

**Annex 1**

**Schedule of Services and Works for Lot 1 and Lot 2.**

# Reconstruction of Administrative Building of Zakatala State Nature Reserve (Lot 1) and Rehabilitation of 13 Ranger and 2 Cordon Houses (Lot 2).

## Annex 1. Schedule of Services and Works for Lot 1 and Lot 2

Stage	Lot 1 and Lot 2 Project Stages and Works Sections 1-6		2024			2025				2026				
			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
<b>1</b>	<b>Lot 1 Administrative Building of Zakatala State Nature Reserve</b>	<b>Sections 1-5 420 days</b>												
1.1	Mobilization (Section 1 - 28 days)	Total Sections 1-4 90 days												
1.2	Site topographical and geological survey (Section 2)													
1.3	Preparation of Detailed Design documentation pack (Section 3)													
1.4	Support Employer in Construction Permit procedures and Construction Permit (Section 4)													
1.5	Construction and Preliminary Commissioning of the Design building (Section 5)	Total Section 5 330 days												
1.6	Defect Liability Period and Final Commissioning (Section 6)	Total Section 6 365 days												
<b>2</b>	<b>Lot 2 Rehabilitation of 13 Ranger and 2 Cordon Houses</b>	<b>Sections 1-5 540 days</b>												
2.1	Mobilization (Section 1 - 28 days)	Total Section 1-4 90 days												
2.2	Site topographical and geological survey (Section 2)													
2.3	Preparation of Detailed Design documentation pack (Section 3)													
2.4	Support Employer in Construction Permit procedures and Construction Permit (Section 4)													
2.5	Construction and Preliminary Commissioning of the Design building (Section 5)	Total Section 5 450 days												
2.6	Defect Liability Period and Final Commissioning (Section 6)	Total Section 6 365 days												

## **ANNEX 2**

### **Lot 1**

**Environmental and Social Management Plan (ESMP)  
for the Administration Building of Zaqatala Balakan  
Biosphere Reserve**

# **Establishment and Sustainable Development of the Zakatala - Balakan Biosphere Reserve**

## **Environmental and Social Management Plan (ESMP) for the Administration Building of Zaqatala Balakan Biosphere Reserve**

Prepared by: GOPA

BMZ Project Number: 2008.6581.6

**GOPA**

WORLDWIDE CONSULTANTS

in association with DFS



Azərbaycan Respublikası  
Ekologiya və Təbii Sərvətlər Nazirliyi

Department for Biodiversity Conservation  
and Development of Specially Protected Areas



DFS

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## Abbreviations

BMZ	German Federal Ministry for Economic Cooperation and Development
CBO	Community-based organisation
CC	Construction Contractor
CTA	Chief Technical Advisor (Head of GOPA'S consulting team)
CNF	Caucasus Nature Fund
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework (guideline how to deal with ESHS in projects with unknown location, scope and impact)
ESHS	Environmental and Social Health and Safety
ES COP	Environmental and Social Code of Practice
ESMP	Environmental and Social Management Plan (a plan to manage the impacts identified in an ESIA)
ESS	Environmental and Social Safeguard
FD	Forest Department
FS	Feasibility Study
GIS	Geographical Information System
KfW	German Bank for Reconstruction and Development
M & E	Monitoring and evaluation
MENR	Ministry of Ecology and Natural Resources
NGO	Non-Governmental Organisation
O & M	Operations and Maintenance
OVC	Outdoor Visitor Centre
PA	Protected Area
PIU	Project Implementation Unit
SA	Separate Agreement
ZSNR	Zakatalla State Nature Reserve
TNA	Training Needs Analysis
TOR	Terms of Reference

## 1. Introduction

This ESMP is relevant for the Zakatala State Nature Reserve (ZSNR) administration building and ancillary structures (e.g. as additional small sheds). The administration building is to be constructed on the footprint of the old administrative building of the ZSNR on the land owned by the Ministry of Environment and Natural Resources (MENR).

The ESMP is designed to address all ES safeguards and mitigation measures, which the construction company will have to implement. During detailed design of the infrastructure the ESMP will be updated.

The ESMP needs to be annexed to the construction contract. This ESMP will have to be updated by the Construction Company (CC) \_ taking into account all provisions of this ESMP before starting works => CC-ESMP to be established in local language. The CC-ESMP will be monitored by the IC is all provisions of this ESMP are included.

## 2. Applicable Legislation and Permitting

### 2.1. International E&S Standards

Being funded by KfW, the Project has to comply with the KfW standard for international safeguards. Most relevant texts are the KfW's Sustainability Guideline (2023) as well as the World Bank Environmental and Social Standards (ESS) (2018).

The KfW Sustainability Guideline commits to:

- Avoid, reduce or limit environmental pollution and environmental damage including climate-damaging emissions and pollution
- Preserve and protect biodiversity and tropical rainforests and to sustainably manage natural resources
- Consider probable and foreseeable impacts of climate change including utilizing the potential to adapt to climate change. In this context climate change is understood as climate variability and long-term climate change
- Avoid adverse impacts upon the living conditions of communities, in particular indigenous people and other vulnerable groups, as well as to ensure the rights, living conditions and values of indigenous people
- Avoid and minimize involuntary resettlement and forced eviction of people and their living space as well as to mitigate adverse social and economic impacts through changes in land use by reinstating the previous living conditions of the affected population;
- Ensure and support health protection at work and the occupational health and safety of people working within the framework of a KfW financed measure
- Condemn forced labour and child labour, ban discrimination in respect of employment as well as occupation and support the freedom of association and the right to collective bargaining
- Protect and preserve cultural heritage
- Management and monitoring of possible adverse environmental, social and climate impacts as well as risks within the framework of the implemented measure.

In the context of these commitments, the project will be implemented in compliance with the relevant standards of the KfW Sustainability Guideline (2021), namely:

- World Bank Environmental and Social Standards (ESS) 1-10 as described in the Environmental and Social Framework (2018)
- World Bank Group’s Environmental, Health and Safety Guidelines and Industry Specific Guidelines, as applicable (such as, e.g., the IFC Environmental, Health, and Safety Guidelines for Forest Harvesting Operations, Annual and/or Perennial Crop Production)
- Guidelines on Incorporating Human Rights Standards and Principles, Including Gender, in Programme Proposals for Bilateral German Technical and Financial Cooperation
- For aspects related to labour in addition to ESS 2, the International Labour Organization (ILO) core standards
- For land tenure issues the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests

## 2.2. National Legal Framework

Azerbaijan has a number of laws that include provisions for environmental protection and monitoring, and for the management of environmental issues related to development projects, originating in the constitution (1995). The Constitution is the highest law in the Azerbaijan Republic and prevails over national legislation and international agreements. It stipulates the basic rights of people to live in a healthy environment, to have access to information on the state of the environment and to obtain compensation

In the following table a list of legal texts is presented:

*Table 2.2-1: List of National Environmental Legislation*

No.	Law / Regulation / Policy	Date of Adoption
1.	Law of the Republic of Azerbaijan on “Protection of environment”	1999
2.	Law on “Environmental safety”	1999
3.	Law of the Republic of Azerbaijan on “Industrial and municipal wastes”	1998
4.	Law of the Republic of Azerbaijan on “Public awareness raising on environmental issues”	2002
5.	Law of The Republic of Azerbaijan on specially protected natural territories and sites	2000
6.	Law of the Republic of Azerbaijan on Protection of Atmospheric Air	1999
7.	Law on Access to Public Information, Public Participation in Decision Making and Access to Justice in Environmental Matters	1999
8.	Law on Sanitary and Epidemiological Safety	1993
9.	Law on Protection of Flora	1996
10.	Land Code	1996
11.	Water Code	1997



No.	Law / Regulation / Policy	Date of Adoption
12.	Forestry Code	1997
13.	Law on Public Health	1997
14.	Law on Radiation Safety of Population	1997
15.	Law on Fauna	1999
16.	Law on Mandatory Environmental Insurance	2002
17.	Law on Access to Environmental Information	2002
18.	Law on Environmental Education	2002
19.	Decree 176, on Payments for the Use of Natural Resources and Environmental Contamination	1992

According to National Legislation a National EIA is not compulsory for the planned infrastructures, but an ESCOP is considered sufficient. However, to meet international standards at least an ESMP is required to mitigate construction and operation impacts which is based on the ESMF, established in the inception phase.

Environmental assessment and review procedures in Azerbaijan, as stipulated in the State Ecological Expertise (SEE), does not include the categorization of projects. After initial review by the SEE commission, projects are categorized as high risk or low risk projects. For high-risk projects full Environmental Impact Assessment (EIA) is required. However, for low-risk projects the SEE does not require additional action.

Table 2.2-2: National EIA Procedure

<b>Screening</b>	The developer is required to submit an Application (containing basic information on the proposal) to MENR to determine whether an EA is required.
<b>Scoping</b>	Requirement for a Scoping Meeting to be attended by the developer, experts and concerned members of the public, and aimed at reaching a consensus on the scope of the EA
<b>Project description</b>	Full description of technological process and analysis of what is being proposed in terms of planning, pre-feasibility, construction and operation.
<b>Environmental studies</b>	Requirement to describe fully the baseline environment at the site and elsewhere, if likely to be affected by the proposal. The environment must be described in terms of its various components - physical, ecological and social.
<b>Consideration of alternatives</b>	No requirement to discuss Project alternatives and their potential impacts (including the so-called "do-nothing" alternative), except for the description of alternative technologies.

<b>Impact assessment and mitigation</b>	Requirement to identify all impacts (direct and indirect, onsite and offsite, acute and chronic, one-off and cumulative, transient and irreversible). Each impact must be evaluated according to its significance and severity and mitigation measures provided to avoid, reduce, or compensate for these impacts.
<b>Public participation</b>	Requirement to inform the affected public about the planned activities twice: when the application is submitted to the MENR for the preliminary assessment and during the EA process. The developer is expected to involve the affected public in discussions on the proposal.
<b>Monitoring</b>	The developer is responsible for continuous compliance with the conditions of the EA approval through a monitoring program. The MENR undertakes inspections of the implementation of activities in order to verify the accuracy and reliability of the developer's monitoring data. The developer is responsible for notifying the MENR and taking necessary measures in case the monitoring reveals inconsistencies with the conditions of the EA approval.

The project excludes activities which could be considered as high-risk projects. Projects requiring an initial screening application will be identified and national procedures will be followed, additionally to international procedures. The stricter standards will have to be complied with.

The proposed construction site has been screened for E & S risks, and the results have been shared with the Agency of EIA of MENR. On 22 June 2023 the project team met with the Director of the Agency on Environmental Impact Assessment, MENR. He explained the sequence of necessary actions prior to the start of construction, but after the contract with the construction company has been signed:

The process is described in the following:

Step 1 - Ensure the ownership document for the land of the building. (In this case => n.a. land is owned by the project promoter = MENR)

Step 2 – The selected contractor will prepare Detailed Design Documentation based on the Conceptual Architectural Project and Technical Specifications prepared by GOPA in the full scope, including: Architectural, Construction Project, electrical and water system and waste water system.

Step 3 – This prepared project will then be agreed upon with the Committee on Architecture at Zakatala Executive Power Office.

Step 4 – Construction Project and all other Engineering and Survey components will be prepared by the selected Contractor as part of his Design–Build assignment

Step 5 – The construction project must be submitted to the Department of Architecture at Zakatala Executive Power Office.

Step 6 – Zakatala Executive Power Office then sends this project to Ministry of Health, Ministry of Emergency Situations, Ministry of Ecology and Natural Resources, Fire Fight Office for their assessment and approval for the project.

Step 7 - All these institutions will reply to this inquiry of Zakatala Executive Power Office within 15-30 days.

Step 8 - Finally, if all the replies with regard to this project by all the institutions are positive, then Zakatala Executive Power Office issues permission for the start of the construction process (on a special Permission form).

According to the Agency on Environmental Impact Assessment, MENR, to comply with National requirements only an ESCOP is needed, however in order to comply with (in this case) stricter international requirements (KfW) this ESMP is prepared.

### 3. Project Description

#### 3.1. Project Background

MENR supports the Establishment and Sustainable Development of the Zakatala-Balakan Biosphere Reserve (ZSNR) in the Republic of Azerbaijan with funding from by BMZ through KfW Entwicklungsbank (BMZ Project Number: 2008.6581.6).

The project approach is to improve management efficiency within the ZSNR, and to regulate people's use of forest resources outside the ZSNR.

By improving the technical quality of management plans (output 1) and financing investments to implement them (output 2), the project intends to improve the overall management of ZSNR (part of the programme objective).

At the start of the project, the Feasibility Assessment Report for the ZSNR Office building was prepared by GOPA's international and national architect in close collaboration with the GOPA office in Zakatala, ZSNR and MENR staff.

The Office Building in Zaqatala town (built around early 1950) is a single floor building with a high socle basement built by river pebble stone-work on lime astringent, without concrete reinforcement, with wooden flooring and roof structure.

In the early stages of the project, it was first planned to substantially refurbish the building, but after more detailed inspections of the building's technical conditions by the GOPA local architect, this approach was found unsuitable and too costly investment into a dilapidated building.

A new concept for the administrative office building was developed by GOPA's local architect and international architect. The functional planning and spacing of the proposed conceptual design (one floor building with socle subfloor) was discussed with and approved by ZSNR management and later by respective supervisory officials at MENR. The hard and soft copies of the architectural concept design was passed to them on 22.4.2022 and was approved by MENR.

As per TOR, GOPA supports MENR in:

- Environmental and Social Impact Assessment (ESIA); (=> ESMF / CEPF and ESMP) status: completed
- Procurement (new bidding, proposal evaluation) status: under preparation
- Construction supervision, including connection to utilities, status; will start when tender will be finished
- Developing an Operations and Maintenance (O & M) manual and related training, status: developed
- Work planning and documentation (minutes of meeting; contracts; invoices; handover documentation), status: done on a regular basis

### 3.2. Project Mapping and planned Design

The following satellite image provides an overview of the ZSNR Administration location.

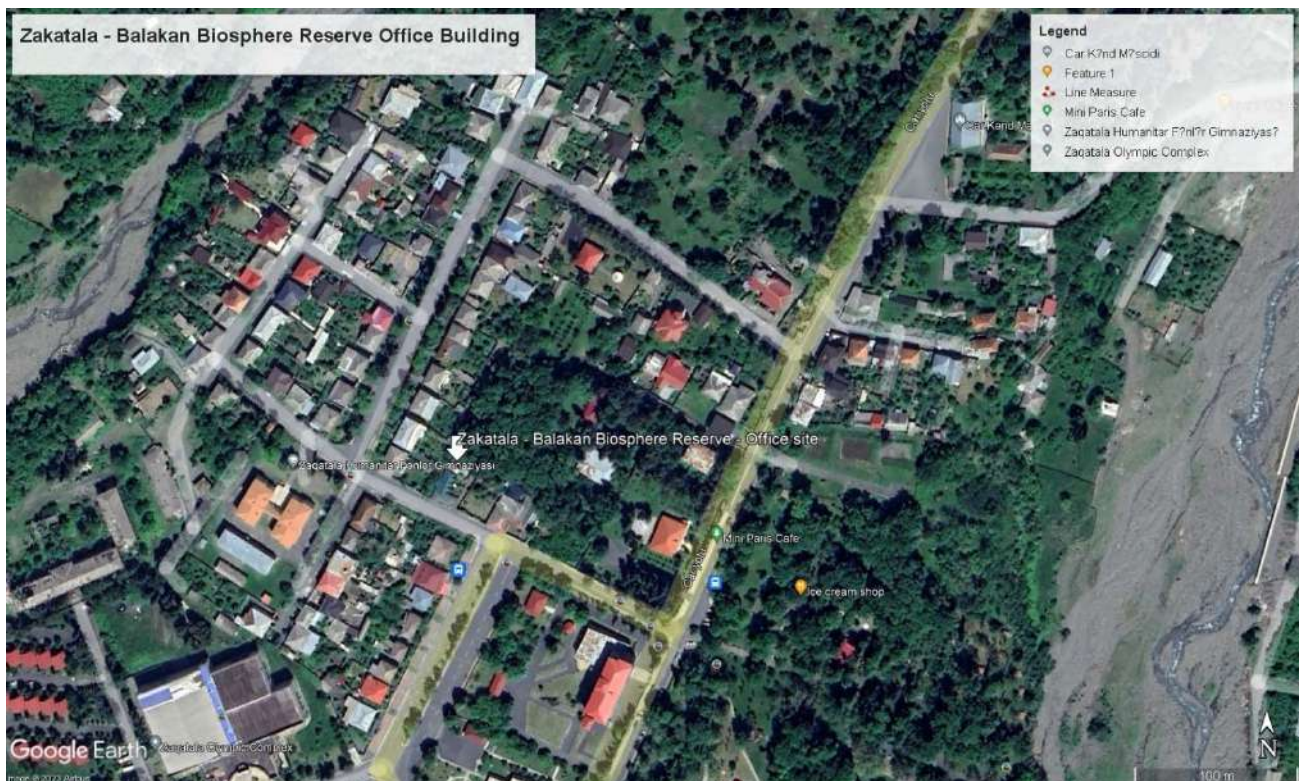


Figure 3.2-1: Overview of location of ZSNR Administration

The ecological sensitivity is assessed to be uncritical. The building will not be located within the Zakatala State Nature Reserve boundaries. It is located in Car village of Zakatala town in an area specially assigned for the ZSNR administration. It has all the access and connections to communal services including water, electricity, sewerage. The planned building is situated near the main road from Zakatala city to Car village,

hence there is not any problem in terms of accessing the construction spot for trucks providing transportation services. The following figure shows the planned design:

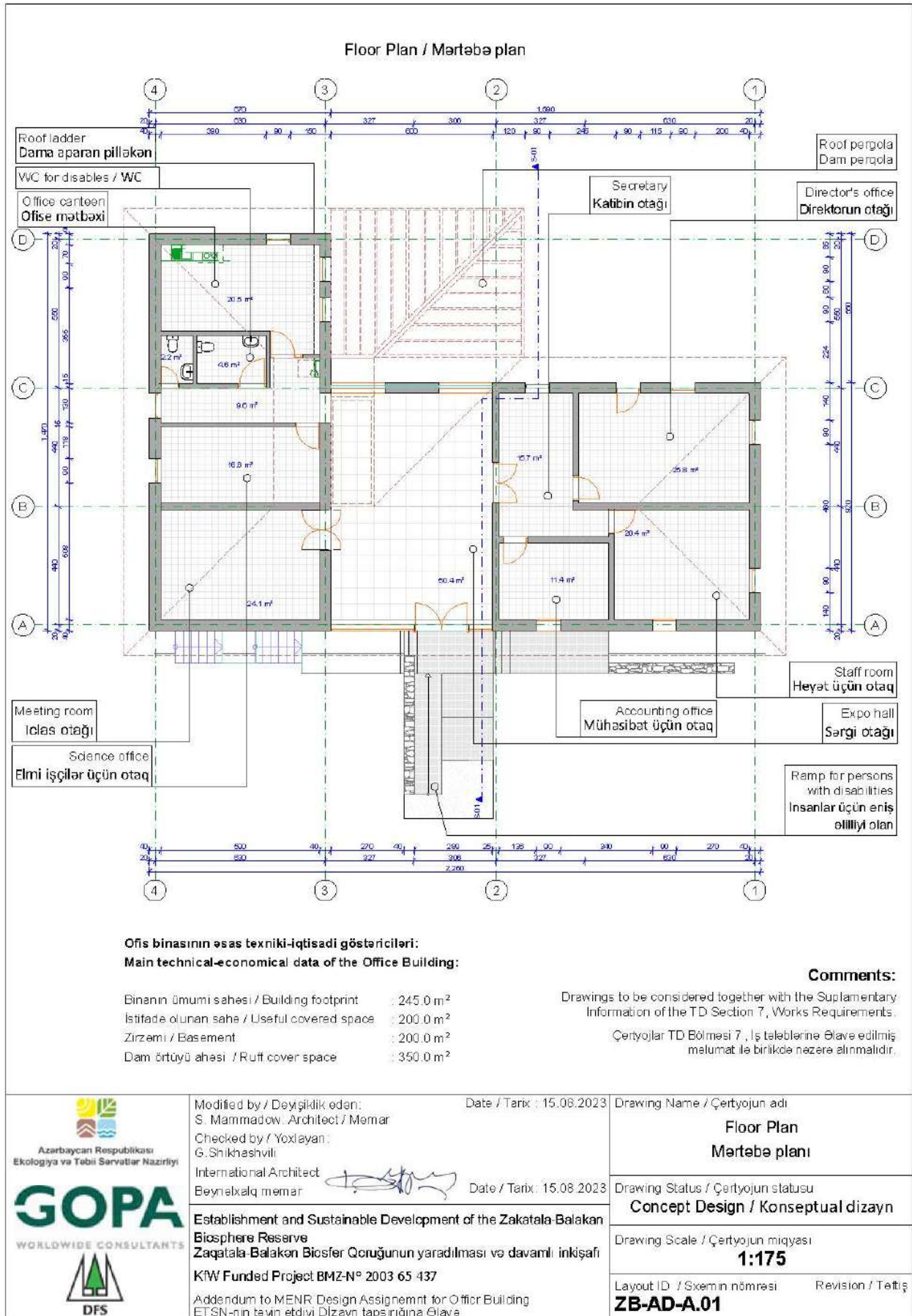


Figure 3.2-2: Planned design of ZSNR Administration Building

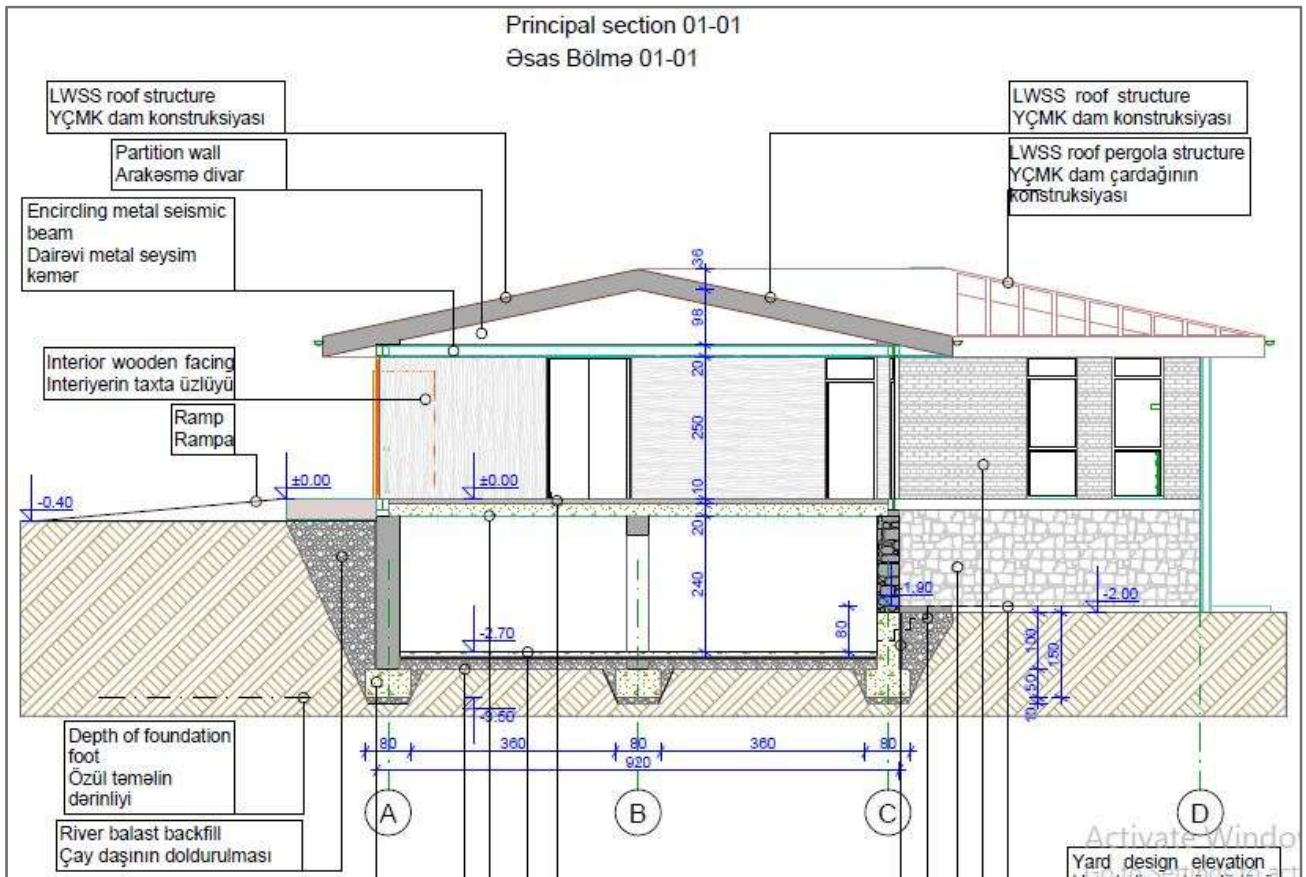


Figure 3.2-3: Planned section of ZSNR Administration Building

The following figure shows the project site in more detail:



Figure 3.2-4: Project Site with Access road and affected trees

The image shows the project site and the access road (green) as well as the affected trees.

No tree cutting is expected to be needed. Should this change during the construction process, permission shall be ensured with MENR. There are no red list species Nevertheless, tree cutting to be avoided as much as possible. For trees that are close to the construction site, trunk protection measures with wooden planks shall be installed. Figure 3.2-3: Site photos



### 3.3. Description of planned Infrastructure and Construction Works



In the following table the construction works are explained are listed in the available detail at this stage and the ESHS relevant impacts are mentioned. With detailed design the Construction Contractor will have to specify the works and impacts further (Construction ESMP):

Table 3.3-1: Planned Infrastructures and Construction Works

Nr	Type of Infrastructure / Works	Specific Construction Works	ESHS relevant aspects
1	Preparatory works	<p>Land Clearing - only within existing Office Building</p> <p>The site is developed and landscaped</p> <p>Land levelling, Soil works is not considered.</p> <p>Preparation of Foundations 300.0 m<sup>3</sup></p>	<p>No Tree Cutting</p> <p>Trunk protection measures for trees with wooden planks around the trunk</p> <p>Cutting of bushes / small trees to be avoided as much as possible</p> <p>Appropriate Topsoil Management (Removal, storage and rehabilitation) is required.</p> <p>All damages from driving with heavy machines to be fully restored</p>
2	Access Road enlargement and upgrade	<p>Office site is located within the Zaqatala city urban area with total area 9'500 m<sup>2</sup>.</p> <p>Levelling Works is not required.</p> <p>Site is asphalted and landscaped;</p> <p>Drainage system for access road and parking space is not required</p>	<p>Pruning of trees will be required, trunk protection measures</p> <p>Topsoil Management needs to be considered by the construction works.</p> <p>Nearest houses are bordering the administrative border of the site.</p> <p>No need for drainage management, Water pollution is not expected.</p> <p>Any damages to access roads or road site trees/bushes, fences must be fully restored</p> <p>Dust prevention measures by sprinkling road in case of heavy dust development during dry periods</p>

			Noise mitigation by respecting normal working hours.
3	Administration Building	<p>New Building,</p> <p>New construction on the existing footprint of the building</p> <p>Size (6.7*22.6*14.7)</p> <p>Existing amortised office building will be removed, total 250.0 m<sup>3</sup> of river and cut stone masonry, 70.0 m<sup>3</sup> wooden materials, 300 m<sup>2</sup> of tinplate roof cover.</p> <p>Construction waste will be transported and disposed of to the municipal dump side located 10 km away.</p> <p>No asbestos material are considered to be removed.</p> <p>Construction type is combination of reinforced concrete structure and loadbearing masonry walls.</p> <p>Materials used:</p> <ul style="list-style-type: none"> <li>✓ Reinforced concrete;</li> <li>✓ Natural stone masonry (travertine);</li> <li>✓ Steel structure for roofing</li> <li>✓ Interior facing materials including natural stone, brick, wood, painting;</li> </ul>	<p>Construction Materials,</p> <p>Construction ESHS, Protective equipment for Workers' Safety specifications to be addressed in detail in Construction ESMP</p> <p>Quantities of contraction materials part of the detailed design to be prepared by contractor.</p> <p>OHS measures during demolition works need to be taken into account and specified in CC_ESMP, trainings for workers to be given.</p> <p>Laydown areas for materials and temporary construction material storage to be specified by the Organisation of Construction Works, which is part of the detailed design documentation to be prepared by Contractor.</p>
4	Electricity Supply	Construction of powerline is not needed, building will be connected to the existing network (360 V)	<p>Electric safety during construction</p> <p>Safety for road users</p> <p>Technical conditions for utility connections will be available after completion of construction works and performed by specific operator company. Connections and external</p>

			lines is not part of the construction tender envisaged by TD.
5	Water Supply	Water pipeline, both potable and technical is available on the site and will be connected after finalisation of works.  No water pollution risks.	Safe water supply
6	Sanitation	Toilets inside building for man and women, one be used for disables, no outside toilet block is considered.  Sinks, Washing machine, Dishwasher  Waste water connection will be done to the existing city WW network.	Adequate and safe sanitary situation  Avoidance of water pollution by sewerage
7	Waste Management System	Waste Bins  No Hazardous wastes is envisaged.  No Asbestos roofing or any other asbestos is used in old building as per assessment done by Consulta?  Hazardous construction materials, as for example fuels, mineral oils, paints, cement, empty containers, etc. will be used	Waste separation / Recycling is not yet practiced.  Basic waste separation is required (hazardous waste separation, possibly separation of metal and wood  Hazardous construction materials to be separated and stored, transported and disposed off carefully and without risking pollution of soil or water or air
8	Material Storage	Ancillary infrastructure is available on the site as Specific Storage sites sheds (pls. see Figure 3.3-1).	Safe storage of materials, especially if inflammable or hazardous.
9	ZSNR Vehicle Garage	Vehicle Garage  Vehicle Maintenance Facility	Avoidance of oil and fuel leakages
10	Lighting Concept	Lighting of outside areas of Administration Building is available on the site.	Avoidance of unnecessary lighting. Installation of movement detectors for lighting and automatic switch off.

			Preferably no permanent lighting. Energy efficient bulbs to be used.
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Details will need to be specified and checked by the IC against the Construction ESMP (prepared by CC) based on detailed design.

#### 4. Short summary risk screening for the sub-project and mitigation strategy

Overall, the construction of the Administration Building is assessed to a minor / low significance of environmental and social risks.

Table 4-1: Summary E&S Risk Screening

Reference Standard	Risk Assessment	Required Mitigation Measure
ESS 1 <b>Environmental Assessment &amp; Studies</b>	<p>National Standards require information, non-objection of MENR and ESCOP;</p> <p>The Agency on Environmental Impact Assessment under the MENR will assess the construction site, and collected all the necessary information for conducting the environmental assessment. And the MENR will provide NO within one-month period</p> <p>International Standards require ESMP</p>	<ul style="list-style-type: none"> <li>• ESMP is developed and attached to bidding documents, to be integrated in CC-ESMP and implemented by CC <ul style="list-style-type: none"> <li>• The implementation of environmental impact assessment will be included into the construction company's contract</li> <li>• All the permissions will be obtained by the MENR as soon as the construction tender winner company (CC) is selected. CC will ensure getting the needed permissions within a one-month time .</li> <li>• Information will be sent to Agency on Environmental Impact Assessment under MENR. MENR will need 15-30 days ( might be even less) to provide NO.</li> <li>• Responsibility for supervision of implementation will be on GOPA.</li> </ul> </li> <li>• Given the limited scope of impact and sensitivity of the site a detailed biodiversity study was not required</li> </ul>
ESS 2 <b>Labour &amp; Working Conditions;</b>	Labour and Workers OHS standards to be ensured;	<ul style="list-style-type: none"> <li>• Workers' OHS standards to be increased, PPE equipment to be available and used, machines to be well maintained.</li> </ul>

<b>Construction H&amp;S</b>	Risks of accidents especially from machine use to be prevented  Fire and electrocution risks to be prevented	<ul style="list-style-type: none"> <li>• Accident prevention required / especially machine use</li> <li>• Workers to be trained in PPE use and Safety Standards.</li> <li>• Implementation of OHS standards to be monitored.</li> <li>• Emergency plan to be developed by CC; Serious Incident reporting form to be available (attached to ESMF)</li> <li>• No tolerance for sexual harassment.</li> </ul>
<b>ESS 3 Resource Efficiency and Pollution Prevention / Waste Management</b>	Avoidance of pollution through waste, hazardous materials,  Construction Waste Management / Operation Waste Management (to be developed by CC for Construction, by IC for operation)	<ul style="list-style-type: none"> <li>• Safe handling of hazardous materials (e.g. oils, lubricants, fuels)</li> <li>• No pesticide use</li> <li>• Installation of Septic Tanks / Safe Sanitation</li> <li>• Safe Drinking Water Supply</li> <li>• Use of Quality Materials</li> <li>• Installation of Waste containers / bins</li> <li>• Waste sorting, recycling, transport and disposal</li> </ul>
<b>ESS 4: Community Health and Safety</b>	Risks of road accident, risks of construction site accidents	<ul style="list-style-type: none"> <li>• Signalization of work sites</li> <li>• Signalization of road crossings where construction vehicles can pass / policy of slow driving/ respect of speed limits</li> <li>• Noise prevention: respect of normal working hours</li> <li>• Dust prevention by sprinkling roads in case of dry spell conditions and sprinkling building before demolition</li> <li>• Fencing of construction sites</li> </ul>
<b>ESS 5: Land Acquisition and Compensation</b>	No land acquisition and no resettlement required	none
<b>ESS 6: Biodiversity conservation &amp; Living Resources</b>	Cutting of several trees and bushes	<ul style="list-style-type: none"> <li>• Replantation as per landscaping plan to be developed with detailed design</li> <li>• Biodiversity compensation measures e.g. 10 bird nesting aids for bird e.g. tits and sparrows, 5 resting aids for bats, 5 wild bee “hotels” to be installed at trees surrounding the administration centre</li> </ul>

<b>ESS 7: Indigenous Peoples</b>	Not applicable (for this activity)	none
<b>ESS 8: Cultural Heritage</b>	No cultural heritage at the selected project site	none
<b>ESS 9: Financial Intermediaries</b>	Not Applicable	none
<b>ESS 10: Public Consultation and Stakeholder Engagement</b>	Lack of Information of local communities,  Lack of proactive handling of complaints	<ul style="list-style-type: none"> <li>• Information of local municipalities and nearest local residents before start of construction works</li> <li>• Information about GRM</li> <li>• Implementation of GRM / complaints' resolution procedure</li> </ul>

The ESMP table 7.1. covers the assessed risks and mitigation measures in more detail.

## 5. Monitoring

Monitoring measures include but not be limited to:

1. Monitoring of E&S requirements and standards and the inclusion of all mitigation measures into Construction Contract and plans to be developed by CC, checking if all ESMP measures of this ESMP have been taken into account;
2. Monitoring of development and implementation of labour and work standards / procedures and Workers' H&S Management Plan, including PPE, accident prevention, serious incident management and reporting etc.;
3. Monitoring of resource efficiency, pollution prevention measures (air, soil, water) and sound solid- and liquid waste management, including hazardous materials management, development and implementation of Construction Waste Management Plan. Monitoring of sand and gravel Extraction according to good practices / licensed operators;
4. Monitoring of Community Health & Safety measures, including signalization of work sites, adequate accident prevention, compensation and rehabilitation of all damages, re-instatement of all work sites; Emergency Procedure in place.
5. Monitoring of land acquisition and servitude registration, including monitoring of contracts with APs and survey of potential grievances;
6. Monitoring of adequate biodiversity protection measures (replantation, nesting aids for birds, bats etc)

7. Monitoring of effective Stakeholder Consultations; Monitoring of approval through the project team, management of Grievance Redress Mechanism (GRM) and public announcement, grievance uptake and resolution process as well as correct documentation of all grievances.

## 6. Capacity Development and Training

The following trainings for workers (construction phase) and for ZSNR admin staff (operation phase) are recommended:

1. Safe handling of machines and appropriate use of PPE and Fire-Safety
2. Maintenance of built structures, equipment and machines
3. Waste Management, pollution prevention and sanitation
4. For Admin Staff only: Understanding of local ecosystems, improvement of local habitats for biodiversity and methods for environmental education / climate change education (mitigation & adaptation)

## 7. Environmental and Social Management Plan (ESMP) table

Table 7-1: ESMP table for the ZSNR Administration Building to be included in Construction ESMP and operation OHS plan

Nr	Potential impact	Significance	Mitigation measure	Responsible	Budget	Timing
<b>New Construction of ZSNR Administration Building / Demolition and reconstruction of Existing Building</b>						
1	Land Acquisition	Negligible	<ul style="list-style-type: none"> <li>No physical resettlement</li> <li>The terrain belongs to MENR / already registered for ZSNR Administration</li> </ul>	ZSNR	n.a.	n.a.
2	Access roads	Minor	<ul style="list-style-type: none"> <li>Access road exists, no need for upgrades</li> <li>All damages to existing village roads to be rehabilitated</li> </ul>	Constructor (CC)	To be included in CC budget;	During and after construction
3	Levelling and Excavation Works; Soil storage and Topsoil Management	Moderate	<ul style="list-style-type: none"> <li>Levelling for the Administration building for approx. 400 m2 are needed</li> <li>Excavation of approx. 600 m3 of earth is expected for foundations</li> <li>Trunk protection measures with wooden planks for nearby trees</li> <li>Careful excavations near trees to not cut tree roots</li> <li>Careful soil storage and re-use for landscaping</li> <li>Topsoil to be stored separately and used for soil rehabilitation</li> </ul>	Constructor	To be included in CC budget	At start of construction
4	Tree Cutting	Minor	<ul style="list-style-type: none"> <li>Tree cutting shall be avoided to the extent possible.</li> <li>No red-list tree species affected</li> <li>Cutting of bushes is needed, but shall be minimized</li> <li>Replantation of bushes and trees to be included in landscaping design; local species shall be preferred; 10-15 bushes to be planted species tbd by ZSNR Admin</li> </ul>	Constructor	To be included in CC budget	Prior, during and after construction
5	Building Materials	Minor	<ul style="list-style-type: none"> <li>Administration Building design to include and promote ecological building materials, light design where possible</li> <li>Local Materials to be prioritized e.g. construction wood</li> </ul>	Constructor	To be included in CC budget	Prior and during Construction



Nr	Potential impact	Significance	Mitigation measure	Responsible	Budget	Timing
			<ul style="list-style-type: none"> <li>Gravel / Stones / construction wood to be purchased from existing licensed sources (e.g. quarries, supply companies)</li> <li>Quality and durability of building materials to be controlled e.g. windows, paint, interior equipment</li> <li>No hazardous materials (e.g. asbestos) to be used</li> </ul>			
6	Water and Soil pollution e.g., Oil-Spills	Minor	<ul style="list-style-type: none"> <li>Appropriate machine use and vehicle maintenance measures to prevent soil pollution (e.g., oil spills) during works, install oil absorbers at work camps / storage areas               <ul style="list-style-type: none"> <li>adequate storage of hazardous material (for example paints, fuel, etc. for example on secondary containment, signalization)....</li> <li>Adequate handling of hazmat (for example refuelling of machines in designated areas equipped with oil absorbers or shallow tubs.</li> </ul> </li> </ul>	Constructor	Water and Soil pollution e.g., Oil-Spills	During Construction
7	Transportation of materials	Minor	<ul style="list-style-type: none"> <li>On-site storage areas to be carefully selected, near to road but minimizing disturbance of traffic and minimizing pollution risks</li> </ul>	Constructor	To be included in CC budget	Site selection prior to construction; Transport Management during Construction
8	Traffic Management Planning	Minor	<ul style="list-style-type: none"> <li>Traffic Management Checklist to be prepared, signalization of all work sites, barriers/fences of trenches on roadsides, planning of transportation logistics for construction materials,</li> <li>No impacts of access restrictions to customary use areas are expected to local residents due to location of the Admin Building and/or related works</li> <li>Fencing of construction site to be implemented; no access to the construction sites for public for OHS reasons</li> </ul>	Constructor	To be included in CC budget	During Construction
9	Workers Camp / Accommodation	Negligible	<ul style="list-style-type: none"> <li>No workers' camp will be needed</li> <li>Workers will be lodged in appropriate accommodations (guesthouses or apartment in Zakatala town\Car village (if external); otherwise at their homes in the mentioned villages</li> </ul>	Constructor	To be included in CC budget	During Construction

Nr	Potential impact	Significance	Mitigation measure	Responsible	Budget	Timing
10	Labour management and respect of Core Labour Standards	Minor	<ul style="list-style-type: none"> <li>Labourers from wider Project area should be employed with priority</li> <li>Core labour standards to be respected</li> <li>Respect of working hours</li> <li>No employment of children under 16 years</li> <li>Equal Pay principle for men and women to be applied</li> <li>Strict prohibition and prosecution of sexual harassment</li> </ul>	Constructor	To be included in CC budget	During Construction
11	Workers Health and Safety	Moderate	<ul style="list-style-type: none"> <li>EHS checklist for work-safety to be prepared, by CC and monitored by IC trainings/familiarization for workers, workers obliged to wear personal protective equipment (PPE) as slice proof trousers when working with chain saws, safety shoes when working with machines / stones, helmets where objects can fall and for working at heights, mayor risks for working at height is falling. How is this mitigated (working on scaffolding, ladders, working on rooftop, etc.)?</li> <li>Wearing of glasses and masks for cutting works and for works involving dust, ear protection for noisy machines etc. First Aid Kits and fire extinguishers to be available at work sites. Medical checks to be available for workers. Temporary sanitary facilities installed at work sites.</li> <li>Accidents and Emergency procedure to be defined and workers informed/trained / Serious Incident Reporting (see Annex to ESMF for template); Emergency response plan to be developed by CC</li> <li>Sanitary facilities for workers will be arranged by CC on the construction site within temporary staff facilities; water and waste water connections will be done to the exiting sanitary piping; outside temporary facilities will be removed after completion of construction;</li> </ul>	Constructor	To be included in CC budget	During Construction
12	Electrocution risks at construction sites	Minor	<ul style="list-style-type: none"> <li>Electric connections to be protected and warning signs to be put</li> </ul>	Constructor	To be included in CC budget	During Construction

Nr	Potential impact	Significance	Mitigation measure	Responsible	Budget	Timing
13	Community Health & Safety	Minor	<ul style="list-style-type: none"> <li>Signalization of construction site, traffic signalization</li> <li>Fencing of worksites as appropriate (especially if any risk areas e.g. trenches)</li> </ul>	Constructor	To be included in CC budget	During Construction
14	Waste management	Moderate	<ul style="list-style-type: none"> <li>The existing building will be demolished</li> <li>Waste Management Checklist to be prepared,</li> <li>Waste to be collected at worksites, differentiated into recyclable materials (as plastic, glass, metal, paper), compost and non-recyclable materials (composite waste, gypsum etc) and hazardous wastes as oils, lubricants, and brought to recycling if possible or transported to municipal land fill</li> <li>Hazardous Waste Management, transport and disposal to be implemented according to Law of AZ on industrial and domestic waste management Article 11 and 13</li> <li>No burning of any waste (prohibition)</li> </ul>	Constructor	To be included in CC budget	<p>Before Construction (Checklist / Waste Mgmt plan);</p> <p>During Construction (Chance find procedure, Waste avoidance recycling, disposal)</p>
15	Air pollution	Minor	<ul style="list-style-type: none"> <li>Construction engines shall be turned off when not used</li> <li>Dust prevention measures (sprinkling of roads traversing settlements) where necessary (especially during drought periods), Dust (and noise) prevention measures shall be applied during demolition and construction phase</li> </ul>	Constructor	To be included in CC budget	During and after construction
16	Noise	Negligible	<ul style="list-style-type: none"> <li>Construction engines shall be turned off when not used</li> <li>Use of construction engines during normal working hours near settlement areas</li> <li>Notification to nearby residents before starting works that involve use of machines</li> </ul>	Constructor	To be included in CC budget	During and after construction
17	Public Consultations / PAP consultations	Moderate	<ul style="list-style-type: none"> <li>Municipality announcement for construction to be distributed at construction start</li> <li>All neighbours need to be informed in prior start of construction works</li> <li>Grievance Mechanism to be introduced to PAPs</li> </ul>	ZSNR / CC / Project	To be included in CC budget	During Planning of infrastructure
18	Complaints by PAPs / Grievance Mechanism	Moderate	<ul style="list-style-type: none"> <li>GRM with assigned staff responsibility (at project level), contact information to be made available to all stakeholders and included on construction site signalization / worksite poster or banner</li> <li>GRM to be accessible to workers</li> </ul>	ZSNR /CC / Project	To be included in CC budget	Before start of Construction

Nr	Potential impact	Significance	Mitigation measure	Responsible	Budget	Timing
			<ul style="list-style-type: none"> <li>Linkages with Municipalities to be created</li> <li>Documentation of Grievances and resolution process in grievance logbook</li> </ul>			
19	Non-compliance of Subcontractors / local contractors (if applicable)	Minor	<ul style="list-style-type: none"> <li>Establish sound construction guidance / principles for local contractors</li> <li>Construction contractors will be fully responsible for any non-compliance issues of their sub-contractors (to be specified in contract documents including financial enforcement mechanisms)</li> </ul>	Constructor (CC)	To be included in CC budget	During Construction
20	Rehabilitation of Work Areas / Site rehabilitation plan	Moderate	<ul style="list-style-type: none"> <li>A site rehabilitation plan shall be established in prior to start of construction for all work and construction areas by CC for work sites and all road infrastructures used. Full restoration to prior conditions as per National legislation.</li> <li>Implementation during construction (rehabilitation of damages) and after finishing construction (restoration of all worksites)</li> </ul>	Constructor (CC)	To be included in CC budget	During design and after Construction
<b>Operation Phase</b>						
1	Workers Health and Safety	Minor	<ul style="list-style-type: none"> <li>Sanitary facilities to be functional</li> <li>Separate toilets to be available for men and women</li> <li>Safe water supply to be ensured</li> <li>Regular medical checks to be provided</li> <li>Machines to be well maintained to reduce risk of accidents</li> <li>Careful handling of all machines used in NP chain-saws (for use in NP not at Admin building) and heavy machinery by qualified personnel (regular trainings to be provided)</li> <li>First Aid kit, Fire extinguishers and Personal Protection Equipment (PPE) to be available; for tasks of staff related to ranger duties OHS guideline to be specified in ZSNR Management Plan</li> </ul>	ZSNR Administration	To be included in Operation budget	Preparation during design; During Operation
2	Waste Management	Moderate	<ul style="list-style-type: none"> <li>Waste Containers for collection installed and transportation to land fill ensured</li> </ul>	ZSNR Administration	To be included in OP budget	During Operation

Nr	Potential impact	Significance	Mitigation measure	Responsible	Budget	Timing
			<ul style="list-style-type: none"> <li>Waste Management Concept to be specified in ZSNR Management Plan</li> </ul>			
3	Use of pesticides for treatment of surrounding of building; other hazardous substances	Minor	<ul style="list-style-type: none"> <li>No pesticides should be used inside and outside the Admin building to avoid pollution impacts</li> <li>No hazardous substances to be stored inside the ZSNR Admin building, all inflammable and/or toxic substances to be stored in a safe place outside the building</li> </ul>	ZSNR Administration	To be included in OP budget	During Operation
5	Biodiversity, loss of habitats)	Minor	<ul style="list-style-type: none"> <li>Provide nesting facilities for birds, bats and insects to enhance biodiversity</li> </ul>	ZSNR Administration	To be included in OP budget	During Operation; Provide and Maintain

The above-mentioned items shall be included in the construction ESMP established by the Constructor (CC)

**ANNEX 3**

**Lot 2**

**Environmental and Social Code of Practice (ESCOP)**

# Establishment and Sustainable Development of the Zakatala - Balakan Biosphere Reserve

## Environmental and Social Code of Practice (ESCOP)

Prepared by: GOPA



in association with DFS



Azərbaycan Respublikası  
Ekologiya və Təbii Sərvətlər Nazirliyi

Department for Biodiversity Conservation  
and Development of Specially Protected Areas



November 2023

## **Application Checklist of ESCOP**

### **Background information:**

This ESCOP form has been developed within the framework of the “Support Programme for Protected Areas – Establishment and Sustainable Development of the Zakatala-Balakan Biosphere Reserve” project, executed by the Ministry of Ecology and Natural Resources (MENR) of the Republic of Azerbaijan (MENR). The project is co-financed by the Federal Republic of Germany through the German Ministry for Economic Cooperation and Development (BMZ). BMZ has commissioned KfW Development Bank to implement the project.

The purpose of the project is the improvement of natural resources and protected areas management, while at the same time improving the socio-economic situation of adjacent local rural communities. This is to contribute to maintaining biodiversity in Azerbaijan, without negatively affecting the income situation / the livelihoods of the rural population in the long term. One of the 5 Outputs of the project aims to construct 13 ranger and 2 cordon houses within the territory of the Zakatala State Nature Reserve (ZSNR). Current ESCOP has been developed to ensure that the constructions works to be executed, will be done taking into serious consideration all the relevant mitigation and/or management actions of the potential adverse E&S risks and impacts associated with small-scale construction and renovation activities. This ESCOP form represents good environmental, social, community and occupational health and safety practices and addresses issues related to human and environmental safety.

Taking into consideration the fact that the actual construction will be executed by a construction company (contractor), the current ESCOP will be included in all contract documents. The application of ESCOP during construction works will be overseen by a point contact in PIU (Project Implementation Unit).

Despite a very low risk of severe environmental and social impacts, there still will be some minor impacts to be avoided in planning or mitigated during implementation. Impact significance would be categorized as minor => hence ESCOP. Despite this minor risk, there are still some good practices for impact mitigation to be followed. This could relate to avoidance of pollution by waste management or avoiding of accidents through Health and Safety measures. The ESCOPs provide a checklist for potential impacts as a guidance document and Do's and Don'ts for specific activities. These will need to be assessed, filled and specific provisions made accordingly. This checklist will be filled in and supervised by representative of the Project Implementation Unit, who will be provided with respective training on ESCOP

The Checklist for potential impacts and a standard ESCOP table is presented below:



**ESCOP Checklist for Small Scale Projects**

Application of Environmental and Social Code of Practice (ESCOP)							
Standard Code of Practice has been shared with the community on:				(..... 2023)			
Person responsible for overseeing implementation of applicable Mitigation Measures defined in Codes of Practice				(insert name and contact)			
Environmental Health and Safety (fill in if any work is undertaken to implement the activity)							
Number of village members who will work on activity							
Has consent of village members been obtained for contribution of work? (describe documentation of consent)							
Type of work that will be carried out by village members? (e.g. digging, drilling, cementing or other – list details)							
Other work requirements? (list work carried out by community members, individual specialists (e.g. electricity, plumbing, masonry, water installation), CBOs, or others)							
Who is assigned to ensure safety during works?							
Describe when training in safety will be conducted and by whom?							
Personal protection equipment and tools that must be purchased to carry works out safely:							
Type:	First aid kit	boots	hard hats	gloves	dust masks	goggles	Other: _____
Number:							
Budget for personal protective equipment (include in activity costing)							
Change in land use (fill in if the activity requires any restrictions or change in current land use)							
Describe land contributions required for activity (if applicable)				Not applicable			

Describe restrictions to land required for activity	Not applicable
Describe process to obtain community consent for contributions or restrictions	
Describe process to obtain individual consent from those affected by contributions or restrictions	

**Table 1: Standard ESCOP for Ranger and Cardon House construction activities**

Topic	DON'T	DO
Soil protection	<ul style="list-style-type: none"> <li>• Do not implement activities without careful design for soil protection</li> <li>• Avoid cutting of slopes as this will increase erosion risks</li> <li>• Do not leave soil barren, especially in slope areas</li> </ul>	<ul style="list-style-type: none"> <li>• Prevent soil erosion through soil protection measures, slope stabilization and provision of proper drainage</li> <li>• Leave roots of cut trees in the soil</li> <li>• Use mulch, grasses or compacted soil to stabilize exposed areas</li> <li>• Cover with topsoil and re-vegetate (plant grass, fast-growing plants/bushes/trees) any exposed areas once work is completed</li> </ul>
Water	<ul style="list-style-type: none"> <li>• Do not use any natural water resources to supply water (e.g. springs, streams and lakes) without approval of relevant authorities, local leaders.</li> <li>• Do not discharge of waste into water courses, ponds, drainage systems</li> <li>• Do not block the water flow</li> <li>• Do not use entirely divert the flow of a water course (for water supply or irrigation purposes)</li> <li>• No construction materials, solid wastes, toxic or hazardous materials should be poured or thrown into water bodies for dilution or disposal</li> <li>• Activities should not affect the availability of water for drinking and hygienic purposes.</li> </ul>	<ul style="list-style-type: none"> <li>• Drinking water sources, whether public or private, should at all times be protected from wastewater effluents, oil and hazardous materials and wastes</li> <li>• Activities should not compromise the availability of water, including the availability of water for drinking and hygienic purposes</li> <li>• The flow of natural waters should not be obstructed or diverted to another direction, which may lead to drying up of riverbeds or flooding of settlements</li> <li>• Restrict the duration and timing of in-stream activities to low periods, and avoiding periods critical to biological cycles of valued flora and fauna</li> <li>• Use diversion techniques during construction to limit the mixing of moving water with disturbed sediments</li> </ul>
Air	<ul style="list-style-type: none"> <li>• Do not cause air pollution by burning wastes, exhaust of machines while not in use etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Turn machines off when not in use</li> <li>• Prevent dust creation on roads as far as possible</li> <li>• Waste management, safe disposal</li> </ul>
Biodiversity	<ul style="list-style-type: none"> <li>• Do not kill animals, hunting by workers is prohibited</li> <li>• Do not cut or collect protected plant species</li> <li>• Do not promote motorized activities (tourism) in sensitive areas)</li> </ul>	<ul style="list-style-type: none"> <li>• Tree cutting only if unavoidable</li> <li>• Sensitive areas for protected plants and animals to be avoided</li> <li>•</li> </ul>

Cultural heritage	<ul style="list-style-type: none"> <li>Do not disturb built heritage, graves</li> <li>Do not disturb or impact sites of importance</li> <li>Do not disturb religious properties</li> </ul>	<ul style="list-style-type: none"> <li>Map cultural physical heritage and intangible heritage to avoid during design of activities</li> </ul>
Employment and Labour Rights	<ul style="list-style-type: none"> <li>Do not discriminate any workers or job applicants on the basis of their gender, marital status, nationality, ethnicity, age, religion or sexual orientation</li> <li>Do not recruit or engage children (under 16 years old)</li> <li>Under no circumstances use forced labour.</li> </ul>	<ul style="list-style-type: none"> <li>Implement a fair and transparent employment process with priority of local residents</li> <li>Provide activity workers with clear and understandable information regarding rights via contract documents in local language</li> <li>Ensure that all volunteer community labour is provided without coercion. Documentation of the community agreement must record: <ul style="list-style-type: none"> <li>The terms of which the voluntary labour is provided</li> <li>The way in which the agreement was reached</li> <li>Representation of the volunteer community workers</li> </ul> </li> </ul>
Incident reporting	<ul style="list-style-type: none"> <li>Do not ignore any hazard, injury or incident whether to community member or workers</li> </ul>	<ul style="list-style-type: none"> <li>Record and report any hazards, any incidents or injuries, to Project Implementation Unit which will document all the details of any incidents</li> </ul>
Occupational Health and Safety	<ul style="list-style-type: none"> <li>Do not try to repair any broken equipment and machinery if you are not authorized (electrocution risk)</li> <li>Do not work with machines or in accidental terrain without PPE</li> </ul>	<ul style="list-style-type: none"> <li>Conduct risk assessment and define mitigation measures for each activity</li> <li>Provide health and safety training to all participants and conduct regular conversations on health and safety during implementation</li> <li>Provide the right Personal Protective Equipment (PPE) and make sure that they are used to provide protection (e.g. gloves, dust masks, hard hats, boots, goggles)<sup>1</sup></li> </ul>

<sup>1</sup> The appropriate PPE needs to be identified, in place before starting work, used and maintained regularly, and its use and maintenance monitored;

- Eye and face protection for flying particles, molten metal, liquid chemicals, gases or vapours, light radiation: safety glasses with side-shields, protective shades
- Head protection for falling objects, inadequate height clearance, and overhead power cords: plastic helmets with top and side impact protection
- Hearing protection for noise: ear plugs or ear muffs
- Foot protection for falling or rolling objects, pointed objects, corrosive or hot liquids: safety shoes and boots
- Hand protection for hazardous materials, cuts or lacerations, vibrations, extreme temperatures: gloves made of rubber or synthetic materials (Neoprene), leather, steel, insulating materials
- Respiratory protection for dust, fogs, fumes, mists, gases, smokes, vapours: facemasks with appropriate filters for dust removal and air purification

		<ul style="list-style-type: none"> <li>• Keep PPEs in good condition and change them in case they are damaged</li> <li>• Prevent slips and falls and other injuries through good housekeeping practices in all worksites, provision of safe equipment and tools, and use of PPE</li> <li>• Prevent ergonomic illnesses from over-exertion by lifting and carrying of materials and equipment by stipulating weight limits, breaks and job rotations</li> <li>• Prohibit usage of alcohol or illegal drugs</li> <li>• Use the right tool for the activity</li> <li>• Provide sufficient drinking water for workforce</li> <li>• Be prepared to handle accidents and provide first aid, ensure access to basic first-aid kit with bandages, antibiotic cream, etc.</li> </ul>
Transportation	<ul style="list-style-type: none"> <li>• Don't employ drivers with limited experience and without proper licences</li> </ul>	<ul style="list-style-type: none"> <li>• Implement speed limits for all activity vehicles.</li> <li>• Train all drivers on safety provisions. Emphasise safety precautions and observation of traffic rules.</li> <li>• Equip vehicles transporting construction or activity related materials with reverse signals.</li> <li>• Ensure that truck drivers are accompanied by a flagman or watchman while reversing, unloading and loading.</li> <li>• Keep first aid kit in each vehicle.</li> <li>• Use safe routes and limit trip duration appropriately..</li> </ul>
Waste Management	<ul style="list-style-type: none"> <li>• Don't excavate your construction waste before you have established an end use</li> <li>• Don't transfer waste from one site to another which could deteriorate the site condition or increase hazard</li> <li>• Don't mix your waste types</li> <li>• Don't store waste on site without a permit</li> </ul>	<ul style="list-style-type: none"> <li>• Fully classify your waste before removing it from site</li> <li>• Segregate waste types</li> <li>• Store waste securely to prevent harm to the environment or human health</li> <li>• Leave no waste at construction site (plastic, metal, chemicals, glass and any other waste from the construction process)</li> <li>• Ensure all waste leaving your site is accompanied with the correct paperwork (waste transfer or consignment notes)</li> <li>• Maintain and retain records relating to waste transfers and disposals</li> </ul>

		<ul style="list-style-type: none"> <li>Storage and recycling (use for maintenance of other ranger shelters) of materials as timber of old disassembled ranger houses. All materials that cannot be re-used and which are not bio-degradable need to be transported to valleys and disposed off at official landfill</li> </ul>
Fire Prevention and Control	<ul style="list-style-type: none"> <li>Do not throw your cigarette butts on the ground</li> <li>Do not make any fires in the open</li> <li>No burning of leaves, grasses &amp; twigs</li> <li>No burning of wastes</li> </ul>	<ul style="list-style-type: none"> <li>Fire Prevention and Control</li> <li>Proper disposal of wastes / composting of organic wastes</li> <li>Ensure availability of man-portable fire extinguishers</li> </ul>

**ANNEX 4**  
**Lot 1 and Lot 2**  
**General and Technical Specifications**

Preparation of Detail Design and Construction Works for the Rehabilitation of Ranger and Cordon Houses and the Reconstruction of the Administrative Building of Zakatala State Nature Reserve.

## **SPECIFICATIONS**



## Part A

### 1. General Specifications

#### 1.1 Explanatory Note

The construction site represents:

- 1.1.1 Office Building of Zaqtala Balakan Biosphere Reserve residential area in town of Zaqtala.
- 1.1.2 Rangers Infrastructure of Zaqtala Balakan Biosphere Reserve, locations indicated in the Tender Drawings, Section 7.

Measurements and photo fixation shooting were performed on the territory.

Power supply of the as well as its connection to the network will be performed on existing and functioning network.

#### 1.2 TEMPORARY WORKS

##### 1.2.1 General

The Contractor shall procure, furnish, provide and arrange for all the necessary electric power, water and services; be responsible for the construction camps, temporary offices and warehouses; and perform all other work necessary for completion of the Works described herein in strict conformance with these Specifications.

##### 1.2.2 Seasonal and Perennial Operational Conditions

###### General

Conduction of works is possible during the whole year for Office Buildings. The Contractor's construction programme will have to take due care of seasonal and perennial operation conditions for Rangers Infrastructure components.

###### Construction Schedule

The Bidder shall present with his Bid a construction schedule clearly showing, how he intends to conduct the works in sequence within the specified terms.

### 2 DRAWINGS

#### 2.1 TENDER DRAWINGS

The drawings entitled and numbered as listed in Annex 5 "Tender Drawings", and hereinafter referred to as Tender Drawings, show the scope of the work to be performed by the Contractor. The Tender Drawings are for bidding purposes only and shall not be used as a basis for fabrication or construction but may be used as a basis for placing preliminary orders for materials, subject to corrections based on the future issue of Construction Drawings issue.

#### 2.2 DRAWINGS ISSUED FOR CONSTRUCTION

After award of Contract, the Tender Drawings will be replaced by drawings issued for Contractor including supplementary specifications, if necessary. The drawings issued for construction may include Tender Drawings re-issued, Tender Drawings as may have been modified, and additional drawings as required to develop the work in greater detail, and will make modifications as necessary to further detail the construction required. The drawings

issued for construction by Contractor, that show changes from the Tender Drawings and Specifications, will be reviewed by the Consultant for his determination of adjustments, if any, of the Contract Price in accordance with the provisions of "Changes in the Quantities" of the Contract Data.

The term Construction Drawings as used in the Specifications means drawings issued for construction as described in this Clause.

Drawings and Specifications will be issued to the Contractor as described below.

### 2.3 DRAWINGS TO BE FURNISHED BY THE CONTRACTOR

#### 2.3.1 Working Drawings

All Working Drawings required for the work, including reinforcement detailing, bar bending schedules, field erection plans, layout and construction detail drawings, etc., shall be furnished by the Contractor for approval by the Consultant. If more detailed drawings are necessary to complete any part of the Works, such detailed drawings shall be prepared by the Contractor and submitted to the Consultant for approval. All drawings shall be complete and shall be submitted in due time and in logical order to facilitate proper coordination.

#### 2.3.2 Other Drawings

Drawings showing proposed methods of construction and other drawings required by the Specifications shall be submitted to the Consultant for approval before any application is commenced.

#### 2.3.4 Nomenclature of the drawings is given in the Supplementary Information, Annex 6.

### 2.4 SUBMISSIONS AND APPROVALS

Except as specified otherwise, three black and white prints of Each Drawing, Method Statement, Calculation and the like requiring approval or review, shall be furnished to the Consultant. Transmittals shall be made to the persons and at the addresses in accordance with written notification issued by the Consultant within 28 days after award of Contract.

All of the applicable requirements of this Clause with reference to drawings to be prepared by the Contractor shall apply equally to catalogues, illustrations, printed specifications or any other document submitted for approval.

Any work done prior to the approval of drawings shall be at the Contractor's risk. The Consultant will have the right to request any additional details and to require the Contractor to make any changes in the design, which are necessary to conform to the provisions and intent of these Specifications without additional cost to the Employer. The approval of the drawings by the Consultant shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory. Approval by the Consultant of the Contractor's drawings shall not be held to relieve the Contractor of his obligation to meet all the requirements of these Specifications or of his responsibility for the correctness of the Contractor's drawings or of his responsibility for correct fit of assembled parts in their final positions or of his responsibility for the adequacy of the method of construction.

### 3. AS-BUILT DRAWINGS

The Contractor must, during the progress of the work, keep a record of all changes in and corrections to the designs and layouts shown in the Drawings and prepare the as-built drawings. The Contractor shall submit to the Consultant draft as-built drawings and operation manuals in triplicate. After the approval he shall submit one reproducible original and three printed copies to the Employer.

4.1 VERIFICATION

At any time during the validity of the Contract the Consultant may make checks to verify lines and grades established by the Contractor and to determine the conformity of the work with the requirements of the Drawings and Specifications. Such checking by the Consultant shall not relieve the Contractor of his responsibility to perform all work in accordance with the Drawings and Specifications and the lines and grades given therein.

**5 APPROVAL OF MATERIALS AND EQUIPMENT**

5.1 QUALITY OF MATERIALS

All materials, fixtures, fittings and supplies furnished under the Contract shall be new and unused, of standard first-grade quality and of the best workmanship and design.

5.2 SUBMISSION OF SAMPLES AND DATA

As soon as practicable after award of Contract, the Contractor shall submit for the approval by the Consultant drawings, catalogues, diagrams, other descriptive data, etc., for all mechanical, electrical, architectural and such other materials and equipment designated by the Consultant, which the Contractor proposes for use under this Contract.

5.3 TESTING

5.3.1 Test Laboratory Certificates

The Consultant may accept a certificate from a commercial test laboratory, satisfactory to him, certifying that the product has been tested within a period acceptable to the Consultant and that it conforms to the requirements of these Specifications.

5.4 COST

The cost of any additional laboratory, field and shop tests required through the re-submission of samples because of failure of compliance with Specifications shall be borne by the Contractor.

5.5 INSPECTION

All material and equipment furnished and all work performed under this Contract will be subject to inspection by the Consultant at all times and in all states of completion both off-Site and on-Site. The Contractor shall furnish promptly without additional charge, all facilities, labour and materials reasonably needed for performing such inspection and testing as may be required by the Consultant.

5.6 DOCUMENTATION

Execution of work shall include a system to ensure that the documentation necessary to attest the completion of any phase of the work; use of correct materials; completion of required inspections and tests; and acceptability of results are generated, reviewed, maintained and submitted to the Consultant at the required time. The system shall ensure that such documentation is reviewed by the Contractor on readability in the contractual language, completeness, validity of data, traceability of document to activity or equipment and acceptability of results.

The documentation to be prepared and maintained shall include:

- Test reports for raw material (cement, steel, aggregates, etc.).
- Inspection and test procedures.
- Inspection and test reports.
- Certificates of compliance.

**6 CONSTRUCTION SCHEDULE**

**6.1 SUBMITTAL DATE**

The Construction Program to be submitted by the Contractor shall be supplemented by a detailed schedule, covering all construction activities according to the NCB requirements.

**6.2 REQUIREMENTS**

The detailed submittal shall consist of schedules and narrative descriptions of the proposed construction programme.

**6.3 MONTHLY REPORTS**

Each month the Contractor shall submit three copies of a report consisting of Copies of the bar charts for the current phase with both actual progress and scheduled progress shown.

**7 CONSTRUCTION CAMPS**

**7.1 GENERAL**

The Contractor shall provide all offices, workshops, warehouses, residential facilities, health unit, shopping, recreational and other camp required for the proper performance of the Contract.

**7.2 LOCATION OF CONSTRUCTION CAMPS AND WORKSHOPS**

Construction camps, workshops and the like temporary structures shall be located within the areas shown on the Drawings on land owned or controlled by the Employer. Other camps and facilities, if required, shall be constructed at locations within the limits of Employer-owned property approved by the Consultant. If for any reason approved by the Consultant the Contractor requires the use of land not owned or controlled by the Employer for his camps, he shall make all necessary arrangements with the owners thereof and shall bear all rentals and other costs connected therewith.

Housing for the Contractor's personnel shall be arranged in accordance with his own requirements, fully complying with all Georgian standards, laws and regulations.

**7.3 MAINTENANCE OF CONTRACTOR'S FACILITIES**

The Contractor shall furnish, make arrangements for and carry out proper and adequate maintenance of the facilities required to be constructed by him so as to provide neat, well-kept, pleasant, healthful surroundings and conditions for all occupants.

**7.3.1 MOBILE COMMUNICATION SYSTEM**

The Contractor shall be responsible for provision of the mobile communication system.

**7.5 UTILITY BUILDINGS**

Buildings of a utility or temporary nature such as storage sheds, temporary offices and temporary shops may be erected only with the prior approval by the Consultant. Temporary buildings which are not required to remain the property of the Employer shall be removed immediately after they have served their purpose.

**8 SAFETY AND HEALTH**

**8.1 GENERAL**

In executing the work under this Contract, the Contractor shall provide working conditions for each operation that shall be as safe and not injurious to health as the nature of that operation permits. All the work shall be performed in accordance with applicable local and national laws,

codes, requirements and regulations including safety, health, welfare of persons and others. The Contractor shall in general be fully conversant and comply with the relevant sections of all construction regulations enforceable by the law.

## 8.2 ACCIDENT AND FIRE PREVENTION

The Contractor shall enforce all necessary rules and regulations for the safe execution of the work in order to avoid preventable accidents and to minimize injuries to his employees and those of other concerned entities. Working areas shall be adequately marked with warning signs and posters.

The Contractor shall, during the entire period of his operations on Site, provide emergency facilities with adequate medical and surgical equipment for first aid treatment and approved qualified personnel to administer such treatment to all injured persons.

No separate payment will be made for the services required in this Clause 10.2 other than that made under the Contract items applicable to the first aid and fire protection facilities to be provided by the Contractor in accordance with Clause 9 hereof.

## 9 CONSTRUCTION UTILITIES

### 9.1 GENERAL

In addition to the utilities for the camp specified in Clause 9.4 hereof, the Contractor shall provide such water, electricity, telephone, power, lighting, compressed air and other utilities as required for construction and other uses in connection with work under this Contract. Before final acceptance, all temporary utilities shall be removed or suitably abandoned unless otherwise specified or directed.

### 9.2 POWER AND LIGHTING

Satisfactory electric lighting shall be provided in areas through which people must pass in the customary discharge of their duties and in any other locations where work is being done or machinery is in operation during other than daylight hours. The general lighting of uncompleted portions of such spaces and of completed portions through which materials or people must pass, shall have a minimum level of illumination of 40 Lux.

## 10 TRAFFIC - ROADS, BRIDGES

### 10.1 GENERAL

The Contractor shall provide and maintain road facilities in the project area and in areas adjacent thereto as indicated in the Drawings and as otherwise covered by the Specifications, as it necessary for safe and adequate pedestrian, road and bridge traffic. The Contractor shall submit a plan of traffic operation, maintenance and protection for approval by the Consultant. At the completion of the Contract, all temporary roads and bridges provided by the Contractor shall be removed or become the property of the Employer, if so desired by him.

### 10.2 HAUL AND CONSTRUCTION ROADS

The Contractor shall provide and maintain such haul and construction roads as are necessary for the work.

No separate payment will be made to the Contractor for the construction and maintenance of such roads and the costs thereof shall be deemed to be included in the item "Mobilization, of the Bill of Quantities.

### 10.3 MAINTENANCE OF EXISTING ACCESS ROUTES, ROADS AND OTHER FACILITIES

The Contractor shall take over and maintain in suitable condition, as required by the Consultant, existing public access routes, roads and other facilities encountered within the

project area unless these public access routes and roads are diverted or alternative arrangements are to be made by the Contractor to the satisfaction of the Consultant.

The Contractor shall furnish and maintain traffic signs, traffic barricades, lights, flagmen and other installations as necessary for safe and efficient directing and handling of traffic and shall be responsible to ensure, that all roads and temporary facilities provided are adequate to safely divert public traffic.

#### 10.4 UTILITY LINES

The Contractor shall conduct his operations, make necessary arrangements, take suitable precautions and perform all required work incidental to the protection of and avoidance of interference with power, telegraph, telephone and natural gas lines and other utilities within the areas of his operations in connection with the Contract. The cost thereof shall be borne by the Contractor and the Contractor shall save harmless and indemnify the Employer in respect of all claims, demands, proceedings, damages, costs, charges and expenses whatsoever arising out of or in relation to any such interference.

### 11 ENVIRONMENTAL SAFETY

Before commencement of civil works the Contractor shall elaborate site environmental management plan (EMP) which shall be approved by the appropriate state agency of Azerbaijan, before start of rehabilitation and civil works.

This plan should cover each of the sections dealt with by these guidelines, and also take into account any other specific recommendations, which have been made as part of the environmental management, plan (EMP) for the scheme. Any sections of these guidelines that are not relevant to individual projects should be justified in the SEMP and agreed with the EA. The EA's Environmental Specialist will elaborate and implement an environmental monitoring plan.

When the SEMP has been prepared, the Contractor should also undertake training of their workforce to ensure that every member of the workforce is aware of the SEMP prior to going on site, and adheres to it at all time. The EA's Environmental Specialist will advise and assist the contractor in this matter as necessary.

#### **Environmental management guidelines for contractors**

##### 11.1. Introduction

###### 11.1.1. Purpose

The purpose of these environmental management guidelines (EMG) for contractors are to define minimum standards of construction practice acceptable to the Ministry of Environment and Natural Resources of Azerbaijan (MENR). EMG must be used by contractors for developing Site Environmental Management Plans (SEMPs).

The EA must make the EMP available for each Contractor after it they decide to participate in the project.

###### 11.1.2 Applicable Codes, Standards and Legislation

There are various environmental regulations and standards which cover environmental and related matters and these are referred to as applicable in this EMG. Notwithstanding those references, compliance with them shall not discharge the Contractor from complying with any other legislative requirements applicable at the time of construction activities.

###### 11.1.3 The Site

The Site, for the purposes of these EMG, is defined as any land which lies within the rehabilitation scheme, as defined on the ESRSP EA plans and sections which have been provided to the Contractor.

#### 11.2.4 Traffic Safety and Control (Traffic Safety Measures)

The Contractor shall provide, erect and maintain such traffic signs, road markings, lamps, barriers and traffic control signals and such other measures as may be necessitated by the construction of the Rehabilitation works to the approval of the EA.

The Contractor shall not commence any work that affects the public highway until all traffic safety measures necessitated by the work are fully operational.

The Contractor shall keep clean and legible at all times all traffic signs, road markings, lamps, barriers and traffic control signals and he shall position, reposition, cover or remove them as required by the progress of the works and to the approval of the EA.

#### 11.2.5 Site Access

All access from the Site onto the highway shall be of sufficient width to accommodate two-way traffic wherever practicable. Traffic signs shall be provided for each access as follows:

- As advance warning of the approach.
  - “Give Way” signs for control of traffic leaving the Site.
- The precise location of each sign shall be determined by the Contractor to the satisfaction of the EA.

#### 11.2.6 Access Across Site and to Frontages

In carrying out the Rehabilitation works, the Contractor shall take all reasonable precautions to prevent or reduce any disturbance or inconvenience to the owners, tenants or occupiers of adjacent properties, and to the public generally.

The Contractor shall maintain any existing right of way across the whole or part of the Site and public and private access to adjoining frontages in a safe condition and to a standard not less than that pertaining at the commencement of the contract.

Alternatively, the Contractor shall provide acceptable alternative means of passage or access to the satisfaction of the persons affected. The Contractor shall provide and maintain any guard rails, fences, gates, lights, bridges, paving, steps etc. needed and they shall be of such size, strength and construction as will be adequate for their purpose.

If construction works are performed off-site, close to residential areas the Contractor shall be responsible to cause less disturbance to dwellers and users of that area. Access to that area shall be maintained permanently except special cases.

The Contractor shall be responsible to assist the owners of land plots affected by performance of rehabilitation works to enable them to deliver or take out goods or materials from their land plots.

#### 11.2.7 Working Hours

The normal working hours shall be 07.00 – 19.00.

These hours of work do not apply to equipment which is required to operate continuously (e.g. for safety reasons).

At certain sites, different working hours shall apply. These will be as agreed between the Contractor and the EA.

In general, night-time working shall be kept to a minimum. However, for some sites where night-time working is required it shall be agreed with the EA.

Additional or alternative working hours needed for emergency reasons shall be advised to the EA.

#### 11.2.8 Contaminated Land and Materials

Any contaminated material encountered will be dealt with in compliance with relevant regulations and instructions from the EA.

The EA will identify those areas within the Site where contaminated land may be encountered. The Contractor will be required to:

- develop transportation and other management procedures to be followed;
- ensure that removal and disposal of contaminated materials complies with local environmental regulations.

#### 11.3.1 Living Accommodation

No living accommodation will be permitted on the Site except with the approval of the EA.

#### 11.3.2 Use of Existing Structures

The Contractor shall not locate stockpiles for materials, stores, plant or temporary works upon or adjacent to or under existing structures such as bridges, viaducts, towpaths, walls and embankments in such a way as to endanger these structures.

### 11.4 Safety

#### 11.4.1 Emergency Contacts and Procedures

The Contractor shall prepare and maintain an Emergency Contacts Set of Procedures for each work site which shall be displayed prominently at each site. These Procedures shall be followed in any site emergency.

They shall contain emergency phone numbers and the method of notifying local authorities/services. Copies of the Procedures will be issued to the EA and the Police.

Emergency telephone numbers for the Contractor's key personnel shall also be included for the EA's use in an emergency.

#### 11.4.2 Use of Explosives

The use of explosives shall not be permitted.

### 11.5 Protection of Existing Installations

#### 11.5.1 Information

The Contractor will be required to make his own investigations and to take all appropriate actions concerning existing foundations, buildings, structures, walls, roadways, sewers cables and other services, apparatus and installations.

#### 11.5.2 Safeguarding

The Contractor shall properly safeguard all buildings, structures, works, services or installations from harm, disturbance or deterioration during the concession period. The Contractor shall take all necessary measures required for the support and protection of all buildings, structures, pipes, cables, sewers, railways and other apparatus during the concession period.

## 12 PHOTOGRAPHS



The Contractor shall furnish to the Consultant 200 mm x 250 mm color photos of the work in progress throughout the Contract period. The photos shall be taken at the start and completion of each major component of the work and at other times as directed by the Consultant to show the progress of the project and each feature thereof. Only clear, sharply defined photos will be accepted. Each picture shall bear the date and location together with a brief description of its content and purpose.

**13 PREPARATION OF WORKING DRAWINGS**

**13.1 Preparation of detailed design documentation**

No separate payment will be made for the preparation of Working Drawings. The Contractor shall include all expenditures in respective unit rates and lump sums of the Bill of Quantities to cover the costs of all Working Drawings like: detail architectural drawings, reinforcing steel detailing, reinforcing bar bending schedules, layout and construction detail drawings, concrete lift or other placement drawings, mechanical and electrical Working Drawings, etc.

**13.2 Scope of Detailed Design Documentation**

Preparation of the Working Drawings and Related Explanatory notes and Calculations shall be prepared in the scope and as it stipulated by acting legislation for approval of the Detailed Design Documentation and issue of Construction Permit by Authorized State Organizations of Azerbaijan.

Part B

**Technical Specifications**

## **1. EARTH WORKS**

### **1.1 Site Cleaning**

The site shall be cleaned from trees, bushes, grass and other vegetation as instructed by the Consultant.

Cleaning of the site from vegetation and waste disposal shall be performed by the Contractor as instructed by the Consultant.

Any additional territory needed for the Contractor to perform temporary works shall be cleaned in compliance with the above requirements and the cleaning costs shall be borne by the Contractor.

### **1.2 Soil Surface Levels**

After site cleaning and before commencement of any work the soil surface levels shall be considered. The issue of soil surface levels shall be agreed with the Engineer.

### **1.3 Removing Surface Soil**

The Contractor shall remove the surface soil as may be necessary and keep it separately in clean conditions. This soil layer can be reused in compliance with the instruction of the Consultant. Surface soil piles shall be stored under the proper cover.

### **1.4 Excavation**

Trenches shall be excavated in compliance with the dimensions and inclination as it may be necessary for work performance in accordance with the Drawing and Consultant's order.

Before excavation the Contractor shall obtain Consultant's approval. The latter has a right to determine the excavation length and section.

Before excavation is started the Contractor shall check how excavation affects adjacent structures, private properties and plants. If excavation is performed on the said area the Contractor shall notify the Consultant in order to avoid similar interventions. This process does not envisage any additional costs.

## **2 CONCRETE AND REINFORCING STEEL WORKS**

### **2.1 SCOPE**

This Section contains the requirements for the manufacture, transportation, placement, finishing, repair and curing of concrete; for the detailing, supply, bending and fixing of reinforcement; for formwork; joints, joint materials, joint treatment and bearing pads; and for all other work associated with cast-in situ and precast concrete.

Concrete cover to reinforcement unless shown otherwise on the drawings, shall be maintained minimum 20 mm

### **2.2 REFERENCE STANDARDS**

Reference Standards for construction materials are occasionally referred to in the Specifications in abbreviated form (e.g.: BS 12). Some relevant Standards acting in Azerbaijan and subjects for ready mixed concrete and cements are given below convenience.

### **3.3 SUBMISSIONS BY CONTRACTOR**

#### **3.3.1 General**

Requirements for submissions by the Contractor in relation to concrete work are described in the relevant clauses of these Specifications. For convenience, these submissions are summarized hereunder.

#### **3.3.2 Certificates and Mill Test Data**

The Contractor shall furnish the manufacturers' or suppliers' certificates of compliance with relevant standards with each shipment of materials and accessories used in the Permanent Works, including:

- Cement
- Pozzolanic materials
- Admixtures
- Curing compound
- Jointing materials, including waterstops
- Reinforcing steel
- Construction steel

The Contractor shall also submit appropriate laboratory test data of samples tested by the supplier of materials furnished for the Permanent Works. The frequency of sampling and testing by the supplier shall conform with applicable standards.

#### **3.3.4 Samples**

The Contractor shall provide samples of all materials, together with the manufacturers' technical information, to be used in the Permanent Works as may be required by the Consultant (i.e Employer, hereinafter). Reference samples shall be kept in suitable containers, properly labelled and stored on Site.

#### **3.3.5 Construction Plants**

The Contractor shall submit location plans, layout drawings, flow diagrams and equipment lists for the aggregate plant(s), washing and screening plant(s), chilling and cooling plant(s), concrete batching and mixing plant(s), loading and transportation facilities, etc.,

#### **3.3.6 Construction Details**

The Contractor shall submit his detailed proposals for the following for advance approval by the Consultant:

- Installation of waterstops;
- Concrete placement sequences including special measures for dealing with concreting in hot weather and during nights;
- Precast concrete works;
- All formwork;
- Reinforcing bar details showing bar shapes, embedding, anchoring and splice lengths;

Work may not commence before such an approval is received by the Contractor.

#### **3.3.7 Concreting Records**

Contractor shall maintain an accurate and up-to-date record showing dates, times, weather and temperature conditions when each part of the Permanent Works was concreted. The record shall be available for inspection by the Consultant at all times.

**3.3.8 Welding of Reinforcement**

The contractor must have information if it is required by the consultant:

- Welding procedures.
- Qualifications of welders to work at Site.
- Methods of inspection of welds.

**3.4 MATERIALS AND EQUIPMENT****3.4.1 Formwork**

Formwork shall be constructed of timber, sheet metal or other approved material depending on the class of finish to be obtained. The Contractor shall use only approved material for exposed surfaces of the same class of finish.

Embedded material rods shall terminate not less than 50 mm inside the formed faces of the concrete. Wire ties will not be permitted.

**3.4.2 Cement**

Cement used in the Permanent Works shall be Portland Cement conforming to ASTM 150 or equivalent approved standard. The Consultant may require the removal of any concrete produced with cement not complying with the requirements of this Specification.

Cement	Ultimate Strength after 28 days, MPa	
	compression	bending
Portland cement M 400	39.2	5.4
Portland cement M 500	49.0	5.9

**3.4.2 Placing concrete**

Plant and equipment shall be sufficient to meet the requirements of both the Specifications and the construction programme. Special requirements on plant and equipment for concrete production are described below.

**3.4.3 Transit Mixers**

Transit mixers may be used for transporting mixed concrete, subject to the requirements of the Specifications and subject to approved measures to ensure that no water is added to the concrete in the transit mixers.

**3.4.4 Vibrators for Concrete Compaction**

Vibrators for compaction of concrete in structures shall be heavy duty, immersion type vibrators. They shall operate at frequencies and amplitudes of vibration of not less than six thousand impulses per minute and 1 mm, respectively, for vibrator heads with a diameter greater than 75 mm; and seven thousand impulses per minute and 0.5 mm amplitude for smaller vibrator heads. Vibrating equipment shall be fully capable of obtaining satisfactory results and operating reliably and effectively with all types of specified concrete. The Consultant is entitled to test vibrator frequency and amplitude from time to time for compliance with manufacturer's specifications. Prompt modification or replacement of vibration equipment will be required if it does not perform satisfactorily under all operating conditions. The use of surface vibration equipment or form vibration equipment will not be permitted unless specified or approved in each case by the Consultant.

### 3.4. **Steel Reinforcement**

Steel for reinforcement bars shall be hot-rolled deformed steel bars conforming to acting standards and as specified on the drawings.

When required by the Consultant, the Contractor shall take samples from reinforcement delivered to the Site and shall arrange for the samples to be tested by an approved testing institution. Test certificates from that institution shall be submitted to the Consultant.

### 3.5 **WORKMANSHIP**

#### 3.5.1 Fixing of and Cover to Reinforcement

All reinforcement shall be securely and accurately fixed in the positions shown on the drawings using approved spacer blocks or chairs. All intersections of bars shall be secured with soft iron wire, the ends turned into the body of the concrete. The Contractor shall ensure that all reinforcement is maintained in correct position at all times, particular care being taken during placing of the concrete.

#### 3.5.2 Design and Layout of Formwork

Formwork shall be designed so that slabs, walls, and other members will be of correct dimensions, shape, alignment, elevation and position and within established tolerances. Formwork shall also be designed so that it will safely support all vertical and lateral loads that might be applied until such loads can be supported by the structure itself.

The review / approval of the formwork drawings in no way relieves the Contractor of his sole responsibility for adequately constructing and maintaining the forms so that they function properly in any event.

Before concreting, necessary inspections will be done and recorded by the Consultant and the inspection records are to be signed by both, the Consultant and the representative of the Contractor. These inspection records shall contain the following information and checks:

- The dimensions are to be checked in accordance with the drawings.
- Struts, wales, or shores must be properly spliced.
- Joints or splices should be staggered.
- Shores be installed plumb and with adequate bearing.
- Specified size and capacity of form ties or clamps being used.
- Forms being sufficiently tight to prevent loss of mortar from the concrete.
- Forms being thoroughly cleaned and coated.

### 3.6 **TESTING**

Testing shall be carried out in accordance with the applicable provisions given earlier in this Section.

### 3.7 **MEASUREMENT**

#### 3.7.1 Steel Works

##### Measurement

Steel bars and frames shall be measured as the lengths of units placed in accordance with approved drawings.

Laps in unit joints are for the convenience of the Contractor shall not be measured.

Tie wire, chairs, spacers, supports, bracings and other means of holding reinforcement in position shall not be measured.

### 3.8 REPAIR OR REPLACEMENT OF DEFECTIVE CONCRETE

Cracked, eroded, weak, loose, spalled, honeycombed, pitted or otherwise defective concrete shall be patched according to the following principles:

- The background shall be properly prepared and primed
- The proper materials shall be used to get better results. (Especially the sand)
- The mix for the patch shall be suitably proportioned – it shall not be too rich in cement, and shall contain a minimum of mixing water
- The patch shall be thoroughly damp cured
- Workmen doing the repair, shall be suitably skilled, and conscientiously attend to detail

#### 3.8.1 Stonework Materials

- Cement: OPC or rapid-hardening PC
- Sand: blend 1 part good concrete sand, which has been sieved through a 4.75 mm sieve with 1 part plaster sand
- Gravel: only necessary for patching deep cavities, use well-shaped 6.7 mm nominal size gravel
- Boulder: may be used in very thick patches where thickness of patch exceeds 4 times the nominal size of boulder
- Natural stone can be used both of uniform and diverse measures

## 4 STRUCTURAL STEEL AND METAL WORKS

### 4.1 STEEL WORKS - GENERAL

Structural steel works shall conform to the requirements hereinafter specified, unless otherwise called for in these specifications or on the drawings. Finished members shall be free from twists, bends and open joints. Compression joints depending upon bearing contact shall have surfaces truly faced so as to have full contact when aligned and welded or riveted or bolted.

#### 4.1.1 Suggested List of Materials

To the purpose of obtaining the same good level of quality, a suggested list of suitable materials for the structural steel and metal works as ladders, handrails, etc., are given below.

Material	Standard and Grade
High stress carrying structural steel	DIN 17100 St 37-2, St 37-3, St 52-3
Low stress-carrying structural steel	DIN 17100 St 37-2
Rolled steel for rivet	DIN 17110 St 34, St 44
Carbon steel pipes for ordinary piping	DIN 2440 St 33
Carbon steel pipes for pressure service	DIN 1626 (2) St 37
Carbon steel for machine structural use	DIN 17200 CK 35, CK 45
Bronze for bushing and bearings	ASTM B22 Alloy E
Steel for turned bolts, threaded anchor bolts	DIN 19704, 4D, 5D
Stainless steel bolts and nuts	DIN 267, Grade 4.6 and 4.8
Stainless steel for sealing surface	DIN 17440 Gr. 1.4305.

#### TYPES OF FINISHED STEEL (FSU Standards)

According to acting Construction Codes of Azerbaijan

## **WASHERS, BOLTS AND NUTS**

According to acting Construction Codes of Azerbaijan

### **4.2 PREPARATION**

#### **4.2.1 Straightening Material**

Before being laid off or worked, rolled and flat material shall be straight and shall be cleaned of all rust and dirt. If straightening is necessary, this shall be done by methods that will not injure the metal. Sharp kinks and bands will be cause for rejection of the material.

#### **4.2.2 Shearing and Cutting**

Shearing and cutting by torch shall be performed carefully, and all portions of the work which will be exposed to view after completion shall be finished neatly. Sheared or cut edges of plates more than 16 mm thick which carry computed stresses shall be planed to a depth of 6 mm. Re-entrant cuts shall be filleted before cutting.

All work shall be performed so as to secure proper matching of adjoining unfinished surfaces. Where there is a large discrepancy between adjoining surfaces, same shall be chipped and ground smooth, or machined, to ensure proper alignment. Unfinished surfaces shall be true to the lines and dimensions shown on the drawings, and shall be chipped or ground so as to be free from projections and rough spots.

#### **4.2.3 Surface Finish**

All surfaces which are subsequently to be painted shall be smooth and free from crevices, bumps, or sharp discontinuities. All corners of all surfaces to be painted shall be ground to a 3 mm radius.

The surface finish of all parts and components shall be in conformity with the respective strength, fit and service requirements. Surfaces to be machine-finished shall be indicated on the shop drawings by corresponding symbols.

### **4.3 WELDING, RIVETING AND BOLTING**

#### **4.3.1 General**

No production welding of joints shall be commenced, until:

- The welding procedures proposed have been approved by the Employer / Consultant.
- Welders/operators have been approved by the Employer / Consultant.

#### **4.3.2 Preparation for Welding**

Members and sections to be joined by welding shall be cut accurately to size, with their edges sheared, flame-cut or machined to suit the required type of welding and to allow full penetration.

The surfaces of members or sections to be welded shall be free from rust, grease and other foreign matters for a distance of at least 50 mm back from the edge of weld.

#### **4.3.3 Welding Procedure**

All welding shall be performed by the electric-arc method, by a process at least equal to that required by acting construction standards.



#### 4.3.4 Qualification of Welders

The Contractor shall be responsible for the quality of the work performed by his welding organization. All expenses in connection with making the qualification tests for welding operators if required by stakeholders shall be borne by the Contractor.

Operators' welding certificates shall be furnished to the Employer / Consultant if requested by him.

#### 4.3.5 Welding Equipment

Consumable material (electrodes, etc.) shall be included in the price. Other materials and tools shall remain the property of the Contractor.

#### 4.4 Bolts, Studs, Nuts and Screws

They shall have standard threads and be of high quality steel. All bolts, studs, nuts and screws (including their washers) shall be well protected against corrosion according to the site of their installation. Nuts and bolt heads shall be hexagonal in shape and truly faced. Nuts, bolts and screws which might become loose during operation shall be locked in fastened position by means approved by the Employer / Consultant. Tack welding will not be permitted.

High strength friction grip bolts, nuts and washers shall comply with the approved standards. The correct tension in the bolt shall be determined using an approved raised pattern hardened washer system, whereby a reduced gap is created between the washer and the head of the bolt after tensioning. The load indicating devices shall be used strictly in accordance with the manufacturer's instructions. High strength friction grip bolts shall be tightened in accordance with the manufacturer's recommendations and the tension shall be re-checked not less than 3 hours after first tightening and then the bolts shall be re-tightened to the initial load, all to the satisfaction of the Employer / Consultant.

### **5 PAINTING (Including Corrosion Protection)**

#### 5.1 Scope of Supply

The supply shall include the surface treatment, priming, corrosion protection and painting of the metal equipment furnished. Such work shall comprise the workshop- and at site-coating up to and including the finish painting. Unless otherwise specified the coating and painting shall be carried out in accordance with the latest edition of DIN 55928-2 (Protective Coatings for Steel Structures, Directions).

All priming and painting material shall satisfactorily fulfil the requirements imposed by the Site conditions, as well as the stresses to which the respective equipment is subjected during its operation. At the request of the Consultant, painting samples for the different coats and colours shall be provided.

All finished surfaces shall present a neat, pleasing appearance.

Each coat of primer and painting shall be compatible with the previous and subsequent coats. All pigmented primers and paints, which will be used for priming and painting at the Site, shall be delivered in sealed containers as originally packed by the manufacturer.

The Contractor shall supply full details regarding the extent of which sand-blasting, priming and painting will be carried out in his workshops (or his subcontractors', as the case may be), at the Site and after erection. A properly equipped paint-shop shall be set up at the Site using a specialist organization, experienced and skilled in the preparation and application of protective coatings at the conditions prevailing at the Site.

Materials shall be thoroughly mixed at the time of application.

It is essential that before any primer and coat of paint is applied, the surfaces are properly prepared. Such preparation shall include any cleaning, smoothing, drying and similar operation that may be required to ensure that the primer and/or paint is applied on suitable surfaces. Clean cloths and clean fluids shall be used to avoid leaving film or greasy residue on the surfaces being cleaned.

Each coat shall be free from runs, drops, pinholes, waves, laps, sags and unnecessary brush mark, and shall be allowed to dry or to harden before the following coat is applied.

Machinery-paint may be thinned, if necessary, to permit satisfactory application, but the amount of thinner shall be kept to the minimum.

Parts which cannot be blast-cleaned shall be cleaned free from rust and scale by power-tool cleaning to the highest possible degree, according to the above standards or equivalent approved standards.

Blast-cleaned surfaces shall receive a quick-drying shopcoating immediately after blast-cleaning. Hand- or power tool-cleaned parts shall be treated likewise immediately after cleaning.

## 5.2 SOLVENTS

Separate supplies of solvents shall be kept on Site for these purposes shall be tinted in different colour to those which are used for thinning paint. The solvent used for the preparation of the wash coat shall be supplied by the manufacturer of the coating material and shall be compatible with the coating material.

## 5.3 PAINT CONTAINERS

All paint shall be delivered in containers sealed by the manufacturer. The name of manufacturer, colour, type of paint, batch number, and information regarding special storage requirements shall be clearly shown on each container.

## 5.4 STORAGE OF PAINT AND OTHER MATERIALS

Paint shall be stored on Site, under cover, in conditions as recommended by the manufacturer. Paint shall be stored in such a manner that each batch can be issued for use in the order of delivery. Other materials shall be stored in a manner which is to the approval by the Consultant.

## 5.5 CHECKS

The work of anti-corrosion protection will be checked by the Consultant. The check-work will include:

- Check of the cleanliness of the cleaned surfaces
- Check of the thickness and adhesion of zinc and paint coatings
- Check of quality of the materials applied.

The thickness of the zinc and paint coatings shall be checked at about 10 points per square meter. For the acceptance, the guaranteed thickness of the coating shall be decisive and not the number of coats applied.

The adhesion shall be checked by means of the Araldite adhering method.

The coating of small parts shall be checked at random with respect to thickness by the magnetic-static (Elcometer, Diameter, etc.) method, and with respect to absence of pores by means of the Elco-pinhole detector (ASTM E376).

5.6 EXECUTION OF THE WORK

In principle the painting work shall be executed in the Contractor's shops except for the finishing coats. The priming coats and the first finishing coat, respectively, shall always be applied by means of a painting brush in order to obtain better adhesion.

Paintwork damaged during shipment, storage and/or erection shall be properly restored by the Contractor after thorough removal of the damaged coating. The repair coating and painting shall be carried out as per the above specifications and reach the minimum dry film thickness stipulated.

When executing the paint work the air humidity shall not exceed 60% at the working place, and all necessary fans, air heaters, ventilation ducts, dust absorbers, etc., shall be provided by the Contractor.

The Contractor shall furnish a suitable quantity of each priming and finishing paint for touch-up work at the Site, after the end of the guarantee period.

5.7 GUARANTEES

All above specified coatings, paintings, protections, etc., shall last and be guaranteed for a period of at least twentyfour (24) calendar months from the Provisional Acceptance of the respective equipment.

5.8 REPAIR OF DEFECTS

The Contractor shall carefully repair all defects occurring to the surface protection during the guarantee period (Cleaning of defective parts by sand-blasting if necessary, re-application of the different protective coatings).

Special care shall be given to transition zones where new and original coatings come together. Should the defect be one for which the Contractor is liable, all related repair cost shall be borne by the Contractor.

**6. INSTALLATION OF ELECTRICAL DEVICES**

Installation of electrical devices and related engineering infrastructure shall be performed according to the acting design and construction codes of Azerbaijan

6.1 Buildings:

6.1.1 Zaqatala Office Buildings:

The location has permanent existing electrical supply for low voltage line through town operator. Design building shall have fully autonomous electricity supply sources. Due to this Contractor shall elaborate two compatible parallel electrical supply version through city electrical network and autonomous photovoltaic source installed on the site.

6.1.2 Cordon Houses:

The location have not permanent existing electrical supply. Design building will fully autonomous electricity supply sources based on set of photovoltaics and 5 kW Fuel Generator. Due to this Contractor shall be elaborate two combined and compatible parallel electrical supply system.

6.1.3 Ranger Houses:

The locations have not permanent existing electrical supply. Design building will fully autonomous electricity supply sources based on set of photovoltaics and 2 kW Fuel Generator. Due to this Contractor shall be elaborate two combined and compatible parallel electrical supply system.

## 6.2 Wire and Cable Installation in Steel Pipes

The use of steel pipes for wiring is obligatory.

The internal surface of the pipes should be smooth to avoid wiring damages and the pipe ends should not have rough edges. At the intersection points of pipes with expansion joints or settlement joints compensators are installed (without flexible hose).

Pipe fastening with the base should be durable. For the pipes with the internal diameter of 15-20mm the distance between fixing points should be no more than 2.5m, for 25-32mm diameter pipes – 3m, for 40-80mm diameter pipes –4m and for 100mm diameter pipes – 6 m.

The pipes are connected by clutches or sockets through welding. Assembled pipes are grounded. The pipes should be covered with anticorrosion coating (except for the embedded ones). Fastening of the steel pipes to industrial pipelines or their welding to various structure is not allowed. Normalized angles of pipe turning are 90, 120 and 135<sup>o</sup>C. Normalize bending radius of pipes laid in the floors is 400mm and that of the pipes laid in the monolithic foundation for the installation of single-core cables – 800mm, 1000mm.

Wires installed in the pipes should lie loosely and can be easily moved. At the outlet of wires from steel pipes insulating sleeves should be installed. In boxes and niches a reserve of wires should be kept for reconnection. In unsoldered boxes and niches group networks should be connected by welding. Connection by twisting is forbidden. Wire connections and derivations should be insulated with insulating caps or insulation tape, which should be equivalent to the insulation of integral wire sections. Boxes and niches should be covered with removable covers. Pasting wallpaper on the covers is not permitted.

## 6.3 Installation of Lighting Fittings, Switches and Receptacles

Fastening of the lighting fittings to the supports should be demountable to ensure lamp replacement. Hooks and pins used for suspending lamps should be insulated from the lamps.

Lamps and single receptacles (in the kitchen, hall) are connected with group networks by means of terminal plates.

When lighting fittings, switches and receptacles are connected a reserve of sufficiently long wires should be kept to re-connect them if they break. Switches and receptacles of the open wiring are fastened in the sockets. Receptacles above the plinth should be installed right against the plinths.

## 6.4 Installation of Switchgears

Switchgears are located in the electrical control unit of the building in compliance with the electrical drawings. Panels are leveled and plummeted and fastened to the embedded parts with bolts and welding.

Circuit of the lightning protection system should be connected with a zero bus-line of the switchgear. Supply cables are fastened to the switchgears with clamps.

Supply, main and group lines should be marked in compliance with the electrical drawings. Connection of the wires and cables with the installed electrical equipment should be carried out in accordance with the equipment design.

Grounding of the switchgear should be carried out by connecting metal covering of the cable with the zero wire of the switchgear.

## 7. INSTALLATION OF WARWE AND WASTE WATER SUPPLY DEVICES

Installation of water and waste water supply systems and related engineering infrastructure components shall be performed according to the acting Design and Construction Codes of Azerbaijan

## **8 MISCELLANEOUS WORKS**

### **8.1 Cleaning of the Territory from Vegetation**

Before commencing major construction works contractor should clean from vegetations the spots where new structures are to be located. Besides, they should follow requirements of Annex 2,3&4 (Environmental Protection).

Works covered by this chapter are as follows:

- Cleaning of the territory from the shrubs;
- Collection of uprooted shrubs and transportation according to section Annex 2,3&4;
- Shaking out and burning of collected shrubs;
- Eradication of trees and transportation according to section Annex 2,3&4;

### **8.2 Architectural-Construction Part**

Main architectural-construction works are (these works are detailed in the Construction drawings):

- Installation of foundations for the new service buildings;
- Installation of reinforcement steel;
- Arrangement of reinforced concrete flooring;
- Arrangement of
- Construction of load bearing and partitions walls;
- Arrangement of light weight steel structure (frame) floor, walls and roof construction;
- Thermal insulation and water proof isolation works;
- Building shell coating;
- Painting works;

Executed works should comply with the design and construction norms (existing in Azerbaijan) of industrial buildings and dwellings and the requirements listed in the Technical Specifications.

Construction materials to be used for architectural-construction works must be new, high quality and they should meet local and international standards listed in the Chapters 3-5 of this section.

### **8.3 Energy efficiency performance of the building shell shall be in according to the Design Assignment requirements of the Employer, Annex 7.**

**ANNEX 5**  
**Drawings for Lo1 and Lot 2**

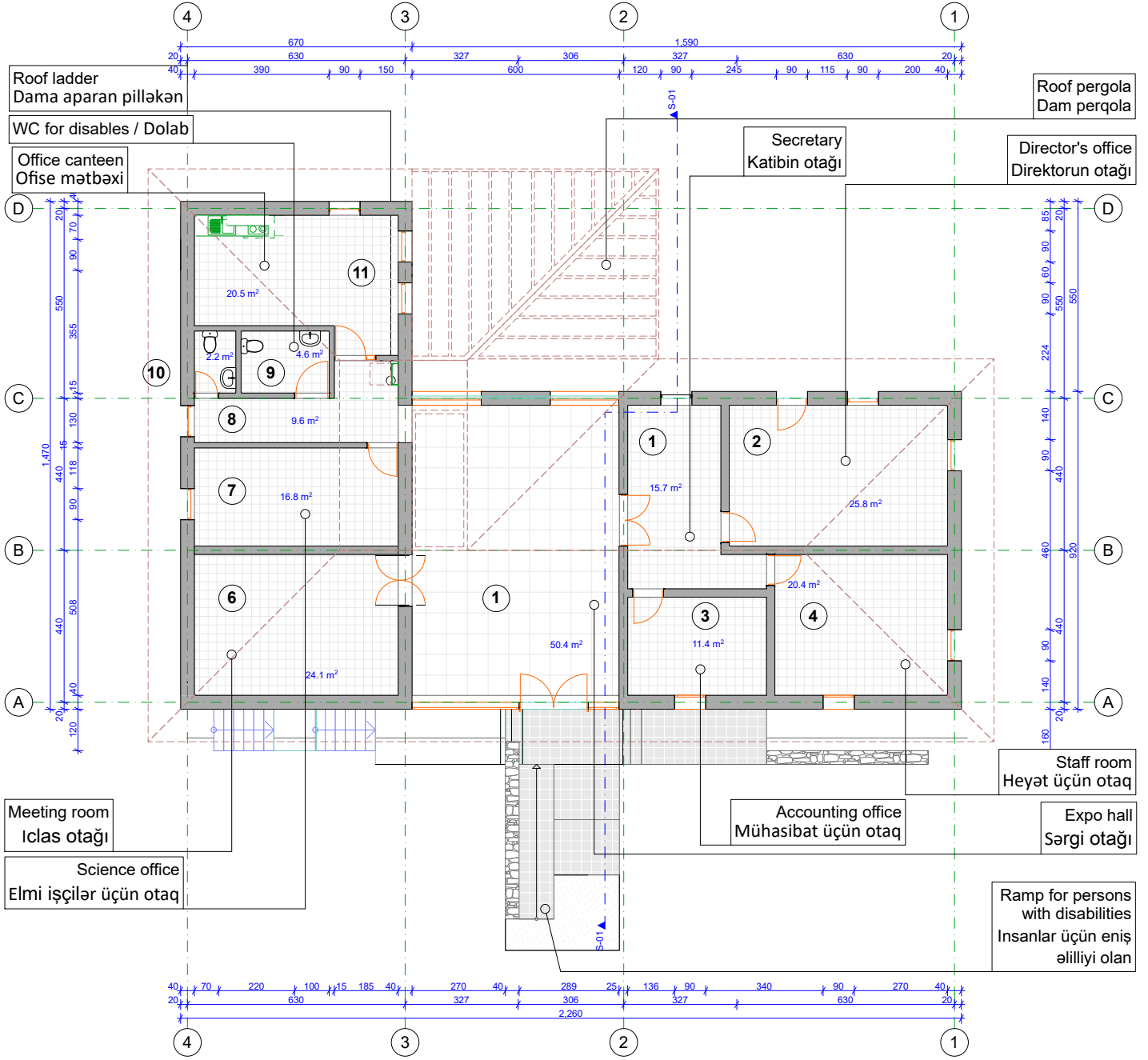
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**Lot 1**

**Office Building of the Zaqatala-Belakan Biosphere Reserve**

- ZB-AD-A.01
- ZB-AD-A.02
- ZB-AD-A.03
- ZB-AD-A.04
- ZB-AD-A.05
- ZB-AD-A.06

## Floor Plan / Mərtəbə plan



### Ofis binasının əsas texniki-iqtisadi göstəriciləri:

#### Main technical-economical data of the Office Building:

Binanın ümumi sahəsi / Building footprint	: 245.0 m <sup>2</sup>
İstifadə olunan sahə / Useful covered space	: 200.0 m <sup>2</sup>
Zirzəmi / Basement	: 200.0 m <sup>2</sup>
Dam örtüyü sahəsi / Roof cover space	: 350.0 m <sup>2</sup>

### Comments:

Drawings to be considered together with the Supplementary Information of the TD Section 7, Works Requirements.

Çertyojlar TD Bölməsi 7, İş tələblərinə Əlavə edilmiş məlumat ilə birlikdə nəzərə alınmalıdır.



Modified by / Dəyişiklik edən:  
S. Mammadov: Architect / Memar

Checked by / Yoxlayan:  
G. Shikhashvili

International Architect  
Beynəlxalq memar

Date / Tarix : 15.08.2023

Date / Tarix: 15.08.2023

Establishment and Sustainable Development of the Zakatala-Balakan Biosphere Reserve  
Zaqatala-Balakən Biosfer Qoruğunun yaradılması və davamlı inkişafı

KfW Funded Project BMZ-N° 2003 65 437

Addendum to MENR Design Assignemnt for Officr Building  
ETSN-nin təyin etdiyi Dizayn tapşırığına Əlavə

Drawing Name / Çertyojun adı

Floor Plan  
Mərtəbə planı

Drawing Status / Çertyojun statusu

Concept Design / Konseptual dizayn

Drawing Scale / Çertyojun miqyası

1:175

Layout ID / Sxemin nömrəsi

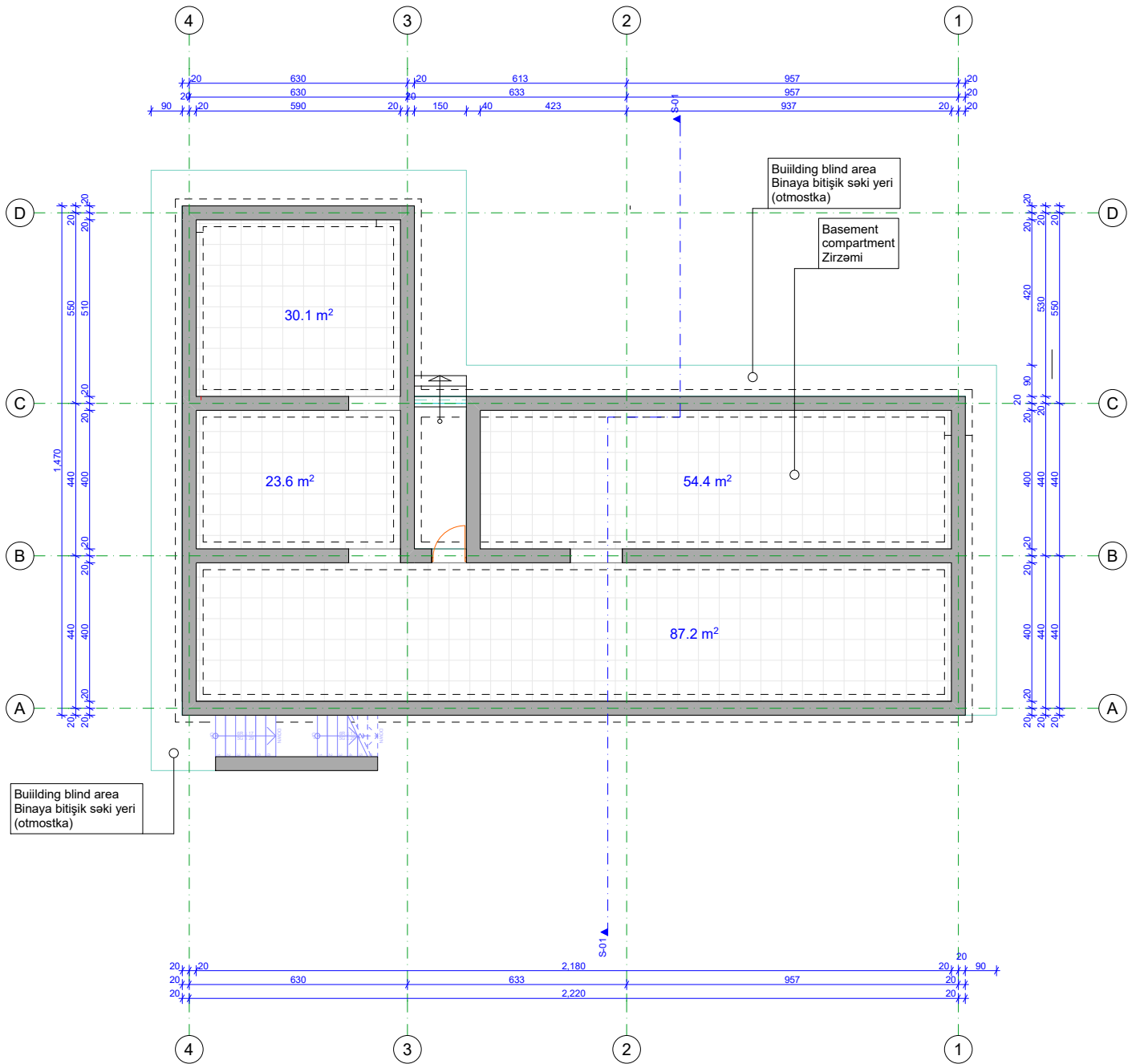
ZB-AD-A.01

Revision / Təftiş



## Basement floor plan

### Zirzəminin planı



#### Comments:

Drawings to be considered together with the Supplementary Information of the TD Section 7, Works Requirements.

Çertyojlar TD Bölməsi 7, İş tələblərinə Əlavə edilmiş məlumat ilə birlikdə nəzərə alınmalıdır.



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S. Mammadov: Architect / Memar

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G. Shikhashvili

International Architect  
Beynəlxalq memar

Date / Tarix: 30.06.2023

Establishment and Sustainable Development of the Zakatala-Balakan Biosphere Reserve  
Zaqatala-Balakən Biosfer Qoruğunun yaradılması və davamlı inkişafı  
KfW Funded Project BMZ-N° 2003 65 437

Addendum to MENR Design Assignemnt for Officr Building  
ETSN-nin təyin etdiyi Dizayn tapşırığına Əlavə

Drawing Name / Çertyojun adı

Basement floor plan  
Zirzəminin planı

Drawing Status / Çertyojun statusu

Concept Design / Konseptual dizayn

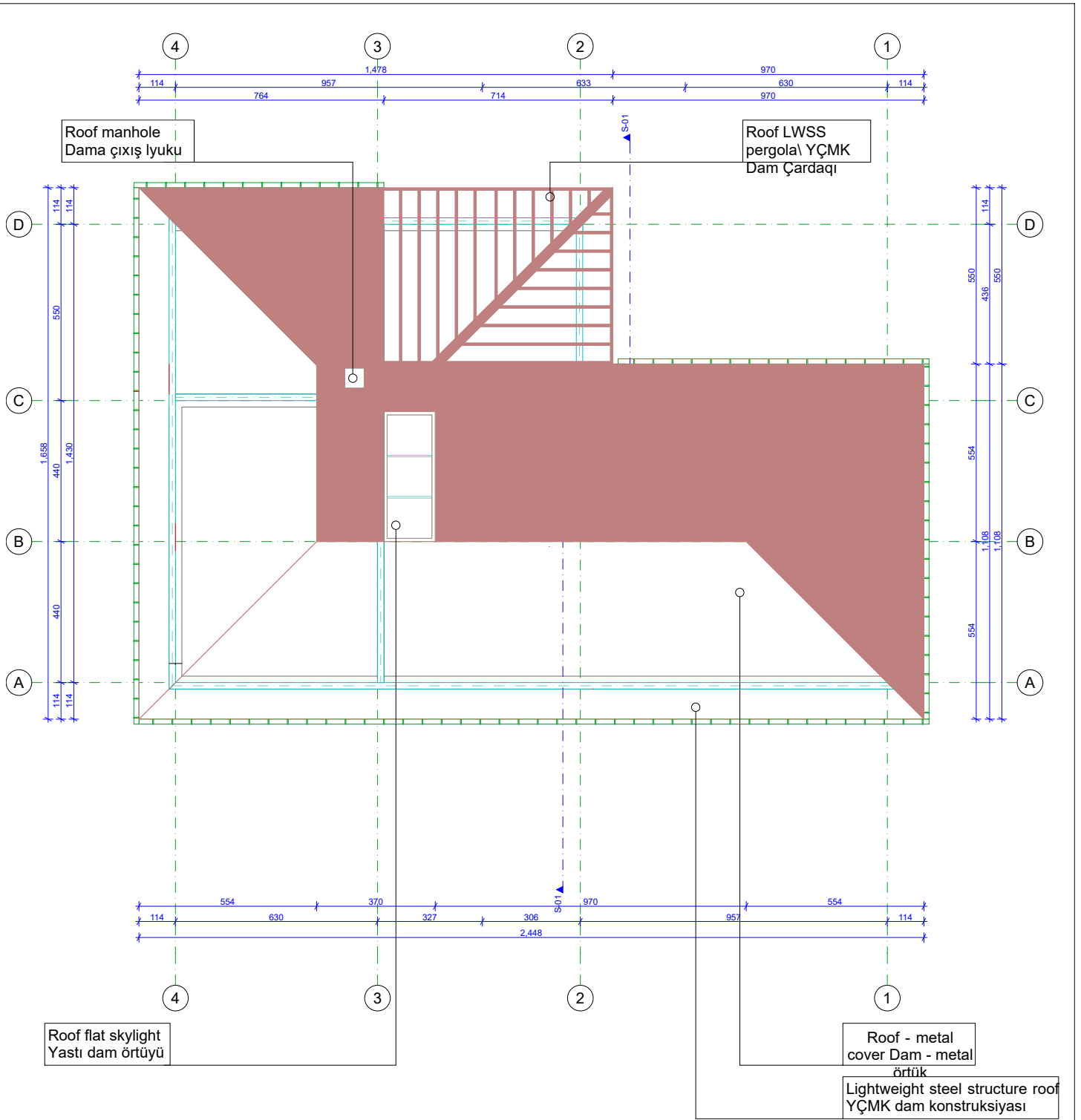
Drawing Scale / Çertyojun miqyası

1:175

Layout ID / Sxemin nömrəsi

ZB-AD-A.02

Revision / Təftiş



**Comments:**

Drawings to be considered together with the Suplimentary Information of the TD Section 7, Works Requirements. Çertyojlar TD Bölməsi 7, İş tələblərinə Əlavə edilmiş məlumat ilə birlikdə nəzərə alınmalıdır.

**ROOF LAYOUT / SCALE. 1:75  
DAMIN SXEMİ MİQYAS 1:75**



Modified by / Dəyişiklik edən:  
S. Mammadov: Architect / Memar

Date / Tarix : 15.08.2023

Checked by / Yoxlayan:  
G. Shikhashvili

International Architect  
Beynəlxalq memar

Date / Tarix: 15.08.2023

Establishment and Sustainable Development of the Zakatala-Balakan Biosphere Reserve  
Zaqatala-Balakən Biosfer Qoruğunun yaradılması və davamlı inkişafı

KfW Funded Project BMZ-N° 2003 65 437

Addendum to MENR Design Assignemnt for Officr Building  
ETSN-nin təyin etdiyi Dizayn tapşırığına Əlavə

Drawing Name / Çertyojun adı

Roof Layout  
Damin planı

Drawing Status / Çertyojun statusu

Concept Design / Konseptual dizayn

Drawing Scale / Çertyojun miqyası

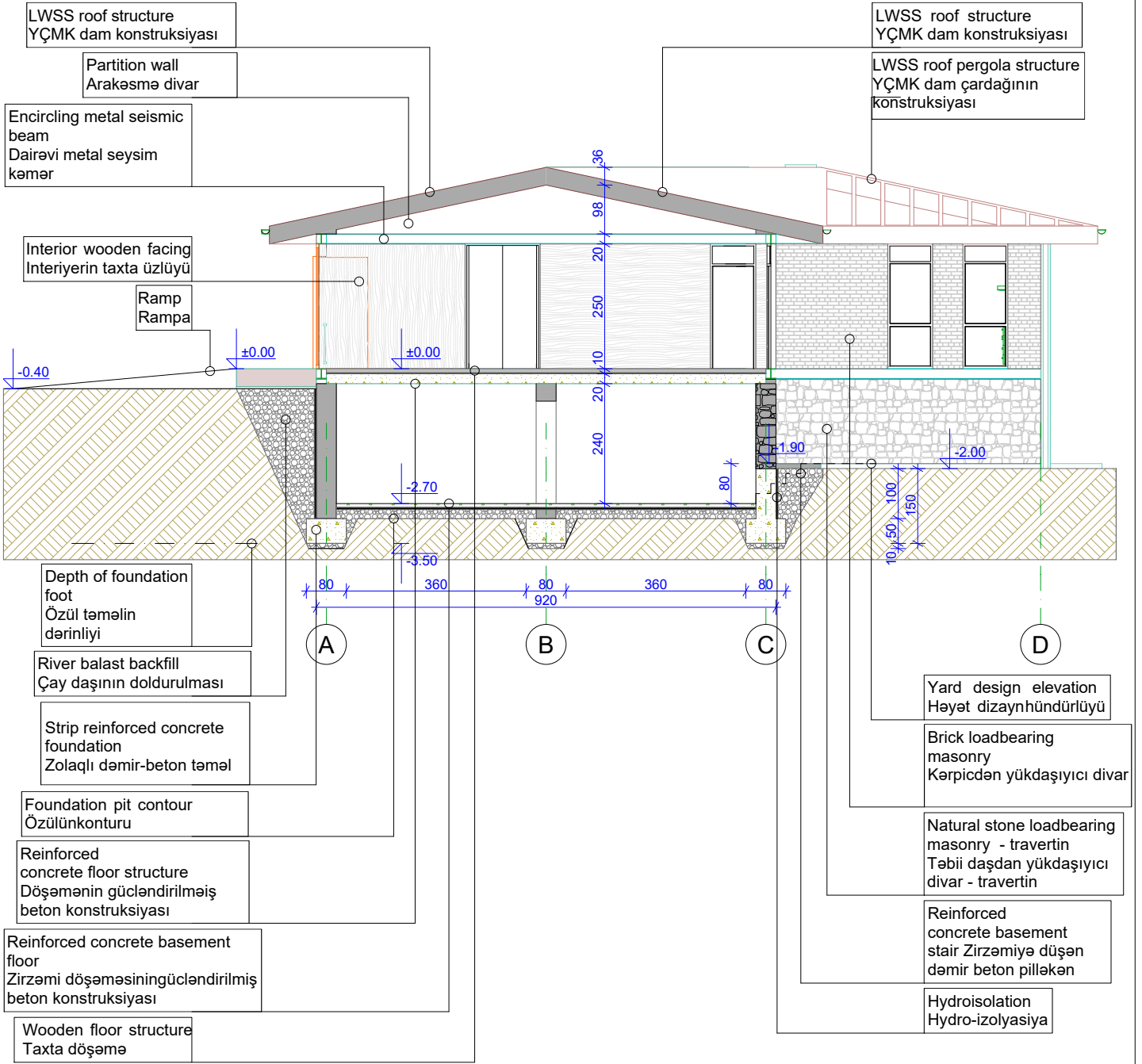
**1:175**

Layout ID / Sxemin nömrəsi

**ZB-AD-A.03**

Revision / Təftiş

Principal section 01-01  
Əsas Bölmə 01-01



**Comments:**

Drawings to be considered together with the Supplementary Information of the TD Section 7, Works Requirements.

Çertyojlar TD Bölməsi 7, İş tələblərinə Əlavə edilmiş məlumat ilə birlikdə nəzərə alınmalıdır.



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S. Mammadov: Architect / Memar

Date / Tarix : 15.08.2023

Checked by / Yoxlayan:  
G. Shikhashvili

International Architect  
Beynəlxalq memar

Date / Tarix: 15.08.2023

Establishment and Sustainable Development of the Zakatala-Balakan Biosphere Reserve  
Zaqatala-Balakən Biosfer Qoruğunun yaradılması və davamlı inkişafı  
KfW Funded Project BMZ-N° 2003 65 437

Addendum to MENR Design Assignemnt for Officr Building  
ETSN-nin təyin etdiyi Dizayn tapşırığına Əlavə

Drawing Name / Çertyojun adı

Principal section 01-01  
Əsas Bölmə 01-01

Drawing Status / Çertyojun statusu

Concept Design / Konseptual dizayn

Drawing Scale / Çertyojun miqyası

1:120

Layout ID / Sxemin nömrəsi

ZB-AD-A.04

Revision / Təftiş

LWSS roof sructure painting  
YÇMK dam konstruksiyasının boyanması

LWSS roof flat skylight openning  
YÇMK dama şıxı. lyuku

LWSS wall painting  
YÇMK divarın boyanması

Wood facing of load bearing wall Axes 3  
Yükdaşıyıcı divarın taxta ilə üzənməsi Oxlar 3

Glass door  
Şüşə qapılar

Wooden flooring of reinforced concrete slab structure  
Demir-beton döşəmənin taxta ilə üzənməsi



Load bering brick wall  
Yükdaşıyıcı kərpic divar

Load bering natural stone cladding wall  
Təbii daşdan yükdaşıyıcı divar

Wood facing of load bearing wall Axes 3  
Yükdaşıyıcı divarın taxta ilə üzənməsi, Oxlar 3

LWSS roof sructure painting  
YÇMK dam konstruksiyasının boyanması

LWSS wall painting  
YÇMK divarın boyanması

Load bering brick wall Axes 2  
Yükdaşıyıcı kərpic divar, Oxlar 2

Wooden flooring of reinforced concrete slab structure  
Demir-beton döşəmənin taxta ilə üzənməsi



Encircling metal seismic beam  
Encircling metal seismic beam

Glass door  
Şüşə qapılar

### Comments:

Drawings to be considered together with the Supplementary Information of the TD Section 7, Works Requirements.

Çertyojlar TD Bölməsi 7, İş tələblərinə Əlavə edilmiş məlumat ilə birlikdə nəzərə alınmalıdır.



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S. Mammadov: Architect / Memar

Checked by / Yoxlayan:  
G.Shikhashvili

International Architect  
Beynəlxalq memar

Date / Tarix : 15.08.2023

Date / Tarix: 15.08.2023

Establishment and Sustainable Development of the Zakatala-Balakan Biosphere Reserve  
Zaqatala-Balakan Biosf. ... , aradılması və davamlı inkişafı

KfW Funded Project BMZ-N° 2003 65 437

Addendum to MENR Design Assignemnt for Officr Building  
ETSN-nin təyin etdiyi Dizayn tapşırığına Əlavə

Drawing Name / Çertyojun adı

Interior facing material data Interyerin  
üzənməsi üçün materiallar barədə  
məlumat

Drawing Status / Çertyojun statusu

Concept Design / Konseptual dizayn

Drawing Scale / Çertyojun miqyası

Layout ID / Sxemin nömrəsi



ZB-RH1-A.05

Revision / Təftiş



Exterior & Interior 3D renders / Eksteryer və interyerin 3D modeli



 Azərbaycan Respublikası Ekologiya və Təbii Sərvətlər Nazirliyi <b>GOPA</b> WORLDWIDE CONSULTANTS 	Modified by / Dəyişiklik edən: S. Mammadov: Architect / Memar	Date / Tarix : 30.06.2023	Drawing Name / Çertyojun adı	
	Checked by / Yoxlayan: G.Shikhashvili	International Architect Beynəlxalq memar	Date / Tarix: 30.06.2023	Exterior & Interior 3D renders Eksteryer və interyerin 3D modeli
	Establishment and Sustainable Development of the Zakatala-Balakan Biosphere Reserve Zaqatala-Balakən Biosfer Qoruğunun yaradılması və davamlı inkişafı	KfW Funded Project BMZ-N° 2003 65 437	Addendum to MENR Design Assignemnt for Officr Building ETSN-nin təyin etdiyi Dizayn tapşırığına Əlavə	Drawing Status / Çertyojun statusu Concept Design / Konseptual dizayn
				Drawing Scale / Çertyojun miqyası NA
			Layout ID / Sxemin nömrəsi <b>ZB-AD-A.06</b>	Revision / Təftiş

**Annexe 5  
Tender Drawings**

**Lot 2**

**Zaqatala-Balakan Biosphere Reserve  
Rangers Infrastructure**

**Cordon House**

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1. Cordon House  
1. Kardon ev

- ZB-RI-CH-A.01
- ZB-RI-CH-A.02
- ZB-RI-CH-A.03
- ZB-RI-CH-A.04
- ZB-RI-CH-A.05

Cobble riprap  
Çay daşından özülü

Shelf beds  
Rəf-çarpayılar

Staff bedroom  
İşçi heyətin yataq otağı

Science office  
Elmi içmilərin otağı

Wood fired indoor  
stove  
Odun peçi

Common room  
with kitchen  
Ümumi mətbəx

Terrace  
Terras

Technical and  
storage  
Texniki anbar

WC



Wood fired indoor stove sample  
Odun peçi nümunəsi



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S. Mammadov: Architect / Memar

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G. Shikhashvili

International Architect  
Beynəlxalq memar

Establishment and Sustainable Development of the Zakatala-Balakan  
Biosphere Reserve  
Zaqatala-Balakan Biosfer Qoruğunun yaradılması və davamlı inkişafı

KfW Funded Project BMZ-N° 2003 65 437

Addendum 1 to MENR Design Assignemnt - Cordon House  
ETSN-nin təyin etdiyi Dizayna Tapşırıqına Əlavə 1

Date / Tarix : 17.08.2023

Date / Tarix: 17.08.2023

Drawing Name / Çertyojun adı

Floor Plan  
Mərtəbə planı

Drawing Status / Çertyojun statusu

Concept Design / Konseptual dizayn

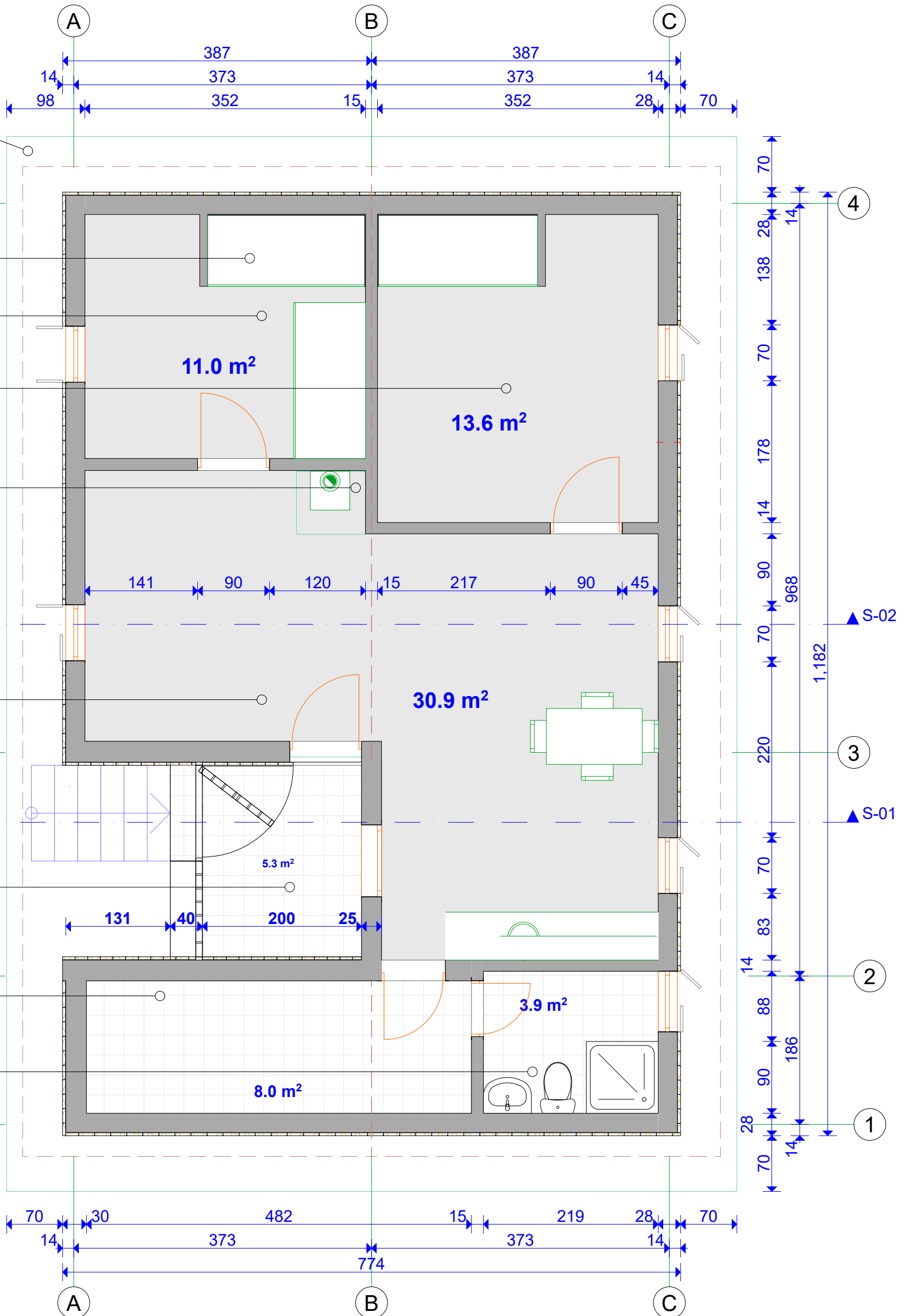
Drawing Scale / Çertyojun miqyası

1:80

Layout ID / Sxemin nömrəsi

ZB-RI-CH-A.01

Revision / Təftiş



Floor Plan / Mərtəbə planı

Main technical-economical characteristics:  
Əsas texniki-iqtisadi göstəricilər

Buiding footprint / Binaın ümumi sahəsi	: 92.0 m <sup>2</sup>
Useful covered space / İstifadə olunan əsas sahə	: 67.5 m <sup>2</sup>
Covered terrace / Örtülü terras	: 9.30 m <sup>2</sup>



Cobble riprap  
Çay daşından özülü

LWSS wall  
contour/  
YÇPK divar  
konturu

Socle  
stone-work  
Zirzəmi  
(sokol) kontur

Stone-work  
stairs  
Daş pilləkənlər

S-02

S-01

4

3

2

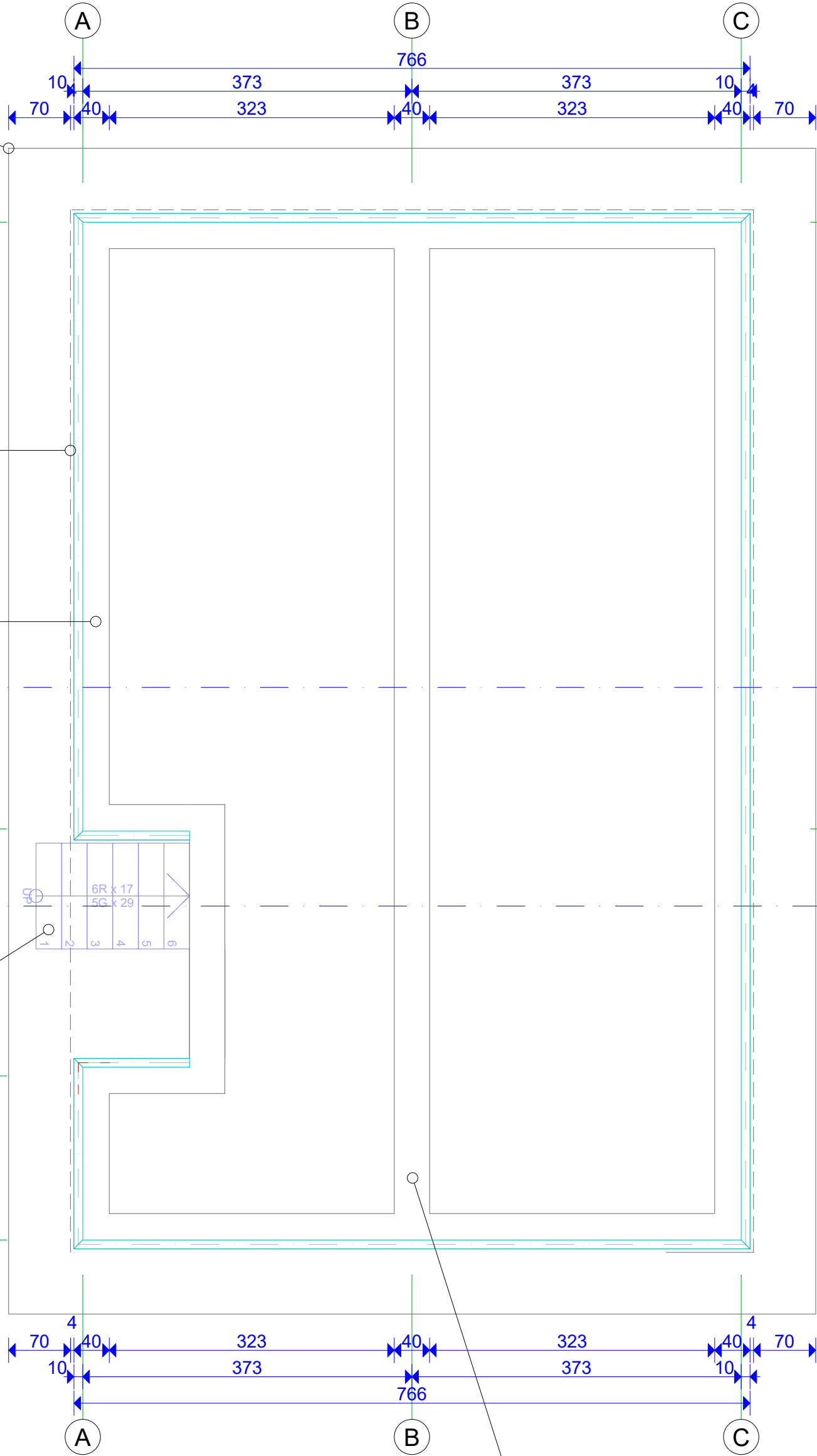
1

4

3

2

1



Socle Plan  
Zirzəmi (sokol) Planı

Socle  
stone-work  
Zirzəmi (sokol)



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S. Mammadov: Architect / Memar

Checked by / Yoxlayan:  
G. Shikhashvili

International Architect  
Beynəlxalq memar

Date / Tarix : 17.08.2023

Date / Tarix: 17.08.2023

Drawing Name / Çertyojun adı

Socle Plan  
Zirzəmi (sokol) Planı

Drawing Status / Çertyojun statusu

Concept Design / Konseptual dizayn

Drawing Scale / Çertyojun miqyası

1:80

Layout ID / Sxemin nömrəsi

ZB-RI-CH-A.02

Revision / Təftiş

Establishment and Sustainable Development of the Zakatala-Balakan  
Biosphere Reserve  
Zaqatala-Balakan Biosfer Qoruğunun yaradılması və davamlı inkişafı

KfW Funded Project BMZ-N° 2003 65 437

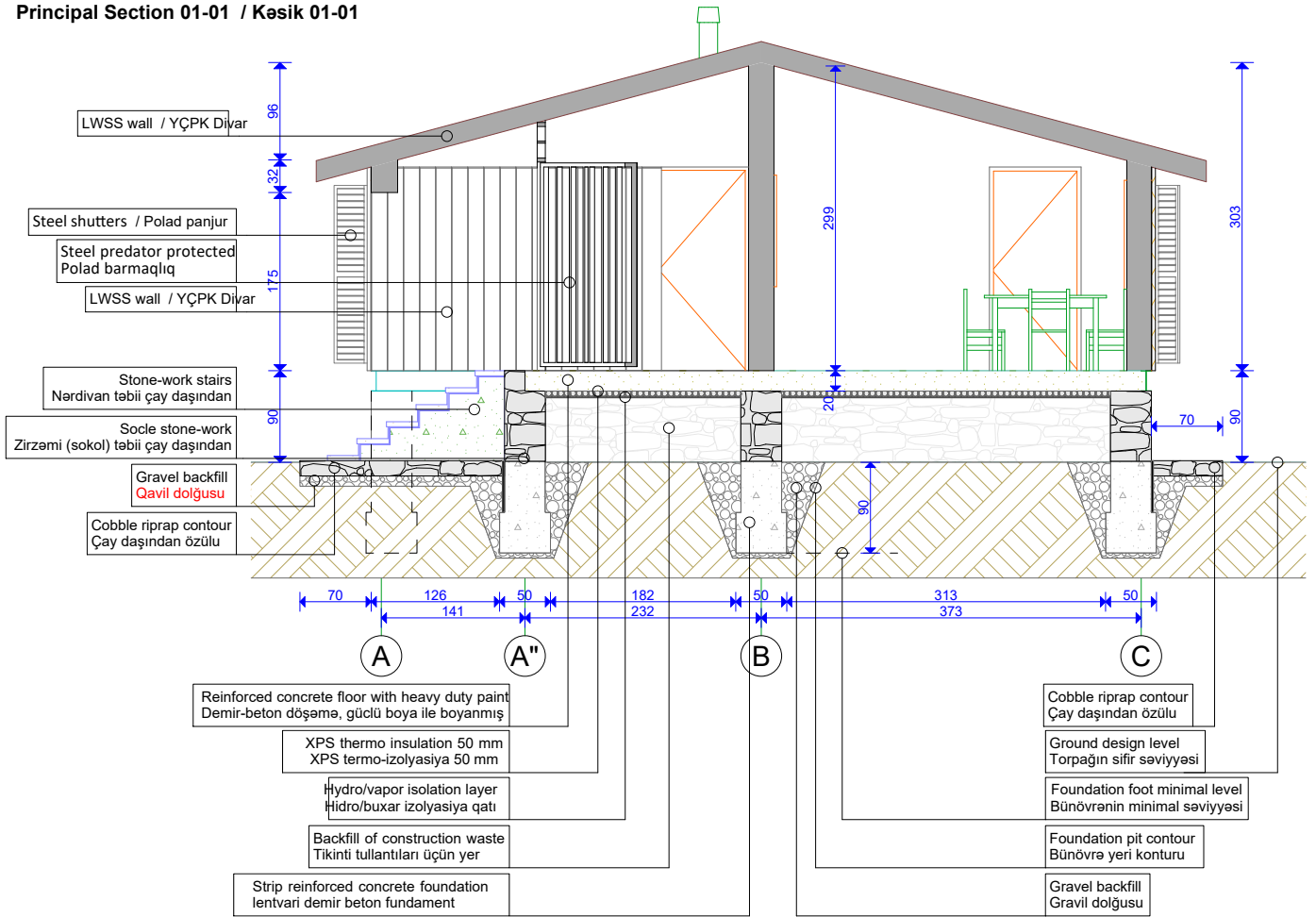
Addendum 1 to MENR Design Assignemnt - Cordon House  
ETSN-nin təyin etdiyi Dizayna Tapşırığına Əlavə 1

3D model render / 3D modeli



LWSS wall / YÇPK Divar Stone-work stairs Nərdivan təbii çay daşından Socle stone-work Zirzəmi (sokol) təbii çay daşından LSS wall / LLC Divar Cobble riprap contour Çay daşından özülü

Principal Section 01-01 / Kəsik 01-01



**Comments:** Drawings to be considered together with the Suplimentary Information of the TD Section 7, Works Requirements.  
Şərhlər: Çertyojlar, TD Bölməsi 7, İş Tələblərinə Əlavə edilmiş Məlumat ilə birlikdə nəzərə alınmalıdır



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International Architect Beynəlxalq memar  
Date / Tarix: 17.08.2023  
Establishment and Sustainable Development of the Zakatala-Balakan Biosphere Reserve  
Zaqatala-Balakən Biosfer Qoruğunun yaradılması və davamlı inkişafı  
KfW Funded Project BMZ-N° 2003 65 437  
Addendum 1 to MENR Design Assignemnt - Cordon House  
ETSN-nin təyin etdiyi Dizayna Tapşırığına Əlavə 1

Drawing Name / Çertyojun adı  
Principal section 01-01 / 3D model render  
Kəsik 01-01 / 3D modeli  
Drawing Status / Çertyojun statusu  
Concept Design / Konseptual dizayn  
Drawing Scale / Çertyojun miqyası  
1:70  
Layout ID / Sxemin nömrəsi  
Revision / Təftiş  
ZB-RI-CH-A.03

Corrugated tinplate  
roof cover  
Metal (qofra) dam örütüyü

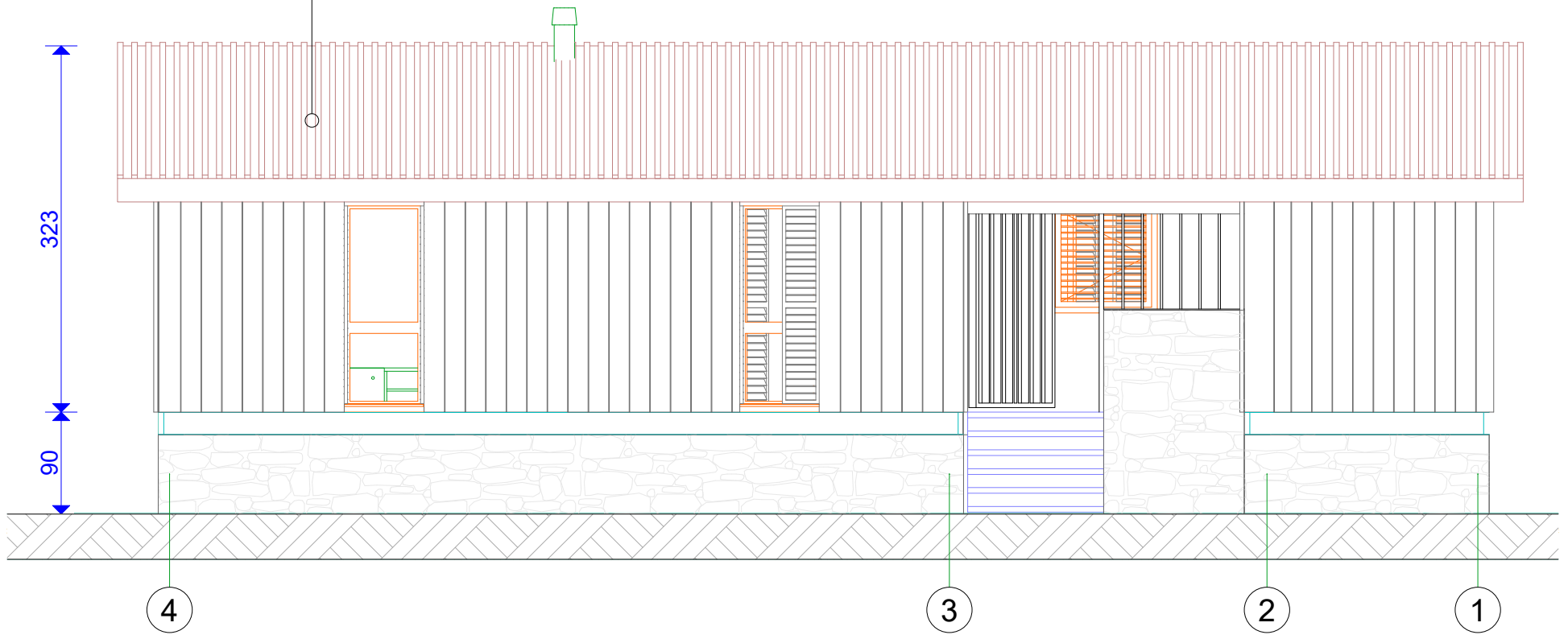


Tinplate facing for  
laterl facades  
Yan fasadlar üçün  
metal örtüklər

Socol natural stone  
cladding  
Zirzəmi (sokol) təbii  
çay daşından

Main Facade 3 D Model render / Əsas fasadın 3D modeli

Corrugated tinplate  
roof cover  
Metal (qofra) dam örütüyü



Main Facade 4-1 / Əsas Fasadi 4-1



Modified by / Dəyişiklik edən:  
S. Mammadov: Architect / Memar

Date / Tarix : 17.08.2023

Drawing Name / Çertyojun adı

Checked by / Yoxlayan:  
G.Shikhashvili

International Architect  
Beynəlxalq memar

Date / Tarix: 17.08.2023

Main Facade 4-1 / Əsas Fasadi 4-1

Drawing Status / Çertyojun statusu  
Concept Design / Konseptual dizayn

Drawing Scale / Çertyojun miqyası  
1 : 80

Establishment and Sustainable Development of the Zakatala-Balakan  
Biosphere Reserve  
Zaqatala-Balakan Biosfer Qoruğunun yaradılması və davamlı inkişafı

KfW Funded Project BMZ-N° 2003 65 437

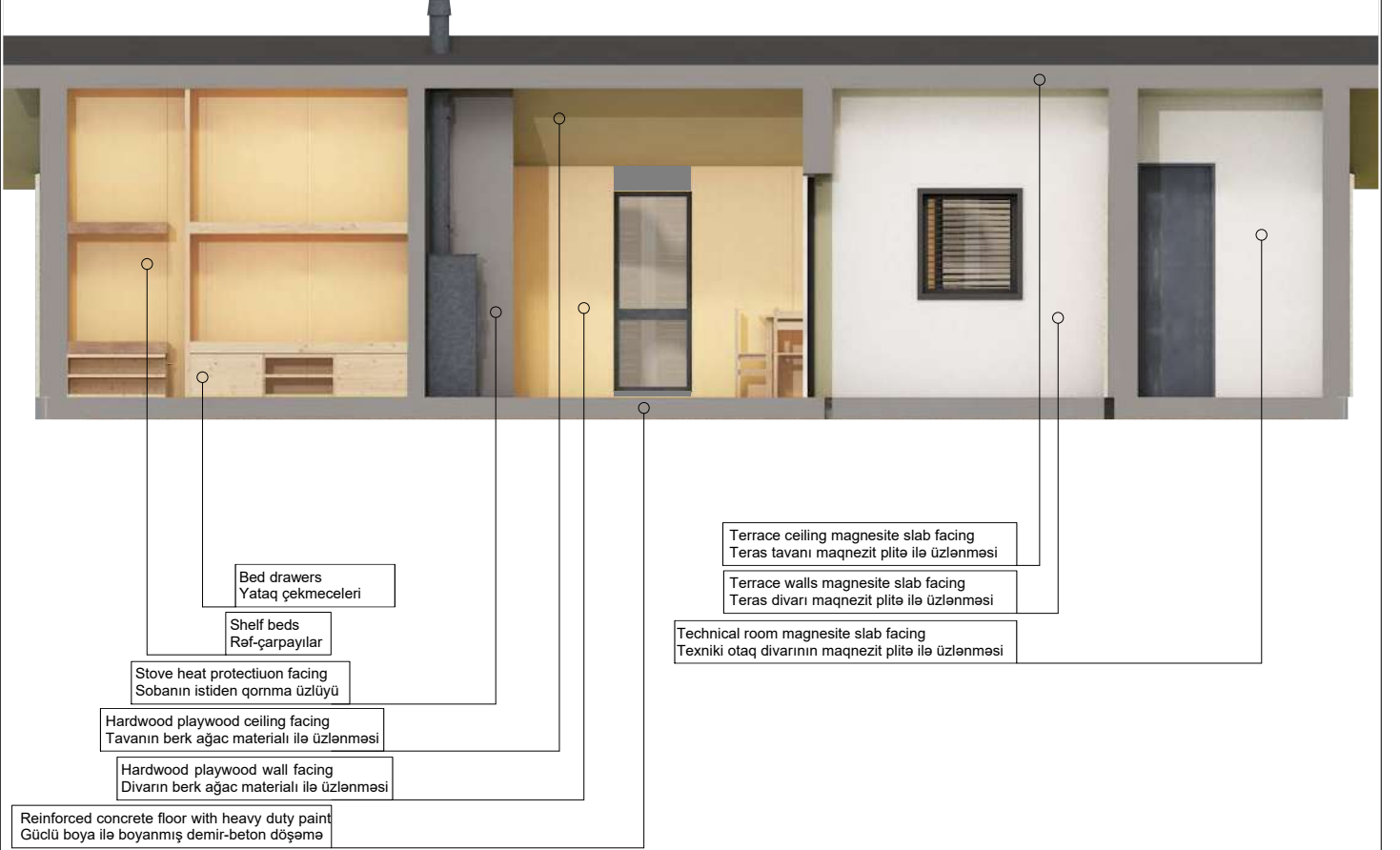
Addendum 1 to MENR Design Assignemnt - Cordon House  
ETSN-nin təyin etdiyi Dizayna Tapşırıqına Əlavə 1

Layout ID / Sxemin nömrəsi


Revision / Təftiş

**ZB-RI-CH-A.04**

3 D renders / 3 D göst rir  
Facing material information /  z  rt y n n materialı  
barede m lumat



**Comments:** Drawings to be considered together with the Suplimentary Information of the TD Section 7, Works Requirements.  
ř hrl r:  ertyojlar, TD B lmesi 7, İř T l bl rin   lav  edilmiř M lumat ile birlikd  n z r  alınmalıdır

	Modified by / D�yiřikliik ed�n: S. Mammadov: Architect / Memar	Date / Tarix : 17.08.2023	Drawing Name / �ertyojun adı Interior 3D renders Interyerin 3D g�r�nt�s�
	Checked by / Yoxlayan: G.Shikhashvili	International Architect Beyn�lxalq memar	Date / Tarix: 17.08.2023
	Establishment and Sustainable Development of the Zakatala-Balakan Biosphere Reserve Zaqatala-Balaken Biosfer Qoruğunun yaradılması v� davamlı inkiřafı	KfW Funded Project BMZ-N� 2003 65 437	Drawing Status / �ertyojun statusu Concept Design / Konseptual dizayn
	Addendum 1 to MENR Design Assignemnt - Cordon House ETSN-nin t�yin etdiyi Dizayna Tapđiriđina �lav� 1		Drawing Scale / �ertyojun miđyası <b>1:262.39</b>
			Layout ID / Sxemin n�mr�si <b>ZB-RI-CH-A.05</b>
			Revision / T�ftiř

**Annexe 5  
Tender Drawings**

**Lot 2**

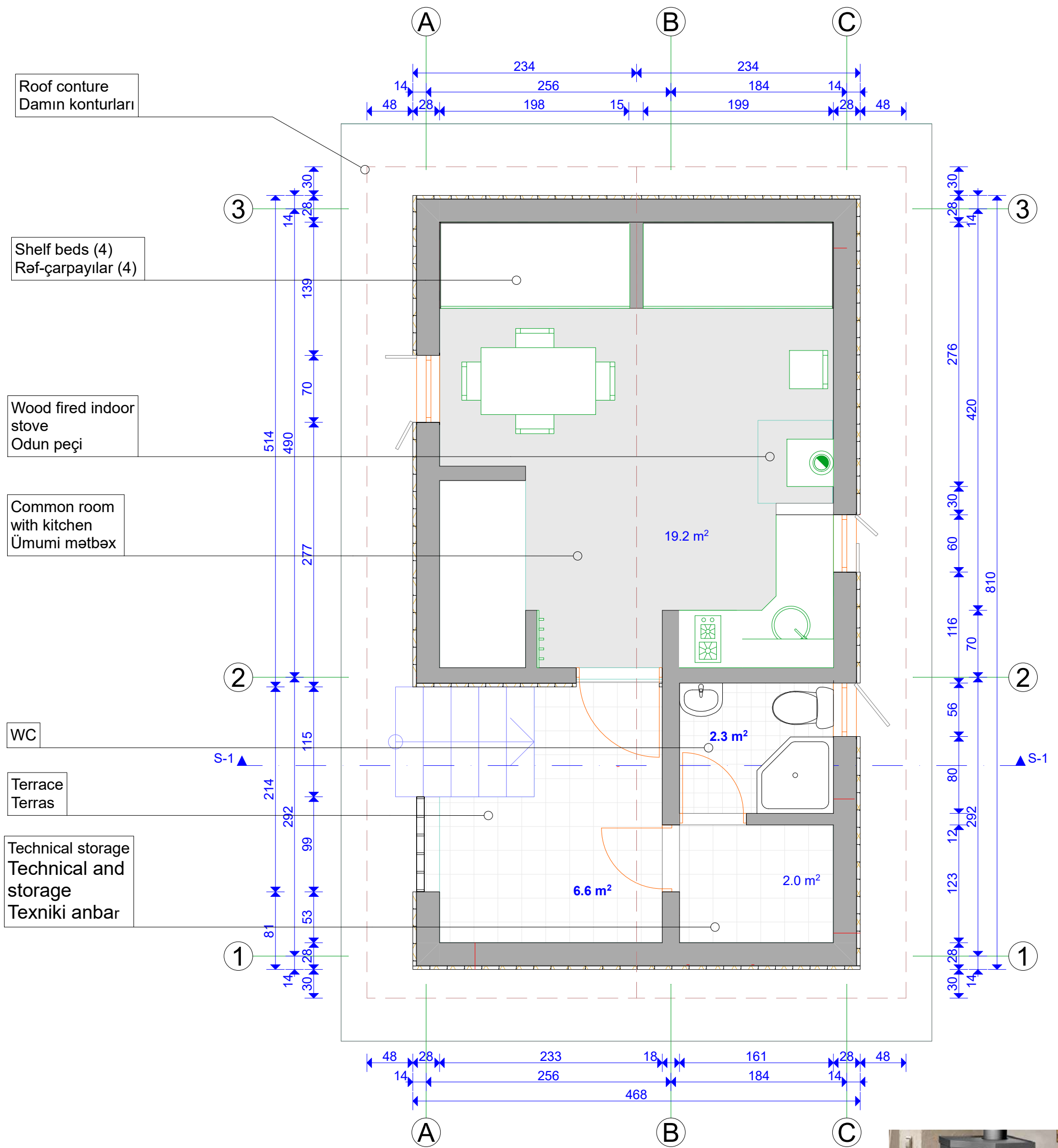
**Zaqatala-Balakan Biosphere Reserve  
Rangers nfrastructure**

**Ranger House Type 1**

---

2. Rangers House Type 1  
2. Yeger evi Tip 1

- ZB-RI-RH1-A.01
- ZB-RI-RH1-A.02
- ZB-RI-RH1-A.03
- ZB-RI-RH1-A.04
- ZB-RI-RH1-A.05



**Main technical-economical characteristics:**  
**Əsas texniki-iqtisadi göstəricilər**

Buiding footprint / Binaın ümumi sahəsi : 38.0 m<sup>2</sup>  
Useful covered space / İstifadə olunan əsas sahə : 23.5 m<sup>2</sup>  
Covere terrace / Örtülü terras : 6.6 m<sup>2</sup>

**Wood fired indoor stove sample**  
**Odun peçi nümunəsi**



**GOPA**  
WORLDWIDE CONSULTANTS



Modified by / Dəyişiklik edən:  
S. Mammadov: Architect / Memar

Date / Tarix : 12.08.2023

Drawing Name / Çertyojun adı

Checked by / Yoxlayan:  
G. Shikhashvili

International Architect  
Beynəlxalq memar

Date / Tarix: 12.08.2023

Drawing Status / Çertyojun statusu

Concept Design / Konseptual dizayn

Establishment and Sustainable Development of the Zakatala-Balakan Biosphere Reserve  
Zaqatala-Balakan Biosfer Qoruğunun yaradılması və davamlı inkişafı

Drawing Scale / Çertyojun miqyası

**1:60**

KfW Funded Project BMZ-N° 2003 65 437

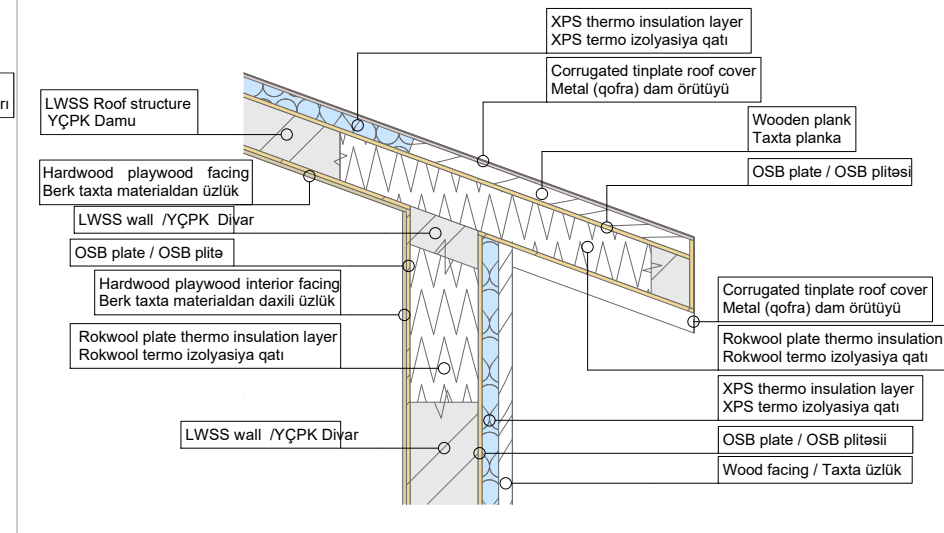
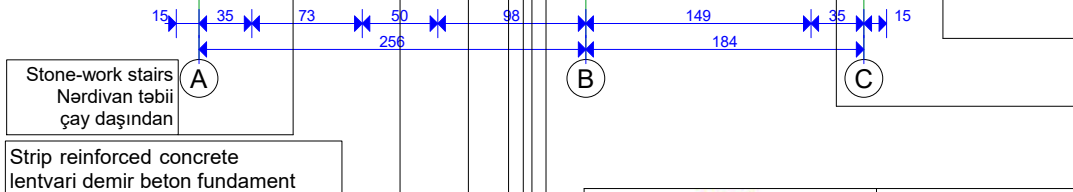
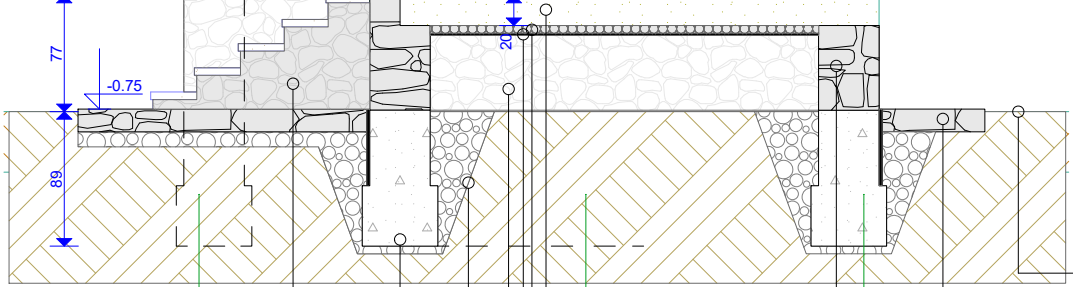
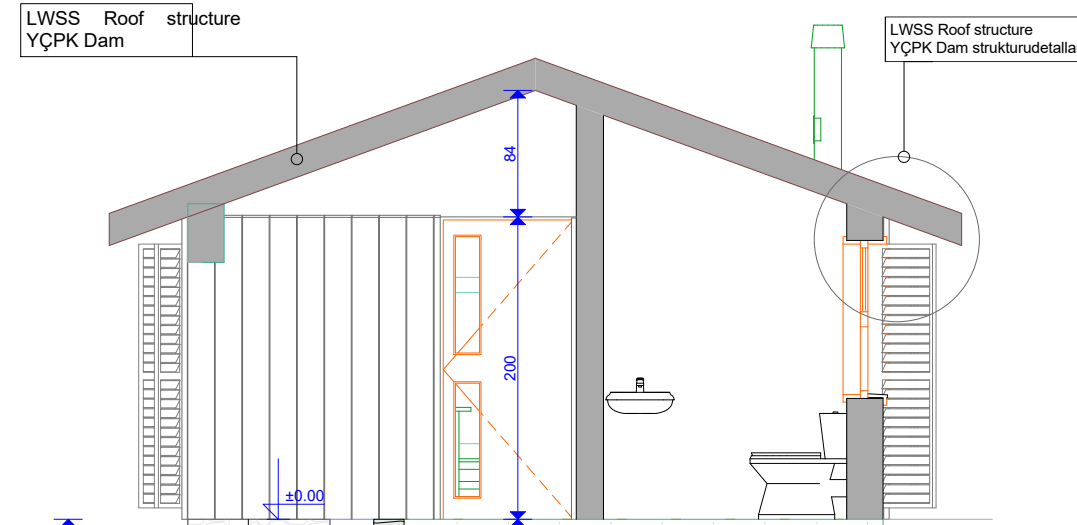
Layout ID / Sxemin nömrəsi

**ZB-RH1-A.01**

Revision / Təftiş

Addendum 2 to MENR Design Assignemnt - Ranger House Type 1  
ETSN-nin təyin etdiyi Dizayna Tapşırıgına Əlavə 2 - Gözətçi Evi Növ

Section A-C. 1:50 / Kəsik A-C. 1:50



LWSS structure Detail. 1:20 / YÇPK sstrukturun detalları. 1:20

**Comments:** Drawings to be considered together with the Suplementary Information of the TD Section 7, Works Requirements.  
Şərhlər: Çertyojlar, TD Bölməsi 7, İş Tələblərinə Əlavə edilmiş Məlumat ilə birlikdə nəzərə alınmalıdır



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Checked by / Yoxlayan: G.Shikhashvili  
International Architect Beynəlxalq memar  
Date / Tarix : 12.08.2023  
Date / Tarix: 12.08.2023  
Establishment and Sustainable Development of the Zakatala-Balakan Biosphere Reserve  
Zaqatala-Balaken Biosfer Qoruğunun yaradılması və davamlı inkişafı  
KfW Funded Project BMZ-N° 2003 65 437  
Addendum 2 to MENR Design Assignemnt - Ranger House Type 1  
ETSN-nin təyin etdiyi Dizayna Tapırığına Əlavə 2 - Yeger evi Tip 1

Drawing Name / Çertyojun adı  
Principal section A-C / Bölmə A-C  
Drawing Status / Çertyojun statusu  
Concept Design / Konseptual dizayn  
Drawing Scale / Çertyojun miqyası  
1:50, 1:20  
Layout ID / Sxemin nömrəsi  
Revision / Təftiş  
ZB-RH1-A.02



Corrugated tinplate  
roof cover  
Metal (qofra) dam  
örütüyü

Tinplate facing for  
laterl facades  
Yan fasadlar üçün  
metal örtüklər

Wooden facing  
Taxta üzlük

Socol natural stone  
cladding  
Zirzəmi (sokol) təbii  
çay daşından

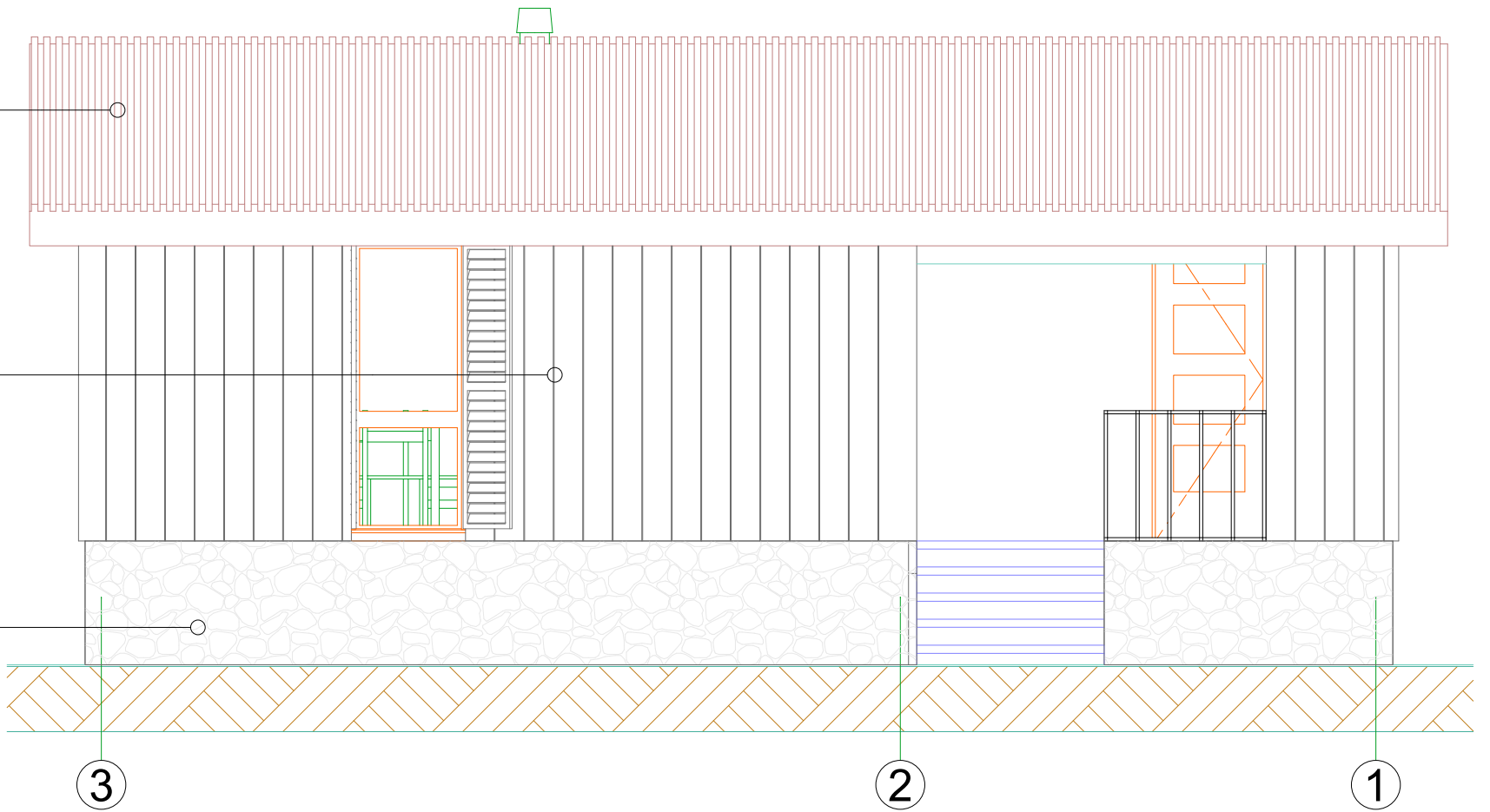


Main Facade 3 D Model render / Əsas fasadın 3D modeli

Corrugated tinplate  
roof cover  
Metal (qofra) dam  
örütüyü

Wooden facing  
Taxta üzlük

Socol natural stone  
cladding  
Zirzəmi (sokol) təbii  
çay daşından



Main Facade / Əsas fasadın



Modified by / Dəyişiklik edən:  
S. Mammadov: Architect / Memar

Checked by / Yoxlayan:  
G. Shikhashvili

International Architect  
Beynəlxalq memar

Date / Tarix : 12.08.2023

Date / Tarix: 12.08.2023

Establishment and Sustainable Development of the Zakatala-Balakan  
Biosphere Reserve  
Zaqatala-Balakan Biosfer Qoruğunun yaradılması və davamlı inkişafı  
KfW Funded Project BMZ-N° 2003 65 437

Addendum 2 to MENR Design Assignemnt - Ranger House Type 1  
ETSN-nin təyin etdiyi Dizayna Tapşırığına Əlavə 2 - Gözətçi Evi Növ

1

Drawing Name / Çertyojun adı

Facade 3-1 / Fasad 3-1

Drawing Status / Çertyojun statusu

Concept Design / Konseptual dizayn

Drawing Scale / Çertyojun miqyası

1:60

Layout ID / Sxemin nömrəsi

ZB-RH1-A.03

Revision / Təftiş

Corrugated tinplate  
roof cover  
Metal (qofra) dam  
örütüyü

Tinplate facing for  
laterl facades  
Yan fasadlar üçün  
metal örtüklər

Wooden facing  
Taxta üzlük

Socol natural stone  
cladding  
Zirzəmi (sokol) təbii  
çay daşından

Stone-work stairs  
Nərdivan təbii  
çay daşından



External 3D model renders  
Eksteryer 3D modeli

Corrugated tinplate  
roof cover  
Metal (qofra) dam  
örütüyü

Tinplate facing for  
laterl facades  
Yan fasadlar üçün  
metal örtüklər

Socol natural stone  
cladding  
Zirzəmi (sokol) təbii  
çay daşından



Facade A-B / A-B fasadın 3D modeli



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S. Mammadov: Architect / Memar

Checked by / Yoxlayan:  
G. Shikhashvili

International Architect  
Beynəlxalq memar

Establishment and Sustainable Development of the Zakatala-Balakan  
Biosphere Reserve  
Zaqatala-Balakan Biosfer Qoruğunun yaradılması və davamlı inkişafı  
KfW Funded Project BMZ-N° 2003 65 437

Addendum 2 to MENR Design Assignemnt - Ranger House Type 1  
ETSN-nin təyin etdiyi Dizayna Tapşırığına Əlavə 2 - Yeger evi Tip 1

Date / Tarix : 12.08.2023

Date / Tarix : 12.08.2023

Drawing Name / Çertyojun adı

External 3D model renders  
Eksteryer 3D modeli

Drawing Status / Çertyojun statusu

Concept Design / Konseptual dizayn

Drawing Scale / Çertyojun miqyası  
NA

Layout ID / Sxemin nömrəsi

**ZB-RH1-A.04**

Revision / Təftiş

3 D renders / 3 D göst rir  
Facing material information /  zl k material bar d   
m lumat



Bed drawers Yataq �ekmeceleri	WC ceiling magnesite slab facing WC tavanının maqnezit plit� il� �zl�nm�si
Shelf beds Ref-�arpayılar	WC walls magnesite slab facing WC divarının maqnezit plit� il� �zl�nm�s
Hardwood playwood ceiling facing Tavanın berk a�ac materialı il� �zl�nm�si	Technical room magnesite slab facing Texniki otaq tavanının maqnezit plit� il� �zl�nm�s
Hardwood playwood wall facing Divarın berk a�ac materialı il� �zl�nm�si	Technical room magnesite slab facing Texniki otaq divarının maqnezit plit� il� �zl�nm�s
Stove heat protection facing Sobanın istidn qoruma �zl�y�	Kitchen wall magnesite slab facing Mtb�x oivarının maqnezit plit� il� �zl�nm�s
Reinforced concrete floor with heavy duty paint G�cl� boya il� boyanmıř demir-beton d�ř�m�	

**Comments:** Drawings to be considered together with the Suplimentary Information of the TD Section 7, Works Requirements.  
ř hlr:  ertyojlar, TD B lmsi 7, İř T l blrin   lav  edilmiř M lumat il  birlikd  n z r  alınmalıdır



Modified by / D yiřikliik ed n:  
S. Mammadov: Architect / Memar

Checked by / Yoxlayan:  
G. Shikhashvili

International Architect  
Beyn lxalq memar

Establishment and Sustainable Development of the Zakatala-Balakan  
Biosphere Reserve  
Zaqatala-Balakan Biosfer Qoruğunun yaradılması v  davamlı inkiřafı  
KfW Funded Project BMZ-N  2003 65 437

Addendum 2 to MENR Design Assignemnt - Ranger House Type 1  
ETSN-nin t yin etdiyi Dizayna Tapırırırırına  lav  2 - Yeger evi Tip 1

Date / Tarix : 12.08.2023

Date / Tarix : 12.08.2023

Drawing Name /  ertyojun adı

Interior facing material data  
İnteryer  zl y  materialı bar dem lumat

Drawing Status /  ertyojun statusu

Concept Design / Konseptual dizayn

Drawing Scale /  ertyojun miqyası

NA

Layout ID / Sxemin n mr si

**ZB-RH1-A.05**

Revision / T ftiř

**Annexe 5**  
**Tender Drawings**

**Lot 2**

**Zaqatala-Balakan Biosphere Reserve**  
**Rangers nfrastructure**

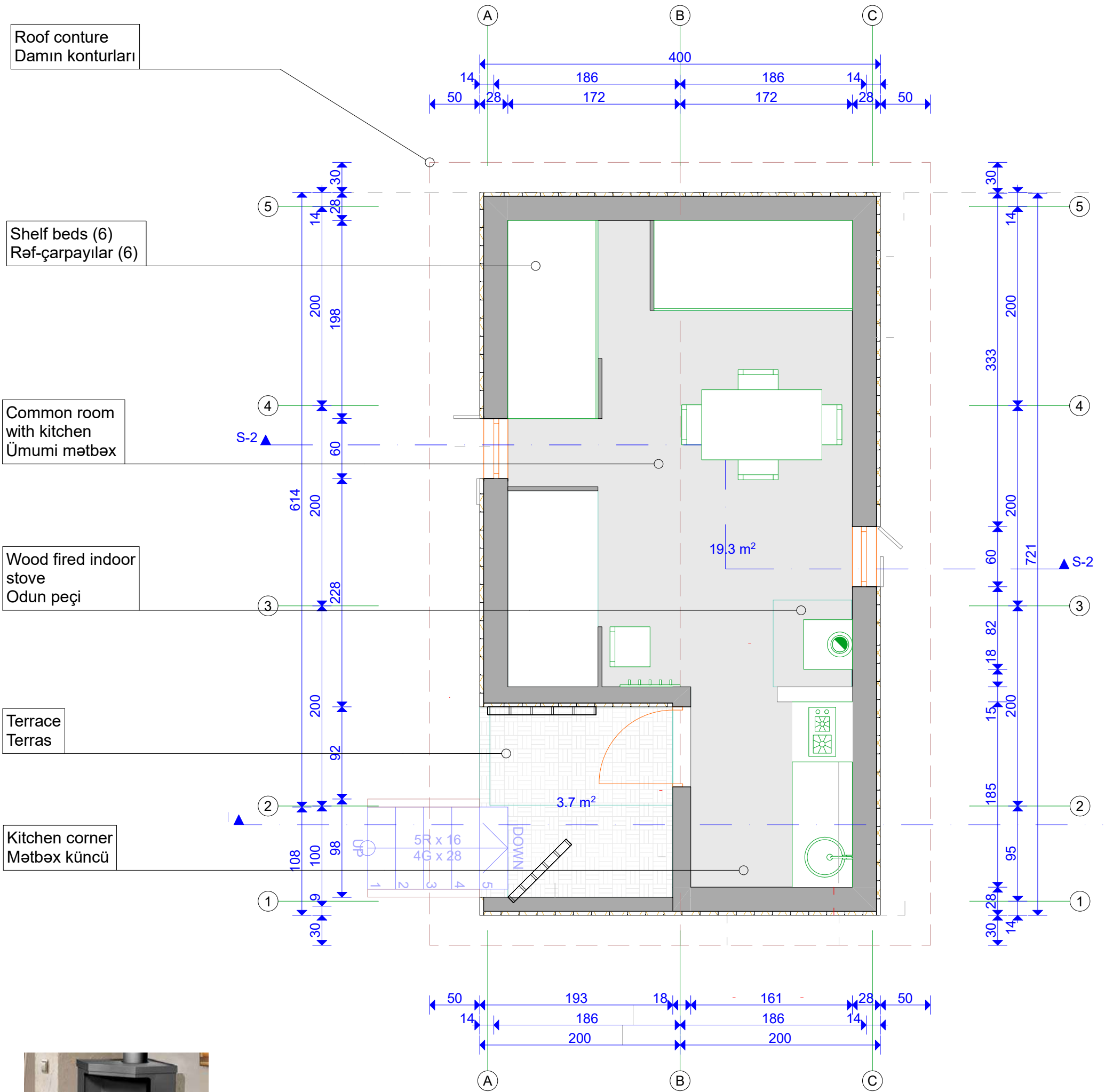
**Ranger House Type 2**

---

### 3. Rangers House Type 2

#### 3. Yeger evi Tip 2

- ZB-RI-RH2-A.01
- ZB-RI-RH2-A.02
- ZB-RI-GH2-A.03
- ZB-RI-GH2-A.04



Wood fired indoor stove sample  
Odun peçi nümunəsi

**Main technical-economical characteristics:**  
**Əsas texniki-iqtisadi göstəricilər**

Buiding footprint / Binaın ümumi sahəsi	: 29.0 m <sup>2</sup>
Useful covered space / İstifadə olunan əsas sahə	: 19.3 m <sup>2</sup>
Covered terrace / Örtülü terras	: 3.7 m <sup>2</sup>



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S. Mammadov: Architect / Memar

Checked by / Yoxlayan:  
G. Shikhashvili

International Architect  
Beynəlxalq memar

Date / Tarix : 28.07.2023

Date / Tarix: 28.07.2023

Drawing Name / Çertyojun adı

Floor Plan - Mərtəbə Planı

Drawing Status / Çertyojun statusu

Concept Design / Konseptual dizayn

Drawing Scale / Çertyojun miqyası

**1:60**

Layout ID / Sxemin nömrəsi

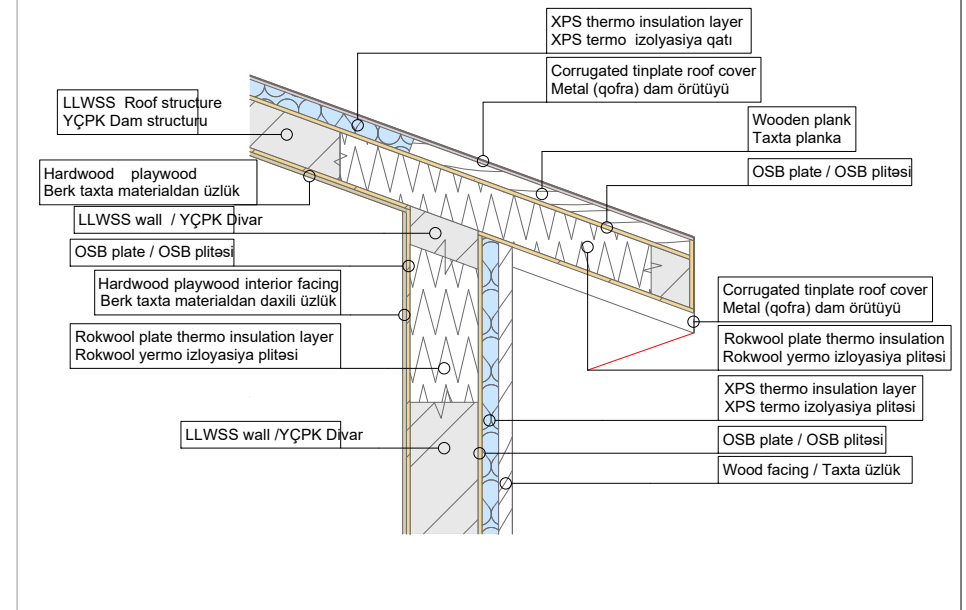
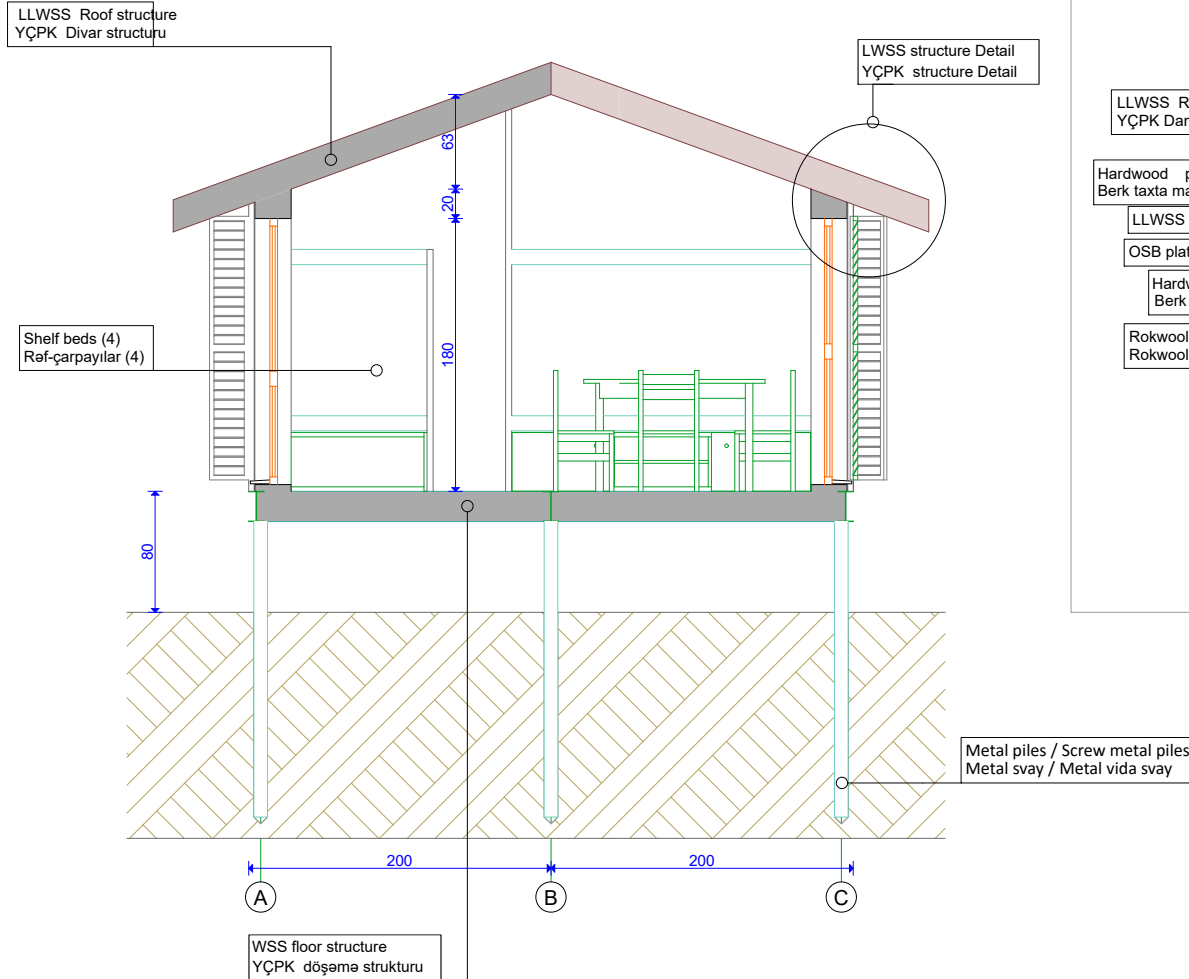
**ZB-RH2-A.01**

Revision / Təftiş

Establishment and Sustainable Development of the Zakatala-Balakan Biosphere Reserve  
Zaqatala-Balakan Biosfer Qoruğunun yaradılması və davamlı inkişafı  
KfW Funded Project BMZ-N° 2003 65 437

Addendum 3 to MENR Design Assignemnt - Ranger House Type 2  
ETSN-nin təyin etdiyi Dizayna Tapşırıqına Əlavə 3 - Yeger evi Tip

Section A-C 1:50 / Kəsik A-C 1:50



LLWSS structure Detail. 1:20 / YÇPK strukturun detallar. 1:20

**Comments:** Drawings to be considered together with the Supplementary Information of the TD Section 7, Works Requirements.

Şərhlər: Çertyojlar, TD Bölməsi 7, İş Tələblərinə Əlavə edilmiş Məlumat ilə birlikdə nəzərə alınmalıdır



Modified by / Dəyişiklik edən:  
S. Mammadov: Architect / Memar

Checked by / Yoxlayan:  
G. Shikhashvili

International Architect  
Beynəlxalq memar

Establishment and Sustainable Development of the Zakatala-Balakan Biosphere Reserve  
Zaqatala-Balakən Biosfer Qoruğunun yaradılması və davamlı inkişafı

KfW Funded Project BMZ-N° 2003 65 437

Addendum 2 to MENR Design Assignemnt - Ranger House Type 2  
ETSN-nin təyin etdiyi Dizayna Tapşırığına Əlavə 2 - Yeger evi Tip 2

Date / Tarix : 28.07.2023

Date / Tarix: 28.07.2023

Drawing Name / Çertyojun adı

Principal Section A-C  
Bölmə A-C

Drawing Status / Çertyojun statusu

Concept Design / Konseptual dizayn

Drawing Scale / Çertyojun miqyası

1:50, 1:20

Layout ID / Sxemin nömrəsi

ZB-RH1-A.02

Revision / Təftiş

Corrugated tinplate  
roof cover  
Metal (qofra) dam  
örütüyü

Tinplate facing for  
laterl facades  
Yan fasadlar üçün  
metal örtüklər

Wooden facing  
Taxta üzlük

Metal piles / Screw metal piles  
Metal svay / Metal vida svay

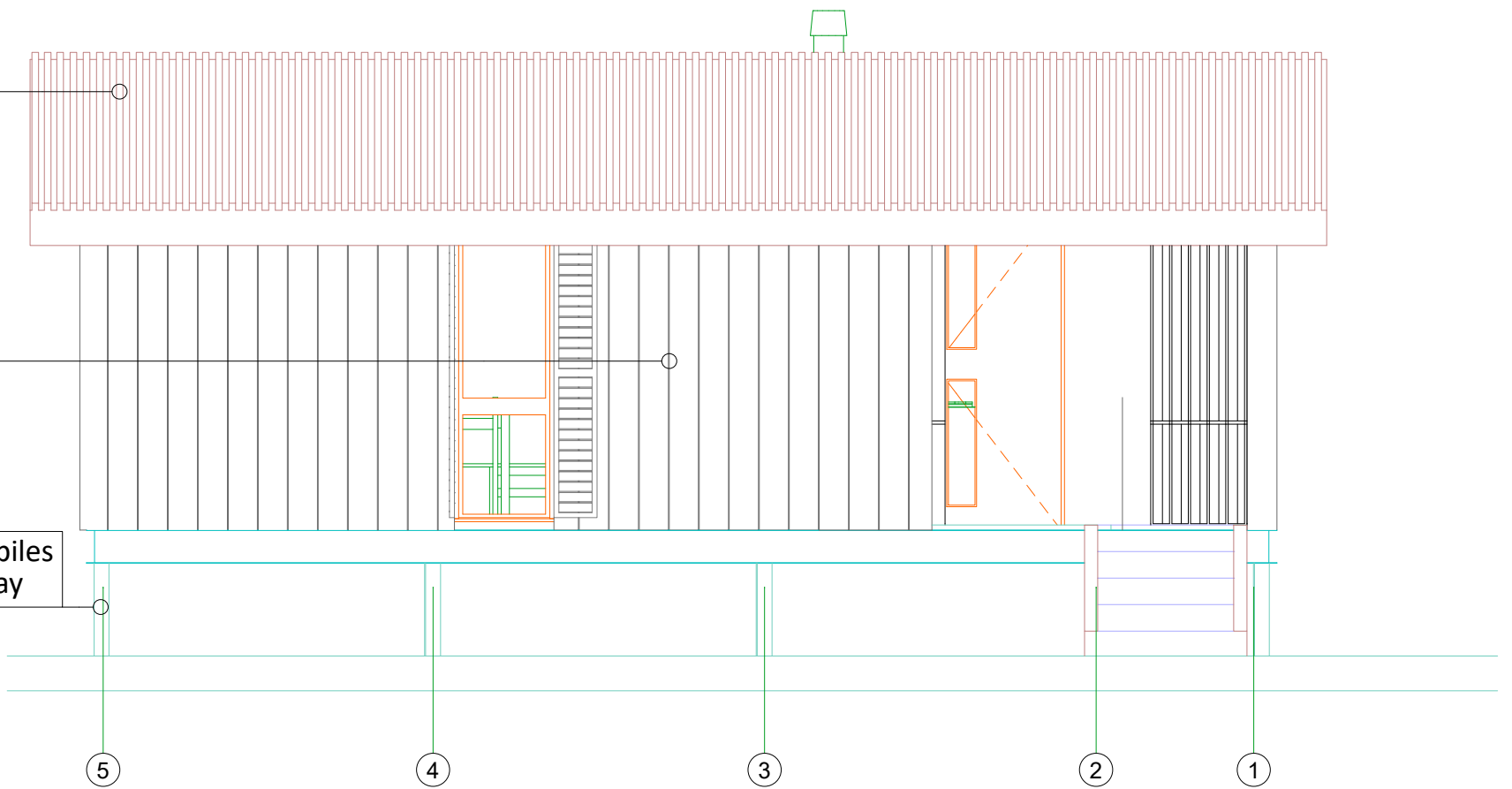


Main Facade 3 D Model render / Əsas fasadın 3D modeli

Corrugated tinplate  
roof cover  
Metal (qofra) dam  
örütüyü

Wooden facing  
Taxta üzlük

Metal piles / Screw metal piles  
Metal svay / Metal vida svay



Main Facade / Əsas fasadın



Modified by / Dəyişiklik edən:  
S. Mammadov: Architect / Memar

Checked by / Yoxlayan:  
G. Shikhashvili

International Architect  
Beynəlxalq memar

Establishment and Sustainable Development of the Zakatala-Balakan  
Biosphere Reserve  
Zaqatala-Balakan Biosfer Qoruğunun yaradılması və davamlı inkişafı

KfW Funded Project BMZ-N° 2003 65 437

Addendum 3 to MENR Design Assignemnt - Ranger House Type 2  
ETSN-nin təyin etdiyi Dizayna Tapşırığına Əlavə 3 - Yeger evi Tip

Date / Tarix : 28.07.2023

Date / Tarix: 28.07.2023

Drawing Name / Çertyojun adı

Facade 5-1  
Əsas fasadın 5-1

Drawing Status / Çertyojun statusu

Concept Design / Konseptual dizayn

Drawing Scale / Çertyojun miqyası

1:60

Layout ID / Sxemin nömrəsi

ZB-RH2-A.03

Revision / Təftiş





Predator protect shutter  
Yırtıcı əleyhinə barmaqlıq

Metal stairs  
Metal pilləkən

Tinplate facing for lateri facades  
Yan fasadlar üçün metal örtüklər

3D model / 3D modeli



Tinplate facing for lateri facades  
Yan fasadlar üçün metal örtüklər

Metal stairs  
Metal pilləkən

Metal piles / Screw metal piles  
Qalaq / Metal vida qalaq

Facade A-C 3D model / A-C fasadın 3D modeli



Hardwood playwood ceiling facing  
Berk taxta materialdan tavan üzlüyü

Bed drawers  
Yataq çekmeceleri

Hardwood playwood wall facing  
Berk taxta materialdan divar üzlüyü

Stove heat protection facing  
Sobanın istiden qoruma üzlüyü

Kitchen wall magnesite slab facing  
Mətbəx otağının maqnezit plitə ilə üzlənməsi

Interior material data / Interyer materialı barədə məlumat



Modified by / Dəyişiklik edən:  
S. Mammadov: Architect / Memar

Checked by / Yoxlayan:  
G. Shikhashvili

International Architect  
Beynəlxalq memar

Establishment and Sustainable Development of the Zakatala-Balakan  
Biosphere Reserve  
Zaqatala-Balakən Biosfer Qoruğunun yaradılması və davamlı inkişafı  
KfW Funded Project BMZ-N° 2003 65 437

Addendum 3 to MENR Design Assignemnt - Ranger House Type 2  
ETSN-nin təyin etdiyi Dizayna Tapğırığına Əlavə 3 - Yeger evi Tip 2

Date / Tarix : 28.07.2023

Date / Tarix : 28.07.2023

Drawing Name / Çertyojun adı

Eksteryer & Interior 3D model renders  
Eksteryer 3D modeli

Drawing Status / Çertyojun statusu

Concept Design / Konseptual dizayn

Drawing Scale / Çertyojun miqyası

NA

Layout ID / Sxemin nömrəsi

ZB-RH2-A.04

Revision / Təftiş

**Annexe 6**

**Lot 1 and Lot 2  
Supplementary Information**

## **Annex 6 Supplementary Information**

### **A. Supplementary Information for the Architectural Concept design ZSNR Office Building - Lot 1**

Proposed concept design of the ZSNR Office Building was prepared in close collaboration with the ZSNR management and operation staff and are based on the following locational and planning preconditions.

Page | 1

The proposed architectural concept is based on the Concept design having been reviewed and discussed with the administrators of the SYNP taking into account their comments and wishes expressed during working meetings.

#### **1. Key assignment data:**

1.1. Overall sizes and functional planning of the proposed concept design is based on the reference items of the currently existing office building of the ZSNR which shall be removed due to structural and loadbearing deficiencies based on the conclusion of the of the authorized state agency of Azerbaijan available for MENR;

#### **1.2. Topography:**

1.2.1. For Office Building and Cordon Houses: 3D topographical survey with 1:100 resolution scale, up to 1'500 m<sup>2</sup> survey territory;

#### **1.3. Geological Survey:**

1.3.1. Geological survey shall be prepared based on the acting design and construction codes of Azerbaijan. Report shall contain the following data, but not limited with:

- Explanatory notes;
- Technical data of soil investigation, considering the minimum depth of soil excavation or drilling for specific category buildings;
- Soil design resistance;
- Water table and ground water test;
- Recommendation of type and minimal deepening of foundations (Applied Concept Design considers strip foundations);
- Meteorological multiyear statistic;
- Other relevant;

#### **1.4. Functional planning:**

1.4.1. The building is located on minor slope in the way that the ground floor is only partly deepened into the soil and major part is elevated above earth up to 2.0 m;

1.4.2. Topographical and geotechnical site survey will be responsibility of

Contractor.

- 1.4.3. The basis for the strip foundation is assumed to be sandy pebble deposits.
- 1.4.4. Exact parameters of the foundations and accordingly amount consumption of material will be available after geological survey and structure engineer input. However shall be considered that the minimal deepening the base of the structural sole of the foundation by the region frost depth requirement is 0.9 m, accordingly the foundation pit bottom depth after compacting shall be minimum 1.0 m.
- 1.4.5. The ground floor (basement) structure will be arranged by the cast in situ reinforced concrete retaining wall (50% of overall length) and natural stone (limestone) cladding for the exterior wall with intrusion of the reinforced corner and longitude cladding wall carcass under precondition of 9 Magnitude seismic zone requirement.
- 1.4.6. The 1<sup>st</sup> floor external load bearing brick cladding walls (Axes 1,4,A,C,D), with facing quality brick from the facade side.
- 1.4.7. The functional office spaces of the building are located on single 0.00 level;
- 1.4.8. The Energy Efficient performance of the building shell be considered according to the MENR Design Assignment (Chapter 7, Works Requirement);
- 1.4.9. Internal load bearing walls (Axes 2&3) are of brick cladding.
- 1.4.10. All other internal partitions are optional, according to Contractor's decision:
  - 1.4.10.1. Dimension partition wall materials;
  - 1.4.10.2. Lightweight (Frame) Steel Structure (LSS) being integrated with the roof LSS.
- 1.4.11. Roof metal structure, optional:
  - 1.4.11.1. Factory-made steel elements;
  - 1.4.11.2. Lightweight (Frame) Steel Structure (LSS);
- 1.4.12. All external utility and communication connections are already available;
- 1.4.13. All internal utility and engineering communication shall be designed and installed according to General and Technical Specifications.
- 1.4.14. Wireless internet coverage.
- 1.4.15. Backlight building lighting is must.
- 1.4.16. Common fire-alarm annunciation unit with sensor on cellar and 1<sup>st</sup> floor compartments.
- 1.4.17. Site development, except immediate perimeter arrangement of the building is not part of the design and built assignment.
- 1.4.18. Quality of architectural makes according to the Tender Drawings and General

and Technical Specifications;

**2. Main functional and technical characteristic of the building:**

2.1. Design building data:

2.1.1. Building footprint: 245.0 m<sup>2</sup>

2.1.2. Useful covered space: 200.0 m<sup>2</sup>

2.1.3. Covered terrace: 37.0 m<sup>2</sup>

2.1.4. Roof total footage: 350.0 m<sup>2</sup>

**3. Tender drawings**

3.1. See Section 7, Work Requirement, Clause 2

**4. Interior facing works and installations are given in Tables 1 & 2**

Table 1. Walls, floor and ceiling structure and general illumination requirements.

Compartment by Floor Layout No. ZB-AD-A.01	Walls	Floor	Ceiling	General Illumination & built in ceiling armature
1. Hall and exposition space	Wood on Axis 3 Facing brick on Axis 2	Wood on Concrete structure	Painting	300 Lk Led D20-25 20W reflector
2. Secretary Office	Painting	Wood on Concrete structure	Painting	General 500 Lk Led D20-25 15-20 W reflect
3. Accounting office	Painting	Wood on Concrete structure	Painting	General 500 Lk Led D20-25 15-20 W reflect
4. Staff room	Painting	Wood on Concrete structure	Painting	General 500 Lk Led D20-25 15-20 W reflect
5. Director's office	Painting	Wood on Concrete structure	Painting	General 500 Lk Led D20-25 15-20 W reflect
6. Meeting room	Painting Wood on Axis 1	Wood on Concrete structure	Painting	General 500 Lk Led D20-25 15-20 W reflect
7. Science office	Painting Wood on Axis 1	Wood on Concrete structure	Painting	General 500 Lk Led D20-25 15-20 W reflect
8. Corridor	Wood on Axis 3 Facing brick on Axis 2	Wood on Concrete structure	Painting	300 Lk Led D20-25 20W reflector
9. WC for disables	Ceramic	Ceramic	Painting	150 Lk Led D15 11W reflector
10. WC	Ceramic	Ceramic	Painting	150 Lk Led D15 11W reflector
11. Canteen	Painting	Ceramic	Painting	300 Lk Led D20-25 20W reflect
12. Cellar	-	-	-	Led D20-25 20W
Façade external lighting	-	-	-	IP 65 outdoor lighting armature

Table 2. Light and law currents armature

Compartment by Floor Layout No. ZB-AD-A.01	Light switchers	Pared Electrical sockets	Internet connection sockets	City telephone line sockets
1. Hall and exposition space	1	4	2	1
2. Secretary Office	1	4	2	1
3. Accounting Office	1	4	2	1
4. Staff room	1	4	2	1
5. Director's office	1	4	2	1
6. Meeting room	1	6	2	1
7. Science office	1	4	2	1
8. Corridor	1	1	-	-
9. WC for disables	1	2	-	-
10. WC	1	2	-	-
11. Canteen	1	6	1	1

## B. Supplementary information for the Concept design of the Cordon and Ranger Houses Type 1 & 2, Lot 2

Proposed concept design of the Cordon and Ranger Houses were prepared in close collaboration with the ZSNR management and operation staff and are based on the following locational and planning preconditions.

### Cordon House (Katekh)

#### 1. Key assignment data:

- 1.1. Currently existing Cordon House buildings shall be removed due to structural and loadbearing deficiencies based on the conclusion of the authorized state agency of Azerbaijan available for MENR.
- 1.2. The Katekh CH Building is located in 7 km from highway and has sound car and track access around the seasons.  
  
The building location have easy and close access to potable water source, presumably spring water for arrangement of gravity water supply units, including water intake, pressure tank and external supply piping.
- 1.3. Site survey requirements, See above: Office Building, clauses 1.2 and 1.3
- 1.4. Waste water sanitation shall be arranged by the leach field method.
- 1.5. The site survey including topography and geotechnical conditions is responsibility of the Contractor.
- 1.6. Contractor is allowed to locate design building in the reasonable surrounding of the existed building to keep it during construction period and demolish on the latest stage of construction.
- 1.7. The Axximal CH, in contrast to the above mentioned CH is located on highland section of the reserve and is not accessible by any kind of wheeled traffic. All other comments mentioned related location and construction process mentioned above can be shared.
- 1.8. Precise location of houses on sites shall be subject of method statement prepared by Contractor to be approved by Consultant.

Table 3. Coordinates of Cordon Houses

1	Katex Cordon House	633593.00 m E	4620282.00 m N	664
2	Axximal Cordon House	626205.00 m E	4630135.00 m N	1'747

#### 2. Functional planning:

- 2.1. Topographical and geotechnical site survey will be responsibility of Contractor.
- 2.2. The basis for the strip foundation is assumed to be sandy pebble deposits.
- 2.3. Exact parameters of the foundations and accordingly amount consumption of



material will be available after geological survey and structure engineer input. However shall be considered that the minimal deepening the base of the structural sole of the foundation by the region frost depth requirement is 0.9 m, accordingly the foundation pit bottom depth after compacting shall be minimum 1.0 m.

- 2.4. The socle of building can be arranged with construction stone after demolishing of the existing building.
- 2.5. Elevation of the floor level min by 90 cm above the building ground area.
- 2.6. Covered terrace with convenient open air storage for dry firewood.
- 2.7. The residential compartment are separated from the Indore storage for domestic and utility equipment and bathroom.
- 2.8. Residential compartment for consists of:
  - 2.8.1. 1 living with kitchen corner.
  - 2.8.2. Rangers' bedroom with 4 built-in shelf beds.
  - 2.8.3. Combined Science room with 2 built-in shelf beds.
- 2.9. Wood fire indoor stove is considered for heating and cooking in winter time;

### **3. Facing**

- 3.1. Exterior and interior facing materials drawings ZB-RI-CH-A.03/04/05

### **4. Heating**

- 4.1. One wood fire indoor stove for heating of three a.m. adjacent compartments and cooking in winter time;

### **5. Electricity supply**

- 5.1. Photovoltaic unit 5 kW installed capacity
- 5.2. Alternator unit 5 kW installed capacity
- 5.3. Both energy sources shall be installed in the way to be computable with 20 min UPS unit for emergency lighting and communication needs.

### **6. Architectural makes:**

- 6.1. Quality of architectural makes according to the Tender Drawings and General and Technical Specifications;

### **7. Structural concept**

- 7.1. The load bearing structure, including external walls, partitions, floor and roof, is proposed to be constructed with plant manufactured prefabricated light weight steel frame makes assembled on site.
- 7.2. Quality and of insulation, isolation and facing materials shell meet acting in Azerbaijan firefighting safety requirements, taking in consideration that building will be firewood heated;

7.3. The Energy Efficient performance of the building shell be considered according to the MENR Design Assignment (Chapter 7, Works Requirement);

**8. Main functional and technical characteristic of the building:**

8.1. Building footprint: 92.0 m<sup>2</sup>

8.2. Useful covered space: 63.5 m<sup>2</sup>

8.3. Covered terrace: 9.3 m<sup>2</sup>

**9. Tender drawings**

9.1. See Section 7, Work Requirement, Clause 2

**Rangers' House Type 1 & 2, total 13**

**1. Location:**

- 1.1. Overall location of the each specific building was selected by ZSNR specialists based on practical experience of rangers' operation procedures both in summer and winter conditions. Location of each of these building are given on Situation Plan by UTM coordinates.
- 1.2. Precise location of houses on proposed sites shall be subject of method statement prepared by Contractor to be approved by Consultant.
- 1.3. Due to specific location one part of the buildings have heavy cargo vehicle access, some of them easy and sound around the year as well as those only in summer season. Such ranger houses are classified as Type 1.
- 1.4. Contrary to above mentioned Type 1 there are another set of Ranger Houses with specific locations which are completely out of reach by any type of wheel transport, accordingly classified as Type 2.
- 1.5. Concept design for both Types of buildings are given in separate set of Tender Drawings (RFP, Chapter 7, Works Requirement).
- 1.6. The Energy Efficient performance of the buildings shell be considered according to the MENR Design Assignment (Chapter 7, Works Requirement);
- 1.7. The site survey including topography and geotechnical conditions in reasonable scope is responsibility of the Contractor.

**2. Ranger House Type 1, "with bathroom" Ranger Houses, total eight:**

- 2.1. Gebizdere RH, Chaygarishan RH, Boyuk Marva RH; Siltikchay RH, Chalban RH, Besh bulag RH, Kombinat RH, Ceder RH
- 2.2. This type of houses beside transportation have easy and close access to potable water source, including city lines, or spring water sources in comfortable vicinity, what allows arrangement and operation of in house sanitation with gravity water supply piping.

- 2.3. Due to this advantages Type 1 buildings are designed with elevated ground floor by means of socle natural stone cladding with reinforced concrete floor slab, which serves as basement of LSS superstructure (Light weight/frame steel structure).
- 2.4. Planning of construction site under building shall be leveled in the way that rainwater flow away from the building, however any other site improvement or development is not part of this assignment.
- 2.5. Waste water management for these buildings preferably is recognized to be the leachfield treatment method.
- 2.6. Functional planning considers arrangement combined living and bedroom with kitchen corner and 3 double shelf beds. Technical room and WC is united in separate block and independent access from common covered terrace.
- 2.7. Heating by one wood fire indoor stove.
- 2.8. Electricity supply through photovoltaic unit 1.0 kW installed capacity, alternator unit 2.5 kW installed capacity and both energy sources shall be connected in compatible internal electrical wiring scheme.
- 2.9. Quality of architectural makes according to the Tender Drawings and General and Technical Specifications;
- 2.10. Exterior and interior facing materials see tender drawings ZB-RH1-A.02/03/04/05
- 2.11. Key technical characteristics of the building:
  - 2.11.1. Building footprint: 37. m<sup>2</sup>
  - 2.11.2. Useful covered space: 24.3 m<sup>2</sup>
  - 2.11.3. Covered terrace: 3.2 m<sup>2</sup>

**3. Ranger House Type 2, “without bathroom” Ranger houses, total five:**

- 3.1. Vertikel dag RH, Qala evi RH, Rochiqel RH, Doo Jibel RH, Balakanchay RH
- 3.2. Construction concept of this Type 2 building excludes any kind of wet construction works, including stone masonry works. This type of houses beside transportation have easy and close access to potable water source, including city lines, or spring water sources in comfortable vicinity, what allows arrangement and operation of in house sanitation with gravity water supply piping.
- 3.3. Type 2 buildings are designed with elevated ground floor by means of metal poles as supports of complete LSS superstructure (Light weight/frame steel structure), including ground floor, which is elevated by 0.9 m above planned ground level.
- 3.4. Planning of construction site under building shall be leveled in the way that rainwater flow away from the building, however any other site improvement or development is not part of this assignment.
- 3.5. Waste water management for these buildings preferably is recognized to be the leachfield treatment method.

- 3.6. Functional planning considers arrangement combined living and bedroom with kitchen corner and 3 double shelf beds. Technical room and WC is united in separate block and independent access from common covered terrace.
- 3.7. Heating by one wood fire indoor stove.
- 3.8. Electricity supply through photovoltaic unit 1.0 kW installed capacity, alternator unit 2.5 kW installed capacity and both energy sources shall be connectable in compatible internal electrical wiring scheme.
- 3.9. Quality of architectural makes according to the Tender Drawings and General and Technical Specifications.
- 3.10. Key technical characteristics of the building:
- 3.10.1. Building footprint: 26.40 m<sup>2</sup>
- 3.10.2. Useful covered space: 18.7 m<sup>2</sup>
- 3.10.3. Covered terrace: 4.3 v<sup>2</sup>
- 3.11. Exterior and interior facing materials see tender drawings ZB-RH1-A.02/03/04/05
- 3.12. **Tender drawings** - See Section 7, Work Requirement, Clause 2
- 3.13. **Location coordinates of Ranger Houses:**

Table 4. Coordinates of Ranger Houses

##	Type 1 Ranger Houses	UTM 38 Coordinates		Elevation
1	Gebizdere Ranger House	633750.00 m E	4620074.00 m N	649
2	Chaygarishan Ranger House	633628.68 m E	4623001.48 m N	806
3	Boyuk Mavra Ranger House	628298.29 m E	4627548.95 m N	1'881
4	Siltikchay Ranger House	622339.00 m E	4625811.00 m N	825
5	Chalban Ranger House	621244.00 m E	4620446.00 m N	486
6	Besh Bulag Ranger House	621976.00 m E	4614902.00 m N	275
7	Kombinat Ranger House	626716.00 m E	4614416.00 m N	410
8	Ceder Ranger House	630430.99 m E	4617274.18 m N	556
	<b>Type 2 Ranger Houses</b>	<b>UTM 38 Coordinates</b>		<b>Elevation</b>
1	Vertikel dag Ranger House	640113.00 m E	4621338.00 m N	1'961
2	Qala evi Ranger House	644093.00 m E	4624625.00 m N	2'492
3	Balakanchay RH	622764.00 m E	4628954.00 m N	812
4	Rochiqel Ranger House	633166.89 m E	4625459.92 m N	2'021
5	Doo Jibel Ranger House	628077.02 m E	4623764.94 m N	1'974

Google Situational Plan of the Rangers infrastructure location within Reserve territory



#### 4. Nomenclature of the detail design drawings

- 4.1. Detail design drawings for different components shall be prepared by Contractor as follows:
- 4.2. Site survey:
  - 4.2.1. Office Building: 3D topographical survey with 1:100 resolution scale, up to 1'500 m<sup>2</sup> survey territory;
  - 4.2.2. Cordon Houses: similar up to 500 m<sup>2</sup>;
  - 4.2.3. Ranger Houses: Only on the level of As Built Drawings;
- 4.3. Geological survey shall be prepared based on the acting design and construction codes of Azerbaijan. Report shall contain the following data, but not limited with:
  - 4.3.1. Explanatory notes;
  - 4.3.2. Technical data of soil investigation, considering the minimum depth of soil excavation or drilling;
  - 4.3.3. Soil design resistance;
  - 4.3.4. Water table and ground water test;
  - 4.3.5. Recommendation of type and minimal deepening of foundations (Applied Concept Design considers strip foundations);
  - 4.3.6. Weather multiyear statistic;
  - 4.3.7. Other relevant;
- 4.4. Architectural and Structural drawing scale for Office building: 1:20, 1:50, 1:100; 1:500;
- 4.5. LSS structure static calculations and drawing outputs for Cordon and Ranger houses by applicable soft methods (preferably ACAD);
- 4.6. Electrical supply and Low-voltage part: Drawings and schemes in 1:100;
- 4.7. Water and Waste water part for internal and external connections: Drawings and schemes in 1:100;
- 4.8. As Built Drawings for all project components with reasonable detailing;

**ANNEX 7**  
**MENR Design Assignment**

**“TƏSDİQ EDİRƏM”**

Ekologiya və Təbii Sərvətlər Nazirliyi yanında  
Bioloji müxtəlifliyin qorunması xidmətinin rəisi  
Firuddin Əliyev

**Zaqatala Dövlət Təbiət Qoruğunun İnfrastruktur binaları:**

1. Kardon ev
2. Yeger evi –Tip 1
3. Yeger evi – Tip 2

**LAYİHƏ TAPŞIRIĞI**

Tarix: 07.07.2023

№	Əsas göstəricilər və tələbatların siyahısı	Əsas göstəricilər və tələbatlar
1	Layihələndirmək üçün əsas	Azərbaycanda Mühafizə Olunan Ərazilərə Dəstək Proqramı
2	Maliyyə mənbəyi	Almaniya İnkişaf Bankı tərəfindən göstərilən maliyyə dəstəyi
3	Tikintinin növü	Rekonstruksiya
4	Baş layihə təşkilatı	<i>Keçiriləcək “Beynəlxalq Rəqabətli Dizayn-İnşaat Tenderi zamanı seçilmiş qalib şirkət</i>
5	Layihələndirmə müddəti	<i>Keçiriləcək “Beynəlxalq Rəqabətli Dizayn-İnşaat Tender sənədlərində dəqiq göstəriləcək.</i>
6	Layihənin mərhələsi	<p><b>1. Katex Kardon evi</b> Bu tapşırığın tərkib hissəsi kimi əlavə edilmiş qrafik Əlavə 1 kimi verilmiş Layihə Konsepsiyası</p> <ul style="list-style-type: none"> <li>➤ ZB-RI-CH-A.01</li> <li>➤ ZB-RI-CH-A.02</li> <li>➤ ZB-RI-CH-A.03</li> <li>➤ ZB-RI-CH-A.04</li> </ul> <p>Katex kordon evinin əsas texniki-iqtisadi xüsusiyyətləri:</p> <ul style="list-style-type: none"> <li>➤ Binanın ümumi sahəsi: 92,0 m<sup>2</sup>-ə qədər</li> <li>➤ İstifadə olunan örtülü sahə: 67,0 m<sup>2</sup>-ə qədər</li> </ul> <p><b>2. Yeger Evi – Tip 1</b> Bu tapşırığın tərkib hissəsi kimi əlavə edilmiş qrafik Əlavə 2 kimi verilmiş Layihə Konsepsiyası.</p> <ul style="list-style-type: none"> <li>➤ ZB-RI-RH1-A.01</li> <li>➤ ZB-RI-RH1-A.02</li> <li>➤ ZB-RI-RH1-A.03</li> <li>➤ ZB-RI-RH1-A.04</li> </ul>



		<p>Yeger evi Tip – 1-in əsas texniki-iqtisadi xüsusiyyətləri:</p> <ul style="list-style-type: none"> <li>➤ Binanın ümumi sahəsi: 38.0 m<sup>2</sup></li> <li>➤ İstifadə olunan örtülü sahə: 23,5 m<sup>2</sup></li> </ul> <p><b>3. Yeger evi – Tip 2</b></p> <p>Bu tapşırığın tərkib hissəsi kimi əlavə edilmiş qrafik Əlavə 3 kimi verilmiş Layihə Konsepsiyası</p> <ul style="list-style-type: none"> <li>➤ ZB-RI-RH2-A.01</li> <li>➤ ZB-RI-RH2-A.02</li> <li>➤ ZB-RI-GH2-A.03</li> <li>➤ ZB-RI-GH2-A.04</li> </ul> <p>Yeger evi – Tip 2-nin əsas texniki-iqtisadi xüsusiyyətləri:</p> <ul style="list-style-type: none"> <li>➤ Binanın ümumi sahəsi: 29.0 m<sup>2</sup></li> <li>➤ İstifadə olunan örtülü sahə: 19,3 m<sup>2</sup></li> </ul>
7	Tikinti təşkilatı	<i>Keçiriləcək "Beynəlxalq Rəqabətli Dizayn-İnşaat Tenderi zamanı seçilmiş qalib şirkət</i>
8	Obyektin dislokasiyası	Yeger infrastruktur binalarının yeri, tipi və sayı "Beynəlxalq Rəqabətli Dizayn İnşaat" tender sənədlərində dəqiq göstəriləcək, Lot 1.
9	Memarlıq-Tikinti həlli	<ol style="list-style-type: none"> <li>1. Avtonom xarici elektrik təchizatı;</li> <li>2. Daxili elektrik və rabitə xətləri qüvvədə olan standartlara uyğun qaydada çəkilməlidir.</li> <li>3. Döşəmələr: İzolyasiya edilmiş dəmir-beton plitə üzərində taxta döşəmələr. <ul style="list-style-type: none"> <li>➤ Termal müqavimət xassələri: U-Dəyəri = 0.5</li> </ul> </li> <li>4. Giriş qapıları və pəncərələri – tender sənədlərinin texnik spesifikasiyasına əsasən alüminiumdan olacaq. <ul style="list-style-type: none"> <li>➤ Termal müqavimət xassələri: U-Dəyəri = 1.5</li> </ul> </li> <li>5. Daxili qapılar, (havakeçirən), qapılar və pəncərələr, yüksək arxitektura keyfiyyətli.</li> </ol>
10	Layihənin mühəndis kommunikasiya təminatı	<p><b>Kardon ev və Yeger evi – Tip 1:</b></p> <ol style="list-style-type: none"> <li>1. Avtonom enerji təchizatı: Günəş panelləri.</li> <li>2. Daxili elektrik xətləri mis kabellərdən və izolyasiya edilmiş kabel kanallarında naqillərdən hazırlanmalıdır.</li> <li>3. Kanalizasiya xətləri: <ul style="list-style-type: none"> <li>➤ Kardon ev və Yeger evləri- Tip 1 üçün süzülmə sahəsi olan tullantı suların təmizlənməsi qurğusu;</li> <li>➤ Mövcud tikinti qaydalarına uyğun olaraq daxil kanalizasiya xətləri PVC boruları vasitəsilə qurulmalıdır.</li> </ul> </li> <li>4. Xarici su təchizatı mövcud su mənbəyinə uyğun olaraq quraşdırılmalıdır.</li> <li>5. Evin qızdırılması odun peçi vasitəsilə təmin olunacaq.</li> </ol> <p><b>Yeger ev –Tip 2</b></p> <ol style="list-style-type: none"> <li>1. Avtonom enerji təchizatı: Günəş panelləri.</li> <li>2. Daxili elektrik xətləri mis kabellərdən və izolyasiya edilmiş kabel kanallarında naqillərdən hazırlanmalıdır.</li> <li>3. Evin çölündə sanitariya qovşağı və hamam olmalıdır.</li> </ol>

11	Konstruktiv həlli	<p><b>Kardon Ev və Yeger evi – Tip 1:</b></p> <ol style="list-style-type: none"> <li>1. Təsdiq edilmiş dizayn sənədlərinə uyğun olaraq, regionun müşahidə olunan şaxtanın göstəricilərini nəzərə alaraq, gücləndirilmiş lentvari beton fundamentin tökülməsi .</li> <li>2. Bünövrə divarları təbii daş üzlüklə örtülmüş seysmik dəmir-beton konstruksiya ilə gücləndirilməli və perimetr kəməri ilə bağlanmalı</li> <li>3. Döşəmə, divar və dam, dizayn sənədlərinə uyğun olaraq yüngül çəkili metal çərçivə konstruksiyası ilə hazırlanacaq .</li> </ol> <ul style="list-style-type: none"> <li>➤ Termal müqavimət xassələri: U-Göstəricisi = 0.2</li> <li>➤ Qar yükü daşıma gücü: 200 kq/m<sup>2</sup></li> <li>➤ Termal müqavimət xassələri: U- Göstəricisi = 0.2</li> <li>➤ Qar yükü daşıma gücü: 200 kq/m<sup>2</sup></li> </ul> <hr/> <p><b>Yeger evi – Tip 2</b></p> <ol style="list-style-type: none"> <li>1. Metal svaylar, vintvari metal svaylar, anti-korroziya örtüklü.</li> <li>2. Döşəmə, divar və dam, dizayn sənədlərinə uyğun olaraq yüngül çəkili metal çərçivə konstruksiyası ilə düzəldiləcək .</li> </ol> <ul style="list-style-type: none"> <li>➤ Termal müqavimət xassələri: U- Göstəricisi = 0.2</li> <li>➤ Qar yükü daşıma gücü: 200 kq/m<sup>2</sup></li> </ul>
12	Sahə üzrə tələblər	<ol style="list-style-type: none"> <li>1. Binanın ətraf ərazisinin abadlaşdırılması cari Layihə tapşırığına daxil deyil və layihə sənədlərinə uyğun olaraq binanın perimetri boyunca səkinin inşası ilə məhdudlaşır.</li> </ol>

- “Dizayn Sənədlər toplusu” keçiriləcək “Beynəlxalq Rəqabətli Dizayn-Inşaat Tender”i zaman seçilmiş qalib şirkət tərəfindən tərtib ediləcək təsdiqlənmiş yekun dizayn sənədləşməsidir.

**Sifarişçi:**

Ekologiya və Təbii Sərvətlər Nazirliyi yanında  
 Bioloji müxtəlifliyin qorunması xidmətinin rəisi  
 Firuddin Əliyev

**İcraçı: GOPA Worldwide Consultants**

**“TƏSDİQ EDİRƏM”**

Ekologiya və Təbii Sərvətlər Nazirliyi yanında  
Bioloji müxtəlifliyin qorunması xidmətinin rəisi  
Firuddin Əliyev



**Zaqatala Dövlət Təbiət Qoruğunun İnzibati Binası**

**LAYİHƏ TAPŞIRIĞI**

Tarix: 07 .07.2023

№	Əsas göstəricilər və tələbatların siyahısı	Əsas göstəricilər və tələbatlar
1	Layihələndirmək üçün əsas	Azərbaycanda Mühafizə Olunan Ərazilərə Dəstək Proqramı
2	Maliyyə mənbəyi	Almaniya İnkişaf Bankı tərəfindən göstərilən maliyyə dəstəyi
3	Tikintinin növü	Rekonstruksiya
4	Baş layihə təşkilatı	<i>Keçiriləcək “Beynəlxalq Rəqabətli Dizayn-İnşaat Tenderi” zamanı seçilmiş qalib şirkət</i>
5	Layihələndirmə müddəti	<i>Keçiriləcək “Beynəlxalq Rəqabətli Dizayn-İnşaat Tender” sənədlərində dəqiq göstəriləcək.</i>
6	Layihənin mərhələsi	Bu tapşırığın ayrılmaz hissəsi kimi əlavə edilmiş qrafik əlavə 1 kimi verilmiş Layihə Konsepsiyası. ➤ ZB-AD-A.01 ➤ ZB-AD-A.02 ➤ ZB-AD-A.03  İnzibati binanın texniki-iqtisadi xüsusiyyətləri: ➤ Binanın ümumi (sahəsi): 245.0 m <sup>2</sup> ➤ İstifadə olunan sahə (örtülü): 200.0 m <sup>2</sup> ➤ Zirzəmi: 200.0 m <sup>2</sup>
7	Tikinti təşkilatı	<i>Keçiriləcək “Beynəlxalq Rəqabətli Dizayn İnşaat Tender” zamanı seçilmiş qalib şirkət</i>

8	Obyektin dislokasiyası	Zaqatala şəhəri
9	Memarlıq-Tikinti həlli	<ol style="list-style-type: none"> <li>1. Xarici elektrik təchizatı mövcud kommunikasiyalar vasitəsilə təmin ediləcək;</li> <li>2. Daxili elektrik və rabitə xətləri qüvvədə olan standartlara uyğun qaydada çəkilməlidir.</li> <li>3. Döşəmələr: İzolyasiya edilmiş dəmir-beton plitə üzərində taxta döşəmələr. <ul style="list-style-type: none"> <li>➤ Termal müqavimət xassələri: U-Dəyəri = 0.5</li> </ul> </li> <li>4. Giriş qapıları və pəncərələri – tender sənədlərinin texniki spesifikasiyasına əsasən aliminyumdan olacaq. <ul style="list-style-type: none"> <li>➤ Termal müqavimət xassələri: U-Dəyəri = 1.5</li> </ul> </li> <li>5. Daxili qapılar (havakeçirən), qapılar və pəncərələr, yüksək arxitektura keyfiyyətli.</li> </ol>
10	Layihənin mühəndis kommunikasiya təminatı	<ol style="list-style-type: none"> <li>1. Yanğın siqnalizasiya sistemi quraşdırılmalıdır.</li> <li>2. Daxili elektrik xətləri mis kabellərdən və izolyasiya edilmiş kabel kanallarında naqillərdən hazırlanmalıdır.</li> <li>3. Kanalizasiya xətləri: <ul style="list-style-type: none"> <li>➤ Xarici tullantı suların şəhərin mövcud sanitariya sistemine qoşulması;</li> <li>➤ Bina xarici kanalizasiya xətləri PVC boruları vasitəsilə şəhər kanalizasiya şəbəkəsinə qoşulmalıdır;</li> <li>➤ Mövcud tikinti qaydalarına uyğun olaraq daxili kanalizasiya xətləri PVC boruları vasitəsilə qurulmalıdır.</li> </ul> </li> <li>4. Xarici su təchizatı mövcud şəhər su şəbəkəsi tərəfindən təşkil edilməlidir. Binanın su təchizatı və ərazinin suvarılması üçün xüsusi texniki tələblər: <ul style="list-style-type: none"> <li>- İnzibati binanın su sərfiyyatı - 1.0 l/saniyə;</li> <li>➤ Sahənin suvarılması üçün ( 1500 m<sup>2</sup> yaşıl ərazi) su sərfiyyatı 3.0 l/saniyə;</li> </ul> </li> <li>5. Yekun təsdiq edilmiş dizayn sənədlərinə uyğun olaraq sel suları zamanı təxliyyə imkanları;</li> <li>6. Təbii qazla işləyən qazanxana vasitəsilə istilik sisteminin quraşdırılması, COP= 102%.</li> <li>7. Kondisioner sistemi, inverterli EER = 5.5</li> </ol>
11	Konstruktiv həlli	<ol style="list-style-type: none"> <li>1. Təsdiq edilmiş dizayn sənədlərinə uyğun olaraq, regionda müşahidə olunan şaxtanın göstəricilərini nəzərə alaraq, gücləndirilmiş lentvari beton fundamentin tökülməsi.</li> <li>2. Binanın zirzəmisinin divarları və 1-ci mərtəbəsinin divar strukturu davamlı dəmir-beton konstruksiya ilə kombine edilmiş təbii daş üzlükdən düzəldilməlidir;</li> <li>3. Birinci mərtəbə layihə sənədlərinə uyğun olaraq seysmik dayanıqlı dəmir-beton konstruksiya ilə gücləndirilməlidir. <ul style="list-style-type: none"> <li>- İstilik müqavimətinin xarakteristikası: U-Dəyəri = 0,2</li> </ul> </li> </ol>

		4. Yüngül metal konstruksiyalı dam quruluşu / əlavə seçim - yüngül polad konstruksiya. - İstilik müqavimətinin xarakteristikası: U-Dəyəri = 0,2
12	Sahə üzrə tələblər	1. İnzibati binanın ətraf ərazisinin abadlaşdırılması cari Layihə tapşırığına daxil deyil və layihə sənədlərinə uyğun olaraq binanın perimetri boyunca səkinin inşası ilə məhdudlaşır.

- “Dizayn Sənədlər toplusu” keçiriləcək “Beynəxalq Rəqabətli Dizayn-İnşaat Tender”i zamanı seçilmiş qalib şirkət tərəfindən tərtib ediləcək təsdiqlənmiş yekun dizayn sənədləşməsidir.

**Sifarişçi:**

Ekologiya və Təbii Sərvətlər Nazirliyi yanında  
Bioloji müxtəlifliyin qorunması xidmətinin rəisi  
Firuddin Əliyev

**İcraçı: GOPA Worldwide Consultants**

## Zaqatala SNR Office Building data

Useful space (sq.m)	245.00
Roof area (sq.m)	360.00
Gross wall area (sq.m)	190.00
Windos area (sq.m)	70.00

**Windows U-Value, W/m2K** **1.5**

**Wall composition, inside-out** **Width, mm**

Gypsum plasterboard 900	38.00
Rockwool	140.00
OSB	20.00
Brick	200.00

**Wall U-Value, W/m2K** **0.20**

**Roof composition, inside-out** **Width, mm**

Gypsum plasterboard 900	20.00
OSB	20.00
Rockwool	200.00
XPS	50.00
OSB	20.00
Metals - Zinc	0.50

**Roof U-Value, W/m2K** **0.122**

**Floor composition, inside-out** **Width, mm**

Timber 500	40.00
Concrete Reinforced (with 2 % of steel)	250.00
XPS	50.00

**Floor U-Value, W/m2K** **0.46**

**Natural gas condensing boiler, COP** **102%**

**Air conditioners with inverters, EER** **5.5**

### Zakatala

**Heating Degree Days at baseline temperature of 22 degrees** **3,001.90**

**Cooling Degree Days at baseline temperature of 24 degrees** **297.80**

**Baseline U values for Buildings in Tbilisi** **W/m2K**

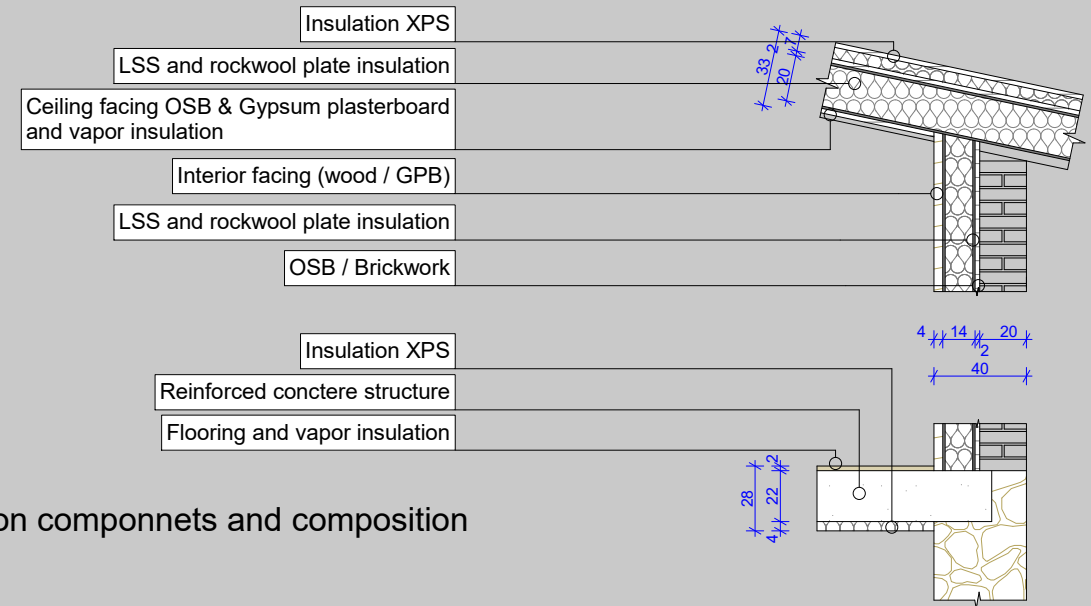
**BY SNIP**

**Walls (by ating standards 0.38)** **0.88**

**Roofs (by ating standards 0.3)** **0.62**

**Floors (by ating standards 0.38)** **0.54**

**Windows (by ating standards 1.8)** **3.00**



Construction componnets and composition

### INPUT

number of storeys	1 to 3
energy use for heating, kWh/m <sup>2</sup> a	134.70
energy use for cooling, kWh/m <sup>2</sup> a	2.80
number of HDD Zakataly (based temp 22°C)	3,001
regulation	before June 2022

### OUTPUT

Normalization factor (based on U-values)	2.54
Energy use, kWh/m <sup>2</sup> a	137.50
Normalized maximum value, kWh/m <sup>2</sup> a	279.30
deviation:	-50.77%
EP class	<b>A</b>



Modified by: S. Mammadov  
Architect  
Checked by: G. Shikhashvili  
International Architect

Date: 11.05.2022  
Date: 11.05.2022

Establishment of Development of Establishment of the Samur Yalama National Park  
KfW Funded Project BMZ-N° 2003 65 437

Architectural Design of Park Office Building  
Zaqatala, Azerbaijan

Drawing Name  
**Energy Audit Results**

Drawing Status  
**Concept Design Update**

Drawing Scale  
**1:35, 1:105, 1:120**

Layout ID  
**SYNP-OB-A.05**

Revision