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AZERBAIJAN MOTORWAY IMPROVEMENT AND DEVELOPMENT

Regional Environmental Review

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Prepared for:

Azerbaijan Republic Ministry of Transport
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LIST OF ABBREVIATIONS

Abbreviation	Meaning
AA	Alternative Alignment
ADB	Asian Development Bank
AIDS	Acquired Immunodeficiency Syndrome
ARS	Azerroadservice
asl	above sea level
AZN	Azeri Manat
BP	Bank Procedure
BTC	Baku-Tbilisi-Ceyhan
BTE	Baku-Tbilisi-Erzurum
CENN	Caucasus Environmental NGO Network
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
EA	Environmental Assessment
EA&MF	Environmental Assessment and Management Framework
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EP	Environmental Protection
ESS	Ecology & Safety Sector (Department in ARS)
FAO	Food and Agriculture Organisation
fSCE	former State Committee for Ecology
fSU	former Soviet Union
GDP	Gross Domestic Product
GEF	Global Environment Fund
ha	Hectare
HGV	Heavy Goods Vehicle
HIV	Human Immunodeficiency Virus
IBRD	International Bank for International Development
IBA	Important Bird Area
IDA	International Development Association
IDP	Internally Displaced Persons
IFI	International Financing Institution
km	Kilometre
LAD	Land Acquisition Department
LAP	Land Acquisition Plan
LEB	Local Executive Body
LHS	Left Hand Side

Abbreviation	Meaning
MED	Ministry of Economic Development
m	Metre
MDG	Millennium Development Goal
MENR	Ministry of Ecology and Natural Resources
MES	Ministry of Emergency Situation
MYST	Ministry of Youth, Sport and Tourism
MoT	Ministry of Transport
NGO	Non Government Organisation
OD	Operational Directive
OP	Operational Policy
PAP	Project Affected People
PIU	Project Implementation Unit
RAP	Resettlement Action Plan
RER	Regional Environmental Review
RHS	Right Hand Side
ROW	Right Of Way
RPF	Resettlement Policy Framework
RPS	Road Protection Service
SCCA	State Committee of Construction and Architecture
SEE	State Ecological Expertise
SNIP	Construction Norms and Rules
SPPRED	State Programme on Poverty Reduction and Economic Development
TENs	Trans-European (Transport) Networks
ToR	Terms of Reference
TRACECA	Transport Corridor Europe Caucasus Asia
UN	United Nations
UNECE	United National Economic Commission for Europe
UNEP	United Nations Environment Programme
UNESCO	United Nations Education, Science and Culture Organisation
US$	United States dollars
vpd	vehicles per day
World Bank	World Bank (i.e. IBRD and IDA)

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1 INTRODUCTION

1.1 BACKGROUND INFORMATION

The Government of Azerbaijan requested the World Bank's support for improving several road segments to the west and south of Baku (see Figure 1-1). It was proposed that the Azerbaijan Motorway Improvement and Development or 'Highway III' Project ('the Project') will include:

Widening of the existing two-lane roadway to a four-lane roadway motorway from Baku to Shamakhi, a 120 km section of the east-west transport corridor between Baku and Tbilisi.

The road is currently being rehabilitated within the Highway II Project. Furthermore, the on-going Highway II Project covers the widening of the Road to four lanes at the following sections:

- Km 0 (road construction reference) to km 12.7;
- Km 105 to km 109.

It is envisaged that the Government funds will be applied to cover the road widening at the road section from km 12.7 to km 15.

Therefore, the 'Highway III' Project is requested to support the widening of the road section from km 15 to km 105 (see Figure 1-2).

It is envisaged that the Project will be implemented over a period of two years. The first year programme will include the widening works along the first section of approximately 30 km (from km 15 to km 45) of the Baku – Shamakhi road, and the second year programme will include the remaining sections of the road. These works planned under the Project are referred to as 'sub-projects'.

The Regional Environmental Review (RER), the Environmental Assessment and Management Framework (EA&MF) and the Resettlement Policy Framework (RPF) have been designed to facilitate Project implementation and to ensure compliance with Azerbaijan's legislation, procedures and policies, international Conventions and World Bank Safeguard policies, particularly in terms of environment, resettlement and land acquisition. The EA&MF and RPF are practical guidance documents which outline the principles and procedures for the management of environmental and social issues of sub-projects. These documents will be disclosed in-country and on the World Bank's InfoShop prior to World Bank appraisal. The project will subsequently be divided into sections (sub-projects) and each section design will include specific Environmental Impact Assessments (EIAs), Environmental Management Plans (EMPs) and Land Acquisition Plans (LAPs) / Resettlement Action Plans (RAPs) with adequate public participation and information disclosure[1].

The purpose of the RER is to provide information about key environmental and socio-economic issues in the Project area to aid decision-makers within the Government of Azerbaijan and funding institutions, like the World Bank, to make informed decisions about:

- The selection of road improvement scenario and the preferred new road alignment;
- The optimal location for the road alignment;
- The selection of appropriate alternatives to consider within the individual sub-projects.

[1] The World Bank's Disclosure Policy requires that safeguard-related documents be disclosed before appraisal (i) at the InfoShop and (ii) in-country, at publicly accessible locations and in a form and language that are accessible to potentially affected persons.

Once the alignment has been selected for the road, the EA&MF and RPF will be used by the Government of Azerbaijan and the World Bank to manage environmental studies, land acquisition, the resettlement of the Project Affected Persons (PAP) and compensation of their property, and to guide the public consultation and information disclosure process.

Figure 1-1: Azerbaijan's Transport Network within the Wider Region

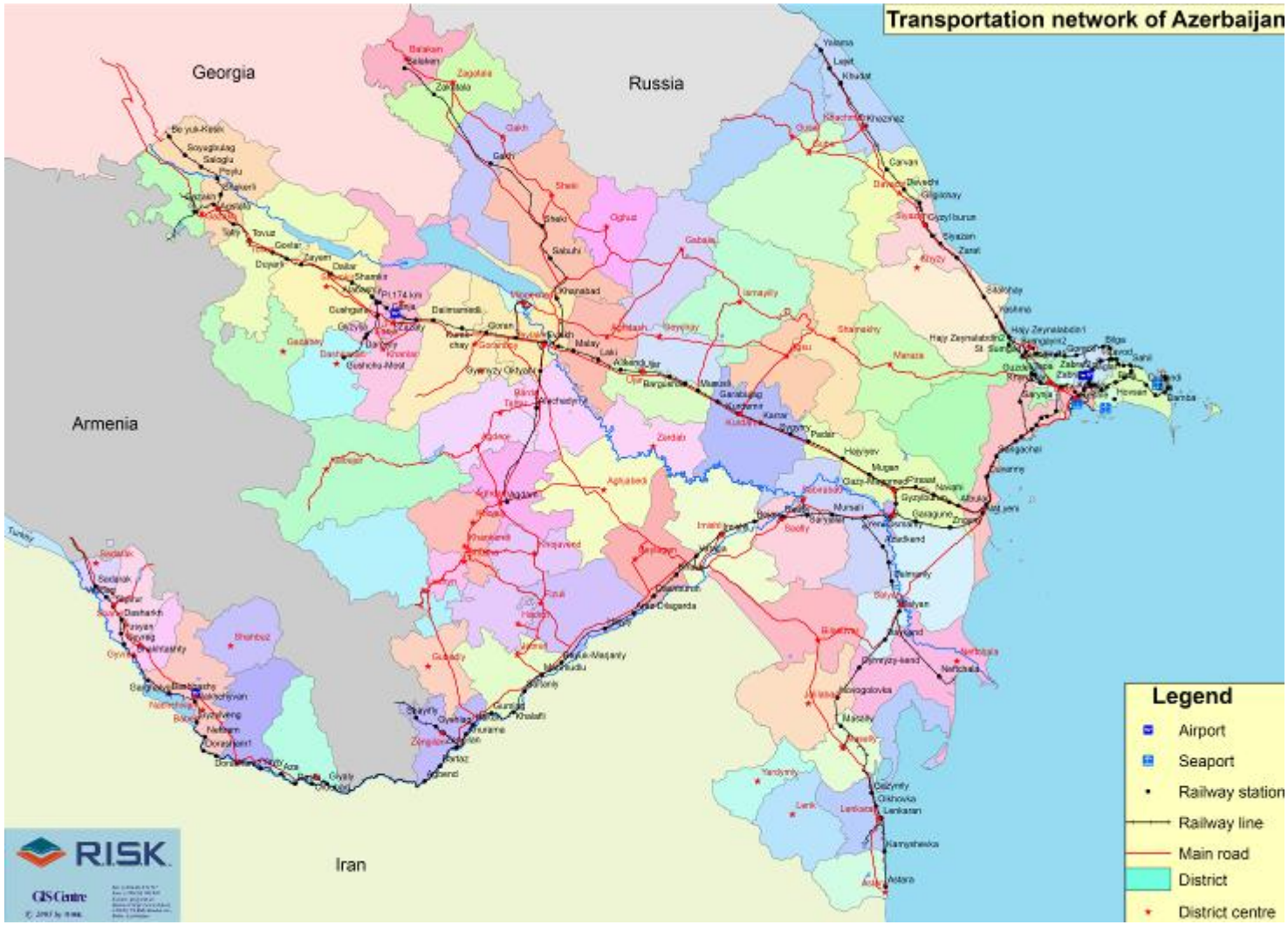
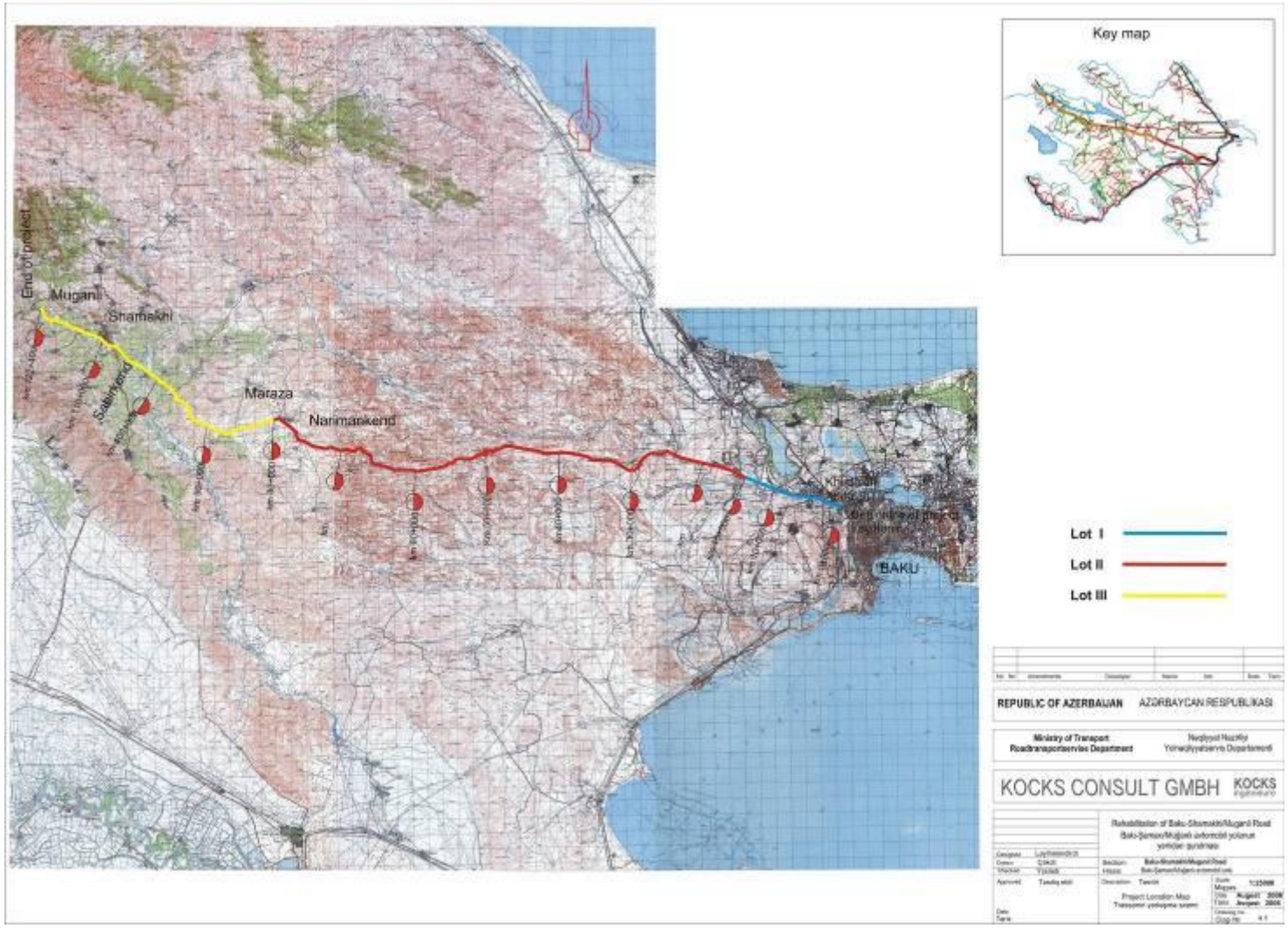


Figure 1-2: Baku-Shamakhi Road Location Map



1.2 PURPOSE OF THE REGIONAL ENVIRONMENTAL REVIEW

As well as being a decision aiding tool the RER also assists development planners in their design of investment strategies, programmes and projects that are to be environmentally and socially sustainable for a region as a whole. The RER takes into account the opportunities and limitations represented by the environment (both natural and social) of a given region and allows for the assessment of on-going and planned activities on a regional basis. For example, a RER may be required where World Bank is considering supporting a Project in a region with major uncertainties about ecological functions and relationships.

International experience[2] suggests that the RER can provide the following benefits:

- Eliminate at an early stage investments that might generate particularly adverse environmental impacts;
- Provide a baseline overview of environmental conditions within the study corridor;
- Assist governments in forming a long-term view of regional planning and increase the transparency of the planning process;
- Analyse the institutional and legal framework relevant to the particular region, identifying institutional and jurisdictional gaps and recommending improvements;
- Collect and organise regional environmental data, identifying data gaps and needs at an early stage;
- Allow for comprehensive planning of region-wide environmental management and monitoring;
- Provide a basis for collaboration and coordination across administrative boundaries and between sector-specific authorities to help avoid contradictions in policy and planning and enhance efficiency;
- Strengthen preparation and implementation of individual projects within the region, recommending criteria for environmental screening, analysis and review of projects and setting standards and guidelines for project implementation; and
- Provide a means for public participation in shaping the future development of the region.

The purpose of this RER is to provide background information and to help decision-making within the Government of Azerbaijan, particularly, Azerroadservice (ARS) of the Ministry of Transport, the World Bank and other interested organisations in relation to planning and implementing the proposed road improvement programme.

[2] World Bank (1996) *Environmental Assessment Sourcebook Update No. 15: Regional Environmental Assessment*, Washington, June 1996

2 PROJECT CONTEXT AND DESCRIPTION INCLUDING ALTERNATIVES

2.1 REGIONAL CONTEXT

2.1.1 General Environmental and Socio-Cultural Context

Key national statistics are outlined in Table 2-1 below

Table 2-1: Azerbaijan – Key Statistics (2007)

Parameter	Statistic
Population:	8.57 million
Population per square km:	93
Population growth:	1%
Life expectancy:	72.4 years
Population below national poverty line (%):	15.8%
Gross Domestic Product (GDP) (current US$) (billions):	31
GDP Growth per capita (current US$):	3473.9
GNI, Atlas method (current US$) (billions)	22
GDP growth:	11.3%
Average annual per capita income (current US$)	2655.9
Inflation, consumer prices (annual %)	17

Source: http.webworldbank.org: World Bank data and statistic for Azerbaijan, 2007

Azerbaijan is a South- or Trans-Caucasus country. The Caucasus region exhibits a number of common environmental, social and economic characteristics which are outlined in Table 2-2. The region has a particularly wide variety of landscapes from humid to arid, sub-tropical to glacial and plain to mountain, and high biodiversity, including a high level of endemic and relict species.

Table 2-2: Common Characteristics of the Caucasus Region

Category	Characteristic
Specific Features	▪ High landscape diversity ▪ High biological diversity within a moderate climatic zone ▪ Ethnic, religious and cultural diversity ▪ Relatively high percentage of intact ecosystems and high overall environmental quality with a few existing environmental 'hot spots'
Challenges	▪ Economic and social problems specific to countries in transition (e.g. overall decline of economic activities, severe budget constraints, high domestic and foreign indebtedness, low Gross Domestic Product (GDP) growth rate; institutional weakness) ▪ Geopolitical instability (e.g. ethnic wars, political upheavals) ▪ Unequal distribution of water resources ▪ Deforestation ▪ Soil degradation and desertification ▪ High occurrence of natural disasters (e.g. flooding, earthquakes, drought)
Emerging Issues	▪ Oil spill and biodiversity fragmentation related to existing and planned oil

Category	Characteristic
	and gas pipeline projects ▪ Problems associated with environmental pollution and transit of dangerous goods in the TRACECA[3] corridor.

Source: *UNEP (2002) Caucasus Environmental Outlook*

2.1.2 Socio-Economic Development[4]

Economy and Employment
Azerbaijan's economy has strong potential to grow rapidly, particularly in the short and medium term, through the development of the oil and gas sectors.

In 2007 Azerbaijan experienced phenomenal economic development powered by soaring production of oil (an increase of 29% in 2006) and gas (an increase of 82% in 2006), growing export capacity of Baku-Tbilisi-Ceyhan (BTC) oil pipeline, the start of large-scale gas exports through the Baku-Tbilisi-Erzurum (BTE) gas pipeline and rise global oil prices during 2007 and 2008.

As a result Azerbaijan was the fastest growing country in the world for three years between 2006 and 2008, with a real GDP growth of 25%. At the same time, non oil real GDP growth, excluding oil and gas transportation, is estimated to have decelerated to 6.9% year-on-year from 8.2 % in 2006[5]. Accordingly, the state budget increased by over 80% in 2006 and by 70% in 2007. Although Azerbaijan's oil and gas resources are considerable, these resources are finite and likely to peak within the next decade and subsequently decline rapidly.

Although the oil sector accounts for about 56% of Azerbaijan's GDP and 94% of Azerbaijan's industrial output, the hydrocarbon sector employs less than 1% of the national workforce. Despite significant Government investment, the country still suffers from an inequitable regional development, growing inequality, high unemployment and under-employment, and inadequate social services and infrastructures.

Data regarding the state of the non-oil economy indicates that the non-oil industry grew steadily in recent years up to 2006[6] but began to slow down in the second half of 2006 and throughout 2007[7]. In 2007, the contraction in the non-oil tradables was primarily the result of a contraction in the metallurgy, chemistry, and textiles sectors in Azerbaijan, whereas the slowdown in non-oil tradables in 2006 was primarily due to a contraction in the agriculture sector, which slightly recovered in 2007[8].

The progress with structural reforms has been uneven. To encourage the efficient use of energy, the Government took significant steps to raise energy prices to cost-recovery levels with a major price increase in January 2007, but increases in public utility prices,

[3] European Commission Programme to develop a transport corridor with an east-west axis across the Black Sea, through the Caucasus and the Caspian Sea to Central Asia. The objectives are: (i) to support the political and economic independence of the republics by enhancing their capacity to access European and World Markets through alternative transport routes; (ii) to encourage further regional cooperation among the partner states; (iii) to use TRACECA as a catalyst to attract the support of IFIs and private investors; (iv) to link TRACECA to the Trans-European Networks
[4] State Programme on Poverty Reduction and Economic Development in Azerbaijan Republic for 2008-2015.
[5] IMF (2007) Country Report
[6] Including agriculture which accounts for approximately 40% of employment.
[7] United Nations in Azerbaijan (2007) Resident Coordinator's Annual Report.
[8] *Idem.*

compounding rapidly-rising state budget expenditures are fuelling double-digit inflation, estimated at between 16% and 29%. Important initial steps have been taken to improve the business environment including simplifying business registration; yet poor competiveness remains a serious problem. Azerbaijan is ranked 96th of 178 countries in the World Bank's 2008 Doing Business Report.

The European Union has become the country's main trading partner, accounting for 32% of its imports and 59% of its exports. The European Commission has allocated around €92 Million under the National Indicative Programme (2007-2010) aimed at developing the capacity of the State to manage prospective oil and gas wealth in an accountable and transparent manner[9].

Poverty

Official poverty figures show a fall in headcount poverty from 46.7% in 2002 to 20% in 2007. This is likely to be due to wage and pension increases, social transfers to the poorest households, job creation and remittances from abroad.

Poverty exists throughout Azerbaijan, with the highest incidence of income poor people located in urban areas (outside of Baku); notably, in the provincial towns followed by rural areas. The lowest incidence of poverty is in Baku city itself.[10] The risk of poverty is higher for households headed by unemployed people, women and pensioners. In rural areas, agriculture and animal husbandry is the major source of income for the non-poor. Income from employment is the second most important source of income in rural areas. It is widely recognised that poverty is not only measured using monetary indicators, but also in terms of access to essential services and goods. Many of the rural population lack access to basic sanitation and health services due not only to lack of financial resources but also as a result of an absence of such services following the collapse of the infrastructure or the need for repairs throughout the years.

With the aim of achieving the UN Millennium Development Goals (MDGs), in particular MDGs 1 and 7 on ensuring environmental sustainability (see Table 2-3), the President adopted the Decree on State Programme on Poverty Reduction and Economic Development (SPPRED) in 2008-2015 on the 15th August 2008[11]. The Cabinet of Ministers of Azerbaijan is responsible for the implementation of the MDGs.

The Ministry of Economic Development of Azerbaijan is responsible for the implementation of the State Programme Action Plan. Following the implementation of the State Programme on Poverty Reduction and Economic Development of Azerbaijan Republic for 2003-2005, poverty levels were reduced from 46.7% (2002) to 29.3 (2005) and to 15.8% in 2007.

Household surveys[12] indicate that monthly incomes in Baku differ significantly to those in the regions outside Baku (respectively 25.9 and 19.7 AZN).

[9] *Idem.*
[10] World Bank (2003) *Azerbaijan Poverty Assessment* based on information from the *2001 Household BudgetSurvey*
[11] State Programme for Poverty Reduction and Sustainable Development in the Azerbaijan Republic for 2008-2015.
[12] *Idem.*

Table 2-3: Azerbaijan Millennium Development Goals (selected)

Goal	Target
Goal 1: Reduction of poverty	Target 1: Reduce, between 2002 and 2015, the proportion of people whose per capita monthly income is below the country's absolute poverty line
	Target 2: Reduce, between 2002 and 2015, the proportion of people in extreme poverty. Halve the share of the population living below the relative poverty line of the country
Goal 7: Ensure environmental sustainability	Target 9: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources
	Indicator 27: Proportion of land covered by forest
	Indictor 28: Land area protected to maintain biological diversity

Source: www.economy.gov.az/PRSP/

Risks and levels of poverty in a given household appear to be influenced by a number of factors[13]:

Number of children in the household: families with 4 children have a per capita income of 1.5 times less than families without children and 1.3 times less than a family with one child;

Level of education of the household, in particular the head of the household: risks and incidence of poverty appear to be reduced if the level of education of the household is high;

Age of the head of household: monthly incomes in households where the head of the household is 30-39, 40-49 or over 60 years old appear to earn less than households where the head of the household is aged between 18-29 or 50-59.

Poor living conditions of vulnerable groups and Internally Displaced Persons (IDP) often impact negatively on their health. This involves high density (compact living); purchase and use, within the households, of unclean/inadequate fuel; lack of access to reliable sources of energy and water; and poor sanitation systems. . Improvement of social infrastructure is a priority within the State investment programmes[14]. The Government's policies are to foster economic growth and reduce poverty through rising employment and increased labour productivity.

2.1.3 Transport Sector

Azerbaijan's geographical position makes it an important east-west link, between Middle & Central Asia and Europe, and north-south between the Russian Federation and the Middle East.

Trade with its neighbours, both transit and bilateral, is an important feature of the Azerbaijan economy. With much of the non-oil trade being small size shipments transported by road to neighbouring countries, access to international markets requires

[13] *Idem.*
[14] *Idem.*

the provision of suitable road transport infrastructure, ready to meet projected mid-term strong traffic increases. In 2004, the transport sector accounted for 7% of the country's GDP[15].

Approximately 56% of the Azerbaijan's main road network is considered to be in a poor state[16], and about 1,000 km (30%) of rail track[17] requires reconstruction. In the former Soviet Union (fSU), the main road network was not designed for carrying heavy trucks. Maximum design axle loads were 10 tonnes. Heavy and long distance traffic was carried by rail which still carries considerable volumes of heavy cargo, particularly oil products. The emergence of heavy road traffic has contributed to the deterioration of the road network.

According to the World Bank *Trade and Transport Facilitation Policy Note* (November 2003), each ton of transit cargo generates between US$20 and US$40 of direct economic activity for the various transport intermediaries in Azerbaijan. The Policy Note considers that since the transport intermediaries are currently profitable, additional transit will both generate employment opportunities in logistics to upgrade infrastructure and investment in new areas. Furthermore, there are other value-added elements generated or induced by transit traffic other than services, e.g. various ancillary services, added commercial opportunities, value-added activities like re-labelling, packaging, light processing, consolidation and redistribution to the Central Asian and Caucasus countries.

The State Programme on Poverty Reduction and Economic Development actions in the transport sector include: (i) restructuring and modernisation of sector institutions, including the Ministry of Transport; (ii) rehabilitation of the East-West road; (iii) improvement of rural roads, including their management and financing; and (iv) facilitating trade.

The upgrading of the east-west road corridor from Baku to Georgian border through Shamakhi and better connections to rural areas are among the most important infrastructure requiring attention. As such, investment in road infrastructure is the main priority outlined in the draft Public Investment Programme of Azerbaijan.

The major international funding institutions (IFIs) involved in developing the transport sector in Azerbaijan are the World Bank, European Bank for Reconstruction and Development (EBRD), Islamic Development Bank, Kuwait Fund, Saudi Fund, and Asian Development Bank (ADB).

2.1.4 Traffic Safety

Road traffic accidents in the region can have a variety of causes, as indicated in Table 2-4.

Table 2-4: Traffic Hazards on Azerbaijan Roads

[15] Based on 2004 figures in the *Azerbaijan Monthly Statistical Review 2005.*

[16] The Azerbaijan road network comprises 18,723 km of road, which divides into 958 km of major arterial ('magistral') roads, 1,216 km of minor arterial ('republican') roads, and 4,312 km of 'collector' roads. The remaining part of the ARS network consists of 'local' roads. Half of the total network is paved, and much is in a poor state of disrepair with three-quarters in need of rehabilitation. 191 km only are 4-lane highways.

[17] The Azerbaijan rail network comprises 2,932 km of railways, the principal mode of freight transport. Much of the rail track and rolling stock is in need of repair or replacement. A US$ 20.2 million loan from EBRD will be used for reconstruction of the most important segments along the main Baku-Georgia rail line.

Category	Hazard
Road-Related Hazards	▪ Uneven road surface ▪ Tight corners/poor visibility ▪ Lack of distinct road junctions ▪ Inadequate road furniture, e.g. road markings and guard rails ▪ Inadequate directional road signage ▪ Inadequate advance warning of road works and temporary contra-flow systems
Transport-related Hazards	▪ Overloaded vehicles ▪ Defective/un-roadworthy vehicles ▪ Slow vehicles, e.g. road maintenance and agricultural vehicles ▪ Vehicles travelling at night with no or inadequate front and rear lights
Driver Behaviour-related Hazards	▪ Inexperienced or inadequately trained drivers ▪ Drunk and/or over-tired drivers ▪ General poor standard of driving ▪ Drivers driving too fast for road conditions ▪ Drivers mis-judging the distance between them and on-coming vehicles when overtaking or when crossing opposite carriageway ▪ Drivers mis-judging the length of vehicles they are overtaking ▪ Drivers not indicating prior to leaving or turning across carriageway ▪ Drivers stopping suddenly, without warning (e.g. drop/pick up passengers or to buy fruit and vegetables or other goods from roadside vendors) ▪ Drivers stopping to pick up passengers whilst driving around roundabouts ▪ Drivers flashing headlights to alert on-coming traffic of their existence, which has effect of temporarily blinding driver of on-coming vehicles
Other Hazards	▪ Pedestrians walking alongside or crossing road ▪ Unsupervised herds of cattle, sheep and goats crossing road ▪ Unsupervised flocks of geese crossing road ▪ Lone cattle standing in road at night ▪ Piles of building materials stored temporarily in road

2.2 PROPOSED OVERALL PROJECT

2.2.1 Project Objectives

The main Project objective is to reduce road transport costs and improve access, transit and safety within Azerbaijan's east-west corridor, through the implementation of a number of sub-projects in relation to widening of the Baku-Shamakhi road.

For road users, the Project will lead to better road quality and better safety through new alignments, lower travel costs and a shorter travel time.

Economic growth for Azerbaijan is expected to come as a result of returns on investments through the marked growth of the traffic on the concerned roads and an increase in speed – and consequent decrease in travel time – due to reduced delivery time following road development and improved road technical specifications. Improved east-west connections will foster economic integration and growth within the country, in particular non-oil growth, leading to a degree of economic diversification.

2.2.2 Justification for the Project

The widening of the existing Baku - Shamakhi road from a two lane to a four lane road is intended to meet a growing demand for road transport services.

Detailed traffic surveys of the existing road were carried out in 2005 and indicate that traffic growth on the study road has not been significant in recent years.

Nevertheless, the refurbishment of the existing road under the on-going Highway II Project is likely to bring about a marked increase in road traffic[18] with consequent economic development alongside the road route and as detailed in Chapter 2.2.1. The development of the four-lane road will further intensify the levels of traffic in the area thus promoting economic growth along the corridor.

2.2.3 Project Scope

The proposed Project will focus on:

Widening of a Category II road linking Baku to Shamakhi to a four lane road.

The exact alignment of the road will be defined during the detailed engineering design study. At present the widening options for a four lane road[19] have been developed and they are summarised in Chapter 2.4.

The two lane Baku – Shamakhi Road is classified as a Category II road with a right-of-way (ROW) of 60 metres; i.e., 30 m on each side from the existing road centreline. Generally, this provides enough room for road widening for the following alternatives:

- Building a second carriageway adjacent to the existing carriageway;
- Widening the existing carriageway on either side.

However, there are road sections where widening to the desired width cannot be achieved due to topography or land-use, and therefore, the alternatives alignments and/ or a reduction of the number of lanes needs to be considered. Furthermore, at certain sections of the road, the ROW is significantly reduced. Therefore, the implementation of the above alternatives at these sections will involve land acquisition. Additional land acquisition will be required to allow for embankments, the construction of interchanges and local connector roads

Improvements to the road will include traffic safety features such as road illumination, road signs, road marking and road furniture, and appropriate road safety barriers (guardrails). Other design issues will include, *inter alia*, design measures to enable the crossing of domestic animals and wildlife. This will be considered at the design phase during the EIA.

Existing works under the ongoing Highway II Project

The proposed road widening project under the Highway III Project is a development which will take place in addition to the existing Highway II Project, which focuses on rehabilitating km 10 to km 134 of the Category II road linking Baku to Muganli village, west of Shamakhi. Within the scope of works of the Highway II Project the following works are on-going:

[18] *Pers.comm.*
[19] Kocks Consult GMBH, Study of Widening Options for a Four Lane Road Between Baku and Shamakhi in Azerbaijan

- Reconstruction of the existing two lane road including pavement strengthening, with possible spot realignments at locations where the current design jeopardises safety;
- Widening by adding a climbing lane where a long and steep gradient may affect travel speed or safety because of heavy vehicle traffic.

Improvements to the road include traffic safety features including road illumination, road signs, road marking and road furniture, including appropriate road safety barriers (guardrails). Other issues include the construction of culverts and animal crossings.

2.2.4 Description of Works

2.2.4.1 Main Design Options

Four main design options are proposed for the widening of the road between Baku and Shamakhi, depending on local topography and land-use – to be used alternatively on different sections of the road:

(i) Construction of the additional carriageway to one side, either the right hand side (RHS) or left hand side (LHS) of the existing carriageway (see Figure 2.1) with a total width of 27.5m;
(ii) Widening of the existing carriageway on both sides, either by:
  (a) Widening at both sides with a reduced median and shoulder, total width 22.5m (see Figure 2.2); or
  (b) Widening at both sides without median and reduced lane width and shoulder, total width 17.5m (see Figure 2.3);
(iii) Widening in sections with climbing lane, total width 20.5m (see Figure 2.4).

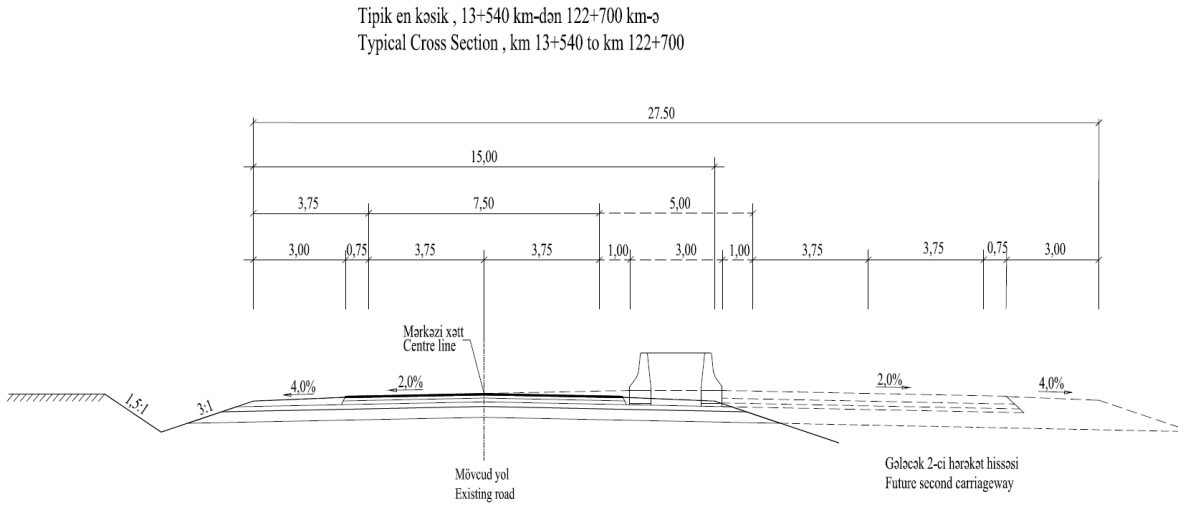


Figure 2-1: Option (i) Typical Cross Section for Widening to One Side

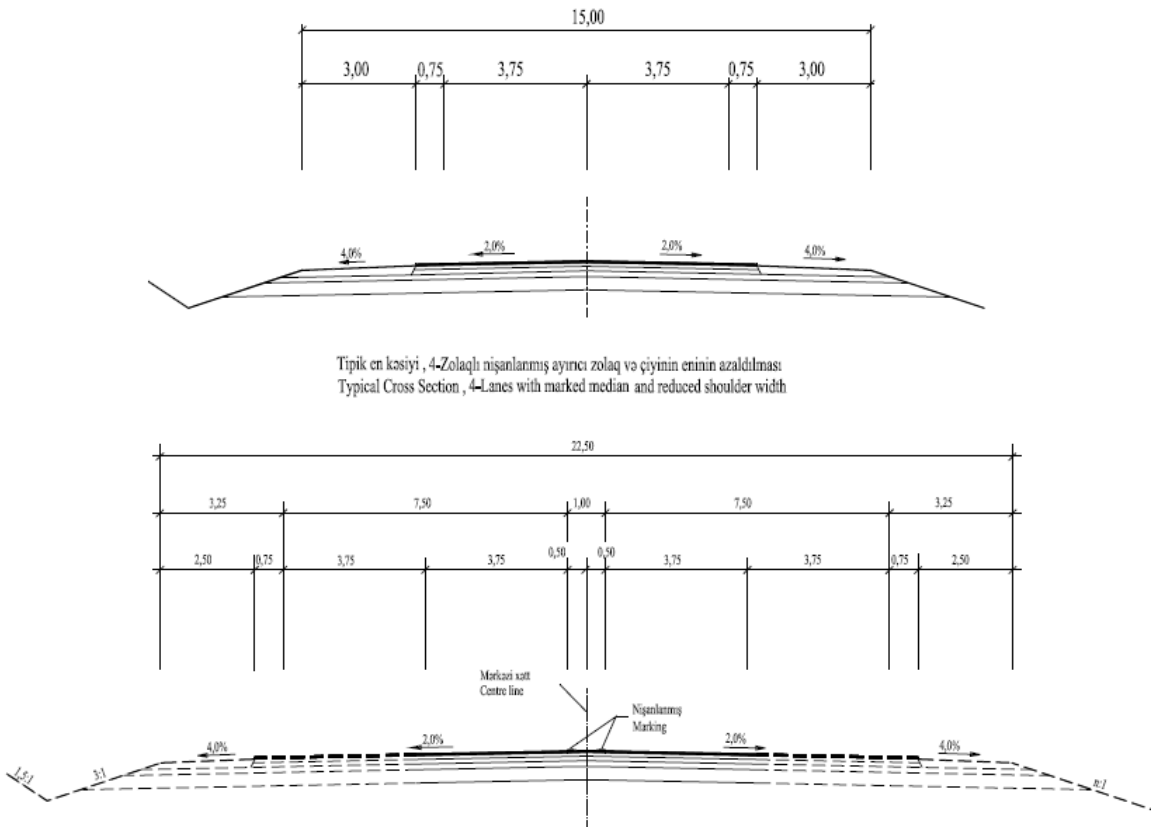
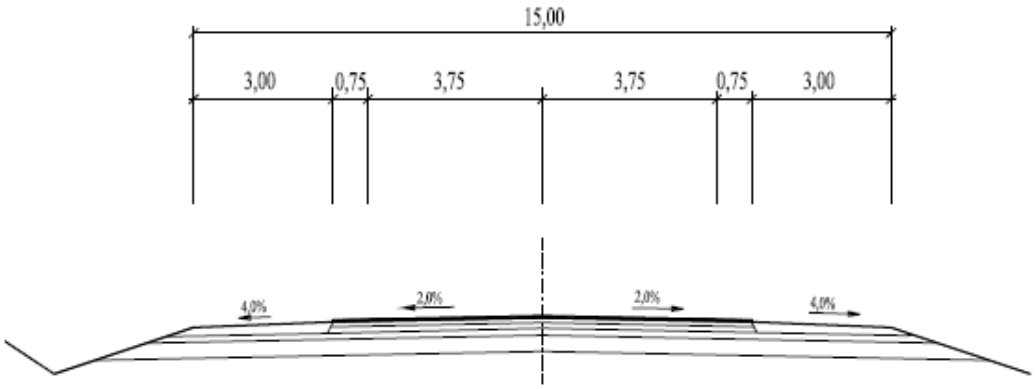


Figure 2-2: Option (iia) Typical Cross Section for Widening at Both Sides with Reduced Median and Shoulder



Tipik en kəsiyi , 4-zolaqlı,ayırıcı zolaq olmadan
Typical Cross Section , 4-Lanes, without median

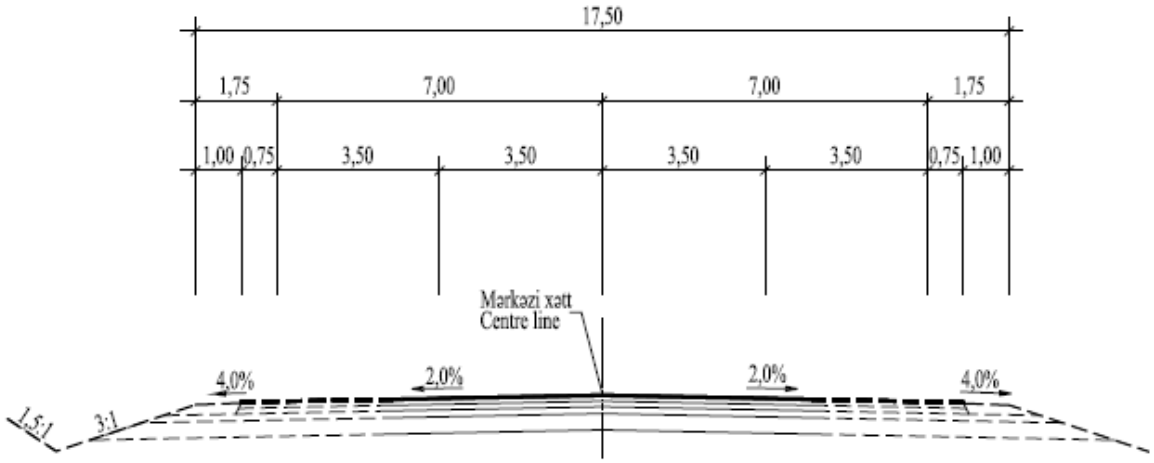


Figure 2-3: Option (iib) Typical Cross Section for Widening at Both Sides without Median and Reduced Lane Width and Shoulder

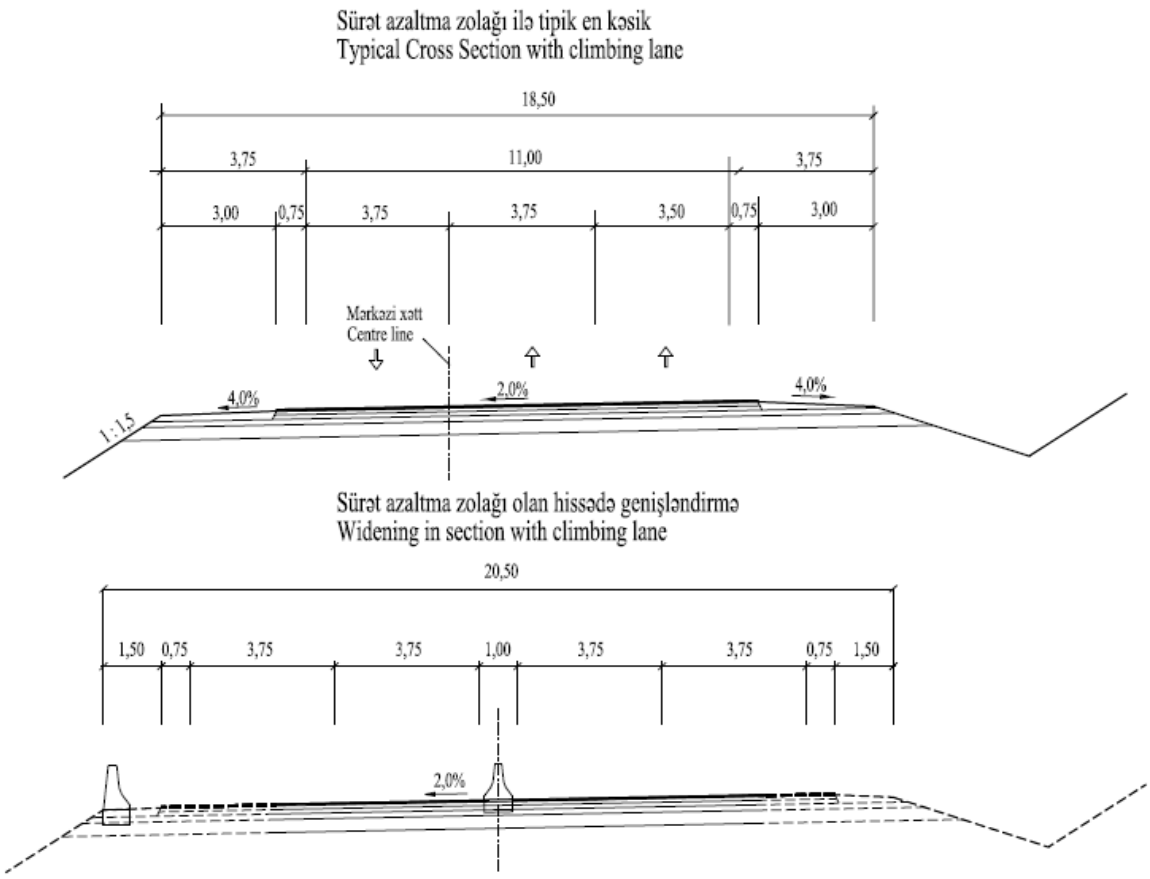


Figure 2-4: Option (iii) Typical Cross Section for Widening in Sections with Climbing Lane

Appendix A illustrates where each of the above three options is proposed along the study road. Option (i) is the only option which complies with the requirements of a Category 1b road (as per the Construction Norms and Rules – SNIP) as it provides a separation of the carriageways by a median of 5m width, of which 3m is unpaved. This option is also the preferred option by the Engineering Consultant[20] as it avoids extensive demolishing work on the existing (rehabilitated) carriageway. Options (iia), (iib) and (iii) are sub-standard solutions presented for areas where there is not sufficient available space for the implementation of Option (i).

2.2.4.2 Alternative Alignments

In addition to the main design options, alternative alignments (AAs) were proposed for four stretches of road. These AAs have been drafted on existing topographical maps and have not been the subject of detailed investigations. These AAs, illustrated in Appendix A, are briefly described below. In the absence of detailed information, a detailed description of the alternative alignments is not possible.

AA1: Between km 26 and km 34

[20] KOCKS (2009) Study of Widening Options for a Four Lane Road between Baku and Shamakhi in Azerbaijan, 2) Submission

This proposed realignment to the south of the existing route will be approximately 13km in length and will cross an area of irregular topography which features a number of hills, ridges and gulleys. The road will first run south through a flat plain for approximately 2km. It will then rise and bend north-west and rise up a hill to cross an area of very irregular topography (see Figure 2-5), followed by another long stretch of flat terrain.

Figure 2-5: Topography along the Proposed Route of Alternative Alignment 1

AA2: Between km 43 and km 53

This proposed realignment goes north from the road through flat terrain and runs parallel to the road behind a hill for approximately 3 km to then join the road again at the village of Jangi, potentially cutting across the south-eastern edge of the village. It will then divert again from the road in a south-western direction and will cut across a hilly area of very irregular terrain (steep slopes, ridges and gulleys) (see Figure 2-6 – the route will cross the hills shown in the background) sloping upwards to join the road at km 53.

Figure 2-6: Topography along the Proposed Route of Alternative Alignment 2

AA3: Between km 59 and km 61

This realignment proposes to provide a slightly straighter route joining km 59 to 61. It will provide a straight line running parallel to the existing route on its northern side. This section of the road and suggested re-alignment are located on an expanse of flat land.

AA4: Between km 79 and km 86

This proposed re-alignment provides a straight route between km 79 (i.e. on the edge of the village of Narimankand) and km 85. It cuts across a flat expanse of sown cropland.

2.2.5 Comparison of Alternatives

Chapter 5 provides a comparison of project alternatives, and discussion of environmental and social risks, as follows:

- A comparison of Options (i), (iia), (iib) or (iii) against the "without project scenario" (see Chapter 2.2.4.3); and

- A comparison of alternative routes AA1, AA2, AA3 and AA4 with the proposals to widen that particular stretch of road in accordance with the Main Design Options as described in Chapter 2.2.4.1.

2.2.6 Potential Construction Materials Sources in Baku-Shamakhi-Yevlakh and Mingachevir Domain

The Study on Prospective Construction Materials Sources and Better Regulation of River Extraction (IBRD Loan 7356AZ)[21] listed seven extraction sites in Baku-Shamakhi-Yevlakh and Mingachevir domain. These sites are shown on an overview map below (see Figure 2-7).

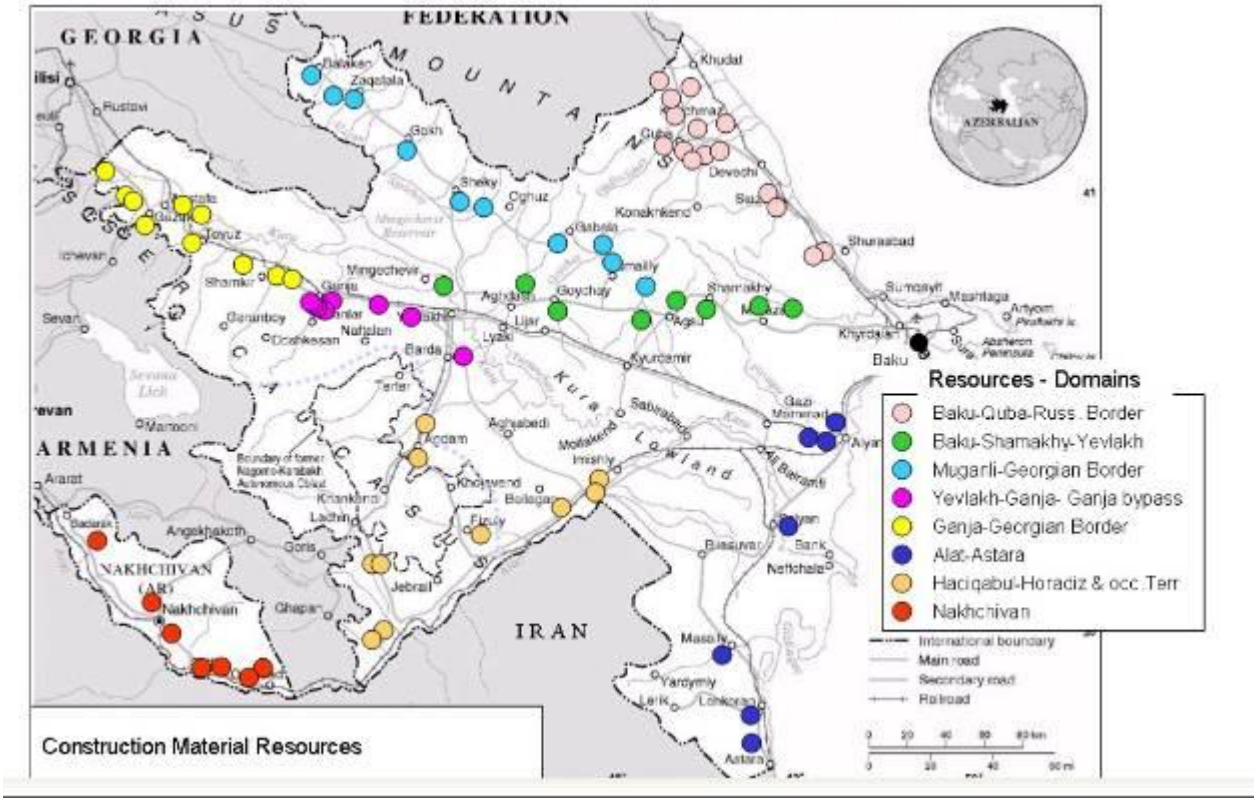


Figure 2-7: Location Map of the Known Construction Materials Sources in Baku – Shamakhi-Yevlakh Domain (Source: Niras A/S Study)

According to the above named Study on Prospective Construction Materials Sources and Better Regulation of River Extraction, inbetween Baku and Yevlakh, the volumes of resources were estimated ranging from 500,000 to 13 mln m3. These sites are mine active river terraces. The key characteristics of the sources are provided in Table 2-5.

Table 2-5: Key Characteristics of the Construction Materials Sources in the Study Area (Source: Niras A/S Study)

No	Name	Resource Size (literature estimates)	Resource Type	Specific Gravity	Compressive Strength (Dr-value)	Los Angeles Test	Soft Material	Elongation	H2O Absorbtio
		1,000,000 m3		g/cm3	Loss %	Loss %	%	wt %	Wt %
2.1.1	Qozluchay I	0.5	Active						

[21] NIRAS A/S, Study on Prospective Construction Materials Sources and Better Regulation of River Extraction – IBRD Loan 7356AZ, Final Report, August 2008

			river						
2.1.2	Qozluchay II	1.0	Active river						
2.2	Pirsaatchay	4.5	Active river	2.7	12.6	14.2	9	27	0.73
2.3	Agsuchay	3.5	Active river	2.7	13	34	12	23	1.01
2.4	Girdimanchay	13.0	Active river	2.8	12.2	27	7.5	14	0.41
2.5	Goychay	5.0	Active river	2.7	9.8	18.5	6	16	0.72
2.6	Turyanchay	2.0	Active river						
2.7	Mingachevir	50.0	Active river	2.7	7	16	4	17	0.46

Three of the above listed sites, in particular, Qozluchay I, Qozluchay II and Pirsaatchay were identified as the potential borrow areas by the Environmnetal Assessment for Baku – Shamakhi Road rehabilitation[22]. The descriptions of these borrow areas are provided in the ealier mentined EA Report.

2.3 IMPLEMENTATION ARRANGEMENTS

The proposed highway widening programme is to take place over a period of several years. The first year's implementation programme will include the road widening from km 15 to km 45, approximately 30 km. The works on the remaining section will be advanced in year two.

The overall engineering feasibility study for ARS's preferred option is to be undertaken. Detailed designs will be produced for each sub-project, with the design phase for each section including studies to develop appropriate site-specific EIA, EMP and LAP/RAP. The EA&MF and RPF are being developed in parallel with the RER. .

[22] KOCKS (2006) Environmental Assessment for Baku-Shamakhi Road Rehabilitation, Final Report

3 POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

The proposed widening project will have environmental and socio-economic impacts, such as relocation and land acquisition. Therefore, a review of the pertinent national legislation has been conducted in order that that the national legal requirements can be distilled into a single process/procedure. In the course of Project implementation the ARS will be responsible for ensuring the sub-projects meet national environmental requirements as well as World Bank Safeguard requirements.

3.1 National Environmental Legislation

The Constitution of the Republic of Azerbaijan defines principles for environmental protection, ownership of natural resources and regulations for their use.

The legislative framework relating to the environment consists of:

- Parliamentary legislation that establishes the State regulation of strictly protected natural areas, and the protection and use of the environment and biodiversity;
- Presidential Decrees and orders and the resolutions of the Cabinet of Ministers that ensure the implementation of the major provisions of the laws;
- By-laws of the executive authorities (Ministries and Committees) that specify the activities to implement the laws;
- International Agreements and Conventions to which Azerbaijan is a signatory.

The Law on Environmental Protection (EP) of 1999 governs environmental protection in Azerbaijan. The requirements of this law in relation to environmental impact assessment are described in more detail below.

Legislation on land use and development consists of *the Land Code* and other legislative acts. Laws on the protection and sustainable use of natural resources include: *Law on Plant Protection* (1996), *Forestry Code* (1997), *Water Code* (1997), *Law on Fisheries* (1998), *Law on Fauna* (1999) and *Law on Protected Areas* (2000) Appendix B shows the number of protected Ares established in Azerbaijan. Furthermore, in 2007 he Presidential Decree on "Creation of Nature Reserve for Groups of Mud-volcanoes of Baku and Absheron Peninsula" was issued.

Laws regulating environmental pollutants include those relating to environmental protection (1999), atmospheric pollution (2001), pesticides and agrochemicals (1997), industrial and domestic waste (1998) and water supply and wastewater (1999).[23]

3.1.1 National EIA Policy, Legal and Regulatory Framework

The current EIA system in Azerbaijan follows the procedure of State Ecological Expertise (SEE) adopted by the former Soviet Union in the late 1980s. In line with the definitions of SEE in the *Law on Environmental Protection*, the core purpose of the SEE system lies in the formal verification by State authorities of all submitted developments for their possible environmental impacts, regardless of their scale, sector type or nature. In addition to an EIA, a Strategic Environmental Assessment (SEA), which deals with policies, plans and programmes, is another task that fall within the responsibilities of SEE administration. To date, however, SEA has not been carried out in the country.

The basic procedures for the conduct of an EIA are described in the *1996 Handbook on the EIA Process in Azerbaijan.* Although these provisions are not technically legally binding, compliance with them is to all intents and purposes regarded as mandatory.

[23] Anon (2004) *Country Study on Biodiversity and First National Report*, Republic of Azerbaijan, June 2004

Various independent and comprehensive studies on the environmental policy of Azerbaijan and the related legal and regulatory framework have concluded that there is an urgent need for preparing a new national EIA legislation. A specific issue raised in this context was the requirement to streamline the EIA process with the provisions of various international environmental Conventions that Azerbaijan is a party to [24,25].

The legal acts and documents that form the basis for Azerbaijan's current EIA system are listed in the Table 3-1.

Table 3-1: Legislative Basis of EIA System in Azerbaijan

Legislative Document	Year of Adoption	System Implied
EIA Handbook	1996	EIA
Law on Environmental Protection, Clause VIII: State Ecological Expertise (SEE)	1999	SEE
Decree on the Ratification of the Espoo Convention[26]	1999	EIA
Decree Accession to the Aarhus Convention[27]	2000	EIA

3.1.1.1 Law on Environmental Protection

The *Law on Environmental Protection* (EP) establishes the main environmental protection principles, and the rights and obligations of the State, public associations and citizens regarding environmental protection. The Law states that the State Ecological Expertise is the official EIA procedure in Azerbaijan. According to Article 54.2 of the Law, EIAs are subject to the SEE which means that the MENR (see Chapter 3.6) is responsible for the review and approval of EIA reports submitted by developers. The Law on EP defines SEE as 'the identification of conformity of the environmental conditions with qualitative standards and ecological requirements in order to identify, prevent and forecast the possible negative impact of an economic activity on the environment and related consequences'.

The Law on EP establishes the basis for the SEE procedure, which can be seen as a stand-alone check of compliance of the proposed activity with the relevant environmental standards (e.g. for pollution levels and discharges, noise). In addition, the Law on EP determines that projects cannot be approved without a positive SEE resolution.

In its Articles 81 and 82, the Law specifically provides for the application of international agreements in case their provisions are different from those of the Azerbaijan legislation. This relates to the *Espoo* and *Aarhus* Conventions, which are directly applicable to the EIA process in Azerbaijan.

3.1.1.2 The EIA Handbook

The procedures for the conduct of EIA are explained in the *Handbook for the EIA Process in Azerbaijan* of 1996, which defines EIA as 'a process whereby the potential environmental consequences of development proposals are identified and evaluated from the point of view of the physical, biological, and socio-economic environment, and ways and means are developed by which negative impacts are either avoided or minimised to

[24] *Technical Assistance Consultancy for Institutional Strengthening* (August / September 2004), which included a Legislative Gap Analysis and was conducted with support of the EU

[25] *Assessment of the Effectiveness of the EIA System in the South Caucasus States: Azerbaijan* (March 2004) Caucasus Environmental NGO Network (CENN) with support of the European Subsidy Programme for Environmental Co-Operation and the Netherlands Commission for Environmental Impact Assessment.

[26] UNECE *Convention on EIA in a Trans-boundary Context*

[27] UNECE *Convention on Access to Information, Public Participation and Decision Making and Access to Justice in Environmental Matters*

acceptable levels' (Paragraph 1.1). This definition encourages developers to design their engineering proposals in a way least harmful for the environment.

According to these procedures, the following phases can be distinguished in the EIA process in Azerbaijan:

(i) Submission of Application and Initial Examination

The developer submits to the MENR head office a formal application, the format and content of which must comply with an established format. An initial examination of the application of the proposed activity is made by the MENR within the first month of the EIA process and the expected impacts of the proposed activity are considered. This may include preliminary consultations with other agencies, non-Governmental organisations (NGOs), experts and initial public inquiries. On the condition that the activity is likely to cause only minor impacts on the environment, the application may be approved with some conditions. If the activity is assessed to result in significant impacts, a full EIA is required. A decision on processing charges is taken and a scoping meeting with representatives of the applicant, invited experts and invited members of the public is organized and chaired by the MENR. Based on the outcome of this meeting, the MENR will notify the developer of the required scope and depth of the investigation and public consultation during the EIA study.

(ii) Review of EIA Report through the MENR/the Environment Expert Review Group

Upon submission of the EIA report the MENR has three months to review the document. During this stage, an environment review expert group of 5-11 skilled and experienced members (e.g. members of the Academy of Science, university staff or officials from other ministries) is formed. There are no firm requirements on group composition, but the MENR has a roster of experts and composes each commission based on case-specific considerations. This environment review expert group is chaired by the MENR and carries out the public submissions, investigations and consultations. Finally, a written review of documentation together with recommendations is submitted by the environmental review expert group to the MENR.

(iii) Decision by the MENR

At this stage, the MENR decides on whether to refuse the application or to approve it, with or without conditions. Conditions for the approval that might be typically be considered in the present context mainly relate to the construction phase and may include site management; noise; dust, discharges to the air land, subsurface or water, solid waste management, fire risk, emergency contingency plans, etc. If the application is approved with conditions, either the activity starts or the developer decides to appeal against the conditions. If the application is accepted, the developer must provide a report to the MENR on progress within 12 months of the MENR decision.

During construction of the project, the developer must monitor parameters as indicated in the MENR's decision notice. If project designs change significantly from those studied in the feasibility phase EIA, additional reports on the impacts of the changes may be requested by the MENR. Controls are made by the MENR on the accuracy and the reliability of the developer's monitoring results. If it appears that there is a risk of the conditions being breached, the MENR will issue a warning on the developer. If the conditions are breached, the developer is obliged to stop whatever activity is causing the breach of the conditions. In such cases the MENR may reconsider the approval, possibly with the participation of the Environmental Review Expert Group, and the conditions of approval may be reviewed.

Figure 3.1 shows the sequence of events and the actors involved at the various stages of the EIA process.

The procedures of the Handbook on EIA in Azerbaijan cover all major stages/components of the internationally recognized EIA process like screening, scoping, conduct of base-line studies, EA report preparation and review and post-EIA monitoring. The Handbook establishes the main principles and elements of the an international EIA process, notably

- the sequence of events, roles and responsibilities of developers and Government institutions, charges;
- the purpose and scope of the EIA report;
- public participation in the process;
- the environmental review and decision;
- the process involves various stakeholders, considers public opinion and aims at environmentally conscious decision making.

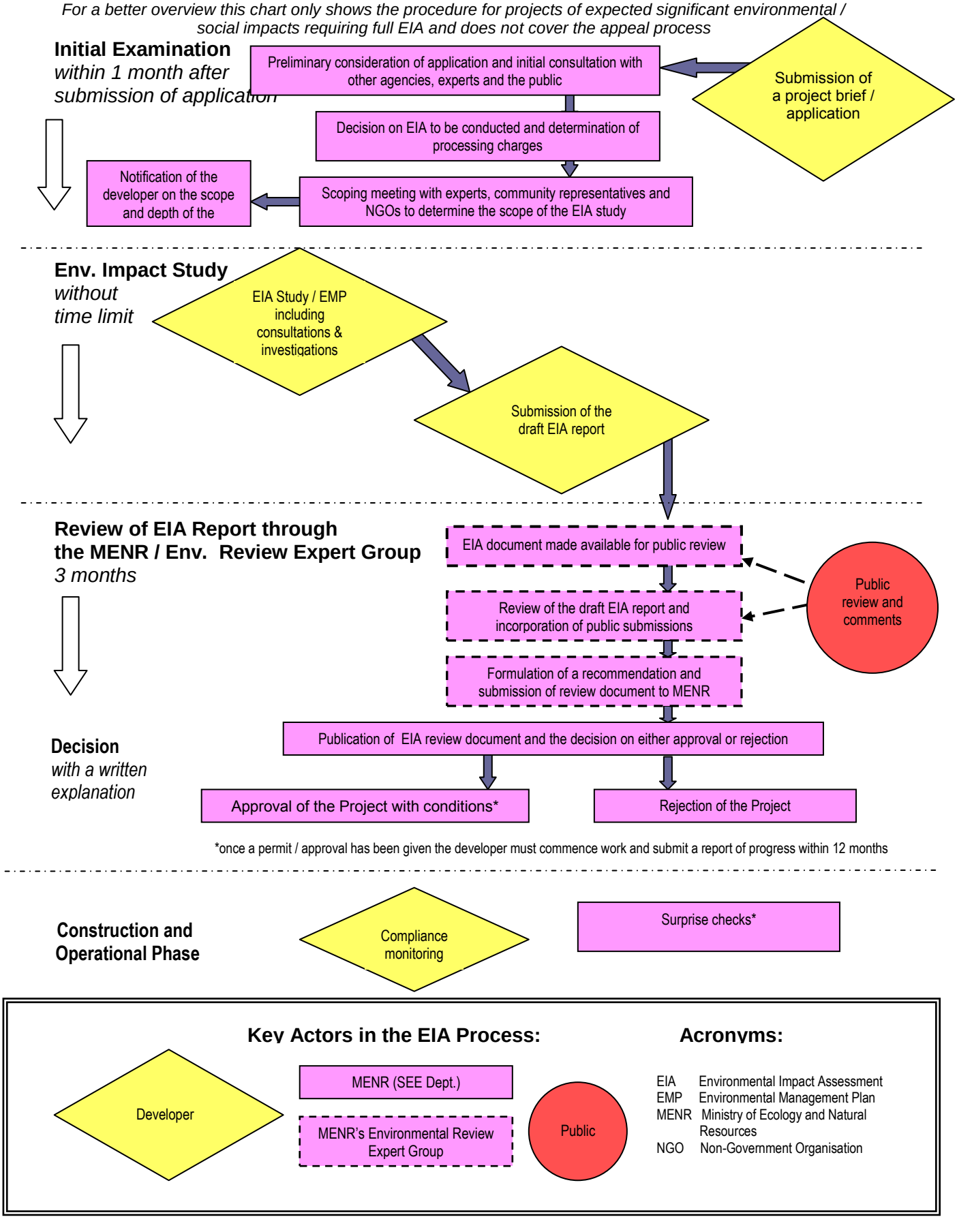
A distinctive screening list with activities that are likely to cause significant environmental impact is not established either by the Law on EP nor by the EIA Handbook.

In relation to public participation, the Law on EP and the EIA Handbook do not contain clear regulations/procedures on public participation and the access for the public to the relevant information and thus do not meet international requirements for public participation at the present time.

Further information relating to the EIA process in Azerbaijan, including how its requirements will be taken into account in Project preparation and implementation, is presented in the Environmental Assessment and Management Framework (EA&MF).

Figure 3-1: EIA Procedures According To:
'Handbook for the EIA Process in Azerbaijan' 1996

For a better overview this chart only shows the procedure for projects of expected significant environmental / social impacts requiring full EIA and does not cover the appeal process



3.2 National Laws and Regulations on Land Acquisition and Resettlement

Article 29 of the Constitution of Azerbaijan (12th of November 1995) establishes the right of citizens to possess property and the protection of their property rights. It also ascertains that no one is dispossessed of land without appropriate Court safeguards, and that alienation of property for State needs shall only be allowed upon fair reimbursement of the market value of the asset in question.

However, there is no specific national legislation in Azerbaijan on involuntary resettlement.

The following national regulatory instruments provide a basis for regulating and managing the acquisition of and compensation for land, property and productive assets:

- Land Code (25 June 1999).
- Civil Code (1 December 1998).
- Cabinet of Ministers Resolution No.42 (15 March 2000).
- Cabinet of Ministers Resolution No.110 (June 1999).
- Decree on application of the Road Law (2000).
- Decree on Additional Activities for Regulating the Use of Road Reserves (2004).

The Land Code:

(a) Provides compensation for the loss of land on the basis of valuations made in accordance with the Azerbaijan Standard Code No. 158, 1998;
(b) Allows recourse to justice through the Courts; and
(c) Provides the basis for a land-for-land compensation option.

The Civil Code and Land Code provide the basis for acquisition of land for projects of national interest and needs. The Cabinet of Ministers Resolution No. 42 outlines procedures for the acquisition. Collectively, these regulations consider two options for the land acquisition payable only to the legal landowners; notably, (i) land-for-land, and (ii) compensation based on market prices. Any dispute over compensation will be subject to resolution in the Courts. The Decree on the Application of the Road Law and the Decree on Additional Activities for Regulating the Use of Road Reserves designate the Cabinet of Ministers as the Agency to approve road reserves and the acquisition of affected properties.

The current legislation relating to the status and control of the road reserves has its foundations in the land laws of the Soviet era. Prohibition of activities in the road reserve is outlined in the 1989 Road Decree, which itself refers to an earlier legal instrument No. 228 of the 3rd of July 1976. Since independence, a Decree on the Application of the Road Law of 2000 and Decree No. 18 of February 2004 on additional activities aimed at regulating the use of the road reserve.

According to Azerbaijan Republic legislation, there are two possible scenarios of land acquisition:

1. Land owner is provided with the equal size and quality of land.

2. Land owner is compensated by proponents of the land acquisition on the basis of current market prices.

Any dispute is the subject of Court consideration.

Chapter 3.3 summarises the legislation relating to the status and control of the land reserve. However, the real situation with land reserves excludes the first scenario. Local authorities either have no land reserves, or the quality of these lands is much lower than the land owned by people. Thus, the main scenario for smooth land acquisition is just valuation on basis of current market prices and timely compensation of these lands to their owners.

There is no specific national legislation in Azerbaijan on involuntary resettlement.

The Decree on the Application of the Road Law and the Decree on Additional Activities for Regulating the Use of Road Reserves designate the Cabinet of Ministers as the Agency to approve road reserves and the acquisition of affected properties.

3.2.1 Compensation Valuation Methods in Azerbaijan

3.2.1.1 Land, Crop and Tree Compensation

Procedures for valuation for compensation and other purposes are laid down in the Land Law, the Land Code, as well as the following legal instruments:

- Resolution #42 on Some Normative and Legal Acts relating to the Land Code;
- Cabinet of Ministers Resolution No 110 – On Approval of Regulations for an Inventory Cost estimation of Buildings.

For agricultural land values are based on land attributes (productivity of soils and regional agricultural characteristics), input costs and typical revenues achieved in each district. Cadastre based values are then reviewed in each district by a Valuation Commission and adjusted upwards where necessary to reflect changes in crop types and productions levels. Market prices for valuing crop production are determined based on local market prices.

3.2.1.2 Annual Crops

Compensation payable for loss of annual crops is determined by the Valuation Commission for each district that uses certified data on the productivity of crops and average price of produce as issued by the district Department of Statistics[28].

3.2.1.3 Perennial Crops (Trees, Shrubs and Vines)

Compensation for every single tree and shrub growing along the motorway (thus not included to Forestry Fund of Azerbaijan Republic) and supposed to be cut or replanted within the project activity has to be conducted in agreement with Rules for Use, Protection and Preservation of Trees and Bushes which are not included to the Forestry Fund of Azerbaijan Republic (19 of September, 2005). Perennial crops such as fruit trees, grape vines, and blackberry bushes placing within the private yards and orchards are valued on a per tree or per shrub basis by applying a standard formula.

[28] The procedure to be used in preparing these certificates is prescribed in Cabinet of Ministers Resolution No. 164 (25 November, 1996).

3.2.1.4 Permanent Acquisition of Land

The land compensation price must be based on the market price, provided that such price is not less than the cadastral or normative price for the subject land (*Land Code*, article 96.5). Normative or cadastral rates for lands in each district are established by *Cabinet of Ministers Resolution No. 158 On Establishment of New Normative Prices for Land in the Azerbaijan Republic (23 July, 1998)*.

The Project will pay compensation for permanent acquisition of land based on negotiated rates. The government normative or cadastral rates will be the minimum.

During land privatisation, land titles allocated to families had all members of the family as of 1996 listed on the land parcel ownership certificate. In these cases, the household head is responsible for signing project documentation relating to leases or assignment of rights. The household head must, however, obtain the written consent of all other people listed on the ownership documents.

3.2.1.5 Compensation for Immovable Assets and Land Attachments

This covers a range of items such as fences, walls, animal enclosures, small irrigation channels, drains, wells, hand pumps, artesian bores, water pumps, hay sheds, animal shelters and roads. These items will be valued on the basis of full replacement cost.

3.2.1.6 Compensation for Temporary Access Roads

Compensation for temporary access roads will be calculated on a similar basis to the land temporarily acquired for the highway construction. Compensation will cover the following components:

- Loss of annual crop production
- Potential crop yield reduction for three years
- Loss of any trees or perennial crops
- Loss of use of grazing land
- Loss of immovable assets and land attachments.

Upon construction of completion, the land used for temporary access roads will be reinstated to its pre-project condition and returned to the owner or user.

3.2.2 Entitlements

For each land acquisition process, the ARS will define a package of entitlements for each category of PAPs in accordance with the national Azerbaijan legislation and provisions under this RPF and the World Bank OP 4.12, to ensure that fair and proper entitlements are provided to all people who might be affected by the road widening works. A detailed entitlement matrix will be developed in the RAPs of each sub-project, after an accurate census and household surveys have been carried out. The entitlement matrix will provide a summary of the package of entitlements for each category of PAPs. The Project Sponsor or Borrower Implementation Agency, notably the ARS, will have the responsibility for ensuring that the actions defined in the RAP are fully implemented.

The World Bank's OP 4.12 requires the development of an entitlement matrix and RAPs. The entitlement matrix provides a summary of entitlements eligible for each type of PAPs against categories of impacts.

A census will be carried out as part of the RAP and a list of the categories of entitlement will be drafted for the Project and sub-projects.

3.2.3 Gap analysis

The following World Bank's OP 4.12 requirements are covered by current Azerbaijan law:

- Land Code, Article 70.5: the requirement to pay compensation in advance where land is compulsorily acquired.
- Land Code Articles 8 and 70.5: the need to compensate based on full market value or through grant of another land plot or building of equal quality, size and value.
- Cabinet of Ministers Decree No. 42, Section I, Article 2: the need to avoid, wherever possible, impacts on agricultural land and forests.
- Cabinet of Ministers Decree No. 42, Sections I and II: the requirement to compensate for losses, whether temporary or permanent, in production or damage to productive assets and crops.
- Provision for pre-judicial avenues for resolution of disputes and rights of appeal.

The following World Bank OP 4.12 requirements are not addressed by national law and will therefore be addressed by the Project and sub-projects, notably:

1. Resettlement Action Plans (RAPs) and procedural requirements. Under the national legislations, no particular plan that fulfils the standard requirements of RAP needs to be prepared. Therefore, under the Project and sub-projects, RAPs will be prepared for each sub-project which results in impacts that trigger the World Bank OP 4.12, as per policies and procedures laid out in this RPF. In particular, the Project will take steps to undertake the activities of a RAP, such as a census, socio-economic survey, consultation with the PAPS, monitoring and reporting.

2. Public consultation and participation of project affected communities. Existing national legislation does not require resettlement plans be disclosed to and consulted with local affected people. Similarly, no particular provisions are established to redress grievances that may occur to PAP. Hence, under the Project and sub-projects, the PAPs will be informed of and participate in the establishment of compensation and rehabilitation measures, and provided with measures to redress grievances, as defined in this RPF.

3. Categories of people eligible for compensation. Under the national legislation, only those people and entities with registered property rights are entitled to compensation. This potentially precludes many categories of affected people that would be entitled to compensation under the World Bank Safeguard policies, including:

    - Users who use land on the basis of an informal agreement often with a relative or extended family member (share croppers, tenant farmers).
    - Owners who occupy land that was transferred by informal agreement from another owner.
    - Owners who have not registered a change in ownership following a family death, marriage annulment or similar situation.
    - Internally Displaced People (who have no rights to land).
    - People who make use of communal resources to which they have no formal title.

- Informal dwellers.

In order to ensure compliance with the World Bank OP 4.12, all affected households and business entities, without regard to their legal status, will be eligible for compensation as defined in the Entitlement Matrix attached to this RPF.

4. Extent of compensation and types of assistance to be offered. The current national legislation in Azerbaijan establishes that compensation is payable for loss of land, buildings, crops, profit and other damages arising from the acquisition of land for a project. Other costs, such as moving cost or rehabilitation support to restore the previous level of livelihood, will also be covered by the Project in order to satisfy the World Bank OP 4.12 requirements.

5. Property measurement. Under the Azerbaijan law, compensation is equal to the market value of lost properties, which may not be sufficient to fully restore livelihoods of PAP as required under the World Bank OP 4.12. Also, property values are established by relevant government departments and/or agencies. Anecdotal evidence suggests that these values may be out of date and hence do not guarantee that compensation will be at replacement value. In order to address the gap, valuation of compensation under the Project will be established based on the following: (i) a survey will be conducted when the RAPs are prepared to assess current market value of affected assets/cost items (land, crops, buildings, labour etc) and (ii) the findings of the survey will be used to establish unit values to be used in computing compensation eligible to each PAPs.

3.3 Legislation Relating to the Status and Control of the Road Reserves

The current legislation relating to the status and control of the road reserves has its foundations in the land laws of the Soviet era. Prohibition of activities in the road reserve is outlined in the 1989 Road Decree, which itself refers to an earlier legal instrument Number 228 of the 3rd of July 1976. Since independence, a Decree on the Application of the Road Law of 2000 and Decree No. 18 of February 2004 on additional activities aimed at regulating the use of the road reserve. Summaries of instructions given in these and other decrees are given in the following sections.

1976 Road Decree

The 1976 Decree refers back to the Construction Norms and Rules, SNiP 467/74 that defined the requirements for a 60 metre wide road reserve[29] for State and Republican Roads and a 25 metre wide road reserve for Local Roads. This decree gives legal standing to the width requirements for road reserves given in the construction standard.

1989 Road Decree No. 461

The 1989 decree again reinforces the road reserve width requirements given in the 1976 Decree. Article 7 outlines prohibited activities and constructions in the road reserve and assigns rights for the roads authority to evict illegal occupants on 15 days notice, at the conclusion of which, the roads authority may demolish the constructions without compensation and use the resultant materials in the construction of the road. This 1989 decree also formalised a procedure for the road authority to review and authorise applications for developments within 200 metres of each side of the road centreline in

[29] The road reserve width is defined as being 30 metres wide on each side of the centre-line, totaling 60 metres.

respect of aspects including maintenance of the road reserve and access provisions to the main road.

2000 Decree on Application of the Road Law

One of the main purposes of this decree was to update the 1989 Decree, especially in regard to the designation of responsible agencies. Article 14 outlined that the width of road reserves will be confirmed by the Cabinet of Ministers. Processes for inclusion of new areas into the road reserve, and acquisition of affected properties, are described, and it is stated that those permitted to use lands within the road reserve must be notified of the conditions of this use upon agreement of use terms. Article 33 states that commercial enterprise may be undertaken with Roads Authority approval within the road reserve.

2004 Decree on Additional Activities Aimed at Regulating the Usage of Road Reserves in the Republic of Azerbaijan

This recent decree designates responsible agencies for various issues relating to the road reserve and adjacent land use, including the preparation of an inventory of national road reserves to identify illegal and legal occupiers and properties, and for ongoing maintenance and protection of the road reserve. These inventories indicating the legitimacy and value of all occupiers and properties were required to be submitted to the Cabinet of Ministers.

3.4 Other National Road Sector Laws and Regulations

Other laws and regulations relevant to the road sector in Azerbaijan are summarised in Table 3-2:

Table 3-2: National Road Sector Laws and Regulations

Reference	Description
Azeri Law on Automobile Roads (March 10, 2000) Section 39: Protection of the Environment	Spells out that any construction or reconstruction of roads requires the official approval of the Ecological Committee, that state of the art technology must be applied and that the chemicals that are used must be environmentally sound. The unit of the Ministry responsible for road environment must approve the proposed environmental, health and safety norms of the construction.
SNIP 2.05.02-85 Building Code & Regulations for Automobile Roads Ch. 3: Environmental Protection	Indicates the general need to minimize adverse environmental impacts in road design and provides, for instructions on the removal and re-use of top soil (no. 3.4); the need to provide buffer between the road and populated areas and to carry out noise reduction measures to assure compliance with the relevant sanitary norms (no. 3.9); on the dumping of excess materials (no. 3.12).
The Law of the Republic of Azerbaijan on Sanitary and Epidemiological Safety, 1993 Section III: Responsibilities of State Bodies, Agencies, Companies… on the Provision of Sanitary and Epidemiological Safety	General framework provisions on the requirement to provide healthy and safe conditions at workplaces and work camps (and many others) in compliance with the relevant sanitary hygiene, construction regulations and norms (particularly items 14, 15 and 16).
Safety Regulations for Construction, Rehabilitation and Maintenance of Roads 1978	Comprehensive compilation of safety rules to technical safety requirements of road construction equipment, operation and maintenance of asphalt plants, work in borrow sites, loading and unloading operations, work with toxic substances, etc.
SNIP III-4-80	Detailed regulations on construction worker's health and

Reference	Description
Norms of Construction Safety	safety. Chapters 2 and 5 provide organisational procedures of construction and work sites and material transport. Annex 9 contains standards on maximum concentrations of toxic substances in the air of working zones; Annex 11 specifically claims that workers need to be informed and trained about sanitation and health care issues and the specific hazards of their work.
Guidelines for Road Construction, Management and Design, February 7, 2000	Addresses environmental issues in road design, construction and maintenance.
Part I: Planning of Automobile Roads	Requires minimisation of impacts on the ecological, geological, hydro-geological and other ecological conditions, by implementing adequate protective measures.
Part II: Construction of Automobile Roads	Requires the consideration of appropriate protection measures, which shall contribute to the maintenance of stable ecological and geological conditions as well as the natural balance.
Part III: Protection of the Environment	Provides general overview on the requirements for environmental protection.
BCH 8-89 Regulations on Environmental Protection in Construction, Rehabilitation and Maintenance of Roads	Comprehensive provisions on environmental protection measures in road construction such as use of soils, protection of surface and groundwater resources, protection of flora and fauna, use, preparation and storage of road construction machinery and materials, servicing of construction machinery; provisional structures, provisional roads, fire protection, borrow pits and material transport, avoidance of dust, protection of soils from pollution, prevention of soil erosion etc. The appendices to this document also state standard for: maximum permitted concentrations of toxic substances; noise control measures; soil pollution through losses of oil and fuel from construction equipment; quality of surface water.
Sanitary Norms CH 2.2.4/2.1.8.562-96; 1997	Ambient noise quality standards for residential, commercial and industrial areas, hospitals and schools (day/night standards);
SNIP II-12-77, Chapter II: Norm of designing for noise protection	Identification of different noise sources, full list of maximal noise level for different areas (residential, hospitals, industrial etc.) in different daytime, technical description of different measures for noise level reduction etc are present in the document.
Reg. 514-1Q-98 Regulation on Industrial and Municipal Waste	This law includes requirements for industry and enterprises on the implementation of identified standards, norms and environmental protection for waste when designing, constructing or reconstructing.
GOST 13508-74	Describes the requirements and standards for white lining for the various road categories.
Law of the Azerbaijan Republic on subsurface	This Law shall regulate relations in connection with the development (exploration, research), efficient use, protection and safety of works in the subsurface on the territory of the Azerbaijan Republic, including subsurface in the Azerbaijan Republic section of the Caspian Sea (Lake), provide for the protection of interests of the state, users of the subsurface and individuals in course of use of the subsurface
Law of the Azerbaijan Republic on	This Law shall established legislative provisions related to

Reference	Description
Fertility of Lands	reinstatement, increase and protection of fertility of state, municipal and private lands in the Azerbaijan Republic.
Rules of Issue of the Status of "Mountainous-Mining Allocation" To Subsurface Section For Extraction of Mineral Resources, Construction and Operation of Underground Facilities Not Associated with Extraction of Mineral Resources	These Rules shall establish procedures for the issue of the status of "Mountainous-Mining Allocation" to a subsurface section upon special permission (license) for extraction of mineral resources and construction and operation of underground facilities not associated with extraction of mineral resources on the territory of the Azerbaijan Republic.
Rules for Liquidation and Conservation of Enterprises Engaged into Extraction of Mineral Resources, Mountainous-Mining Excavations, Drilling Wells and Underground Facilities not associated with extraction of mineral resources	These Rules shall be compulsory for all subsurface users irrespective of the type of ownership engaged into exploration, extraction of mineral resources and construction and operation of underground facilities not associated with mineral resources in the territory of the Azerbaijan Republic and the Azerbaijan Republic section of the Caspian Sea (lake).
The law of the Azerbaijan Republic on ecological safety No 677-IG	This Law includes establishment of the legal framework for the purpose of protection of lives and health of individuals, the public, material and moral values thereof, the environment, including atmospheric air, cosmic space, water objects, subsurface, soils, natural landscapes, flora and fauna from hazards which may arise as a result of impact of natural and anthropogenic factors.
Presidential decree on "Creation of Nature Reserve for group of mud-volcanoes of Baku and Absheron peninsula" 15 August 2007	This decree is addition to the Law on Protected Areas (2000) and includes establishment of the legal framework for the purpose of protection of unique landscape forming by mud-volcanoes occurring on the area.
Rules for Use, Protection and Preservation of Trees and Bushes which are not included to the Forestry Fund of Azerbaijan Republic (No 173; 19 of September, 2005)	This document includes detailed description of trees and shrubs that are not include to the forestry Fund and the way of their protection as well as the exclusions and the regulation in case of necessity of their cutting or replanting.

Source: Finnroad (2005) *Tovuz Bypass Project with additions*

3.5 Legislation on Matters Related to Refugees and Internally Displaced People

The Azerbaijan legislation on matters related to refugees and internally displaced people (IDP) include:

- The law of the Republic of Azerbaijan "On status of refugees and internally displaced (persons displaced within the country) persons", 21st of May 1999.
- The law of the Republic of Azerbaijan "On social protection of internally displaced persons and persons equated to them", 21st of May 1999.
- Presidential Order No. 187, "About the State Committee of Azerbaijani Republic on Affairs of Refugees and Compelled Immigrants", First of February 2005.
- Presidential Order No. 298, "About additions made to the State Programme on Improvement of living conditions of refugees and compelled immigrants and on employment increase", First of July 2004.

The law of the Republic of Azerbaijan "On status of refugees and internally displaced people (i.e. persons displaced within the country) 21st of May 1999" provides general principles and defines the legal status and rights of IDP and non-IDP refugees, and describes main principles and mechanisms of State assistance to these people.

The Article 2 of the law of the Republic of Azerbaijan "On social protection of internally displaced persons and persons equated to them, 21st of May 1999", defines that those refugees who came from outside the territory of Azerbaijan due to conflict with Armenia are provided the equal entitlements and legal status as IDPs. The same law defines measures regarding the provision of shelters for IDP and non-IDP refugees and the social protection of IDP, in addition to the associated responsibilities of the State.

Presidential Order No. 187, "About the State Committee of Azerbaijani Republic on Affairs of Refugees and Compelled Immigrants, First of February 2005" defines the role and functions of the State Committee for Refugees and IDPs (SCRI) as a Central Executive Body responsible for the implementation of State policies on the settlement, repatriation and the social protection of IDPs and non-IDP refugees, in addition to the improvement of their household conditions.

Presidential Order No. 298, "About additions made to the "State Programme on the improvement of living conditions of the refugees and compelled immigrants and on employment increase, 31st of December 2007" provides amendments to the State Programme approved on the First of July 2004. The revised Presidential Decree provides the Plan to develop apartment buildings and new settlements to accommodate IDPs and non-IDP refugees temporarily settled in Baku, Absheron and other rayons. The Plan specifies that the new apartments to be built will be provided with necessary infrastructure, such as electricity, water supply, educational, cultural, health and other necessary social entities.

3.6 Institutional Framework

3.6.1 Environment

The key environmental institution in Azerbaijan is the Ministry of Ecology and Natural Resources. The MENR, which was formed from the former State Committee for Ecology and Natural Resources Utilisation, was established by Presidential Decree in 2001. At that time, the MENR took over the functions of several other state bodies such as the departments of Hydrometeorology, Geology, Forestry and Fishery. The MENR's activities are sub-divided into the following main areas:

- Environmental policy development
- Environmental protection
- Water monitoring and management
- Protection of marine (Caspian Sea) bio-resources
- Forest management
- Bioresources and protected areas management

The MENR's State Ecological Expertise (SEE) department is responsible for the review and approval of environmental impact assessments (EIAs) submitted by developers.

The other Government institution involved in the preparation and implementation of the Project is the ARS (Azerroadservice), in particular the Highway II Project Implementation Unit and the Ecology and Safety Sector (ESS), a relatively new department established under the ARS's. ARS's ESS will have the responsibility for ensuring the implementation

of the recommendations contained in the EA&MF and for ensuring compliance with national environmental standards.

There are over 60 ecological Non-Government Organisations (NGOs) in Azerbaijan.

3.6.2 Land Acquisition and Resettlement

The ARS's Road Protection Service (RPS) is responsible for control of the road reserve and vehicle overload control. The RPS has spearheaded the preparation of the inventories of properties within the road reserve, coordinating the local representatives of each of the authorities with designated responsibilities for the inventory. The RPS has a central office in Baku and several regional offices throughout the country.

The ARS (through its Traffic Regulation sector) is required to issue permits to build and operate developments within the road reserve. This requirement was first introduced in the 1989 Decree No. 461, however most of the owners of buildings within the road reserve either (i) did not apply to the ARS for this permission; or (ii) constructed buildings within the 60 metre wide road reserve, despite having received a permit from the ARS for construction outside the road reserve.

Protection of the road reserve and prevention of further encroachment is also the responsibility of the Ministry of Transport (designated to the RPS) with the Ministry of Internal Affairs and local Executive Authorities (local district governments).

The local Executive Powers and Municipalities have general powers for approving new building developments in respect of planning requirements, appearance, architectural style and construction standards. Local officers are required to instruct building owners to stop construction of illegal buildings in the road reserve[30], and obliged to seek permission from the Ministry of Transport and the State Committee on Mapping and Land approval for any such developments. The February 2004 Decree also requires the Local Executive Powers and Municipalities to participate with the Ministry of Internal Affairs, Ministry of Economic Development, Ministry of Finance and the State Committee of Construction and Architecture in preparing inventories of all structures in the road reserve, identifying their legitimacy and value. These inventories are required to be submitted to the Cabinet of Ministers who then directs appropriate action.

The Land Acquisition Department (LAD) is a relatively new department within the ARS. This department will be tasked with carrying out future resettlement procedures and will have that have responsibility for the coordination studies including their consultation and disclosure; liaison with the relevant ministries and agencies regarding approvals and clearances; and the practical implementation of related plans.

[30] As multiple permits are required for construction in the right of way, those from local executive authorities and municipalities are only part of this process. Gaining all required permits is the responsibility of the applicant, however the February 2004 decree law places new emphasis on the role of local agencies in ensuring that the Ministry of Transport approvals are in place before they grant local approval.

3.7 International Conventions

Azerbaijan is a signatory to most international agreements and conventions relating to the environment.

Table 3-3: International Agreements and Conventions

International Convention	Year ratified
UNESCO Convention on Protection of World Cultural and Natural Heritage	1994
UN Framework on Climate Change	1995
UN Convention for the Protection of the Ozone Layer (Vienna Convention)	1996
Agreement on Mutual Cooperation of the Commonwealth of Independent States in the area of Hydrometeorology	1998
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and Agreement on Protection of Sturgeons	1998
UN Convention to Combat Desertification	1998
UN Convention on Environmental Impact Assessment in the Trans-boundary Context (Espoo Convention)	1999
Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)	1999
UNECE Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention)	1999
UNESCO Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention)	2000
UNECE Convention on the Protection and Use of Trans-boundary Watercourses and International Lakes (Helsinki Convention)	2000
UN Convention on Biological Diversity	2000
Food and Agriculture Organisation (FAO) Convention on Plant Protection	2000
Protocol on UN Framework Convention on Climate (Kyoto Protocol)	2000
Protocol on Substances that Deplete the Ozone Layer (Montreal Protocol)	2000
European Agreement about Transportation of Dangerous Goods on International Routes	2000
UN Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (Basel Convention)	2001
UNECE Convention on Long-Range Trans-boundary Air Pollution	2002

Source: www.biodiv.org

Based on article 151 of the Azerbaijan Constitution, international Conventions over-ride national laws if there is any conflict. With regard to the context of the present 'Motorway Improvement and Development Project', the Law on EP specifically states that SEE is guided, *inter alia*, by international legal obligations.

Azerbaijan is a party to the UN Economic Commission for Europe (UNECE) *Convention on EIA in a Trans-boundary Context* (or *Espoo* Convention[31]), which stipulates the obligations of Parties to assess the environmental impact of certain activities at an early stage of planning. The Convention also lays down the general obligation of States to notify and consult each other on all major projects under consideration that are likely to have a significant adverse environmental impact across boundaries.

The present Project will be physically restricted to the territory of Azerbaijan, so that issues of serious trans-boundary concern may not be expected.

The fact, however, that Azerbaijan ratified this Convention suggests that the general and internationally accepted principles that apply to the EIA process and that are laid down in

[31] ratification 01.02.1999

this Convention are accepted. This becomes relevant with regard to the provisions of Appendix I, which contains a list of activities to which the Convention applies[32], to Appendix II, which describes the minimum information to be provided in the EIA documentation and finally regarding the provisions of Annex III, which determines criteria to assist in the determination of the environmental significance of activities not listed in Appendix I of the Convention.

The objectives of the *Convention on Wetlands of International Importance as Waterfowl Habitat* ('Ramsar Convention') are to stem the progressive encroachment on and loss of wetlands now and in the future, recognising the fundamental ecological functions of wetlands and their economic, cultural, scientific and recreational value; and to coordinate international efforts for this purpose. Signatories are obliged to: (i) specify at least one wetland on a List of Wetlands of International Importance; (ii) encourage the wise use of wetlands; (iii) establish wetland reserves, cooperate in the exchange of information and shared wetlands species.

Ramsar Convention is the Convention on Wetlands of International Importance especially as Waterfowl Habitats. This is first international agreement for protection and rational using of natural resources. This convention was signed in Ramsar city (Iran) at 2 February of 1971.

There are more than 100 countries jointed to the Ramsar Convention at the present moment and the list of sites at present includes over 900 sites.

There are 4 more criteria to including site in Ramsar Convention:

1. Criteria of originality or representativeness (typicalness for the present landscape or the territory)
2. General criteria based on plants and animals
3. Special criteria based on waterfowl (like regular holding of no more than 20 000 waterfowl at least in one main season of the year – wintering, breeding, migration or molting)
4. Criteria based on fishes

Information of sites which were identified as Ramsar site, but were not include in Ramsar convention yet holds in Wetland International data base and updates regularly. These sites called Potential Ramsar Sites. Sea/shore, inlands and anthropogenic wetlands can be included in Ramsar Sites list.

The *Convention on Biological Diversity* seeks to ensure conservation of biological diversity and sustainable use of its components. The World Bank is one of the Implementing Agencies for channelling resources available from the Global Environment Facility (GEF) to viable biodiversity projects in developing countries and is engaged in project lending for environmentally sustainable development. The first national report on Azerbaijan's biodiversity was issued in April 2004[33].

[32] point 7 of the List of Activities reads: (a) Construction of motorways, express roads 2/ and lines for long-distance railway traffic and of airports 3/ with a basic runway length of 2,100 metres or more; (b) Construction of a new road of four or more lanes, or realignment and/or widening of an existing road of two lanes or less so as to provide four or more lanes, where such new road, or realigned and/or widened section of road, will be 10 km or more in a continuous length.

[33] Anon (2004) *Country Study on Biodiversity and First National Report: Republic of Azerbaijan*

The UNECE *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters* (also 'Aarhus Convention'[34]) establishes a number of rights of the public (citizens and their associations) with regard to the environment. Public authorities (at national, regional or local level) are to contribute to allowing these rights to become effective. The Convention provides for:

- The right of everyone to receive environmental information that is held by public authorities ('access to environmental information'). This can include information on the state of the environment, but also on policies or measures taken, or on the state of human health and safety where this can be affected by the state of the environment. Citizens are entitled to obtain this information within one month of the request and without having to say why they require it. In addition, public authorities are obliged, under the Convention, to actively disseminate environmental information in their possession;
- The right to participate from an early stage in environmental decision-making. Arrangements are to be made by public authorities to enable citizens and environmental organisations to comment on, for example, proposals for projects affecting the environment, or plans and programmes relating to the environment, these comments to be taken into due account in decision-making, and information to be provided on the final decisions and the reasons for it ('public participation in environmental decision-making');
- The right to challenge, in a court of law, public decisions that have been made without respecting the two aforementioned rights or environmental law in general ('access to justice').

3.8 World Bank Safeguard Policies

The World Bank's environmental and social safeguard policies are regarded as a cornerstone of its support to sustainable poverty reduction. The objective of these policies is to prevent and mitigate undue harm to people and their environment in the development process. These policies provide guidelines for the World Bank and borrowers in the identification, preparation and implementation of programmes and projects.

Environmental Impact Assessment (EIA) is one of 10 environmental, social and legal safeguard policies of the World Bank. EIA is used in the World Bank to identify, avoid and/or mitigate the potential negative environmental impacts associated with lending operations. The purpose of EIA is to improve decision making, to ensure that project options under consideration are sound and sustainable, and that potentially affected people have been adequately consulted. The World Bank's environmental assessment policy and recommended processing are described in Operational Policy (OP)/Bank Procedure (BP) 4.01: Environmental Assessment. This policy is considered to be the 'umbrella' policy for the World Bank's environmental 'safeguard policies'. For the present Motorway Improvement and Development Project, the relevant safeguard policies to be considered at all stages of preparation and planning are:

- Involuntary Resettlement (World Bank OP/BP 4.12);
- Natural Habitats (World Bank OP/BP 4.04: Natural Habitats 2001);
- Forestry (World Bank OB/BP 4.36);
- Management of Cultural Property (World Bank OP 11.03).

The World Bank's requirements on Information Disclosure are detailed in *The Disclosure Handbook 2002*.

[34] ratification 09.11.1999

The World Bank OB/BP on ***Involuntary Resettlement*** requires WB-assisted projects to avoid or minimize involuntary land taking. If such cannot be avoided, displaced persons need to be meaningfully consulted, compensated for lost/damaged assets and assisted in restoring or improving their living standards and livelihood. The policy requires that if involuntary land taking and resettlement become necessary, a clear plan for compensating and assisting displaced persons be prepared by the borrower by appraisal for the World Bank's review. Such a plan must be substantially completed prior to the commencement of civil works.

The World Bank OP/BP on ***Natural Habitats*** seeks to ensure that WB-supported infrastructure and other development projects take into account the conservation of biodiversity, as well as the numerous environmental services and products which natural habitats can provide to human society. The policy strictly limits the circumstances under which any WB-supported project can damage natural habitats, i.e. such land and water areas where most of the native plant and animal species are still present. Specifically, the policy prohibits the World Bank support for projects which will lead to significant loss or degradation of any Critical Natural Habitats, whose definition includes those natural habitats which are either:

- legally protected;
- officially proposed for protection;
- unprotected, but known of high conservation value.

In other (non-critical) natural habitats, the World Bank-supported projects can cause significant loss or degradation only when:

- there are no feasible alternatives to achieve the project's substantial overall net benefits; and
- acceptable mitigation measures, such as compensatory protected areas, are included within the project.

As mentioned earlier, Azerbaijan is a signatory to the Convention on Biological Diversity, which seeks to ensure conservation of biological diversity and sustainable use of its components. The World Bank is one of the Implementing Agencies for channelling resources available from the Global Environment Facility (GEF) to viable biodiversity projects in developing countries and is engaged in project lending for environmentally sustainable development. The World Bank may assist parties to meet their obligations under the convention, including the following:

- development and implementation of national strategies, plans or programmes for the conservation and sustainable use of natural resources;
- integration of conservation and sustainable use of natural resources into relevant sectoral and cross-sectoral plans, programmes and policies.

At the Project level, the World Bank seeks to ensure that its lending operations comply with international obligations to protect biodiversity. EIAs for the World Bank should take into account the impacts of proposed projects on a country's biodiversity.

The World Bank OP/BP on ***Forestry*** aims to reduce deforestation, enhance the environmental contribution of forested areas, promote afforestation, reduce poverty and encourage economic development. The policy defines a forest as an area of land of not less than 1.0 ha with a tree crown cover (or equivalent stocking level) of more than 10% that has trees with the potential to meet a minimum height of 2 m *in situ* (in its original position). The World Bank does not finance projects that, in its opinion, will involve

significant conversion or degradation of critical forest areas or related critical natural habitats. Critical forest areas are natural forest lands which are:

- existing protected areas and areas officially proposed by governments as protected areas, areas initially recognized as protected by traditional local communities, and sites that maintain conditions vital for the viability of these protected areas;
- sites identified by the World Bank or an authoritative source, such as areas with known high suitability for biodiversity conservation and areas that are critical for rare, vulnerable, migratory or endangered species.

The World Bank OP on ***Cultural Property*** is based on the acknowledgement of cultural resources as sources of valuable historical and scientific information, as assets for economic and social development, and as integral parts of a people's cultural identity and practices. The World Bank policy as stated in Operational Directive (OD) 4.50 is to: (a) assist in protecting and enhancing cultural property through specific project components and (b) decline to finance projects which significantly damage cultural property, and assist only those that are designed to prevent or minimize such damage.

The World Bank policy on ***Public Consultation and Disclosure*** follows specific procedures: EIA reports will be presented to both the Government of Azerbaijan and the World Bank Management and serve as a background document for approval by the competent authority. In accordance with OP/BP 4.01, the Borrower (i.e. the Government of Azerbaijan) will have to make the draft EIA Report and Land Acquisition Plan (LAP) available in Azerbaijan at a public place accessible to project-affected groups and local NGOs. The Borrower must also officially transmit the EIA report and LAP to the World Bank. Once the EIA report and LAP have been locally disclosed and officially received by the World Bank, the Bank will also make them available to the public through its Infoshop.[35]

As regards World Bank's internal EIA procedure, ***Environmental Screening*** is an important step at the stage of project preparation through which proposed projects are attributed to the appropriate extent and type of EIA. In practice, the significance of impacts, and the selection of screening category accordingly, depends on the type and scale of the project, the location and sensitivity of environmental issues, and the nature and magnitude of the potential impacts.

Projects are classified into ***Category A*** if they are 'likely to have significant adverse impacts that are sensitive, diverse, or unprecedented, or that affect an area broader than the sites or facilities subject to physical works.' Hence, the EIA for a Category A project examines a project's potential negative and positive environmental impacts, compares them with those of feasible alternatives (including the 'without project' situation), and recommends any measures needed to prevent, minimize, mitigate or compensate for adverse impacts and improve environmental performance. The EIA of a Category A project considers both the social and the physical environmental impacts. Socioeconomic environment includes themes such as land acquisition and resettlement; indigenous or traditional populations, cultural heritage, aesthetics and landscapes, noise and human health and safety. For Category A projects, the borrower should consult with project affected groups at least twice: firstly shortly after screening and before the TOR for the EIA are finalized; and secondly, once a draft EIA is prepared. In addition, the borrower consults with such groups throughout project implementation as necessary to address EIA related issues that affect them.

[35] The World Bank (2002): *The Disclosure Handbook*. Operations Policy and Country Services. 2002.

The impacts of ***Category B*** projects are 'site-specific in nature and do not significantly affect human populations or alter environmentally important areas, including wetlands, native forests, grasslands, and other major natural habitats. Few, if any, of the impacts are irreversible, and in most cases mitigation measures can be designed more readily than for Category A projects.'

For both the Category A and B projects, an Environmental Management Plan (EMP) needs to be established in accordance with the Bank's OP 4.0, which identifies EMPs as an essential feature of category A projects; for category B projects, the EIA may result in development of an EMP only, with no separate EIA report. The specific requirements relating to EMPs are set out in Annex C to the World Bank's procedure 4.01 (BP 4.01) – these are mandatory.

3.9 Role of RER, EA&MF and RPF in ensuring Compliance

As indicated in Chapter 1, preparation of the RER, EA&MF and RPF is required in order to ensure the compliance of the proposed Project with the provisions of Azerbaijan's legislation, procedures and policies, international conventions as well as the World Bank's Safeguard Policies, in particular in terms of environment, resettlement and land acquisition, during the project planning and implementation phases.

The RER identifies and provides a broad overview of the policy, environmental and socio-economic implications of the entire Project scope. The EA&MF and RPF outline the procedures for the management and monitoring of environmental and social issues of sub-projects in relation to Azerbaijan's legislation, procedures and policies, international Conventions as well as the World Bank's safeguard policies, in particular in terms of environment, land acquisition and resettlement. Reporting requirements including recommended monitoring report formats are also specified.

4 ENVIRONMENTAL BASELINE – BAKU-SHAMAKHI

4.1 INTRODUCTION

The existing Baku to Shamakhi road runs through the Garadagh, Absheron, Gobustan and Shamakhi administrative districts[36]. The total length of the two lane road that is currently being rehabilitated is approximately 120 km.

The road forms an integral part of one of the main tourist routes of the country. It links the capital city of Baku to the mountain area of Sheiki–Zagatala, which is a popular tourist and recreational destination and considered to be among the most beautiful regions of the country.

The rehabilitation of the Baku to Shamakhi road takes place within the existing right-of-way (ROW) of 60 metres; i.e., 30 m on each side from the existing road centreline. Generally, this provides enough room for road widening for the following alternatives:

- Building a second carriageway adjacent to the existing carriageway;
- Widening the existing carriageway on either side.

However, there are road sections where widening to the desired width can not be achieved due to topography or land-use, and therefore, the alternatives alignments and/ or a reduction of number of lanes need to be considered.

For the purpose of the present RER, the 'study corridor' has been defined as a strip of up to 1 km width either side of the road.

4.2 PHYSICAL ENVIRONMENT

4.2.1 Geology, Topography and Soils

The main **geomorphologic** type of relief in the surroundings of the study corridor is arid-denudative mountains: low to medium intensity and medium block-faulting[37],[38]. Badland and loamy karst are typical for this type of landscape which prevails in the first 100 km of the study corridor to the west of Baku. The only exception to this is a small zone of accumulative-alluvial plain in the valley of the river Jeyrankechmez near Narimankand village. This area is characterized by a network of smaller streams which are also used for drinking water purposes. The area further to the west, around Shamakhi, is erosive-denudative mountains. The road corridor to Shamakhi crosses a series of wide river terraces and ancient river canyons which all represent erosion types of landscape[39].

The **topography** along this road is characterized by undulating arid hills and mountains. The relief gradually transforms from plains in the east over to foothills and lower mountain areas of the Greater Caucasus in the western part of the study corridor. Altitudes vary between 0 m above sea level (asl) at the starting point of the road in the east to about 1,000 m around Shamakhi in the west.

[36] The road widening under the Highway III Project will cover Absheron, Gobustan and Shamakhi districts.
[37] Aliyev U.A. senior editor (1979), *Atlas of Azerbaijan SSR*; Main administration of Geodesy and Cartography of Council of Ministers USSR, Moscow, 1979
[38] Rzayeva T.V. ed (1995) *Azerbaijan Geo-morphological Map*; State Committee of Geodesy and Cartography, Baku, 1995
[39] Budagov B.A. (1998) *Modern Natural Landscapes of Azerbaijan SSR*; Geography Institute of Az AoS, Baku, 1988

The main **soil types**[40] of the study corridor are grey-brown and chestnut soils[41],[42]. The valley of the Sumgayit Chay (river) is formed by meadow type of soil, while the sierozem (meadow gray soil) is typical of smaller river valleys like Jeyrankechmez and Pirsaat.

Gray-fulvous (reddish-yellow) soils prevail in the environs of the first 75 km in the east of study corridor. These soils are normally restricted to maximum altitudes of about 100 m, but come up to 300 m above sea level (asl) in the study corridor. This soil is dry steppe, alkali, loamy soil, which is generally suitable for arable land and vegetables and long-living plants such as vine, pomegranate and olive trees. In this area, however, it is solely used as winter pasture.

Figure 4-1: Soil Aspect on the Arid Steppe Landscape

Chestnut soils occur between altitudes of 300 to 500 m asl where average precipitations are 300-450 mm. This type of soil is plain dry steppe, which has loamy structure, medium degree of salinity, low coefficient of erodibility and low bio-climate potential.

Meadow soils occur along valley of Sumgayit Chay and are generally typical for altitudes of about 100 m and where the average precipitation volumes are 250 mm; this type of soil is thus lowland semi-dry arid steppe with a light loamy structure and a medium degree of salinity. It is not susceptible to erosion and has a low bio-climate potential.

[40] Most of the following in formation on soils is derived from: Agamaliyeva M.A., Konovalova I.V., (2004) *Map of ecological assessment of Azerbaijan soils*; State Committee of Land and Cartography, Baku, 2004

[42] see 23 above

Sierozem soils (meadow gray soils) occur as a narrow strip along the smaller rivers like Pirsaat Chay, Jeyrankechmez, Ajideresu and Shorderesu. This plain type of soil is typical for altitudes of up to 150 m and mainly dry climate with a maximum precipitation of 200 mm. Generally, this soil is semi-dry, dry steppe, light loamy type.

4.2.2 Climate and Air

The study corridor may be divided into two parts: the eastern part is semi-desert and dry steppe with average annual precipitation of up to 200 mm[43]. Summers are very hot and dry and the winters are mild. Average annual temperature is about +14°C and the main directions of wind are west and north-west throughout the year.

The western part of the study corridor is characterized by steppe landscape, with average annual precipitation of 300-450 mm. Climate is moderately warm with dry summers. The average annual temperature is 10°C with a maximum of 38°C and minimum of -19°C. The main wind is westerly.

Ambient air quality - In the region, baseline data on background levels of air pollution does not exist. Outside inhabited areas, the MENR's Monitoring Department is responsible for regular monitoring of emissions from stationary sources. In the area under study there are no stationary sources which will seriously impact ambient air quality. Vehicular traffic is thus assumed as being the major source of emissions and ambient air pollution.

4.2.3 Surface and Groundwater

Surface water resources of the study corridor are made up of a few rivers, springs and small lakes. Within the first 20 km of the roadway they generally carry little water. The easternmost river of the study corridor is Sumgayit Chay, which flows eastward, entering the Caspian Sea at Sumgayit city. To the east of Jangi, the river meanders for about 12 km at a distance of 1.5-3 km in parallel to the north of the road.

Travelling westwards, the next river is Jeyrankechmez, which is crossed by the road in three places east of Narimankand village. This river directly drains to the Caspian Sea at Sangachal settlement.

Pirsaat Chay is the biggest river in the study corridor and crosses the road about 4 km east of Shamakhi from where it flows to a south-eastern direction. An estimated 15% of the flow comes from snow surface runoff, 48% from rain surface runoff and 37% from groundwater surface run-off. [44],[45]

Other small rivers, e.g. Shorderesu, Ajideresu, Zagavala Chay and Ruslar Chay (from east to west) are tributaries of Pirsaat Chay. The Shorderesu and Ajideresu flow in a south-west direction and Zagavala Chay, Ruslar Chay and Jeyrankechmez to the south-east.

Several springs, e.g. Marzandiya, Garamalbulag, Shorbulag and Ajibulag, are also found in this area.

According to information from a representative from the local Executive Power of the district, 70% of the drinking water of Shamakhi district is spring water. The Pirsaat Chay is also used as a source for drinking water. Village people usually have artesian wells.

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[43] *Atlas of Azerbaijan SSR* main editors Aliyev U.A., Main administration of geodesy and cartography of Council of Ministers USSR; National Environmental Action Plan. Baku 1998, State Committy of Ecology and Control of Natural Resources Utilization

[44] *Constructive Geography of Azerbaijan Republic*. B.A. Budagov, Baku, "ELM", 1999, vol. 2

[45] Budagov B.A. senior ed (1999) *Constructive Geography of Azerbaijan Republic*; Baku, "ELM", 1999, vol. 2

In Shamakhi town the water is pumped from the local springs and the river, filtered and then distributed to the households. The rivers Ruslar Chay and Zagavala Chay flow to the Zagavala Chay water reservoir which is located close to Shamakhi.

Wastewater collection and treatment facilities are provided at the Shahriyar settlement and Shamakhi only. Wastewater is piped to a wastewater treatment works located some 7-8 km away from town where the water is processed and the sludge is used as fertilizer.

4.2.4 Noise

Noise studies have not been undertaken in the project area. Nevertheless, given the current low level of road traffic of an average of 6378 annual daily traffic flow between km 10 and km 134[46], and low level of industrial activity along the Baku-Shamakhi road, at present it is unlikely that noise is a key environmental issue in the area.

4.2.5 Natural Hazards

Drought is characteristic of the Absheron-Gobustan zone. In the light of global warming, evaporation rates that exceed precipitation rates and greater tendencies for dry summers have increased the risk of desertification in this region.

Natural disasters, frequently catastrophic in character, are widespread in Azerbaijan. They include, *inter alia*, **landslides.** A number of landslide prone areas were identified along Baku Shamakhi Road. In particular, areas around kms 60, 81.5, 96 – 99, 109-110 and 132.6 are of great concern (see Figure 4.2). This may be further exacerbated due to the high seismicity of the area. The comprehensive landslide hazard studies, including geotechnical investigations, and the landslide hazard risk assessments for the road need to be undertaken and appropriate mitigation measures need to be recommended. The data will contribute to the multicriteria assessment of road widening options.

The western part of the study corridor is characterized by very high **seismic activity**. This area is called *Shamakhi nidus* where seismic centres extend in stripes of 50-60km length from north-west to south-east with earthquakes reaching magnitudes of 10 on the Richter scale.

Shamakhi town has been destroyed many times by earthquakes and in the Valley of Pirsaat River; both **erosive and seismic processes** have caused serious damage to both the local roads and villages[47].

[46] KOCKS (2009) Study of Widening Options for a Four Lane Road between Baku and Shamakhi in Azerbaijan. 2. Submission.
[47] Budagov B.A. senior ed (1996) *Constructive Geography of Azerbaijan Republic*; Baku, "ELM", 1996, vol. 1

Figure 4-2: Example of Landslide Prone Area along the Study Route

4.3 BIOLOGICAL ENVIRONMENT[67]

4.3.1 Flora

The area to the west of Baku is characterized by saltwort and ephemeral deserts and wormwood-saltwort semi-deserts. Saltwort vegetation is more widely distributed around the eastern part of the corridor and plays a role in soil maintenance and erosion prevention. Overall along the study corridor flora biodiversity is high featuring between 600-729 plant species. Travelling westwards along the Baku to Shamakhi road, the saltwort-ephemeral desert landscape is gradually replaced by wormwood-saltwort semi deserts and arid steppe. Between km 30 and 70 wermuth-saltwort semi-deserts can be found. In this section, wormwood formations are generally developed on the basis of ephemeral grass vegetation. *Artemisia hanseniania* has a key function in preventing soil erosion in this area. Beyond km 70, the natural vegetation is mountain-steppe landscape with mixed-grass vegetation[48,49,50]. Shrub vegetation represents up to 1% of all plants and is composed mainly of tamarisk and juniper shrubs.

Beyond km 70 agricultural fields are gradually replaced by dry steppe vegetation. The species composition on the foothills in this area shows evidence of strong pressure of overgrazing on the existing ecosystem.

[48] Tagiyeva E. (1998) *Absheron endemics and problem of their conservation*; Materials of conference of society "Study of Azerbaijan lore", Baku, 1998
[49] Aliyev U.A. senior editor (1979), *Atlas of Azerbaijan SSR*; Main administration of Geodesy and Cartography of Council of Ministers USSR, Moscow, 1979
[50] WWF (2001) *Biodiversity of the Caucasus Ecoregion*; WWF, Baku-Erevan-Gland-Moscow-Tbilisi

Figure 4-3: Steppe Environment (approx. km 32) Representative of Landscape along the Project Road

In the wet season species of ephemeral grasses, tulips (*Tulipa sp.*), iris (*Iris sp.*), feather grass (*Stipa sp*.), some cereals (*Andropogon sp*.) and bushes (*Pirus sp., Amigdalus fenzliana, Crataegus orientalis* etc) can be observed. In the spring season numerous flower species can be found (*Euphorbia helioscopia, Veronica chamaedrys, Leontodon hispidus, Cirsium arvensis, Erodium cicutarium, Arnebia linearifolia, Sisymbrium officinadale, Ammi visnaga, Cicorium intibus, Calendula sp*. and *Papaver sp).* In the dry summer season the most common species are *Salsola sp., Eryngium planum* and *Echinops ritro.*

Thirteen species of plants, which are in the Red Data Book of Azerbaijan, can be found in the Baku-Shamakhi area. The species are *Ferula persica, Cladocheta candissima, Anabasis brachiata, Astragalus bakuensis, Iris acutiloba, I.reticulata, Muscari elegantulum, Tulipa biebersteniana, Acantholimon schemachense, Avena ventricosa, Stipa pellita, Calligonum bakuense* and *Pyracanta coccinea*. These species occur in the desert and semi-desert landscape.

The ARS planted narrow strips of trees in various sections alongside the road, mainly in the area to the west of Narimankand. In accordance with the provisions of the Construction Norms and Regulations (SNIP 2.05.02.85), the main purpose of these plantations is to reduce noise and air pollution and to protect the road from strong winds and snow. The most common planted tree under this scheme is the pine tree. However, a number of trees along the study route were infected by what appears to be a fungal infection and have perished (the first affected trees were observed near Maraza in 2002 and since that time approximately 200

trees have perished and continue to perish[51]). Only pines planted in 1973 are affected by the disease. The responsibility of preventing the fungal infection from spreading lies with the Jangi Forestry Department under the MENR. Other trees found along the roadside are Acacia (*Acacia sp*.), Oleaster (*Elaeagnus sp*.), Willow (*Salix sp*.), Almond (*Amygdalus sp*.), Apricot (*Armeniaca sp.*), Poplar (*Populus sp*.), Oak (*Querqus sp*.) and Ash (*Sorbus sp*.). Young trees planted since 2003 include Oleaster (*Elaeagnus sp*.), Acacia (*Acacia sp*.), Almond (*Amygdalus sp*.), Elm (*Ulmus sp*.), *Gleditschia* sp., *Maclura* sp., Indigo (*Amorpha sp*.) and Fustic (*Cotinus sp.*).

Six tree species have been identified for future plantation by the Jangi Forestry Department. These include: Oleaster, Elm, Gleditschia, Maclura, Poplar, and Fustic (Smoke tree). Not all of these species are native to Azerbaijan or to the local area. However, these tree species are widespread in the country and can coexist with the local flora.

Much of the land next to the road and even including the normal ROW (30 m to either side of the road) is under the ownership of the Jangi Forestry Department under the MENR. Plantations were carried out under the Presidential Decree no. 1152 of February 18th 2003, which stipulates that the area of forest lands in Azerbaijan should be increased (this is also a MDG). According to local officials at Gobustan town, the land for these plantations was given to the MENR, however, excluding the existing RoW. The plantations were extended within the ROW by the MENR. If any of these plantations are likely to be affected by road construction or widening activities, an official plan has to be submitted by MoT to the MENR, and the approval obtained.

The eastern part of the study corridor is mainly used for winter pasture. Vine-growing, animal husbandry, grain cultivation and fruit growing dominate in the western zone where 35% of the land is used for pasture; 25% is arable lands and vineyards; 5% is forest and 35% is urban or unused lands.

4.3.2 Fauna

The area harbours a number of faunal species, including threatened species of national and international importance. The following comments on the fauna along the study corridor are mainly based on the Red Data Book of Azerbaijan, IUCN Red Data List and publications of BirdLife International[52].

4.3.2.1 Mammals

According to the above named sources, the **common mammals** of the area are the Jackal (*Canis aureus*) and the Wolf (*Canis lupus*) which follow the sheep flocks to the winter pastures in the lowlands and the Red Fox (*Vulpes vulpes*), Badger (*Meles meles),* its big entrances to the burrows are usually locate in the slopes of river canyons, Wildcat (*Felis libyca)* and the hare (*Lepus europaeus*) which are the resident species of this area. Characteristic mammals are the Western Barbastelle bat (*Barbastella barbastella*[B]) and Blasius's Horseshoe Bat (*Rhinolophus blasii[b]). Barbastella barbastella[B]* categorised as a Vulnerable Species under the 2008 IUCN Red List Category, can be found in the study area throughout the year, except summers. These night active animals have shelters in surrounding structures during daytime. *Rhinolophus blasii[b]* is a Near Threatened Species under the 2008 IUCN Red List Category. It is found only in vicinity of Shamakhi in the forests in subterranean shelter[53]. Further characteristic mammals are *R. ferrumequinum*, *Pipstrellus pipistrellusd, P. kuhlii, Myotis blythii,* these bat species are mainly resident animals, breeding

[51] *Pers. Comm.*
[52] Heath, M.F. and Evans, M.I., (2000) *Important Bird Areas in Europe: priority sites for conservation*, 2 vol., Cambridge, UK: BirdLife International (BirdLife Conservation series No 8), eds., 2000
[53] *World of Animals of Azerbaijan*, Senior Editor M A Musayev, Azerbaijan Academy of Sciences, Baku, 2000

in numerous caves in vicinity hills and under the roofs of houses within the settlements and wintering mainly in subterranean shelters. Colonies of numerous rodents – House Mouse (*Mus musculus*), the Water Vole (*Arvicola terrestris),* the Red-tailed Sanderling (*Meriones lybicus*), *Allactaga williamsi* and the Social Vole (*Microtus socialis*) can be observed even at the embankments of the road but also at surrounded landscape predominately at the area with soft soils, in particular, on agricultural fields. Insectivore species are presented by very active Long-tailed White-toothed Shrew (*Crocidura guldenstaedti*) that never reach hibernation and can be found any time of the day and the night and hedgehogs- *Erinaceus concolor* – usually occurring in the gardens and parks with grass vegetation and *Hemiechinus auritus*–mainly occurring in open semi-desert and active during twilight and night time. These species hibernate from November to early April.

4.3.2.2 Avifauna

The **avifauna** is characterized by: Short-toed Eagle (*Circaetus gallicus*[a]) - *nesting*, Imperial Eagle (*Aquila heliaca*[c]), Pallid Harrier (*Circus macrourus*[b]) - *migratory*, Saker (*Falco cherrug*[a]) – wintering, Common Kestrel (*Falco tinnunculus*) – *resident*.

The wider area includes breeding areas for two species of falcons. Gargabazar rock (IUCN Important Bird Area), located approximately 10km from the study road is the only place within the country where nesting of the Lanner (*Falco biarmicus, breeding*) has been registered[54]. Appendix C provides a location map of this IUCN IBA 037.

The Lesser Kestrel (*Falco naumanni*[b]) – is an internationally protected species and a Vulnerable Species under the 2008 IUCN Red List Category[55] (See Figure 4.4). It is a common breeding bird in the study area. Small breeding colonies and even separate pairs usually nest on the piers under Bridges No. 2 and.3 and also under the roofs of abandoned houses and cowsheds. The biggest concentration of this species had been noted in the vicinity of the River and village of Jeyrankechmez.

[54] Heath, M.F. and Evans, M.I., (2000) *Important Bird Areas in Europe: priority sites for conservation*, 2 vol., Cambridge, UK: BirdLife International (BirdLife Conservation series No 8), eds., 2000

[55] Birdlife International (2008) 2008 IUCN Red List Category (as evaluated by Birdlife International. [www.birdlife.org/datazone/species/index.html?action=SpcHTMDetails.asp&sid=3589&m=0]

Figure 4-4: Lesser Kestrel (*Falco naumanni*)

Large flocks of Little Bustard (*Tetrax tetrax*[c]) can be found during both migration and wintering seasons. Chukar (*Alectoris chukar),* Black-bellied Sandgrouse (*Pterocles orientalis*[a]), Rock Dove *(Columba livia),* Crested Lark (*Galerida cristata*), Isabelline Wheater (*Oenanthe isabellina*) and Chough *(Pyrrhocorax pyrrhocorax)* are typical resident species. Rooks (*Corvus frugilegus*), Jackdaws (*Corvus monedula*) Common Starlings (*Sturnus vulgaris*) and Tree Sparrows (*Passer montanus*) are densely occupied numerous agricultural fields. A large breeding colony (of about 600 pairs) of Rose-colored Starlings (*Sturnus roseus*) can be observed approximately 20-50 m from the roadside at Jeyrankechmez village from April until the end of July. Mixed breeding colonies of Common Bee-Eaters (*Merops apiaster*) and Rock Sparrows (*Petronia petronia*) are commonly observed on the slopes of the surrounding hills.

4.3.2.3 Amphibians

Study area is characterized by very dry climate, especially in the eastern part of the corridor, thus **amphibians** are not very common animals in the area. Characteristic **amphibian** species are the Green Toad (*Bufo viridis*) and the Common Frog (*Rana ridibunda*), which are found in vicinity of rivers and ponds and even temporary puddles. A much rarer Spade-footed Toad *(Pelobates syriacus,* [A]), which is in Red Data Book of Azerbaijan, can be observed only along the banks of springs and fresh water streams. Common Toad (*Bufo bufo*[A]) usually occurs in overgrows of bushes, gardens and parks of wetern part of the corridor in warm seasons of the year.

4.3.2.4 Reptile Fauna

The **reptile fauna** of the area is composed of a number of species which include the Viper Lebetina (*Vipera lebetina),* the Caucasian Agama *(Agama caucasica),* the Greek Tortoise *(Testudo graeca,*[C]), the European Pond Turtle (*Emys Orbicularis*[B])and the Caspian Turtle (*Mauremys caspica).*

The Greek Tortoise is one of the most typical reptile species in the area and characteristic of semi-desert dry lands. Although this is both locally and internationally protected animal, the species has quite a big number (up to 16 individuals for 1 km of route), but usually has bigger concentration at the sites with extensive vegetation. Therefore, Greek Tortoises roam in search of forage. In dry summers they can be observed along the rivers.

The European Pond Turtle (Near Threatened Species under the IUCN 2008 Red List[56]) as well as the Caspian Turtle can be found only in vicinity of permanent water bodies and in particular along the banks of the rivers.

Many other common species occur in this landscape type – lizards (*Stellio caucasicus, Ablepharus pannonicus, Eremias arguta, Eumeces scheideri, Cyrtopodion caspius* etc.) and snakes (*Elaphe quatourlineata, Eirenis collaris, Malpolon monspessulanus, Vipera lebetina* etc.). Grass-snake (*Natrix tessellata*) can also occur in some water-bodies.

Most reptile species from the order *Sauria* and *Criptodira* occur from beginning of March up to October-November (depending on temperature conditions). Species from the order *Serpentes* usually occur from end of March/April up to October. The exception is V*ipera lebetina*, which may not reach hibernation (this species can be observed throughout the year). Representatives of *Amphibia* may also be found during the whole year (in suitable weather conditions), but their period of activity is mostly continuous from March up to

[56] IUCN/SSC (2008) Tortoise and Freshwater Turtle Specialist Group. 2008 IUCN Red List for Testudines. [www.iucn-tftsg.org/red-list/]

November. During hottest month of summer (August) reptiles can reach short term hibernation.

4.3.2.5 Fish

Common **fish** species that occur in the area are Caucasian Chub (*Leuciscus cephalus orientalis)*, Kura's Barbel (*Barbus curi)*, Caucasian Bleak (*Alburnus charusini),* Bitterling (*Rhodeus sricous),* Sazan (*Cyprinus carpa),* Kura's Loach (*Nemachilus brandti).* No threatened fish species are found in the rivers and streams of this region.

4.3.2.6 Insects

Characteristic and rare **insects** that may be encountered include beetles – *Carabus scabrosus* and *Calosoma sycophanta*[A]; and butterflies Apollo (*Parnassius apollo*[C]), *Colias aurorina*[A] *and Manduca atropos*[A].

Tarantula (*Lycosa*), Phalanges (*Galeodes araneoides*), Scorpions (*Buthus eupeus*) and tick (*Ornithodorus*) are the most common arthropods in the study area. Insects present include Darkling Beetles (Blaps), locust species (*Dociostaurus maroccanus* is especially common), mantis, small mosquito (Phlebotomus) occurs in the burrows of sanderlings in dry areas and many different gnats occurs on wetlands. Some rare species from the Azerbaijan Red Data Book can be observed in the vicinity of the study corridor. These include beetles – *Carabus scabrosus*[A], *Calosoma sycophanta*[A], *Megacephalus euphraticus*[A], and the Alpine Swift (*Apus melba*)[57].

4.3.3 Protected Areas and Other Significant Natural Sites

4.3.3.1 State Forest Fund Tree Plantations

Within the Gobustan Rayon there are sections of land along the study road which are protected by the State Forest Fund (SFF). These are artificial tree plantations of both native and introduced plant species. The plantations belong to Jangi Forestry Department under the MENR. Table 4-1 details the location and tree composition of the different tree plantations along the study road. Appendix E illustrates mature tree plantations belonging to the SFF in the area of Gobustan.

Table 4-1: Location and Tree Composition of the Tree Plantations along the Study Route

Road sections		Length, km	Tree type[58]	Tree age
from km	to km			
45+000	46+900	1.9	Cypress, Pine, Oleaster, Willow, Acacia, Almond, Elm, Fustic etc.	young (planted in 2003 or later)
51+200	54+800	3.6	Cypress, Pine, Oleaster, Willow, Acacia, Almond, Elm, Fustic etc.	young (planted in 2003 or later)
56+400	59+200	2.8	Cypress, Pine, Oleaster, Willow, Acacia, Almond, Elm, Fustic etc.	young (planted in 2003 or later)
57+700	64+400	4.7	Cypress, Pine, Oleaster, Willow, Acacia, Almond, Elm, Fustic etc.	young (planted in 2003 or later)
79+500	88+600	9.1	Acacia, Willow (35%*) Poplar (13.7%) Pine (10.3%) Almond, Apple (7.1%) Oak, Ash (0.6%)	mature (planted in 1973)

[57] As above

[58] The percentages correspond to the percentage cover of that particular tree type within that length of road section.

89+500	95+700	6.2	Pine (70%) Acacia, Willow (14.3%) Oak, Ash 4.8%) Almond, Apple 3.8%) Poplar (3.3%)	mature (planted in 1973)

Source: Consultant's Site Visit (March 2009)

The protected area status of the tree plantations was declared by the Forestry Code of the Azerbaijan Republic (No 424-IQ) and the Presidential Decree on the Application of Forest Fund (No. 693, 30th March 1998), and includes all forests within Azerbaijan as well as land lots of SFF not covered with plants (forest and non forest land areas).Any land of the SFF is considered state land and not privatised, however it can be used for governmental or social purposes. State organisations which intend to use, purchase or somehow affect the lands owned by SFF have to abide by the following procedures:

- Preparation of a document detailing the potential damage to the SFF land in order to apply for permission to the central office of the Ministry of Ecology and Natural Resources.
- The MENR sets up a commission that includes representatives of both the MENR's central office and the local SFF. This commission studies the situation and prepares detailed documentation on its assessment, land acquisition issues and compensation mechanisms.
- The document must be approved by the head of local Executive Power
- The document must obtain final approval from the Cabinet of Ministers of the Azerbaijan Republic.

4.3.3.2 Nationally Protected Mud Volcanoes

In accordance with the Presidential Decree of 15 August 2007 "Creation of Nature Reserve for Groups of Mud-volcanoes of Baku and Absheron Peninsula", there are a number of nationally protected areas along the study corridor. These include (from east to west) the following mud-volcanoes: Damlamaja, Uchtepe, Pirikushkul, Buransiz-Julga, Saridash-Boyanata, Shorsulu and Ayazakhtarma. The new protected areas are usually separate detached mountains with some attached surrounding areas. These are strictly protected areas and no construction or agricultural activity is allowed within these areas. The closest mud-volcano to the study corridor is Pirikushkul mud volcano that is located directly at the roadside (to the North side of it) between km 30.5 and km 31 (See Figure 4.5). Appendix D provides a location map of the mud volcanoes along the study area.

Figure 4-5: Pirikushkul Mud Volcano

4.3.3.3 Other Areas of Importance for Nature Conservation

As detailed in Chapter 4.3.2, on the study corridor there are a number of sites which are breeding sites for the Lesser Kestrel, a species noted as Vulnerable under the IUCN Red List. In addition, the area is also likely to be a habitat for the European Pond Turtle, a Near Threatened species under the IUCN 2008 Red List.

In the wider surroundings of the study corridor there are two sites of international conservation importance. These are so called 'Important Bird Areas'[59] and are located around Gargabazar and Gushgaya mountains some 8-10 km directly south of Jangi village. Appendix C provides a location map of this IUCN IBA 037. These areas are important habitats for the IUCN Vulnerable Species threatened Lesser Kestrel (*Falco naumanni*) as well as for the Lanner (*Falco biarmicus*) and the Alpine Swift (*Apus melba*)[60]. Gargabazar is the only place in the country where nesting of the Lanner has been observed.

4.4 SOCIO-ECONOMIC AND CULTURAL ENVIRONMENT

4.4.1 General Information[61]

The Baku-Shamakhi road passes through four administrative districts namely, from east to west, Garadagh (which is under the jurisdiction of Baku municipality), Absheron, Gobustan, and Shamakhi[62]. There are five main centres of population along the Baku-Shamakhi road:

[59] Heath, M.F. and Evans, M.I., (2000) *Important Bird Areas in Europe: priority sites for conservation*, 2 vol., Cambridge, UK: BirdLife International (BirdLife Conservation series No 8), eds., 2000

[60] As above

[61] Information obtained from the Local Statistics Offices of each District.

[62] The road widening under the Highway III Project will cover Absheron, Gobustan and Shamakhi districts

Baku itself, Gobustan Village of Absheron district, Jangi Village and Gobustan Town[63] of Gobustan district and Shamakhi.

Absheron: The area of the district is 1546 sq.km and the population is 105806 persons, most living in rural areas (83.01%). 44 large and medium sized enterprises are in operation in Absheron. Absheron comprises 1 city, 8 settlements and 6 villages. The Absheron region was formed in 1963 and over the past years has established a high-level control over collective and state farms of Baku and Sumgait and their provinces. Absheron has an agricultural and poultry industry, as well as industrial centres which supply agricultural products. Scientific-research institutes and laboratories are also present.

Gobustan: The area of the district is 1370 sq.km. The population is 39964 persons. The urban population is 44.2% and the rural population 55.8%. Gobustan contains a number of infrastructure and commercial developments, including 30 secondary schools, 3 hospitals, 6 infant schools, 6 large and medium-sized enterprises and 23 cultural centres. On the 25th April 2008, by Presidential Decree, the Maraza and Narimankand settlements were combined to create a Town of Gobustan. Appendix F provides a Masterplan of Gobustan town.

Shamakhi: The area of the district is 1610 sq.km. The population is 89638 persons. Shamakhi comprises 1 city, 3 settlements and 57 villages. The ethnic composition is mostly made up of Azerbaijanis (approximately 88%), and the remainder of the population includes a number of ethnic minorities - Turkish, Russian, Lezgi, Ukrainian, Tatar, Armenian, Jewish and Georgian. There are 1075 IDPs and 3850 refugees living in Shamakhi. Sabir, a settlement adjacent to the road, comprises 582 households and 3018 persons. The main source of income in Sabir is cultivation and cattle breeding.

Property assets commonly found adjacent to or in close vicinity of the study route include several houses, farms, shops, cafes, butchers and restaurants located very near to or adjacent to the road. In addition, the study corridor also includes schools (Sabir and Gobustan), cultural monuments and sacred places (including one mosque in Gobustan and one sacred place in Sabir), tree plantation areas, and graveyards.

Table 4-2: Baku-Shamakhi Road – Population Statistics

District	Area (sq.km.)	Population (1.1.2009)	Density (person per sq.km)
Azerbaijan Republic	86,600	8,730,000	101
Garadagh	10,800	100,133	92
Gobustan	13,700	39,964	29
Absheron	15,460	105,806	76
Shamakhi	16,100	85,308	58

Source: *Azerbaijan Republic State Statistical Committee*

4.4.2 Community Structure

Every district has its own administrative centre where Local Executive Power is situated. The Head of Executive Power is appointed by the President. The Local Executive Power receives funding from the Central Government. The Local Executive Power has a Land Department that has relevant detailed information and maps about land use and land ownership. The

[63] The villages of Narimankand and Maraza were merged to form the town of Gobustan

appropriate Local Executive Power prepares documents about land use and land ownership for the municipalities (groups of villages).

Each village has its own municipality and large villages with the small villages around them form administrative units. Although municipalities are independent bodies, according to the *Law on Administrative Control on Municipality Activity* (LACMA), the Local Executive Power has authority to control their activity. The purpose of this control is to coordinate municipality activity with legislation, but it mustn't limit their activation (LACMA Article 4). Usually, administrative units and local municipalities work together to solve local problems.

4.4.3 Land Use and Sources of Income

Gobustan: The economic basis of the Gobustan district is agriculture: mainly grain production, cattle breeding and vine growing. Every year Gobustan produces more than 1 ton grain per person. The average monthly income in Gobustan is 167 AZN.

Table 4-3: Land use information of Gobustan

N	Information on land use	Total area (sq.km)
1	productive lands	324.8
2	unimproved pasture	510.5
3	sown pasture	494.80
4	planted lands	219.90
5	fruit gardens	2
6	saline lands	510.50
	Total:	1369.4

Source: http://azerbaijan.az/

Absheron: The Absheron district's economy is based on food processing, irrigated agriculture (vegetable production, vine growing) and livestock breeding for milk and meat production. In the south, pistachio nuts, almonds and olives are grown as well as the very valuable saffron (*Crocus sativus*), natural food flavouring and colouring agent with pharmaceutical properties. Olive gardens comprise 69.8% of all garden areas. The average annual amount of olive processing is 1800-2000 tons. In addition the District has deposits of oil and natural gas. Along the roadside, butchers slaughter and sell meat.

Table 4-4: Land use information of Absheron

N	Information on land use	Total area (sq.km)
1	productive lands	808.0
2	unimproved pasture	689.0
3	sown pasture	613.0
4	planted lands	106.0
5	fruit gardens	32
6	saline lands	0.4
	Total:	1546

Source: http://azerbaijan.az/

Shamakhi: The basis of the economy of the district is agriculture: grain production, cattle breeding and vine growing. Main agricultural products include wheat, grapes, fruits, potato,

vegetables (cabbage, tomato, aubergine etc), melons and pepper. For centuries, it was famed for its carpet production. There is no oil in the district. There are some industrial facilities, including several factories producing electrical goods.

Tourism is viewed as a potential growth industry in Shamakhi, with a focus on nature and winter sports. The district contains a great number of natural places known for their unique scenic value and biodiversity. Areas which attract attention from a scientific, historical and natural point of view include Ulu Duzu, Bulovdash, Sheredli, Dedegunesh, Gonagkend forests, characterized by cool and full water springs, natural beauty and rich flora and fauna diversity. Pirgulu zone, located 1400-1500 m asl is used as an area of tourism and relaxation.

The villages along the proposed routes have small shops for every day goods and services. In addition to serving the local population they also serve passing traffic on the existing road.

Table 4-5: Land use information of Shamakhi

N	Information on land use	Total area (sq.km)
1	productive lands	334.84
2	unimproved pasture	318.04
3	sown pasture	0.51
4	planted lands	171.12
5	fruit gardens	1.45
6	saline lands	20.81
	Total:	1611

Source: http://azerbaijan.az/

4.4.4 Land Ownership

Land along the study road belongs either to the State (State Land Fund and State Forest Fund), the Municipalities or private persons. Appendix G details land ownership across the study area. Appendix H details land ownership on the land crossed by the Alternative Alignments. The existing ROW is 60m according to the law. However, at present the ROW has been significantly reduced in places, either through privatisation or passing the land to the ownership of the municipalities. As a result some private, municipal and forest land plots will be affected as a result of the widening of the road to a four lane road.

4.4.5 Cultural Heritage

In addition to the property assests described in Chapter 4.4.1 there are the following cultural heritage assets along the study corridor:

Gobustan: The Diri Baba Mausoleum, dating from the 15th century, is built into a cliff 1.1 km from the main road.

Sabir Village: At Pirsaat Pir, east of the bridge over the major Pirsaat River at Sabir, there is a place where local people come to drink the reputedly holy water and leave a donation.

Shamakhi: Shamakhi is an ancient city and possibly one of the oldest cities in Azerbaijan. A number of sources indicate that it may be the Khamkhia described in Ptolemy's *Geography* (written 2nd century AD). The city was established on a major regional trading route. Archaeological excavations elsewhere in the District of Shamakhi have found evidence of features dating back to the 11th and 13th centuries[64].

For most of its history, Shamakhi was the capital of Shirvan/[65]western Azerbaijan, until the centre of power was moved to Baku in the 15th-16th centuries. The city contains several mosques, including the Juma (Friday) Mosque with two minarets (established 743) and the Grand Mosque (built 1902).

Other historical buildings within the area include the Gulustan Fortress dating from 1043 west of the city and the Yeddi Gumbaz tombs of the khans of Shamakhi which date from the 18th-early 19th century. There is also a caravanserai complex dating back to the 14th century. There is a large graveyard between the road and the water supply reservoir, west of the road between Shamakhi and Muganli.

[64] Socio-Economic and Heritage Desk-Based Study and Survey undertaken by Socio-Economist, February - March 2009

[65] The Shirvanshahs ruled from the 7th to the 16th century over parts of the Shamakha-Derbent-Baku region (Elliott, 2004)

5 ENVIRONMENTAL ASSESSMENT OF THE BAKU-TO-SHAMAKHI ROAD

5.1 INTRODUCTION

A regional environmental assessment (EA) was undertaken to identify the specific characteristics of the project and of the environmental and social features likely to be affected by it. The collected information is provided in this Chapter. It is based on the current knowledge of the project and visual assessments of the project specific sites completed in February and March 2009.

At the time of the preparation of the RER, the proposed widening of the Baku–Shamakhi road has been classified as a Category A project under the provisions of World Bank's OP 4.12. An EA conducted by Kocks GMBH was approved for the Baku-Shamakhi road rehabilitation project works, involving civil works on the existing two lane road. This EA has subsequently been expanded to include the full length of the project. The EA completed by Kocks GMBH states that the construction phase of the project to have a wide range of adverse environmental and social impacts. However, many of the identified impacts are temporary in nature.

This chapter provides information collected during a regional EA of the main environmental and social impacts which are likely to be significant, including those impacts comprising the alternative alignments (AAs) and the alternative options. The high level EA comprised:

- Desktop identification of any sensitive receptors, such as residential areas and ecologically sensitive areas; and,
- A route drive-through of the project area and AAs was conducted by environmental and social specialists in February and March 2009, in order to identify sensitive areas, existing activities or evidence of historic activities of potential concern.

During the site visit and desktop study, the following were considered:

The relative importance of the environment[66] in question (i.e. is it of national, regional or local importance);

(a) The degree to which the environment is affected (e.g. if its quality is enhanced or impaired);

(b) The scale of the change (e.g. the land area, number of people affected and degree of change from the existing situation).

(c) Whether the effect is temporary or permanent and if temporary its duration; and

(d) The degree of mitigation that can be achieved.

An environmental and social impact assessment (ESIA) will be required for the project and its sub-projects. The ESIA will have to be based on established environmental and social impact assessment techniques; considering potential positive and negative environmental and social impacts during the construction, commissioning, and operational phases of the project and sub-projects. A number of criteria will be have to be used to determine whether or not the potential impacts of the project are direct, indirect, beneficial, adverse, short-term, long-term or cumulative. These will include:

[66] Both natural and social environments.

- Sensitivity of receiving environment;
- Reversibility and duration of effects;
- Inter-relationship between effects;
- International, national and local standards;
- Relationship with governmental planning policy; and
- Results of consultations.

The potential investment strategies considered and elaborated for this project are as follows:

1. 'Without Project' scenario

The Baku-Shamakhi road is a section of the shortest way from Baku to Georgia and to western Azerbaijan. As well as many long, straight sections through unpopulated semi-desert areas, the road includes a number of steep, winding sections through the mountains with tight, blind corners. The road surface, which was constructed around "40 years ago" (Head, Local Executive Power, Shamakhi) is uneven in many places due to structural problems, damage from overloaded heavy vehicles and repeated 'patching' of the surface during road maintenance. It is at present being refurbished as part of the Highway II Project and it is assumed that the refurbishment of the road under the Highway II Project will have been finalised before commencement of the road widening.

The "without project" scenario will mean that the widening of the refurbished road from a two-lane to a four-lane road will not take place. Under this scenario it is likely that traffic and traffic speed will increase significantly on the two lane road following its refurbishment[67], potentially giving rise to increased numbers of traffic accidents and road accidents involving pedestrians and animals (wildlife and cattle) crossing the road.

2. 'Widening of the Baku-Shamakhi Road' scenario

The widening of the Baku-Shamakhi road from a two-lane road to a four-lane road will have to consider the following key issues:

- Construction deliverability is a key issue. The project target will need to be established by the Azerroadservice OJSC (ARS) bearing in mind areas of risk that could potentially delay the project. Areas of risk include such items as land expropriation and construction of complex structures in light of potential landslides and sensitive areas. The impact of traffic disruption during construction to local communities and businesses is also an important factor.

- Road safety is a key issue. The number of road traffic injuries and fatalities on the Baku-Shamakhi road are likely to be high. This may be attributed to a number of factors such as head-on collisions due to poor vision and lack of road-side lighting during night time hours, vehicles leaving the carriageway and hitting roadside objects, drivers falling asleep at the wheel, pedestrian/traffic conflicts (as there is an absence of grade separation between pedestrians and motor vehicles in areas where pedestrians commonly cross the road, which can be exacerbated through road widening), and turning conflicts. Comprehensive accident data should be made available in order to identify specific accident data cluster sites and other accident factors, such as accident areas, driver age and time of accident. This will

[67] *Pers.Comm.*

contribute towards effective decision-making on the preferred AAs comprising the widening of the road. .

- There are a number of environmental factors that affect the selection of the widening of the road. The impacts on protected and ecologically sensitive areas (see Chapter 4.3.3) should be minimised, or where possible, eliminated. The sustainability of the road widening will also have to be considered against the project's contribution to carbon emissions and use of non-renewable materials.

- There are a number of local communities along the project road whose movements between agricultural land, areas of employment and amenity need to be catered for. There may also be an impact on existing local communities and new developments through increases in air emissions, dust and noise.

- The road would need to avoid and cater for other planned developments and masterplans, like Gobustan.

- As a result of the widening of the road, there is likely to be substantial increases in traffic speed and traffic levels in the future. An optimum balance or cost-effectiveness between the cost of the road widening and benefits to road users is important in terms of value for money for the project. Importantly, the emphasis is on the introduction of measures to enhance and ensure road safety.

This investment strategy comprises a number of AAs which will need to be assessed according to:

- Improving road safety;

- Providing sufficient road traffic capacity and maximising economic return;

- Improving construction deliverability;

- Reducing impacts upon the natural and social environment;

- Serving local communities; and

- Supporting future development plans.

This will require an option assessment to support the AA selection process from a spatial planning, geotechnical, environmental, social, safety, economic and construction deliverability perspective, and to identify a preferred option from the various route options developed to date. The selection of the preferred route alignment alternative will require the use of a multi-criteria analysis (MCA) technique for evaluating options.

5.2 PHYSICAL AND ECOLOGICAL ENVIRONMENT

5.2.1 'Without Project' scenario

The description of the "Without Project" for the Baku-Shamakhi road is provided in Section 5.1 of this report. This scenario comprises the refurbishment of the existing two-lane road.

From an environmental and ecological perspective, no significant positive or negative permanent or direct impacts are expected to result from this scenario. In the long term, however, the refurbishment of the road is likely to lead to a gradual increase in traffic and traffic speed with consequent gradual deterioration of air quality and increase in noise, with negative impacts on wildlife, local economic activities, and the quality of life of the local communities.

However, these impacts are likely to be of greater intensity under the "road widening" investment strategy. The widening of the road will result in increased traffic speed and increased traffic which in turn has a negative cumulative impact on the natural and social environment due to increased noise and vibration impacts, increased air emissions and decreased ambient air quality.

5.2.2 Widening scenario

The 'road widening" scenario is described in Chapter 5.1. In the context of the existing environmental setting (as described in Chapter 4), the following potential impacts need to be considered in the site specific EIAs:

- Destabilisation of slopes in sensitive areas;
- Loss of tree plantations and shrubs planted by the ARS and the MENR in various sections alongside the existing road;
- Disturbance to drainage systems;
- Disturbance to mud volcanoes' areas
- Loss/disturbance of breeding sites, including those of the globally threatened Lesser Kestrel under the bridges over the river Jeyrankechmez;
- Habitat fragmentation;
- Extraction of road construction materials;
- Increased dust production which can negatively impact on road safety;
- Increased air and noise pollution during construction and operation;
- Impacts to the surface water quality of rivers crossing the study area;
- Damage to or loss of archaeological and/or cultural heritage;
- Increased waste production and increased littering;
- Contamination of land through oil and chemical spills during construction works; and
- Impacts on resident and worker health and safety.

Table 5-1 provides a comparison of the environmental and socio-economic implications of each of the different project alternatives.

5.2.3 Impact Mitigation

In the following paragraphs, a few strategic recommendations are provided that should be considered at the stage of project preparation to enhance environmental performance of each individual sub-project.

Slope destabilisation: As was mentioned during a meeting held with officials at Gobustan, some studies have been conducted in the mid 1970s on possible technical solutions for road improvement in sections with unstable ground and landslide hazards. The preparation of the detailed design should review the scope and contents of these earlier documents and verify if they contain reliable information on the geo-technical conditions of the sections in question and also if this information is representative of the present situation.

Otherwise, the comprehensive landslide hazard studies, including geotechnical investigations, and the landslide hazard risk assessments for the road need to be undertaken and appropriate mitigation measures – temporary and permanent) need to be recommended (see Chapter 4.2.5). The data will contribute to the multicriteria assessment of road widening options.

Roadside plantations: To minimise any loss of plantations alongside the road, it is recommended that the regional branch of the State Topography and Lands Committee and the Jangi Forestry Department are contacted. These organisations will have records of all

plantations and their exact location. Based on this information, the potential impact of the road widening works in the relevant sections can be assessed and ways by which the impact may be minimised will be identified. Owing to the fact that significant portions of the land immediately adjacent to the road are under the ownership of the State Forest Fund (Jangi Forestry), any potential vegetation losses resulting from the individual sub-projects will require approval from that department and the MENR. Where the loss of such plantations cannot be avoided, their replacement should be considered at detailed design and budget. In accordance with international best practice it is recommended that native species be used, such as tamarisk, juniper, oleaster, fig and pomegranate, which will be suitable for plantation along the road within semi-desert and arid landscapes. This will be dealt with within the EIA stage and within the EMP (which should include a Restoration Plan). The use of wood cut from live trees whether from roadside plantations or other sources by the workforce for fuelwood or construction purposes should be prohibited.

Drainage: To eliminate the flooding that is reported to regularly affect Gobustan town and Sabir Village it is recommended to envisage the improvement of drainage in the sections in question (between km 90 and 93, and km 103-105). When preparing the TORs for the detailed design, this issue should be recommended for detailed analysis.

Disturbance to mud volcanoes' areas: These are strictly protected areas and no construction or agricultural activity is allowed within these areas. The exact locations of mud volcanoes that are in the study corridor should be established by site specific EIAs. The detailed design should ensure that the protected areas are intact by the proposed road widening. Furthermore, it should be ensured that borrows pit sites and access roads to borrow pit sites are not in vicinity to these protected areas. No stockpiling of material will be allowed in reserve area either.

Protected species: The impairment of the local breeding colony of the globally threatened Lesser Kestrel (*Falco naumanni*) on the bridges over the Jeyrankechmez may be avoided through the definition of seasonal restrictions for the execution of any construction works in this area. The restrictions for the execution of any construction works will be required throughout the nesting season, i.e. April to July[68] Hunting and/or trading in any protected species by the workforce should be prohibited. The impairment of the *Barbastella barbastella,*[B] and *Rhinolophus blasii*[b] may be avoided through inspections of the relevant structures by the appropriate national specialists prior to dismantle works of structures, if these species were observed and recorded during the site specific EIA surveys. The specific mitigation measures, if necessary, wil be detailed in the site specific EIAs. The impairment of the of the Greek Tortoise *(Testudo graeca,*[C]) and the European Pond Turtle (*Emys Orbicularis*[B]) may be minimised if in winter the wildlife specialists will check all earth moving activities, and all found tortoises and turtles will be moved to a safe location.

Acquisition of construction materials: The known materials sources are described in Chapter 2.2.6. According to Niras Study[69] "the naturally occurring granular material available from river extraction in the project area is presumably suitable for general construction; however, its suitability for high quality applications needs to be tested in individual cases". Therefore, materials acquisition could be a problem for the project as the strata identified in the study area may not have the required structural properties for providing aggregates for concrete or road building materials.

[68] The nesting season varies depending on atmospheric temperatures of a given year. Therefore, the nesting season will have to be confirmed in the site specific EIA.

[69] NIRAS A/S, Study on Prospective Construction Materials Sources and Better Regulation of River Extraction – IBRD Loan 7356AZ, Final Report, August 2008

Materials would probably be obtained through the construction of borrow pits. These should be located as close as possible to the construction site in order to minimise transport distances, and it should be ensured that any borrow pits do not impact, directly or indirectly, on any protected mud-volcano nature reserve or IBA (refer to paragraphs 4.3.3.2 and 4.3.3.3).

Impacts associated with material extraction from active river terraces are varied and include impacts on physical environment, biological environment and socio-cultural environment. The Study on Prospective Construction Material Sources and Better Regulation of River Extraction conducted by NIRAS A/S provides a description of these environmental impacts, in particular, on surface water, ground water, ambient air quality, soils, flora and fauna, and socio-cultural environment. Impacts associated with material extraction should be given consideration within any EIAs, EMPs and Construction Management Plans undertaken in subsequent phases of the project.

Impacts associated with the construction and use of borrow pits are varied and should be given consideration within any EIAs, EMPs and Construction Management Plans undertaken in subsequent phases of the project. In particular, (i) impacts associated with the borrow pit construction and material extraction activities: air emissions, noise and vibration from equipment, impacts to any archaeology present on site, visual impacts, impacts to the water table and groundwater (from interceptions to the water table through excavation as well as from leakages and spillages of fuel and oils) , changes to surface water flows and drainage and issues associated with the disposal of waste material; and (ii) Impacts associated with the construction of temporary access roads and transport of materials to the construction site: these can include waste arisings and disposal, increased traffic, and consequent increase in air and noise emissions

Impacts associated with the existence of the borrow pits following construction activities should also be considered: if not rehabilitated, the borrow pit area could be a source of visual impacts as well as leaching and runoff of metals/minerals/soil/contaminants to the soil, nearby surface waters and groundwater thus contributing to soil erosion and water pollution. Borrow pits should only be used to supply the construction project in question, following which their licence should terminated and the area rehabilitated.

Surface water quality of rivers crossing the study area - impacts to water quality would be likely to arise mainly from discharge of runoff containing suspended sediments (soil) or contaminated materials into the water course, or from accidental spillages of oils/chemicals and fuels into the water course. In order to prevent such events, appropriate procedures should be implemented for the handling, storing and using of hazardous chemicals on site (during construction), in particular in the vicinity of watercourses and groundwater zones. Emergency response plans should be put in place and appropriate equipment (e.g. spill containment kits) provided, as well as relevant staff training. In addition, any runoff from the road into the water course during the operational phase should be prevented through the use of mechanisms such as oil and silt interceptors.

Disposal of materials/waste: This issue will be dealt with at project level with the development of project-specific EMPs. Only approved disposal sites should be used.

Contaminated land: the issue will be dealt with in the sire-specific EIAs and EMPs, if contaminated land is found to be an issue in any area likely to be directly affected by a project. The areas that are more likely to show a certain level of contamination are garages, car repair shops, scrap yards, gas works, chemical works and landfills/dump sites, etc along the road.

Furthermore, the road is used to transport oil-derived products, therefore, spillages are likely to have occurred and some ground contamination may also be present alongside the road. However, no data is available to make conclusions about the levels of contamination or how widespread it is or how likely it is to have reached any sensitive receptors at this stage.

Worker health and safety: This issue will have to be addressed in the ESIA and EMP.

5.3 SOCIO-ECONOMIC AND CULTURAL ENVIRONMENT

5.3.1 'Without Project' scenario

Assuming that traffic on the road increases to exceed the capacity of the refurbished two-lane road, the "without project" option will in this case lead to increased traffic jams, an increased risk of traffic accidents and increased noise impacts which will impact on the local population.

5.3.2 Widening scenario

The widening of the existing two-lane road to a four-lane road may extend beyond the existing right-of-way (ROW), so the potential impacts on the local population need to be studied in compliance with the World Bank Safeguard Policies and national legislation in Azerbaijan, such as the Land Code.

In the context of the existing socio-economic setting as described in Chapter 4, the following potential impacts could be relevant:

- Impacts on local residents from increases in air emissions and noise and consequent health effects and loss of quality of life;
- Impacts on road safety and the safety of residents / pedestrians and schoolchildren crossing a four-lane road;
- Impacts on local economic activities, such as animal husbandry (cattle, water buffaloes, sheep and goats);
- Impacts to road-side businesses which depend on drivers "stopping by", such as restaurants, sellers of fresh herbs and butchers;
- Impacts to archaeological and cultural heritage during construction and excavation works;
- Impacts to the community and cultural infrastructure, such as accessibility to local mosques or other sites of spiritual significance, sports areas or any community centres.

5.3.3 Impact Mitigation

Cultural Heritage and Archaeology: an archaeological and heritage survey should be undertaken in order to identify any areas of potential significance. If the area is found to be of potential significance, this should be dealt with in the project specific EIA and EMP**.**

Access to villages, farms, and major commercial premises must be provided with suitable access routes and pedestrian crossings, to ensure road safety and accessibility. This will need to be addressed within detailed design.

Access to agricultural fields and pasture land must be safeguarded and included into the design phase of the project. Access routes which allow for a safe movement of people, wildlife and domestic animals will have to be addressed during the design phase.

Access to small road-side businesses such as butchers and coffee shops, and road-side sellers will have to be catered for by means of providing them with safe exit route from the main road onto their business premises. Currently, no mitigation measures are envisaged

which could minimise or cancel the potential detrimental impacts of the project on the small road-side businesses which contribute towards the local economy.

Issues relating to loss of or damage to property or other assets must be subject to a full Resettlement Action Plan (RAP). Full and adequate resettlement and compensation will have to be provided in line with the World Bank OP 4.12 and Resettlement Policy Framework (RFP).

Table 5-1: Comparison of Environmental and Socio-Economic Implications of Project Alternatives

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
Km 15 to 26	Flat topography. The land which is not urbanised is covered in steppe vegetation. Land adjacent to roadside is partly urbanised with presence of apartments on the RHS and a restaurant on the LHS less than 200m from roadside. The area of private land is surrounded by a brick wall lying adjacent to road. Commercial premise/Industrial compound approx. 500m from road (LHS). Undeveloped areas are used for cattle grazing. Protected area of Mud Volcano located on approx. km 21, within 1km of the road on the RHS.	Widening of the road to LHS or RHS	***During Construction*:** Marked deterioration in noise and air quality levels which can affect local residents and businesses. Potential impact on sites of cultural heritage significance. Potential visual impact on protected area. Potential impact of waste and litter production on the protected Mud Volcano and surrounding area. ***During Operation*:** Air quality and noise deterioration from a marked increase in traffic which can impact upon the local residents living in close proximity to the extended road. Visual impact of road affecting local residents.	***Construction:*** Disruption to traffic due to construction activities. ***Businesses:*** A restaurant will have to be relocated (km 18.5). If the restaurant is relocated further out, the restaurant will not be easily accessible and this will have potential negative impacts on the business. ***Road Safety:*** An increase in road traffic accidents and accidents leading to a possible increase in road fatalities can arise as the speed at which cars will drive down the road will increase. Currently, the local people / pedestrians are seen to cross the	Potential environmental, socio-economic, cultural heritage and road safety impacts need to be assessed within the EIA process and specified in the EMP.

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
			Impact of road on quality of life of local residents. Habitat fragmentation: barrier to migration routes of wildlife and impaired crossing for wildlife, cattle, goats and sheep as a more difficult and dangerous physical barrier is created.	road in order to access fields and houses on either side of the road. Impaired cattle, sheep and goats crossing.	
Km 26 to 34	Area covered in steppe vegetation; hilly / irregular topography. The existing route crosses an area of flat topography. The alternative alignment (AA) crosses an area of very irregular hilly topography. The AA will cover a longer distance than the existing route and require more complex engineering solutions. Presence of households on RHS approximately 50m from road; petrol station and café adjacent to road. Entire area which is not developed (i.e. steppe) used	Widening of existing road	***During Construction:*** The increase in noise and air quality levels can affect local residents and businesses and disturb local wildlife, cattle, sheep and goats. Potential impact on sites of heritage/archaeological significance ***During Operation:*** Air quality and noise deterioration from a marked increase in traffic which will affect local residents living in close proximity to the extended road. Visual impact of road		The AA will have significant environmental implications due to its larger footprint and the construction implications of building on such irregular, clayey terrain. The existing route is the preferred option as compared to the AA.

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
	for cattle grazing.		affecting local residents. Impact of road on quality of life of local residents. Habitat fragmentation: barrier to migration routes and impaired crossing for wildlife as a more difficult physical barrier is created.		
Km 26 to 34		Alternative alignment (AA)	***During Construction:*** Considerably higher levels of waste material produced due to irregular topography and engineering works needed to make the terrain suitable for construction. Air quality, noise and visual impacts will be slightly less significant due to increased distance to households. Potential impact on sites of heritage/archaeological significance ***During Operation*:** Habitat fragmentation: barrier to migration routes and impaired crossing for	***Land Use:*** Separating of pasture lands which is under municipal ownership. Acquisition of 18 ha municipality and 48 ha state pasture land. Necessity of huge earthworks due to small hilly landscape.	

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
			wildlife as a more difficult physical barrier is created. In addition, the creation of isolated fragmented habitat surrounded by the previous route and the AA, if the existing route is not reinstated. Air quality, noise and visual impacts will be slightly less significant due to increased distance to households. Larger footprint due to (1) the extensive engineering works required to make the terrain suitable for construction; and (2) the construction of four lanes on previously undeveloped terrain as opposed to two additional lanes adjacent to existing road.		
Km 34 to 43	Flat expanse of land; land use on either side of the road is mostly sown grassland/cropland mainly used for cattle grazing.	Widening of road	***During Construction*:** Temporary impacts to air quality and noise, with consequent disturbances to wildlife and domesticated animals, like cattle, sheep	***During Construction***: Waste and physical impacts on sown grassland/cropland and consequently negative impacts expected on	Potential environmental and socio-economic impacts to be assessed in detail within the EIA process.

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
			and goats. Potential impact on sites of heritage/archaeological significance. ***During Operation*:** Habitat fragmentation: barrier to migration and impaired crossing for wildlife as a more difficult physical barrier is created	cattle rearing, animal husbandry and agricultural activities due to construction dust and emissions.	
Km 43 to 53	The main habitat type is steppe. Between km 43 and 46, the ground is flat on and around the existing road, with hills approximately 500m from road. Jangi village is located on RHS at approx. km 46; households located along the road between Jangi and km 51. Forest Fund Plantations: km 45 – 46.9; 51.2 – 54.8. See Chapter 4.3.3. After km 47, the road goes up a relatively steep gradient	Widening of existing route	***During Construction*:** Reduced air quality and increased noise which will affect the population of Jangi. Potential impact on sites of heritage/archaeological significance ***During Operation*:** Reduced air quality and increased noise with potential detrimental effects on wildlife and the local population (Jangi). Habitat fragmentation as a	***During Construction*:** Air quality, noise and safety considerations for local population of Jangi ***During Operation*:** The widening of the existing road will not result in the realignment of the particularly dangerous stretch of road between km 50 and 52 therefore safety will not be improved and will possibly deteriorate.	Potential environmental and socio-economic impacts to be assessed in detail within the EIA process. The EIA to be undertaken in accordance with national, regional, World Bank/IMF, WHO and international standards of best practice. Proactive road safety campaigns for local residents and children.

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
	following an uphill route which features sharp bends and tight corners. The AA will bring the road on a route (1) north of the existing route before Jangi, returning to the route at km 46.5 by cutting across the village; and (2) south of the existing 47-53km stretch and through a hilly terrain of very irregular topography. A contractor road has been constructed between the existing route and the proposed AA, running roughly in parallel to the AA and linking approx. km 48 to km 53.		further barrier to animal crossings and migration is created.		Measures to be put in place to manage dust production for road safety purposes.
Km 43 to 53		Alternative Alignment	***During Construction*:** The proposed AA will require significant engineering works to make the terrain suitable for construction with consequent significant levels of waste material produced (higher than for the widening of the existing route alternative)	***During Construction*** Acquisition of 18 ha forest land area and relocation of planted trees. It will require compensation for forest land and trees. Bypass will separate pasture areas and will require several pedestrian and animal	*Km 43 to 46 of AA*: this section of the proposed AA will result in a longer road with further engineering challenges and environmental/socio-economic considerations. It is recommended that this option is abandoned in favour of the existing straight route between

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
			Potential impact on sites of heritage/archaeological significance ***During Operation*:** Larger footprint due to the extensive engineering works required to make the terrain suitable for construction. Fragmentation and isolation of habitat in particular assuming that the existing road will not be reinstated (creation of an "island" habitat between the two roads)	crossings. Necessity of huge earthworks due to small hilly landscape ***During* Operation:** The AA will potentially cross the village between km 45 and 46 with consequent need for relocation of existing households. The section between kms 46 and 53 will result in the straightening of the road potentially reducing the potential for road accidents thus improving safety.	kms 43 and 46. *Km 46 to 53 of AA*: this section of the AA will pose significant engineering and environmental challenges. Nevertheless it is important that the existing road is realigned to avoid the sharp and dangerous bend at km 51. It is recommended that the possibility of creating an AA which follows the current temporary contractor road is looked within detailed design as a potential alternative (two-lane road with crawler lane) between kms 46 to 53. . It is also recommended that this option be considered, e.g. as part of the refurbishment of the to-lane road, even if the widening of the road to a four-lane road does

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
					not take place.
Km 53 to 77 (excluding km 59 to 61)	Relatively flat section of road running through steppe and areas of sown grassland/agricultural land. Forest Fund Plantations: km 56.4 – 59.2; 57.5-64.4. See Chapter 4.3.3 Landslide prone area The road crosses two rivers at km 62.5 and 68 (Bridges No.2 and 3. Houses located on the RHD shortly before bridge No.3 as well as a number of farms dotted along the route 100m or less from the road.	Widening of existing route	***During Construction*:** Temporary impacts to air quality and noise, with consequent disturbances to wildlife, including the internationally endangered (Vulnerable species in the 2008 IUCN Red List) Lesser Kestrel which nests on and in the vicinity of Bridges No.2 and 3. Impact to surface water quality during construction works to Bridges No. 2 and 3 over the Jeyrankechmez river. This could arise as result of sediment/construction waste runoff into the river (e.g. from construction activities and/or landslides) and consequent large sediment loads into the river, or e.g. spillages from construction vehicles. This would have an impact on the river's chemical and ecological quality, and knock-on effects on human health as the local rivers are used as a	***During Construction*:** Air quality, noise and safety considerations for local population. ***During Operation*:** The widening of the existing road can increase the exposure of the local residents to road hazards. Therefore, road safety measures will need to be set forth to ensure quality of life of local residents is assured.	Impacts on Lesser Kestrel during construction to be managed through the EIA and EMP. Potential environmental and socio-economic impacts to be assessed in detail within the EIA process. Any water necessary for construction activities should not be extracted from the rivers as these are used as a source of drinking water by the local populations. During operation, measures should be identified to prevent runoff from the roads adjacent to or near water courses, such as oil and silt interceptors.

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
			source of drinking water. In addition, the extraction of water from the rivers for construction purposes may affect water levels and affect local populations which rely on river water as a source of drinking water. ***During Operation*:** Habitat fragmentation: barrier to migration and impaired crossing for wildlife as a more difficult physical barrier is created. Contaminated runoff from the road onto the water courses could have potentially significant impacts on water quality.		
Km 59 to 61	Small section of fairly straight road running across a flat expanse of steppe.	Widening of existing road	***During Construction*:** Temporary impacts to air quality and noise, with consequent disturbances to wildlife. Potential impact on sites of heritage/archaeological	The widening of the existing road will increase accidents.	Potential environmental and socio-economic impacts to be assessed in detail within the EIA process and EMP.

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
			significance ***During Operation*:** Habitat fragmentation: barrier to migration and impaired crossing for wildlife as a more difficult physical barrier is created.		
Km 59 to 61		Alternative Alignment	***During Construction*:** The development of the AA will involve the construction of 4 new lanes on what is currently undeveloped land. This will result in a larger footprint (in particular assuming that the existing route will not be reinstated) as well as larger quantities of waste material produced as compared to the widening of the existing road, which will comprise the addition of two lanes to the existing two-lane road.	The AA will not substantially modify the existing route and is unlikely to lead to marked improvements Take out riskful turning. The new alignment will reduce accidents.	The AA is only a slight modification of the existing route but will have a larger footprint as it will require the construction of four new lanes rather than the addition of two to the existing road. In addition assuming that the existing road will not be reinstated at this place, the overall footprint will be the cumulation of the four new lanes with the existing two. The widening of the existing route is recommended as the preferred option.
Km 77 to 78	This stretch of road runs immediately adjacent (on its LHS) to the eastern edge of	Widening of existing road	***During Construction*:** Potential for considerable air	Reduced quality of life of the residents of Narimankand due to	In order to reduce the impacts of the expanded road on the

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
	Narimankand village. A number of properties are also present on the RHS of the road, at approximately 150m from the road.		quality and noise impacts which will affect the residents of Narimankand due to their close proximity to the road. ***During Operation*:** Decreases in air quality and noise affecting the residents of Narimankand due to their close proximity to the new four-lane road.	proximity of the road and increased noise and air emissions. Maraza and Narimankand are to form one town only by Presidential Decree (refer to Appendix F). This means that the new town will effectively be split into two separate towns and as a consequence, the communication and accessibility between the two parts will be significantly impaired/made less safe.	Narimankand residents, it is recommended that an alternative route is evaluated which will provide a straight road between km 75.5 and km 78, increasing the distance between the road and Narimankand, and also making the road straighter.
Km 79 to 86	Between km 79 and 81 the road runs adjacent to the south-western edge of Maraza village, running along residential properties and small businesses. Forest Fund Plantations: km 79.5 - 88.6. See Chapter 4.3.3 Landslide prone area Between km 81 and km 86 the	Widening of existing road	***During Construction*:** Air quality and noise impacts from construction activities will affect the residents and businesses of Maraza and Narimankand. Potential impacts on the trees adjacent to the road and on the wildlife they support.	Impacts to the grassland/cropland located to the south of the road with potential effects on related economic activities (crop growing, animal grazing); Reduced quality of life of the residents of Maraza/Narimankand due to proximity of the	The AA will increase the distance between the road and the village of Maraza and will therefore avoid the need for relocation and compensation of existing businesses, it will also minimise noise and air quality impacts on Maraza. In addition the AA will

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
	road runs alongside a number of properties on the RHS and then across sown grassland/cropland. On this stretch of road there are a large number of mature trees alongside the road and up to 30m distance from the road. The proposed AA will run across fields of sown grassland/cropland		***During Operation*:** Habitat fragmentation: barrier to migration and impaired crossing for wildlife as a more difficult physical barrier is created Deterioration of noise and air quality conditions affecting wildlife as well as the local population of Maraza and Narimankand. Impact to a number of mature trees currently located adjacent to or near the road.	road and increased noise and air emissions. Need to relocate a number of properties currently located adjacent to the road on the RHS.	allow for the preservation of the existing mature trees alongside the existing road. The AA is therefore the recommended alternative. It is also suggested that the existing road be kept as a local road (preserving the existing mature trees) and access is created from the extended road (on the AA) to the existing road, enabling access to Maraza by road users. Any scheme for replantation of lost trees should consider the plantation of native local species in the first instance in accordance with international best practice.
Km 79 to 86		Alternative Alignment	***Construction*:** Air and noise effects could be less significant for this	Could have less impacts than the widening option on existing businesses	

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
			option as distance from the key receptors, i.e. local population, will be increased. ***Operation*:** Larger footprint (four lanes built on previously undeveloped land). Potential ecological impacts from habitat fragmentation.	and households along the road as it increases distance between these and the road. Business operators which located on the existing road in the centre of Gobustan may loose some portion of their customers. Will cut across an area of sown grassland/agricultural land affecting related economic activities (agriculture, cattle grazing, etc) – this will require compensation for loss of land. Bypass will require 17.1 ha private, 2.1 forest land fund, 3.6 municipality and 12 ha state agricultural land. 2.7 ha of the state land belongs to special experiment station; Bypass will decrease	

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
				road traffic accidents. Will reduce total length of road about 1 km.	
Km 86 to 105	This section of road runs across sown cropland/grassland in almost its entirety. A significant section of the road, in particular from km 86 to 101, is surrounded by planted trees (mostly pine). Some Sections particularly prone to landslides. Forest Fund Plantations: km 89.5 -95.7. See Chapter 4.3.3 Landslide prone area There are number of businesses along, and at points adjacent to, the road, including residential properties, farms, restaurants, butcher, a petrol station, a motel and a holy area ("Pir"). The route crosses watercourses at kms 97.7 and 104.5 (Bridges No.4 and 5). Bridge No.4 is a regular nesting site for the	Widening of existing road	***During Construction*:** Potential noise and air quality impacts affecting wildlife as well as local residents and businesses. Potentially significant ecological impacts as a result of construction works on or nearby the internationally endangered Lesser Kestrel Impact to surface water quality during construction works to Bridges No. 4 and 5. This could arise as result of sediment/construction waste runoff into the river (e.g. from construction activities and/or landslides) and consequent large sediment loads into the river, or e.g. spillages from construction vehicles. This would have an impact on the river's	*Construction*: Reduced air quality and increased noise affecting quality of life of local residents. *Operation*: Safety issues associated with drivers driving at faster speeds on the extended road stopping on the road sides to access services (butchers, etc). Nevertheless, if access to these services is not maintained, e.g. through slip roads, local businesses will suffer. Need to relocate/compensate for the lost or damaged land, properties and	Any scheme for replantation of lost trees should consider the plantation of native local species in the first instance in accordance with international best practice. Any water necessary for construction activities should not be extracted from the rivers as these are used as a source of drinking water by the local populations. During operation, measures should be identified to prevent runoff from the roads adjacent to or near water courses, such as oil and silt interceptors.

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
	internationally endangered Lesser Kestrel.		chemical and ecological quality, and knock-on effects on human health as the local rivers are used as a source of drinking water. In addition, the extraction of water from the rivers for construction purposes may affect water levels and affect local populations which rely on river water as a source of drinking water. ***During Operation***: Habitat fragmentation: barrier to migration and impaired crossing for wildlife as a more difficult physical barrier is created Deterioration of noise and air quality conditions affecting wildlife as well as the local population and businesses. Need to remove trees planted along the road. Contaminated runoff from the road onto the water courses could have potentially significant	businesses.	

Road Section	Key Local Features	Proposed Alternative	Environmental Considerations	Socio-Economic Considerations	Comments
			impacts on water quality.		

Table 5-2: Issues to be Addressed on Specific Road Sections at the Stage of Feasibility Study and Detailed Design

PROJECT	DECISIONS	MINIMUM SCOPE	TIME REQUIREMENT	COST ESTIMATE
Preparation of Environmental Management Plan (EMP) following environmental assessments for Baku-Shamakhi road. This could be done for each of the identified sub-projects separately, and can form part of Feasibility Study/Detailed Design Project. Land Acquisition plan and Resettlement Action Plan if land and buildings' take is considerable.	Environmental issues will mainly relate to both the construction and operational period. Should be considered at the feasibility stage and individually for each sub-project. EMP is a mandatory part of the feasibility documentation	▪ The EMP consists of a set of mitigation, monitoring and institutional measures to be taken into account during detailed design, implementation and operation to eliminate environmental and social impacts, or, where unavoidable, at least reduce them to acceptable levels. ▪ Minimum issues to be covered as part of EMP are: ▪ worker health and safety: living conditions, water supply and sanitation, provision and training in use of personal protective clothing and equipment, HIV/AIDS awareness ▪ traffic safety measures for workers and traffic, measures for maintenance of safe access for pedestrians and vehicles to schools and other properties ▪ general work safety: accident, fire and chemical spill/emergency procedures ▪ contractor's yard pollution control and waste management ▪ equipment servicing and fuelling facilities ▪ topsoil and tree preservation ▪ asphalt plant siting and operations ▪ sand and gravel borrow pit siting and operations ▪ materials handling, transport (e.g. road, rail) and storage ▪ dust, air pollution and noise control measures ▪ surface water protection measures ▪ procedures to be followed if chance archaeological finds are made ▪ complaints handling procedures develop waste management/disposal plan ▪ develop measures to deal with contaminated land ▪ measures to ensure access to schools and properties ▪ impact on cultural property, monuments, graveyards, etc ▪ specify actions to be taken should any archaeological or cultural artefacts be discovered	It is envisaged that the Project will be implemented over a period of two years. The first year programme will include the widening works along the first section of approximately 30 km of the Baku – Shamakhi road. EMP for the first year construction programme to be developed in early 2009. The second year programme will include the remaining sections of Baku – Shamakhi Road. The section is envisaged to be split into sub projects. EMPs for the second year programme to be developed in late 2009	Separate contracts for the development of EMPs for relevant sections of the Road

Monitoring of potential impact on physical and biological environment and of socio-economic and cultural environment for 'upgrading scenario' during construction.	A socio-economic baseline will need to be provided for the monitoring of socio-economic and cultural impacts.	Monitoring should include the following: ▪ destabilisation of slopes in sensitive areas: review of previous studies on possible solutions for road improvement in sections with unstable ground and landslide hazards; verify information on geo-technical conditions of the sections in question; develop appropriate engineering solutions for slope protection and stabilisation ▪ to minimize any loss of tree plantations and shrubs planted by ARS and the MENR in various sections alongside the existing road, it is necessary to work with State Topography and Lands Committee who have records of all plantations and their locations, and with State Forest Fund (Jangi office) for approval of any potential losses of vegetation; replacement of plantation loss should be envisaged in the design and budget ▪ improvement of drainage systems in the sections in question (90km and 93km) to eliminate the flooding that regularly affects Maraza town ▪ to develop measures to minimise loss/disturbance of some breeding sites of the globally threatened Lesser Kestrel under the bridges over the river Jeyrankechmez, including seasonal restrictions for construction works in this area and hunting prohibition ▪ planning of extraction and acquisition of road construction materials, protecting the IBAs that are located 8-10km to the south of Jangi ▪ develop waste management/disposal plan as part of EMP ▪ develop measures to deal with contaminated land as part of EMP ▪ develop worker health and safety plan as part of EMP ▪ monitoring of surface and ground water pollution overall hazard, resulting from the spillage of diesel, fuel and oil ▪ measures to ensure access to schools and properties ▪ impact on cultural property, monuments, graveyards, etc ▪ specify actions to be taken should any archaeological or cultural artefacts be discovered ▪ measures to compensate roadside businesses and persons in line with the Azerbaijan Government and World Bank requirements and in line with Resettlement Policy ▪ ground investigation ▪ design of road pavement should take into consideration saline soft ground ▪ sourcing of materials ▪ haulage of materials ▪ monitor construction phase impacts: ▪ impact on environment of site preparation, construction and borrow quarry operations (incl. spills, etc)	Duration of construction contracts	Can form part of the Supervision Contract for various sub-contracts or be let as a separate contract to cover the whole route

		▪ impact on environment of work camps (sewage, garbage, vermin, use of resources like drinking water, etc) ▪ waste management plan ▪ health and sanitation plan implementation (incl. HIV/AIDS) ▪ transportation, storage and use of large quantities of diesel, fuel and other petroleum products ▪ implementation of accident, fire and chemical spill/containment emergency procedures ▪ implementation of safety procedures of construction workers and public ▪ traffic impact mitigation measures ▪ management aimed at minimising loss of agricultural land, impairment of biological environment and/or disfigurement of landscape or harm to the soil's further potential as farmland, or impairment of drainage ▪ monitoring of borrow pit operations to eliminate chronic erosion, siltation of adjoining land and minimise impact on settlements in the vicinity ▪ monitor impact on water quality that could be effected by increase of silt load, surface water pollution through cleaning of construction vehicles and equipment ▪ monitoring of impact on air quality (impact from exhaust emissions of construction machinery, fugitive emissions from aggregates, concrete, asphalt plants; dust from traffic movements on unpaved roads, exposed soils and material stockpiles) and implementing mitigation measures (incl. technical control of machinery on emission standards, avoiding congestions, watering of unpaved haul roads) ▪ monitoring and implementing mitigation measures aimed at reducing noise (incl. restriction of working hours in vicinity to settlements, strict enforcement of max noise level, ban on improper functioning machinery that causes excessive noise pollution)		

6 ENVIRONMENTAL ASSESSMENT & RESETTLEMENT POLICY FRAMEWORKS

6.1 ENVIRONMENTAL ASSESSMENT AND MANAGEMENT FRAMEWORK

The RER provides a high level overview of the environmental and social considerations that need to be taken into account throughout all stages of a project.

Once the preferred option has been selected for a specific section of road, the Environmental Assessment and Management Framework (EA&MF) and Resettlement Policy Framework (RPF) will be used by the Government and the World Bank to guide and manage environmental and social studies, land acquisition, resettlement and compensation, and public consultation and information disclosure.

The ARS's Environment and Safety Sector (ESS) will be responsible for the management of the EA, environmental monitoring and evaluation, and reporting process for the sub-projects, ensuring that the requirements set forth in Azerbaijan's legislation, procedures and policies, international Conventions and World Bank safeguard policies, in particular in terms of environment, resettlement and land acquisition, are adequately addressed and satisfied.

For every sub-project, an environmental and social impact assessment (ESIA) will have to be conducted and approved by the MENR. The ESA will lead to a documented demonstration that environmental and social impacts have been mitigated and reduced to a level that is as low as is reasonably practicable (ALARP). It is also a demonstration of the client's commitment to contributing towards the sustainable development of Azerbaijan, since EIA requires a systematic process for analysing and proposing measures to address the positive and negative environmental and social consequences of a project. The ESIA will include stakeholder engagement throughout the process, based on a well thought out stakeholder identification and engagement plan. Other key themes in undertaking ESIA include:

- Key environmental and social sensitivities, particularly biodiversity and protected areas, should be identified in the initial Feasibility stage.

- The ESIA should include a rigorous Scoping exercise, involving appropriate specialists, stakeholder consultation and culminating in a Scoping Report that ensures there is a wide consensus on the eventual shape and emphasis of the EIA.

- Baseline data collection should be on a 'fit-for-purpose' basis and the data should be interpreted in terms of their relevance to the project, future trends and general context.

- The execution of the EIA process will include the provision for the iterative interaction with the project design engineers, on the examination of alternatives and the development of mitigation measures to minimise negative impacts and enhance positive benefits.

- The prediction and evaluation of the significance of the environmental and social impacts should be founded on clear and transparent evaluation criteria and recognised environmental and social techniques, for the dual benefit of the project design team and the stakeholders.

- The EIA should incorporate the project footprint and all attendant activities supporting the main project. This may cover a much wider geographical area than the identified project location.

- The EIA should clearly set out how commitments made by the project developers, including environmental mitigation, enhancement, monitoring and evaluation, resettlement and compensation, will be delivered.

- The EIA should include provisions for checking actual performance against the predictions in the EIA, through monitoring and audit programmes.

- The EIA is an iterative process where it will contribute towards the development of Construction Environmental Management Plans (CEMPs) and Operation Environmental Management Plans (OEMPs).

- By identifying the precise sensitivities peculiar to each project, or sub-project, the EIA will highlight the phases where input from an environmental or social specialist will be required. This will be most important during the Construction phase where such experts can guide and support the Contractor on a day–to-day basis.

6.2 Baku-Shamakhi Road Widening Project EIA Scope

The EIA acts as essential background for the Construction Contractor in his development of the full suite of Construction phase documentation. Most important in this respect is the Project specific Environmental Management Plan (EMP). An outline EMP will be prepared initially, in accordance the World Bank safeguard policies, and this will be passed to the Construction Contractor for full development. This documentation will be approved by ARS and World Bank prior to commencing construction activities.

The Project EIA comprises the qualitative and quantitative identification of any significant environmental and socio-economic impacts likely to occur as a result of the implementation of the proposed project. It is an iterative process with the Detailed Design team as some impacts can be mitigated, or even eliminated, at design stage; it will be written with cognisance of the detailed engineering proposals.

The EIA includes a description of the legislative, bio-geophysical and socio-economic background against which the project will take place. It will also place the project in the context of Azerbaijan's overall long-term policy on infrastructure development.

The EIA covers the total footprint of the project, including material procurement and all supporting activities. It will assess Impacts specific to the project phases, these being Construction phase and Operational phase. There is usually a difference in perception between the impacts from these distinct phases; project completion, i.e. the Operational phase, bringing socio-economic benefits, whereas the Impacts from Construction phase are largely detrimental, though if managed appropriately, short term.

The EIA will assess Project activities in terms of their impact on:

- Air Quality
- Physical environment and Geohydrological resources
- Ecology, Nature Conservation and Protected Areas
- Cultural Heritage and Archaeology
- Resources
- Land Use and Socio-Economics
- Community wellbeing

The Impacts emanating from the activities will include:

- Emissions – chemical, dust
- Discharges – sewage, dirty water
- Noise and Vibration
- Water Use and Management
- Resource Use
- Waste management
- Traffic increase
- Visual Impact

Resettlement and compensation issues will be addressed within the Resettlement Action Plan (RAP).

6.3 Baku-Shamakhi Road Widening Project EMP Scope

The Outline Environmental Management Plan (EMP) will be presented to the Contractor for further development. The Contractor will take ownership of the EMP at contract award; develop content and ensure implementation throughout the project construction period.

The purpose of the EMP is to identify and set out the minimum requirements the Contractor, and his sub-contractors, must take to control and mitigate for any environmental and social issues relating to road construction along the Baku to Shamakhi route. All the main Contractor's sub-contractors will abide by the procedures laid out in the EMP and supporting documentation. The EMP is a live document and will be reviewed and updated on a regular basis throughout construction such that it accurately reflects the realities of the project. It is a controlled document which will be distributed and maintained by the Contractor's Project Manager, who is responsible for making the EMP available to all personnel employed on the Project and incorporating amendments following approval by the ARS.

The Contractor shall develop project specific documentation relating to the management of environmental and social issues. Activity specific mitigation measures shall be included in the relevant Method Statement. Procedures can form separate documents or be discrete sections of the EMP; they shall include, but not be limited to:

- Sub Contractor Management
- Traffic Management
- Wildlife Protection
- Pollution Control and Mitigation
- Waste Minimisation and Management
- Emergency Response and Contingency
- Reinstatement and Aftercare – including Borrow Pits and Access roads
- Monitoring and Measuring
- Training and Awareness
- Incident Management and Reporting
- Audit and Inspection schedule
- Impact Register
- Sensitive Location Register
- Project specific KPIs
- Community Liaison

- Worker HSE Management
- Cultural Heritage and Archaeology Management
- Grievance Procedure

6.4 LAND ACQUISITION AND RESETTLEMENT POLICY FRAMEWORK

Once the scenario/alignment has been selected for a specific section of road, the RPF will be used by the Government and the World Bank to manage land acquisition, compensation and resettlement, and to guide the public consultation and information disclosure process.

The RPF describes the existing compensation valuation methods in Azerbaijan as well as the World Bank requirements under OP4.12, provides a sample entitlements matrix, and outlines the principles and procedures for preparation of a Resettlement Action Plan (RAP).

The roles and responsibilities of the ARS, the Land Acquisition Department, the Executive Power and Municipalities, the Cabinet of Ministers, investors and other organisations in land acquisition and the preparation and implementation of RAPs for sub-projects are set forth in the RPF. The World Bank requirements for internal performance monitoring and post-compensation evaluation monitoring are also listed

7 PUBLIC CONSULTATION

7.1 FIRST PHASE OF CONSULTATION

The RER is a broad overview of the policy, environmental and socio-economic implications of the entire Project scope at a strategic level, intended to provide information about key environmental and socio-economic issues to decision-makers within the Government and funding institutions to help them make informed decisions about:

- if/where a new road is the preferred option,
- the optimal location for the alignment.

At this stage, given the degree of uncertainty on route selection, the timing of project implementation and thus the communities which might be affected by the Project, consultation took the form of an initial round of discussions with local officials and relevant village representatives in February and March 2009. The records of the public consultations and lists of participants are provided in Appendix I. The list of meetings/ visits is provided in Appendix J.

The February - March 2009 consultations provided continuity to the public consultations held along the Baku – Shamakhi Road in August – September 2005. A record of all comments recorded during meetings in the Project-affected areas is August – September 2005 is also given in Appendix I.

The purpose of the discussions was to:

- introduce and disseminate basic information about the project,
- promote discussion about the potential positive and negative impacts of the proposed project;
- to collect statistical and anecdotal information about the environment, social and economic characteristics of each of the concerned districts.

All the comments were thoroughly recorded in order to bring them to the attention of decision-makers within the ARS, the World Bank and other organisations interested in the planning and implementation of the proposed road improvement programme. Lists of the dates, times and locations of meetings, names of attendees and their affiliation are summarised below in Table 7-1 and provided in detail in Appendix J[70].

The comments made by officials and village representatives have been recorded directly as translated during the meetings. The comments have been taken into account during the development of RER Environmental and Social Impact and Mitigation Measures.

Socio-economic data collected during the meetings with the Local Executive Powers has been included both in the RER Environmental and Social Baseline and in the Resettlement Policy Framework.

Important factors in views in favour of upgrading existing road:

[70] Contact details have been recorded but will not be divulged to World Bank or any other party without the permission of the persons involved

- 'Road is life' – importance of road to current social and economic life of settlements along route
- Existing investments along road and desire to retain them

Important factors in views against upgrading existing road:

- Graveyards, historical and cultural sites near to existing route making widening of route difficult[71]
- Economic and social costs associated with resettlement of existing population
- Impact of resettlement on community cohesion, where it is felt there is not enough space for people to relocate locally, so that they will be pushed out of existing settlement as a result of road widening
- Schools and other social infrastructure that is near road
- Current poor condition of existing road

Important factors in views in favour of new road[72]:

- Shorten the distance and travel time to Baku
- Expected benefits to planned economic and social development in different sectors
- Expected improvement for delivery of agricultural goods to markets
- Expected benefits for job creation
- Expected opportunity for creation of new businesses
- Expected reduction in current level of accidents
- Expectations of associated improvements, such as new public services and infrastructure
- Reduce road accidents in settlements
- Improve road links for cities along the route
- Opportunity to use land not useful for agriculture
- Little or no resettlement required
- Opportunity to create new infrastructure near new alignment to compensate for loss of existing infrastructure

Important factors in views against new road:

- Expected negative impact of new road on economic life of existing settlements, including informal trade resulting from current users of route
- Expected negative impact of the road on existing economic and social development plans for settlements along existing route
- Previous clearance alongside existing route, raising expectations of improvements to existing road
-
- Loss of existing businesses against
- Fear that new road will result in existing road not being maintained/reinstated

Other generic issues of anxiety/concern expressed during the consultation:

[71] Consultant: this commnets refers to the graveyard in Sabir (km 104+000 – 104 +250) and holy praying place Pir, at sabir (km 104+500)
[72] It is too difficult to try and separate views into those relating to alternative alignments

Basic facts about the proposed route

- How wide the road will be
- The exact alignment
- Environmental impact of new routes
- Anxiety about informing public too early when information is not clear
- The value of people's views to the process
- Pedestrian crossing points
- Domestic animal underpasses
- Flooded underpasses
- Flooding in Sabir due to poor drainage works as part of two lane rehabilitation

Compensation:

A range of issues concerning compensation were raised during the consultation. These include:

- Categories of compensation, including for land, private land and state land, rented state land, investment in houses and shops, potential productivity of land
- Fear of economic loss where illegal structures not compensated – treatment of illegal businesses – cases where businesses demolished in past, even though owner claimed to have official permission
- How compensation will be used for personal or for collective use, including for development and employment creation programmes
- Ease/difficulty of compensating different types of land e.g. state land versus private land; valuation of land with oil extraction points.
- Differing willingness to accept compensation between those who cultivate land and those who don't use land

Detailed information about the land acquisition and resettlement procedures and management to be followed to ensure Project compliance with Azerbaijan's legislation, procedures and policies, international Conventions and the World Bank safeguard policies is presented in the Resettlement Policy Framework.

7.2 DISCLOSURE OF INFORMATION & PUBLIC CONSULTATIONS SCHEDULE

The TOR for an update of the RER, RPF and EA&MF was disclosed on the website of the Ministry of Transport of the Republic of Azerbaijan on February, 19, 2009. The disclosure was followed by the first public consultation held in Shamakhi on February, 20, 2009 as described in Chapter 7.1. This was followed by the second round of consultations in reference to the findings of the draft RER on February, 25, 2009. This RER, the RPF and the EAMF documents are expected to be disclosed on the website of the Ministry of Transport of the Republic of Azerbaijan and InfoShop of the World Bank on the same date.

These activities provided continuity to the public consultations held in August – September 2005.

Furthermore, comments were also sought on the draft RER, EA&MF and RPF developed in 2005 in the following manner:

(i) the cabinet of ministers distributed all draft reports (in Azeri) to key ministries and agencies including the local executive powers;

(ii) on October 20, 2005 an advert was placed in local papers to inform the public that these reports were available in the offices of the local executive powers and that comments could be submitted during a 3 week comment period that closed on November 10, 2005.

The public consultations will continue throughout the project implementation, i.e. during the detailed design and environmental impact assessment preparation for the specific sections of the road, and throughout the construction activities. The relevant national, regional and local stekeholders will be invited to partake in the consultations.

Table 7-1: Summary of Consultations

	Relevant Organisation	Comments	Response to Comments
1	Ministry of Health Letter :12/10/2005 Reference: 19/10/2005	▪ Despite of the current stabilized epidemiologic situation for acute intestinal diseases in Azerbaijan, existing problems with water supply and drainage systems increase disease incidence. ▪ Despite Azerbaijan has a very low HIV epidemic, current data and behavioural social trends indicate a high potential for further growth of the HIV/AIDS ▪ The proposed project will be under construction for a considerable time, which may increase the potential risk of diseases such as infectious diseases, tuberculosis, malaria venereal diseases and HIV/AIDS. Followings should be included to minimize the impact of diseases. ▪ Propose to expand item 3.6 “HIV/AIDS” of the project and provide it in a new edition in the following way: - Preferential employment policies for local people - HIV/AIDS and other infectious diseases awareness programmes for contractors and local people - Government –level action together with the transit industry to educate truckers about the issues of HIV/AIDS - Conduct of preventive and periodic medical inspections for protecting workers’ health - Conduct of complex preventive and epidemic actions for prevention of malaria disease	In general no comments to the draft documents. But propose to expand item 3.6 “HIV/AIDS” of the project and provide it in a new edition. The revised text proposed by the Ministry of Health is included in the final version of the report
2	Ministry of Education Letter :12/10/2005 Reference: 24/10/2005	▪ We have no comments or proposals to the final draft of the project	----------
3	Ministry of Culture	▪ The road project area is not indicated in the submitted document, so the existence of historical and cultural monuments on the road alignment is not clear ▪ Items 13 and 14 of the “Law on the Protection of Historical and Cultural Monuments of Azerbaijan Republic” state that “if a monument is found during any construction or other works, the works should be immediately stopped and relevant authorities (Ministry of	Because of the non existence of the exact areas on the report for proposed alignments there is no comment, but there are some remarkable laws on the protection of

	Letter :12/10/2005 Reference: 19/10/2005	Culture) and Azerbaijan Science Academy taking into consideration expert evaluation ▪ If construction or other works are conducted in the area of historical or archaeological importance, this area is initially examined by experts and initial inspection of monuments is provided. Relevant authorities (Ministry of Culture) provide participation of their representative or expert in the construction site ▪ During construction of main engineering lines (oil, gas, pipelines etc.) if construction works cover an area more than a hectare, a request should be sent to relevant authorities (Ministry of Culture) and Azerbaijan Science Academy about the works to be done at the feasibility study phase by the construction company and funds should be allocated for conducting preliminary survey works	Historical and Cultural monuments During preparation of the Environmental & Social Impact Assessment Reports for specific sections of the proposed Project road, a more detailed review of potential historical and archaeological impacts will be undertaken in discussion with the Ministry of Culture
4	Ministry of Industry and Energy Letter :12/10/2005 Reference: 21/10/2005	▪ We will like you to consider that we have no comments or proposals to the document	----------
5	Ministry of Finance Letter :12/10/2005 Reference: 25/10/2005	▪ We kindly ask you to give proper instructions to the Ministry of Transport to submit reference documents and information used for detailed calculation and assessment of land areas and houses (calculation methods, documents of consent of landowners and house-owners and local authorities, pricing criteria for houses , individual prices for every house and courtyard and etc.) to appropriate bodies including the Ministry of Finance for review and comments	Ministry of Finance wants to be given necessary documents about land acquisition and resettlement procedure to give opinion from ARS. The documents listed will be provided to the Ministry of Finance when the detailed designs and associated Land Acquisition and Resettlement Plans have been prepared for each section of the proposed Project road
6	Ministry of Ecology and Natural Resources / State Expertise Department	▪ In accordance with the “Law on Environmental Protection of Azerbaijan Republic” and requirements of the “Regulations for the Environmental Impact Assessment Process” in Azerbaijan , an Environmental and Social Impact Assessment Report covering the under-mentioned essential environmental requirements should be prepared and submitted to the Ministry of Ecology and Natural Resources for approval: - Existing ecological condition of the construction site; - Description of infrastructure objects with potential impact on the environment through	According to the comments there is no specific objection against draft report and accepts the documents as a preliminary plan for works to be done and assessment of the existence conditions. Beside this,

	Letter :29/09/2005 Reference: 21/10/2005	conduct of construction works; - Volume of materials (sand, gravel, soil, and etc.) required for the road construction , proposed sources and agreements with the appropriate bodies on this issue; - Assessment of the damage to be caused to the greenery along the road through road construction with the participation of the appropriate bodies of the Ministry of Ecology and Natural Resources; - Special measures to be taken during the construction –mounting works of river crossings; - Reserving the fertile top soil during the earth works to be used for future rehabilitation works (land reclamation); - Appropriate waste management ; - Planting of strips of greenery (landscaping) along the highway using appropriate tree sorts; - Final results of the engineering geological investigations conducted in the probable landslide zones; - Mitigation measures for potential environmental impact through the project implementation	Some essential requirements should be prepared and submitted to the Ministry of Ecology and Natural Resources for approval. The Ministry of Ecology's requirements will be taken into account during preparation of the Environmental & Social Impact Assessment Reports for specific sections of the proposed Project road
7	Ministry of Economic Development (MED) Letter :12/10/2005 Reference: 27/10/2005	▪ We advise to assess physical and juridical persons eligible for compensation during resettlement and extent of damages, and to arrange settlement of these issues within the existing legislation, taking into consideration the World Bank recommendations.	The requirements of existing legislation and the World Bank will be taken into account during preparation of the Land Acquisition and Resettlement Plans
8	State Land and Cartography Committee Letter :29/09/2005 Reference: 13/10/2005	▪ Some necessary amendments should be introduced to the document according to the requirements of the land legislation of Azerbaijan Republic ▪ Item 4.1.6 should be amended in the following way: ▪ When land is required for projects of national interest, compensation payable to physical and juridical persons is offered on the basis of “Normative price of land areas for cadastral-based regions and semi regions” approved by Decree №158 issued by the Cabinet of Ministers of Azerbaijan Republic of 23 July 1998 taking into account market price. Land areas are acquired by consent of land owners, users, and lessees with decisions of appropriate local executive bodies. Physical or juridical persons can take decisions on land acquisition into court. For the acquired land areas landowners, users or lessees can be given a land areas of equivalent size and quality.	Some amendments must be done on the report about Land Code and Resolutions of The Cabinet of Ministers. In Table5 State Land and Cartography Committee must be indicated without alternatives The revised text proposed by the State Land and Cartography Committee is included in the final

		▪ Illegally occupied land plots are acquired without reimbursement of the expenses incurred during the illegal utilization. Rehabilitation of the land (including demolishment of buildings and structures) is also carried out by the illegal physical or juridical occupants or at their own expense ▪ Last two paragraphs of 4.1.6 item shall be provided with the following edition: ▪ Regulations on filing and processing of petitions for acquisition of land areas for state and public needs approved by the Resolution №42 issued by the Cabinet of Ministers of 15 March 2000. ▪ These regulations outline procedures for expropriation or compulsory acquisition of land areas for state or public needs. ▪ The second paragraph of 4.2.1 item shall be provided with the following edition: ▪ "Regulations on assessment of agricultural losses and damages due to the acquisition of the land areas for state or public needs" are regulated by the Land Code of Azerbaijan Republic and "Regulations on assessment and compensation of agricultural and forest industry losses and damages" approved by the resolution №42 issued by the Cabinet of Ministers of 15 March 2000. ▪ Item 4.2.4 shall be provided with the following edition: ▪ In case of need to acquire land areas for a project, lump sum compensation is paid to land owners, users and lessees. Compensation price is established by adjusting normative price established by the Cabinet of Ministers Resolution №158 of 23 July 1998 to market price and mutual agreement as specified in Land Code item 96. ▪ During land privatization, land titles allocated to families are officially registered on the household head, with indication of names of all members of the family. The household heads can act as a party for signing compensation documentation. However, official consent of other (adult) members to the compensation paid for acquired lands should be obtained. For under age children the household head is to sign. ▪ Inventory of lands in the corridor and right-of-way, establishment of rights on land (state, municipality and private) and collecting and classification of land title documents for individual land owners, users and lessees, assessment of lands, census of project affected physical and juridical persons is in the competence of the State Land and Cartography Committee in accordance with legislative land acts of Azerbaijan Republic, and all the above-mentioned activities can be realized only by this state body with its state land cadastral information, materials, experts and technical facilities. ▪ Therefore in Table 5 "Example of Land Acquisition and Resettlement Roles and Responsibilities" the State Land and Cartography Committee must be indicated without alternatives.	version of the report

9	Agency of State Melioration and Water Industry Letter :29/09/2005 Reference: 17/10/2005	▪ Designed roads cross with a number of natural and artificial water resources, we advise to consider special measures to avoid flow of surface waters appeared on the roads to these water resources	The State Agency approves upgrade of main republican highways up to international standards and will provide its assistance for the execution process. The requirements of the Agency of State Melioration and Water Industry will be taken into account in the detailed design
10	Absheron Executive Power Letter :12/10/2005 Reference: 24/10/2005	▪ We will like to be informed after the exact alignment for rehabilitation of Baku-Shamakhi road is defined. To take appropriate measures regarding compensation of potential affected land areas to land owners, physical and juridical persons, as well inventory to be conducted in the area	Supports rehabilitation of the Baku-Shamakhi road. Detailed information will be given in EAI report.
11	Gobustan Executive Power Letter :12/10/2005 Reference: 28/10/2005	▪ We propose to consider construction of two-sided sidewalks in the road section running through the region centre, Maraza settlement within the project.	Agree with the rehabilitation of the Baku-Shamakhi road and propose to make sidewalks in the centre. We indicated this comment on the draft report (Public Consultation Notes)
12	Shamakhi Executive Power Letter :12/10/2005 Reference: 21/10/2005	▪ We have no comments or proposals to the document	----------
19	State Committee Of Construction And Architecture (SCCA)	▪ It is hard to make an exact assessment of it without other reports (Only Resettlement Policy Framework has been reviewed). However the document can be used as a valuable source and material for this kind of matters as it mainly covers not concrete information and recommendations, but procedures. ▪ Item 5.2 of the report discusses establishment of Land Acquisition Department (LAD)	SCCA don't support establishment and participating of Land Acquired Department. According to comments needed detailed information needed but it will be prepared in the next

	Letter :12/10/2005 Reference: 08/11/2005	within ARS, but this matter is in the authority of ARS as an Employee, and activity of the LAD as an independent structure is unlikely. ▪ In item 5.4 Project Management Department is indicated as a structure directly related to the Cabinet of Ministers, but it is not acceptable with the existent ARS. ▪ In item 6 Table 6.1 Project Resettlement Budget, 40% of the costs are allocated to the management, supervision, consultation and additional costs and this figure seem to be high. ▪ Cabinet of Ministers of 28.02.2004 seems to be 90,5ha more than the allocated area land suitable for sowing. But anyway it is difficult to judge the base of these figures due to the lack of exact calculations. ▪ Item 8.4 states that final external evaluation will be done by a third party. To our mind, there are similar organisations both on governmental and non-governmental sector, and use of their services could at least reduce the service charge itself, and provide new places of employment, consequently increasing qualifications of the local specialists. ▪ As a reference source, appropriate requirements of the World Bank are not indicated and this complicates assessment of the conclusion, final opinion ▪ Some amendments must be done on Table 4.1 ▪ - In accordance with the Regulations on Movables State Register Agency under the Cabinet of Ministers of Azerbaijan Republic approved by the Decree No.286 of the President of Azerbaijan Republic of 30 August 2005, to add “Movables State Register Agency under the Cabinet of Ministers of Azerbaijan Republic” after “representatives of the District’s Executive Power” in item 4, Table 4.1 of the Resettlement Policy Framework. ▪ We advise to add the sentence “Preparation of inventories and registrations of the properties and surface and subsurface utility lines within the road reserve is carried out by the Movables State Register Agency under the Cabinet of Ministers of Azerbaijan Republic at the project cost” to item 5, sub item 5.1.1; ▪ To add “” after “State Committee of Construction and Architecture” and “State Land and Cartography Committee” in items 5.1.2 and 5.3.1 appropriately.	stage. Comment about State According to comment appropriate amendment made in 5.1.2 Some comments are included in the final version of the report. Other comments are impossible to be included because these tables are just example of previous projects.
20	State Committee For Management Of State Property Letter:12/10/2005 Reference: 10/11/2005	▪ During the inventory it is advisable to involve the representatives of the State Committee for Management of State Property as a responsible body for clarifying property rights on inventories and land areas	The advice of the State Committee for Management of State Property will be taken into account in the detailed design

8 RECOMMENDATIONS

The results of the RER indicate that Baku to Shamakhi road widening including the construction of the proposed by-passes and bridges will have potential adverse impacts entailing permanent land-take of agricultural land, resumption of residential and other properties and businesses, reduced access to agricultural land and services, impacts on natural environment as well as temporary construction phase nuisance.

However, improved infrastructure links may reduce traffic accidents within built-up areas and help stimulate economic development in the region.

Whatever route is chosen for whatever section it should be designed to minimise land acquisition and resettlement requirements, and avoid any socio-cultural impacts on common property resources, e.g. graveyards, cultural monuments and water points, and to minimise impacts on the natural environment.

In particular, some of the key findings of the Regional Environmental Review are summarised below:

	Nature of Issue	**Findings**	**Considerations**
A	**DESIGN OPTIONS**	Main design options proposed by Kocks Consult GmbH for the widening of the road between Baku and Shamakhi, are dependent on local topography and land use – with these factors underpinning the alternatives on different sections of the road. The options are: (i) Construction of the additional carriageway to one side, either the right hand side (RHS) or left hand side (LHS) of the existing carriageway with a total width of 27.5m; (ii) Widening of the existing carriageway on both sides, either by: (a) Widening at both sides with a reduced median and shoulder, total width 22.5m; or (b) Widening at both sides without	A right-of-way (ROW) of the existing two lane Baku – Shamakhi Road is 60 metres; i.e., 30 m on each side from the existing road centre-line. Generally, this provides enough room for road widening for the four main design alternatives. However, at certain sections of the road, the ROW is significantly reduced. Therefore, the implementation of these alternatives will involve land acquisition as well as additional land acquisition to allow for embankments, the construction of interchanges, local connector roads, and possible bypasses and realignments.

		median and reduced lane width and shoulder, total width 17.5m. (iii) Widening in sections with climbing lane, total width 20.5m.	
B	**DESIGN OPTIONS**	In addition to the main design options, alternative alignments (AA) were proposed by the Kocks Consult GmbH and are as follows: **AA1: Between km 26 and km 34** This proposed realignment to the south of the existing route is approximately 13km in length and will cross an area of irregular topography which features a number of hills, ridges and deep gullies. The road will first run south through a flat plain for approximately 2km; then turn north-west and rise and up a hill to cross a succession of very deep gullies, before running alongside the hillside above the gully incisions. The route continues across a plateau with occasional broad, deep gullies before joining the existing road AA2: Between km 43 and km 46 This proposed realignment	These routes were drafted onto existing topographical maps only and have not been the subject of field assessment and detailed investigations by the Engineering Consultant. Therefore, field assessment and detailed investigations need to be conducted at the detailed design stage. It is not clear why such an extensive re-route was selected; it is approximately twice the distance of the existing route and the fairly wide hairpin bend in the existing road could be opened out within the proposed RoW. The AA would have significant environmental implications due to its larger footprint and will actually create geohazards by excessive excavation in this very friable clay soil. The construction implications are significant as many gullies will have to be traversed and benching techniques will have to be implemented as the route traverses the cross steep slope of the hillside. This AA is not recommended. As the existing road on this stretch is straight, more or less level and with plenty of

		turns north from the road across flat terrain to cross a ridge (approx 30-40m high) which runs parallel to the road. The AA then takes a course for approximately 3km parallel to the existing road but the other side of the ridge; it then turns south-west to cross the ridge again to emerge behind the village of Jangi. The AA bisects the village to join the road to the south of the village.	level ground on each side, it is not clear why an alternative was deemed necessary. The AA is longer, would require technical challenges to cut through a ridge; would potentially create erosion and land stability problems and would pose social issues (resettlement) as it bisects the village of Jangi (at present the village is intact and lies just to the north of the existing road). This AA is not recommended.
		AA2x: Between Km 46 and Km 53 AA2 continues on the south side of the existing road, heading southwest. This route cuts across a hilly area of a very irregular terrain of steep slopes, ridges and gullies. (see Figure B – the route crosses the saddle in the background). Once the route has made a steep ascent to cross a high saddle on the ridge, it traverses a relatively high plateau. However, to join the road at km 53 there are two very deep, broad gullies to cross.	It is clear why an AA was considered for this stretch of road: to achieve the elevation the road takes two steep hairpin bends which pose a significant safety hazard for fast traffic. Nevertheless, the selected AA poses potentially extreme environmental, geohazard and construction concerns and is significantly longer. Furthermore, the elevation is achieved over a short distance, the engineering feasibility of which would require rigorous analysis. This route is not recommended.
		AA3: Between km 59 and km 61 This realignment proposes to provide a slightly straighter route joining km 59 to 61. It will provide a straight line running parallel to the existing route on its northern side. This section of the road and suggested re-alignment are located on an expanse of flat land.	The AA is only a slight modification of the existing route but will have a larger footprint as it will require the construction of four new lanes rather than the addition of two to the existing road. In addition assuming that the existing road will not be reinstated, the overall footprint will be the cumulation of the four new lanes as well as the existing two. The widening

			of the existing route is recommended as the preferred option. The AA will increase the distance between the road and the village of Maraza and will, therefore, avoid the need for relocation and compensation of existing businesses. It will also minimise noise and air quality impacts on Maraza. In addition the AA will allow for the preservation of the existing mature trees alongside the existing road. The AA is therefore the recommended alternative.
		AA4: Between km 79 and km 86 This proposed re-alignment provides a straight route between km 79 (i.e. on the edge of the village of Narimankand) and km 85. It cuts across a flat expanse of sown cropland.	
C	**ENVIRONMENTAL**	According to the Presidential Decree of 15 August 2007 "**Creation of Nature Reserve for Groups of Mud-volcanoes of Baku and Absheron Peninsula**", there are a number of nationally protected areas along the study corridor.	These are strictly protected areas and no construction or agricultural activity is allowed within these areas. The detailed design should ensure that the protected areas are intact by the proposed road widening. It should be ensured that borrows pit sites and access roads to borrow pit sites are not in vicinity to these protected areas. No stockpiling of material will be allowed in the protected areas.
D	**ENVIRONMENTAL**	There are two sites of international conservation importance in the wider surroundings of the study corridor. These are **'Important Bird Areas'** and are located around Gargabazar and Gushgaya mountains some **8-10 km directly south of Jangi**	As these sites are 8 -10 km away from the study area, it is not envisaged that the construction activities will cause any particular disturbance to the IBAs. However, it should be assured that no borrow pits are placed in vicinity to these sites as no access

		village.	roads should be allowed either.
E	**ENVIRONMENTAL**	**The Lesser Kestrel (*Falco naumanni*[b]) –** an internationally protected species and a Vulnerable Species under the 2008 IUCN Red List Category - is a common breeding bird in the study area. Small breeding colonies and even separate pairs usually nest on the piers under Bridges No. 2 and.3 and also under the roofs of abandoned houses and cowsheds. The biggest concentration of this species had been noted in the vicinity of the River and village of Jeyrankechmez.	The bridges No 2 and 3 should remain intact during the nesting season. No dismantle works can be performed without the prior field investigations and approval by the appropriate national specialists (see recommendations for RER Finding F). The nesting season lasts 4 months from April to July. However, due to an earlier start of warm season, the nesting season can shift slightly.
F	**ENVIRONMENTAL**	The study area harbours a number of faunal species, including threatened species of national and international importance.	The most effective mitigation measure for the protection of wildlife is to have a permanent on-site specialist for the duration of the construction phase of the project.
G	**ENVIRONMENTAL**	Within the Gobustan Rayon there are sections along the study road which are protected by the **State Forest Fund**.	The following procedures have be abide prior to the start of the construction works: • Preparation of a document detailing the potential damage to the SFF land in order to apply for permission to the central office of the Ministry of Ecology and Natural Resources. • The MENR sets up a commission that includes representatives of both the MENR's central office and the local SFF. This commission studies the situation and prepares detailed documentation on its

			assessment, land acquisition issues and compensation mechanisms. • The document must be approved by the head of local Executive Power • The document must obtain final approval from the Cabinet of Ministers of the Azerbaijan Republic.
H	**ENVIRONMENTAL**	**Mammals***: Barbastella barbastella,*[B] categorised as a Vulnerable Species under the 2008 IUCN Red List Category, and *Rhinolophus blasii*[b] a Near Threatened Species under the 2008 IUCN Red List Category, can be found in the study area throughout the year, except summer. The latter is found only in vicinity of Shamakhi in the forests in subterranean shelter.	These animals may have shelters in surrounding structures during daytime. This will have to be confirmed by the site specific EIAs, which will detail relevant mitigation measures, if necessary. Furthermore, no dismantle works of structures can be performed without the prior field investigations and approval by the appropriate national specialists. See recommendations for the RER Finding F
H	**ENVIRONMENTAL**	The **reptile fauna** of the area includes that protected the Greek Tortoise *(Testudo graeca,*[C]) and the European Pond Turtle (*Emys Orbicularis*[B])	The species of most concern is the Greek Tortoise; in summer this animal could stray onto the site, in winter they could be hibernating in undisturbed soil. See recommendations for the RER Finding F. In winter the wildlife officer will check all earth moving activities. All found tortoises will be moved to a safe location.
I	**ENVIRONMENTAL**	**Mammal, amphibian and reptile fauna**	Underpasses to be designed for wildlife. The locations of underpasses to be confirmed at the detailed design stage by appropriate

			national specialists.
J	**ENVIRONMNETAL**	**Baseline Data**	Baseline data on noise, air quality and water quality for the study area is scarce. The site specific EIAs should provide this data, if required. Adequate traffic forecasts are needed for assessment of air quality, noise and vibration impacts.
K	**ENVIRONMENTAL**	There are several **landslide prone areas** along the study road	The comprehensive landslide hazard studies, including geotechnical investigations, and the landslide hazard risk assessments for the road need to be undertaken and appropriate mitigation measures – temporary and permanent need to be recommended
L	**SOCIO - ECONOMIC**	Property assets commonly found adjacent to or in close vicinity of the study route include several houses, farms, shops, cafes, butchers and restaurants. In addition, the study corridor also includes schools (Sabir and Gobustan), cultural monuments and sacred places (including one mosque in Gobustan and one sacred place in Sabir), and graveyards	The design should ensure that land acquisition and resettlement requirements are minimised, and any socio-cultural impacts on common property resources are avoided.
M	**SOCIO-ECONOMIC**	Drainage facilities along the road should be provided	The detailed design should ensure property drainage capacity along an entire road route.
N	**SOCIO-ECONOMIC**	Extensive domestic animal husbandry in the study area	Underpasses to be designed for domestic animals. The locations of underpasses to be confirmed at the detailed design stage through consultations with the stakeholders comprising the farmers, villages' authorities, relevant municipalities and relevant rayon executive

			powers.

Based on the findings comprising the Regional Environmental Review, the following recommendations are provided:

1. We recommend the completion of Environmental and Social Impact Assessments (ESIAs) for the sub-projects in order to collect, assess and use information and data about environmental and social impacts to inform decision-making.

2. In order to reduce any environmental risks, we recommend that the following issues are addressed prior to commencement of construction works:

ENVIRONMENTAL ASPECT	ISSUE	RESPONSIBILITY	AUTHORITY
Permits and Licences			
Environmental Permit	Need to be obtained before construction	Contractor on behalf of the Client, i.e. ARS of the MoT	National Environmental Inspectorate (MENR)
Water Permits	Need to be obtained before construction	Contractor on behalf of the Client, i.e. ARS of the MoT	Relevant Water Administration, including AzerSuu
Borrow Pit Licences	In order to avoid any delay to the time schedule, ensure licences have been obtained. Applications may take a long time.	The owners of the borrow pits have to apply for permits. This is overseen by the Contractor on behalf of the Client	Relevant Inspectorate in Azerbaijan
Archaeology	Ensure all certificates are in place prior to works in order to avoid causing a delay to the schedule	Relevant authority in Azerabaijan	Relevant authority in Azerbaijan
Final Detailed Design of Environmental Protection Facilities	Environmental Permit Required. All relevant authorities to grant consent	Contractor on behalf of the Client, i.e. ARS of the MoT	National Environmental Inspectorate (MENR)
EIA Procedures for sub-projects			

ENVIRONMENTAL ASPECT	ISSUE	RESPONSIBILITY	AUTHORITY
Surface Water	Ensure adequate assessment of impacts is provided and adequate treatment of impacts is provided in design. In so doing, objection by Sanitary and Epidemiology Service and the MENR and potential litigation is avoided.	Environmental and social consultancy firm (to be appointed)	National Environmental Inspectorate (MENR)
Groundwater	Ensure adequate assessment of impacts is provided and adequate treatment of impacts is provided in design. In so doing, objection by MENR and potential litigation is avoided.	Environmental and social consultancy firm (to be appointed)	National Environmental Inspectorate (MENR)
Ecology	Ensure adequate assessment of impacts is provided and adequate treatment of impacts is provided in design. In so doing, objection by MENR and potential litigation is avoided.	Environmental and social consultancy firm (to be appointed)	National Environmental Inspectorate (MENR)
Noise	Ensure traffic studies are up-to-date and that background data is provided. In so doing, compliance with EIA procedures is ensured.	Environmental and social consultancy firm (to be appointed)	National Environmental Inspectorate (MENR)

ENVIRONMENTAL ASPECT	ISSUE	RESPONSIBILITY	AUTHORITY
Air Quality	Ensure traffic studies are up-to-date and that background data is provided. In so doing, compliance with EIA procedures is ensured.	Environmental and social consultancy firm (to be appointed)	National Environmental Inspectorate (MENR)
CEMP	Ensure CEMP is in place prior to construction works. Compliance is mandatory to ensure satisfaction of national and international standards of best practice.	Contractor on behalf of the Client, i.e. ARS of the MoT	National Environmental Inspectorate (MENR)
Monitoring Plan	Ensure the Monitoring Plan is in place prior to works. Compliance is mandatory to ensure adherence to national and international standards of best practice.	Environmental and social consultancy firm (to be appointed)	National Environmental Inspectorate (MENR)
Management Plan	Ensure costs are correct and up-to-date.	Environmental and social consultancy firm (to be appointed)	ARS
Emergency Response Procedures	Ensure procedures are adequate and complied with to obtain environmental permit.	ARS	National Environmental Inspectorate (MENR) and Ministry of Emergency Situations
Road Maintenance	Ensure procedures are adequate and complied with to obtain environmental permit.	ARS	National Environmental Inspectorate (MENR)

3. Adequate traffic forecasts are needed for assessment of air quality, noise and vibration impacts.

4. Comprehensive accident data should be made available in order to identify specific accident data cluster sites and other accident factors, such as accident areas, driver age and time of accident. This will contribute towards effective decision-making on the preferred alternative alignments comprising the widening of the road.

5. A Pollution Incident Plan and Emergency Response Plan should be prepared at the Detailed Design Stage to deal with emergency response situations in the events of accident spillages on the road.

6. In order to ensure that mitigation measures are incorporated within construction and operational phases of the project, the ESIAs shall outline the Construction Environmental Management Plans (CEMP) and Operational Environmental Management Plans (OEMP).

7. The potential for impacts should be reduced by adoption of the following measures in the CEMP:

    - Water quality:

        - Areas of bare soil should be kept to a minimum;

        - In order to prevent water pollution resulting from worker-generated sewage effluents, portable toilets should be provided or alternatively existing toilet facilities located on the site would be identified for construction worker use;

        - Where water would need to be removed from excavations, it should be transferred the minimum practical distance to discharge;

        - Storage compounds for the storage of construction materials or temporary stockpiling of excavated soils should be located away from surface watercourses and drains;

        - Drums and barrel should be stored in a designated bunded safe area within the site compound;

        - All drums and barrels should be fitted with flow control taps;

        - All drums and barrels should be properly labelled;

        - The placing of any wet concrete in or close to any watercourse should be controlled to minimise the risk of leakage of wet cement into the watercourse;

        - The washing of any concrete mixing plant or ready mix lorries should be carried out so as to prevent effluent from cleaning from being allowed to flow into any watercourse or drain;

        - Haul roads on the site and the approaches to the watercourse should be regularly cleaned to prevent the build up of mud;

- Before any discharge of water is made from the site, adequate provisions should be made to ensure that it is not polluting (for example by incorporating silt settlement techniques). The techniques to be employed should be suitable for the particular site. Techniques may include settlement lagoons, use of straw bales for silt trapping and use of flocculants;

- All pumped drainage from the construction works including areas used for temporary storage of construction materials or excavated soils, should be passed through silt settlement treatment prior to discharge to surface watercourses or drains; silt settlement treatments may, for example, include straw bales, grassland soak away, silt settlement lagoons;

- All roads and hard-standing should be kept clean and tidy to prevent the build up of oil and dirt that may be washed into a watercourse or drain during heavy rainfall;

- Where appropriate, watercourses should be bunded to prevent contamination from surface water runoff;

- The use of water sprays to reduce dust or to wash down construction areas should be carefully regulated to avoid washing substantial quantities of silt etc. into surface water drains. Where large quantities of gravel, mud or other such material required clearing, the area should be swept clean prior to any subsequent hosing down;

- Manholes and catchpits should be covered to prevent concrete/cement ingress;

- Concreting at watercourse culvert sites should be closely supervised to prevent concrete contamination of the watercourses;

- The washing of any concrete mixing plant or ready mix lorries should be carried out so as to prevent effluent from cleaning from being allowed to flow into any watercourse or drain.

- Storage compounds for fuels, oils or other liquid chemicals should be sited away from surface water drains. They would have an impermeable base and bund with a capacity of 110%, and would not drain directly into the surface water drains. Where practicable, drainage from storage compounds would be passed through oil interceptors prior to discharge;

- Small plants, such as pumps, should be equipped with drip trays;

- Emergency response procedures should be included to handle any leakages or spillages of potentially contaminating substances;

- Spill kits should be located on sites near to watercourses and within the works compounds;

- Staff should be trained in the use of spill kits;

- Groundwater should be pumped from excavations into lagoons/settlement tanks to enable sediment to drop out and, if necessary, aided by addition of flocculants;

- Subsoil should be exposed for a minimum length of time after topsoil strip. Cut-off trenches, where necessary, should be excavated to prevent massive surface water run-off into watercourses. Cut-off trenches should discharge into sediment lagoons; and

- Topsoil/vegetation along watercourses should be retained to aid attenuation and sediment infiltration.

- Landscape:

  - Particularly intrusive measures should be sited away from any sensitive areas, such as the mud volcanoes, Important Bird Areas and residential properties. Hoarding and other screens should be erected between sensitive receptors and construction sites;

  - The remediation of areas affected by construction sites and activities should be carried out as early as possible;

  - Where possible, existing trees and vegetation groups should be retained and protected;

  - The relevant authorities should be asked to approve the species used in any of the proposed planting.

- Noise and Vibration:

  - At night, construction vehicles will be required to operate at 15 mph and the use of horns will be banned;

  - The operation of noisy equipment will be prohibited from 22:00 hours – 06.00 hours each day;

  - Transportation of construction materials on the exiting roads will be carefully scheduled to avoid any disturbance to the local traffic;

  - Noisy elements, such as compressors, haul roads, should be located in less sensitive areas making use of any existing natural or artificial features that can shield the construction noise;

  - The noise emission of construction equipment should be reduced through the use of mufflers and continued good maintenance on all equipment; and

  - A complaint mechanism should be established for the duration of the project.

- Natural Environment and Ecology:

  - The Greek Turquoise and European Pond Turtle and other protected fauna will be removed and excluded from working areas;

- The relevant authorities, like the MENR, will be allowed on site during construction to survey protected fauna, including avifauna;

- The relevant authorities, like the MENR, should be invited to attend any relevant health and safety training for site workers;

- Measures identified by the relevant authorities, like the MENR, to reduce impacts on protected fauna, such as the Lesser Kestrel, during construction should be carried out;

- Where construction compounds or working areas are in close proximity to sensitive bird habitats, hoarding of a minimum of 1.8m in height should be used to screen working areas;

- The disturbance of the protected floral, faunal and avifaunal species during construction should be minimised through screening of working areas and/or seasonal timing of works;

- Construction should be confined to designated areas to minimise temporary land-take;

- Where protected plant species occur adjacent to the construction compounds or working areas, these areas should be clearly marked to avoid disturbance by machinery associated with construction;

- Where cattle, sheep, goats and water buffaloes cross roads, these areas will be clearly marked and measures will be taken to reduce impacts and disturbance to domesticated animals; and

- Measures should be taken to ensure that there is no pollution of sensitive areas during construction (see Water Quality).

- Archaeology

  - The relevant authorities should have permission to access the working areas to undertake a watching brief, providing the report to the site supervisor on arrival and follow the appropriate health and safety procedures;

  - The relevant authorities should be invited to attend any relevant health and safety training for site workers; and

  - The arrangement with the relevant authorities for the watching brief, and actions to be taken in the event of an archaeological find, should be formalised through contractual agreements.

8. An option assessment is required to support the alternative route selection process from a spatial planning, geotechnical, environmental, social, safety, economic and construction deliverability perspective, and to identify a preferred option from the various route options developed to date.

9. International practice should be applied for Health and Safety Management for the construction activities, and should be addressed separately by the Contractors.

10. The social impact assessment (SIA) comprising the ESIA should provide key baseline socio-economic data, including demographic, income, employment, health data as

well as more qualitative data such as indicators of community cohesion, feelings of security, lifestyle. The identification of such baseline data is essential to enable comparisons over time, in order to monitor actual socio-economic impacts. Data has to be collected on current connectivity, such as local connectivity for small farms. Without such baseline data, it will be difficult to prove or disprove claims of harmful impacts by Project Affected Persons (PAPs). The SIA must give attention to predicted changes of behaviour of the PAPs, particularly of small farm communities affected by expropriation, severance of land and impacts on connections to local markets and for communities. The SIA would be strengthened by more critical analysis of possible contradictions between regional plans and impacts of the planned motorway construction. The SIA must identify vulnerable groups and analyse the significance of relevant effects for these groups respectively. For example, this should include an assessment of air and noise pollution impacts on particularly vulnerable groups, such as young children. The SIA should provide a description and analysis of the social structure of affected communities, including local norms and values, social activities – for rural and for urban communities separately. The SIA should also predict increases in certain types of employment opportunities for some communities and should provide an analysis of the project's impact on existing employment opportunities, including agricultural opportunities. The SIA should include predictions of changing coping strategies of affected communities, particularly for dense small farm networks. They should therefore provide an indication of who is likely to benefit and who is likely to suffer, in terms of affected communities and other stakeholders. A stakeholder analysis of winners and losers is recommended in order to ensure that appropriate mitigation measures are targeted at relevant groups. The SIA must include evidence of public consultation via direct and indirect means during the different stages of the ESIA process. The public consultation process should include direct engagement with community members, in addition to engagement with elected representatives or officials. This should be planned in monitoring of indicators of social impact.

11. We recommend the preparation of the Public Consultation and Disclosure Plan (PCDP) to describe the Project Affected Persons (PAPs) and public who may be affected by the Project and sub-projects.

12. Resettlement Action Plans (RAPs) will have to be prepared if resettlement is required and unavoidable. The RAPs will be prepared in accordance with the laws and regulations on land acquisition and resettlement in Azerbaijan as well as the Resettlement Policy Framework (RPF) which was prepared as part of the Project in line with the Involuntary Resettlement Policy (OP 4.12) of the World Bank.

13. We recommend the preparation of a draft monitoring plan. This plan will include the following:

- Water Quality:
    - Surface Water and groundwater quality measurement should be taken in all the watercourses crossed by the project, including alternative alignments, prior to the commencement of construction to enable comparison with later monitoring results. This will allow the identification of whether any changes in water quality are attributed to the construction of the project.
- Air quality:
    - Whilst levels of oxides of nitrogen might become more significant at phase one sites as traffic volumes increase, it is unlikely that levels of lead or

carbon monoxide will rise sufficiently to place limit values at risk. It is therefore recommended that monitoring of carbon monoxide and lead is excluded from the monitoring programme and resources reassigned to enable additional dust monitoring at sensitive receptors close to the perimeter of the project and alternative alignments.

- A number of small farms, schools and houses are located very close to the perimeter to the new alignments. It is recommended that the dust monitoring is extended to include these receptors during construction and during the first couple of years of operation.

- In regard to construction compounds that will include concrete mixer and asphalt mixer sites, the impact of fugitive dust emissions should be minimised in the first instance by maximising the distance between the sources and the nearest receptors. In so far as monitoring is concerned, the use of a deposition gauge as proposed at other sites would be an acceptable minimum.

- Noise and Vibration:

  - Care must be taken to ensure a selection of the closest receptors to the alternative alignments and along the existing roads where a benefit is expected are included. Noise monitoring should also be carried out at the nearest properties to the project, alternative alignments and construction compounds.

- Landscape:

  - Visual inspection of the works areas should be undertaken on a weekly basis to ensure there are no large areas of base soil.

- Natural Environment and Ecology:

  - Monitoring locations for fauna and flora should be identified and should encompass all of the most sensitive areas along the route (e.g. locally designated sites, avifauna nesting sites). Monitoring should be continual. Further detail on the frequency on monitoring visits and the duration for which monitoring will continue after construction should be provided.

- Socio-economic:

Impacts	**Monitoring**	**Responsibilities**	**Time frame**
Potential impact on physical health of construction workers	Occupational Health and Safety Management System monitoring of hazard prevention measures, work related injuries, ill health, diseases and incidents	Contractor	Pre-construction to end of construction

Under-18s employed on construction site	Monitor age of employees, including sub contractor employees	Main contractor	From start of construction to end
Forced 'Gang' labour	Monitor contracts of employees, legal and tax status of sub-contractors	Main contractor	Duration of construction activity
Loss of livelihood and other social and economic impacts experienced by affected households	Monitor income of expropriated households and households within 60m proximity of route	Relevant Ministry in Azerbaijan (e.g. the Ministry of Transport)	Pre-construction make available existing data Gather on annual basis
Social and economic losses to elderly or other vulnerable households	Monitor income and reported hardships of households with elderly members and children	Ministry of Transport in Azerbaijan and relevant local administrative office	Pre-construction make available existing demographic data Survey on annual basis
Inconvenience and disruption to local households	Monitor complaints received by affected households	Relevant local administrative office	Duration of construction
Local severance from market, church, other services	Interview of households identified as affected by severance	Main contractor	Agricultural harvest time
Traffic accidents	Record of accidents	Ministry of Transport in Azerbaijan	Annual check
Employment opportunities	Survey of employment of working age members of affected households	Ministry of Transport in Azerbaijan	Pre-construction – make available existing employment data Survey on annual basis

Involuntary resettlement	Ex-post evaluation	Ministry of Transport in Azerbaijan	Pre-construction: make available data on expropriation proceedings followed Post-construction: evaluation of social and economic impacts

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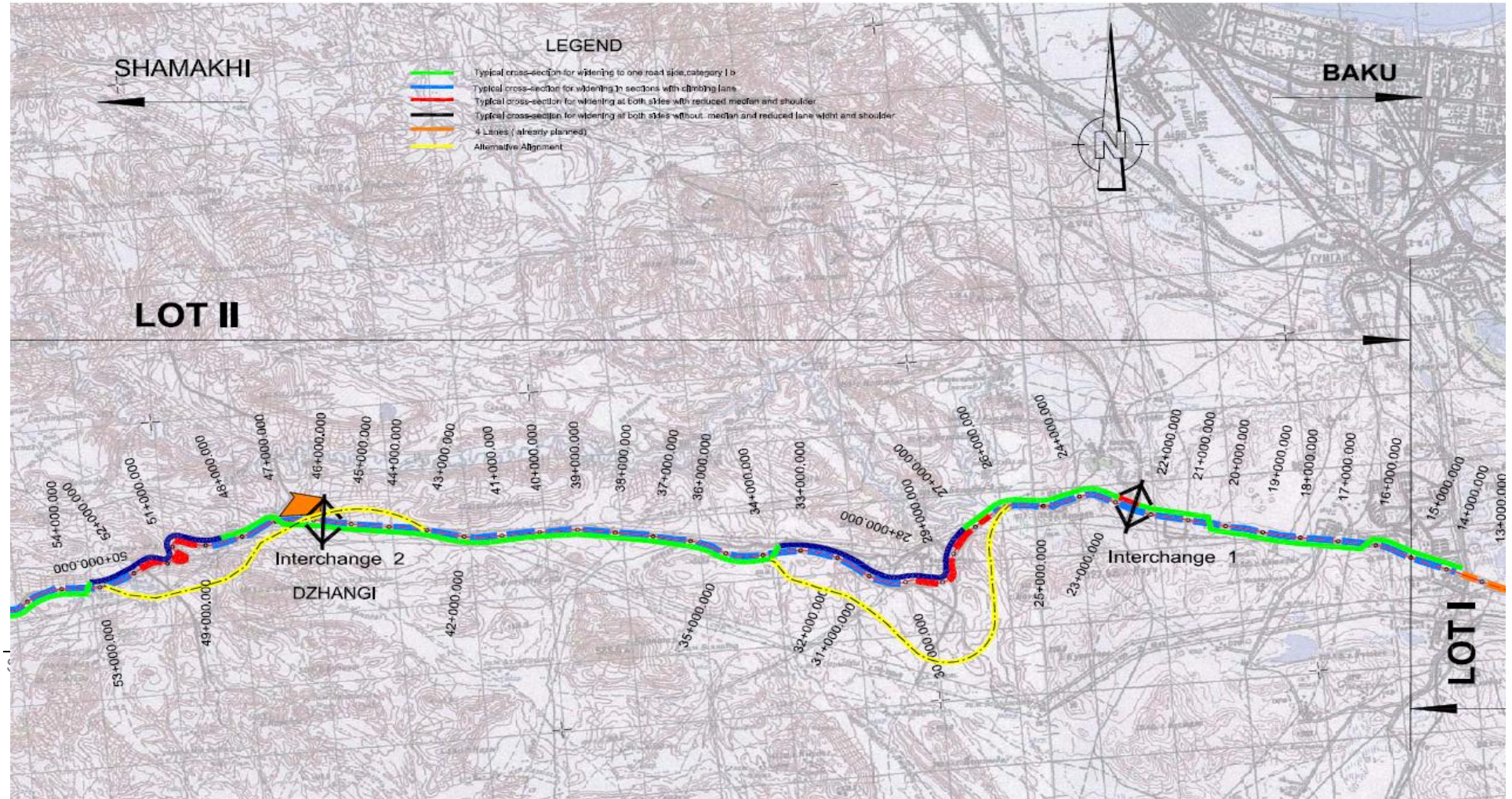
APPENDICES

APPENDIX A: PROPOSED WIDENING OPTIONS ALONG THE STUDY ROAD


LEGEND
Typical cross-section for widening to one road side,category I b
Typical cross-section for widening in sections with climbing lane
Typical cross-section for widening at both sides with reduced median and shoulder
Typical cross-section for widening at both sides without median and reduced lane widht and shoulder
4 Lanes (already planned)
Alternative Alignment
SHAMAKHI
BAKU
N
LOT II
LOT I
Interchange 2
DZHANGI
Interchange 1
54+000.000
53+000.000
52+000.000
51+000.000
50+000.000
49+000.000
48+000.000
47+000.000
46+000.000
45+000.000
44+000.000
43+000.000
42+000.000
41+000.000
40+000.000
39+000.000
38+000.000
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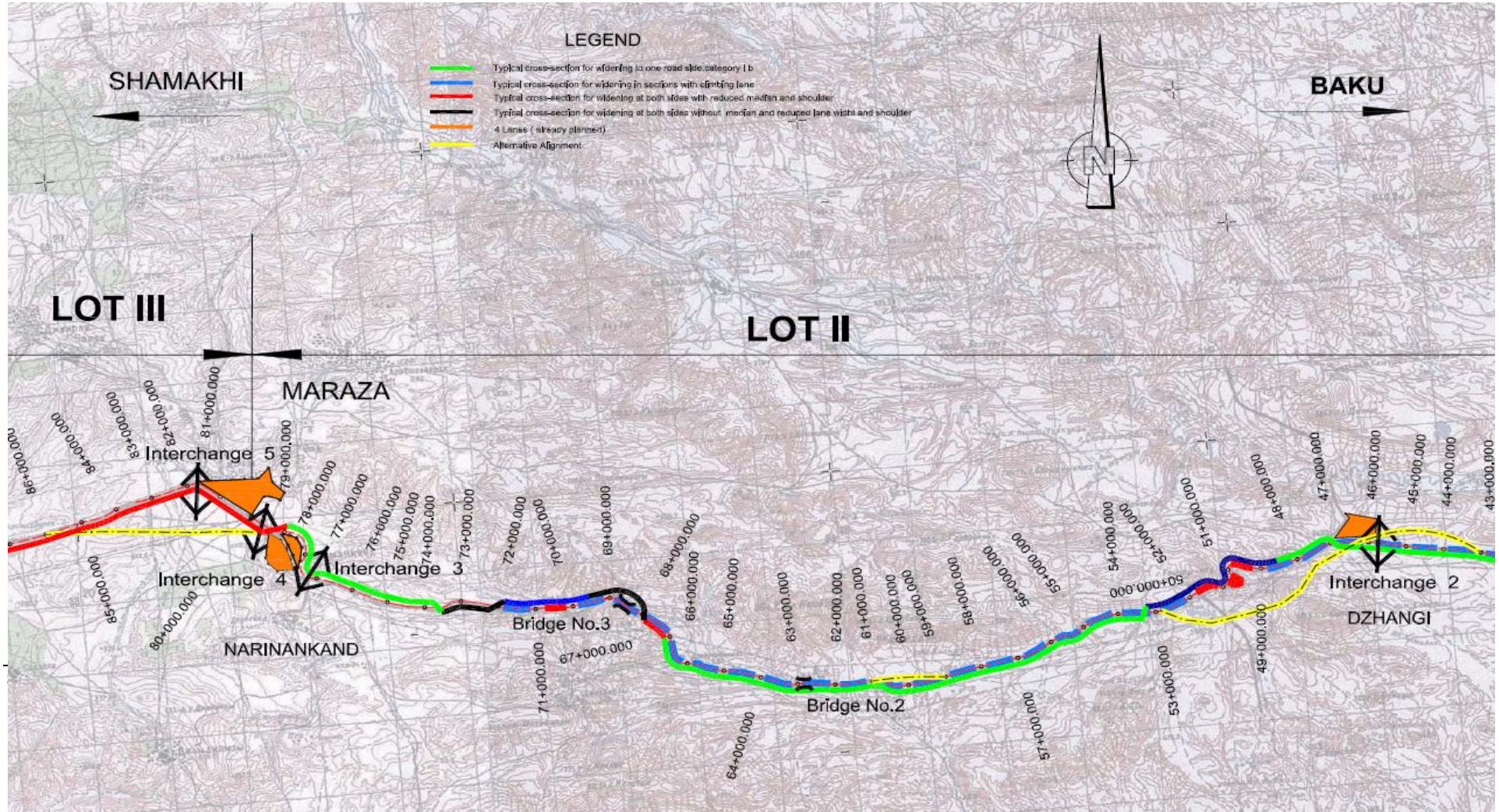
13+000.000


LEGEND
Typical cross-section for widening to one road side,category I b
Typical cross-section for widening in sections with climbing lane
Typical cross-section for widening at both sides with reduced median and shoulder
Typical cross-section for widening at both sides without median and reduced lane width and shoulder
4 Lanes (already planned)
Alternative Alignment
SHAMAKHI
BAKU
N
LOT III
LOT II
MARAZA
Interchange 5
Interchange 4
Interchange 3
Interchange 2
Bridge No.3
Bridge No.2
NARINANKAND
DZHANGI
86+000.000
84+000.000
83+000.000
82+000.000
81+000.000
80+000.000
79+000.000
78+000.000
77+000.000
76+000.000
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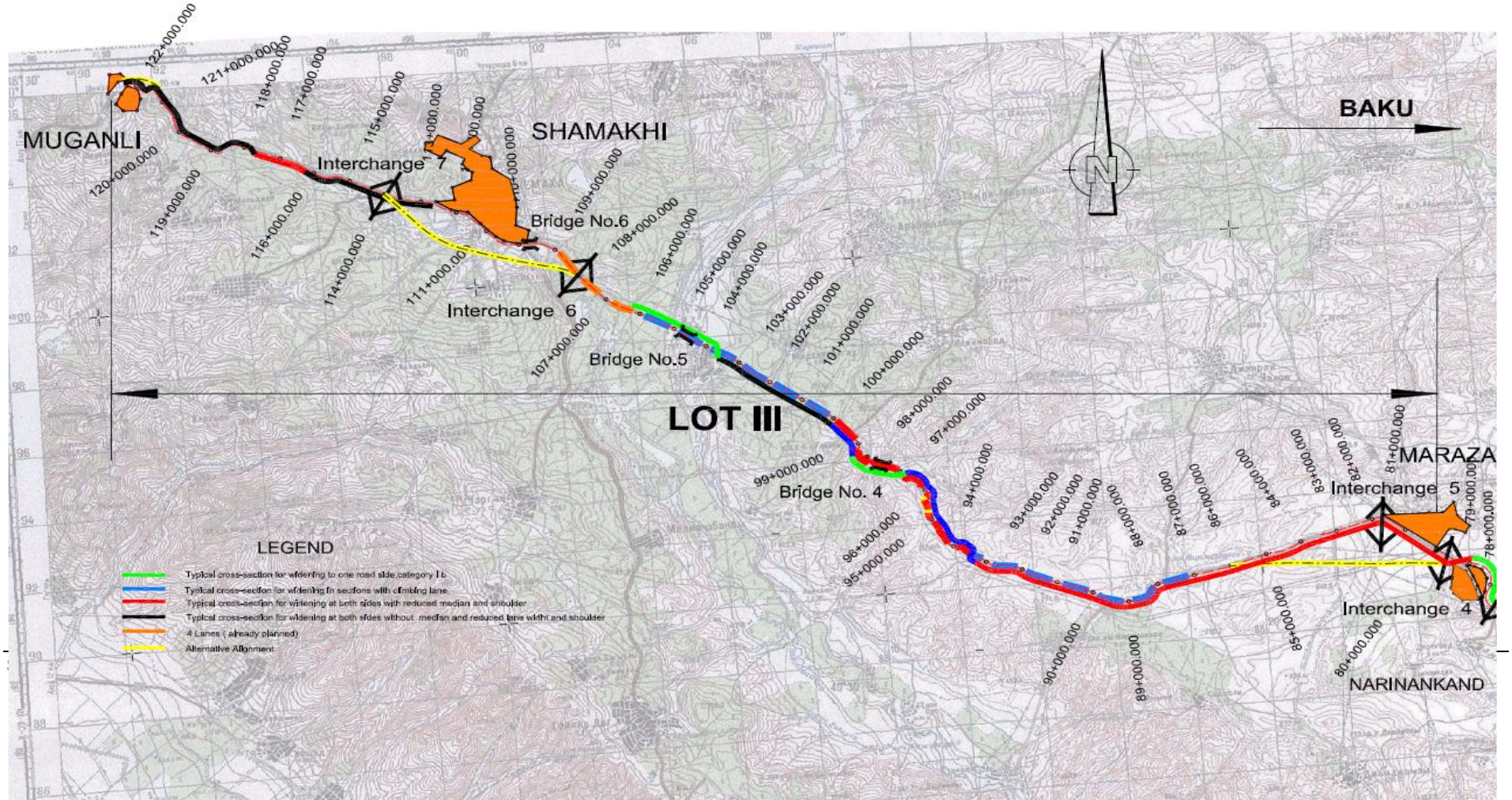
58+000.000


MUGANLI
SHAMAKHI
BAKU
MARAZA
NARINANKAND
Interchange 7
Interchange 6
Interchange 5
Interchange 4
Bridge No.6
Bridge No.5
Bridge No. 4
LOT III
LEGEND
Typical cross-section for widening to one road side,category I b
Typical cross-section for widening in sections with climbing lane
Typical cross-section for widening at both sides with reduced median and shoulder
Typical cross-section for widening at both sides without median and reduced lane width and shoulder
4 Lanes (already planned)
Alternative Alignment

APPENDIX B: PROTECTED AREAS IN AZERBAIJAN

Type of Reserve	Number of Reserves
National Parks	4
Nature Reserves	16
Wildlife Sanctuaries	22
Natural Monuments – Protected trees (over 100 years old)	2,083
Natural Monuments – Protected geological and paleontological sites	37
Coastal national park (Baku)	1
Historical natural state reserve (Gobustan)	1
Mud-volcano State Nature Reserve	52

Source: www.biodiv.org with additions

National Parks are areas with ecological, historical and aesthetic values, designated for nature protection, environmental awareness, scientific, cultural and other purposes. All land and natural resources belong to the Park management authority, and some economic activities (including ecological tourism) are allowed.

Nature Reserves are State-owned, strictly protected areas designated for nature protection and scientific research. No economic activity is allowed. All have management plans and both enforcement and scientific staff.

Wildlife Sanctuaries are designated for nature protection, but can have limited human activities, such as agriculture in line with regulations, provided that they do not adversely affect nature conservation. Land title is retained by the original owners. All are managed, often by staff attached to a nearby Nature Reserve.

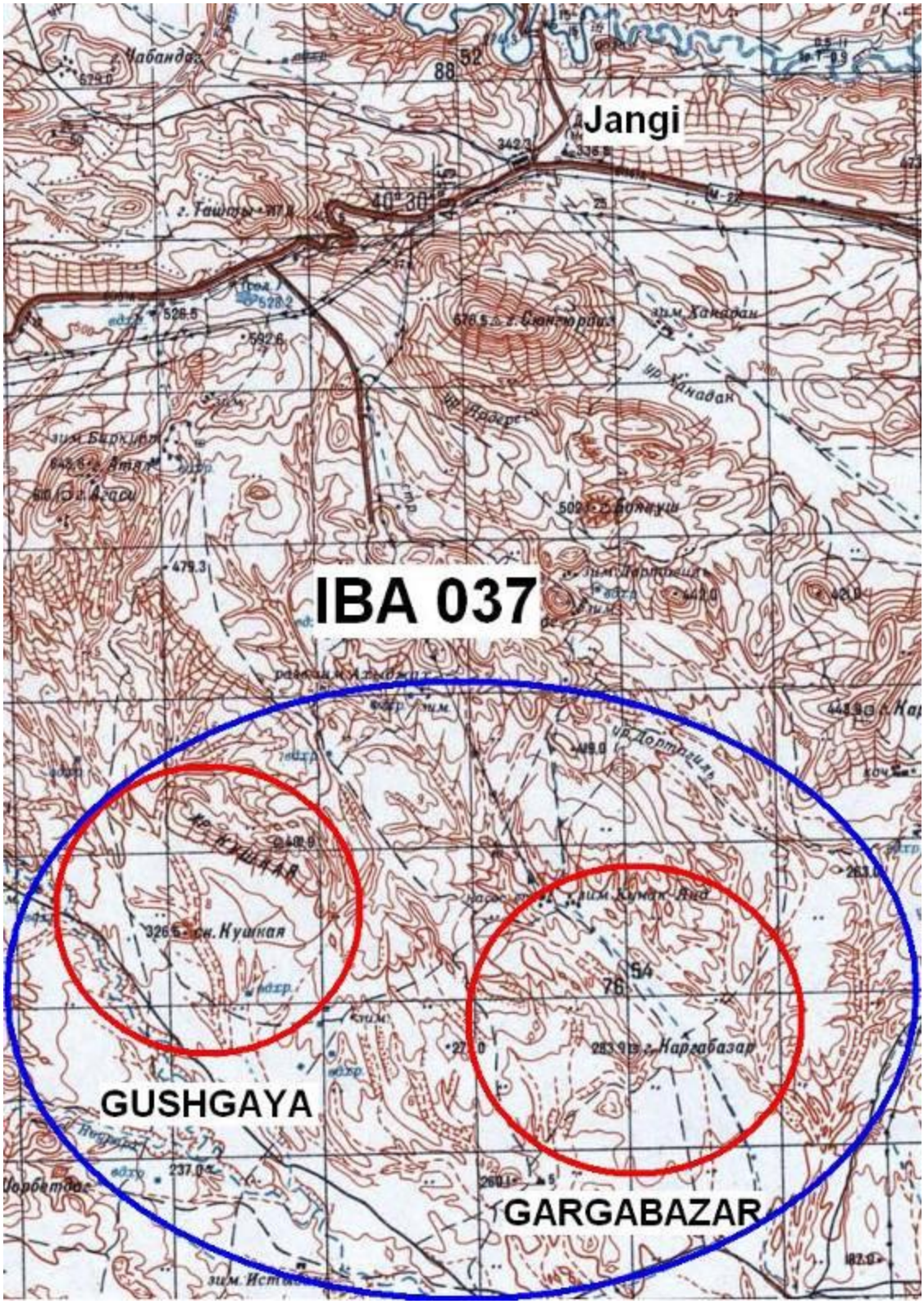
Natural Monuments are protected objects that have ecological, cultural or aesthetic value. They range from individual trees to patches of ancient forest, and also include caves, paleontological sites and landscapes. Their destruction or damage is strictly forbidden.

Mud-volcano State Nature Reserves had been created in accordance with presidential Decree of 15 August 2007 ("Creation of Nature Reserve for group of mud-volcanoes of Baku and Absheron peninsula") and include 52 mud-volcanoes from more than 300 existing on the area of Absheron peninsula and its surroundings.

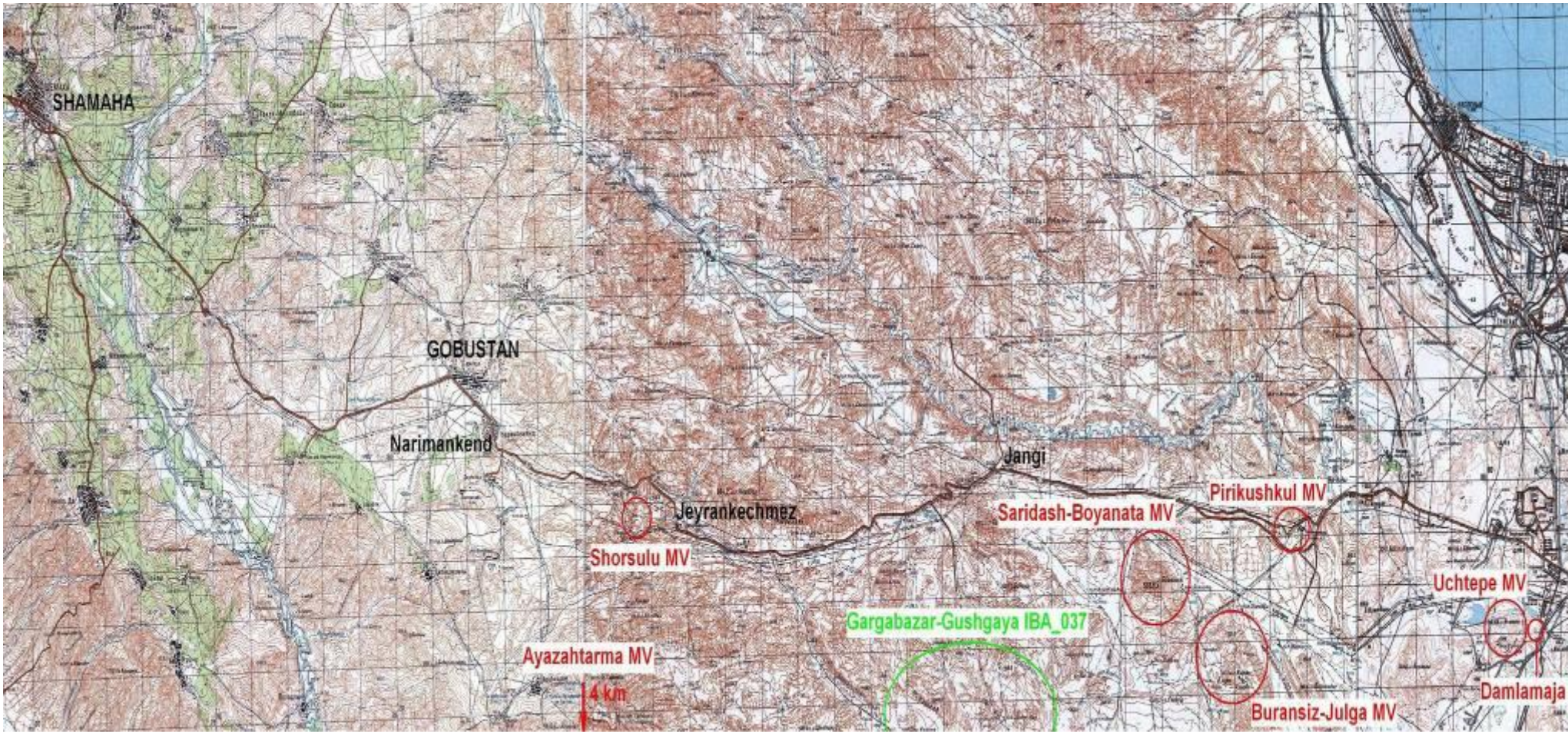
There are also special buffer zones around these areas, and other natural areas such as rivers and water sources. The level of protection given to different protected areas depends on their significance, i.e. international, national, regional or local[73].

[73] Anon (2004) *Country Study on Biodiversity and First National Report: Republic of Azerbaijan*

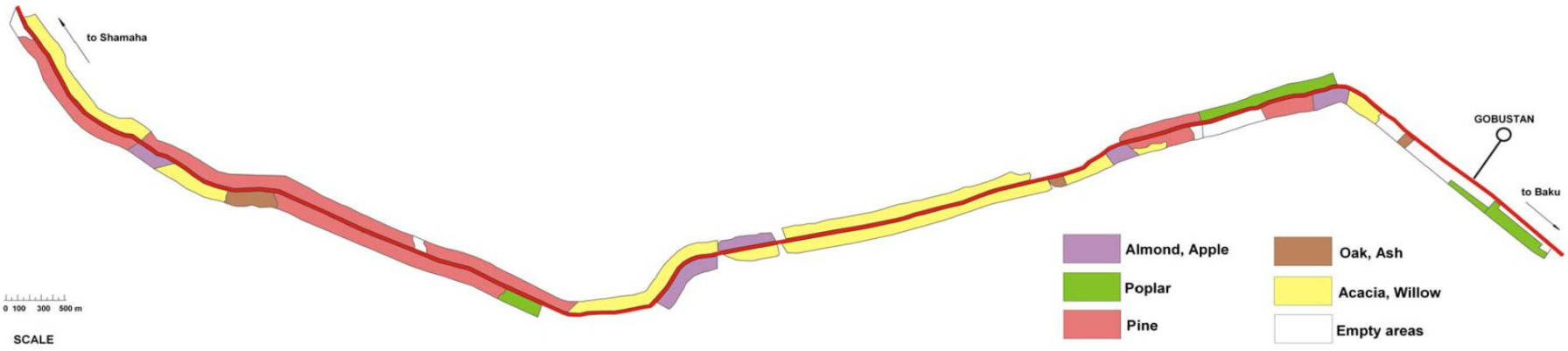
APPENDIX C: LOCATION MAP OF IBA 037



APPENDIX D: LOCATION MAP OF MUD VOLCANOES ALONG THE STUDY ROAD



APPENDIX E: STATE FOREST FUND TREE PLANTATIONS IN THE AREA OF GOBUSTAN


to Shamaha
GOBUSTAN
to Baku
Almond, Apple
Poplar
Pine
Oak, Ash
Acacia, Willow
Empty areas
0 100 300 500 m
SCALE

APPENDIX F: MASTERPLAN OF GOBUSTAN

APPENDIX G: LAND OWNERSHIP ALONG THE STUDY ROAD

Rayon	Road section		Land Ownership according to proposed alternative	Length	Commentary
	From Km	To Km			
Absheron	15+000	16+100	Municipal (Ashagi Guzdak)	1.1 km	Pasture land
	16+100	16+800	State (ROW of the road)	0.7 km	ROW is free
	16+800	20+300	State Land Fund	3.5 km	ROW is free
	20+300	21+000	State (ROW of the road)	0.7 km	ROW is free
	21+000	27+300	Municipal (Pirikushkul-Gobustan)	6.3 km	There is a fence approximately 250 m long between Km22+600 and Km22+850 on the right hand side. It is recommended that the temporary road (situated on the left hand side) is used to create the additional two lanes.
	27+300	33+600	State (ROW of the road)	6.3 km	
	33+600	45+000	State Land Fund	11.4 km	
Gobustan	45+000	46+900	State Forest Fund	1.9 km	State forest land starts immediately following the road shoulder.
	46+900	47+600	State (ROW of the road)	0.7 km	
	47+600	48+300	State Land Fund	0.7 km	
	48+300	51+200	State (ROW of the road)	2.9 km	

	51+200	54+800	State Forest Fund	3.6 km	
	54+800	56+400	State Land Fund	1.6 km	
	56+400	59+200	State Forest Fund	2.8 km	
	59+200	59+700	State Land Fund	0.5 km	
	59+700	64+400	State Forest Fund	4.7 km	
	64+400	70+300	State Land Fund	5.9 km	
	70+300	72+700	Private (Narimankand)	2.4 km	ROW varies and is reduced to as low as 15m. Additional two lanes will overlap with private land plots.
	72+700	73+200	Municipal (Narimankand)	0.5 km	
	73+200	73+700	State (ROW of the road)	0.5 km	
	73+700	77+000	Private (Narimankand)	3.3 km	ROW varies and is reduced to as low as 20m. Additional two lanes may overlap with private land plots.
	77+000	78+350	Municipal (Narimankand)	1.35 km	
	78+350	79+500	Private	1.15 km	
	79+500	88+600	State Forest Fund	9.1 km	Maraza on the right hand side of the road, properties adjacent to right hand side of road. Six commercial structures are located on the left hand side of the road. They will be affected if the widening takes place to the left hand side.
	88+600	89+500	Municipal (Badalli)	0.9 km	

	89+500	95+700	State Forest Fund	6.2 km	
	95+700	97+000	Municipal (Takla)	1.3 km	
Shamakhi	97+000	97+400	Municipal (Marzandiyya)	0.4 km	
	97+400	99+700	Municipal (Chiraqli)	2.3 km	
	99+700	102+600	Private (Sabir)	2.9 km	ROW is 35m.
	102+600	104+100	Municipal (Sabir)	1.5 km	
	104+100	104+350	Municipal (Graveyard)	0.25 km	Alternative alignment is shown on the right side, but there is not enough space. Graveyard is adjacent to the road.
	104+350	104+700	State (ROW of the road)	0.35 km	Width of the existing road is 15-16m and there are houses on the left side and sacred place on the right side
	104+700	105+000	State (riverbed)	0.3 km	
TOTAL:				**90 km**	

N	**Land Ownership**		**Total length**	**% share**
1	Total Private		9.75 km	10.8 %
2	Total Municipal		15.9 km	17.7 %
	State Land Fund	23.6 km		

	State Forest Fund	28.3 km		
	ROW	12.15 km		
	Riverbed	0.3 km		
3	Total State		64.35 km	71.5 %

APPENDIX H: LAND OWNERSHIP ALONG THE ALTERNATIVE ALIGNMENTS

Sections	Land Ownership
26+300-33+900	State Land Fund -48 ha Municipal-18 ha
43+000-52+800	State Land Fund – 31.8 ha State Forest Fund - 18 ha
59+000-61+000	State Land Fund – 12 ha
79+500-86+000	Private-17.1 ha State Forest Land -2.1 ha Municipal -3.6 ha State Land Fund (agricultural)- 12 ha

APPENDIX I: RECORDS AND LIST OF PUBLIC CONSULTATIONS

Highway III Project
Regional Environmental Review PUBLIC CONSULTATION

Minutes of Public Conultation held on the widening of Baku-Shamakhi Road

Held on: 20 February 2009

Venue: Shamakhi, City Executive Power

Purpose:

To introduce the Highway III Project;
To introduce the Consultant's ToR for the Regional Environmental Review studies;
To inform public about the 'widening-of-Baku-Shamakhi' Road
To learn local people's opinons on the proposed project

Speakers	Description of Discussion
Nazim Ismayilov v/ Head of Shamakhi Rayon Executive Power	Mr Nazim Ismayilov, Head of Shamakhi Rayon Executive Power, welcomed the participants and introduced the meeting. Talking about recent developments observed in the country's infrastructure sector, Mr. Ismayilov touched upon the President Ilham Aliyev's special care for improvement of transport infrastructure. Mr. Ismayilov informed the meeting that the purpose of today's meeting was to discuss the project that was envisaged to be financed by the World Bank for four laning of Baku-Shamakhi-Muganli road. Speaking of growing tendecies, e.g. construction and reconstrction of roads and bridges, Nazim Ismayilov stressed that today's development of infrastructure sector goes beyond the capital city, implying that improvements of transport sector have started in the regions. Scott Wilson, invited by Ministry of Transport of Azerbaijan, will study environmental impacts, if any, of the proposed project for four laning of Baku-Shamakhi-Muganli road, said the head of Executive Power. We, in our turn, thank Scott Wilson for accepting the invitation, said Mr. Ismayilov. Mr. Ismayilov informed the meeting that the rehabilitation of the Baku-Shamakhi-Muganli road was ongoing. The rehabilitation works are implemented by an Italian company Todini (Contractor) and Akkord Group of Companies (Sub-Contractor). The project that is currently proposed aims at widening of the road. Noting that "road is life" and "road is culture" Mr. Ismayilov stated that widening of this road was the requirement of a modern life. The steps taken by the Government, i.e. the widening of the road, aim at the economy development, tourism sector enhancement and trade relations expansion, as well as provision of comfortable roads for people. The new four laning road will be used by a wide range of population, especially in view that Shamakhi is the center for country-wide transportation system, of other cities (Gazakh and Ganja). It will also enhance the tourism to the region.

Speakers	Description of Discussion
	Nazim Ismayilov discussed some Shamakhi Rayon and town infrastrcture problems, such as scarcity of clean drinking water (only 30 % of population have an access to clean water), difunct waste water system, water logging, inadequate solid waste management system and delays in road construction. It was emphasized that both the Rayon Executive Power and Azerroadservice had put a lot of efforts to solve these problems, and many of them had been successfully resolved. For example, the achievements are the reconstruction of Shamakhi Observatory, the rehabilitation of the city bridge, bypass near the City Bus Station and restoration of Pirsaat Shrine. The City Executive Power is going to constantly pay a special attention to organizing public consultations on the current project and taking immediate measures to address the enviromental issues and mitigate hazards. If the widening of the road entails a cut of a couple of trees and land-take of parts of private land, it should not be considered a tragedy, because the construction of this road is very important. He introduced the representatives of affected settlements and municipalities, as well as NGOs participating in the consultation, and invited everyone to actively participate in the discussion.
Adil Qojayev / Director of Project Implementation Unit (PIU) / Azerroadservice	PIU Director informed the meeting about the project. We are here to address the questions you may raise and learn your opinions and proposals, he added. PIU Director also noted that more information about the project could be obtained from the Ministry's Project Implementation Unit and the Ministry of Transport's website
Fatma Guliyeva / Head of Trade Union for Education	"Road is culture", "there is no beauty, if there is no road" and "construction of this road will make us happier", said Mrs. Guliyeva. The existing road is currently very bad. Moreover, cosidering the fact that this road is a main highway and that the majority of population living in Gazakh and Ganja use the road, the widening of this road is a life requirement. Mrs. Guliyeva noted that local people suffered a lot as the road leading to Sabir was too narrow. There is no need to worry about the environmental impacts of the proposed widening, as these problems can be easily overcome, e.g. if there is a need to cut a couple of trees, this loss can be minimized by planting new trees. Mrs. Guliyeva also stressed the importance of taking a well-developed approach in the road consturction. She said that some features of Shamakhi such as mountainous areas, water logging and frequently observed high concentrated flows should be considered in this process. Speaking of defects in the existing roads Mrs. Guliyeva requested that in order for the road to be there for 20-30 years, asphalt quality should be good. Additionally, to be flow-resistant, the bridge near the city entrance should be higher than its current level, and this factor, in general, should be consdered in this widening.
Agarza Bayramov / Head of Shamakhi City Veterans Council	The road is a source of beauty, and no one will oppose the four-laning of this road, Mr. Bayramov said. Considering the fact that the existing road was constructed 50 or 60 years ago, the current construction serves our interests and makes us happy, he added.
Zohrab Amrahov / Head of	Speaking of the recent developments in the country, Mr. Amrahov said that the widening of this road was a great proposal. We, as the municipality, will do our best

Speakers	Description of Discussion
Garavali Municipality	to contribute to this four laning, implying that land acquisition problems in the municipality's territory, if any, will be solved, he pointed out.
Musa Musayev / Head of Shahriyar Municipality	Talking about the importance of the widening, Musa Musayev conveyed his special thanks to the initiators of the project. He also noted a 5-6 km segment of the road goes through the Municipality's territory, and if there is a need for land aqcusition, the municipality will do its best to support this process.
Mirafgan Muradov / Head of Madrasa Municipality	The head of municipality said that they, i.e. Shahriyar Municipality, promise to replace every house or store (if any) within the construction corridor, and to restore affected green areas. I, as a municipal head, will do my best in this process, he noted .
Natiq Azizov / Head Muganly Municipality	We support widening of the road, 3 km of whcih goes through Muganly Municipality, and will do our best to contribute to this laning, said head of Muganly Municipality.
Vasif Novruzov / Head of Gobustan Municipality	Speaking of the characteristics of the landscape of the planned construction corridor, Mr. Novruzov drew the attention to the fact that four laning road will not have any negative environmental impacts.
Murvat Zeynalov / Head of Shamakhı City Municipality	According to Murvat Zeynalov, the road section located between Baku-Shamakhi does not meet today's standards, and construction of four laning road will conrtibute to the tourism sector development in the regions. In brief, he said, the widening will have lots of postive effects.
Telman Babayev / Head of Local Road Maintenance Unit № 9	Mr. Babayev informed the meeting that during the constriction period there is a need to give a special attention to the areas near the entrance to the city from Baku, Local Tax Department, Sabir Factory and Shamakhi restaurant. He also said that a special care should be taken in connection with road sides and historical monuments (Seven Kumbaz and Cemetery).
Victor Aliyev / Head of Shamakhı City Education Department	Speaking of positive aspects of the widening, Mr. Aliyev proposed to plant two trees for every single tree to be cut during the construction process. He also pointed out that the employees of his department welcome this proposal.
Tatiana Romanenko / Scott Wilson, Project	Ms Romanenko thanked the participants for their views; briefed the meeting on the proposed project scope and explained what the Consultant's ToR entailed with particular emphasis on the purpose of the Regional Environmental Review which encompasses the public consultations.

Speakers	Description of Discussion
Coordinator	Ms. Romanenko informed the meeting that the 2nd public consultation will be held on February 25, 2009 to present the initial findings of the RER, and if local population of the municipalities represented at the meeting by the heads of municipality had any commnets or suggestions thay could be forwarded to the PIU at AzerRoadServices.
Nazim Mammadov/ **Head of Shamakhi City Executive Power**	Speaking of the productive outcome of the consultation, Head of the Executive Power asked the participants to come up with proposal and recommendations for the next meeting.

Scott Wilson

III AVTOMOBİL YOLU LAYİHƏSİ
Ehtiyyat Tədbirlərinə Dair Hesabatlar
İCTİMAİ DİNLƏMƏ

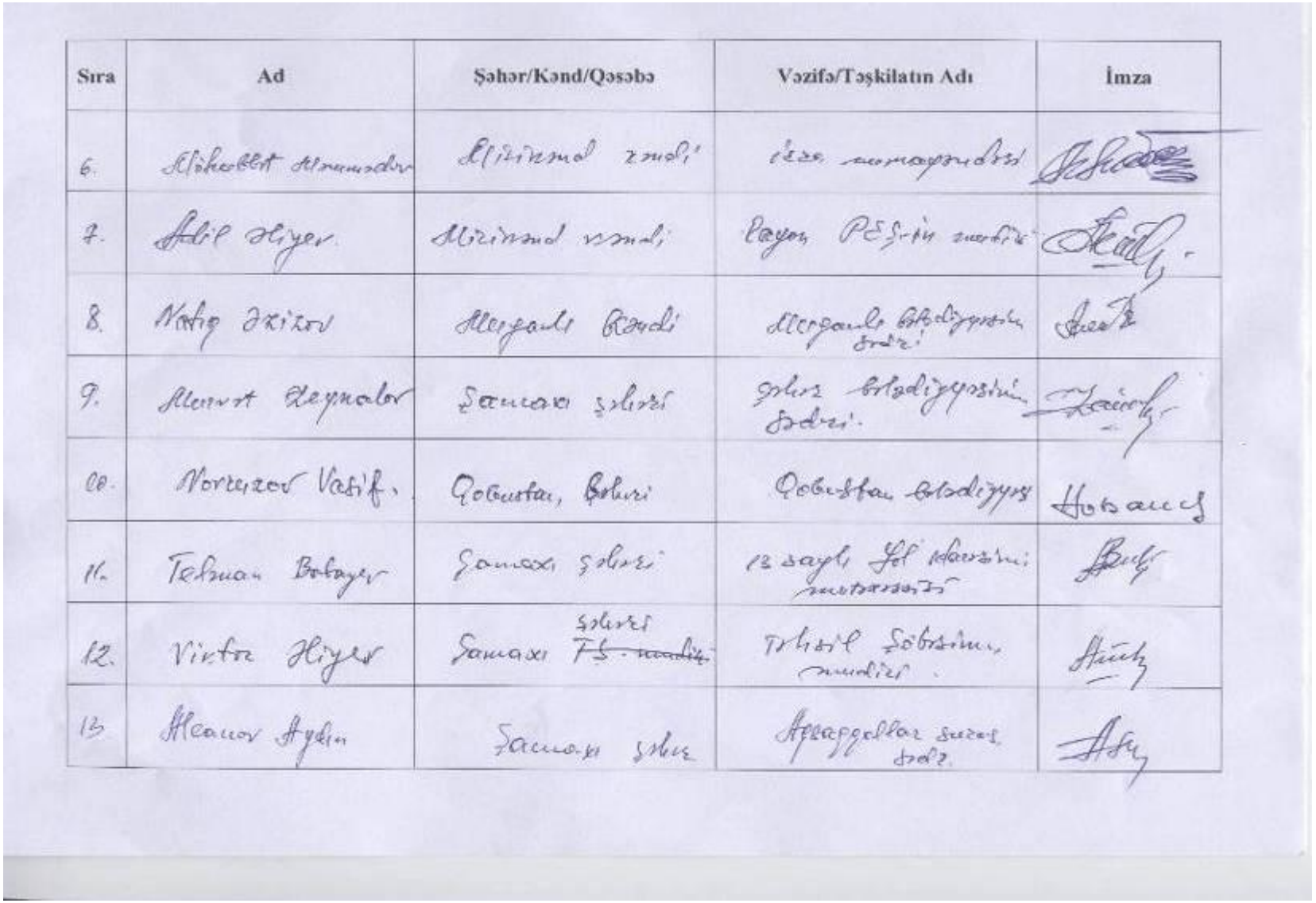
Görüş Yeri:

Keçirilmə Vaxtı: 20.02.2009 saat 16⁰⁰

Sıra	Ad	Şəhər/Kənd/Qəsəbə	Vəzifə/Təşkilatın Adı	İmza
1.	Əhmədov Fərman	Xızı rayon Bələd. sədri	Bələd. sədri.	Əhmədov
2.	Fatma Qəliyeva	RT Şəbəkənin İnvestisiyalar şöb. sədr.	İnvestisiyalar şöbəsinin sədri.	F. Qəliyeva
3.	Həqiqə Bayramov	Şamaxı şəhəri	Ağsaqqallar Şurasının sədr.	
4.	Xəlrəb Əzizov	Qaraxəlli kəndi	Qaraxəlli Bələd. sədri	
5.	Əliyə Əliyev	Şəlizəyar qəsəbəsi	Şəlizəyar Bələdiyyəsinin sədri.	
6.	Rövşən Səfərov	Əliyeri kəndi	İcra nümayəndəsi	

Abşeron şəhəri)

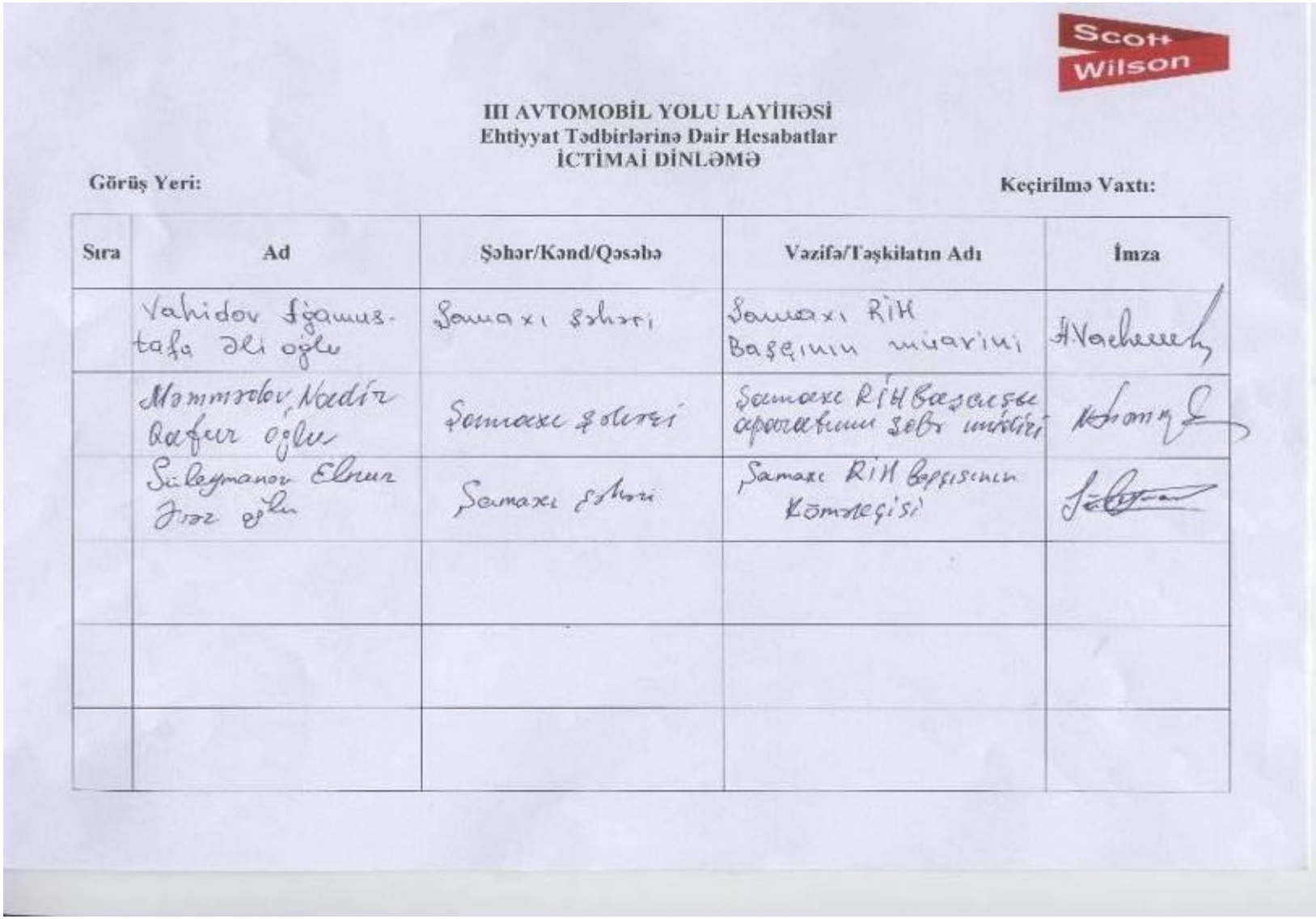
Sıra	Ad	Şəhər/Kənd/Qəsəbə	Vəzifə/Təşkilatın Adı	İmza
1.	Cəmşidov İlyaz	Kənd Çiroğlu	Bələdiyyə.	
2	Səyilov İlyas Sohrab.	Hamyəsi kəndi	İcra Nümayəndəsi.	
3	Rəcəbov Nasif Əli oğ	Sabir qəsəbə	icra nümayəndəsinin müavini	
4	Səmədov Namil Hacı oğlu	Mirzəcanlı bələdiyyə	Bələdiyyə sədri	
5.	Şükürov Azət Abbas oğlu	Salm	Qil baş mühəndis	
6.	Seyidov [illegible] Elxan oğlu	Seyran kəndi	İcra Nümayəndə	
7	Malxazov Məhəmməd Mövla oğlu	Şirvan kəndi	Bələdiyyə sədri	
8	Mehtiyev Bimal Səlvaz oğlu	Sapiyan kəndi	Sapiyan icra nümayəndəsinin müavini	



Sıra	Ad	Şəhər/Kənd/Qəsəbə	Vəzifə/Təşkilatın Adı	İmza
6.	Məhəbbət Əlimərdov	Əlimərdanlı kəndi	İcra nümayəndəsi	
7.	Əlif Əliyev	Mərimənd kəndi	Kayan PEŞ-in rəisi	
8.	Natiq Əkbərov	Ələyazılı Kəndi	Ələyazılı Bələdiyyəsinin üzvü	
9.	Əlövsət Əleyniabər	Şamaxı şəhəri	Şəhər Bələdiyyəsinin üzvü.	
10.	Nərgizov Vətif.	Qobustan, Bəhri	Qobustan Bələdiyyəsi	
11.	Təhmasıb Babayev	Şamaxı şəhəri	13 saylı Yol idarəsinin müdiri	
12.	Viktor Əliyev	Şamaxı ~~TŞ. rəisi~~ şəhəri	Tarixi Şəhərin müdiri.	
13	Əlövsət Əyyub	Şamaxı şəhər	Ağsaqqallar şurası üzvü.	

Sıra	Ad	Şəhər/Kənd/Qəsəbə	Vəzifə/Təşkilatın Adı	İmza
	Alıanov Alıan X.	Calca kəndi	bələdiyyə sədri	[signature]
	Məmmədov Asəf .Ə.o.	Çəyli kəndi	bələdiyyə sədri	[signature]
	İmrahov Təyfur Z.o.	Təklə kəndi	Təklə bələdiyyəsi sədri	[signature]
	Vasif Nəzərov	Qobustan şəhəri.	bələdiyyə sədri.	[signature]
	Məmmədova Könül Ə	Şamaxı şəhəri	İstehsalat Şəyrəm İ-nin rəisi	[signature]
	Muradov Azər Finroad R.E	Bakı şəhəri	Finroad R.E.	[signature]
	Abil Səfiyev	Bakı şəh. „SİAMA" Mərkəzi	Layihə üzrə menecer	[signature]
	Fəridə Hüseynova	Bakı şəh., Azərbaycan Yaşıllar Hərəkatı (AYH)	Sədr	[signature]

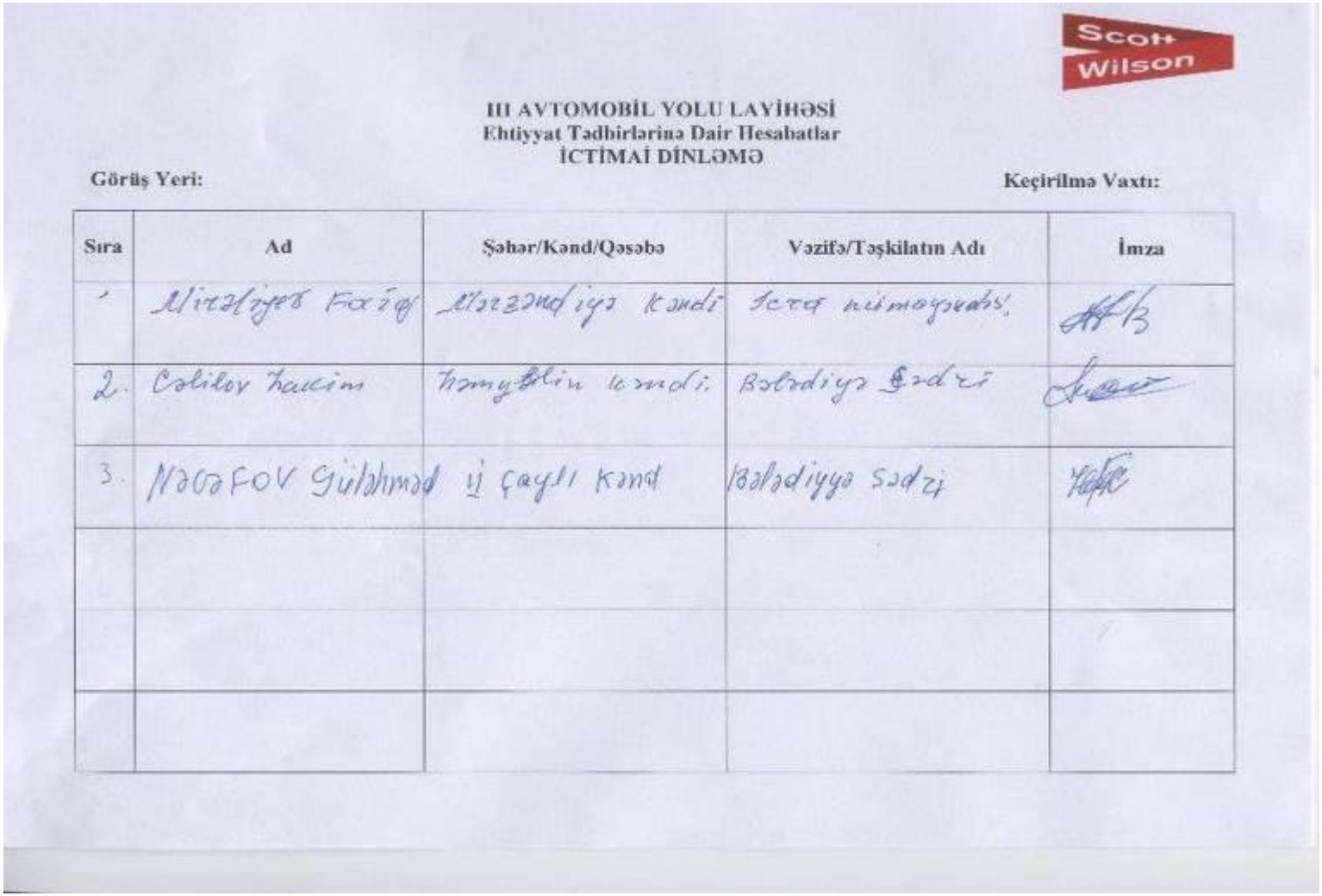
Sıra	Ad	Şəhər/Kənd/Qəsəbə	Vəzifə/Təşkilatın Adı	İmza
	Babayev Telman	Samaxi şəhəri	Qızıl Xaçpara Cəmiyyətinin RB-səbri	
	Ahmadov Hamlet	Samaxı şəhəri	DİTX-nin Samaxı rayon Nümayəndəliyinin rəisi	
	Babayev Telman	Şamaxı şəhəri	9 saylı Yol istismar idarəsinin baş mühəndisi	
	Tyliyev Nəsir	Şamaxı şəhəri	Böyük Kəmərli kənd bələdiyyəsinin sədri	
	Məhdiyev Arif Yaşar oğ.	Şıxdəlil kəndi	Şıxdəlil kəndi Gənclər Şurası	
	Məmmədov Telman Əli oğ	Şıxdəlil kənd nümayəndəliyi	Şərəf nümayəndəsi	
	Şamaxı rayon Məşğulluq Xidməti şöbəsinin müdiri		Məleykə Kamilova	



III AVTOMOBİL YOLU LAYİHƏSİ
Ehtiyyat Tədbirlərinə Dair Hesabatlar
İCTİMAİ DİNLƏMƏ

Görüş Yeri: **Keçirilmə Vaxtı:**

Sıra	Ad	Şəhər/Kənd/Qəsəbə	Vəzifə/Təşkilatın Adı	İmza
	Vahidov Əjdamustafa Əli oğlu	Şamaxı şəhəri	Şamaxı RİH Başçısının müavini	
	Məmmədov Nadir Rəşid oğlu	Şamaxı şəhəri	Şamaxı RİH Başçısının aparatının şəhər inşaatı	
	Süleymanov Elnur Firəz oğlu	Şamaxı şəhəri	Şamaxı RİH Başçısının Köməkçisi	



III AVTOMOBİL YOLU LAYİHƏSİ
Ehtiyyat Tədbirlərinə Dair Hesabatlar
İCTİMAİ DİNLƏMƏ

Görüş Yeri:

Keçirilmə Vaxtı:

Sıra	Ad	Şəhər/Kənd/Qəsəbə	Vəzifə/Təşkilatın Adı	İmza
1.	Mirzəliyev Fəxrəddin	Mərzəndiyə kəndi	İcra nümayəndəsi	
2.	Cəlilov Fəxrəddin	Hamıyalın kəndi.	Bələdiyə Sədri	
3.	NƏCƏFOV Gülhəmməd	Yeni çaylı kənd	Bələdiyyə Sədri	

Highway III Project

Regional Environmental Review

PUBLIC CONSULTATION

Minutes of Public Conultation held on the Widening of Baku-Shamakhi Road

Held on: 25 February 2009

Venue: Shamakhi, Rayon Executive Power

Purpose:

- ***To introduce the Highway III Project***
- ***To inform public about the findings of the Regional Environmental Review (RER) updated to reflect the 'widening-of-Baku-Shamakhi Road' Project***

Speakers	Description of Discussion
	Introduction
Nazim Ismayilov/ **Head of Shamakhi Rayon Executive Power**	Mr. Ismayilov introduced the Public Consultation meeting as the continuation of the meeting held on February 20 in relation to the Consultant's ToR for the update of the RER for the widening of Baku-Shamakhi road. Mr. Ismaylov informed the meeting that the local engineers, representatives of the municipalities and local executive power had developed some proposals in relation to the road widening. They were 16 proposals including 5 drawings that should be considered at the detailed design stage for the four laning of the road, as they were prepared by the local specialists who knew the region well, he added. The proposals and drawings are attached to these MoMs in Appendix (a1). The widening of Baku-Shamakhi road, which was initiated by a Presidential Decree and expected to be financed by the World Bank, will play a positive role in the development of this region, as the road is one of the shortest east west corridors of the country and is the only road between Baku and Shamakhi. Speaking of some potential problems during the widening works, the Head of Rayon Executive Power said that it was important to consider local weather conditions, implying that winter is so cold in Shamakhi, and to complete the project in a systematic way in order for this road to continue to support traffic.

Speakers	Description of Discussion
Tatiana Romanenko / **Scott Wilson, Project Coordinator**	Ms. Romanenko thanked the local people for the ideas that the proposals contained and said that they would be incorporated into the RER accordingly. She briefed the meeting on the overall project scope, the objective of the EAMF, RPF and RER Report and role of these documents for compliance purposes. Furthermore, she informed the meeting that the final version of the documents will be disclosed on the web-sites of World Bank and the Ministry of Transport. Ms. Romanenko discussed the findings of the Regional Environmental Review. In response to the comments regarding the Consultant's assignment, Tatiana said that the Consultant was to undertake the RER update in view of the road widening for an entire road length and the environmental assessment and management planning for the first year programme, which was envisaged to cover a 30 km section of the road, precisely, from Km 15 and Km 45.

Speakers	Description of Discussion
Mr. Agamammad Muradov /Sabir Municipality Head	Mr. Muradov made a complaint that the specific problems facing Sabir municipality, such as water levels, local weather conditions, boggy lands and cemetery that was adjacent to the road, had not been reflected in the project design documentation. The Head of the Municipality informed the meeting that despite the fact that Todini, i.e. Contractor, had been warned about these problems several times, no measures had been taken. Mr. Muradov also touched upon an unemployment problem facing Sabir Municipality: "As the President declares there should be employment opportunities created for people", therefore, there should be more focus on hiring local population for the road widening works. Although Mr Salvatore (Todini) had been requested to prefer local people for the construction works, he did not do anything in this respect. Referring to the fact that there are 4000 inhabitants in Sabir, Mr. Muradov pointed out that it is very important to hire locals at least for unskilled and semiskilled positions.
Nazim Ismayilov/ **Head of Shamakhi Rayon Executive Power**	Mr. Ismaylov supported the idea raised by the Head of Sabir Municipality, and added that it was really important to prefer local population for this project construction works.
Mr. Agamammad Muradov /Sabir Municipality Head	Mr. Muradov continued by saying that there was skilled labour such as machinery operators in Sabir as well.
Telman Babayev / Head of **Local Road Maintenance Unit № 9**	Mr. Babyev said that he had expressed his views on the project at the meeting of February 20, 2009. Furthermore, an issue to be raised related to the fact that there were some landslides (e.g. Km 107) and water logged areas that should be carefully considered in the road widening design process.
Mehman Ahmadov / PIU Representative	Mr. Ahmadov said that all the raised issues would be considered during the project detailed design.
Telman Babayev / Head of Local Road Maintenance Unit № 9	Speaking of the special care that should be taken with respect to the landslide problems, in particular, in Ajidara and Muganly, Mr. Babayev supported the ideas initiated by the Head of Sabir Municipality, noting that these problems had not been raised at the public consultation meetings held in 2005. The only issue raised at that point had been the proposal on construction of 4 Bus Stops in Shamakhi and nothing else. Mr Babayev continued: "What is important is to raise all the problems facing us on time, so that they can be considered in project design".
Mehman Ahmadov/ PIU Engineer	Mr Ahmadov confirmed that these problems had not been raised before, and reiterated the importance of the public consultation meetings, when anyone could raise any issue with respect to the project.

Speakers	Description of Discussion
Mr. Agamammad Muradov /Sabir Municipality Head	Mr. Muradov informed the meeting that it was important to take a special care of Nuru Pasha's tomb, that was located adjacent to the existing road, and that any damage to the tomb should be avoided. Nuru Pasha has an important role in Azerbaijan's history and in his fight against Armenians.
Nazim Ismayilov / **Head of Shamakhi Rayon Executive Power**	Mr. Ismayilov shared participants' opinions, and added that some key features of Shamakhi, e.g. its location in a seismic zone which posed risks to more than 1000 houses should be considered when the detailed design was undertaken. Furthermore, the trees in some parts of construction corridor (Mirkand) should be considered during the widening process.
Mr. Hamlet Ahmadov/ **Head of Environmental Ministry's Local Agency № 11**	Mr. Ahmadov said that there was a list of trees that included 577 nut trees in Mirkand. They would be relocated with the support of special equipments to minimize adverse environmental impact of the widening.
Mrs. Farida Huseynova / **Head of Green Movement (NGO)**	Mrs. Farida requested the organizers of the meeting send copies of the environmental impact assessment reports to her.
Tatiana Romanenko / **Scott Wilson, Project Coordinator**	Ms. Romanenko informed the meeting that Scott Wilson's assignment included the development of the environmental assessment and management plan only for the first 30-km section of the road, from km 15 to 45 of Baku-Shamakhi-Muganly road. The draft report would be issued to the Client, i.e. AzerRoadService of the Ministry of Transport in late March - early April.
Nazim Ismayilov / **Head of Shamakhi Rayon Executive Power**	The Head of Rayon Executive Power thanked the participants for attending the public consultation and closed the meeting.

Local Proposals on Reconstruction of Baku-Shamakhi-Muganli Road

1. Construction of a pedestrian underpass at Km 121 (Shahriyar Settlement) and Km 123 (Dada Gorgud Settlement, near the Yeddi Gunbaz Cemetery).

2. Providing culverts and relevant pipes, as well as pavement of asphalt for 100-150 Km in road junctions.

3. Reconstruction of cultural monuments at entrances to Shamakhi from both sides (from Baku and from Muganli).

4. Construction of domestic animal underpasses in Muganli, Mirikand and Marzanda.

5. Construction of new Bus Stops in the settlements locating near the road.
    - Posting modern Road Signs
    - Improving Local Services

6. Providing equipments, e.g. culverts, to avoid floorings in Sabir.

7. Due to city widening, construction of pavements and road sides at the road from Bus Station to “Tourist” restaurant

8. Due to reconstruction of Baku-Shamakhi-Muganli road, restoration of electric posts, retaining walls, etc.

9. Reconstruction of road sides (next to Shamakhi section of Baku-Shamakhi-Muganli) from Petrol Station “Azpetrol” to Bus Station.

10. Reconstruction and widening of the bridges on Pirsaat River and at Bus Station.

11. Pavement of asphalt for Km 3,5 of S.A. Shirvani and H. Aliyev streets, as the widening of Baku-Shamakhi-Muganli road is passing through these streets.

12. Construction of pedestrian road and road sides from “Agsu” to Shamakhi restaurant.

13. Consideration of the region’s specific characteristics in project design to minimize adverse environmental affect (e.g. both side widening and / or single side widening).

14. Construction of retaining walls, providing culverts and pipes at Km 107 and 111, where landslides are the major problem.

15. Construction of bridge at 112-116 Km, where artificial lake poses a risk to Sabir.

16. Construction of domestic animal underpasses in Shamakhi side of the bridge on Pirsaat River.

Scott Wilson

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İCTİMAİ DİNLƏMƏ

Görüş Yeri:

Keçirilmə Vaxtı:

Sıra	Ad	Şəhər/Kənd/Qəsəbə	Vəzifə/Təşkilatın Adı	İmza
1.	Sayılbəy İlyas	Hamyəli kəndi	icra Nümayəndəsi	
2	Cəlilov Həcim	Hamyəli kəndi	Hamyəli Bələdiyyəsinin sədri	
3.	Nəzərov Güldəmud	II Çaylı kəndi	II Çaylı Bələdiyyəsinin sədri	
4	Mirziyev Faiq	Məmmədiyyə kəndi	icra nümayəndəsi	
5	Qaylbot Gülbəsəm	Qobustan Rayonu	Bədəlli kənd bələdiyyəsi	
6	Osmanov Ağazadiz	Şamaxı 2-nci Şəhriyar qəs. ic. nüm.	Şəhriyar ic. nüm.	

Scott Wilson

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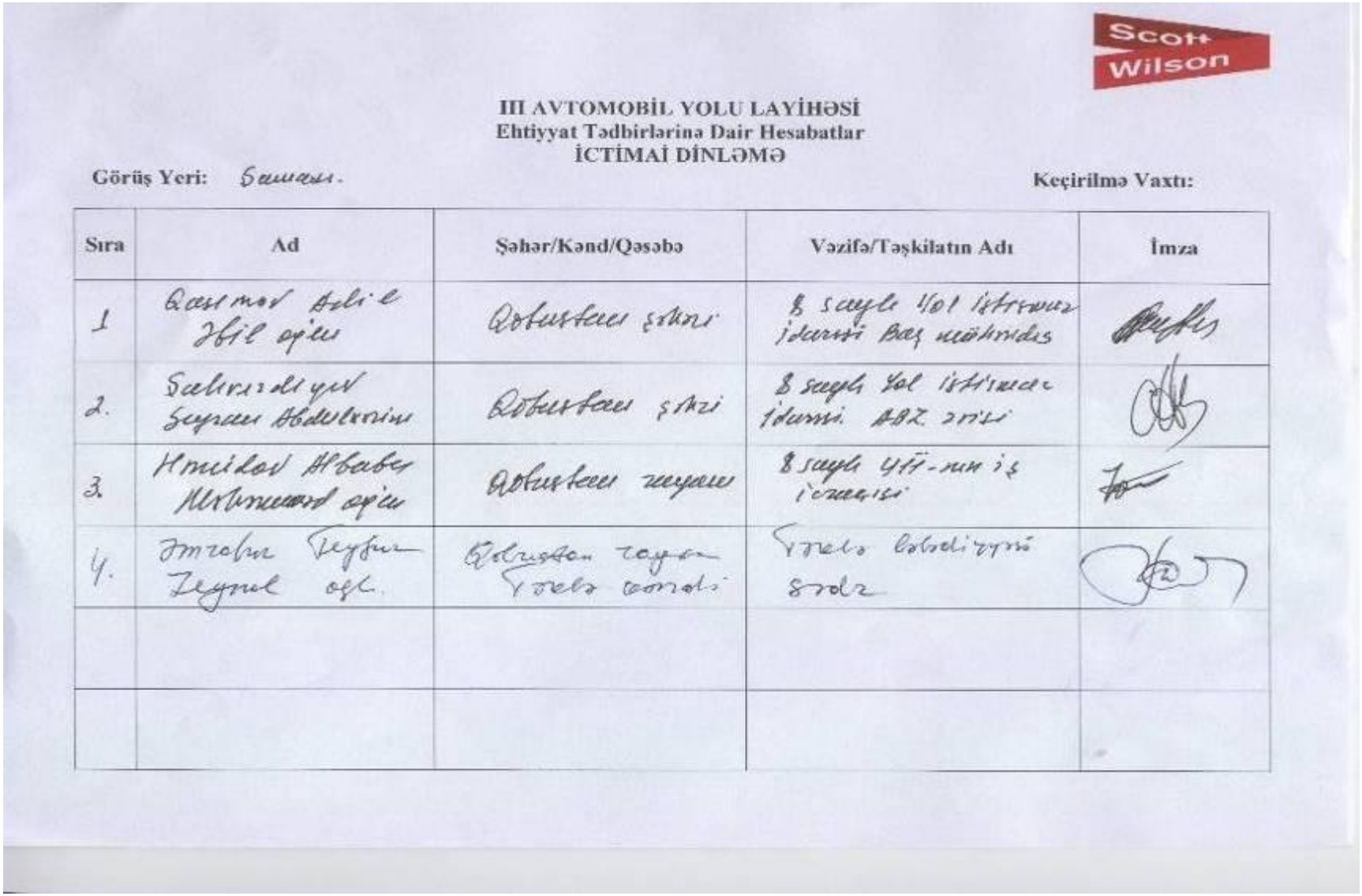
Ehtiyyat Tədbirlərinə Dair Hesabatlar
İCTİMAİ DİNLƏMƏ

Görüş Yeri:

Keçirilmə Vaxtı:

Sıra	Ad	Şəhər/Kənd/Qəsəbə	Vəzifə/Təşkilatın Adı	İmza
	Şamaxı rayon Mədəniyyət və turizm şöbəsinin müdiri M. Kamilzə	Şamaxı	Mədəniyyət və müdiri	
	Şeydəyev Səyyar Eldar oğlu	Muğanlı kənd	RİH B - nin Muğanlı kənd ərazi nümayəndəsi	
	Əzizov Natiq Peşə oğlu	Muğanlı kənd	Bələdiyyə sədri	
	Əmrəhov Zöhrab Gülağa oğ.	Mərəzəli kəndi	Bələdiyyə sədri	
	Səmmədzadov Kamil Həsi oğ	Nüyükmə kəndi	Bələdiyyə sədri	
	Hüseyn Əsirbəy Əli oğlu	Şamaxı	Şamaxı rayon Təhsil şöbəsinin müdiri	



Scott Wilson

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Ehtiyyat Tədbirlərinə Dair Hesabatlar
İCTİMAİ DİNLƏMƏ

Görüş Yeri: Samarə.

Keçirilmə Vaxtı:

Sıra	Ad	Şəhər/Kənd/Qəsəbə	Vəzifə/Təşkilatın Adı	İmza
1	Qasımov Əli-e Xəlil oğlu	Qobustan şəhəri	8 saylı YİİDİ-nin İdarəsi Baş mühəndis	
2.	Səlimzadəyev Seyran Abdulxanı	Qobustan şəhəri	8 saylı Yol İstismar İdarəsi ƏƏZ rəisi	
3.	Həmidov Hüseyn Məhəmməd oğlu	Qobustan rayon	8 saylı YİİDİ-nin İş icraçısı	
4.	İmrahor Teyyur Teymur oğl.	Qobustan rayon Yevlax əhalisi	Yevlax bələdiyyə sədr	

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Ehtiyyat Tədbirlərinə Dair Hesabatlar
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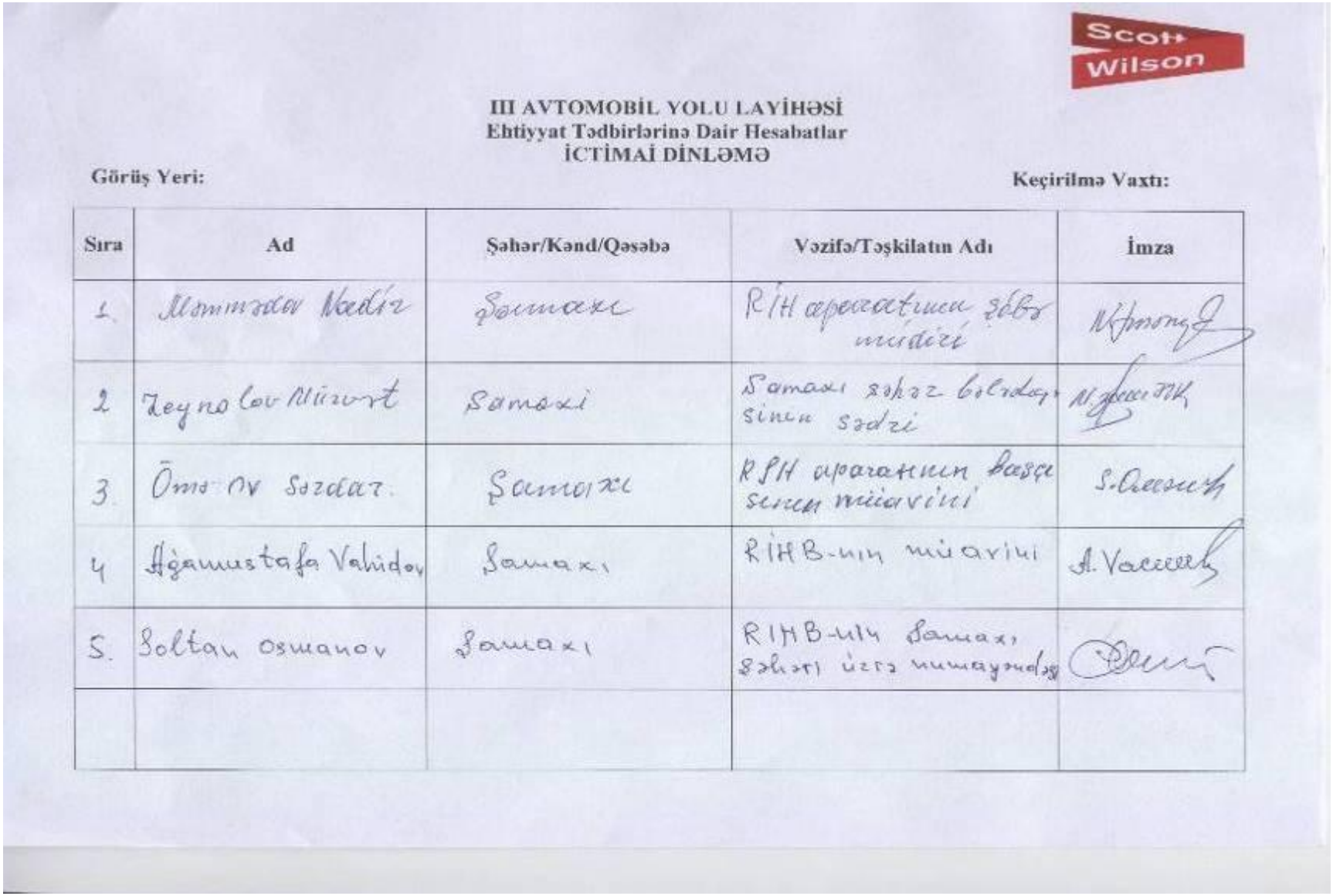
Görüş Yeri: **Keçirilmə Vaxtı:**

Sıra	Ad	Şəhər/Kənd/Qəsəbə	Vəzifə/Təşkilatın Adı	İmza
1.	Alxanov Alxan Xanqo.	Qobustan Qalası	Bələdiyyə Sədri	
2.	Məmmədov Vüqar Nadirxan	Qobustan Nəbiz.Cəmiyyəti	bələdiyyə sədri	
3.	Məmmədov Ədalət Əlibaba.	Qobustan ə/n. Cəyirli	bələdiyyənin Sədri	
4.	Aslanov Ayxəddin İsrafil	Qobustan ə/n Cəyirli kəndi	icra nümayəndəsi	
5	Vəhidov Ağayusif Rza.	Şamaxı Səbir qəs.	İcra Nümayəndəsi	

Sıra	Ad	Şəhər/Kənd/Qəsəbə	Vəzifə/Təşkilatın Adı	İmza
1	[illegible]	[illegible]	[illegible] nümayəndəsi	
2.	Qubatov Kərim M.	Şamaxı şəhəri	Standartlaşdırma komitəsinin əməkdaşı	
3.	Məmmədov Sabir [illegible]	Şamaxı şəhəri	11 saylı stasionar ekoloji [illegible]	
4	Musayev Musa	Şəhriyar qəsəbəsi	Bələdiyyənin sədri	
5	Məmmədov Səməd	Mərzəndiyə kəndi	— " — — " —	
6	Babayev Telman	Şamaxı şəh.	9 saylı YİI-nin baş mühəndisi	
7.	Əliyev Adil	Şamaxı PES-nin rəisi	Elektrik rəisi direktorunun [illegible]	
8	Muradov M. S.	İ.R.İ.H Baş Mədrəsə qəsəbə Nümayəndəsi	nümayəndə	



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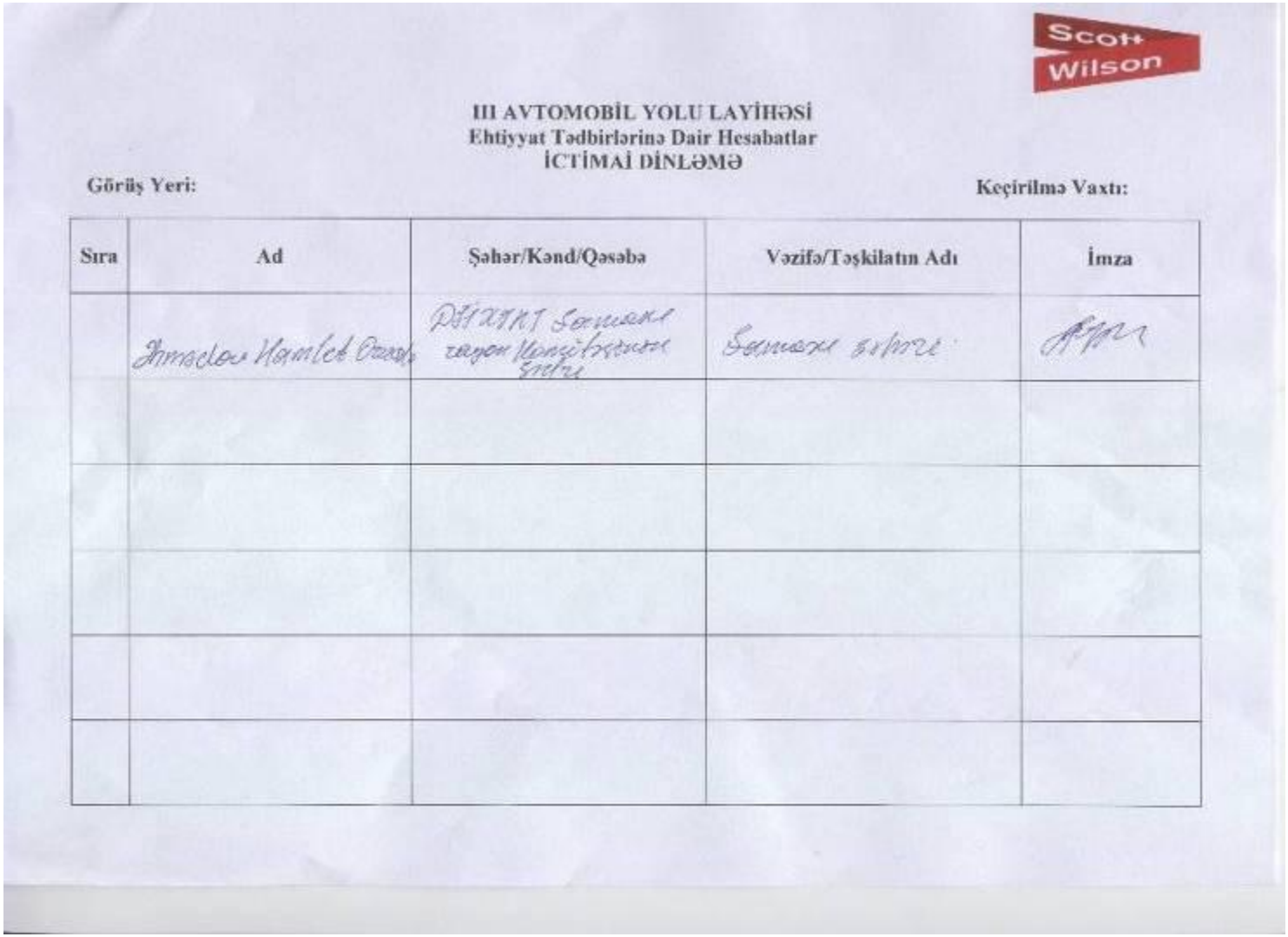
İCTİMAİ DİNLƏMƏ

Görüş Yeri: Keçirilmə Vaxtı:

Sıra	Ad	Şəhər/Kənd/Qəsəbə	Vəzifə/Təşkilatın Adı	İmza
1.	Məmmədov Nadir	Şamaxı	RİH aparatının şöbə müdiri	
2	Zeynalov Nüsrət	Şamaxı	Şamaxı şəhər Icra Hakimiyyətinin sədri	
3.	Ömərov Sədrəddin	Şamaxı	RİH aparatının baş məsləhətçisi	
4	Ağamustafa Vahidov	Şamaxı	RİHB-nın müavini	
5.	Soltan Osmanov	Şamaxı	RİHB-nın Şamaxı şəhəri üzrə nümayəndəsi	

Sıra	Ad	Şəhər/Kənd/Qəsəbə	Vəzifə/Təşkilatın Adı	İmza
1	Ahmədov Fərman	Mədrəsə qəsəbəsi	Bələdiyyə sədri	
	Mirzəəliyev Cəfərəmməd	Sabir qəsəbəsi	Bələdiyyənin sədri	



III AVTOMOBİL YOLU LAYİHƏSİ
Ehtiyyat Tədbirlərinə Dair Hesabatlar
İCTİMAİ DİNLƏMƏ

Görüş Yeri: Keçirilmə Vaxtı:

Sıra	Ad	Şəhər/Kənd/Qəsəbə	Vəzifə/Təşkilatın Adı	İmza

Highway III Project

Regional Environmental Review

Minutes of Meeting held on the widening of Baku-Shamakhi Road

Held on: 10 March 2009

Venue: Shamakhi, Local Executive Power (LEP)

Purpose:

- ***To introduce the Highway III Project***
- ***To introduce the Consultant's ToR for the Regional Environmental Review studies***
- ***To inform public about the 'widening-of-Baku-Shamakhi' Road***
- ***To learn local people's opinons on the proposed project***

Participants:	
Representatives of Rayon Government Agencies:	
Deputy Head of Shamakhi LEP on Socio-Economic Issues	Agamustaf Vakhidov
Deputy Head of Shamakhi LEP on Agricultural Affaires	Sardar Omarov
Head of Rayon Statistics Department	Azer Mammadov
Senior Consultant of Rayon Land Office	A. Kerimov
Head of Sabir Land Resources Commission	Alisahib Osmanov
Senior Forester of Shamakhi Rayon Forest Protection and Rehabilitation	Khanmusa Valiyev
Consultant's Team:	
Project Coordinator of Scott Wilson:	Tanya Romanenko
Scott Wilson Scott Wilson project land acquisition specialist:	Arastun Guliyev
Scott Wilson project social/resettlement specialist:	Elshan Rustamov

Issues discussed:

- Socio economic data for the Shamakhi rayon settlements potentially affected by the project;
- Potential land acquisition for road widening

Highway III Project
Regional Environmental Review

Minutes of Meeting held on the widening of Baku-Shamakhi Road

Held on: 10 March 2009

Venue: Gobustan, Local Executive Power (LEP)

Purpose:

- ***To introduce the Highway III Project***
- ***To introduce the Consultant's ToR for the Regional Environmental Review studies***
- ***To inform about the 'widening-of-Baku-Shamakhi' Road proposal***
- ***To learn the opinon of local population on the proposed project***

Participants:

Representatives of Government Agencies	
Head of Gobustan rayon Executive Power	Ismayil Valiyev
Head of District Statistical Department	Rasul Babayev
Head of district Land Office	Ibadet Bahramov
Head Forestry Office	Elchin Salahov
Consultant's Team	
Project Coordinator of Scott Wilson:	Tanya Romanenko
Scott Wilson Scott Wilson project land acquisition specialist:	Arastun Guliyev
Scott Wilson project social/resettlement specialist:	Elshan Rustamov

Tanya Romanenko briefed the meeting on the proposed project scope and explained what the Consultant's ToR entailed with particular emphasis on the purpose of the Regional Environmental Review which encompasses the public consultations.

Ismayil Veliyev introduced rayon to the participants, and the meeting was informed that in April 2009 Narimankand and Maraza had been merged and formed a town of Gobustan. Following this development the town developed its Masterplan which should be taken into consideration when the detailed design for four laning is undertaken. A copy of the Masterplan was provided to the Consultant's Team.

Issues discussed:

- Socio economic data for the Gobustan rayon settlements potentially affected by the project;
- Potential land acquisition for road widening

Suggestions made by Mr Ismayil Veliyev

- Underpasses for domestic animals are required in addition to those that have been constructed as part of two laning. An appropriate location should be considered at the detailed design stage. However, a suggestion was made that it should be located between the settlements of Jangi and Jeyrankechmez
- Within the town boundaries and in particular, in the town centre the pavements are required on both sides of the roads;

- Pedestrian crossing need to be provided. Overground crossings are preferred, as the underground crossing provided as part of two laning is currently flooded. Furthermore, that are more cost effective;
- The drainage along the road and in particular, within the boundaries of Gobustan should be properly designed;
- There is an optic fibre cable along the road, and it needs to be ensured that the detailed design takes it into consideration;
- Landscape prone areas need to be investigated. It might be appropriate to use the bioengineering measures to mitigate the associated risks;
- The engineering alternatives for a 'serpentine' road need to be explored, such as bridges;
- The trees along the road that need to be cut may be easily replanted.

Highway III Project
Regional Environmental Review/
Environmental Assessment and Management Plan
CONSULTATION

Minutes of Public Conultation held on the widening of Baku-Shamakhi Road

Held on: 12 March 2009

Venue: Khirdalan, Rayon Executive Power

Purpose:

- ***To introduce the Highway III Project***
- ***To introduce the Consultant's ToR for the Regional Environmental Review studies***
- ***To introduce the Consultant's ToR for the Environmental Assessment and Management Plan***
- ***To inform public about the 'widening-of-Baku-Shamakhi' Road***
- ***To learn local people's opinons on the proposed project***

Attended by:

Representatives of Rayon Agencies and Municipalities

Deputy Head of Absheron district Executive Power	Mirzabala Aslanov
Head of Architecture and Construction Department of EP	Akif Aliyev
Chief Consultant of EP	Fariz Aliyev
Head of District Civil Defence Headquarter of MES	Tahir Huseynov
Chief Consultant of district Land Office	Abulfaz Asadov
Head of District Statistical Department	Gurshad Mamadov
Head of District GEM office	Maharram Abdulov
Chief Consultant of District Ecology and Natural Resources Office	Teyfur Mammadov
Head of Xirdalan Electricity Network	Vidadi Abbasov
Head of Mushfigabad Electricity Network	Farhad Israfilov
Chief Engineer of Absheron Gas Operation Office	Mirafgan Agalarov
Head of District Water-Sewerage Systems Operation Office	Qorxmaz Abbasov
Head of Aztelekom District Network Office	Elmar Humbataliyev
Head of Main Cable Transit Unit	Agamirza Agamirzayev

Deputy Head of Absheron Office SCMSP	Ashraf Mammadov
Representative of District EP for Xirdalan town	Fikrat Orujov
Head of Xirdalan municipality	Eldar Ahmedov
Head of District Flat Communal Maintenance Unit	Ilham Mursalov
Head of Flat Communal Maintenance Unit No:5	Tale Mustafayev
Representative of District EP for Hokmali settlement	Yaver Huseynov
Head of Hokmali municipality	Mirnemat Miradiyev
Representative of District EP for Ashagi Guzdak settlement	Fikrat Babayev
Head of Ashagi-Guzdak municipality	Bayaga Abbasov
Representative of District EP for Pirikushkul-Gobustan settlement	Jahan Ismayilov
Head of Pirikushkul-Qobvustan municipality	Qandab Orujova

Consultant's Team

Scott Wilson project coordinator:	Tanya Romanenko
Scott Wilson project land acquisition specialist:	Arastun Guliyev
Scott Wilson project social/resettlement specialist:	Elshan Rustamov

Purpose:

- *To introduce the Highway III Project that would cover the widening of Baku Shamakhi Road*
- *To discuss the findings of the draft Regional Environmental Review studies, including environmnetal and socio-economic impacts of the ptoposed project*
- *To learn local people's opinions on the proposed project*

Mr. Mirzabala Aslanov, Deputy Head of Absheron rayon Executive Power, opened the meeting. He informed the meeting that by the special order of Mr. Zakir Farajov, Head of Absheron Rayon Executive Power a Commission comprising the above named representatives of rayon agencies and municipalities had been established with regard to the implementation of the instructions given in Letter # 15/5-45, dated February 12, 2009, by Mr. Abid Sharifov, Deputy Prime Minister. This Commission had been assigned to examine the issues related to the widening of Baku – Shamakhi road to support the activities of the Consulting Firm engaged to prepare the environmental documentation.

Ms. Tanya Romanenko, Scott Wilson Project Coordinator gave an overview of the proposed project explaining that the widening of the road was classified as Category A project by the World Bank[74]. The scope of the Consultant's ToR was discussed – (i) an update of Regional Environmental Review Report to cover an entire length of Baku Shamakhi road, and (ii) an environmental assessment and management plan for the first year construction programme that is envisaged to cover a 30 km section of the road from km 15 to 45. Ms. Tanya Romanenko touched upon a time frame for the development of the above mentioned report and said that any data and information as well as any other inputs of the Commission would be welcomed.

Mr Elshan Rustamov explained a need for general social-economic profile of the affected rayons and affected villages and settlements.

Mr Arastun Orujov noted a need for cadastre maps of the villages which the road crosses in order to obtain information about the land ownership on the both sides of the road.

Mr. Aslanov instructed that a senior consultant of rayon Land Department assist the Consultant's Team to establish a land ownership baseline based on existing land use maps. Furthermore, all the officials of different agencies attending the meeting were assigned to submit all information related to Baku – Shamakhi main road, to the Executive Power, in the form of reference, by March 14, 2009.

After the formal part of the meeting was finished additional issues were raised:

Question: Vidadi Abbasov (Director of Khirdalan Electricity Network): Who will cover the expenses for the relocation of electricity transmission lines which might be affected by the project?

Answer: M. Aslanov *(Deputy Head of Excom)*: The detailed design (DD) for four laning has not yet been developed; therefore, the question will have to be raised at the DD stage.

Question: Mirafgan Aghalarov (Senior Engineer of Gas Management Unit): We worked closely with the Contractor for two laning, i.e. Todini Company. We could render similar support for four laning as well. Do you have any design sketches (draughts)? If you have them we can give you more precise information.

Answer: M. Aslanov *(Deputy Head of Excom)*: Include all data on gas infrastructure that is adjacent to the existing road. You should not require project DD for this.

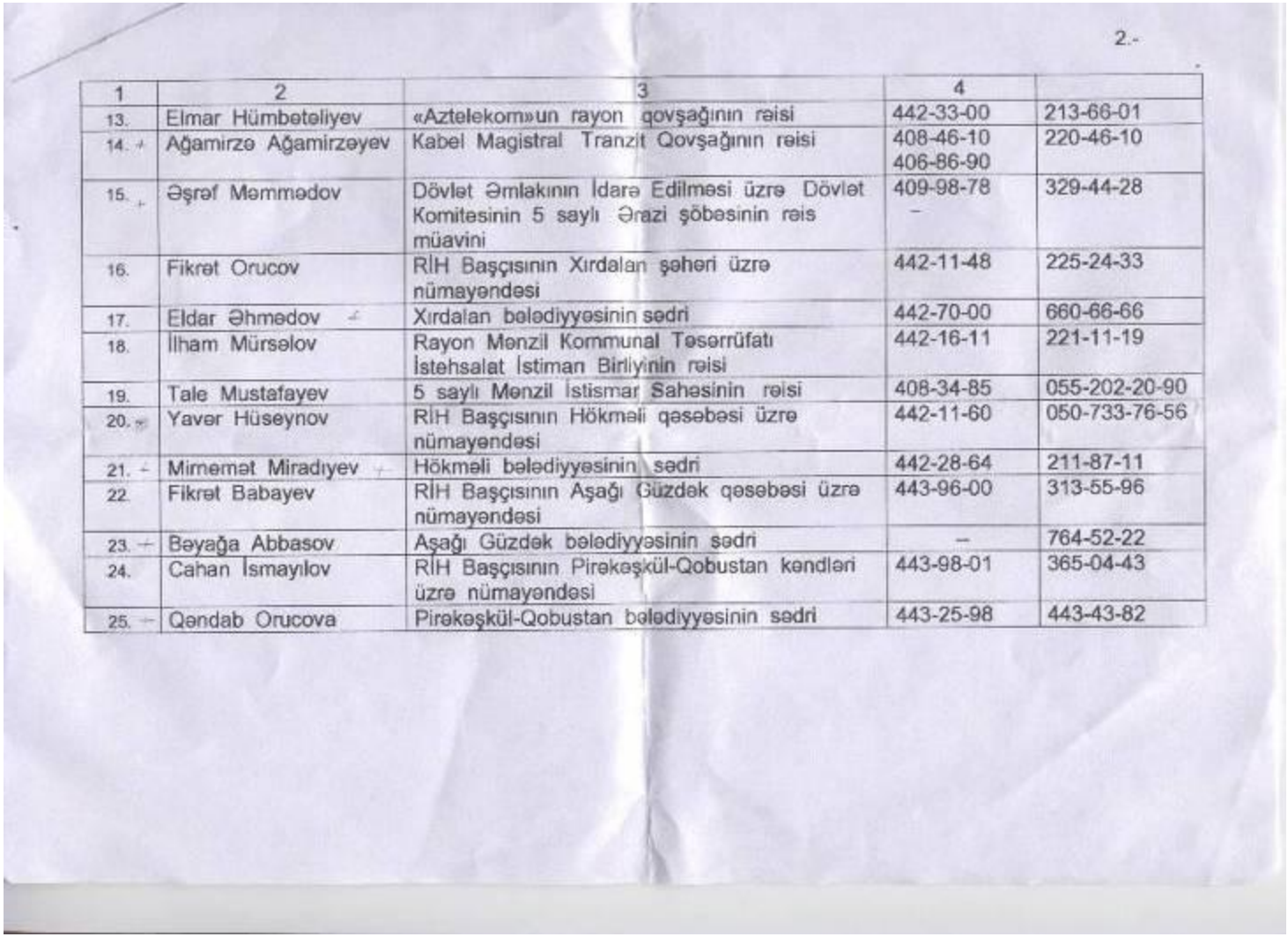
[74] A brief explanation of Category was provided

Azərbaycan Respublikası Baş Nazirinin müavini cənab Abid Şərifovun 12 fevral 2009-cu il tarixli, 15/5-45 saylı məktubunun icrası ilə əlaqədar RİH-də keçiriləcək müşavirəyə dəvət olunanların

S İ Y A H I S I

12 mart 2009-cu il
Saat 10 ^{00}

S/№	Adı, soyadı	Vəzifəsi	Telefonlar	
			İş	Mobil
1	2	3	4	5
1.	Mirzəbala Aslanov	RİH Başçısının müavini	409-96-92	458-06-09
2.	Akif Əliyev	RİH-nin Memarlıq və Tikinti şöbəsinin müdiri	442-11-14	212-22-31
3.	Fariz Əliyev	RİH-in aparıcı məsləhətçisi	442-11-16	332-47-77
4.	Tahir Hüseynov	Rayon Mülki Müdafiə Qərargahının rəisi	442-11-19	055-758-21-50
5.	Mübariz Vəliyev	Dövlət Torpaq və Xəritəçəkmə Komitəsinin rayon şöbəsinin müdiri	442-25-49	201-41-46
6.	Gürşad Məmmədov	Rayon Statistika idarəsinin rəisi	442-10-50	055-709-45-96
7.	Məhərrəm Abdulov	Rayon GEM-in direktoru	442-09-40	310-69-07
8.	Firdovsi Həsənov	4 saylı Ərazi Ekologiya və Təbii Sərvətlər Şöbəsinin rəisi	442-18-19	055-211-96-56
9.	Vidadi Abbasov	Xırdalan Elektrik Şəbəkə rayonunun rəisi	442-00-66	250-28-25
10.	Fərhad İsrailov	Müşfiqabad Elektrik Şəbəkə sahəsinin rəisi	410-50-65	250-28-13
11.	Mirəfqan Ağalarov	Abşeron Qaz İstismar İdarəsinin baş mühəndisi	442-64-35	215-67-18
12.	Qorxmaz Abbasov	Rayon Su-kanalizasiya İstismarı İdarəsinin rəisi	442-31-11	221-86-74



2.-

1	2	3	4	
13.	Elmar Hümbətəliyev	«Aztelekom»un rayon qovşağının rəisi	442-33-00	213-66-01
14.	Ağamirzə Ağamirzəyev	Kabel Magistral Tranzit Qovşağının rəisi	408-46-10 406-86-90	220-46-10
15.	Əşrəf Məmmədov	Dövlət Əmlakının İdarə Edilməsi üzrə Dövlət Komitəsinin 5 saylı Ərazi şöbəsinin rəis müavini	409-98-78	329-44-28
16.	Fikrət Orucov	RİH Başçısının Xırdalan şəhəri üzrə nümayəndəsi	442-11-48	225-24-33
17.	Eldar Əhmədov	Xırdalan bələdiyyəsinin sədri	442-70-00	660-66-66
18.	İlham Mürsəlov	Rayon Mənzil Kommunal Təsərrüfatı İstehsalat İstiman Birliyinin rəisi	442-16-11	221-11-19
19.	Tale Mustafayev	5 saylı Mənzil İstismar Sahəsinin rəisi	408-34-85	055-202-20-90
20.	Yavər Hüseynov	RİH Başçısının Hökməli qəsəbəsi üzrə nümayəndəsi	442-11-60	050-733-76-56
21.	Mirnemət Miradıyev	Hökməli bələdiyyəsinin sədri	442-28-64	211-87-11
22.	Fikrət Babayev	RİH Başçısının Aşağı Güzdək qəsəbəsi üzrə nümayəndəsi	443-96-00	313-55-96
23.	Bəyağa Abbasov	Aşağı Güzdək bələdiyyəsinin sədri	–	764-52-22
24.	Cahan İsmayılov	RİH Başçısının Pirəkəşkül-Qobustan kəndləri üzrə nümayəndəsi	443-98-01	365-04-43
25.	Qəndab Orucova	Pirəkəşkül-Qobustan bələdiyyəsinin sədri	443-25-98	443-43-82

Meeting at Maraza – 22nd August 2005

If during construction you demolish the concrete slabs that presently underlie the road works it will be impossible to find the same because they are not produced anymore. I propose to make the road 11 m wide.

Earlier this road was category 3 and was upgraded to category 2 in stages 1974 and 1986. But not all procedures were executed for a 2nd category road. In result we have many accidents on this road, e.g. between km 61 and 62, 76, 79 and km 89. The problem is mainly the small radius. Visibility is also bad, e.g. around km 99 and between km 105 and 106. Another reason for accidents is unstable underground where the road subsides, e.g. km 61, 62, 76, 81 – 82, 105 and 110.

Between km 105 and 110 there had been 2 alternatives for the road, one of these was to build a tunnel because the hazard of landslide. The other alternative was to build this part of the road on columns. This study lasted 2 years, but no feasible alternative could be found. If a tunnel cannot be built, we recommend excavating the unsuitable material, i.e. the upper 18 m. We will provide you some written information as soon as possible.

It would be good to provide a bypass for Maraza to improve safety inside the town because we have accidents here almost every day. The length of this bypass would be 2 km maximum. It is better to loose some business opportunities and to improve safety. Anyway there probably would not be such big losses because a new road would be very close to the old one. The land in this corridor is all State Forest Land und currently not used. The proposed distance from the existing road is about 80m.

At 2 points serious drainage problems exist in Maraza, namely at km 90 at the entrance and at km 93 at the exit of the town. Additional 2 culverts will be needed here and the 2 old ones must be replaced. After rain there is flooding of about 1 m height and the city transforms into a lake.

The land near the road is privately owned, even within the ROW. This land was officially given to the people between 1982 and 1988 to grow grain. They have documents that they became legal owners after 1997 when the State privatised it. Widening the road in this section would affect more than 100 families and they should be given compensation. The plots are perpendicular to the road; this is why it would affect so many.

Between km 99 and 100 (Badirli) the road is very narrow and there are many accidents. In this area there would also be the need for compensation if the road is widened, because the land next to it was officially privatised. This would affect 7 families.

Where fields are next to the road, we recommend executing construction after the 1st of July, i.e. after harvesting. This would be important to minimize the social impact due to the loss of crops. Early information on the date when construction will begin is also important and would help to minimize the social impact.

The land where plantations are alongside the road was given to the MENR by the Cabinet of Ministers, excluding the ROW. In practice however, there are plantations also in the strip directly next to the road. These plantations within the ROW belong to the ARS.

All together about 30 km to either sides of the road were planted since 200.

Meeting at Shamakhi – 22nd August 2005

Our district has become a main destination for tourism. A 2 lane road is not enough; in future we will need a 4 lane road.

There will be no impact on agriculture in our district because the ROW is free of development.

The intersection with the road to Maraza will need upgrading.

In Muganli some shops were recently demolished by ARS but these were unofficial ones. This happened during the last year.

Between Shamakhi and Muganli the existing bridge is very narrow – it would need to be widened.

The visibility on the road is locally very poor.

Around km 110 and 132 the land is very unstable.

All plantations alongside the road are under the ownership of ARS.

Suggestions to be considered during design and construction will be submitted in written form as soon as possible.

Around 1972 there has been the construction of a low standard bypass around Shamakhi. But today houses have been built there. It will not be useful to consider this further.

APPENDIX J: MEETINGS/ VISITS

Year 2008

Date	Location	Person	Position
16 February 2009	ARS Highway II Project Implementation Unit	Adil Gojayev	Director
	ARS Highway II Project Implementation Unit	Seimur Qahramanov	Procurement Specialist
	World Bank office in Azerbaijan	Gulana Hajiyeva	Operations Officer (Environment)
18 February 2009	Todini Italia, Baku Shanakhi Road Rehabilitation General Contractor	Davide Basili	Area Manager
20 February 2009	Field trip to Baku – Shamakhi Road (entire length)		
20 February 2009	Shamakhi Rayon Executive Power	Nazim Mammedov	Head
20 February 2009	Public Consultation in Shamakhi	See Appendix C	
22 February 2009	Finnroad, Baku – Shamakhi Road Supervision Consultation	Yam Bhattachan	Project Manager
22 February 2009	Field trip to Baku – Shamakhi Road (first section of 45 km)		
25 February 2009	Public Consultation in Shamakhi	See Appendix G	
10 March 2009	Shamakhi LEP	See Appendix J for list of persons consulted	

10 March 2009	Gobustan LEP	See Appendix J for list of persons consulted	
12 March 2009	Absheron LEP	See Appendix G for list of persons consulted	
15 March 2009	Gobustan Village of Absheron Rayon	Random Interviews with residents	
15 March 2009	Jangi Village of Gobustan Rayon	Random Interviews with residents	
15 March 2009	Winter farms at km 48,4; 57.5; 61,5; 64,3	Random Interviews with residents	
15 March 2009	Jeirankechmez Village of Gobustan rayon	Random Interviews with residents	
15 March 2009	Sabir Village of Shamakhi Rayon	Random Interviews with residents	

Year 2005

Date	Location	Person	Position
11 July 2005	ARS Highway II Project Implementation Unit (PIU)	GOYADEV Adil	Director
		MUTALLIMOV Sadiq	Consultant, VMV
	ARS	VALEHOV Hijran	Head, Investment Division
12 July 2005	World Bank	EBINGER Jane	Environmental Specialist (Europe & Central Asia)
		ISHIHARA Satoshi	Social Development Specialist (Europe & Central Asia)
		HAJIYEVA Gulana	Operations Officer (Environment)
		KARIMOV Bakhtiyar	Consultant
		GRIESE Karlsson	Consultant, RRE
13 July 2005	*Baku-Shamakhi Road*	*RVC, EI-S, MP, VG, NA, ER*	*Consultant Team*
14 July 2005	*Alyat-Astara Road*	*EBINGER Jane*	*-as above-*
		ISHIHARA Satoshi	*-as above-*
		RVC, EI-S, MP, NA, ER	*Consultant Team*
15 July 2005	ARS – ESS	ALLAZOV Kamran	Head, Ecology & Safety Sector
	ARS	HAJIYEV Vagif	Head, Road Maintenance Department
	MENR	ALLAHVERDI Oglu	Director, Ecological
		RAFIYEV Ramiz Mamed	Deputy Director, Ecocentre
	Iranian consultant's office	ESMAEIL Noori	Official Representative, Passillo Consulting Engineers
		ALIYEV Elxan	
18 July 2005	ARS	VALEHOV Hijran	-as above-
	State Committee for Land & Cartography	MAMMADOV Garib Sabir.	Head, Cartography & Land Committee
		NAGIYEV Azad S	Deputy Head, Cartography & Land Committee
	MENR – SEE	KHALILOV Gahraman Mammad	Director, State Expertise Department
		RZAYEV Ramiz	Deputy Director, State Expertise Department
		ASSLANOV Azer	Head, State Expertise Unit
	World Bank	ISHIHARA Satoshi	-as above-
22 July 2005	Land Committee	QULIYEV Mirrafiq	Head, Department of Land Conservation
		ABBASOV Faruq	Leading Advisor on Management of Land Marketing
28 July 2005	ARS	VALEHOV Hijran	-as above-
29 July 2005		KARIMOV Bakhtiyar	Consultant

Date	Location	Person	Position
2 August 2005	*Baku-Shamakhi Road*	*RVC, NA, NAs, ER*	*Consultant Team*
	Local Executive Power, Shamakhi	MAMMEDOV, Natig Nasir	Head of Local Executive Power
3 August 2005	ARS – Highway II PIU	GOYADEV Adil	Director
	ARS Alyat-Qazimammad PIU	IBRAHIMOV Valeh	Director
	ARS	VALEHOV Hijran	-as above-
5 August 2005	*Alyat-Astara Road*	*RVC, CC*	*Consultant Team*
8 August 2005	Jalilabad teashop		Local businessman
	Jalilabad private timber yard		Employee
9 August 2005	Local Executive Power, Lenkeran City	NAGDAILYEV Zeynal S	Head of Local Executive Power
		DASHADOV Ilgar	First Deputy of Local Executive Power
		13 participants	
	Local Executive Power, Astara	ABBASOV Oktay	Head of Local Executive Power
		SIRINOV Xanverdi	Head, Socio-Economic Department
		12 participants	
10 August 2005	Local Executive Power, Masally	NURIYEV Isa	Deputy Head of Socio-Economic Department
		19 participants	
	Local Executive Power, Jalilabad	QARASHOV Taleh	Head of Local Executive Power
		ZEYNALOV Elayalik	Deputy Head of Social Department
		MUSTAFAYEV Bagosj	Head Representative of Municipalities Association
		21 participants	
11 August 2005	Local Executive Power, Bilasuvar	KAZIMOV Akif	First Deputy of Local Executive Power
		RUSTAMOV Nabi	Head of Socio-Economic Department
		27 participants	
	Local Executive Power, Salyan	BASHIROV Rasim	Head of Local Executive Power
		HUSEYNOV Itbar	First Deputy of Local Executive Power
		15 participants	
12 August 2005	World Bank	EBINGER Jane	- as above-
	MENR – SEE	RZAYEV Ramiz *(with World Bank and team)*	- as above-
15 August 2005	MENR	SALMANOV Sadag	Senior Specialist, Forest Development Department
15 August 2005	Azerbaijan Centre for Environmental Projects	ISKENDEROV Elchin	Director

Date	Location	Person	Position
	ARS – ESS	ALLAZOV Kamran	- as above -
18 August 2005	ARS – ESS	ALLAZOV Kamran	- as above -
19 August 2005	MENR – SEE	RZAYEV Ramiz	- as above-
22 August 2005	Local Executive Power, Maraza	JABIYEV Alisafa	Head of Local Executive Power
		12 participants	
22 August 2005	Local Executive Power, Shamakhi	VAHIDOV Agamustafa	Deputy Head of Local Executive Power
		22 participants	
23 August 2005	World Bank	ISHIHARA Satoshi	-as above-
24 August 2005	Local Executive Power, Salyan	HUSEYNOV Itbar	First Deputy of Local Executive Power
	Local Executive Power, Lenkeran City	DASHADOV Ilgar	First Deputy of Local Executive Power
		HUSEYNOV Ilham	Second Deputy of Local Executive Power
		QADASOV Ardiv	Architect
	World Bank	ISHIHARA Satoshi	- as above -
25 August 2005	World Bank	ISHIHARA Satoshi	- as above -
26 August 2005	Scott Wilson Project Office	GOYADEV Adil	Director, ARS Highway II PIU
		ALLAZOV Kamran	Head, ESS, ARS
20 September 2005	ARS – Highway II PIU	GOYADEV Adil	Director
	ARS	VALEHOV Hijran	Head, Investment Division
	ARS	MAMMADOV Qabil	Head of Land Acquisition Department
	ARS	HAJIYEV Vagif	Head, Road Maintenance Department
23 September 2005	Local Executive Power, Alyat	ALIYEV Murvat	Representative, Local Executive Power
		29 participants	
26 September 2005	World Bank	ISHIHARA Satoshi	- as above -
27 September 2005	World Bank	ISHIHARA Satoshi	- as above -
		LE BER Olivier	Senior Transport Specialist (Europe & Central Asia)
28 September 2005	ARS – Highway II PIU	MAMMADOV Qabil *(with World Bank and team)*	Head of Land Acquisition Department
29 September 2005	Cabinet of Ministers	FATALIYEV Nail S *(with World Bank & ARS ESS)*	Deputy Head, Department of Economic and Finance Credit Policy
	ARS – Highway II PIU	GOYADEV Adil	Director
	ARS	MAMMADOV Qabil *(with World Bank)*	Head of Land Acquisition Department
	Ministry of Economic	SADIGOV Shahin*(with*	Director, Economic Policy

Date	Location	Person	Position
	Development	*World Bank)*	and Forecasting Department

APPENDIX K: TERMS OF REFERENCE FOR THE PREPARATION OF SAFEGUARD REPORTS FOR THE PROPOSED HIGHWAY III PROJECT ROADS

I INTRODUCTION

The Government of Azerbaijan has received a loan from the International Bank for Reconstruction and Development (IBRD) and intends to apply part of the funds for the preparation of the safeguard reports required in accordance with the World Bank Safeguard Policies for four laning of Baku – Shamakhi – Muganli road, to be funded under the credit of International Development Association. The Baku – Shamakhi – Muganli section is a 124 km segment located between km 10 and km 134 of the Baku – Shamakhi – Yevlakh road, which is currently under rehabilitation through a separate contract.

II OBJECTIVE OF THE STUDY

The objective of the study is to: (i) update the Regional Environmental Review and Environmental Management Framework prepared for the Highway II Project, to reflect the proposed widening of the Baku-Shamakhi road; (ii) update the Resettlement Policy Framework (RPF) prepared for the Highway II Project; (iii) prepare site-specific Environmental Management Plan for the first year work programme (approximately 30 km of the Baku – Shamakhi – Muganli road); (iv) advise the Design Consultant and ARS regarding the potential environmental and social impacts of the road rehabilitation programme for the first year.

III SCOPE OF SERVICES REQUESTED

The consultant is to perform the following tasks:

1. Update of Environmental Studies

The consultant will update the environmental reports specified above required to address the environmental impacts and environmental management issues associated with the construction of the four laning of the Baku-Shamakhi-Muganli road. Environmental reports will address the needs of applicable laws and regulations of the Government of Azerbaijan including the following World Bank requirements:

- Operational Policy on Environmental Assessment (OP 4.01, January 1999)
- Operational Policy on Physical Cultural Resources (OP 4.11, July 2006)
- Disclosure Policy (BP 17.50 last revised March 2005)

A full listing of the Bank's safeguards policies can be accessed on:

http://lnweb18.worldbank.org/ESSD/sdvext.nsf/52ByDocName/SafeguardPolicies

(a) Update of the Regional Environmental Review and Environmental Management Framework prepared for the Highway II Project

The RER and EMF prepared for the Highway II Project cover the area of the original 2 lane Baku-Shamakhi road (the study corridor was defined as a strip of up to 1km width either side of the road). The RER and EMF need to be updated to include proposed widening of the Baku-Shamakhi road to four lanes.

(b) Preparation of site specific Environmental Management Plan for the first year work programme

The consultant will prepare site specific Environmental Management Plan for the section of Baku –Shamakhi road identified for the first year work programme.

The EMP Report should examine the project's potential negative and positive environmental impacts and recommend any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and to improve environmental performance. The EMP Report should cover the following:

(iii) **Executive Summary and Conclusions**
(iv) **Policy, Legal and Administrative Framework** - Discuss the policy, legal and administrative framework and their requirements (e.g. Government of Azerbaijan, World Bank, relevant international environmental agreements, etc).
(v) **Project Description** – describe the proposed project including its location, scope, and activities associated with its design, construction and operation. Identify any offsite investments.
(vi) **Baseline Data** – assemble the existing data, evaluate and present baseline data on the relevant environmental characteristics of the study area including the physical, biological, cultural property and socio-economic conditions. Any changes anticipated before the project commences should also be identified.
(vii) **Environmental Impacts** – determine and quantify where possible the significant positive and negative impacts, direct and indirect impacts, and immediate and long term impacts associated with the project and any alternate design options. Identify those that are unavoidable or irreversible. Identify mitigation measures and explore opportunities for environmental enhancement. State the basis for selection of the proposed design. Characterize the extent and quality of available data.
(viii) **Analysis of Alternatives to the Proposed Project -** include a systematic analysis of feasible alternatives to meet the project objectives. This analysis may suggest designs that are sounder from an environmental perspective than the originally proposed project. Include the "no action" alternative (not constructing the project) to demonstrate environmental conditions without it. Describe how the alternatives compare in terms of: potential environmental impacts; feasibility of mitigating impacts; capital and operating costs; suitability under local conditions (e.g., skill requirements, political acceptability, public cooperation, availability of parts, level of technology); and institutional, training, and monitoring requirements.
(ix) **Environmental Management Plan** - see EMP outline below
(x) **Appendices** – (i) list of environmental Report preparers, (ii) references, (iii) record of interagency and consultation meetings, (iv) supporting tables, (v) list of associated reports.

Specifically, the EMP will identify the mitigation, monitoring and institutional measures to eliminate adverse environmental or social impacts, offset them, or reduce them to acceptable levels. Capability of the implementing agency to implement the EMP shall be assessed. If needed the recommendations should be provided regarding the strengthening of the capability of the Implementing Agency to implement the EMP.

The EMP should include:

(i) **Mitigation Plan** – identify feasible and cost effective measures to reduce potentially significant adverse environmental impacts to acceptable levels. Compensatory measures should also be addressed and links should be provided to any other

mitigation plans. Institutional arrangements for the implementation of this plan should be defined.

(ii) **Monitoring Plan** – identify and describe the monitoring measures that will be employed to track the effectiveness of the Mitigation Plan. Describe the environmental parameters to be monitored, the monitoring methods, sampling locations, frequency, costs, detection limits and thresholds that will signal corrective actions. Outline the monitoring and reporting procedures. Institutional arrangements for the implementation of this plan should be defined.

(iii) **Implementation Schedule and Cost Estimates** – for (i) to (iii) above, provide an implementation schedule and a cost estimate (including the source of funds) and show the integration of these elements with overall project implementation plans.

(d) Coordination, Consultation and Disclosure

Azerroadservice OJC will be responsible overall for the preparation of the relevant environmental reports and will be supported by the Consultant in these activities. Azerroadservice OJC, with Consultant's assistance, will consult with groups affected by the proposed project, and with local NGOs, on the environmental and social aspects of the proposal, including roadside activities and encroachment into ROW that may obstruct the implementation of the proposed project. The RER and EMF should be consulted with these groups in two rounds: (i) first round will be to consult this Terms of Reference to get feedback of the stakeholders on the scope and depth; and (ii) the second round should be carried out once the draft Reports have been prepared. A separate series of public consultations should be conducted once the draft EMP Report is available. The TOR and draft reports should be available on the relevant web-site and in a public place accessible to affected groups and local NGOs.

Relevant materials will be provided to affected groups in a timely manner prior to consultations and in a form and language that is understandable and accessible to the groups being consulted. A record should be maintained by the Consultant of the public consultations. These records should indicate: (a) any means other than consultations (e.g. surveys) that have been used to seek the views of affected stakeholders, (b) the date and location of consultation meetings, (c) a list of attendees, their affiliation and address/ telephone number, and (d) summary minutes including issues raised and clarification provided.

2. Resettlement Policy Framework (RPF)
Introduction

The Resettlement Policy Framework (RPF) has been prepared and approved by the Bank when the Highway 2 project was prepared. The RPF sets out policies and principles for land acquisition that result from the construction of the new highway between Alat and Astara (M3). Since the RPF was prepared primarily for M3 road and Azeri legal framework has since been under revision, this RPF needs to be updated in line with the issues directly relevant to project roads to be financed under the Project.

Objective

The objective of the assignment is to update Resettlement Policy Framework (RPF) to assist the "Azerroadservice" OJC in the acquisition of private land necessary for the project.

Scope of Work

The Consultant should carry out the following tasks.

- Review and update the existing Resettlement Policy Framework (RPF).

- The Consultant should update the RPF, which is developed primarily to address negative social impacts due to the construction of Alat – Astara highway (M3), to set out policies and procedures relevant to project roads. The updated RPF should relate to the Baku – Shamakhi – Muganli road and significantly simplify the existing RPF, and the main text should not exceed 20 pages.
- It is expected that almost all, if any, impact due to the project is similar to what is addressed in the existing RPF, and that only minor revision and updating are necessary. Nonetheless, the Consultant should conduct roadside inspection and identify any potential impact that is not addressed in the RPF and include measures to address them in the updated RPF. The updated RPF should also include a brief description of project sites and expected impact.
- The final draft RPF should be consulted with the project affected people. The Consultant should assist the "Azerroadservice" OJC in conducting the public consultation in project areas. Public consultation should be conducted in each of the three rayons in accordance with the World Bank Guidelines.

3 REPORTING

Description	**Reporting Time**
Consultant's Work plan and time schedule	In advance of starting the work programme
Monthly Progress reports	Within one week of month end
Updated Final Draft Regional Environmental Review	by 25th February 2009
Updated Final Draft Environmental Management Framework	by 25th February 2009
Environmental Management Plans	12 weeks for the first year programme EMPs
Updated Final Draft Resettlement Policy Framework	by 25th February 2009
Public Consultations For RER, EMF and RPF For EMP	1st round (TOR) by Feb 21 , 2009 2nd round (draft RER, EMF and RPF) by timing TBD timing TBD

During the preparation of the studies the Consultant must keep the Client, Azerroadservice OJC and the Bank, informed of progress and of any issues arising to ensure their timely resolution. When finalized, copies of all required documents shall be submitted in English and

Azeri (7 paper copies in each language and one submission in electronic format). To expedite the review and comments, all reports will be sent electronically to the Bank simultaneously.

V SCHEDULE AND RESOURCES

The Client (Azerroadservice OJC) will provide free of charge all previous relevant studies that were carried out to ensure the timely completion of this assignment.

VI TEAM COMPOSITION

The Consultant shall propose and justify the range of disciplines to be included in the core project team and the complementary skills of short-term specialists. Inputs by foreign and local specialists should be clearly indicated. The Consultant shall name individuals to participate in specified roles within the project team and provide full curriculum vitae and any other information considered relevant.

The Consultant is expected to have: (i) specific experience in the preparation of environmental assessment and management plans in accordance with internationally accepted procedures and in particular with knowledge of the policies and procedures of the World Bank; and (ii) significant knowledge on public consultations for major infrastructure projects, in particular for highway design and construction.

APPENDIX L: KEY BIBLIOGRAPHY

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