

Environmental and Social Management Plan

For the sub-project: “Mavrovo Free Ride”

Traffic and Services Company – “ZARE LAZAREVSKI”
Ski Centre - Mavrovo, Mavrovi Anovi, May 2019





Contents

1	INTRODUCTION AND PURPOSE OF DEVELOPMENT	5
1.1	Local and Regional Competitiveness Project.....	5
1.2	National Legal Framework.....	5
1.2.1	Relevant National Legislation.....	7
1.3	World Bank Environmental Policy.....	8
2	PROJECT DESCRIPTION	10
2.1	Equipping the Sports and Recreation Park	10
2.2	Warehouse for Storing Equipment.....	15
2.3	Reconstruction of the existing restaurant “Trifkova Koliba”	15
2.4	Provision of Ski Equipment.....	31
2.5	Project Site	31
2.6	Raw and Other Materials	35
3	ENVIRONMENTAL IMPACT ASSESSMENT.....	37
3.1	Air Emissions	37
3.1.1	Construction Phase	37
3.1.2	Operational phase	38
3.2	Emissions to Water and Impact on Water	39
3.2.1	Construction Phase	39
3.2.2	Operational Phase	39
3.3	Soil emissions and impacts on soils.....	39
3.3.1	Construction Phase	39
3.4	Waste generation	40
3.4.1	Construction phase	40
3.4.2	Operational phase	41
3.5	Noise and vibration	42
3.5.1	Construction phase	42
3.5.2	Operational phase	42
3.6	Impacts on biodiversity.....	42
3.6.1	Construction phase	42
3.6.2	Operational phase	43
4	OCCUPATIONAL HEALTH AND SAFETY and visitors safety.....	44



4.1	National legal framework.....	44
4.2	Measures for occupational health and safety	44
4.2.1	Construction phase.....	45
4.2.2	Operational phase	45
5	ENVIRONMENTAL IMPACT MITIGATION	45
6	MONITORING OF the ENVIRONMENTAL MANAGEMENT	87
7	SOCIAL IMPACT ASSESSMENT AND MONITORING	95
7.1	Community health and safety	95
8	APPENDIX	98

Appendices

Appendix 1 - Opinion from the MoEPP regarding the submitted Letter of Intent	98
Appendix 2 - Decision on approval of the Elaborate for environmental protection	101
Appendix 3 - Letter from public institution – national park “Mavrovo”	104
Appendix 4 – Procedure for asbestos.....	106

Figures

Figure 1 Elements/obstacles on the bike trail "Flow"	11
Figure 2 The elements of the bike trail "Family"	12
Figure 3 Routes of the bike trails “Flow” and” Family”	12
Figure 4 The “Trim track”	13
Figure 5 The schematic view of the “Trim track”	14
Figure 6 Outlook of the current state of the restaurant “Trifkova Koliba”	15
Figure 7 Basis of the restaurant “Trifkova Koliba” (current situation)	16
Figure 8 Interior of the restaurant "Trifkova Koliba"	17
Figure 9 Exterior of the restaurant "Trifkova Koliba"	17
Figure 10 The newly designed restaurant “Trifkova Koliba”	18
Figure 11 Basis of the reconstructed restaurant at level 0.0.....	20
Figure 12 Base of the reconstructed restaurant with internal equipment.....	21
Figure 13 Basis of the gallery (new situation)	22
Figure 14 Basis of the gallery with equipment (new situation).....	23
Figure 15 Section 1-1 (new situation)	24



Figure 16 Section 2-2 (new situation).....	25
Figure 17 View of the new facade (on both sides).....	26
Figure 18 View of the new facade (front and rear side).....	27
Figure 19 New outlook of the restaurant “Trifkova Koliba”.....	28
Figure 20 Septic tank (longitudinal and transversal cross section).....	28
Figure 21 Existing access road to the project location	29
Figure 22 Passenger cabin on the snowcat.....	31
Figure 23 The location of Mavrovo and Rostusha Municipality in the Republic of Macedonia and a map of the municipality and its settlements.....	32
Figure 24 The surrounding of the project area.....	33
Figure 25 Location of the project area within the National Park “Mavrovo”. The zoning of the park is in line with the Spatial Plan of “Mavrovo” National Park from 1988 developed by the Institute for Urban Planning and Residential and Municipal Activity Techniques.....	34
Figure 26 Grass and shrubs (Juniperus communis) along the bike trails.....	38
Figure 27 Desired and unwanted options for mitigating environmental impacts.....	45

Tables

Table 1 Materials to be used for the “Trim track” and the “Flow” and “Family” bike trails	35
Table 2 Raw materials needed for the reconstruction and extension of the Restaurant “Trifkova Koliba”	35
Table 3 Criteria used in the environmental impact assessment.....	37
Table 4 Expected noise from the involved mechanization.....	42
Table 5 Environmental mitigation plan	47
Table 6 Measures from Environmental Protection Elaborate	63
Table 7 Monitoring plan	88
Table 8 Community health and safety management plan	96
Table 9 Community health and safety monitoring plan.....	97



1 INTRODUCTION AND PURPOSE OF DEVELOPMENT

This Environmental and Social Management Plan¹ is developed in accordance with the Environmental Management Framework² adopted for the Local and Regional Competitiveness Project and refers to the “Mavrovo – Free Ride”³ sub-project that will be implemented by the Investor – Traffic and Services Company – “Zare Lazarevski” Ski Centre DOO Mavrovo, Mavrovi Anovi. This document is a result of the project activities screening procedure conducted in accordance with the World Bank’s policies.

The purpose of the Plan is to identify the expected environmental and social impacts that may arise during the implementation of the sub-project activities, to propose measures for mitigating such impacts (including guidelines on reporting and collaboration with relevant institutions) and to provide guidelines for monitoring the implementation of the proposed measures.

The ESMP contains description of the sub-project, location, surrounding area and environmental media, based on which the environmental and social risks are being assessed and measures are being proposed on how to avoid and mitigate those risks. The implementation of mitigation measures for the risks and impacts identified in the ESMP is mandatory and it is an obligation of the Investor.

1.1 Local and Regional Competitiveness Project

The Local and Regional Competitiveness Project⁴ is a four-year investment operation supported by the European Union using funds from IPA II earmarked for competitiveness and innovation in North Macedonia. LRCP will be managed as a Hybrid Trust Fund, it will consist of four components, and it will be run by the World Bank and the Government of the Republic of North Macedonia through a Project Office. The Project will provide investment funding and capacity building to support growth of the tourism sector, investment in particular destinations, and creating prosperity in those destinations. At regional and local level, the Project will support tourist destinations in the country through a combination of technical assistance to improve destination management, infrastructure investment and investments in infrastructure connections as well as innovation. The investments will be undertaken through a grant scheme for regional tourism stakeholders, such as municipalities, institutions, NGOs and the private sector.

1.2 National Legal Framework

The project types and criteria used to establish the need for conducting EIA are set in line with Chapter XI of the Law on Environment (“Official Gazette of the Republic of Macedonia” no. 53/05, 81/05, 24/07, 159/08, 83/09, 48/10, 124/10, 51/11, 123/12, 93/13, 187/13, 42/14, 44/15, 192/15, 39/16, 39/16, 28/18, 65/18 and 99/18) and the Decree Determining Projects for Which and Criteria on the Basis of Which the Screening for an EIA Shall Be Carried Out (“Official Gazette

¹ Hereinafter referred to as ESMP

² Hereinafter referred to as EMF

³ Referred also as “FREE-MAV”

⁴ Hereinafter referred to also as LRCP



of the Republic of Macedonia” no. 74/05, 109/09, 164/12 and 202/16). The Decree defines two categories of projects:

- Projects for which it is mandatory to undertake an EIA before issuing a decision for project implementation;
- Generally determined projects that may have significant environmental impact and are therefore subject to EIA before issuing a decision for project implementation.

Based on its characteristics, the Project falls within Annex II of the Decree Determining Projects for Which and Criteria on the Basis of Which the Screening for an EIA Shall Be Carried Out (“Official Gazette of the Republic of Macedonia” no. 74/05, 109/09 164/12 and 202/16), i.e. projects for which the need of conducting an environmental impact assessment is determined (generally determined projects), under item 11: Tourism and Recreation: (e) Theme Parks (entertainment and sports and recreation parks).

The procedure begins when the developer (applicant of the Project) who intends to implement a project, submits a Letter of Intent in written and electronic version to the Ministry of Environment and Physical Planning (MoEPP) – Administration of Environment, which is responsible for the complete Environmental Impact Assessment (EIA) procedure. The MoEPP is obliged to issue an opinion on the subject whether it is necessary or not to initiate the procedure for environmental impact assessment of the project.

For small-scale projects, it is not necessary to initiate the procedure for environmental impact assessment of the project. For these projects, it is necessary to prepare an Elaborate for environmental protection - Environmental Impact Assessment Report (EIA Report) - applicable for projects of category B under the Environmental Assessment procedure OPA 4.0.1 of the World Bank.

The projects for which the Elaborate for environmental protection (EIA Report) is prepared are defined by:

- Rulebook on the list of projects for which the Elaborate for environmental protection (EIA Report) should be prepared by the Investor and the Elaborate should be adopted by the Ministry of Environment and Physical Planning (“Official Gazette of the Republic of Macedonia” No. 36/12);
- Rulebook on the list of projects for which an Elaborate for environmental protection (EIA Report) should be prepared by the Investor and the Elaborate should be adopted by the Mayor of the Municipality or the Mayor of the City of Skopje (“Official Gazette of the Republic of Macedonia” No. 32/12).

For the current sub-project a Letter of Intent for the proposed activities was prepared and submitted to the Ministry of Environment and Physical Planning (MoEPP), with an arch. no. 11-4204/1 from 10.07.2018, given in Appendix 1.

Based on the Letter of Intent, MoEPP issued an opinion that it is not necessary to implement a full procedure for environmental impact assessment of the project, meaning that an Elaborate for environmental protection should be prepared.



This sub-project belongs in Heading XVI - Art, entertainment and recreation, point 2. Activities of entertainment and theme parks of the Rulebook on the list of projects for which the Elaborate for environmental protection (EIA Report) should be prepared by the Investor and the Elaborate should be adopted by the Ministry of Environment and Physical Planning (“Official Gazette of the Republic of Macedonia” No. 36/12).

The Elaborate for environmental protection was prepared and submitted to MoEPP, with arch. no. UP1-11/4 628/19 from 23.04.2019. MoEPP approved/adopted the Elaborate for environmental protection with decision no. UP1-11/4 628/19 from 06.05.2019 given in the Appendix 2.

Investor is obliged to implement measures for environmental protection and community protection defined in the Elaborate for environmental protection, in this ESMP as well as obligations from the asbestos management procedure given in annex in this document.

1.2.1 Relevant National Legislation

Below is a list of relevant national legislation acts that affect and/or may affect the procedure and environmental management in the context of this sub-project:

- Law on Environment (“Official Gazette of the Republic of Macedonia” no. 53/05, 81/05, 24/07, 159/08, 83/09, 48/10, 124/10, 51/11, 123/12, 93/13, 187/13, 42/14, 44/15, 192/15, 39/16, 28/18, 65/18 and 99/18);
- Decree Determining Projects for Which and Criteria on the Basis of Which the Screening for an EIA Shall Be Carried Out (“Official Gazette of the Republic of Macedonia” no. 74/05, 109/09, 164/12 and 202/16);
- Law on Waters (“Official Gazette of the Republic of Macedonia” no. 87/08, 6/09, 161/09, 83/10, 51/11, 44/12, 23/13, 163/13, 180/14, 146/15, 52/16);
- Law on Waste Management (“Official Gazette of the Republic of Macedonia” no. 68/04, 71/04, 107/07, 102/08, 134/08, 124/10, 51/11, 123/12, 147/13, 163/13, 27/14, 51/15, 146/15, 192/15, 39/16 and 63/16);
- Law on Management of Packaging and Packaging Waste (“Official Gazette of the Republic of Macedonia” no. 161/09, 17/11, 47/11, 136/11, 6/12, 39/12, 163/13, 146/15, 39/16);
- List of waste types (“Official Gazette of the Republic of Macedonia” no. 100/05);
- Rulebook on the General Rules on Handling Municipal Waste and Other Types of Non-hazardous Waste (“Official Gazette of the Republic of Macedonia” no. 147/07);
- Rulebook on the Procedures and Method of Collection, Transportation, Processing, Storage, Treatment and Disposal of Waste Oil, the Method of Record-Keeping and Submission of Data (“Official Gazette of the Republic of Macedonia” no. 156/07, 109/14);
- Rulebook on the Specific Conditions on Handling Hazardous Waste and the Method of Packaging and Labelling Hazardous Waste (“Official Gazette of the Republic of Macedonia” no. 15/08);
- Rulebook on the manner of asbestos waste handling and waste from products that containing asbestos (“Official Gazette of the Republic of Macedonia” no. 89/06).
- Law on Ambient Air Quality (“Official Gazette of the Republic of Macedonia” no. 67/04, 92/07, 35/10, 47/11, 59/12, 100/12, 163/13, 10/15, 146/15);



- Law on Protection Against Environmental Noise (“Official Gazette of the Republic of Macedonia” no. 79/07, 124/10, 47/11, 163/13, 146/15);
- Law on Nature Protection (“Official Gazette of the Republic of Macedonia” no. 67/06, 14/06, 84/07, 35/10, 47/11, 148/11, 59/12, 13/13, 163/13, 27/14, 41/14, 146/15, 39/16, 63/16);
- Law on Pastures (“Official Gazette of the Republic of Macedonia” no. 3/98, 89/08, 105/09, 42/10, 116/10).
- Law on Spatial and Urban Planning (“Official Gazette of the Republic of Macedonia” no. 199/14, 44/15, 44/15, 193/15, 31/16, 163/16, 90/17, 64/18 and 168/18);
- Law on Construction (“Official Gazette of the Republic of Macedonia” no. 130/09, 124/10, 18/11, 36/11, 54/11, 59/11, 13/12, 144/12, 79/13, 137/13, 163/13, 27/14, 28/14, 42/14, 44/15, 129/15, 39/16, 71/16, 103/16, 132/16, 35/18, 64/18);
- Decree for proclamation of the forest landscapes around the Mavrovo field for National Park" (Official Gazette of the People's Republic of Macedonia, No. 10/1949);
- The Law on Amendments to the Law on the Proclamation of the Forest Landscapes around the Mavrovo Field for the National Park (Official Gazette of the SFRY, No. 23/1952).

1.3 World Bank Environmental Policy

The World Bank implements protection policies aimed at accelerating the efficient identification of potentially negative environmental and social impacts of the project, as well as mitigation thereof. These policies are implemented in parallel with national policies, where by default, the more stringent policy prevails.

Since the Word Bank is the administrator of the Trust Fund of the Local and Regional Competitiveness Project, the Bank’s policy requirements on environmental impact assessment should be met.

In line with the operating procedure/Bank’s procedure **OP/BP 4.01 Environmental Impact Assessment**, the first step is to establish the level of detail that needs to be applied when conducting the assessment, i.e. screening. Based on the screening, projects can be classified in one of the following categories:

- *Category A* – projects that are expected to have significant negative impact;
- *Category B* – projects that are expected to have lesser negative impact than those from Category A, which are often of recurrent nature. Distinction can be made between projects from B+ category which are expected to have bigger negative impact (closer to category A) and projects from B- category which are expected to have lesser negative impact (closer to category C).
- *Category C* – projects that are not expected to have negative impact, or if they have, it can be immediately prevented by implementing the current routine procedures;
- *Category FI* – projects that are an investment of World Bank through a financial intermediary and that are expected to have negative environmental and social impact.



The World Bank has developed indicative lists of projects that can fall within one of the given categories.

On 22/05/2018, the Unit for implementation of the RLCP submitted the letter with ref. no. 05-176/2 informing the Investor - Traffic and Services Company – “Zare Lazarevski” Ski Centre DOO Mavrovo, Mavrovi Anovi – on the results from the screening of the project in terms of environmental impact assessment. According to the screening report, the “Mavrovo Free Ride FREE-MAV” sub-project falls within **category B+**, i.e. it is recommended, inter alia, to develop an **Environmental and Social Management Plan (ESMP)**.

The environmental impact assessment procedure should also involve the general public by means of a public debate. The Environmental and Social Management Plan should be available on the web-site of RLCP, “Zare Lazarevski” Ski Centre in Mavrovo, the web-site of Mavrovo and Rostushe Municipality and the web-site of the National Park “Mavrovo”. Printed copies of this Plan should be made available to the public in the premises of the ski centre and in the building of the Municipality. Any potential stakeholders should be allowed to get involved in the procedure by providing opinions and comments.



2 PROJECT DESCRIPTION

This sub-project includes:

1. Equipping of a theme park for sports and recreation with: a) bike trails (so-called "Flow" and "Family") and b) an open ground for altitude fitness training (so-called "Trim track"),
2. Reconstruction and extension of the existing restaurant Trifkova Koliba; and
3. Providing free ride skiing equipment.

The activities included in this sub-project are divided into two phases of implementation – construction phase and operational phase.

2.1 Equipping the Sports and Recreation Park

➤ Bike trails

The routes for the bicycle trails are existing paths, which will be arranged, marked and equipped with the necessary elements/obstacles. The sub-project includes the arrangement of two bike trails so-called "Flow" and "Family" bike trail.

The Bike trail "Flow" will have a width of 0,9 m and a length of 1000 meters. The sub-project activities regarding this bike trail include: marking of the land on the ground, clearing the vegetation, excavation and embankment on the ground, in order to achieve the necessary slope, manual compression of the final layer, manual excavation and embedding of concrete MB 25 (4 m³) for the construction of a culvert, installation of obstacles, info boards, protective sponge, and an installation of a concrete pipe Ø600 in length of 3 meters.

The Elements/obstacles on the bike trail "Flow" are:

- 0% to 15% inclination (at position: 2-3; 3-4; 4-5; 6-7; 7-8; 9-10; 12-13; 17-18⁵);
- 15% to 30% inclination (at position: 1-2; 5-6; 10-11; 14-15; 15-16);
- 30% inclination and more (at position: 8-9; 11-12; 13-14; 16-17);
- Wall Curve Ride (at position: 1-6; 1-9);
- Roller Bumps (at position: 3-4; 7-8; 12-13);
- Wooden polygon (at position: 2-3; 10-11; 14-15);
- Bridge (at position: 16-17);
- Info board.

Depiction of some of the elements/obstacles on the bike trail "Flow" are given in the following figure.

⁵ These positions are depicted in the Figure bellow.



Figure 1 Elements/obstacles on the bike trail "Flow"

The "Family" bike trail will have a width of 2 meters and a length of 750 meters. This path has a constant gentle slope, minimal obstacles, mild bends for use by all family members (and for children over 10 years). The project activities for this cycling route include: setting and cleaning the route of grass and shrubs, excavation and earth embankment for achieving the required slope, manual overfilling of the final layer, manual cleaning and forming a drainage canal in the length of 250 m and the procurement, transportation and installation of a concrete pipe Ø600 in length of 1 meter.

Elements/obstacles on the bike trail "Family" are:

- Roller Bumps (on position: 2-3; 9-10);
- Wooden polygon (at position: 5-6; 9-10; 14-15);
- Wooden Bridge (on position: 7-8; 13-14);
- Pumps (on position: 4-5; 11-12; 12-13);
- Info board.

The elements of the bike trail "Family" are shown in the following figure.



Figure 2 The elements of the bike trail "Family"

The location of the bike trails “Flow” and “Family”, the direction of movement and the positions where elements mentioned above are planned to be placed are presented in the following figure.



Figure 3 Routes of the bike trails “Flow” and “Family”

➤ “Trim track”

The “Trim track” is an open multipurpose training ground where people can conduct fitness trainings at the same time or it can be used by ambitious sportsman who want to test their physical possibilities. The open polygon has a circular shape (with dimensions of 100 x 50 m) and it will have two identical paths to allow paired competition. The full length of one path is around

320 m and the width of the track varies from 2 to 4m. The track is divided into 15 segments/sections where different mounting obstacles will be installed.



Figure 4 The “Trim track”

There will always be 12 obstacles on the track, while the remaining 3 obstacles will be optional and set according to the needs. The obstacles/elements to be placed on the “Trim track” are shown in the following figure.

1. Wall Obstacle		2. Table Wall Jump	
3. Log Balance Walk		4. “Tires Hoops”	
5. Rope Swing		6. Rope Climb	



The schematic view of the "Trim track" is given in the following figure.

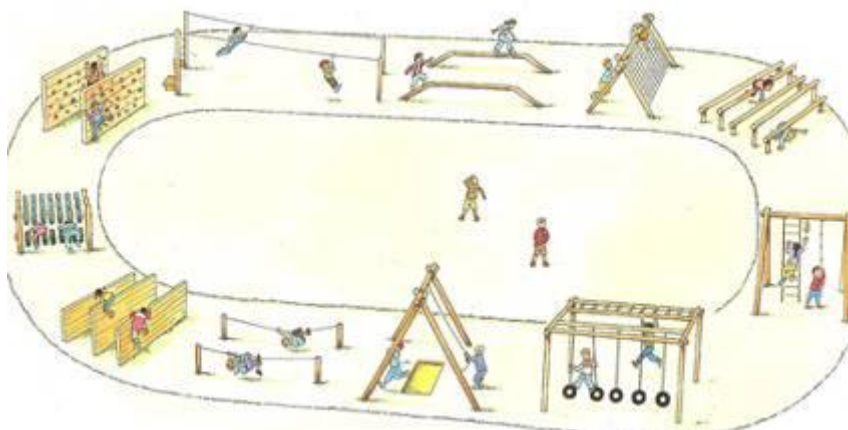


Figure 5 The schematic view of the "Trim track"

Equipping and editing the “Trim track “includes:

- Marking the land on the ground;
- Clearing the grass and low vegetation and other organic material (humus);
- Manual soil excavation up to a depth of 30 cm (1500 m³);
- Removal of rocks;
- Placement of a buffer - gravel in a layer of 10 cm (total 100 m³);
- Incorporation of the finished layer from the ground in a layer of 20 cm, with machine compaction (total 200 m³);
- Embedding of concrete MB 25 for the foundations with hydrophobic additive and hydrozym (5,8 m³);
- Placement of the obstacles;
- Mounting of ropes, plastic handles, chains, tires, sandbags, etc.

2.2 Warehouse for Storing Equipment

Some obstacles, necessary for the open training ground, will be stored in an already existing warehouse and construction or reconstruction activities will not be performed. This facility will be in use only when necessary. The warehouse is located next to the training ground.

2.3 Reconstruction of the existing restaurant “Trifkova Koliba”

The sub-project activities foresee the reconstruction and extension of the existing restaurant “Trifkova Koliba”, which is located at the end point of a two-seater cable car. The facility of the restaurant “Trifkova Koliba” has no protection status. The Investor “Traffic and Services Company – “Zare Lazarevski” Ski Centre DOO Mavrovo, Mavrovi Anovi has an agreement for usage of the facility of the restaurant, as all other facilities in the Ski Centre. The land is state-owned, but Mavrovo NP supports the realization of this project.

The restaurant is located at an altitude of 1500 meters and its current condition is shown on the next figure.



Figure 6 Outlook of the current state of the restaurant “Trifkova Koliba”

The current object is built of stone bearing walls, and the wooden roof structure is covered with asbestos cement slabs. The restaurant consists of: entrance area, a large main area for visitors with fireplace, whereas the kitchen and toilets are located on level -0,75 cm.

The total area of the restaurant is 220 m² (internal part), which is divided into the following spatial units:

- Main area for visitors is 135 m²;
- Kitchen with leaves 31 m²;
- Sanitary facilities with pre-space 35 m² (2 cabins for men and 2 cabins for women);
- Technical premises 16 m².

The capacity of guests in the present condition of the building is a total of 140 seats, of which 120 seats are at wooden tables with benches, and seats beside a bar are ~ 20.

The basis of the restaurant (with the layout of the premises) and the dimensions of the existing object are shown in the following figure.

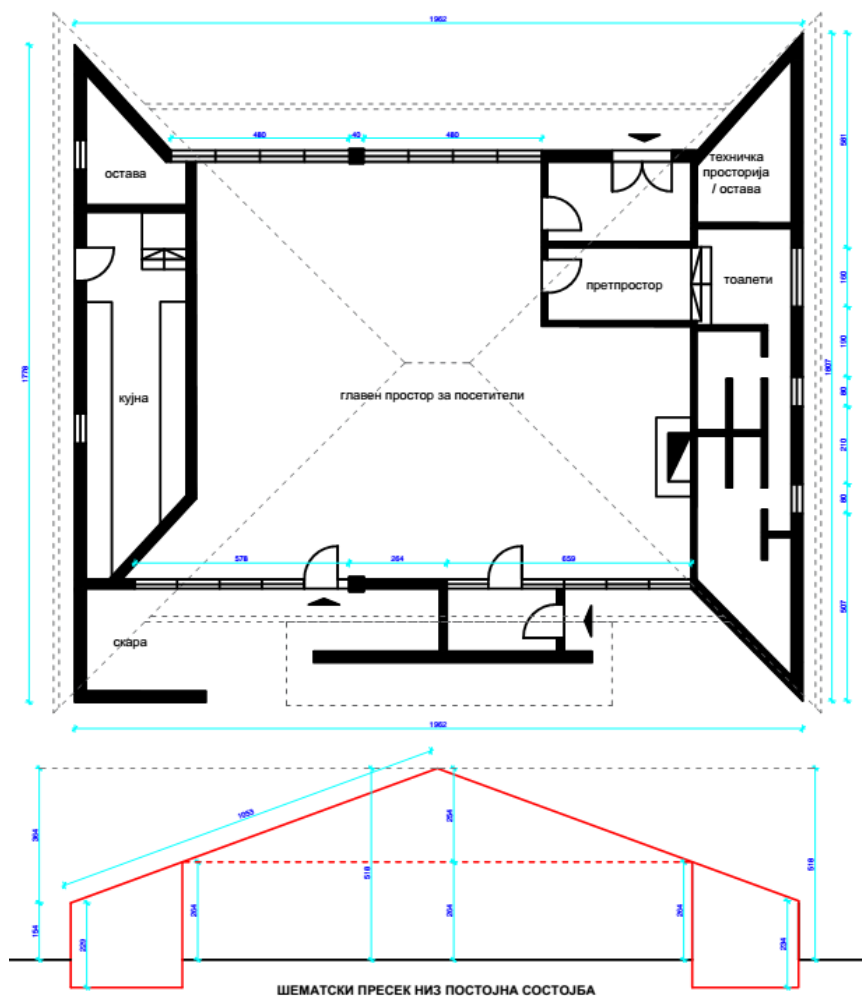


Figure 7 Basis of the restaurant "Trifkova Koliba" (current situation)

The following photos show the current state of the restaurant "Trafika Koliba" interior and exterior).



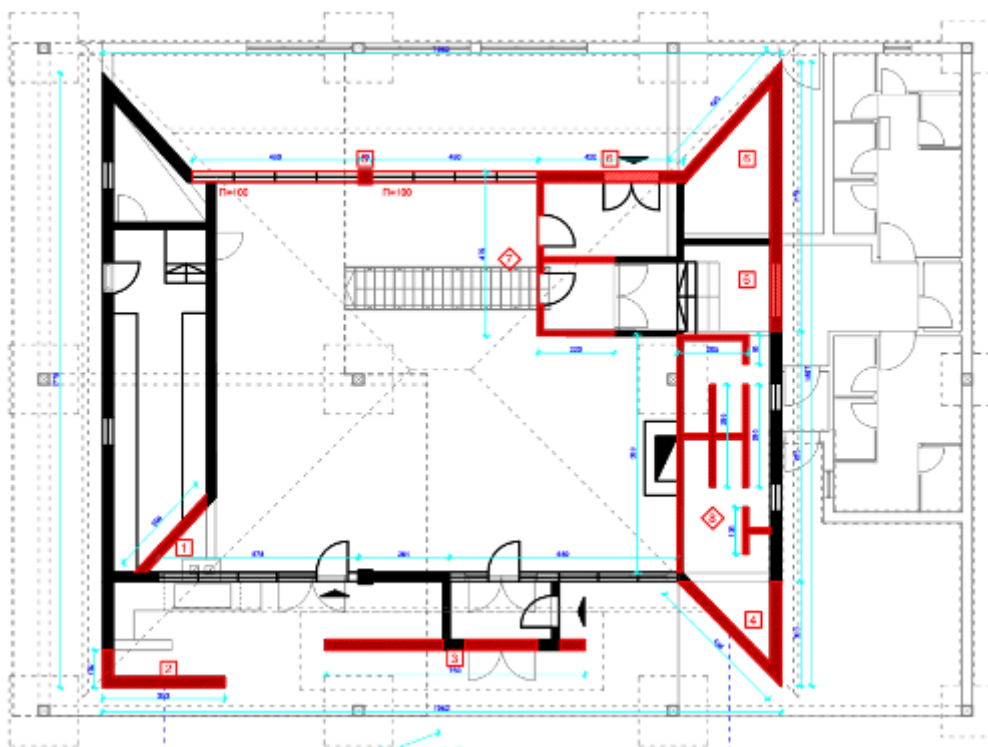
Figure 8 Interior of the restaurant "Trafkova Koliba"



Figure 9 Exterior of the restaurant "Trifkova Koliba"

The sub-project activities include removal of 8 existing walls, dismantling of the roof construction and reconstruction of the sanitary facilities in order to expand and enrich the restaurant, all activities being aimed at modernization and equipping (the kitchen, toilets and the area for visitors) with all the necessary contents for the visitors.

The following figure shows the walls to be removed (marked in red) and the expansion of the building (grey).



The sub-project includes an increase of the main area for visitors by increasing the base of the ground floor with the placement of a gallery (at elevation 3 + 30) from where visitors can go out to the terrace, also intended for guests.

The total area of the reconstructed and upgraded object of the restaurant is 430 m² (internal space) and an area of 250 m² for terraces (on the ground floor and on the first floor/gallery).

The total seating capacity in the reconstructed and completed building is 375 visitors.

The situation of the reconstructed and upgraded restaurant “Trifkova Koliba” is shown in the following figure.



Figure 10 The newly designed restaurant “Trifkova Koliba”



Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

The following pictures depict the foundations of the ground floor and the gallery, the equipment that will be placed in the restaurant, as well as the longitudinal section of the reconstructed and extended facility of the restaurant.

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

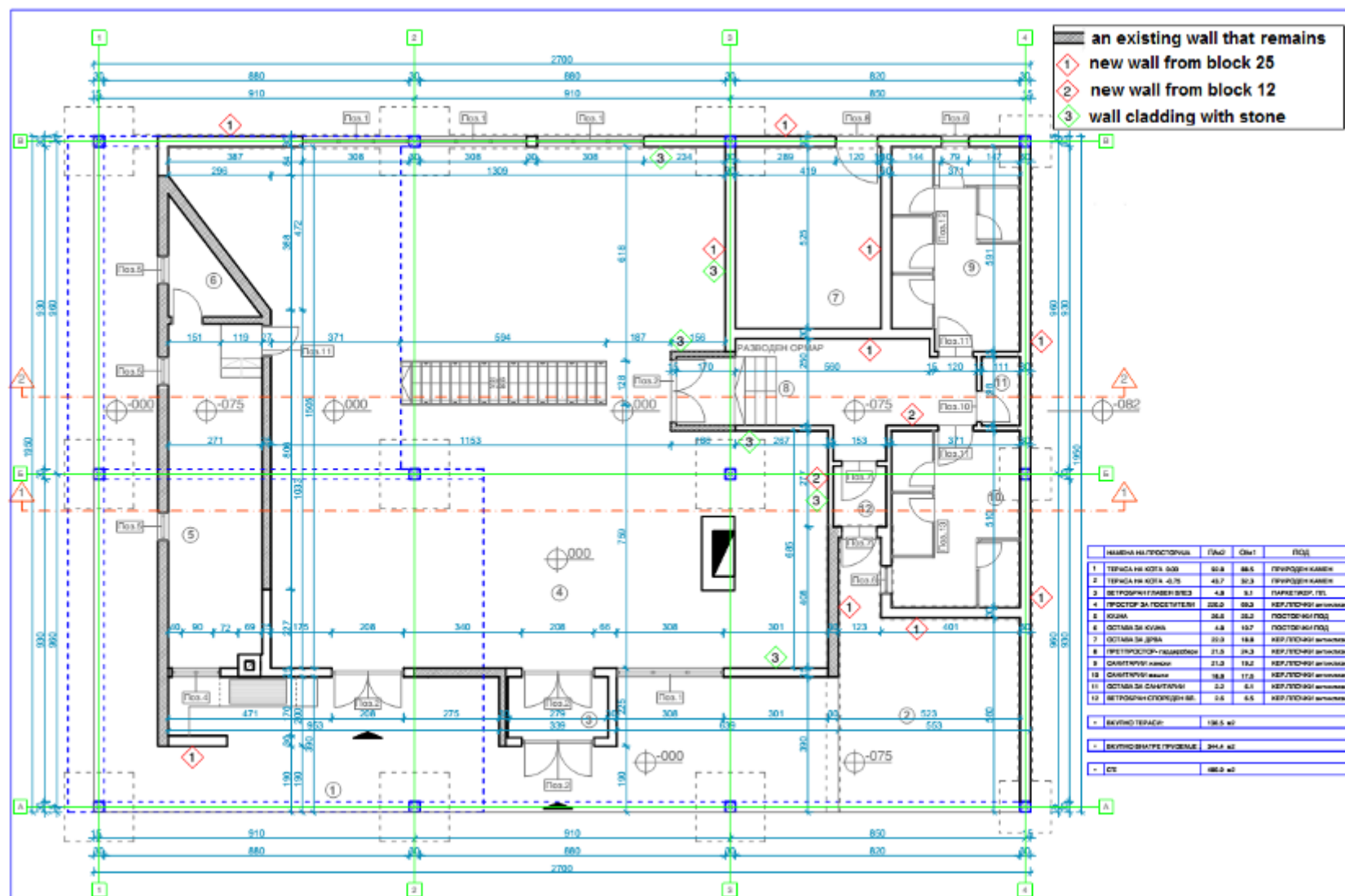


Figure 11 Basis of the reconstructed restaurant at level 0.0

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

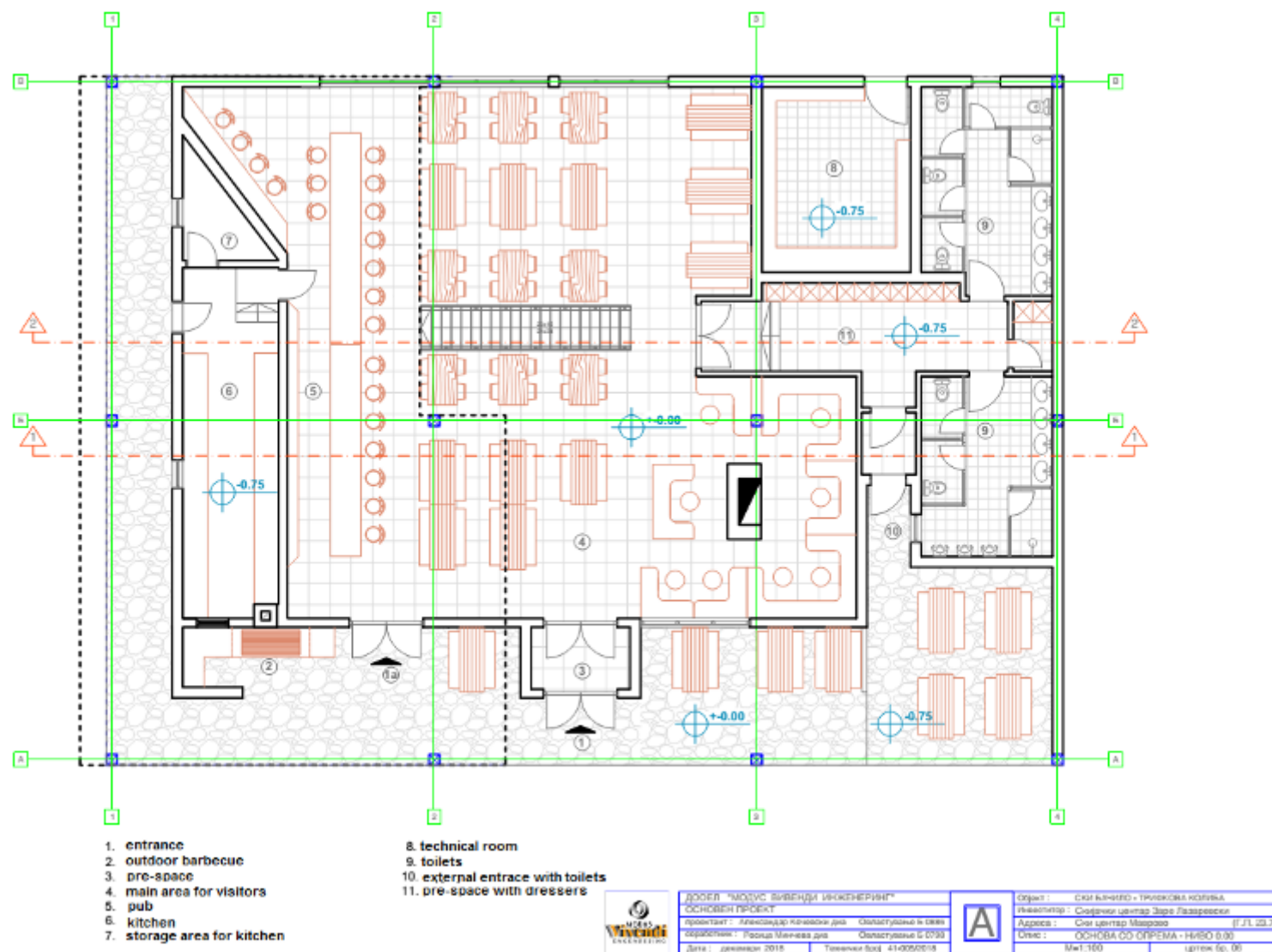


Figure 12 Base of the reconstructed restaurant with internal equipment

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

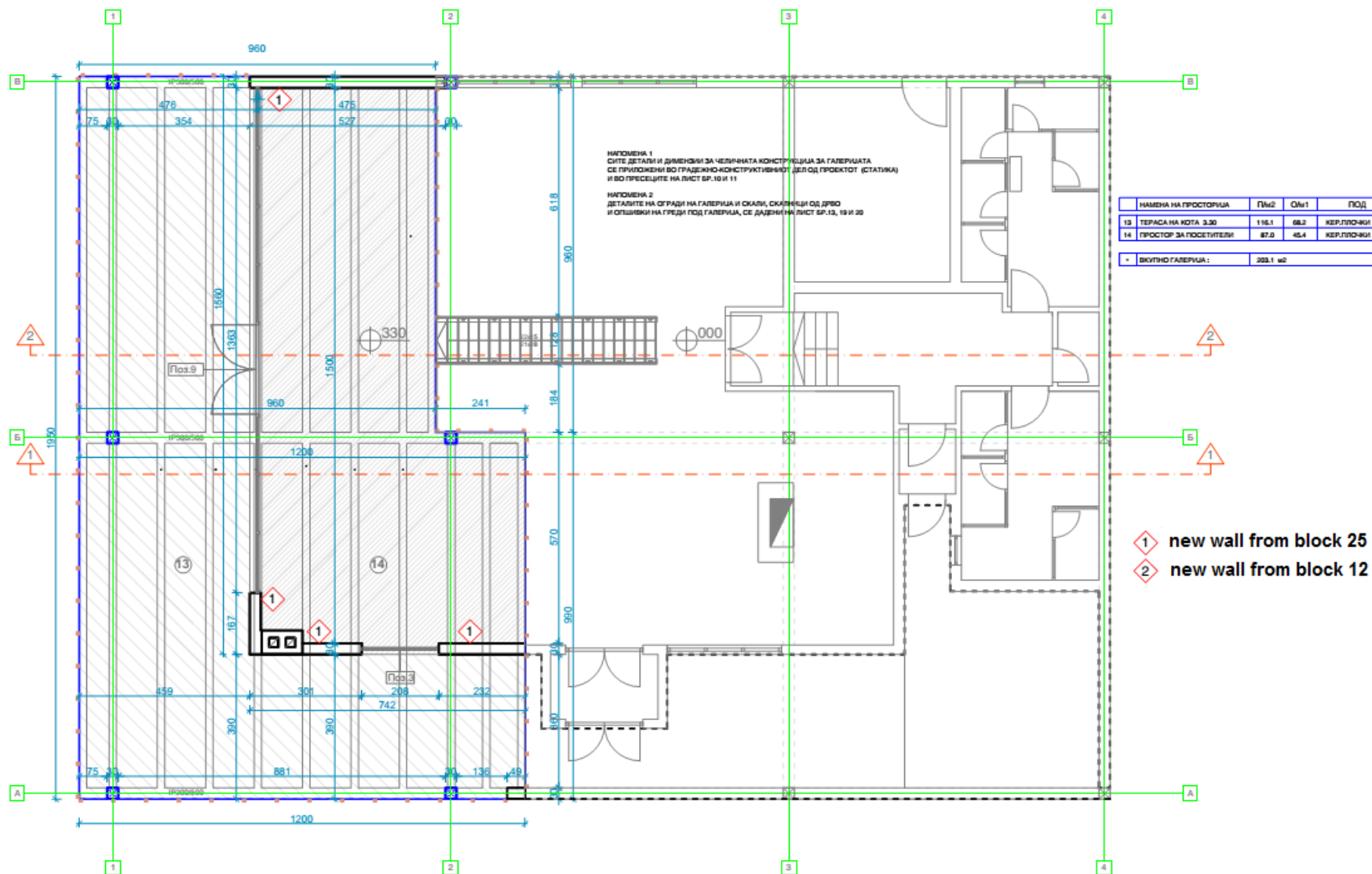
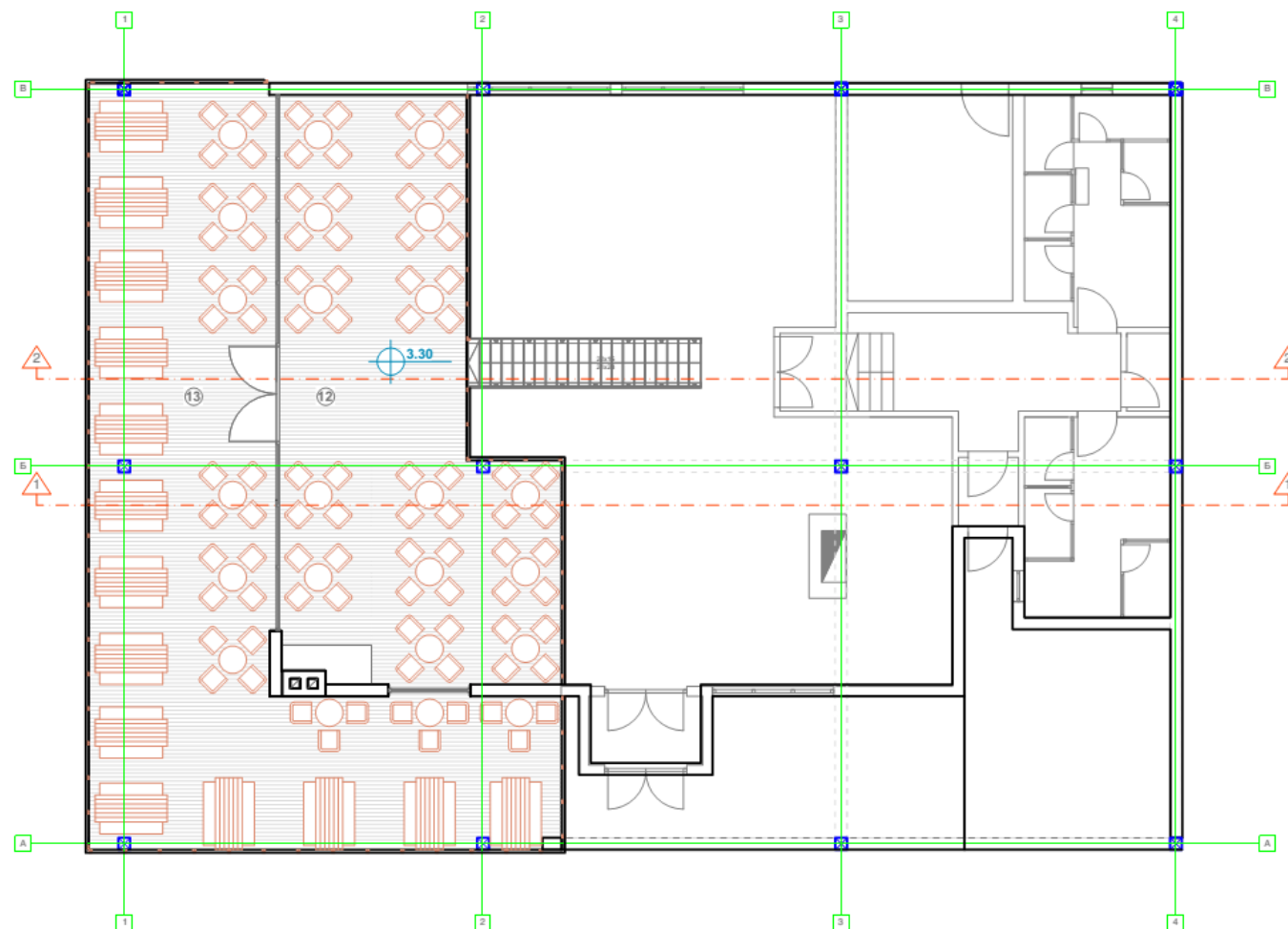


Figure 13 Basis of the gallery (new situation)

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"



- 12. main close area for visitors at level 3.30 ,
- 13. open terrace for visitors at level 3.30



ДООЕЛ "МОДУС ВИВЕНДИ ИНЖЕНЕРИНГ"
ОСНОВЕН ПРОЕКТ
проектант : Александар Кочевски д.р.н. Овластување Б 0889
соработник : Росица Манчева д.р.н. Овластување Б 0798
Дата : декември 2018 Технички број : 41-005/2018



Објект : СКИ БАЧИЛО - ТРИКОВА КОЛИБА
Инвеститор : Скијачки центар Заре Лазаревски
Адреса : Ски центар Маврово (г.л. 23.7)
Опис : ОСНОВА СО ОПРЕМА - НИВО 3.30
М:1:100 цртеж бр. 07

Figure 14 Basis of the gallery with equipment (new situation)

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

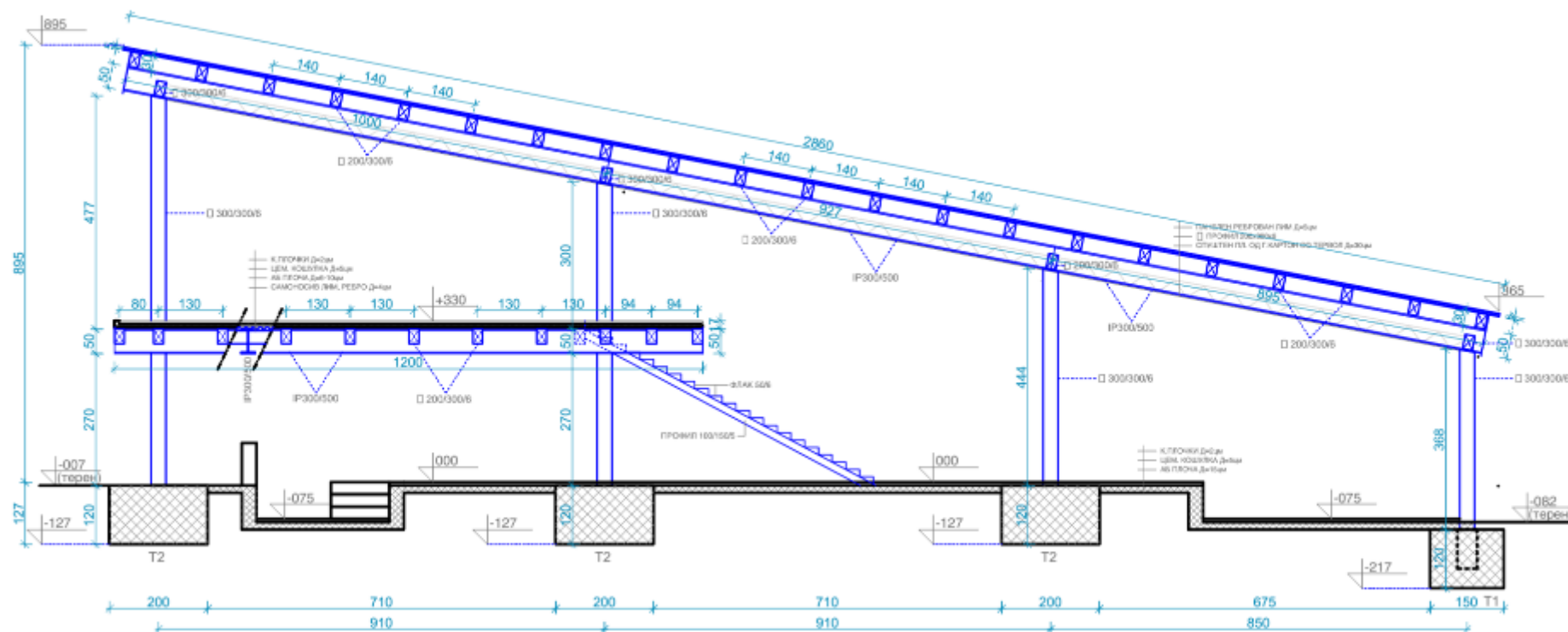


Figure 15 Section 1-1 (new situation)

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

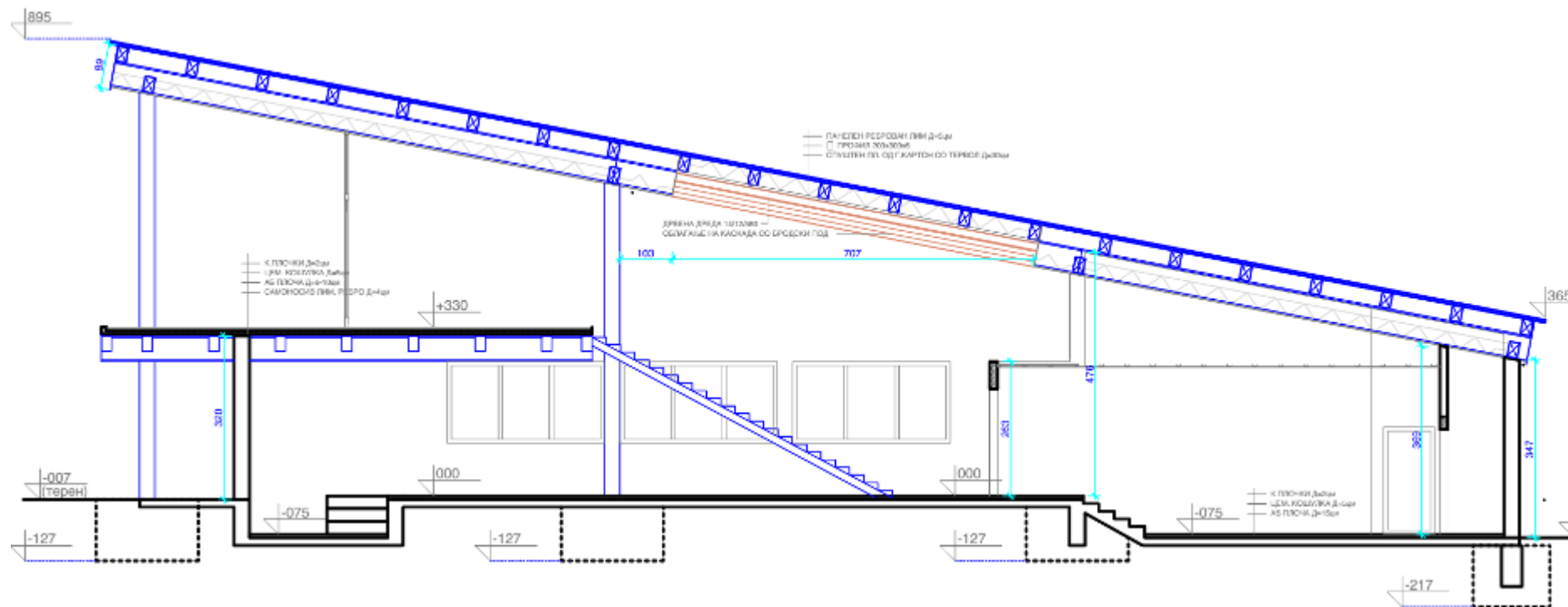


Figure 16 Section 2-2 (new situation)

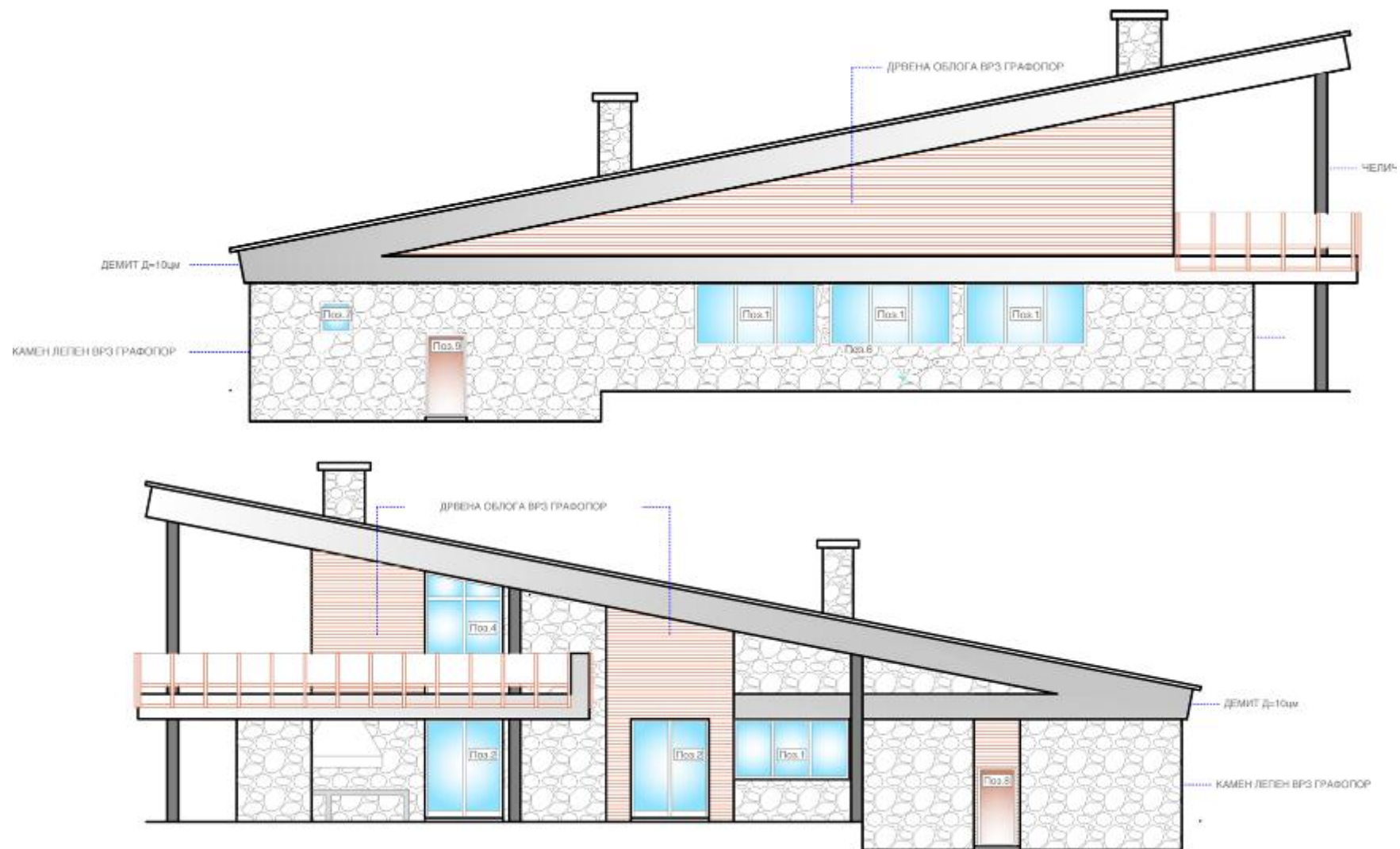


Figure 17 View of the new facade (on both sides)

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

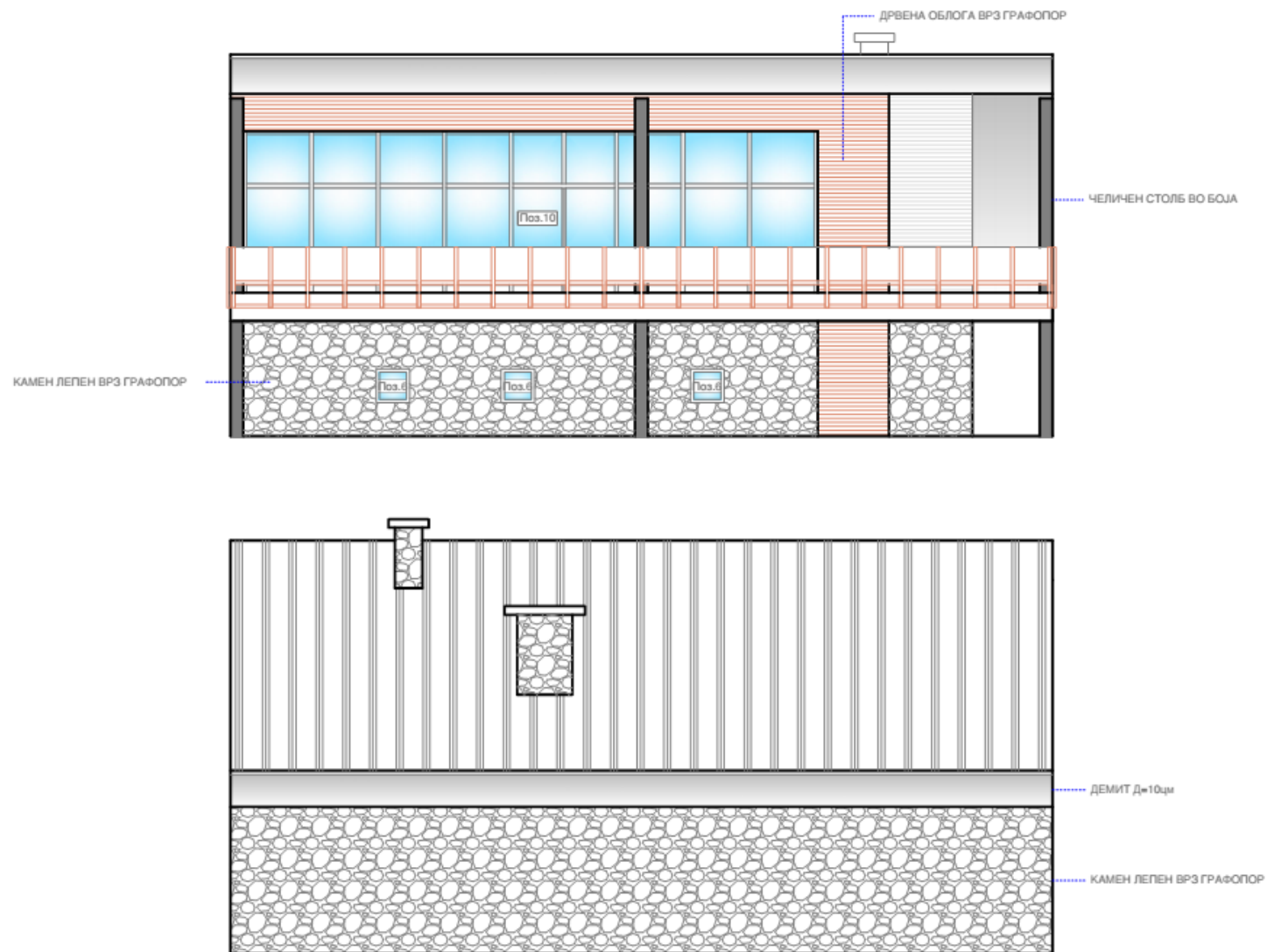


Figure 18 View of the new facade (front and rear side)



Figure 19 New outlook of the restaurant “Trifkova Koliba”

At the moment, the restaurant is supplied with water from the existing water intake structure which will continue to be used.

Sanitary and faecal waste waters, which will be generated from the restaurant "Trifkova Koliba" through an external sewerage network (from PVC pipes), will be collected in a waterproof septic tank. The septic tank is planned to be built of reinforced concrete, three-chamber (dimensions 6x6x2 m) with a volume of 72 m³ and a wall thickness of 25 cm.

The following figure depicts the base of the septic tank, as well as the longitudinal section of the septic tank.

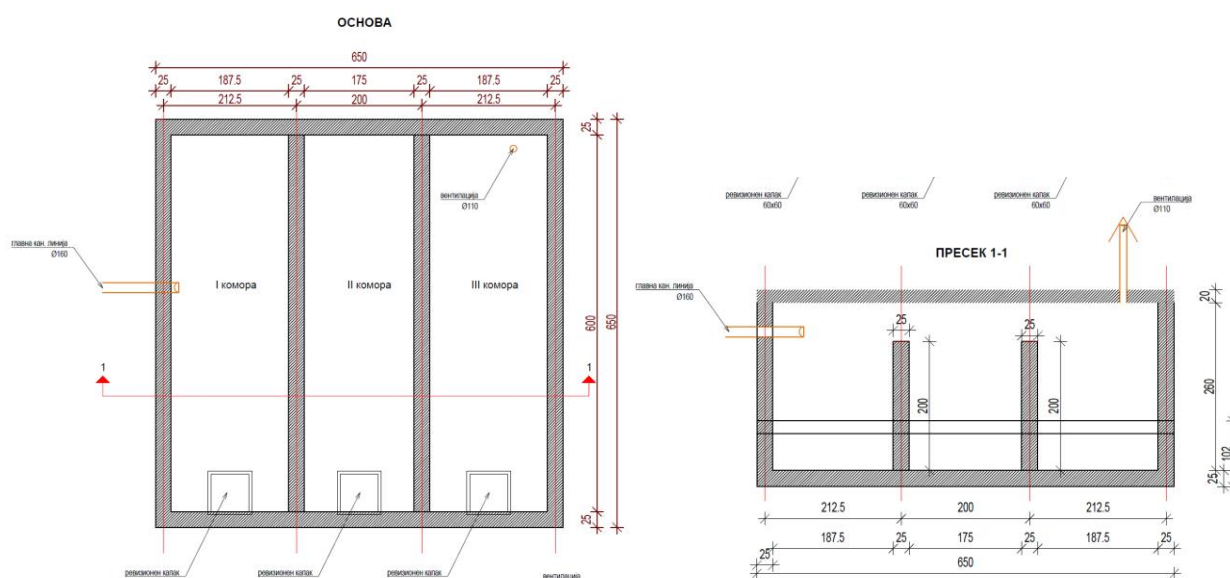


Figure 20 Septic tank (longitudinal and transversal cross section)

In the process of reconstruction of the restaurant, the existing access road is planned to be used for vehicles and machinery, including trucks for transportation of material, waste, workers etc. The existing access road so called “Galichki Pat” (local earthly road) to the site is presented in the following figure.

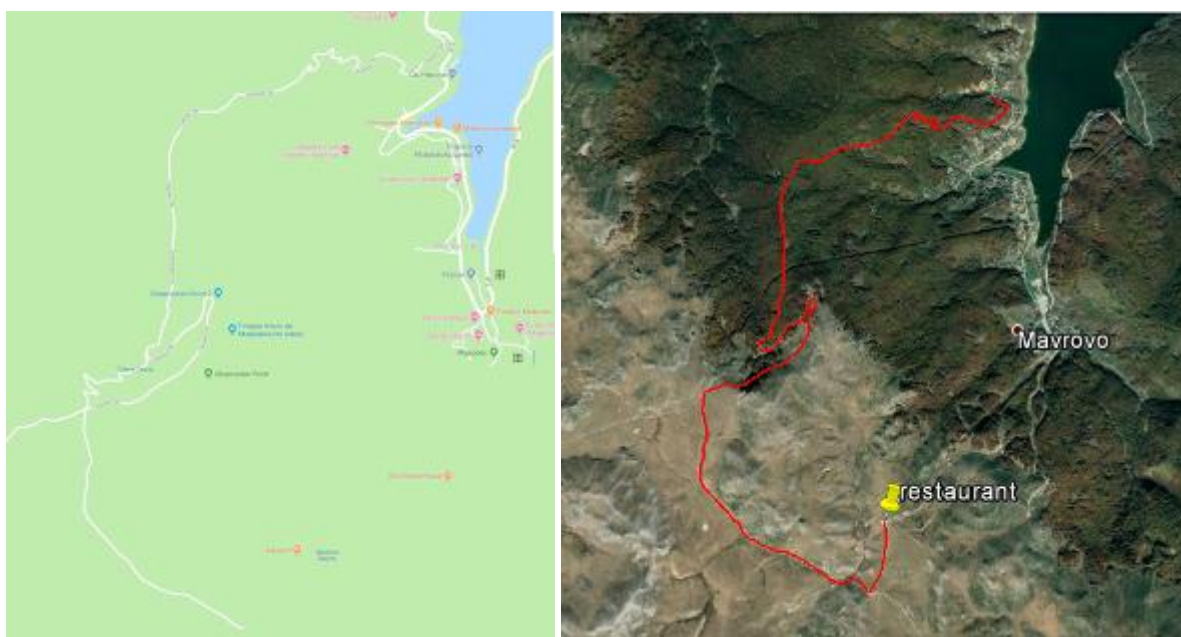


Figure 21 Existing access road to the project location

The sub-project includes the use of natural material like wood and stone, in addition to metal and glass, for the reconstruction of the restaurant “Trifkova Koliba”.

The reconstruction and extension activities for the restaurant “Trifkova Koliba” include the following:

Dismantling

- Dismantling of an existing roof construction (wooden beams and asbestos slabs) – 420 m²;
- Removal of 6 existing stone walls (total 69,5 m³);
- Removal the 2 walls of a ceramic block 12 (total 16,3 m³);
- Dismantling of facade carpentry (10 doors and windows);
- Dismantling of existing floor of ceramic tiles and cement screed (14 m³);
- Dismantling of existing toilet equipment and pipes.

Earth works

- Excavation of soil in a layer of 30 cm on an area of 320 m² (total 96 m³);
- Placement of a buffer (total 64 m³).

Concrete works

- Concreting of foundations and slabs (124,5 m³);
- Armature (type GA-RA 400/500 and MAG 500/560-Q188) for reinforcement of concrete (2250 kg);

Masonry works



Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

- Masonry works of facade walls from the inside (515 m²);
- Plastering of interior walls (1440);
- Installation of reinforced cement screed (988 m²);

Insulating works

- Installation of horizontal waterproofing insulation in toilets (560 m²);
- Installation of thermal insulation on the roof (420 m²);

Locksmith works

- Installation of steel construction (49320 kg).

Facade carpentry

- Mounting of windows with different dimensions (10 windows);
- Door mounting with a different dimension (11 doors);
- Mounting of screen for toilets (total 8 cabins with doors);
- Mounting a fence for a gallery of aluminium profile and glass (55 m²).

Roof covering work

- Installation of plastic sheet metal for roofing (570 m²);

Floor works

- Setting ceramic tiles (503 m² and 297 m²);
- Setting stone on the floor outside of the restaurant (140 m²).

Lowered ceiling

- Performance of lowered ceiling from waterproof gypsum plates (370 m²);
- Performance of lowered ceiling from aqua panel plates (371 m²);
- Plating with aqua panel plates on a roof construction (90 m²).

Painting works

- Skimming and painting the walls (1280 m²).

Façade works

- Performance of the demit façade (495 m²);
- Betting on a facade with a flat stone (285 m²);
- Construction of a wood façade (105 m²).

Plumbing works

- Mounting of existing: wash basins and wc-shells, existing taps and valves, and water and sewage pipes;
- Installation of sinks, toilets, mirrors, electric water heater etc.

- Installation of PPE water pipes with different dimension (total length of 168 m’);
- Installation of valves (total 6 pieces);
- Installation of reinforced concrete manholes and lids for sewage (total 3 pieces);
- Installation of PVC sewer pipes with different dimension (total length of 106 m’) etc.

Electrical works

- Performance of electrical installation;
- Installation of switches, lamps etc.
- Performance of lighting installation and lightning protection.

2.4 Provision of Ski Equipment

In order to enable free ride skiing, the Investor plans to purchase the necessary equipment, such as a cabin for the existing snowcat, a navigation system, as well as a safety and avalanche control system.

By installing a passenger cabin on the snowcat, it will be possible to transport visitors to those parts of the mountain that cannot be reached by a cable car or ski lift.



Figure 22 Passenger cabin on the snowcat

The navigation system is equipped with a so called tracker / Beacon, which is a digital signalling device that helps in locating two or more persons in the event of an accident.

The safety and avalanche control system consists of an airbag that is used in case of an avalanche, an air cylinder for pumping air, a shovel, a probe and a radio station.

2.5 Project Site

The project will be implemented on the territory of Mavrovo and Rostushe Municipality. This municipality is located in the western part of the Republic of Macedonia (Figure 22). Its administrative centre is the village of Rostusha. It covers a territory of 663.19 km² and larger part of its territory falls within the boundaries of the National Park “Mavrovo”.

To the north it borders the Municipality of Gostivar, to the east it borders the Municipality of Kichevo, to the south the Municipality of Debar and to the west the Republic of Albania. The municipality has a population of 8 618 inhabitants.



Figure 23 The location of Mavrovo and Rostusha Municipality in the Republic of Macedonia and a map of the municipality and its settlements

The project area is located on Bistra Mountain, within the boundaries of the National Park “Mavrovo”, in a zone above the forest belt. The area is mainly consisted of mountain meadows. The location of the project area and its surrounding are depicted on the Google image below.





Figure 24 The surrounding of the project area

According to the current zonation of the National Park “Mavrovo”, the project area does not belong to a zone of strict protection, but it is rather in the melioration zone and the tourist recreational zone of the National Park “Mavrovo”.

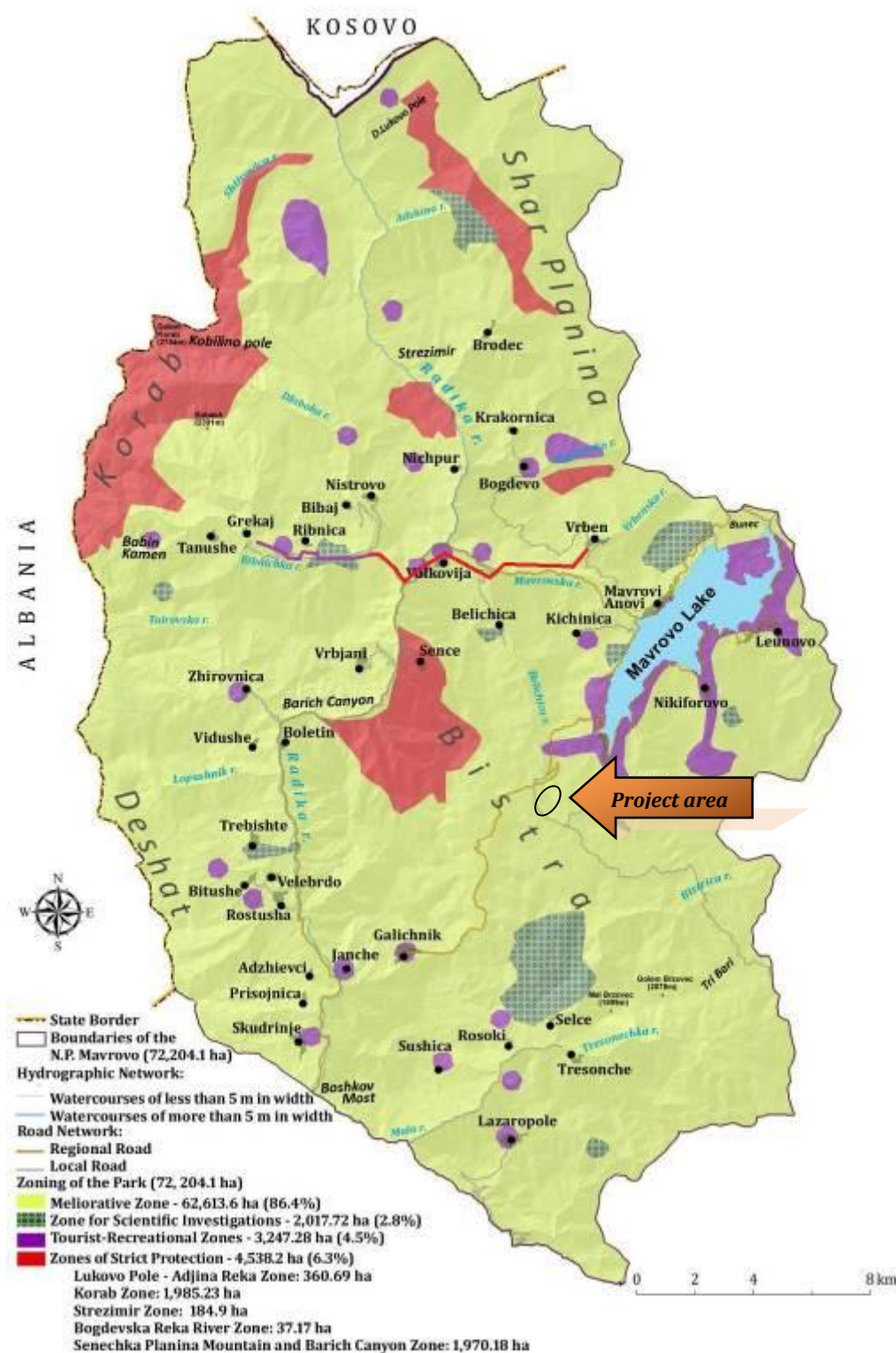


Figure 25 Location of the project area within the National Park “Mavrovo”. The zoning of the park is in line with the Spatial Plan of “Mavrovo” National Park from 1988 developed by the Institute for Urban Planning and Residential and Municipal Activity Techniques

The new draft-Law on “Mavrovo” National Park as of February 2015, which is harmonized with the Law on Nature Protection, is still under development. It includes new zone setting in the National Park “Mavrovo” by establishing three zones: zone of strict protection, zone of active management and zone of sustainable management. In accordance with the proposed zoning, the

entire project area will fall within the zone of sustainable management, where the following activities are allowed: eco-tourism, building of restaurants, developing activities, mountain biking on developed trails, as well as traffic with motor vehicles.

During the preparation of the Elaborate for environmental protection for this sub-project, a Letter of Intent was delivered to the Directorate of the Public Enterprise “NP Mavrovo” for obtaining the approval. They confirm that the project area is located in the Tourist-recreational zone of the National Park “Mavrovo” where the proposed activities are allowed to be implemented. The obtained opinion from Public Enterprise “NP Mavrovo” is given in the Appendix 3.

2.6 Raw and Other Materials

Raw materials and auxiliary materials to be used in the construction phase are shown in the tables below.

Table 1 Materials to be used for the “Trim track” and the “Flow” and “Family” bike trails

Raw material	Quantity
Blinding layer (crushed stone)	100 m ³
Concrete MB 25	9,8 m ³
Metal elements for obstacles	20 pieces
Rope	200 m`
Plastic handles	12 pieces
Chain	50 m`
Tires	12
Sacks for sand	222 pieces
Metal rope	70 m`
Belts for plastic handles	50 m`
Concrete pipe ø600	4 m`
Protected sponge d=10cm	7 m ²
Info board	12 pieces

Table 2 Raw materials needed for the reconstruction and extension of the Restaurant “Trifkova Koliba”

Raw material	Quantity
Blinding layer (crushed stone)	64 m ³
Concrete MB 30	124,5 m ³
Armature	2250 kg
Mortar for façade and interior walls	1935 m ²
Cement screed	988 m ²
Thermal insulation with armafex	420 m ²
Steel construction of hot rolled profiles	49320 kg
Plastic galvanized sheet metal	2650 kg
Window with different dimensions	10 pieces
Doors with different dimensions	11 pieces
Aluminum profiles for the fence of the gallery	55 m`
Plastic galvanized sheet metal for roof	570 m ²
Metal plates for snow (2x2 m)	95 pieces
Ceramic tiles	503 m ²
Ceramic tiles	297 m`
Gypsum plates	370 m ²
Aqua panel plates	316 m ²
	85 m`
Skimming and painting the walls	1280 m ²
Grafor	495 m ²



flat stone	285 m ²
Wood for facades	105 m ³
Wooden floor	61 m ²
PP water pipes of different dimensions	168 m ³
Valves	6 nap.
Reinforced concrete manholes (mounting type) with cast iron covers	3 pieces
PVC sewer pipes	106 m
Cables for weak and strong current	170 m ³
Lamps	116 pieces
Electrical cabinets	13 pieces
Toilets equipment	According main design

In the construction phase as an auxiliary material the following will be used: drinking water, fuel, lubricating oil, motor and hydraulic oil necessary for the operation of the mechanization. The quantities of these auxiliary materials cannot be defined at this phase.

In the operational phase, for a proper operation, the restaurant is expected to use: electricity, water, heating wood, soft drinks, alcoholic beverages, food items, hygiene products, etc. The consumption of these cannot be defined at this stage and will depend on the number of visitors. In this phase, it may be necessary to replace an element of the “Trim track” or bike trails in case of damage, such as wooden slats, ropes, belts, plastic handles, etc. Their quantities cannot be determined at this phase.

3 ENVIRONMENTAL IMPACT ASSESSMENT

The expected environmental impacts have been assessed for the two phases of the project implementation – **construction** phase and **operational** phase. Since the following sub-project activities: a) installing a cabin on the snowcat belonging to the ski center that will be used for transportation of visitors and, b) procurement of navigation and rescue equipment, are not expected to have negative environmental impact, they are not subject to assessment in this part of the Plan.

The construction phase covers all activities that will make use of construction equipment and vehicles for transportation of materials from and to the site, any earthwork operations, such as levelling of bike trails and their landscaping, reconstruction and extension of the restaurant, landscaping of the open training ground and equipping it with barriers. Assessment was also performed concerning expected failures and incidents that could occur during the implementation of this phase.

The operational phase covers the catering activities of the restaurant and any other activities emerging thereof, the use of the bike trails and the open training ground, as well as their regular maintenance and potential occurrence of failures or incidents.

The environmental impact assessment was performed by characterization of the activities planned with the sub-project against certain criteria that are most often used in this procedure, such as: magnitude of impact, significance of impact, probability of occurrence, extent of impact, its duration, etc. (Table 1). In the environmental impact assessment of the sub-project it was established that for all identified impacts it is possible to apply measures for their mitigation and/or elimination. These measures are provided in this ESMP.

Table 3 Criteria used in the environmental impact assessment

Criterion	Impact assessment based on criteria		
<i>Character of impact</i>	Positive (+)	Negative (-)	No - Neutral 0
<i>Type of impact</i>	Direct	Indirect	Cumulative
<i>Intensity of impact</i>	Large	Medium	Low
<i>Time of occurrence</i>	Immediately	Repetitive	Prolonged
<i>Duration of impact</i>	Short	Medium	Long
<i>Reversibility of impact</i>	Reversible	Irreversible	
<i>Probability of occurrence</i>	Certain	Possible	Impossible
<i>Significance</i>	Local	National	Cross-border/ Global

3.1 Air Emissions

3.1.1 Construction Phase

In the construction phase, sources of air emissions will be the following activities:

- Clearing the vegetation along the route of the “Trim track” and the two mountain bike trails;



Figure 26 Grass and shrubs (*Juniperus communis*) along the bike trails

- Excavation and compacting of a buffer along the route of the “Trim track”;
- Dismantling and removal of parts of the restaurant's facility (roof construction and some of the existing walls);
- Use of machinery and vehicles;
- Transportation of building materials, waste and workers;
- Storage of raw materials and auxiliary materials;
- Mounting and construction of elements on the “Trim track” and the two mountain bike trails.

These activities will generate the following air emissions:

- Fugitive dust;
- Exhaust gases from internal combustion engines (SO₂, NO_x, CO, CO₂).

Air emissions from the sub-project activities will be generated within the project area and along the existing access road.

However, these are short-term and minimum quantities of air emissions that cannot have a significant impact on the ambient air quality, even more if it is taken into account that there are no other air emission-generating activities on the site.

Impact assessment: negative, direct, low intensity, will occur immediately, short-duration, reversible, certain in terms of probability of occurrence, and of local significance.

3.1.2 Operational phase

In this phase, sources of air emissions will be the vehicles used for delivery of raw and other materials to the restaurant, the vehicles collecting the municipal waste from the site, and the machinery for occasional maintenance of the bike trails. These impacts are insignificant and short-term (temporary).

The warming of the restaurant is planned to be performed by a fireplace using wood. As a result of burning wood, air emissions (solid particles, CO and NO_x) are expected to be generated.



From the collection of sanitary waste water into a closed septic tank and its ventilation the following is expected: emissions of methane (CH_4), carbon monoxide (CO), as a result of decomposition of organic matter under anaerobic conditions. It is also expected to generate sulphur hydrogen, that is, an unpleasant odour.

Impact assessment: negative, direct/indirect, low intensity, will occur immediately/prolonged, long duration, reversible, possible/certain in terms of probability of occurrence, and of local significance.

3.2 Emissions to Water and Impact on Water

3.2.1 Construction Phase

In the construction phase sanitary waste water from the workers will be generated. This can be collected in the existing septic tank. In case of inadequate management and maintenance of the septic tank, this may have an impact on the quality of surface and groundwater.

Surface water emissions can occur as a result of sedimentation of airborne particles, discharge of auxiliary materials, raw materials and waste by wind or precipitation, inadequate management of generated waste, incidental leakages of engine oil, other oils and liquid fuels from mechanization and vehicles; washing of machinery and equipment in the project area or parking outside designated parking area.

Impact assessment: negative, direct/indirect, low intensity, will occur immediately, short duration, reversible, possible in terms of probability of occurrence and of local significance.

3.2.2 Operational Phase

In the operational phase sanitary waste water from the workers and visitors will be generated. By collecting wastewater into a waterproof and reinforced concrete septic tank, these waters will be properly managed and the negative impact on the environment will be prevented.

Furthermore, the quality of the surface and ground waters may be affected in case of improper management of the generated waste.

Impact assessment: negative, direct/indirect, low intensity, short-duration, reversible, possible in terms of probability of occurrence and of local significance.

3.3 Soil emissions and impacts on soils

3.3.1 Construction Phase

The use and movement of heavy machinery and soil compacting activities for the arrangement of the bike trails and the “Trim track” are expected to cause impacts on the soil characteristics as a result of compaction and changes in waterproofing.

The quality of the soil and groundwater may be impaired if:

- The fuels and their derivatives, which will be used for the equipment and mechanization, are stored inappropriately and outside designated safe location;
- Inappropriate handling of oils, fats and lubricants;
- Inadequate waste water and waste management;



- During atmospheric precipitation, the areas provided for the storage of waste, raw materials and auxiliary materials are rinsed;
- Incidental leaks of oils, greases and lubricants from the mechanization occur as a result of defect of the mechanization.

Impact assessment: negative, direct, low intensity, will occur immediately, short duration, reversible/irreversible, possible in terms of probability of occurrence and of local significance.

3.4 Waste generation

3.4.1 Construction phase

In the construction phase, generation of the following waste types is anticipated⁶:

13 Oil Wastes and Wastes of Liquid Fuels

- **13 01 11*** synthetic hydraulic oils
- **13 02 06*** synthetic engine, gear and lubricating oils

15 Waste Packaging; Absorbents, Wiping Cloths, Filter Materials and Protective Clothing not otherwise specified

- **15 01 01** paper and cardboard packaging
- **15 01 02** plastic packaging
- **15 01 10*** packaging containing residues of or contaminated by dangerous substances
- **15 02 02*** absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances.

16 Wastes not otherwise specified in the list

- **16 01 03** end-of-life tyres

17 Construction and Demolition Wastes (including excavated soil from contaminated sites)

- **17 01 01** concrete
- **17 01 02** bricks
- **17 01 03** tiles and ceramics
- **17 02 01** wood
- **17 02 02** glass
- **17 02 03** plastic
- **17 04 02** aluminium
- **17 04 11** cables other than those mentioned in 17 04 10
- **17 05 04** soil and stones other than those mentioned in 17 05 03
- **17 05 05*** dredging spoil containing dangerous substances
- **17 05 06** dredging spoil other than those mentioned in 17 05 05
- **17 06 05*** construction materials containing asbestos
- **17 08 02** gypsum-based construction materials other than those mentioned in 17 08 01

20 Municipal Wastes (Household waste and similar commercial, industrial and institutional wastes) including separately collected fractions

- **20 03 01** Mixed municipal waste;

⁶ The number, in addition to the waste stream, indicates the appropriate waste code from the List of wastes ("Official Gazette of the Republic of Macedonia" No. 100/05).



- **20 02 01** Organic waste from vegetation clearing (small shrubs and grass).

Improper management of different types of generated waste can cause adverse impacts on human health, the quality of the soil and groundwater, visual impacts in the area, etc.

Impact assessment: negative, direct and indirect, low intensity, will occur immediately or prolonged, with short duration, reversible, possible in terms of probability of occurrence and of local importance.

3.4.2 Operational phase

In the operational phase, generation of the following waste fractions is expected:

15 Waste Packaging; Absorbents, Wiping Cloths, Filter Materials and Protective Clothing not otherwise specified

- **15 01 01** paper and cardboard packaging
- **15 01 02** plastic packaging
- **15 01 07** glass packaging
- **15 01 10*** packaging containing residues of or contaminated by dangerous substances

16 Wastes not otherwise specified in the list

- **16 01 03** end-of-life tyres
- **16 02 14** discarded equipment other than those mentioned in 16 02 09 to 16 02 13

17 Construction and Demolition Wastes (including excavated soil from contaminated sites)

- **17 02 01** wood

20 Municipal Wastes (Household waste and similar commercial, industrial and institutional wastes) including separately collected fractions

- **20 01 01** Paper and cardboard
- **20 01 02** Glass
- **20 01 25** Edible oil and fat from the kitchen;
- **20 01 41** Wastes from chimney sweeping
- **20 03 01** Mixed municipal waste;
- **15 01 02** Plastic packaging;
- **15 01 04** Metal packaging;
- **15 01 01** Paper and cardboard packaging;
- **15 01 07** Glass packaging;
- **20 02 01** Biodegradable waste; from the maintenance of the bike trails and the "Trim track";
- **20 03 01** Mixed municipal waste
- **20 03 04** Septic tank sludge

Improper management of different types of generated waste can cause adverse impacts on human health, the quality of the soil and groundwater, including visual impacts in the area, etc.

Impact assessment: negative, direct and indirect, of low intensity, will occur immediately or prolonged, with a long duration, reversible, possible in terms of probability of occurrence and of local importance.



3.5 Noise and vibration

3.5.1 Construction phase

Emissions of noise and vibration in the construction phase are expected from the vehicles for the transport and extension of the restaurant, as well as from the involved mechanization. However, they are expected to be short-termed (several hours a day, during the construction phase).

Table 4 Expected noise from the involved mechanization

Noise source	Intensity of noise emitted (dB)
Excavator	85
Bulldozer	85
Loaders	82-90

Generated noise and vibrations will mostly negatively impact the fauna (wild animals), which may migrate from their habitats near the construction site during the execution of works. These impacts are assessed as short-termed, of local character and of low intensity, because after completing the construction work, the wild animals will re-settle their habitats.

Impact assessment: negative, direct, low intensity, will appear immediately, short duration, reversible, with a certain likelihood of occurrence and of local importance.

In order to avoid nesting of the animals, it would be advised not to conduct construction activities during the spring and summer. This might not be possible due to high altitude of the project area and strong and long winters.

Therefore, construction will be realized in cooperation with NP Mavrovo and Investor should follow their instruction.

3.5.2 Operational phase

In the operational phase, the main sources of noise are:

- Noise from the increased number of tourists / visitors;
- The music from the restaurant;
- Vehicles for transportation.

Emissions of noise in the operational phase may affect biodiversity in the immediate vicinity. In the wider vicinity of the sub-project area, there are no settlements and sensitive noise receptors.

Impact assessment: negative, direct, low intensity, will occur immediately, with long duration, reversible, with a probable likelihood of occurrence and of local importance.

3.6 Impacts on biodiversity

3.6.1 Construction phase

Impacts on biodiversity are expected from the following activities:

1. Clearance of vegetation, along the bike trails, as a result of route arrangement.
2. Removal of the humus layer along the bike trails and the “Trim track”.



3. During the implementation of the project activities, increased noise and vibration intensities will be generated. The increased intensity of noise and vibration will affect the wildlife, especially birds and mammals. Such an impact may cause disturbance and migration of these groups of animals and affect the reproductive process.
4. Fugitive dust emissions, which may have a negative impact on plants, in the process of photosynthesis.
5. Heavy metals in exhaust gases - generated from vehicles can cause adverse effects on plants and the occurrence of diseases as a result of deposition of heavy metals on the foliar surface.
6. In case of incident situations (occurrence of fire, leaks of oils, grease, fuel).
7. Noise generation from machinery and mechanisation.

Impact assessment: negative, direct and indirect, medium intensity, will occur immediately or prolonged, short-duration, reversible, with a certain/possible likelihood of occurrence and of local/national importance.

3.6.2 Operational phase

In the operational phase, significant negative impacts on biodiversity are not expected, due to the type of activities and the fact that the restaurant is an existing activity on site. With the envisaged way of collecting sanitary waste water in waterproof septic tank will be properly managed and will be improve current way of waste water management and impacts on the soil and ground water quality, as well as impacts on biodiversity. Air emission will be the same until now and it is not expected negative impact in the environment and biodiversity. Noise level generation may be increased as a result of a greater number of tourists (although not significant to affect biodiversity) in the project area or be the same and it is not expected to be significant impact in the biodiversity, because there are another bigger source of noise (cable cars, sheepfold etc.) and in the tourist-recreational zone of the National Park “Mavrovo” is allowed to carry out these activities.

Impact assessment: neutral/negative, direct and indirect, low intensity, will occur immediately, with long duration, reversible, with a possible likelihood of occurrence and of local/national importance.



4 OCCUPATIONAL HEALTH AND SAFETY AND VISITORS SAFETY

The part dealing with occupational health and safety⁷ should identify the potential hazards for workers, in particular those that could endanger the life of the worker. Also, the measures envisage preventive and protective actions (change, replacement or elimination of hazardous conditions or substances present in the working environment), training of workers and keeping records, recording and reporting of occupational accidents, diseases and incidents, emergency preparedness and response in case of negative impacts such as occupational injuries, deaths, disabilities and diseases occurring at the workplace.

4.1 National legal framework

The basic law that addresses the OHS aspects is the Law on Occupational Health and Safety, from which other bylaws derive in the form of rulebooks. Only the national legislation relevant to this sub-project will be listed in the list below.

- Law on Occupational Health and Safety ("Official Gazette of the Republic of Macedonia" No. 92/07, 136/11, 23/13, 25/13, 137/13, 164/13, 158/14, 15/15, 129/15, 192/15 and 30/16);
- Rulebook on the minimum requirements for safety and health at work of temporary and mobile construction sites (Official Gazette of the Republic of Macedonia No. 105/08);
- Rulebook on safety and health in the use of equipment for work ("Official Gazette of the Republic of Macedonia" No. 116/07);
- Rulebook on personal protective equipment used by employees at work (Official Gazette of the Republic of Macedonia No. 116/07);
- Rulebook on signs for safety and health at work ("Official Gazette of the Republic of Macedonia" No. 127/07);
- Rulebook on safety and health at work of employees at risk of noise ("Official Gazette of the Republic of Macedonia" No. 21/08);
- Rulebook on safety and health at work of the employees at risk of mechanical vibration ("Official Gazette of the Republic of Macedonia" No. 26/08).

4.2 Measures for occupational health and safety

The OHS strategy should be elaborated and should tackle both the construction and the operational phase of the implementation of the sub-project. The recipient should be committed to establish a system for communication of OHS issues, in which he will appoint a responsible person for the OHS. The person responsible for the OHS will need to report to the management and other relevant internal and external bodies on all aspects that concern OHS issues, which they will notice during the implementation, including the success of the implementation of the established measures, the use of personal protective equipment, for possible injuries or accidents. For that purpose, it is recommended keeping a logbook for all aspects of the OHS, which will be updated in accordance with the OHS Plan that will need to be developed.

⁷ From now on: OHS.

4.2.1 Construction phase

The contractor should take all necessary measures in accordance with national legislation:

- Organizing OHS training for workers;
- Developing an OHS Plan. This Plan should identify the risks and propose general and specific measures for their reduction and / or elimination.

4.2.2 Operational phase

The recipient should take all necessary measures in accordance with national legislation:

- Creating a concept of a safety statement with risk assessment for all job positions;
- First aid training;
- Preparation of a rulebook for protection against fires and explosions;
- Assessment of threats from natural disasters and other accidents;
- Plan for protection and rescue in case of natural disasters and other accidents;
- Plan for mobilization;
- Development and placement of evacuation plans- A3-format;

At each stage of the project implementation, compliance with the prescribed measures and the designated OHS signs is mandatory and obligatory.

5 ENVIRONMENTAL IMPACT MITIGATION

The complexity of the measures provided in this Plan is in compliance with the assessed environmental impacts that are likely to be caused by the activities for the implementation of the sub-project. This implies that the impacts, which are assessed as significant, require greater engagement by the recipient, while those impacts that are assessed with little significance can be mitigated by ongoing routine measures and activities. In principle, in mitigating environmental impacts, the most preferred option is to avoid the impact itself, and the most unfavourable - compensation.

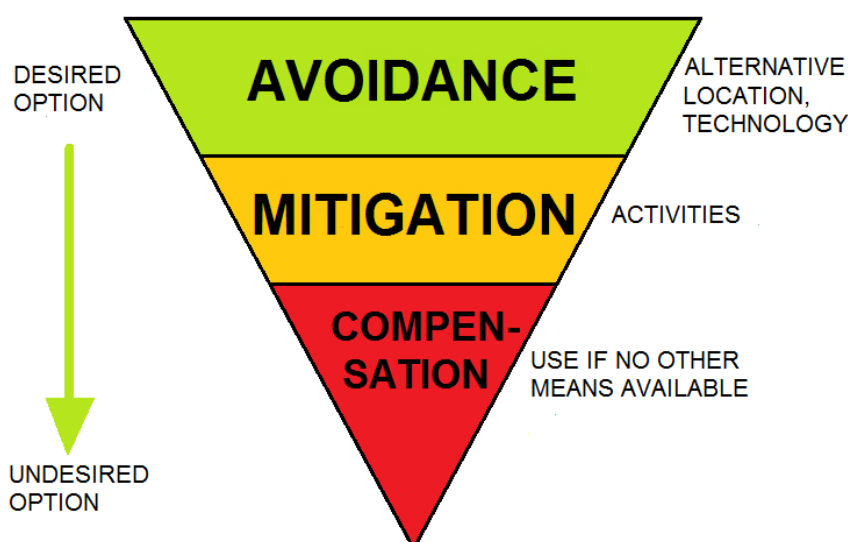


Figure 27 Desired and unwanted options for mitigating environmental impacts



The measures that are provided in the ESMP are mainly of a preventive nature, that is, they consist of activities that the Recipient and/or the Contractor must undertake during the execution of works, which will prevent or mitigate a certain negative impact. A small number of them are corrective measures, that is, measures that are applied after causing damage to a given environmental medium (in case of an accident).

In order to ensure the Recipient's willingness to deal with certain impacts that will occur during the **construction** and **operational phase** of the sub-project, the plan includes measures which need to be implemented in the **pre-construction phase**, that is, prior to the commencement of the construction work at the specific locations. By timely planning of sustainable environmental management and social aspects, in the pre-construction phase, it is ensured that the Recipient is committed to quality environmental management and social aspects, applying the best available knowledge and techniques.

According to the requirements defined in the LRCP Environmental and Social Management Framework⁸ a timetable for the implementation of mitigation measures, the responsibility for implementing the measures, as well as the costs associated with them, is given in the plan of measures to be followed.

Since the sub-project will be implemented on the territory of the National Park "Mavrovo", as well as in order to comply with the national procedure for environmental impact assessment, the Applicant submitted a request for consent for the activities to be performed by the Public Institution National Park "Mavrovo". On the basis of the submitted request, the Public Institution delivered a letter (No. 03-608/2 from 19.07.2018) that it is open for further mutual cooperation regarding this sub-project. The letter is attached in the Appendix 3 to this document.

⁸ The plan of measures adheres to the manner of its presentation given in Annex 4 of the Environmental Framework. The impacts on the environmental media and factors are delineated in separate parts of the table.

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Table 5 Environmental mitigation plan

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
PRE-CONSTRUCTION PHASE					
AIR EMISSIONS					
1. Working of mechanization in the pre-construction phase	Air quality deterioration from emissions from fugitive dust and exhaust gases in the pre-construction phase	Contracting with an authorized repairer (in the immediate vicinity of village Mavrovo) for maintenance and servicing of mechanization and vehicles	Contractor	Prior commencement of construction work	The costs will be defined in the contract itself. The activity itself at this stage does not imply financial costs
IMPACT ON WATER					
1. Generation of wastewater in the pre-construction phase	Deterioration of the quality of groundwater and surface water from wastewater emissions in the pre-construction phase	Contracting with an authorized company for regular discharge of the septic tank or setting mobile toilets and their regular discharge	Contractor	Prior commencement of construction work	Costs will be defined in the contracts themselves. The activity itself at this stage does not imply financial costs
		Relevant before the construction and operational phase: The recipient should choose a solution for the treatment of wastewater from the envisaged restaurant:	Recipient	Prior commencement of construction work it is necessary to define which option will be selected and to prepare appropriate	The costs will be precisely defined in the contract with the respective designers

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
		<ul style="list-style-type: none"> Determining the location for excavation of impermeable septic tank, setting a deadline for carrying out the works, as well as contracting with an authorized company for regular discharge of the septic tank 		<p>technical documentation for the same.</p> <p>The construction of the wastewater treatment plant <i>or</i> the excavation of the septic tank should be carried out before the commissioning of the restaurant</p>	<p>and/or contractors.</p> <p>The activity itself at this stage does not imply financial costs</p>
WASTE MANAGEMENT					
1. Preparatory activities for removal of existing structures – restaurant and arrangement of bike trails and other earthworks (in the construction phase)	Air, soil and water pollution from the generation of hazardous waste from asbestos which includes asbestos fibers (in the construction phase)	<p>Contracting with an authorized company for dismantling of asbestos roof;</p> <p>Contracting with an authorized company for transport of asbestos waste;</p> <p>Contracting authorized company for disposal of asbestos waste or treatment of asbestos waste;</p>	Contractor	Not later than 15 days before starting the construction works	<p>Costs will be defined in the contracts themselves.</p> <p>The activity itself at this stage does not imply financial costs</p>
	<p>Generation of inert waste from excavated soil and stones, which may result in:</p> <ul style="list-style-type: none"> Air quality deterioration Surface water quality deterioration Modification of the local landscape 	<p>Define locations for disposal with the municipality of Mavrovo and Rostushe and the management of NP "Mavrovo";</p> <p>Define soil with favourable characteristics for natural composting of organic waste together with NP Mavrovo.</p>			

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
	Air emissions in case of improper management with organic waste from vegetation clearing.				
BIOLOGICAL DIVERSITY					
1. Construction activities	Negative impact of biodiversity	Before starting with the construction activities to be informed NP Mavrovo; Construction activities to be realized with cooperation with NP Mavrovo;	Contractor	Not later than 15 days before starting the construction works	The activity itself at this stage does not imply financial costs
2. Illegal hunting and killing of animals by mechanization or because of impatience,	Loss of biodiversity	Education (via Training) of the workers on the importance of the protected area - National Park "Mavrovo" in accordance with the Law on Nature Protection and the consequences of the illegal killing of animals (penalties)	Contractor	Not later than 15 days before starting the construction work	18,000 denars (compensation for biodiversity experts) The training / education can also be carried out by the Directorate of NP "Mavrovo" - rangers.
CONSTRUCTION PHASE					
IMPACTS ON AMBIENT AIR					
1. Working of mechanization and movement of vehicles for the transport of	Air quality deterioration from emissions of exhaust gases and fugitive dust	<ul style="list-style-type: none"> Implementation of good construction practice. Spray surfaces with water in case of dry and windy weather. 	Contractor	Continuous during the construction phase	The costs for implementing the measures are calculated in the Contract for performing the

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
workers and materials		<ul style="list-style-type: none"> Stabilize the heaps of soil to prevent dust from spreading. Covering the trucks used in transportation of materials or waste which may be sources of fugitive dust emissions; Speed limitation for transport vehicles and the mechanization and avoiding vehicle and mechanization idling as much as possible; Loading and unloading of materials and waste to be performed at the lowest possible height; Careful planning of heavy vehicle transportation and avoiding empty heavy vehicle traffic as much as possible; The excavated soil with a defined dynamic should be disposed at location determined by the Directorate of the NP "Mavrovo" and the municipality of Mavrovo-Rostushe. 			activities with the best bidder
IMPACTS ON WATER					

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
1. Generation of sanitary wastewater	Deterioration of surface water quality and groundwater quality, if wastewater is improperly managed	Placement of mobile toilets and Regular discharge of mobile toilets by a contracted authorized company or <ul style="list-style-type: none"> Collection of waste waters in the existing septic tank of the restaurant "Trifkova Koliba" and regular discharge by an authorized company. 	Contractor	<ul style="list-style-type: none"> Continuous during the construction phase 	The costs will be defined in a Contract between the Contractor and an authorized Company
IMPACTS ON SOIL					
1. Working of the mechanization and movement of vehicles for the transport of workers, waste and materials	Leakage of liquid fuels, motor and / or other oils, which will affect the quality of soil	<ul style="list-style-type: none"> Use of mechanization and vehicles that are regularly repaired and serviced; At each construction site, bins with absorbent material should be placed, for prompt reaction in case of leaks; Parking of vehicles and mechanization to be performed on a waterproof surface on a previously defined location; The refill of fuel and/or oils in the mechanization to be performed at waterproof location with security measures taken to prevent leaks. 	Contractor	Continuous during the construction phase	The costs for implementing the measures are calculated in the Contract for performing the activities with the best bidder
2. Storage of raw materials (fuel and oils)	Deterioration of soil quality from leaks of oils, fats, fuels.	<ul style="list-style-type: none"> Storage of raw materials (fuel and oils) on a concrete and waterproof surface, at 	Contractor	Continuous during the construction phase	The activity itself does not imply financial costs

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
		<p>previously defined safe location;</p> <ul style="list-style-type: none"> Use of mobile tanks for collection of incident leaks. 			
WASTE MANAGEMENT					
1. Generating mixed municipal waste due to the presence of construction workers	Inadequately collected and temporarily disposed waste will affect the quality of the soil, groundwater, visual aspects and biodiversity	<ul style="list-style-type: none"> Disposal of the mixed municipal waste into containers and their regular collection by the Public Utility Company (established by the municipality of Mavrovo-Rostuse), on the basis of a signed Contract 	Contractor	Continuous during the construction phase	The costs for implementing the measures are calculated in the Contract for performing the activities with the best bidder
2. Generation of different types of waste packaging (plastic, paper and cardboard)	Negative impacts on the landscape in case of inadequate management.	<ul style="list-style-type: none"> Selection and separate collection of waste packaging from plastic, paper and cardboard in appropriate containers; Recycling of useful fractions and reduction of the amount of landfilled waste; Conclusion of a contract with an authorized company for handing over this type of waste. 	Contractor	Continuous during the construction phase	The costs for implementing the measures are calculated in the Contract for performing the activities with the best bidder
3. Generation of inert waste from excavated soil and stones	Negative impacts on air quality, soil and water quality, landscape and biodiversity in case of inadequate management	<ul style="list-style-type: none"> Removal from the construction site with an established dynamic, arranged with the Directorate of NP "Mavrovo"; 	Contractor	Continuous during the construction phase	The costs will be defined in the Contract between the Contractor-

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
from arranging bike trails and other earthworks.		<ul style="list-style-type: none"> To be disposed at the legal site for inert waste, agreed between the Contractor, the municipality of Mavrovo-Rostushe and the management of the NP "Mavrovo" or to be used for the slope of the bike trails or for the elements/obstacles of the bike track or the "Trim track". 			Mavrovo-Rostushe Municipality and with a consent of the Directorate of the NP "Mavrovo"
4. Generation of biodegradable waste from cleared vegetation	Negative impacts on the environment in case of inadequate management.	<ul style="list-style-type: none"> To be placed on soil with favourable characteristics (in agreement with NP Mavrovo) or to be handed over to an authorized company that can manage this type of waste; It is prohibited to deposit such waste in a container or dumping ground; To be use for the revegetation on the project site 	Contractor	Continuous during the construction phase	The activity itself does not imply financial costs or the costs will be defined in the Contract
5. Generation of inert waste (stones, ceramics, bricks, concrete, gypsum, etc.) from the reconstruction and extension of the restaurant	Inadequately collected and temporarily disposed waste will affect the quality of the soil, groundwater, visual aspects and biodiversity.	<ul style="list-style-type: none"> To be disposed at the legal site for inert waste, agreed between the Contractor, the Municipality of Mavrovo-Rostushe and the management of the NP "Mavrovo" 	Contractor	Continuous during the construction phase	The costs will be defined in the Contract between the Contractor-Mavrovo-Rostushe Municipality and with a consent of the Directorate

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
"Trifkova Koliba".					of the NP "Mavrovo"
6. Removing asbestos rooftop (waste) from the restaurant "Trifkova Koliba"	Possible contamination with hazardous waste from asbestos, impaired quality of soil and water	<ul style="list-style-type: none"> The removed asbestos rooftop should be handed over to contracted professional asbestos abatement company in accordance with the Rulebook on the treatment of asbestos waste and waste products which contain asbestos (Official Gazette of R. Macedonia no. 89/06); The removal of roofs of asbestos should be performed by persons who will use adequate personal protection equipment and have appropriate training in asbestos abatement in accordance with the Rulebook on the requirements for safety and health of workers from the risks related to exposure to asbestos at work (Official Gazette of R. Macedonia no. 50/09); Loading should be performed very carefully, not to throw but to lay; This waste should be transported in sealed containers or bags, or in closed vehicles, to prevent the 	Contractor	Continuously	The costs for implementing the measures are calculated in the Contract for the performing of activities with the best bidder

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
		<p>emission of asbestos fibres into the environment:</p> <ul style="list-style-type: none"> To provide the necessary warning signs for the visitors; To prevent the spread of asbestos dust or dust from material containing asbestos outside the premises or work site; Investor should mandatory take all prescribed measures for asbestos management as well as fully to take the obligations defined in the implemented asbestos management procedure given in Appendix 4. 			
7. Generation of waste of glass, plastic and aluminium from reconstruction	Negative impacts of the air quality, soil and water quality, landscape, biodiversity in case of inadequate management.	<ul style="list-style-type: none"> Recycling of useful fractions and reduction of the amount of landfilled waste; To be handed over to an authorized company, on the basis of a signed Contract. 	Contractor	Continuously	The costs for implementing the measures are calculated in the Contract for the performing of activities with the best bidder
8. Generation of waste oils	Negative impacts (soil quality and groundwater) in case of inadequate management.	<ul style="list-style-type: none"> Waste oils to be collect in appropriate bins, which will prevent leakage in the soil and stored at the location with waterproof surface; 	Contractor	Continuous during the construction phase	The costs for implementing the measures are calculated in the Contract for the performing

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
		<ul style="list-style-type: none"> To be handed over to an authorized company, on the basis of a signed Contract. 			of activities with the best bidder
9. Generation of packaging waste or other types of waste that possess hazardous characteristics (absorbents and filter materials)	Contamination of soil and groundwater in case of inadequate management.	<ul style="list-style-type: none"> To be collect in appropriate bins, which will prevent leakage in the soil and stored at the location with waterproof surface; To be handed over to an authorized company, on the basis of a signed Contract. 	Contractor	Continuous during the construction phase	The costs for implementing the measures are calculated in the Contract for the performing of activities with the best bidder
10. Possible contamination of the soil with dangerous substances	Negative impacts in case of inadequate management.	<ul style="list-style-type: none"> Contaminated soils and / or stones should be collected in a separate container and handed over to a contracted hazardous waste handling company. 	Contractor	Continuously, in case of leakage	The costs for implementing the measures are calculated in the Contract for the performing of activities with the best bidder
NOISE AND VIBRATIONS					
1. Working of the mechanization and movement of vehicles for the transport of workers and materials	Generation of noise and vibrations that will impact the animal species in the area – cause their temporary resettlement.	<ul style="list-style-type: none"> Application of good construction practice; Construction activities to be realized with cooperation with Mavrovo NP; Working period to be defined with Mavrovo NP; 	Contractor	Continuous during the construction phase	The costs for implementing the measures are calculated in the price of the Contract for performing the

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
		<ul style="list-style-type: none"> • Use of vehicles, mechanization and equipment that is regularly serviced and repaired; • Restriction of the speed of movement of machinery and equipment; • Turning off vehicles and mechanization when there is no need of their work; • Adherence to the noise limit values for areas of I degree of noise protection is recommended⁹, as follows: <ul style="list-style-type: none"> • Period <i>day</i> : 50 dBA; • Period <i>evening</i> : 50 dBA; • Period <i>night</i>: 40 dBA¹⁰. <p>The limit values are in accordance with the Rulebook on the limit values of the level of noise in the environment ("Official Gazette of the Republic of Macedonia" No. 147/08)</p>			activities with the best bidder
BIODIVERSITY					
1. Activities for adaptation and extension of	Generating increased levels of noise and vibration that will cause temporary displacement of animals	<ul style="list-style-type: none"> • Adaptation activities to be performed during the day (07:00 	Contractor	Continuous during the construction phase	The activity itself does not

⁹ Area of I degree of noise protection is an area intended for tourism and recreation, an area adjacent to health facilities for hospital treatment and the **area of national parks or nature reserves** (excerpt from the Rulebook on environmental noise levels ("Official Gazette of the Republic of Macedonia" No. 147/08)).

¹⁰ Period *day*: 07:00 to 19:00; period *evening*: 19:00 to 23:00 pm and *night* period: 23:00 to 07:00.

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
the restaurant, as well as equipping the bike trails and the "Trim track"		<p>am -19:00 pm) with cooperation with Mavrovo NP;</p> <ul style="list-style-type: none"> To use equipment that generates a lower level of noise; Working period to be defined with Mavrovo NP; Reducing the speed of movement of machinery and equipment. 			imply financial costs
2. Clearing of vegetation and removal of the humus layer along the bike trails and the "Trim track".	Negative impact of the biodiversity	<ul style="list-style-type: none"> Vegetation clearing to be minimized and limited only to the cycling routes. 	Contractor	Continuous during the construction phase	The activity itself does not imply financial costs
OCCUPATIONAL HEALTH AND SAFETY					
3. Installing a passenger cabin on the snowcat.	Negative impact of the health and safety of the workers.	<ul style="list-style-type: none"> Workers to be equip with appropriate personal protective equipment; To implement procedure for the workers for installing a cabin on the snowcat; Installation of the cab should be in accordance with the manufacturer's recommendations; 	Contractor	Continuous during the construction phase	The activity itself does not imply financial costs

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
		<ul style="list-style-type: none"> Installation of the cab to be performed at a place designated for that purpose; Workers should have adequate training; Installation of the cab to be performed by authorized company. 			
OPERATIONAL PHASE					
IMPACTS ON AMBIENT AIR					
1. Heating the restaurant and preparing barbecue	Negative impacts on air quality	Regular cleaning of the chimney from the fireplace and grill.	Applicant	Continuous during the operational phase	According to agreement with authorized company
2. Collecting waste water from restaurant and toilets in the septic tank	Negative impacts on air quality and odour generation	Regular cleaning of the septic tank by an authorized company.	Applicant	Continuous during the operational phase	According to agreement with authorized company
IMPACTS ON WATER					
1. Sanitary/communal waste water generation	Negative impacts of the soil and groundwater quality in case of improper management	<ul style="list-style-type: none"> Waste water should be collected in waterproof septic tank, in order to prevent leaching of waste water into soil and groundwater; Regular cleaning and maintenance of the septic tank by an authorized company; 	Applicant	Continuous during the operational phase	According to agreement with authorized company

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
		<ul style="list-style-type: none"> To conclude a contract with an authorized company for collection and cleaning of the septic tank. 			
WASTE MANAGEMENT					
1. Restaurant, visitors to bike trails and rest areas	Generation of mixed municipal waste, which may impact the quality of soil and water	Disposal of mixed municipal waste into containers / designated sites managed by the Public Utility Enterprise	Applicant	Continuously	Not applicable
2. Generating mixed municipal waste from employees and visitors	Inadequately collected and temporarily disposed waste will affect the quality of the soil, groundwater, visual aspects, biodiversity etc.	<ul style="list-style-type: none"> Collection of the mixed municipal waste into containers, which will prevent spillage of waste into the environment; Regular collection by the Public Utility Company (established by the municipality of Mavrovo-Rostuse), on the basis of a signed Contract 	Applicant	Continuous during the operational phase	According to agreement with authorized company
3. Generation different type waste packaging (glass, plastic, paper and cardboard)	Negative impacts of the landscape in case of inadequate management.	<ul style="list-style-type: none"> Selection and separate collection of waste packaging from plastic, paper and cardboard in appropriate containers; Recycling of useful fractions and reduction of the amount of landfilled waste; Conclusion of a contract with an authorized company for handing over this type of waste; 	Applicant	Continuous during the operational phase	According to agreement with authorized company

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
		<ul style="list-style-type: none"> If possible, the glass packaging to be returned to the supplier for re-use for the same purpose. 			
4. Generation of packaging waste or other types of waste that possess hazardous characteristics (from hygiene maintaining chemicals)	Contamination of soil and groundwater in case of inadequate management.	<ul style="list-style-type: none"> To be collect in appropriate bins, which will prevent leakage in the soil and storage at the location with waterproof surface; To be handed over to an authorized company, on the basis of a signed Contract. 	Applicant	Continuous during the operational phase	According to agreement with authorized company
5. Generation of waste electrical and electronic equipment	Negative impacts in case of inadequate waste management.	<ul style="list-style-type: none"> Selection and separate collection; To be handed by an authorized company holding a permit for storage, treatment and / or processing for this type of waste 	Applicant	Continuous during the operational phase	According to agreement with authorized company
6. Generation of wooden beams and tires form the maintenance of the bike trails and “Trim track”	Negative impacts in case of inadequate waste management.	<ul style="list-style-type: none"> Selection and separate collection; To be handed over to an authorized company, on the basis of a signed Contract. 	Applicant	Continuous during the operational phase	According to agreement with authorized company
7. Generation of edible oils and fats from the	Contamination of soil and groundwater in case of inadequate management.	<ul style="list-style-type: none"> To be collect in appropriate bins, which will prevent leakage; 	Applicant	Continuous during the operational phase	According to agreement with

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
kitchen of the restaurant		<ul style="list-style-type: none"> To hand over to a contracted authorized company on the basis of a signed Contract. 			authorized company
8. Generation of septic tank sludge	Negative impacts in case of inadequate waste management.	<ul style="list-style-type: none"> To be collect by an authorized company on the basis of a signed Contract. 	Applicant	Continuous during the operational phase	According to agreement with authorized company
Maintenance of bicycle paths	Generating biodegradable waste from cleared vegetation that will impact the quality of the soil	<ul style="list-style-type: none"> To lay on soil with favourable characteristics (with agreement with NP Mavrovo); To be handed over to an authorized company that can manage this type of waste; It is prohibited to deposit such waste in a container or landfill. 	Recipient	Continuously	The activity itself does not imply financial costs
NOISE					
1. Restaurant (music, presence of multiple people, etc.) and movement of vehicles for transport of materials and waste	Noise harassment of the local fauna	<p>Adherence to noise limit values for areas of I degree of noise protection is recommended, as follows:</p> <ul style="list-style-type: none"> Period <i>day</i> : 50 dBA; Period <i>evening</i> : 50 dBA; Period <i>night</i>: 40 dBA. To follow recommendation from Mavrovo NP for lower noise level generation during defined period of animal breeding. 	Applicant	Continuously	Not applicable

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Activity	Expected Environmental Impact	Proposed Measure for Mitigation	Responsibility for Implementing Mitigation Measure	Period of Implementing Mitigation Measure	Cost associated with implementation of mitigation measure
		In accordance with the Rulebook on the limit values of the level of noise in the environment ("Official Gazette of the Republic of Macedonia" No. 147/08):			

Following measures are part of the Environmental Protection Elaborate still they are integral part of the ESMP and their execution is mandatory.

Table 6 Measures from Environmental Protection Elaborate

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
REDUCING THE IMPACT IN THE AIR							
Construction phase							
1.	<ul style="list-style-type: none">- implementation of good construction practice;- spraying surfaces with water (if needed) to reduce fugitive dust emissions;- water spraying (in dry periods) on access roads (terrain) on which transport activities are carried out;	<p>Reducing fugitive dust and exhaust emissions in ambient air and protecting air from pollution.</p> <p>Law on Ambient Air Quality ("Official Gazette of the Republic of Macedonia" No. 67/04, 92/07, 35/10, 47/11, 59/12, 100/12, 163/13, 10/15 and 146/15)</p>	Continuously during the construction phase				

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
1.	Use of properly serviced vehicles and machines for maintenance of the sports - recreational park.	Reducing fugitive dust and exhaust emissions in ambient air and air pollution protection. Law on Ambient Air Quality, Law on Protection and Rescue and Rulebook on maintenance of chimneys, smoke removal devices air systems, air and water heating systems, central heating boilers in buildings, as well as in Industrial and craft facilities (Law on Protection and Rescue) Official Gazette of the Republic of Macedonia, No.146 / 2010)	Continuously during the performing the maintenance phase activities in the operational phase				
2.	Cleaning the chimney of the fireplace and outdoor barbecue.		Once a month during the heating season and once a year outside the heating season				
3.	Regular cleaning of septic tank sludge.	Reduction of greenhouse gas emissions and odor. Law on Ambient Air Quality ("Official Gazette of the Republic of Macedonia" No. 67/04, 92/07,35/10,47/11,59/12,100/12,163/13,10/15 and 146/15).	Continuously during the operational phase and depending on needs				
REDUCING THE IMPACT ON WATER AND SEWAGE							
Construction phase							
1.	Waste water to be collected in the existing septic tank at the Trifkova Koliba restaurant or to have mobile toilets installed by an authorized company	Protection of waters and soils from sanitary wastewater pollution and proper management.	Continuously during the construction phase				

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
		In accordance with Article 77 of the Law on Waters (“Official Gazette of the Republic of Macedonia” No. 87/08, 6/09, 16109, 83/10, 51/11, 44/12, 23/13, 163/13, 180 / 14, 146/15 and 52/16)					
2.	Respect the measures for proper waste management, air emissions, soil and groundwater	Preventing of negative impacts on water	Continuously during the construction phase				
3.	Proper storage of raw and auxiliary materials, especially those that possess hazardous characteristics	Preventing possible negative impacts on water quality.	Continuously during the construction phase				
Operational phase							
4.	The septic tank should be waterproof.	Prevention of wastewater discharge into soil and groundwater and negative impacts on their quality.	Before starting the operational phase				
5.	Regular cleaning and maintenance of a septic tank by an authorized company.	Protection of waters and soils from sanitary wastewater pollution and proper management. In accordance with Article 77 of the Law on Waters (“Official Gazette of the Republic of Macedonia” No. 87/08, 6/09, 16109, 83/10,	Continuously during the operational phase and depending on needs				
6.	Contract with an authorized septic tank cleaning company		Decembe r 2019				

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
1.	Selection and classification of all types of waste	<p>Proper approach to the manner of managing all types of waste and environmental protection.</p> <p>Law on Waste Management, Article 26, Article 43 (“Official Gazette of the Republic of Macedonia” No. 68/04, 71/04, 107/07, 102/08, 143/08, 124/10, 09/11, 51 / 11, 123/12, 163/13, 51/15, 146/15, 156/15, 192/15, 39/16 and 63/16) and</p> <p>Rulebook on general rules for the treatment of municipal and other non-hazardous waste (Official Gazette of the Republic of Macedonia No. 147/07)</p>	Continuously during the construction and operational phase				
Construction phase							
2.	Municipal waste to be collected in containers for municipal waste, which will be placed within the project area	Proper approach to non-hazardous waste management and environmental media protection.	Continuously during the construction phase				

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
3.	Collected municipal waste to be handed over to PCE Mavrovo on the basis of a concluded contract	Law on Waste Management, Article 26, Article 43 ("Official Gazette of the Republic of Macedonia" No. 68/04, 71/04, 107/07, 102/08, 143/08, 124/10, 09/11, 51 / 11, 123/12, 163/13, 51/15, 146/15, 156/15, 192/15, 39/16 and 63/16) and Rulebook on general rules for the treatment of municipal and other non-hazardous waste (Official Gazette of the Republic of Macedonia No. 147/07)	Continuously during the construction phase and concluding a contract with public utility company "Mavrovo" prior to the commencement of construction activities				
4.	Biodegradable waste (layering, vegetation, etc.) to be collected at a specific site in the project area and handed over to an authorized company for further treatment or disposed of on land, which has features favorable for natural decomposition. Biodegradable waste must not be disposed.	Proper management of biodegradable waste. Law on Waste Management.	Continuously during the construction phase and concluding a contract with authorized company prior to the commencement of construction activities				

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
5.	To make the selection and separate collection of waste packaging from plastic, paper and cardboard in the appropriate containers. Signing a contract with an authorized company to undertake this type of waste	<p>Proper approach of packaging waste management and environmental media protection.</p> <p>Law on Waste Management (Official Gazette of the Republic of Macedonia No. 68/04, 71/04, 107/07, 102/08, 143/08, 124/10, 09/11, 51/11, 123/12) , 163/13, 51/15, 146/15, 156/15, 192/15, 39/16 and 63/16 and</p> <p>Law on Management of Packaging and Packaging Waste, Article 30 (“Official Gazette of the Republic of Macedonia” No. 161/09, 17/11, 47/11, 136/11, 6/12, 39/12, 163 / 13,146 / 15 and 39/16)</p>	Continuously during the construction phase and concluding a contract with authorized company prior to the commencement of construction activities				
6.	Construction waste - inert waste (stones, ceramics, bricks, concrete, plaster, etc.) regularly disposed of at the site and handed over to an authorized company or location designated by the municipality.	<p>Proper management of inert waste and prevention of negative impacts on environmental media.</p> <p>Article 54 of the Law on Waste Management.</p>	Continuously during the construction phase				

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
7.	Waste glass windows, which will be replaced, aluminum and plastic waste to be recycled, ie to handed over to an authorized company for storage and processing of such waste	Reuse of useful waste fractions, decrease in volume of landfilled waste and preservation of environmental quality Law on Waste Management, Article 26,	Continuously during the construction phase				
8.	Waste cables to be collected separately and handed over to an authorized company for further treatment	Proper management of inert waste and prevention of negative impacts on environmental media.	Continuously during the construction phase				
9.	Excavated soil can be used for arranging bicycle paths to achieve slope leveling ground etc.	Proper management of inert waste and prevention of negative impacts on environmental media.	Continuously during the construction phase				

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
10.	Construction waste containing asbestos (restaurant roof slabs) should be handed over to an authorized company that holds a permit for the disposal of such waste and holds an A-Integrated Environmental Permit; Removal of the asbestos roof should be performed by persons who will have adequate protection equipment. The loading should be done carefully, not to be thrown away but to be laid. This waste should be transported in closed containers or bags, or in closed vehicles, to prevent the emission of asbestos fibers into the environment;	Proper management of asbestos-containing waste, prevention of negative impact on the environment and human health. In accordance to Article 75 of the Law on Waste Management and the Rulebook on the manner of handling asbestos waste and waste products containing asbestos (Official Gazette of the Republic of Macedonia No. 89/06).	Continuously during the construction phase				
11.	Any soil contaminated with oils, fats or oils should be collected in a separate container and handed over to an authorized company handling such waste. For this propose, the Operator shall conclude a contract.	Proper waste management possessing hazardous characteristics and prevent negative impacts. In accordance with Article 26 of the Law on Waste Management ("Official Gazette" no. 68/04, 71/04, 107/07, 102/08, 143/08, 124/10, 09/11, 51 / 11, 123/12, 163/13, 51/15, 146/15, 156/15, 192/15, 39/16 and 63/16).	Continuously during the construction phase				

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
12.	With packaging waste or other types of waste possessing one or more hazardous characteristics (absorbents and filter materials), the Investor shall be obliged to classify the waste into the category of hazardous waste and to treat it as hazardous waste, ie to deliver it to an authorized authority. a company that treats hazardous waste and concludes a contract with it.	<p>Proper approach to hazardous waste management in order to protect the media from the environment.</p> <p>Law on Packaging and Packaging Waste Management, Article 30, Paragraph 2 ("Official Gazette of the Republic of Macedonia" No. 161/09, 17/11, 47/11, 136/11, 6/12, 39/12, 163 / 13,146 / 15 and 39/16) and</p> <p>In accordance with Article 26 of the Law on Waste Management ("Official Gazette" no. 68/04, 71/04, 107/07, 102/08, 143/08, 124/10, 09/11, 51 / 11, 123/12, 163/13, 51/15, 146/15, 156/15, 192/15, 39/16 and 63/16).</p>	Continuously during the construction phase and concluding a contract with an authorized company prior to the commencement of construction activities				

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
13.	To provide a special area for temporary storage of hazardous waste, which will be provided with waterproof surface, covered and secured the system to catch discharge or mobile tank	Proper approach to hazardous waste management and prevention on soil and groundwater negative impacts. Law on Waste Management (Official Gazette of the Republic of Macedonia No. 68/04, 71/04, 107/07, 102/08, 143/08, 124/10, 09/11, 51/11, 123/12), 163/13, 51/15, 146/15, 156/15, 192/15, 39/16 and 63/16).	Before the construction phase begins				
14.	Waste transportation should be carried out by authorized companies holding a permit for the collection and transportation of municipal and other non-hazardous waste and / or a permit for the transportation of hazardous waste.	Prevention of negative environmental impacts during waste transportation. In accordance with Articles 45 and 65 of the Law on Waste Management ("Official Gazette" no. 68/04, 71/04, 107/07, 102/08, 143/08, 124/10, 09/11, 51/11, 123/12, 163/13, 51/15, 146/15, 156/15, 192/15, 39/16 and 63/16).	Before the construction phase begins				

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
15.	Handling of used vehicle tires and machinery and generated waste from maintenance will be the responsibility of the contractor for the construction activities. The Contractor shall be obliged to regularly remove the generated waste from the site and to comply with legal requirements (to hand over to authorized companies for further treatment);	Proper waste management generated by equipment and machinery and prevention of negative environmental impacts	Before the construction phase begins				
Operational phase							
16.	Municipal waste should be selected and collected in appropriate containers to prevent its throwing. The collected waste to be handed over to JPKD "Mavrovo".	Proper approach to non-hazardous waste management and environmental media protection. Law on Waste Management, Article 26, Article 43 (“Official Gazette of the Republic of Macedonia” No. 68/04, 71/04, 107/07, 102/08, 143/08, 124/10, 09/11, 51 / 11, 123/12, 163/13, 51/15, 146/15, 156/15, 192/15, 39/16 and 63/16) and Rulebook on general rules for the treatment of municipal and other non-hazardous waste (Official Gazette of the Republic of Macedonia No. 147/07)	Continuously during the operational phase				
17.	Useful components of municipal waste (plastic packaging, cardboard and paper packaging, glass packaging, etc.), as well as separately collected fractions of plastic and paper and cardboard to be collected separately and delivered to designated places (collection centers) for the collection of selected waste.						

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
18.	Waste packaging that has hazardous characteristics should be collected in containers to prevent leakage, throwing, rinsing and so on. This type of waste should be handed over to an authorized company that holds a license to handle hazardous waste on the basis of a contract.	<p>Proper approach with dangerous waste managing in order to protect the environmental media.</p> <p>Law on Packaging and Packaging Waste Management, Article 30, Paragraph 2 ("Official Gazette of the Republic of Macedonia" No. 161/09, 17/11, 47/11, 136/11, 6/12, 39/12, 16/13, 146/15 and 39/16) and</p> <p>Law on Waste Management Article 26 ("Official Gazette of the Republic of Macedonia" No. 68/04, 71/04, 107/07, 102/08, 143/08, 124/10, 09/11, 51/11, 123/12, 163/13, 51/15, 146/15, 156/15, 192/15, 39/16 and 63/16).</p>	Continuously during the operational phase and concluding an agreement after operational phase starting				
19.	Damaged polygon tires should be turned over to an authorized company that holds a license to handle this type of waste.	<p>Proper approach to the manner of waste management in order to protect the environmental media.</p> <p>In accordance with Article 75-a of the Law on Waste Management.</p>	Continuously during the operational phase				

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
20.	Collect electrical and electronic equipment separately from other types of waste and hand over to an authorized company that holds a license to handle such waste	Proper approach to the manner of waste management in order to protect the environmental media. In accordance with the Law on Waste Management and the Law on Management of Electrical and Electronic Equipment and Waste Electrical and Electronic Equipment.	Continuously during the operational phase				
21.	Waste from damaged wooden beams to be collected and handed over to an authorized company handling such waste.	Proper approach to the manner of waste management in order to protect the environmental media. In accordance with the Law on Waste Management.	Continuously during the operational phase				
22.	Waste cooking oil to be collected in appropriate containers and handed over to the authorized company for further processing	Proper approach to the manner of waste management in order to protect the media from the environment. In accordance with the Law on Waste Management.	Continuously during the operational phase				
23.	Waste from chimney cleaning to collection and handing over to an authorized company.		Continuously during the operational phase				

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
24.	Cleaning of septic tank sludge to be carried out by an authorized company that holds a license to handle such waste		Continuously during the operational phase				
REDUCTION OF IMPACTS IN SOIL							
Construction phase							
1.	Storage of oils and fats be carried out in a closed container or locations provided with waterproof surface and roll over, set in the tank	Protection against soil and groundwater pollution. Law on Environment ("Official Gazette of the Republic of Macedonia" No. 53/05, 81/05, 24/07,159/08,83/09,48/10,124/10,51/11, 123/12, 93/13, 187/13, 42/12, 44/15, 129/15, 192/15, 39/16, 28/18, 65/18 and 99/18)	Continuously during the construction phase				
2.	Supply of oil, grease and oil to be carried out on waterproof locations by taking measures to prevent accidental spillage	Protection against soil and groundwater pollution. Law on Environment ("Official Gazette of the Republic of Macedonia" No. 53/05, 81/05, 24/07,159/08,83/09,48/10,124/10,51/11, 123/12, 93/13, 187/13, 42/12, 44/15, 129/15, 192/15, 39/16, 28/18, 65/18 and 99/18)	Continuously during the construction phase				

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
3.	Washing and servicing of vehicles and machinery should be carried out outside the project area at appropriate locations designated for that purpose.	Protection against soil and groundwater pollution. Law on Environment ("Official Gazette of the Republic of Macedonia" No. 53/05, 81/05, 24/07, 159/08, 83/09, 48/10, 124/10, 51/11, 123/12, 93/13, 187/13, 42/12, 44/15, 129/15, 192/15, 39/16, 28/18, 65/18 and 99/18)	Continuously during the construction phase				
4.	Machinery and equipment should be parked in suitable places, which have the necessary prerequisites to protect the soil against fuel and derivative contamination.	Protection against soil pollution. Law on Environment ("Official Gazette of the Republic of Macedonia" No. 53/05, 81/05, 24/07, 159/08, 83/09, 48/10, 124/10, 51/11, 123/12, 93/13, 187/13, 42/12, 44/15, 129/15, 192/15, 39/16, 28/18, 65/18 and 99/18)	Continuously during the construction phase				
5.	Setting up and using absorbent material in case of accidental spills	Protection against soil pollution. Law on Environment ("Official Gazette of the Republic of Macedonia" No. 53/05, 81/05, 24/07, 159/08, 83/09, 48/10, 124/10, 51/11, 123/12, 93/13, 187/13, 42/12, 44/15, 129/15, 192/15, 39/16, 28/18, 65/18 and 99/18)	Continuously during the construction phase				

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
6.	Regular control of vehicle and equipment accuracy.	To reduce to the maximum the threat of leakage of dangerous chemicals into the soil.	Continuously during the construction phase				
7.	Proper management of generated solid and liquid waste and wastewater	Prevention of soil emissions and disturbance of soil and groundwater quality.	Continuously during the construction phase				
8.	Covering all raw materials and auxiliaries that may be blown by wind or water	Prevention of soil emissions and disturbance of soil and groundwater quality.	Continuously during the construction phase				
MEASURES TO REDUCE THE NOISE LEVEL AND VIBRATIONS							
Construction phase							
1.	Construction activities to be carried out during the day (7: 00-19: 00);	Reducing noise levels generation and preventing negative impacts on population and biodiversity. Law on Noise Protection ("Official Gazette of the Republic of Macedonia" No. 79/07, 124/10, 47/11, 163/13, 146/15)	Continuously during the operational phase				

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
2.	Restricting the speed of movement of mechanization and transport vehicles through settlements.	Reducing noise levels and preventing negative impacts on population and biodiversity. Law on Noise Protection ("Official Gazette of the Republic of Macedonia" No. 79/07, 124/10, 47/11, 163/13, 146/15)	Continuously during the operational phase				
3.	When using pneumatic equipment, choose appropriate compressors or use quieter hydraulic equipment	Reducing noise levels and preventing negative impacts on population and biodiversity. Law on Noise Protection ("Official Gazette of the Republic of Macedonia" No. 79/07, 124/10, 47/11, 163/13, 146/15)	Continuously during the operational phase				
4.	Construction work to be carried out in a manner that meets the noise protection standards (incorporation of appropriate sound insulation), so that the level of noise generated during the operational phase is reduced to the limit values;	Reducing noise levels and preventing negative impacts on population and biodiversity. Law on Noise Protection ("Official Gazette of the Republic of Macedonia" No. 79/07, 124/10, 47/11, 163/13, 146/15)	Continuously during the operational phase				
5.	Use of vehicles, machinery and equipment regularly maintained and serviced	Reducing noise levels and preventing negative impacts on population and biodiversity.	Continuously during the operational phase				

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
6.	Turning off vehicles and mechanization when there is no need for their work	Law on Noise Protection ("Official Gazette of the Republic of Macedonia" No. 79/07, 124/10, 47/11, 163/13, 146/15)	Continuously during the operational phase				
Operational phase							
7.	The sound of the restaurant shall be in accordance with the permissible noise levels, ie the emission noise shall not exceed 50 dB during the day and 40 dB at night.	Reducing noise levels and preventing negative impacts on biodiversity. Law on Noise Protection ("Official Gazette of the Republic of Macedonia" No. 79/07, 124/10, 47/11, 163/13, 146/15)	Continuously during the operational phase				
MEASURES TO REDUCE THE IMPACT OF BIODIVERSITY /LANDSCAPE							
Construction phase							
1.	Vegetation clearing should be carried out only along the bicycle paths and open ground.	Reduce the negative impacts on biodiversity. Law on Nature Protection ("Official Gazette of the Republic of Macedonia" No. 67/04, 14/06, 84/07, 35/10, 47/11, 148/11 and 59/12).	Continuously during the construction phase				

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

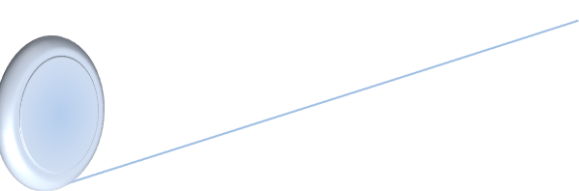
No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
2.	In dry periods, especially during the summer, more intensively sprayed with water on transport routes, which would reduce the dust in the air, which can have a negative impact in the development of forest vegetation.	Reduce the negative impacts on biodiversity. Law on Nature Protection ("Official Gazette of the Republic of Macedonia" No. 67/04, 14/06, 84/07, 35/10, 47/11, 148/11 and 59/12).	Continuously during the construction phase				
3.	Reduce the speed of movement of equipment and machinery	Reduction of noise emissions and reduction of fauna negative impacts. Law on Nature Protection ("Official Gazette of the Republic of Macedonia" No. 67/04, 14/06, 84/07, 35/10, 47/11, 148/11 and 59/12).	Continuously during the construction phase				
4.	Using existing access roads to access the site.	Preventing the opening of new roads, which will have major negative impacts on biodiversity. Law on Nature Protection ("Official Gazette of the Republic of Macedonia" No. 67/04, 14/06, 84/07, 35/10, 47/11, 148/11 and 59/12).	Continuously during the construction phase				

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
5.	Compliance with the measures to prevent and / or minimize impacts on air, water, soil, waste and noise specified in the relevant chapters.	Reduction of landscape and biodiversity impacts Law on Nature Protection ("Official Gazette of the Republic of Macedonia" No. 67/04, 14/06, 84/07, 35/10, 47/11, 148/11 and 59/12).	Continuously during the construction phase				
6.	After completion of the construction activities, one-time monitoring of biodiversity (identified and endangered species, as well as their populations), defined in the Mavrovo National Park Valorization Study during June/July or September/October.	Recording of the situation of biodiversity and reduce negative impacts. Law on Nature Protection ("Official Gazette of the Republic of Macedonia" No. 67/04, 14/06, 84/07, 35/10, 47/11, 148/11 and 59/12).	After completion of the construction phase				
RISK MANAGEMENT							
1.	Installation and use of absorbent material in case of accidental leakage of oil, oils, fats etc.	Prevention of negative environmental impacts that may occur in the event of an incident. Law on Protection and Rescue (“Official Gazette of the Republic of Macedonia” No. 36/04, 49/04, 86/08, 124/10, 18/11, 41/14, 129/15).	Continuously during the construction phase				

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
2.	Installation of fire extinguishers in vehicles and machinery and at designated locations in the project area.	Prevention of negative environmental impacts that may occur in the event of an incident. Law on Protection and Rescue (Official Gazette of the Republic of Macedonia No. 36/04, 49/04, 86/08, 124/10, 18/11, 41/14, 129/15)	Continuously during the construction phase				
3.	Marking and fencing of all places that pose a danger to the health of workers and visitors.	Accident and Injury Protection Law on Safety and Health at Work (Official Gazette of the Republic of Macedonia No. 92/07, 98/10, 93/11, 136/11, 60/12, 23/13, 25/13, 137/13, 164 / 13, 158/14, 15/15, 129/15, 192/15, 30/16 and 27/18)	Continuously during the construction phase				
4.	Proper maintenance of the equipment and its strong color marking to make it immediately noticeable.	Accident and Injury Protection Law on Safety and Health at Work (Official Gazette of the Republic of Macedonia No. 92/07, 98/10, 93/11, 136/11, 60/12, 23/13, 25/13, 137/13, 164 / 13, 158/14, 15/15, 129/15, 192/15, 30/16 and 27/18)	Continuously during the construction phase				



Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

No.	Description of the measure	Objective of the measure expressed through reduction of environmental impacts	Timeframe for implementation of the improvement plan within 5 years				
			Month and year	Month and year	Month and year	Month and year	Month and year
5.	Clear marking of the routes of movement of equipment and machinery.	Accident and Injury Protection Law on Safety and Health at Work (Official Gazette of the Republic of Macedonia No. 92/07, 98/10, 93/11, 136/11, 60/12, 23/13, 25/13, 137/13, 164 / 13, 158/14, 15/15, 129/15, 192/15, 30/16 and 27/18)	Continuously during the construction phase				

6 MONITORING OF THE ENVIRONMENTAL MANAGEMENT

The monitoring of environmental management is important because it gives insight into the level of application of the environmental mitigation measures. The monitoring should be carried out by the applicant, who will regularly report¹¹ the PRLC administrator on the status of the implementation of the measures, and, if necessary, can be carried out by other internal and external authorities. Therefore, the applicant, for the course of the construction and operation of the project, should appoint at an early stage a responsible person (environmental officer or supervisor) who will be obliged to supervise and monitor the situation with the environment and who will communicate with the PRLC administrator and other competent internal and external authorities. A competent state body for monitoring the state of the environment is the State Inspectorate of Environment, which performs its dynamics of inspection in accordance with the law.

The applicant should strive to establish a system of communication between the contractor, the supervisor, the management, the project administrator, as well as other stakeholders. The contractor, as directly involved in the implementation of the works in the construction phase, must notify the environmental officer of any changes that may occur during the operation.

According to Annex 4 of the Environmental Framework, in the monitoring section of the EMP should be stated:

- Specific description and technical details of the monitoring measures, including the parameters to be measured, the methods to be used, the sampling locations, the frequency of the measurements, the detection limits (where appropriate) and the definition of the thresholds that signal the need for corrective measures; and
- Monitoring and reporting procedures to ensure early detection of conditions that impose mitigation measures and to provide information on the progress and results of the mitigation.

The EMP monitoring plan has been prepared in accordance with the manner of its presentation contained in Annex 4 of the Environmental Framework.

¹¹ In accordance with Annex 4 of the Environmental Framework: *Template of the Environmental Management Plan*.

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Table 7 Monitoring plan

What Parameter is to be monitored?	Where Is the parameter to be monitored	How Is the parameter to be monitored (what should be measured and how)?	When Is the parameter to be monitored (timing and frequency)?	By Whom Is the parameter to be monitored – (responsibility)?	How much is the cost associated with implementation of monitoring
PRE - CONSTRUCTION PHASE					
Contract with an authorized repairer for maintenance and servicing of mechanization and vehicles has been concluded	Project office	Visual observation	Once-prior commencement of construction work	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management. 	Not applicable
Contract with an authorized company for regular discharge of the septic tank or setting mobile toilets and their regular discharge has been concluded	Project office	Visual observation	Once-prior commencement of construction work	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management. 	Not applicable
Mobile toilets are set on the project area or impermeable septic tank is constructed	Project area	Visual observation	Once-prior commencement of construction work	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management. 	Not applicable
Contract for asbestos roof dismantling, transport and disposal are concluded	Project office	Visual observation	Once-prior commencement of construction work	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management. 	Not applicable
Location for disposal of inert waste and soil with favourable characteristics	Project office	Visual observation or agreement with NP Mavrovo	Once-prior commencement of construction work	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management. 	Not applicable

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

What Parameter is to be monitored?	Where Is the parameter to be monitored	How Is the parameter to be monitored (what should be measured and how)?	When Is the parameter to be monitored (timing and frequency)?	By Whom Is the parameter to be monitored – (responsibility)?	How much is the cost associated with implementation of monitoring
for natural composting of organic waste are defined.					
NP Mavrovo is informed for starting of the construction activities	Project office	Letter to the NP Mavrovo is submitted	Once-prior commencement of construction work	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management. 	Not applicable
Construction activities are realized with cooperation with NP Mavrovo;	Project area	Visual observation in the project area	Continuously during pre-construction and construction phase	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management. 	Not applicable
CONSTRUCTION PHASE					
Amount of dust in ambient air	In the project area (along the bike trails, trim track and the restaurant “Trifkova Koliba”	Visual observation	Continuously	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management. 	Not applicable
		PM10 concentration on site.	Monthly (by an authorized company)		
State of mechanization and vehicles	Project office	Visual observation Records for repairing of mechanization and vehicles	At the beginning of the construction phase and continuously during construction phase	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management. 	Not applicable
Waste water are collected in the existing septic tank or in mobile toilets	In the project area	Visual observation	Continuously during construction phase	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environment 	Not applicable

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

What Parameter is to be monitored?	Where Is the parameter to be monitored	How Is the parameter to be monitored (what should be measured and how)?	When Is the parameter to be monitored (timing and frequency)?	By Whom Is the parameter to be monitored – (responsibility)?	How much is the cost associated with implementation of monitoring
Contracts with authorized company for waste water collection has been concluded	Project office	Visual observation	At the beginning of the construction phase	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management. 	Not applicable
Absorbent material is placed and used at the site	In the project area	Visual observation	Continuously during construction phase	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environment 	Not applicable
A waterproofing substrate for storage of raw materials (fuel and oils) has been provided	In the project area	Visual observation	Continuously during construction phase	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environment 	Not applicable
Mobile tanks for collection of incident leaks are set	In the project area	Visual observation	Continuously during construction phase	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environment 	Not applicable
Waste is stored separately in appropriate containers, and is handed over to authorized companies	In the project area (along the bike trails, trim track and the restaurant “Trifkova Koliba”	Visual observation	Continuously during construction phase	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environment 	Not applicable

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

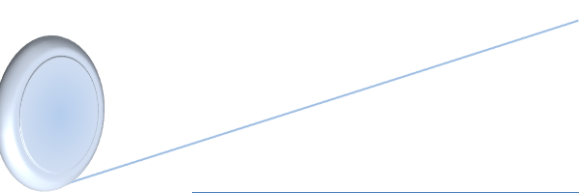
What Parameter is to be monitored?	Where Is the parameter to be monitored	How Is the parameter to be monitored (what should be measured and how)?	When Is the parameter to be monitored (timing and frequency)?	By Whom Is the parameter to be monitored – (responsibility)?	How much is the cost associated with implementation of monitoring
Contracts with authorized companies for waste collection and treatment have been concluded	Project office	Visual observation	At the beginning of the construction phase	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management 	Not applicable
Removal of asbestos waste is performed carefully, by persons who have adequate personal protective equipment	In the project area - restaurant “Trifkova Koliba”	Visual observation	Continuously during construction phase	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management 	Not applicable
Asbestos waste is transported properly (in sealed containers or bags, or in closed vehicles)	In the project area - restaurant “Trifkova Koliba”	Visual observation	Continuously during construction phase	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management 	Not applicable
Contract with authorized company for asbestos waste collection and treatment (professional asbestos abatement company) has been concluded	Project office	Visual observation	At the beginning of the construction phase	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management 	Not applicable
Obligation from the procedure for asbestos management are fulfilled.	In the project area	Visual observation	Continuously during construction phase	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management 	Not applicable

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

What Parameter is to be monitored?	Where Is the parameter to be monitored	How Is the parameter to be monitored (what should be measured and how)?	When Is the parameter to be monitored (timing and frequency)?	By Whom Is the parameter to be monitored – (responsibility)?	How much is the cost associated with implementation of monitoring
Noise level	In the project area (along the bike trails, “Trim track” and the restaurant “Trifkova Koliba”	Sound level meter	When performing activities involving the mechanization and movement of vehicles Once a month	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management 	In the case of noise measurement: Costs will be defined in the Contract with the authorized noise measuring company
Period of performing the construction activities (07:00-19:00 h)	In the project area	Visual observation	Continuously during construction phase	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management 	Not applicable
Biodiversity - illegal hunting and killing of animals due to intolerance	In the project area and the vicinity (along the bike trails, “Trim track” and the restaurant “Trifkova Koliba”	Visual observation	Daily	Contractor	Not applicable
Workers are equipped with appropriate personal protective equipment; Procedure for installing a cabin the workers for installing a cabin on the snowcat is implemented Workers are trained;	In the project area	Visual observation	During the Installation of a passenger cabin on the snowcat	<ul style="list-style-type: none"> Contractor Supervision; Responsible person for environmental management or OHS	Not applicable

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

What Parameter is to be monitored?	Where Is the parameter to be monitored	How Is the parameter to be monitored (what should be measured and how)?	When Is the parameter to be monitored (timing and frequency)?	By Whom Is the parameter to be monitored – (responsibility)?	How much is the cost associated with implementation of monitoring
OPERATIONAL PHASE					
Chimney from the fireplace and grill is regularly cleaned by authorized company	Chimney from the fireplace and barbecue at the restaurant	Visual observation of the records from the cleaning	Twice a year	<ul style="list-style-type: none"> Supervisor Responsible person for environmental management 	Not applicable
Waterproof septic tank for waste water collection is constructed	In the project area	Visual observation	At the beginning of the operational phase	<ul style="list-style-type: none"> Supervisor Responsible person for environmental management 	Not applicable
Regular cleaning of the septic tank by authorized company	Project office In the project area	Records of the regular discharge/cleaning of a septic tank	Twice a year	<ul style="list-style-type: none"> Supervisor Responsible person for environmental management 	The costs will be defined in the Contract that will be concluded with the authorized company
An agreement with an authorized company for a septic tank cleaning was signed	Project office	Visual observation	At the beginning of the operational phase Twice a year	<ul style="list-style-type: none"> Supervisor Responsible person for environmental management 	Not applicable
Number of generated waste types(non-hazardous / hazardous, municipal / inert, etc.)	Bicycle trails Restaurant	Visual observation Records of the type, quantity and method of disposal of the different waste types	Daily	<ul style="list-style-type: none"> Supervisor 	Not applicable
Noise level	Restaurant “Trifkova Koliba”	Sound level meter	Once a year	<ul style="list-style-type: none"> Supervisor Responsible person for environment management 	The costs will be defined in the Contract with the authorized noise



Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

What Parameter is to be monitored?	Where Is the parameter to be monitored	How Is the parameter to be monitored (what should be measured and how)?	When Is the parameter to be monitored (timing and frequency)?	By Whom Is the parameter to be monitored – (responsibility)?	How much is the cost associated with implementation of monitoring
				<ul style="list-style-type: none">Authorized noise measurement company	measuring company



7 SOCIAL IMPACT ASSESSMENT AND MONITORING

The implementation of the project will not cause significant, long-lasting and irreversible negative impacts on the social aspects¹² in the construction and operational phases, since there are no activities requiring the presence of a large number of workers, seizure of land or construction of line infrastructure whose alignment would pass through the settlements in the municipality. On the other hand, the project aims to improve the competitiveness of the tourist offer of NP "Mavrovo" by providing a possibility for recreation throughout the year. This has a series of significant positive impacts on the social aspects, ie opportunities are opened for:

- Employment of the local population in each season of the year;
- Re-settlement of the population from this region;
- Increase of the accommodation capacities, especially in the settlement Mavrovo;
- Improvement of the economic conditions in the municipality;
- Attracting a larger number of domestic and international tourists;
- Improvement of the existing and construction of new traffic and communal infrastructure.

7.1 Community health and safety

The location of the project is located in an area that is often used for recreation, not only by the locals, but also by visitors from other areas. Impacts on community safety and health are possible, and they cannot be accurately assessed. Such possible impacts are:

- Injuries caused by contact with mechanization and vehicles (traffic accidents);
- Exposure to hazardous materials (asbestos rooftop from the restaurant);
- Injuries caused by using bicycle tracks while construction/landscaping activities are performed.

The key to community safety and health is its timely information. Therefore, the recipient should appoint at an early stage a responsible person for communication with the affected community (community liaison officer), who will keep a record of all the community health and safety aspects.

¹² Such as: impacts on the everyday life of the local community, the economic circumstances in the municipality, land ownership, etc.

Environmental and Social Management Plan for the sub-project "Mavrovo Free Ride"

Table 8 Community health and safety management plan

Activity	Expected impacts on social aspects	Proposed mitigation measure	Responsibility for the implementation of the mitigation measure	Period for implementation of the mitigation measure	Cost related to the implementation of the mitigation measure
PRE-CONSTRUCTION/CONSTRUCTION PHASE					
Performing regular activities.	Risk of community safety and health	Informing the inhabitants about the planned activities	Responsible person designated by the applicant	Before the start of the construction work	Not applicable
		Fencing the locations where mechanization works will take place and setting warning signs (bicycle tracks and restaurant)	Contractor	Before starting the construction work	The cost will be defined in the contract between the applicant and the contractor
	Risk to the workers' health and safety	<ul style="list-style-type: none"> • Regular use of personal protective equipment; • To prepare a plan for safety and health at work; • Dangerous locations (holes, ditches etc.) will be clearly marked and fenced, or covered when not part of works. • Establish emergency procedures, • Workers are adequately trained and certified for the work they are performing. 	Contractor	Before starting the construction work and during the construction work	The cost will be defined in the contract between the applicant and the contractor

Environmental and Social Management Plan for the sub-project “Mavrovo Free Ride”

Table 9 Community health and safety monitoring plan

What parameter should be monitored?	Where this parameter should be monitored	How should this parameter be monitored (what should be monitored and how)?	When this parameter should be monitored (time and frequency)	From who should this parameter be monitored (responsibility)?	How much is the cost associated with the implementation of the monitoring
CONSTRUCTION PHASE					
Project area is fenced and warning signs placed	Bicycle trails and restaurant	Visual observation	At the beginning of the construction phase and during the construction phase	Responsible person designated by the recipient	Not applicable
Personal protective equipment is provided to workers	Project area	Visual observation	Continuously during the construction phase	<ul style="list-style-type: none"> Contractor Supervisor 	Not applicable
Dangerous locations (holes, ditches, etc.) are marked, fenced or covered	Project area	Visual observation	Continuously during the construction phase	<ul style="list-style-type: none"> Contractor Supervisor 	Not applicable
Activities are performed by trained workers	Project area	Visual observation of the training records	Continuously during the construction phase	<ul style="list-style-type: none"> Contractor Supervisor 	Not applicable

8 APPENDIX

Appendix 1 - Opinion from the MoEPP regarding the submitted Letter of Intent




Република Македонија
Министерство за животна средина
и просторно планирање



Архивски број: 11-4204/2

Дата: 01.08.2018

ДО:  СКИЈАЧКИ ЦЕНТАР Заре Лазаревски ДОО
с. Маврово 1
Маврови Анови

ПРЕДМЕТ: Доставување на мислење

Република Македонија
Министерство за
животна средина
и просторно
планирање

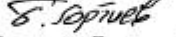


Бул. "Тоше Делчев" бр.18,
1000 Скопје,
Република Македонија
Тел. (02) 3251 400
Факс. (02) 3220 165
Е-пошта:
infoeko@moepp.gov.mk
Сајт: www.moepp.gov.mk

Почитувани,

Во прилог на овој допис Ви доставуваме Мислење со број 11-4204/2, по Ваше известување за намера за изведување на проектот: Слободен спуст (Free Ride) Маврово (Free-Mav), општина Маврово и Ростуше.

Со почит,



Изготвил: Благој Ѓорѓиев 
Контролирал/Согласен: Александар Петковски 
Одобрил: Директор на управа за животна средина
Xhezmi Saliu 



Република Македонија
Министерство за животна средина
и просторно планирање



Архивски број: 11-4204/2

Дата: 01.09.2018

Република Македонија
Министерство за
животна средина
и просторно
планирање

Бул. "Тоце Делчев" бр.18,
1000 Скопје,
Република Македонија
Тел. (02) 3251 400
Факс: (02) 3220 165
Е-пошта:
infoeko@moepp.gov.mk
Сајт: www.moepp.gov.mk

Почитувани,

Во врска со вашето Известување за намера на изведување на проект: Слободен спуст (Free Ride) Маврово (Free-Mav), општина Маврово и Ростуше, Управата за животна средина при Министерството за животна средина и просторно планирање го издава следното

МИСЛЕЊЕ

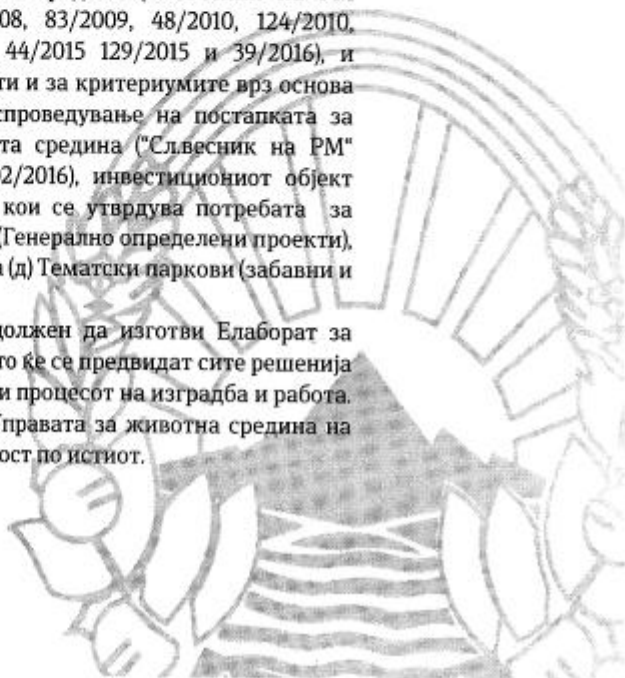
За изведување на проектот: Слободен спуст (Free Ride) Маврово (Free-Mav), општина Маврово и Ростуше инвеститорот е должен да изготви Елаборат за заштита на животната средина.

Образложение

- Од Ваша страна беше доставено известување за намера за изведување на проектот: Слободен спуст (Free Ride) Маврово (Free-Mav), општина Маврово и Ростуше. Локацијата на која се изведува проектот се наоѓа на територијата на општина Маврово и Ростуше.

- Согласно Законот за животна средина ("Слвесник на РМ бр. 53/2005, 81/2005, 24/2007, 159/08, 83/2009, 48/2010, 124/2010, 51/2011, 123/2012, 93/2013, 42/2014, 44/2015 129/2015 и 39/2016), и Уредбата за определување на проекти и за критериумите врз основа на кои се утврдува потребата за спроведување на постапката за оцена на влијанијата врз животната средина ("Слвесник на РМ" бр. 74/2005, 109/2009, 164/2012 и 202/2016), инвестициониот објект припаѓа во прилог 2 - Проекти за кои се утврдува потребата за спроведување на постапка за ОВЖС (Генерално определени проекти), Глава 12. Туризам и рекреација, точка (д) Тематски паркови (забавни и спортско-рекреативни паркови).

Според тоа инвеститорот е должен да изготви Елаборат за заштита на животната средина, со што ќе се предвидат сите решенија за заштита на животната средина при процесот на изградба и работа. Истиот треба да биде доставен до Управата за животна средина на негова оценка и издавање на согласност по истиот.





Република Македонија
Министерство за животна средина
и просторно планирање

МКД
СЕРТИФИКАТ
МКС EN ISO 9001:2009

Елаборатот за заштита на животната средина потребно е да се изготви согласно Правилникот за формата и содржината на Елаборатот за заштита на животната средина согласно со видовите на дејностите или активностите за кои се изработува елаборат, како и согласно со вршителите на дејноста и обемот на дејностите и активностите кои ги вршат правните и физичките лица, постапката за нивно одобрување како и начинот на водење на регистарот за одобрени Елаборати (Службен весник на Република Македонија бр. 44/2013 и 111/2014).

Врз основа на горенаведеното го издаваме мислењето како во диспозитивот и укажуваме на обврската на инвеститорот за изготвување на Елаборат за заштита на животната средина.

Со почит,

Директор на
Управа за животна средина
Xhezmi Saliu



Изготвил: Благој Горгиев
Контролирал/Согласен: Александар Петковски



Appendix 2 - Decision on approval of the Elaborate for environmental protection

Република Северна Македонија
Министерство за животна средина
и просторно планирање

Република e Maqedonisë së Veriut
Ministria e Mjedisit Jetësor
dhe Planifikimit Hapësinor

УПРАВА ЗА ЖИВОТНА СРЕДИНА
DREJTORIA PËR MJEDIS JETËSOR

Арх.бр.УП-11/4 628/2019
Дата: 06.05.2019

ДО: ☒ Скијачки центар "Заре Лазаревски" ДОО
с.Маврово
Маврови Анови

ПРЕДМЕТ: Доставување на Решение

Почитувани,

Во прилог на овој допис Ви доставуваме Решение со број УП-11/4-628/2019, за одобрување на Елаборатот за заштита на животната средина за проект: Оспособување на тематски спортско - рекреативен парк и реконструкција и проширување на постојниот ресторан т.н. "Трифкова колиба", за потребите на Скијачки центар "Заре Лазаревски" ДОО с.Маврово од Маврови Анови.

Со почит,


МИНИСТЕР
Sadulla Duraki

Изработил: Благој Горгиев
Контролирал: Дејана Тодоровска
Согласен: Александар Петковски
Одобрил: Директор на Управа за животна средина
Xhezmi Saliu

Министерство за животна средина и просторно планирање
на Република Северна Македонија
Палата „Пресвета Богородица“ бр. 3, Скопје
Република Северна Македонија

Ministria e Mjedisit Jetësor dhe Planifikimit hapësinor
e Republikës së Maqedonisë së Veriut
Bul. "Presveta Bogorodica" nr. 3, Shkup
Republika e Maqedonisë së Veriut

+389 2 3251 403
www.moep.gov.mk

<p>Република Северна Македонија Министерство за животна средина и просторно планирање</p>		<p>Republika e Maqedonisë së Veriut Ministria e Mjedisit Jetësor dhe Planifikimit Hapësinor</p>
<p>УПРАВА ЗА ЖИВОТНА СРЕДИНА DREJTORIA PËR MJEDIS JETËSOR</p>		
<p>УМ-11/4-628/2019 06.05.2019</p>		
<p>Врз основа на член 24 став 7 од Законот за животна средина (Службен весник на Република Македонија бр.53/2005, 81/2005, 24/2007, 159/2008, 83/2009, 48/2010, 124/2010, 51/2011, 123/2012, 93/2013, 42/2014, 44/2015, 129/2015 и 39/2016), постапувајќи по барањето на Скијачки центар "Заре Лазаревски" ДОО од Маврови Анови, за одобрување на Елаборатот за заштита на животна средина број УП1-11/4 628/2019 од 23.04.2019 година, Директорот на Управата за животна средина при Министерството за животна средина и просторно планирање го издава следното</p>		
<p>РЕШЕНИЕ За одобрување на Елаборат за заштита на животна средина</p>		
<p>1. Со ова Решение се одобрува Елаборатот за заштита на животната средина, со тех. број 01-210 од април 2019 година, изготвен од страна на Друштво за еколошки консалтинг "ДЕКОНС-ЕМА" од Скопје, за проект: Оспособување на тематски спортско - рекреативен парк и реконструкција и проширување на постојниот ресторан т.н. "Трифкова колиба", во општина Маврово и Ростуше, за потребите на Скијачки центар "Заре Лазаревски" ДОО с.Маврово од Маврови Анови.</p> <p>2. Од доставената документација констатирано е дека со изведбата и работата на тематско - рекреативен парк и реконструкција и проширување на постојан ресторан, во општина Маврово и Ростуше, нема да има значителни влијанија врз животната средина.</p> <p>3. Инвеститорот се задолжува целосно и без исклучоци да се придржува кон пропишаниот режим и мерки за заштита предвидени во Елаборатот за заштита на животна средина, како и кон дополнителни решенија доколку низ изведбата и работењето на проектот се покаже потреба од зголемен обем и вид на превенција.</p> <p>4. Ова Решение влегува во сила со денот на донесувањето.</p>		
<p>1</p> <p>Министерство за животна средина и просторно планирање на Република Северна Македонија Плоштад „Пресвета Богородица“ бр. 3, Скопје Република Северна Македонија</p>	<p>Ministria e Mjedisit Jetësor dhe Planifikimit hapësinor e Republikës së Maqedonisë së Veriut Bul. "Presveta Bogorodica" nr. 3, Shkup Republika e Maqedonisë së Veriut</p> <p>+389 2 3251 403 www.moepp.gov.mk</p>	

Република Северна Македонија
Министерство за животна средина
и просторно планирање



Republika e Maqedonisë së Veriut
Ministria e Mjedisit Jetësor
dhe Planifikimit Hapësinor

УПРАВА ЗА ЖИВОТНА СРЕДИНА
DREITORIA PËR MJEDIS JETËSOR

Образложение

Од Ваша страна беше доставен Елаборат за заштита на животната средина за проект: Оспособување на тематски спортско - рекреативен парк и реконструкција и проширување на постојниот ресторан т.н. "Трифкова колиба", во општина Маврово и Ростуше, за потребите на Скијачки центар "Заре Лазаревски" ДОО с.Маврово од Маврови Анови.

Проектното подрачје се наоѓа се наоѓа во границите на Национален парк Маврово во зоната за одржливо користење, во општина Маврово и Ростуше. Ресторанот е лоциран во непосредна близина на крајната станица на двосед жичарата. Уредувањето на велосипедските патеки кои се во должина од 1000 метри и 750 метри, и отворениот полигон се наоѓаат во непосредна близина на постојните ски патеки и ресторанот.

Предметниот Елаборат за заштита на животната средина е изготвен согласно Правилникот за формата и содржината на Елаборатот за заштита на животната средина согласно со видовите на дејностите или активностите за кои се изработува елаборат, како и согласно со вршителите на дејноста и обемот на дејностите и активностите кои ги вршат правните и физичките лица, постапката за нивно одобрување како и начинот на водење на регистарот за одобрени Елаборати (Службен весник на Република Македонија бр. 44/2013 и 111/2014), од страна на Друштво за еколошки консалтинг "ДЕКОНС-ЕМА" од Скопје.

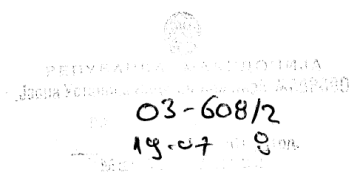
Правна поука: Против ова Решение може да се поднесе жалба во рок од 15 дена од денот на приемот на решението до Државна Комисија за одлучување во управна постапка и постапка од работен однос во втор степен.



Директор на
Управа за животна средина
Xhezmi Saliu

Изработил: Благој Ѓорѓиев
Контролирал: Дејана Тодоровска
Согласен: Александар Петковски

Appendix 3 - Letter from public institution – national park "Mavrovo"



Република Македонија
Јавна Установа Национален Парк
МАВРОВО
Маврови Анови

19.07.2017 г.

Маврови Анови

ДО
СКИЈАЧКИ ЦЕНТАР
ЗАРЕ ЛАЗАРЕВСКИ
МАВРОВО

Предмет: Барање согласност

Почитувани,

Управата на ЈУНП Маврово – Маврови Анови го разгледа Вашето Барање согласност за реализација на подпроект „Слободен спус Маврово“ на планината Бистра и во рамките на ски центарот и скијачките терени со што би се подобриле и воедно прошириле услугите на скијачкиот центар и ќе создаде понуда за привлекување на туристи во текот на целата година.

Барањето и доставеното Известување за намера на Проектот предвидено е да се реализира на територијата на Национален Парк односно во Заштитено подрачје од каде што може да се констатира дека првично се опфатени сите елементи на кои што е потребно да се обрне внимание при градбата односно изведување на градежните работи, особено подршката на Проектот од страна на Европските фондови, Светска Банка и Владата на РМ го прави овој Проект успешен и реален во делот на туристичката понуда и успешна соработка со Паркот.

Управата на Паркот во однос на Зонирањето, точна е Вашата констатација дека подрачјето припаѓа во Туристичко рекреативна зона, што создава можност и услови за побогата и порепрезентативна туристичка услуга на подрачјето и севкупно на територијата на паркот со посебно внимание на Буковиот шумски предел и високопланинските пасишта.

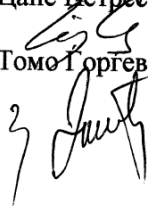
Тел: 042/489 019; Факс: 042/489 505 п.ф. 1256 Маврови Анови - Р. Македонија
e-mail: npmavrovo@npmavrovo.org.mk www.npmavrovo.org.mk

Очекуваме понатамошна меѓусебна соработка при реализација на Проектот , со посебно внимание на градежните активности важни за заштитеното подрачје што и самите сте го потенцирале во доставениот документ за намера .

Изготвиле ,

Инж. Цане Петрески

Инж. Томо Горѓевски



ЈУНП Маврово
Директор ,
Самир Ајдини





Appendix 4 – Procedure for asbestos

1. Asbestos management

During the reconstruction of the restaurant “Trifkova Koliba” certain quantities of asbestos waste can occur, therefore in this chapter asbestos management is presented in more detail.

Before starting reconstruction works, the contractor must determine whether there is a possibility that materials containing asbestos are present. Information on the presence of material containing asbestos employer must obtained from the building owner.

1.1. Introduction

Asbestos is a fibrous material which is mechanically strong and highly resistant to heat and chemical reactions. It is often woven into fabrics which can be used to reinforce cement and plastics.

There are several types of asbestos: actinolite; amosite (‘brown’ asbestos); anthophyllite; chrysotile (‘white’ asbestos); crocidolite (‘blue’ asbestos) and tremolite. Crocidolite and amosite are the two most dangerous forms of asbestos — they pose the greatest risks to health if their fibres are inhaled. Crocidolite has been phased out since the 1970s. However, much remains in older structures.

Asbestos is still found in some buildings as insulation but was also used in brake linings and for lagging pipes and boilers (e.g. on board vessels). It may still be present in some older buildings, but is being removed as they are refurbished. Generally, use of asbestos is now very minimal, as less hazardous alternatives become available. It may still be present in some older buildings. Hence, the foremost problem is exposure to asbestos in the course of removal, demolition, servicing and maintenance activities.

Asbestos is only dangerous if it is fragmented and the fibres become airborne — as asbestos dust. If these fibres are inhaled they can cause serious diseases. However, these are very rare amongst people who are not exposed to high amounts of asbestos. They are mainly developed by people who work, or used to work, regularly with asbestos.¹³

1.2 Legal framework

Macedonian national legislation strictly controls exposure to asbestos and handling asbestos waste by following laws and by-laws:

- Law on Occupational Health and Safety ("Official Gazette of the Republic of Macedonia" No. 92/07, 136/11, 23/13, 25/13, 137/13, 164/13, 158/14, 15/15, 129/15, 192/15 and 30/16);
- Rulebook on personal protective equipment used by employees at work (Official Gazette of the Republic of Macedonia No. 116/07);
- Rulebook on minimum requirements for safety and health of workers from risks related to exposure to asbestos at work (Official Gazette of the Republic of Macedonia No. 92/07);

¹³ https://ec.europa.eu/taxation_customs/dds2/SAMANCTA/EN/Safety/Asbestos_EN.htm



- Rulebook on Occupational Health and Safety of Work Equipment ("Official Gazette of the Republic of Macedonia" No. 116/07);
- Rulebook on Occupational Health and Safety Signs ("Official Gazette of the Republic of Macedonia" No. 127/07);
- Rulebook on minimum requirements for safety and health on the risk of employees related to risk exposure to cancer genes, mutagens or substances toxic to the reproductive system ("Official Gazette of the Republic of Macedonia" no110/10)
- Law on Waste Management ("Official Gazette of the Republic of Macedonia" no. 68/04, 71/04, 107/07, 102/08, 134/08, 124/10, 51/11, 123/12, 147/13, 163/13, 27/14, 51/15, 146/15, 192/15, 39/16 and 63/16);
- Ordinance on waste catalogue ("Official Gazette of the Republic of Macedonia" no. 100/05);
- Rulebook on the manner of asbestos waste handling and waste from products that containing asbestos ("Official Gazette of the Republic of Macedonia" no. 89/06).
- Rulebook on the detailed conditions for handling hazardous waste and the manner of packaging and labelling of hazardous waste ("Official Gazette of the Republic of Macedonia" no. 15/08).

1.3 Contractor's obligations regarding documentation and licencing

To perform works with materials containing asbestos, contractor must meet the requirements regarding licensing for handling asbestos materials.

Before starting works contractor has following obligations:

- Must assess the risk according to the provisions defined in the Rulebook for preparation of risk assessment ("Official Gazette of the Republic of Macedonia" no. 02/09). Risk assessment must be regularly revised and supplemented in accordance with the changes that could affect worker exposure.
- For activities where employees are exposed or may be exposed to asbestos dust or asbestos-containing materials during their work, the employer must notify the competent labor inspector at least 15 days prior to commencing work.
- Employers should ensure that employees are not exposed to an asbestos concentration in the air greater than 0.1 strand per cm³ measured against an eight-hour weighted average
- Needs to be prepared a work plan before starting with work activities on demolishing or removing asbestos and / or asbestos-containing materials from buildings, structures, equipment, or installations.
- Employers should provide appropriate training to all employees who are or may be exposed to asbestos-containing dust.
- The employer must provide preventive health checks to employees in accordance with specific regulations,
- in the case of waste collection, must obtain waste management permit¹⁴ issued by Ministry of environment and physical planning according to the Law on Waste

¹⁴ According to the Ordinance on waste catalogue ("Official Gazette of the Republic of Macedonia" no. 100/05) and Rulebook on the manner of asbestos waste handling and waste from products that containing asbestos ("Official Gazette of the Republic of Macedonia" no. 89/06), asbestos waste can be classified as hazardous and non-hazardous waste depended on the form in which appears.



Management (“Official Gazette of the Republic of Macedonia” no. 68/04, 71/04, 107/07, 102/08, 134/08, 124/10, 51/11, 123/12, 147/13, 163/13, 27/14, 51/15, 146/15, 192/15, 39/16 and 63/16),

- In the case of waste transport, must entered into the Register of Waste Carriers kept in the Ministry of environment and physical planning according to the Law on Waste Management (“Official Gazette of the Republic of Macedonia” no. 68/04, 71/04, 107/07, 102/08, 134/08, 124/10, 51/11, 123/12, 147/13, 163/13, 27/14, 51/15, 146/15, 192/15, 39/16 and 63/16),
- In the case of transport hazardous waste, must meet the requirements according to the Law on Waste Management and Rulebook on the detailed conditions for handling hazardous waste and the manner of packaging and labelling of hazardous waste (“Official Gazette of the Republic of Macedonia” no. 15/08). During handling asbestos waste (e.g. reloading), it is necessary to stick to prescribed occupational safety requirements. Workers must have adequate protective equipment, protective masks and must undergo appropriate training for handling asbestos waste.

During the conducting work contractor has following obligations:

Where workers are exposed to asbestos dust or asbestos-containing materials, appropriate measures should be taken to ensure that:

a) Places where activities will take place:

- be clearly delineated and marked with warning signs;
- be denied access except for employees who due to their work or duties under the intervention should enter them;
- to represent places where smoking is prohibited;

(b) There shall be special places where employees can eat and drink without the risk of contamination by asbestos dust;

c) Employers should provide for employees:

- Appropriate working or protective clothing;
- Adequate toilets and washrooms, including showers when dealing with asbestos dust activity;
- The protective equipment is stored in a well-defined place, checked and cleaned after each use, and
- take appropriate measures to repair or replace broken equipment prior to its further use.

In the event of employees 'exposure to asbestos dust or asbestos-containing materials, appropriate measures should be taken to ensure that employees and their employers' representatives receive appropriate information regarding:

- potential health risks from exposure to asbestos dust or asbestos-containing materials;
- legal limit values and the need to monitor the atmosphere;
- hygiene measures, including the smoking ban;
- precautions to be taken with regard to the wearing and *use of protective equipment and clothing*, and
- special precautions taken to reduce asbestos exposure.



(2) In addition to the above measures, the following measures should also be taken to ensure:

- employees and / or their employers' representatives have access to the results of the measurements of asbestos concentrations in the air and can be given explanations of the significance of those results; and
- if the results exceed the limit value of 01, strand per cm³, the employees concerned and their representatives at the employer shall be informed as soon as possible of the reasons and the employees and / or their representatives at the employer shall be consulted on the measures to be taken. *To take or, in an emergency, to report on the measures taken.*

1.4 General conditions regarding workers health protection which contractor has to meet in the case of workers exposure to the asbestos

The rulebook on minimum requirements for safety and health of risk employees related to exporting asbestos at work (Official Gazette of the Republic of Macedonia" No. 92/07) stipulates some general conditions regarding workers health protection in the case of exposure to the asbestos.

Those conditions are given below:

When the limit value is exceeded, the reasons for its exceedance should be identified and appropriate measures taken as soon as possible to remedy the situation.

- Work may not continue at the place concerned until appropriate measures are taken to protect the staff concerned.
 - Where exposure cannot be reduced by other means and where respect for the limit value necessitates the wearing of individual respiratory protective equipment, it shall not be permanent and shall not be longer than two and a half hours continuously for each employee.
 - Vacations appropriate to physical and climatic conditions shall be provided during periods of operation requiring the wearing of individual respiratory protective equipment and shall not be shorter than 20 minutes.
 - Decontamination periods shall be added to holiday periods and shall not be shorter than 20 minutes.
 - Employees and / or their representatives shall be consulted with the employer for rest periods.
1. In carrying out certain activities such as demolition, removal, repairs and maintenance of buildings containing asbestos-containing materials, it is expected that the limit value will be exceeded despite the use of technical preventive measures. Measures to limit the concentration of asbestos in the air by the employer should determine the measures to ensure the protection of employees while carrying out those activities, in particular:
- to provide employees with appropriate respiratory and other personal protective equipment to be worn,
 - (b) putting warning signs that the limit value is expected to be exceeded and
 - c) the spread of asbestos dust or of materials containing asbestos outside the premises or from the place of intervention is prevented.
 - contractor must not allow a worker to work on jobs where he or she can be exposed to asbestos dust or asbestos materials as long as the worker is not trained for safe working.



Employers provide appropriate training to all employees who are or may be exposed to asbestos-containing dust.

- The training should be carried out at regular intervals and be free of charge to the employees.
- Training of at least five days shall be carried out for the first time for the employee to work with asbestos and be renewed every three years for a period of three days.
- Training should enable staff to acquire the necessary knowledge and skills in terms of prevention and safety, in particular for:
 - the properties of asbestos and the health effects of its employees, including the mutual effects of smoking and the ban on eating and drinking in the workplace;
 - types of products or materials that may contain asbestos;
 - operations that may cause asbestos exposure and the importance of preventive controls to reduce exposure;
 - safe working practices, controls and protective equipment;
 - the appropriate role, selection, restrictions and proper use of respiratory equipment;
 - emergency procedures;
 - decontamination procedures;
 - waste disposal procedures and
 - requirements for medical supervision.

For activities where employees are exposed or may be exposed to asbestos dust or asbestos-containing materials, appropriate measures shall be taken to ensure that:

- a) the places where the above activities will take place:
 - be clearly delineated and marked with warning signs;
 - be denied access except for employees who due to their work or duties under the intervention should enter them;
 - to represent places where smoking is prohibited;
- (b) There shall be special places where employees can eat and drink without the risk of contamination by asbestos dust;
- c) Employers should provide for employees:
 - appropriate working or protective clothing;
 - the working or protective clothing referred to in indent 1 of this paragraph shall remain with the employer.

(2) The appropriate protective clothes may be washed in laundry facilities outside the employer's premises equipped for such work if the employer does not do the laundering himself, whereby the clothes shall be transported in sealed containers.

- separate storage areas for work or protective clothing and civilian clothing;



- adequate toilets and washrooms, including showers when dealing with asbestos dust activity;
- the protective equipment is stored in a well-defined place, checked and cleaned after each use, and
- take appropriate measures to repair or replace broken equipment prior to its further use.

In the event of any activity that may involve the risk of exposure to asbestos dust or asbestos-containing materials, the following measures shall be taken:

a) assess the health status of each employee before being exposed to asbestos dust or asbestos-containing materials at the workplace and this assessment should be repeated at least once every 18 months for the duration of the exposure.

b) An individual health dossier for each worker should be created.

(3) Measures may include, if necessary, termination of exposure to asbestos, the withdrawal of the employee concerned from any exposure to asbestos.

(4) A specialist in occupational medicine should provide employees with information and advice on their health after completing the work on which the employee is exposed to asbestos.

(5) The Occupational Health Authorized Medical Institution may state that the medical supervision of employees should continue after the exposure has ended as long as it considers it necessary to preserve the health of the person concerned.

(6) Continuous supervision shall be performed in accordance with the regulations in the field of health care.

(7) The employee or the employer may request the review of the assessments of the health dossiers of each employee, in accordance with the laws and regulations in the field of occupational safety and health.