type	Brief characteristics
0002002	2	FMm ^c	Typical fluvisols carbonate, moderate
0017002	1	ČMč ^c	Muck soils mollisolic, mainly carbonate, moderate - loam, deep, on a plane, without skeleton
0017005	1	ČMč ^c	Muck soils mollisolic, mainly carbonate, moderate - sandy loam, deep, on a plane, without skeleton
0018003	2	ČMč ^c	Muck soils mollisolic, mainly carbonate, heavy - clay loam, deep, on a plane, without skeleton
0019002	1	ČAm ^c	Typical mollisols, mainly carbonate, moderate - loam, deep, on a plane, without skeleton
0020003	2	ČAm ^c	Typical mollisols, mainly carbonate, heavy - clay loam, deep, on a plane, without skeleton
0032062	6	ČM	Muck soil (type) shallow, on alluvial deposits, moderate - loam, on a plane, moderate to severe gravel
0032065	6	ČM	Muck soil (type) shallow, on alluvial deposits, moderate - sandy loam, on a plane, moderate to severe gravel
0035001	6	ČMm ^c	Typical muck soil, carbonate on carbonate alluvial deposits, light - sandy loam to sandy, drying, deep, on a plane, without skeleton
0036002	2	ČMm ^c	Typical muck soil, carbonate on carbonate alluvial deposits, moderate - loam, deep, on a plane, without skeleton
0036032	3	ČMm ^c	Typical muck soil, carbonate on carbonate alluvial deposits, moderate - loam, mid-deep, on a plane, light gravel

Forest soil

There are not coherent forests in the immediate vicinity of the construction of the expressway. Tree and shrub vegetation recorded on forest land are located in areas of 2,000, 5,200, 12,100, 13,350 km. It is mostly protected forests mostly windbreaks in agricultural landscape, the economic forest only in the section of 13,350 km. These growths are registered in the forest fund and belong to Šamorín forest unit.

6.1.4 Weather conditions

From the climate point of view, the monitored territory can be included in warm climatic region with the number of summer days with maximum air temperature of 25°C or more in the year over 50, with sub-area slightly damp, with warm, moderately humid zone, mild winter, the temperature in January above -3°C in southern and south-eastern parts of the territory to sub-area slightly dry, warm, slightly dry zone, mild winter, with temperature in January above -3°C.

From the climate and geographical point of view, the monitored territory is characterized by lowland warm climate and soft inversion of temperature, dry to moderate dry. The sum of temperatures is 10°C and more gains values of 3,000 to 3,200, average temperature in January reaches -1 to -4°C, the average temperature in July reaches 20.5 to 19.5°C, the annual amplitude of the monthly average air temperatures is 22 to 24°C, and annual rainfall amount to 530 to 650 mm. The coldest month (on average) in this region is January, with average monthly temperature of -1.8 °C, and the warmest one is July with the average temperature of 20.2°C, thus an annual amplitude of monthly temperatures is 22.0°C. The depth of freezing in the frost index Im 350 is 94 cm.

6.1.5 Hydrological conditions

Surface water

Rye Island is bordered by the Danube and the Little Danube. The Danube creates a wide system of river branches in the section from Vlčie hrdlo until Gabčíkovo, below is less meanders and river branches. Natural character of the river is altered with barrages and offsetting parts of the flow.

There are no watercourses directly in the affected area.

Water areas in the relevant and adjacent territory are the result of human activity as a result of sand and gravel mining. Water areas of greater surface and depth scope were formed after the extraction of raw materials - sand and gravel for the construction of the Gabčíkovo dam, e.g. Nové Košariská to the north-west from the area of interest. In the vicinity of the proposed R7 expressway only smaller lakes are found.

Groundwater

In terms of hydrogeological regionalization of Slovakia the territory belongs to the region of Q 052 - Quaternary SW part of the Danube plain. This region is the most important in terms of water management throughout the Slovak Republic and it is a tectonic depression filled mainly with Danube gravel.

Groundwater in the territory is bound to two different geological and structural units with different hydrodynamic conditions of watered horizons. Neogene sediments of the Danube plain form as a whole an impermeable bedrock by gravel fluvial sediments that create the most favourable environment for the accumulation of ground water. Groundwater in Neogene sediments is tied to sandy positions and at the margin of the Danube plain to permeable sand-clastic Neogene-based rocks in the form of artesian horizons. Filtration coefficient of watered horizons varies between $1 \cdot 10^{-4}$ - $5 \cdot 10^{-5}$ m/s. Perhaps the slopes of the Small Carpathians make an infiltration area of Neogene waters.

Groundwater in quaternary sediments is accumulated mainly in fluvial deposits of gravel. Other sediments do not form suitable conditions for the accumulation of groundwater because of small power, low permeability and limited extension. The most favourable of fluvial sediments for accumulation of ground water is the Danube sand and gravel deposits with suitable conditions of water infiltration by rainfall water and bank storage of surface water flows. Groundwater mode, that can be characterized from hydraulic point of view as uneven unsteady flow, is affected by the surface topography of Neogene sub-base and variable power and permeability of gravel sediments. The inconsistency causes also different filtration coefficient values which is between $7 \cdot 10^{-3}$ - $8 \cdot 10^{-4}$ m/s.

Mineral and thermal water and its protection zones

A protection zone of II. degree of natural healing waters in Čilistov is situated in the affected area. In the section from the beginning to 9.080 km. Water is exploited through geothermal well FGČ-1 in the depth of 2,500 m, located in Čilistov in cadastral area of Šamorín. According to Palmer-Gazda water classification it is a fundamental significant type of water Na-HCO₃, being the natural healing water, highly mineralized, bicarbonate-chloride, sodium, with increased content of fluoride, slightly alkaline, hot, hypotonic. The thermal water from the well FGČ-1 is formed in the Neogene watered sediments of pontus, exploited at a

depth of about 1,200-1,550 m at temperature of 62°C, while the temperature at the well-head is 54°C. Sustained yield of the source is 15 l/s.

Protected areas in terms of water management

According to annex no. 1 of the Decree of the Ministry of Agriculture of the SR No. 525/2002 Coll., establishing a list of important water courses in terms of water management, the Danube and the Little Danube are enlisted as important water flows. The river Danube with its system of branches is a dominating factor in the formation of reserves and groundwater quality. Danube gravel sediments are important groundwater storage and represent the largest accumulation of groundwater in Central Europe. The main groundwater source is infiltrated waters of the river Danube, with the largest sources of drinking water are located in the off-shore river zone. From the above, this territory is protected by legislation and belongs to the important water management area of Rye Island protected area.

Protection zones of water sources

There are no protection zones of water sources in the relevant territory.

6.1.6 Flora and fauna, habitats, migration

According to the phytogeographical division of Slovakia (Futák 1984) the flora of the assessed territory belongs to *Pannonicum*, Pannonian xerothermic flora circuit (*Eupannonicum*), the district of Danube Plain. According to the vegetation map of restored natural vegetation (Michalko et al. 1984), there were mainly hygrophilous to mesohygrophilous forest communities in the broader area of the assessed territory in areas with regular or occasional flooding, and significantly modified by permanent subsoil irrigation with surface water represented by floodplain forests of willow and poplar trees, of phytocenological affiliation to *Salicion albae* Soo 1930. This vegetation is represented by phytocoenoses of standard willow-poplar forests, shrub willows and all their developmental stages. The trees are represented almost by all kinds of soft floodplain species in particular: crack willow (*Salix fragilis*), white willow (*Salix alba*), white poplar (*Populus alba*), black poplar (*Populus nigra*), grey poplar (*Populus canescens*), bushy floor is poor in species and a stage of its development depends on the mode of surface flooding. Other trees European white elm (*Ulmus laevis*), bloody twig dogwood (*Swida sanguinea*), elderberry (*Sambucus nigra*).

The current nature of real vegetation is the result of floro-genetic processes integrated from phytogeographical position of the territory and physical-geographic, biotic conditions and significant long-term and extensive anthropogenic interference. The evaluated area currently includes roadside trees, windbreaks, remnants of floodplain forests in terrain depressions (groves in agricultural area) and alternative plant communities.

Fauna

Based on the division of the territory of Slovakia into livestock regions (Čepelák, 1980) the territory is situated in Pannonia, Southern Slovak circuit, Danube district, floodplain sub-district.

Due to the nature of the area that is mostly intensively used for agricultural purposes, we can find here in particular habitats of the cultural landscape (fields, gardens, vineyards, scattered greenery, etc.), water habitats such as lower river flows with remnants of the branch system, a man-made channels network, but also wetlands, preserved near some watercourses.

The important role of water fauna. Communities of lowland rivers with slowly flowing water, muddy bottom and rich streamside overgrown cover (flies, stoneflies, beetles and dipterous insects larvae, crustaceans, worms and molluscs) are characteristic.

Habitats

The project documentation for planning permission of R7 Dunajská Lužná - Holice includes a documentation of surveys - Habitats inventory (Ing. Ján Longa, 12/2013).

Habitats inventory is used for the development of habitats social value of European and national importance, as there is a temporary or permanent occupation of the land where these habitats are located.

At 0.75 to 0.83 km in the ecological corridor route the structure interferes to marginal parts of the habitat of the European interest **91 FO oak - elm - ash alluvial forests** (hardwood floodplain forest). The habitat occurs at relatively higher drier stations of flood plains with rarer and shorter surface flooding. The habitat is located in a terrain depression with dendrological composition: sycamore (*Acer pseudoplatanus*), small-leaved lime (*Tilia cordata*), walnut (*Juglans regia*), ash (*Fraxinus excelsior*). The shrub storey consists of single-seeded hawthorn (*Crataegus monogyna*) common lilac (*Syringa vulgaris*) and elderberry (*Sambucus nigra*). More than 90% representation in the vegetation belongs to the sycamore that is a typical representative of hard liquor on the Danube carbonates. The habitat is now significantly modified by anthropogenic activities and significantly altered in grasslands.

At 8.9 to 9.0 km in the ecological corridor route the structure interferes to the habitat of the European interest **91 FO oak - elm - ash alluvial forests** (hardwood floodplain forest). The habitat is located in a terrain depression and significantly negatively disturbed by illegal landfills. Dendrological composition of habitat: white elm (*Ulmus laevis*), plum (*Prunus sp.*), black locust (*Robinia pseudoacacia*). The shrub storey consists of crack willow (*Salix fragilis*), European spindle (*Euonymus europaeus*) and elderberry (*Sambucus nigra*). The habitat is now significantly modified by anthropogenic activities and significantly altered in grasslands.

To intervene in habitat of European importance it is required to acquire the consent of the national protection authority.

There were other habitats identified on the route of the expressway, but which are not among the habitats of European or national importance:

- X3 habitat - nitrophilous vegetation outside settlements
- X4 habitat - thermophilic ruderal vegetation outside settlements
- X5 habitat - eels and extensively cultivated fields
- X7 habitat - intensively cultivated fields,
- X8 habitat - vegetation of invasive neophytes
- X9 habitat - vegetation of non-native species
- KR7 habitat - blackthorn and hazel shrubs dominated by the dog rose (*Rosa canina*), also single-seed hawthorn (*Crataegus monogyna*), bloody dogwood (*Swida sanguinea*), occasionally blackthorn (*Prunus spinosa*), European euonymus (*Euonymus europaeus*).

6.1.7 Natural and landscape protected areas

The proposed route of the R7 expressway Dunajská Lužná - Holice is located in an area where, according to Act No. 543/2002 Coll. on nature and landscape protection, the 1st (lowest) level of protection is applicable. There is only one small protected area in the wider vicinity of the planned construction - the Rohovce park protected area (PA) which was declared in 1982 on 128,100 m² in the cadastral area of the village of Rohovce. PA is represented by a historic park in the village extending around the originally renaissance manor. The nearest large protected area is represented by Protected landscape area (PLA) of Dunube floodplains, established by the Decree of Ministry of Environment No. 81/1998 Coll. on Protected Landscape Area of Danube floodplains. PLA is situated on the Danube basin in geomorphological unit of Danube Plain, next to Slovak and Slovak-Hungarian section of the Danube from Bratislava to Veľkolélsky island in the district of Komárno. It consists of five separate parts.

There is no interference in the system of specially protected areas NATURA 2000 in the corridor of the planned construction. The closest area of European importance to the territory is SKUEV0090 Danube floodplains - a territory that covers an area of 4,297.89 ha within the cadastral area of Dobrohošť, Gabčíkovo, Baka, Bodíky, Mliečno, Sap, Rohovce, Kyselica, Vojka nad Dunajom and 2nd, 3rd, 4th and 5th level of protection is applicable here.

The protected bird areas are nearby SKCHVÚ007 Danube floodplains, which occupy an area of 18,845 hectares and districts of Bratislava I, II, IV, V, Senec, Dunajská Streda, Komárno and Nové Zámky. The territory is represented by the main flow of the Danube River and the left bank of alluvial forests. SKCHVÚ012 Lehnice is located in the district of Dunajská Streda on an area of 2,660 ha, while a substantial part of the territory consists of intensively used agricultural landscape.

Protected trees

The proposed activity does not affect any protected trees.

Protected areas in the vicinity of the proposed route of R7 expressway in the section Dunajská Lužná - Holice are processed in graphic annex 2.

6.1.8 Territorial System of Ecological Stability (TSES)

In accordance with § 2 of Act No. 543/2002 Coll. on nature and landscape protection, the territorial system of ecological stability means a complex structure of interconnected ecosystems, their components and elements, ensuring the diversity of conditions and forms of life in the landscape. The system is based on bio-centres, bio-corridors and interactive elements of supra-regional, regional or local importance.

According to surveys carried out so far on the route of the proposed R7 expressway there is only hydro-terrestrial bio-corridor of regional importance (RBk) of Danube - Little Danube.

6.2 LANDSCAPE, SCENERY, PROTECTION

The proposed expressway passes through flat countryside characterized by a high degree of anthropogenic action. The vast majority of lands is used for agricultural purposes (fields, vineyards, orchards, gardens), including roads with accompanying greenery, which together with moderate segments of floodplain forests and groves create a diversifying factor of the monotonous lowland landscape. The Danubian Plain is a type of multifunctional landscape with developed industrial and intensive agricultural production.

The current structure of the landscape is the result of a long-term historical development and reflects the use of natural landscape by a man. The result of this anthropic action is the creation of semi-natural and artificial elements, which together with natural elements complete the overall mosaic of contemporary landscape structure. An areal extent and physiognomy of these elements depends on their function in the landscape. The current landscape structure of the monitored area puts highlight on the following elements:

- arable land,
- permanent grasslands,
- non-forest tree and shrubby greenery,
- liner greenery,
- forest vegetation,
- rivers and surfaces,
- agricultural elements,
- industrial components,
- infrastructure and pipelines,
- water management elements,
- settlements,

- transportation elements,
- recreation and leisure, sports and cultural-historical objects.

The landscape scenery is represented by its image. The monitored area is assessed on the basis of its visual characteristics of human perception. Typical assessed parameters are diversity, structure, naturalness and uniqueness of the landscape. Positive supporting elements of the landscape scenery in the affected area can be considered in the first place all types of forests, groves, windbreaks and accompanying road greenery, lakes and rivers, wetlands vegetation etc.. Negative elements of the landscape scenery are urban and rural settlements formed by a continuous built-up areas, industrial and agricultural areas, technical features and other negative phenomena and elements that affect negatively the overall landscape scenery. The monitored area is predominantly intensively farmed agricultural landscape with its flat relief and the lack of attractive landscape and aesthetic elements. The typical image of the landscape is formed by large-block fields and permanent crops, bounded by panoramas of rural settlements with high-rise churches, or technical and urban linear and high-rise landmarks. Attractive and natural and semi-natural landscape elements typical for lowland landscape are represented by the flow of the Danube and its riverside zones. The overall landscape scenery is softened by the linear accompanying vegetation of roads, field roads, canals and groves in agricultural landscape.

6.3 POPULATION AND ITS ACTIVITIES, INFRASTRUCTURE, CULTURAL AND HISTORICAL VALUES OF THE AREA

6.3.1 Population and settlement

The proposed R7 expressway Dunajská Lužná - Holice is located in Bratislava and Trnava regions, in the district of Senec and Dunajská Streda. The route passes through 9 cadastral areas. Summary of population data is provided in the following table.

Table 9 Basic demographic data

Settlement	Population density inhab./km ²	Population in 2012	The share of pre-productive age population	The share of productive age population	The share of post-productive age population
Šamorín	291	12,922	1,967	8,115	2,840
Dunajská Lužná	185	4,904	973	2,986	945
Kvetoslavov	120	976	151	588	237
Báč	143	560	70	305	185
Rohovce	74	1,190	187	758	245
Trnávka	57	458	59	291	108
Macov	96	261	41	158	62
Blatná na Ostrove	81	870	110	577	183
Holice	83	1,917	273	1,192	452

6.3.2 Archaeological sites

In preparation of documentation for planning permission an archaeological survey has been processed (PhDr. Kristián Elschek, CSc.), which identified eight archaeological sites right along the corridor of the route R7.

Site 1, cad. area of Dunajská Lužná (Jánošíková)

Site type: settlement (settlement objects from Prehistory to the Middle Ages discovered by aerial photography)

Date: Prehistory to the Middle Ages (mostly early Iron Age)

Findings: archaeological objects and pottery findings

Site 2, cad. area of Kvetoslavov

Site type: settlement, Roman Period, 14th-16th century and other objects from Prehistory to the Middle Ages discovered by aerial photography

Date: Prehistory to the Early Middle Ages, intensive settlement especially from the Roman period (1st-4th century) and late Middle Ages (14th-16th century)

Findings: pottery

Site 3, cad. area of Šamorín

Site type: settlements from the Bronze Age, Latene and the Middle Ages, other objects from Prehistory to Modern times discovered by aerial photography

Date: Prehistory to Modern times

Findings: archaeological objects and pottery findings

Site 4, cad. area of Velká Paka (Čukárska Paka)

Site type: settlement (settlement objects from Prehistory to the Middle Ages discovered by aerial photography)

Date: Prehistory to the Middle Ages, medieval settlement according to archival sources

Findings: archaeological objects and pottery findings

Site 5, cad. area of Trnávka (Macov)

Site type: settlement (settlement objects from Prehistory to the Middle Ages discovered by aerial photography)

Date: Prehistory to Middle Ages

Findings: archaeological objects and pottery findings

Site 6, cad. area of Blatná na Ostrove

Site type: extensive mound necropolis from the Early Iron Age (numerous burial mounds discovered by aerial photography, several mounds located in the corridor of the road)

Date: Late Iron Age (Kalenderberg culture)

Findings: mounds in mound necropolis and pottery

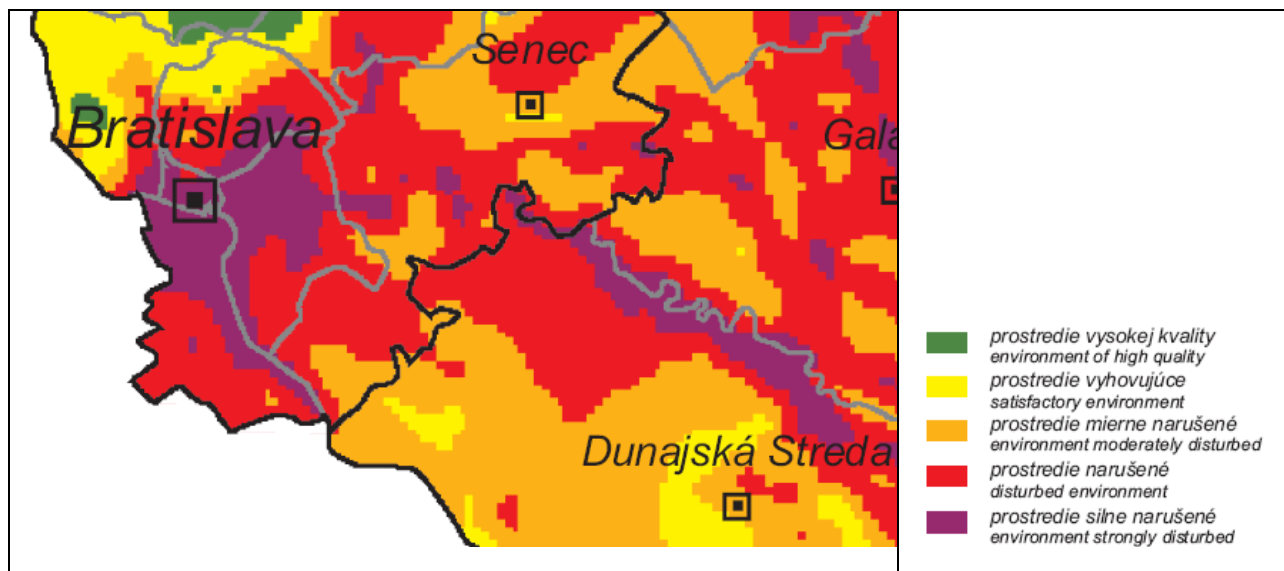
the archaeological sites are processed in graphic annex 2.

6.4 THE CURRENT CONDITION OF THE ENVIRONMENT

The overall quality of the environment in the monitored area may be expressed by the analysis of the state of the load on environmental elements and the influence of individual risk factors in the regions of the Slovak Republic elaborated by SEA in 2010 and issued as a publication entitled "Environmental Regionalisation of the SR".

One of synthetic materials is the regionalization of the SR and the degree of environmental quality. According to the methodology used the environment is predominantly characterized as deteriorated environment. The deteriorating environment in this area is caused primarily by air pollution, surface water pollution and poor environmental quality of the territory.

Fig.1 Environmental Quality Regions (SEA, 2010)



IV. IMPACTS ON THE ENVIRONMENT AND HUMAN HEALTH INCLUDING CUMULATIVE EFFECTS

The following impact assessment is carried out primarily in the context of changes in construction and technical solutions that have been carried out since the initial assessment in 2010 and 2013. The route of R7 expressway was modified only in details with horizontal and vertical conduct preserved. Slight changes in horizontal conduct were the subject of a notification on the modification to the proposed activity in 2013 (Dopravoprojekt, a.s. Bratislava).

The assessment incorporates new findings from surveys that were carried out in connection with the processing of DPP (mineral exploration, pedological survey, inventory and social assessment of trees growing outside the forest, inventory and social assessment of habitats of European and national importance, archaeological survey, updated noise and dispersion study).

1. IMPACTS ON THE POPULATION

During construction

The construction period will be accompanied by temporary negative effects on well-being and quality of life in the municipalities concerned, relating to construction activities and restricted traffic. The impacts of road construction on the population are reflected in increased noise due to the passages of trucks and construction machinery, creating emissions (mainly dust). The impact can be mitigated by appropriate organization of construction activities, exclusion of construction traffic from the settlements and compensatory measures. The positive impacts of the construction may include the creation of new jobs.

During operation

Traffic routes have these adverse impacts on the population :

- air pollution
- noise
- barrier impact
- risk of car accidents.

Due to the minimal changes in the construction and technical solution of R7 and maintaining the horizontal conduct of the route the scope and intensity of impacts are identical.

Health Risk Assessment

In terms of health risk, given the nature of the activity in relation to the population, it is relevant to consider in particular the impact of noise and air pollution. For the assessment of changes, maintaining the horizontal conduct of R7, the impact of noise and emissions is the same as in the original solution. A change occurred only in reducing measures in Holice interchange, that were induced by changing the shape of interchange branches.

2. IMPACTS ON ROCK ENVIRONMENT AND RELIEF

Based on the foregoing assessment of current condition it is evident that due to flat, very gently undulating relief with mild depressions and low aggradation banks and sand dunes no significant impacts on the rock environment are expected, including cumulative ones.

The proposed route R7 is conducted mostly through embankments, causing increased demand for suitable material. Earthworks can not meet the needs of material for embankments and according to DPP there is a

deficit of materials at 2,835,585 m³ compared to original 800,833 m³. The difference relates to the degree of completion of the proposed route, detailed surveying of the structure and detailed IG survey.

3. IMPACTS ON CLIMATIC CONDITIONS

During operation of the expressway it comes to a change in the radiation and energy balance of the earth's surface, as the original soil surface largely covered with vegetation will be replaced with an artificial asphalt surface. This surface will receive and reflect the solar radiation in a different manner than the original one. As a result of changes in albedo of the earth's surface the road will indirectly affect the mode of other meteorological elements in the ground layer of the atmosphere, as it results in greater fluctuations. This means that the air above the road will be cooled down and warmed up and also dried out faster than the air over the intact anthropogenic landscape. Changes under various meteorological elements are mostly short-term and will be manifested mainly in steady, low cloudy and radiation types of weather. Specified adverse effects are classified as unimportant, the nature of local climate along the line of the expressway will change by an average of 1-3%.

Production exhausts of motor vehicles contributes significantly to the global atmospheric pollution such as acidification and climate change due to greenhouse gas emissions (primarily CO₂, CH₄, N₂O).

Government Resolution No. 148 of 26 March 2014 approved the "Adaptation strategy of the Slovak Republic to the adverse effects of climate change" which defines adaptation measures for individual sectors.

The road transport include as follows:

- treatment of asphalt mixture resistant to increasing extreme weather
- more efficient traffic management
- improvement of surface and subsurface drainage systems
- project optimization and maintenance strategies with impact on quality
- optimizing the design of roads in terms of the impact of climate change
- optimizing the choice of building materials and maintenance interventions in terms of sustainable development.

Those measures will be considered in the next phase of preparation and construction of the road.

The actual construction and technical design of R7 expressway is positive in relation to the adverse effects of climate change in two ways:

- by increasing traffic flow the total production of greenhouse gas emissions will be reduced (point no. 2)
- sewerage of expressway to the infiltration devices does not increase the pressure on recipients in terms of the needs of flood flows drainage of surface water (point no. 3).

By assessing the changes in the technical design of R7, the impact on the atmosphere, climatic conditions and factors of climate change will not change.

4. IMPACTS ON AIR

During construction a higher concentration of road pollutants will occur, especially dust in hot and dry weather lasting continuously for over 15 days when the air purging by wet fallout is eliminated. Such temporary adverse impact of the expressway on air and landscape quality for a longer duration of the dry season will occur in the affected area on average three times a year.

Driving operation has a negative effect on the atmosphere through the burning of hydrocarbon fuels in internal combustion engines of vehicles due to formation of pollutants (CO, NO_x, VOC, SO₂, PM), including the greenhouse gases (CO₂, CH₄, N₂O). Road transport contributes to air pollution within transport as such

to the greatest extent. The most significant is the production of CO (carbon monoxide) of 97.38%, as well as CO₂ emissions (carbon dioxide), where the share of road transport is 96.32%.

In terms of development we can observe a decline in unit emissions from transport due to "greening" of the fleet by application of European standards. Since September 2014 the emission limit EURO 6 is applicable for passenger cars, which will significantly reduce emissions, especially for nitrogen oxides. The standard for heavy vehicles has been in force since January 2013. Compared with Euro II standard, in force since 1996, the application of EURO VI for trucks and buses would mean a reduction in emissions of CO from 4 to 1.5 g/km, for NO_x from 7 to 0.4 g/km, for solid pollutants from 0.25 to 0.01 g/km and for hydrocarbons from 1.1 to 0.13 g/km. This means that despite increasing traffic density, the total emissions from the operation of the expressway should not rise in the future.

By assessing the changes in the technical design of R7, the impact on the atmosphere will not change.

5. IMPACTS ON WATER CONDITIONS

During construction of the expressway it will also need to ensure measures to prevent water contamination. The measures will be mainly related to site equipment, parking places for machinery and handling of oil products. The contractor shall respect existing regulations during construction to ensure the protection of groundwater, particularly to ensure the road-worthiness of vehicles and shall take measures to prevent the oil leakage into groundwater. Specific measures to protect groundwater are ensured by the contractor within construction equipment.

According to Decree of the Ministry of Environment No. 261/2010 Coll. laying down details on the contents of flood plans and procedures for approval, the contractor shall prepare the flood control plan for the period of the construction finishing on a water flow or inundation area of water flow.

To handle potential emergency releases of pollutants during construction it will be necessary to draw up an emergency plan in accordance with Act No. 364/2004 Coll. on water and its implementing Decree No. 100/2005 Coll.. Within the personal preparedness it will need to provide regular staff training about the risks of groundwater and surface water pollution, on the hazardous properties of oil products and on procedures in emergency case, including the training of coping with the accident. The control and instruction of drivers of foreign organizations will be particularly important.

The proposed changes during construction will have no impact on water conditions in the affected area.

Expressway traffic impact on surface and ground water is closely linked to the way of the road drainage. Rainwater drainage from the surface of the expressway and bridges is designed after purification in oil separators to infiltration equipment and retention basins, what can be in relation to the impact on surface water regime considered to be the best solution.

Water sources

There are no protection zones of water sources in the section of the corridor of R7. The route of R7 Dunajská Lužná - Holice is passing through a protection zone of II. degree of natural healing waters in Čilistov. These changes will not change the scale of impacts on the protection zone.

Changes in the proposed activity will not significantly change potential impacts on surface and groundwater. In terms of technical design only a minor change in sewerage of parking area occurred. Cumulative and synergistic impact with other activities is not expected.

6. IMPACTS ON SOIL

The main impact on soil is the use of agricultural and forest land, which are enumerated in the table 3 in section III.2.5.

The assessed changes will have no effect in changing the quality of soil cover.

7. IMPACTS ON FLORA, FAUNA AND THEIR HABITATS

Impacts on flora, fauna and their habitats can be broadly divided into:

- primarily acting mainly during construction (loss of habitat, felling of trees with a protective function in intensively cultivated land),
- secondarily acting during construction and operation (killing of animals, fragmentation of habitats, limiting migration, exhaust fumes, noise, light, changes in the hydrological regime, climate and so on.),
- acting in a tertiary way during operation (penetration of new often invasive alien species into the environment, development of settlements, pollution by spreading material, technical infrastructure, industry, recreation, etc. in the areas accessible to transport)

The most significant ones are considered particularly fragmentation of habitats and slaughter of animals, the impact on migration and stress factors, however, which will persist even after the completion of the designed expressway. However, it is needed to minimize them by means of appropriate measures.

The felling of trees will be performed only if necessary, outside the growing season. Following the felling the root systems of trees felled will be removed. The original greenery will be replaced by the tree planting in places with protective function (especially along the roads). The necessary felling will be in accordance with applicable legislation and will be implemented only following authorization by the authorities.

Trees growing outside the forest will be proceeded in accordance with Act No. 543/2002 Coll. on nature and landscape protection, as amended. According to paragraph no. 3 § 47 of the Act on the felling of trees whose trunk circumference measured at a height of 130 cm above the ground is over 40 cm and shrub vegetation with an area exceeding 10 m² the approval of the competent administrative authority shall be required. According to § 48, the consent for felling trees issued by the nature conservation body shall impose a duty to the applicant to take reasonable substitute planting of trees at a predefined location, at the applicant's expense. If the substitute planting cannot be imposed, the nature conservation body shall impose financial compensation up to the amount of social value of wood.

The inventory of trees growing outside the forest (outside forest lands) in the construction area has been prepared in accordance with the wording of Act No. 543/2002 Coll. on nature and landscape protection, in order to measure the social value of wood being subject to the felling licence application (Ing. Ján Longa, December 2013). Approval of the relevant municipal authority is required for felling trees with a trunk circumference exceeding 40 cm, measured at a height of 130 cm above the ground or shrub plantations with an area of 10 m².

For purposes of the nature and landscape protection act, a wood growing outside the forest (§ 2 paragraph. 2 (m)) is considered a tree or shrub including its root system growing individually or in groups outside the forest land.

It is required to obtain the nature conservation body consent for the felling (§ 47, par. 3), which is in this case the relevant local authority.

The social value of the affected woody plants was calculated based on the inventory of trees to

829,734.64 €.

The inventory of individual woody plants growing outside the forest in the construction area is clearly prepared for each cadastral area in the documentation named "Inventory and social assessment of trees growing outside the forest, R7 Dunajská Lužná - Holice" (Ing. Longa, December, 2013).

Social value of habitats

The social value is determined in accordance with Annex 1 to Decree no. 579/2008 Coll. A list and social value of habitats of national importance, habitats of European importance and priority habitats, which includes the compensation per surface area unit (m²) of habitat of European or national importance. Habitats are divided into two parts, Part A presents a list of habitats of national importance and Part B includes a list of habitats of European importance together with NATURA assigned code that is identical to the codes of the European network of protected areas.

Pursuant to Decree of MoE no. 24/2003 Coll. there are no protected plant species or specially protected species of flora and fauna directly in the assessed territory of the site. In terms of categorization of rare and endangered species (Fereková, Maglocký 1998) no taxon has been registered in the assessed area. Also, it was not found the occurrence of significant ruderal plant community.

Individual habitat overview is clearly elaborated in document - Inventory of habitats (Ing. Longa, October 2013).

The proposed change in the activity will not change the impact on biota, cumulative and synergistic effects are not expected.

8. IMPACTS ON THE LANDSCAPE - THE STRUCTURE AND LAND USE, LANDSCAPE IMAGE

The relevant territory is already modified mainly by agricultural activities and expanding living space. Directional routing is stabilized and proposed changes in technical design of R7 will have no impact on the landscape scenery, or landscape structure.

9. IMPACTS ON PROTECTED AREAS AND THEIR PROTECTION ZONES

Nature and landscape protection

The route of the expressway within the Act No. 543/2002 Coll. on nature and landscape protection, as amended, is rated by the 1st degree of protection, with relevant provisions of the law applicable to the whole territory of Slovakia.

NATURA 2000

The suggested route does not interfere in the territories included in Natura 2000 nor affects these elements both during construction and operation, as these are located well away from the proposed route of R7. Their influence by changing the proposed activity is irrelevant.

10. IMPACTS ON THE TERRITORIAL SYSTEM OF ECOLOGICAL STABILITY

The route of R7 in the section of Dunajská Lužná - Holice is conducted through agricultural areas. The route directly intervenes in TSES elements by crossing the XVI Danube - Little Danube regional bio-corridor. The proposed changes will have impact on the bio-corridor as in the original technical design, a bridge will be built on R7 no. 201 in order to preserve the bio-corridor.

11. IMPACTS ON THE URBAN COMPLEX AND LAND USE

A significant impact on the urban complex is not expected given the fact that the route of R7 in the area is stabilized and the proposed changes do not affect any activities in the area.

12. IMPACTS ON CULTURAL AND HISTORICAL MONUMENTS

Impacts on cultural and historical monuments are not expected.

13. IMPACTS ON ARCHAEOLOGICAL SITES

Within the archaeological survey conducted at the time of processing DPP in the section of Dunajská Lužná - Holice, which interfered in the section, there were 6 archaeological sites documented right in the route corridor. Their list and brief description is given in section III.6.3.

The indicated number of archaeological sites may not be final. It is therefore necessary to carry out an archaeological research in advance before the start of construction or make a detective archaeological research in an area with the anticipated archaeological sites in the form of probes using mechanism, for example UDS with a flat trowel.

It is necessary to carry out archaeological research in advance before the start of earthworks in the areas. This avoids not only the destruction of archaeological situations, but also time losses in the construction of the expressway.

For the construction activity in the area it is necessary to meet the obligation of notification of potential archaeological finding pursuant to § 40 of Act No. 49/2002 Coll. on Heritage Protection in accordance with § 127 of the Construction Act.

Changing the proposed activity affects the potential impact on archaeological sites in the minimum extent due to higher claims for land occupation.

14. IMPACTS ON PALAEOLOGICAL SITES AND IMPORTANT GEOLOGICAL SITES

Impacts on palaeontological sites and important geological sites are not expected.

15. IMPACTS ON INTANGIBLE CULTURAL VALUES

Given the nature of the proposed activity the impacts on intangible cultural values are not expected.

16. COMPREHENSIVE ASSESSMENT OF THE IDENTIFIED ENVIRONMENTAL IMPACTS

Summary of environmental impacts of the construction

During construction

- adverse impact of construction activities on the population manifested by increased noise and dust levels
- agricultural land and forest land occupation
- lack of suitable material for embankments
- contact with archaeological sites
- tree felling
- waste production.

During operation

- noise
- emissions
- barrier effect.

Environmental impacts of the proposed change are based only on construction and technical changes, particularly in the areas of interchanges, in terms of their significance they can be considered comparable and unimportant. Differences in the use or balances result from the stage of process and more detailed surveys in the stage of documentation for planning permission. The horizontal conduct of the route of R7 is maintained.

The comprehensive solution and incorporation of measures to minimize and eliminate the negative impacts on the environment in DZP and DPP, construction and technical adjustments with this solution (DPP) achieves optimal match between the identified impacts on natural and socio-economic environment and technical and economic feasibility of the construction .

To avoid and reduce negative effects of the construction the requirements to reduce or eliminate the negative environmental, health and socio-economic impact of the construction were incorporated in project documentation. The most important are:

- *protection of populated areas from noise,*
- *measures to protect surface and ground water,*
- *reclamation of soils in temporary use,*
- *attractive architectural design and planting to mitigate the impact on the landscape scenery,*
- *compensatory measures,*
- *reducing operational risks.*

V. GENERAL FINAL SUMMARY

1. PURPOSE OF THE PROJECT

In terms of objective function it is a traffic construction, construction of the R7 expressway in the section of Dunajská Lužná - Holice. At present, the traffic in the section of Dunajská Lužná - Holice is run along the existing road I/63 which no longer meets current traffic loads for its condition and technical parameters and degrades the environment and threatens the safety of residents in the surrounding villages by emissions and noise.

The purpose of the planned construction is building a capacity, divided four-lane directional communication, in the optimal route in terms of traffic flow and safety. The transit traffic is excluded from the territory of neighbouring municipalities by construction and operation of expressway and thereby the impact of transport on the population and the environment is improved.

In terms of operation the section of R7 compared to the status quo will bring savings especially in social effects, i.e. in the time consumption of passengers, increase in accidents and mitigation of the negative impacts on the environment and population along the roads I/63 and II/570.

2. BRIEF DESCRIPTION OF THE TECHNICAL DESIGN

The R7 expressway in the section of Dunajská Lužná - Holice is designed in category R 31.5/120 at 0.000 - 0.360 km, a four-lane road with broader middle dividing strip in order to allow the perspective extension to a six-lane road towards the axis of the expressway. In the section of 0.360 km - CA (Cadastral area) it is designed in category R 24.5 C/120 as four-lane expressway. The total length of the section of R7 is **17.380 km**.

Within the documentation for planning permission (DPP) some minimal changes have occurred compared to the documentation for zoning permit (DZP) being subject of this notification. The most significant change is the development of requirement for physical separation of opposite branches of elevated interchanges. This change is related to the technical solution of Šamorín and Holice elevated junctions.

102 Šamorín Interchange

The requirement for physical separation of opposite directions of interchange branches necessitated a change in width arrangement and insertion of concrete barrier at the point of overlapping branches. This change resulted in an adjustment for horizontal and vertical conduct of branches V3 and V7. Also, there have occurred some slight changes to the vertical alignment of branches V4 and V8.

103 Holice Interchange

The requirement for physical separation of opposite directions necessitated a change in width arrangement and insertion of concrete barrier at the point of overlapping branches. This change resulted in an adjustment for horizontal and vertical conduct of branches 1 to 4. Branches 1 to 4 have been changed in their entire length to one-way single-lane branch. Also, there have occurred some slight changes to the vertical alignment of branch 5.

Other minor adjustments relate to the following files:

- access roads - slight adjustments to the land use in DPP
- bridges - clarification of the technical design and conditions of deposition
- parking areas - precise design of paved areas, lighting, sewerage and fire water
- EMMC - small changes in operating building, garages, salt inert material warehouses and other buildings
- fittings and relocations - minor changes of technical and material design.

3. CHARACTERISTICS OF THE AREA AFFECTED

It is obvious from the above changes of technical design what areas are affected. Firstly, it is a space of Šamorín and Holice interchange with the area of RMMC (Road Management and Maintenance Centre). Both interchanges are designed to open areas of agricultural land in connection to regional, or trans-regional road outside the affected settlements. In the Šamorín area it connects to the road II/503 and in the Holice area it connects to the road I/63 through the road III/ 06324. RMMC uses free area of the Holice interchange to the south from the road R7 and changes in technical infrastructure solution are limited to the interior of premises.

Other amendments are evenly distributed along the entire route of R7 and relate to the change in bridge deposition of 3rd class roads and alignment of access roads to the lands. The above changes are situated in an agricultural zone characteristic for the area.

Summary of changes to the proposed activity is graphically shown in the Annex 2.

4. MAIN CHARACTERISTICS OF ENVIRONMENT

Geomorphology and geology

In terms of geomorphological division of Slovakia (Mazúr, Lukniš, 1980) the area belongs to the Western Pannonian Basin province, the Little Danubian Plain subprovince, the Danubian Lowland area, the Danubian Plain whole.

In the section from Dunajská Lužná to Holice the subsoil is formed only with quaternary sediments - mostly fluvial with terraced development that are locally covered with aeolian sediments represented by loess, loess clay, drifted sand or redeposited loess clay.

Soil

The conditions for the genesis of the dominant soil-forming process of the organic matter accumulation was created in the area of the Danube alluvium - mollic soils - typical muck soils to mollisols. In addition to the dominant muck soil, we can find a single location of alluvial soils at the beginning of the section - typical fluvisols, local occurrence mollisols on the construction route in places intensively influenced by higher groundwater level.

Most of the route runs through the lands included in BPEJ among the highest quality specially protected lands of first four quality groups according to Annex no. 3 of the Act 220/2004 on Soil Protection.

Climate

The relevant area belongs to warm area, district A1, which is characterized as warm, dry, with mild winters and longer sunshine. Average annual rainfall is 530 to 650 mm. Duration of winters is usually 40 days, frequently winters without snow. The first frosts start in October. The number of summer days is around 100. The average annual air temperature is between 9 to 10°C.

Hydrology

From the point of view of water management the most important sediments are from upper Pliocene and Quaternary, which create a hydrogeological unit, an extensive groundwater reservoir with free surface and uniform regime.

A huge complex of quaternary sandy gravels of variable thickness (from 10.0 m in Bratislava to 340.0 meters at Gabčíkovo, and more) is the main groundwater collector. By origin it is divided into a part formed in lacustrine-riverine environment and another part formed by fluvial activity of Danube after its inception in the mid-Mindeli.

The Danube lacustrine-riverine sediments are lying at the heart of depression behind the village of Veľký Meder on Gabčíkovo sands, but their distribution is wider. At present, the lacustrine-riverine sediments form the basis of the Danube fluvial sediments, from depths of about 95.0 to 160.0 m. River sediments in the area of maximum depression are ranging up to 160.0 m or more. Their thickness gradually decreases towards the edge. They are represented mostly by gravel, gravel with sand, sand and sand with gravel.

Gravelly and sandy Pliocene positions are found in the Quaternary subsoil. The groundwater accumulated in them has an increased temperature (16-18°C). The deeper subsoil Neogene shows thermal highly mineralized groundwater (depth of 1,200-2,500 m).

Flora and fauna, habitats, migration

Flora

The current nature of real vegetation is the result of floro-genetic processes integrated from phytogeographical position of the territory and physical-geographic, biotic conditions and significant long-term and extensive anthropogenic interference. The evaluated area currently includes roadside trees, windbreaks, remnants of floodplain forests in terrain depressions (groves in agricultural area) and alternative plant communities.

According to the phytogeographical division of Slovakia (Futák 1984) the flora of the assessed territory belongs to *Pannonicum*, Pannonian xerothermic flora circuit (*Eupannonicum*), the district of Danube Plain.

Fauna

Based on the division of the territory of Slovakia into livestock regions (Čepelák, 1980) the territory is situated in Pannonia, Southern Slovak circuit, Danube district, floodplain sub-district.

Due to the nature of the area that is mostly intensively used for agricultural purposes, we can find here in particular habitats of the cultural landscape (fields, gardens, vineyards, scattered greenery, etc.), water habitats such as lower river flows with remnants of the branch system, a man-made channels network, but also wetlands, preserved near some watercourses.

Habitats

The project documentation for planning permission of R7 Dunajská Lužná - Holice includes a documentation of surveys - Habitats inventory (Ing. Ján Longa, 12/2013).

At 0.75 to 0.83 km in the ecological corridor route the structure interferes to marginal parts of the habitat of the European interest 91 FO oak - elm - ash alluvial forests (hardwood floodplain forest). The habitat occurs at relatively higher drier stations of flood plains with rarer and shorter surface flooding. The habitat is now significantly modified by anthropogenic activities and significantly altered in grasslands.

At 8.9 to 9.0 km in the ecological corridor route the structure interferes to the habitat of the European interest 91 FO oak - elm - ash alluvial forests (hardwood floodplain forest). The habitat is located in a terrain depression and significantly negatively disturbed by illegal landfills. The habitat is now significantly modified by anthropogenic activities and significantly altered in grasslands.

There were other habitats identified on the route of the expressway, but which are not among the habitats of European or national importance:

- X3 habitat - nitrophilous vegetation outside settlements
- X4 habitat - thermophilic ruderal vegetation outside settlements
- X5 habitat - eels and extensively cultivated fields
- X7 habitat - intensively cultivated fields,
- X8 habitat - vegetation of invasive neophytes
- X9 habitat - vegetation of non-native species

- KR7 habitat - blackthorn and hazel shrubs dominated by the dog rose (*Rosa canina*), also single-seed hawthorn (*Crataegus monogyna*), bloody dogwood (*Swida sanguinea*), occasionally blackthorn (*Prunus spinosa*), European euonymus (*Euonymus europaeus*).

Protected nature and landscape areas

The proposed route of the R7 expressway Dunajská Lužná - Holice is located in an area where, according to Act No. 543/2002 Coll. on nature and landscape protection, the 1st (lowest) level of protection is applicable. There is only one small protected area in the wider vicinity of the planned construction according to Act No. 543/2002 Coll. on nature and landscape protection - the Rohovce park protected area (PA) which was declared in 1982 on 128,100 m² in the cadastral area of the village of Rohovce. The nearest large protected area is represented by Protected landscape area (PLA) of Dunajské Luhy. PLA is situated on the Danube basin in geomorphological unit of Danube Plain, next to Slovak and Slovak-Hungarian section of the Danube from Bratislava to Veľkolélsky island in the district of Komárno.

There is no interference in the system of specially protected areas NATURA 2000 in the corridor of the planned construction. The closest area of European importance to the territory is SKUEV0090 Danube floodplains - a territory that covers an area of 4,297.89 ha within the cadastral area of Dobrohošť, Gabčíkovo, Baka, Bodíky, Mliečno, Sap, Rohovce, Kyselica, Vojka nad Dunajom and 2nd, 3rd, 4th and 5th level of protection is applicable here. The protected bird areas are nearby SKCHVÚ007 Danube floodplains, which occupy an area of 18,845 hectares and districts of Bratislava I, II, IV, V, Senec, Dunajská Streda, Komárno and Nové Zámky. The territory is represented by the main flow of the Danube River and the left bank of alluvial forests. SKCHVÚ012 Lehnice is located in the district of Dunajská Streda on an area of 2,660 ha, while a substantial part of the territory consists of intensively used agricultural landscape.

Territorial system of ecological stability (TSES)

According to surveys carried out so far on the route of the proposed R7 expressway there is only hydro-terrestrial bio-corridor of regional importance (RBk) of Danube - Little Danube.

Population and settlement

The change in the proposed activity is directly linked to districts of Senec and Dunajská Streda. It intervenes in the following cadastral areas: Šamorín, Dunajská Lužná, Kvetoslavov, Báč, Rohovce, Trnávka, Macov, Blatná na Ostrove and Lipovec. The route of the R7 expressway in considered section is led out of concentrated built-up area.

Cultural and historical monuments and sights

There are no cultural and historical monuments and other sights in the area.

Archaeological sites

Within the archaeological survey conducted at the time of processing DPP of the section of R7 Dunajská Lužná - Holice there have been 6 archaeological sites registered in the road corridor.

5. EXPECTED DEVELOPMENT ASSESSMENT BASED ON UNIMPLEMENTED INVESTMENTS

At present, the entire transport volume of traffic in the section concerned is implemented on the road I/63, which has mostly technical, safety and capacity parameters unsuitable not only for prospective traffic load. Based on traffic civil assessment, the road I/63 is unsuitable in terms of capacity in most sections, as seen in the following table.

Table 10 Capacity assessment of the road I/63

Road/section	Year	Number of vehicles / 24 hours			Number of vehicles / hour	% NA	Category	Allowable intensity	Reserve
		OA	NA	Total					
I/63-external area / 81479	2010	11429	2118	13547	732	0.16	C 11.5/80	715	-17
Dunajská Lužná – direction to Šamorín	2018	17418	1816	19234	1039	0.10		-324	
	2028	20392	2080	22472	1213	0.10		-498	
	2038	22658	2312	249770	1348	0.10		-633	
I/63-external area / 81480	2010	10997	1688	12685	685	0.13	C 11.5/80	705	20
Šamorín – Báč	2018	13905	2126	16031	866	0.13		-161	
	2028	16279	2435	18714	1011	0.13		-306	
	2038	18088	2707	20795	1123	0.13		-418	
I/63-external area / 81480	2010	7438	1173	8611	465	0.14	C 11.5/80	720	255
Blatná na Ostrove - Holice	2018	10551	1699	12250	662	0.14		58	
	2028	12352	1946	14298	772	0.14		-52	
	2038	13725	2163	15888	858	0.14		-138	
II/570 – external area / 82677	2010	5125	1303	6428	347	0.20	C 11.5/80	705	358
Lehnice - Potôň	2018	6763	2054	8817	476	0.23		229	
	2028	7451	2257	9798	529	0.23		176	
	2038	8080	2405	10485	566	0.23		139	

In addition to the above traffic criteria the road I/63 is close to residential areas of Šamorín, Dunajská Lužná, Báč and at the edge of Blatná na Ostrove and Holice. This situation causes restrictions to the traffic flow, increase in accidents, and constantly deteriorating environmental conditions (noise, air pollution, vibrations) of the residents concerned. The possible implementation of baseline technical measures, i.e. construction works on the road I/63 to improve the adverse impact on the environment, would also mean considerable interference in the existing built-up area associated with the demolition of buildings.

6. CONSISTENCY OF THE PROPOSED ACTIVITY CHANGES WITH THE LAND-USE PLANNING DOCUMENTATION

The proposed structure must be harmonized with the land-used planning documentation of higher territorial unit of Trnava region and in the future, if processed, the route of R7 must be incorporated in land-use planning documentation of the villages of Macov and Blatná na Ostrove.

7. SUMMARY OF IMPACTS, INCLUDING CUMULATIVE AND SYNERGISTIC

The impacts of the construction on the environment, health and socio-economic environment based on the EIA process and assessment of changes in technical design can be summarized as follows:

During construction

- adverse impact of construction activities on the population manifested by increased noise and dust levels
- agricultural land use and forest land occupation to a lesser extent
- demands on the resources of raw materials in embankments
- passage through archaeological sites

- tree felling
- waste production.

During operation

- noise
- emissions
- barrier effect

Some of these effects act cumulatively with existing activities and processes in the area. It is mainly the cumulative impact of emissions and noise from the traffic on the future road R7 and current road I/63. The cumulative impact with other planned activities in the area is not known at present.

Impacts on the population

During construction of the expressway an increased noise levels can be expected, especially in areas using heavy construction machinery as well as in places of their passage in close proximity to residential buildings. In that event the noise and vibrations are temporary for the duration of construction of the expressway. Reduction of the noise impact on the population can be achieved by organizational arrangements. In terms of the route of R7 in the section concerned outside built-up areas.

During construction an increase of the dust will occur, especially during dry and windy seasons. At the same time there is also air pollution caused by emissions from vehicles and construction machinery. During construction the site may act as a source of dust caused by wind or mechanisms and trucks that are mobile sources of emissions. However, it is possible to minimize negative impacts by coordinating construction machinery transfers, optimizing transport routes, reducing dust by spraying and other measures.

The positive impacts of the construction may include the creation of new jobs.

Mainly noise and air pollution are impacts of transport. The route of R7 is designed in an uninhabited area, the nearest compact residential area is located about 300 m far from there. Given the proposed solution, no significant negative impacts on the population are expected. Fairly extensive measures to reduce the noise load of the area to ensure adequate acoustic protection of the area from the adverse effects of traffic on the expressway will be implemented in the section. This is also related to areas with designed development areas for housing.

According to the results of dispersion study in the section of R7 Dunajská Lužná - Holice there will be no impact on the population by increased amount of pollutants exceeding the limit hourly values of NO₂ to protect human health from the effects of traffic on that road.

The barrier effect of the expressway in the section is relatively large, especially in terms of access to agricultural area under cultivation, construction or treatment of access road network where the impact is partially offset.

Socio-economic effects will be felt in terms of higher driving speed, travel speed and user safety, decrease of travel time for transport of passengers and goods and reduction of negative impacts on the affected population as a result of higher quality of the expressway compared to deteriorating status quo.

Impacts on rock environment and relief

Based on the foregoing assessment of current condition it is evident that due to flat, very gently undulating relief with mild depressions and low aggradation banks and sand dunes no significant impacts on the rock environment are expected. The proposed route R7 is conducted mostly through embankments, causing increased demand for suitable material. Earthworks can not meet the needs of material for embankments and according to DPP there is a deficit of materials at 2,835,585 m³ compared to original 800,833 m³. The

difference relates to the degree of completion of the proposed route, detailed surveying of the structure and detailed IG survey.

Impacts on surface water

Impacts on surface water mean a threat to surface water quality during construction and operation due to an accident. There are no surface flows that would be in touch with the proposed route and its amendments on the route of R7 in the section of Dunajská Lužná - Holice.

Impacts on groundwater

In the construction phase the contamination of groundwater may occur through leakage of dangerous substances directly into an open groundwater level in trenches and digging of foundations (piles), or indirectly through leakage into groundwater collector.

The route of R7 Dunajská Lužná - Holice is passing through a protection zone of II. degree of natural healing waters in Čilistov. These changes will not change the scale of impacts on the protection zone.

Impacts on soil

Impacts on soil are important because the route goes through predominantly agricultural areas with the highest quality soils classified according to BPEJ in the first to fourth quality grade. During construction of R7 a permanent agricultural land use occurs of approximately 99.08 ha (Ch. III.2.5).

The cumulative impact with other activities is not expected.

Impacts on flora, fauna and their habitats

Regarding the nature of the area with the designed route of R7 the impact on the biota is minor and most significantly manifested by tree and shrub felling.

The social value of the affected woody plants was calculated based on the inventory of trees to 829,734.64 €.

Social value of habitats

Pursuant to Decree of MoE no. 24/2003 Coll. there are no protected plant species or specially protected species of flora and fauna directly in the assessed territory of the site. In terms of categorization of rare and endangered species (Fereková, Maglocký 1998) no taxon has been registered in the assessed area. Also, it was not found the occurrence of significant ruderal plant community.

Impacts on protected nature and landscape areas

The route of the expressway within the Act No. 543/2002 Coll. on nature and landscape protection, as amended, is rated by the 1st degree of protection, with relevant provisions of the law applicable to the whole territory of Slovakia. The protected areas are located well away from the route of the road.

Impacts on Natura 2000 sites

The suggested route does not interfere in the territory of European importance nor affects these elements both during construction and operation, as these are located well away from the proposed route of R7.

The cumulative impact with other activities is not expected.

Impacts on the territorial system of ecological stability

The route of R7 in the section of Dunajská Lužná - Holice is conducted through agricultural areas. The route directly intervenes in TSES elements by crossing the XVI Danube - Little Danube regional bio-corridor. The proposed changes will have impact on the bio-corridor as in the original technical design, a bridge will be built on R7 no. 201 in order to preserve the bio-corridor.

Other TSES elements are situated at a sufficient distance from the assessed section of highway D1 and no direct or indirect negative impacts are expected during both construction and operation on ecological stability functions of components, or bio-corridor-like functions.

The cumulative impacts in relation to the existence of current migration barriers can be classified as moderate.

Impacts on the landscape - the structure and land use, landscape image

A significant impact on the urban complex is not expected given the fact that the route of R7 in the area is stabilized and the proposed changes do not affect any activities in the area.

Impacts on cultural and historical monuments are not expected.

Impacts on archaeological sites

Within the archaeological survey conducted at the time of processing DPP in the section of Dunajská Lužná - Holice, which interfered in the section, there were 6 archaeological sites documented right in the route corridor. Their list and brief description is given in chapter 6.3.

Impacts on palaeontological sites and important geological sites are not expected.

Impacts on intangible cultural values are not expected.

Cumulative and synergistic impacts

The area is practically homogeneous with the dominance of agricultural land, which are interrupted by compact settlements and of transport routes network represented by roads of 1st to 3rd class.

In terms of the positive cumulative effects we can emphasize the continuity of the section of R7 to sections of Bratislava - Dunajská Lužná and Holice - Dunajská Streda. Unlike road I/63, the newly designed road will be equipped with anti-noise measures in contact points that sufficient to eliminate the noise impact on the population from affected settlements. On the other hand, the construction of R7 will cause a significant decrease in traffic load on the road I/63 and thus, in conjunction with measures on R7, it will globally mitigate the negative aspects of road transport in the affected settlements (Dunajská Lužná, Šamorín, Báč, Blatná na Ostrove) .

A significant representation of agricultural land known from the above characteristics. The territory is one of the most important agricultural regions with intensive cultivation. These activities are carried out particularly in spring and summer with the increase of dust particularly during dry weather conditions. The location of the route of R7 will cause the accumulation of these features along the route of the proposed road (intense dust mainly during construction). Among other relevant intents we can emphasize of expanding intensive built-up areas where the difficult stage of construction is also accompanied by increased dustiness.

Other activities which in interaction with R7 could have negative impacts on the surrounding area of the structure are not present in the area.

Mitigating measures

For avoiding and reducing the negative effects of construction on the environment, health and socio-economic environment the requirements to reduce or eliminate the negative impacts have been incorporated in the project documentation. These are mainly the following measures:

- to protect the population against noise and vibrations,
- to reduce dust,
- to protect protected areas, facilities and protection zones,

- to ensure the integration of a building into the landscape through landscaping,
- to protect surface and groundwater from pollution
- to carry out archaeological research.

8. COMPENSATORY MEASURES

Compensation for material damage of permanent land use, relocation of buildings, necessary tree felling and compensation for loss of agricultural and partially forestry production on temporarily used agricultural and forest lands.

9. COMPARISON OF DESIGN ALTERNATIVES

In conclusion we compare the original solution of DZP, with changes made in the subsequent stage of project preparation (DPP). The changes concern only minor adjustments of interchange branches of Šamorín and Holice. The most significant change is the incorporation of guidelines of Ministry of Transport, Construction and Regional Development of the SR dated on 2 April 2013 - the requirement for physical separation of opposite directions of elevated junctions. Horizontal and vertical conduct of R7 in this section shall be maintained. Other changes result from the detailed focus of the area and the resulting construction and technical adjustments. The differences in the balances of land use, the social value of trees and shrubs and so on are associated with the detailed processing of DPP and do not indicate any change in the identification and intensity of impacts compared to the original solution.

The present changes in the structure of R7 in the section of Dunajská Lužná - Holice can be characterized as changes in technical solution, which are associated with identical environmental impacts as identified in DZP.

VI. ANNEXES

1. INFORMATION ON THE LEGITIMATE ASSESSMENT OF THE PROPOSED ACTIVITY

The relevant construction was assessed under Act no. 24/2006 Coll. on the assessment of impacts on the environment and on amendments to certain acts, as amended. Final opinion to the report on the evaluation of the "R7 expressway of Dunajská Lužná - Holice" construction was issued by Ministry of Environment of the SR on 28 June 2010 under the number 4191/09-3.4/ml.

In the process of preparing **documentation for zoning permit (DZP)** some changes have occurred which were subject to the Notification on modification to the proposed activity submitted by Dopravoprojekt, a.s. in June 2013. Following the assessment of the Notification of the modification to the proposed activity the Ministry of Environment of the SR issued a statement No. 6634/2013-3.4/ml on 26.8.2013, according to which the modification to the proposed activity of "R7 expressway, Dunajská Lužná - Holice" does not foresee significant adverse effects on the environment and, therefore, is not subject to mandatory assessment pursuant to § 18 par. 4) of the Act (more in chapter III.2.2.).

2. MAP OF BROADER RELATIONS

The map of broader relations is presented in map Annex no. 1.

3. EXTRACT FROM THE LAND REGISTER

Given the scale of the documents, the extract from the Land Register is supported by cadastral map attached in the electronic version on CD.

4. STATEMENT BY THE PUBLIC AUTHORITY OF NATURE AND LANDSCAPE PROTECTION

The District Office in Senec, Department of environmental care in letter no. OU-SC-OSZP/2014/8182 dated on 30 September 2014 does not consider the modification to the proposed activity such a change, which could have significant adverse effects on the environment, has no comments on submitted documents and therefore does not require an assessment of changes in the construction by evaluation of environmental impact using the procedure according to Act No. 24/2006 Coll. (full text of the letter is included in Annex 4).

The District Office in Dunajská Streda, Department of environmental care in letter no. OU-DS-OSZP-2014/012244-002 of 19 September 2014 requires to respect the conditions set out in the opinion issued on 28 June 2010 (full text of the letter is included in Annex 4).

5. THE OPINION OF THE RELEVANT PLANNING AUTHORITY

Bratislava self-government region in its opinion no. 13360/2014 od 9 September 2014 states that the proposed change of construction is not in conflict with the Land Use Documents of the region and has no comments on the change in the activity of construction of R7 Dunajská Lužná - Holice pursuant to Act no. 24/2006 Coll.

Trnava self-government region in its opinion no. 06152/2014 of 22 September 2014 states that there was no change in the corridor of the route of R7 Dunajská Lužná - Holice, therefore it has no comments on the implementation of construction pursuant to Act no. 24/2006 Coll.

6. DOCUMENTS ON MODIFICATION TO THE PROPOSED ACTIVITY

Documentation on modification to the proposed activity consists of the documentation of planning permission, processed by associating R7 Dunajská Lužná - Holice in December 2013. The documentation is included in an electronic version on CD.

VII. DATE OF PROCESSING

Bratislava, October 2014

VIII. PROCESSOR OF THE NOTIFICATION

Coordinator: RNDr. Ivan Pirman
ENVICONSULT spol. s.r.o.
Obežná 7, 010 08 Žilina

Investigators: Ing. Edita Grosschmidtová, Alfa 04, a.s.
Mgr. Peter Hujo, ENVICONSULT spol. s r.o.

Confirmation of the data accuracy:

.....
Ing. Juraj Fürst
Chairman of the Board and CEO

IX. SIGNATURE OF AUTHORIZED REPRESENTATIVE OF THE CLAIMANT

.....
Ing. Pavol Kováčik, PhD., MBA
Chief Investment Officer

Národná diaľničná spoločnosť, a.s.
Mlynské nivy 45

Annexes

DOCUMENTS

CONTENT

1. Opinion of Bratislava Self-government region of 9 September 2014
2. Opinion of District Office in Dunajská Streda of 19 September 2014
3. Opinion of Trnava Self-government region of 22 September 2014
4. Opinion of District Office in Senec of 30 September 2014

Disclaimer

This is an English translation of a document that was originally produced in the Slovak language. While we have exercised utmost care to make this translation accurate, it may contain typing or translation errors. Therefore, always consult the Slovak original before making decisions on the basis of this translation.

The name of this document in Slovak is *Oznámenie o zmene navrhovanej činnosti*. The file name has not been changed.

We hereby confirm that the European Bank for Reconstruction and Development shall have no responsibility for the translated content.

Project Implementation Services, spol. s r. o.
Consultant under Consultancy Contract C31934