**EXECUTIVE SUMMARY**

**Background:**

The Republic of Kazakhstan (RK) has signed a loan agreement of USD 2.125 billion with World Bank (WB) to help finance road sections in South-Kazakhstan and Kyzylorda Oblasts (1,062 km) as part South West Roads Project: Western Europe –Western China International Transit Corridor (Loan No. 7681, CAREC 1b) in April, 2009. The Committee for Roads (CR) under the Ministry of Transport and Communications (MoTC) is the project executing agency. The objective of the South-West Roads Project is to develop an efficient, safe, affordable, and environmentally sustainable road transport system that forms a part of the south-west corridor traversing Aktobe, Kyzylorda, South-Kazakhstan, Zhambyl and Almaty Oblasts from Western Europe to Western China. The World Bank financed road reconstruction projects have already commenced in Kyzylorda Oblast in March 2010, and in South-Kazakhstan Oblast (SKO) in February 2011.

Initially, in 2008, the road section at Temirlan village of Ordabasy district has been designed as an elevated 2.3 km road overpass through the central street of the village. However, in January 2009, public consultations and social surveys showed great opposition to such design from residents and administration of the village. As a result, an entirely new 15 km by-pass road with a bridge over Arys River has been designed to the east of the village bypassing the community completely. In relation to this, the present Environmental Impact Assessment (EIA) report has been prepared.

The construction of the project is scheduled to commence in first quarter of 2012 and is to be implemented over 23 months, with 20 months for Arys river bridge construction.

**Environmental Conditions:**

Chapter 5 describes baseline characteristics of the project area. The proposed road alignment lies in a softly undulating to flat piedmont plain with Arys valley as the main morphological feature. The climate is continental, with hot and dry summers and cool winters, when most of the precipitation occurs. The surface drainage network of the area is dominated by the roughly East-West flowing Arys River, which forms a wide valley with steep Southern slope, as well as irrigation canals and seasonal, mostly dry ravines. The elevations of the southern start of the alignment and the northern end of the alignment are approximately 325 meters, and approximately 305 meters at the Arys River crossing.

The project site and alignment generally can be divided into 4 distinct zones:

**Zone 1:** Section from PK 0 to PK 85 the alignment crosses agricultural and grazing lands and 2 irrigation canals. Landscape here is undulating plain with several dry ravines, and steppe vegetation.

**Zone 2:** Section from PK 85 to PK 95 the alignment crosses Kazhymukan settlement located to the east of Temirlan. The alignment crosses a street in this settlement, with 20 households (houses) being affected and acquired for interchange construction.

**Zone 3:** Section from PK 95 to PK 107 is a valley of Arys river. Here alignment crosses three canals: Kaznaaryk, Kurtay, and emergency discharge canal (from Kurtay), and Arys river (1,2 km). Landscape at this section is presented by typical riparian habitat, with trees and bushes, gravel, pebble and sandy soils. On the Southern side of Arys, the left bank is formed by steep, barren cliffs (up to 25 m high) which have a high potential for slope instabilities and erosion.

**Zone 4:** Section from PK 107 up to the end at PK 149 the alignment crosses empty land, with sparse vegetation due to lack of water and wind erosion. Here landscape is semi-arid steppe with slight upwards gradient towards the end of the alignment.

**Impacts:**

Chapter 6 of the main text discusses the main impacts during construction and operation periods.

The following key sensitive receptors were identified for the Temirlan by-pass project:

1. Temirlan and Kazhymukan settlement residents
2. Residents living close to Interchange 2 (crossing of Kazhymukan village)
3. Agriculture workers
4. Local and transit road users
5. Livestock
6. Arys riverbed and aquatic life
7. Irrigation canals
8. Tugai forests in Arys river valley
9. Flora and Fauna in entire project corridor

Some of the most important potential negative impacts during construction period include: (i) *Air pollution* (pollutant emissions from vehicles and construction machinery; dust generation, which may impact Kazhymukan village); (ii) *noise and vibration* (construction equipment, machinery, haul trucks, plants, generators; which may impact Kazhymukan village); (iii) *impact on water resources* (potential pollution of Arys river and canals; potential ground water contamination; siltation, change of watercourse regimes, damage to banks); (iv) *impact on soil* (potential leaks; household and production wastes; soil erosion); (v) *land encroachment* (access and hauling roads; temporary facilities; construction sites; private and other land); (vi) *impact on flora and fauna* (damage to topsoil vegetation; cutting of trees (2,065 pcs.); potential damage to wild animal habitats; accidental killing of domestic and wild animals; (vii) *social impacts* (land acquisition and resettlement (20 households); community tension; damage to existing roads; traffic interruption and safety; sanitary and health concerns; potential damage and interruption of services and utilities).

Impacts during operation period will/may include: (i) *air pollution* (increase in pollutants emission; increase in noise and vibration at certain locations: in particular Kazhymukan village); (ii) *water pollution* (runoff from road surface; accidental leaks; and potential impacts on Arys River (iii) *impact on soil* (contamination level increase; potential leaks; improper remediation and restoration; littering); (iv) *impact on flora and fauna* (slowing of plant growth due to environment pollution; accidental hitting and killing livestock and wild animals).

**Mitigation:**

Mitigation measures of most of the impacts rely on capability of contractor to accept, understand, and implement good housekeeping and proper organization, management and allocation of resources for environmental management. Therefore, Environmental Management Plan and Environmental Monitoring Plan in Chapter 8 shall be incorporated into contractual documentation and implemented into project supervision and management plans.

The main focus areas for mitigation should include: *liaise with local residents* (to accept, review, and address any complaints regarding social or other impacts); *waste management* (waste management plan to be developed immediately after the works start); *wastewater management* (latrines, household canalization utilities and septic tanks); *dust suppression* (where and when necessary, by water spraying or covering); *noise mitigation particularly at Kazhymukan village* (limiting work hours from 8 to 18.00; maintenance of equipment);  *topsoil management* (stack removed topsoil at designated places; restore all affected sites); *limit pollution of Arys river and canals* (prevent pollution, siltation with debris, change of water regimes); *protection of fauna* (restrict killing, hunting or injuring animals); *protection of agriculture* (carefully monitor construction activities near agricultural lands and irrigation system); *protection of archaeological mounds* (no works within 50 m from mounds and no works shall be commenced until clearance from Committee of Culture and its Departments is received. These mounds shall undergo a complete excavation, archeological study and recording.  Items of significance shall be retained for archiving or made available to a museum); *traffic management* (traffic management plan to be developed at start of works); *air emission control* (monitor and manage emissions of exhaust gases).

It also should be pointed out that along a 1,000 km section of M32 large scale construction works for the rehabilitation, reconstruction and the construction of new bypass sections has been ongoing for 2 years (currently >15 lots are under construction). The works are being implemented under supervision of a Project Management Consultant (PMC) who has a team of environmental and social specialists in the country that closely monitor and supervise the implementation of environmental due diligence on the construction sites. While some environmental issues remain to be improved in the ongoing construction, environmental compliance is generally satisfactory, as has been determined by several performance assessment missions carried out by the World Bank team. The same structure and approach will be used for the Temirlan bypass.

**Benefits to Temirlan community**

Although there will be a range of impacts to the areas close to the alignment, it should be pointed out that there will be significant benefits to the community within Temirlan. Traffic flows will reduce significantly and noise disturbance will reduce and air quality will improve. There is likely to be significantly less traffic congestion and general disturbance. These benefits will accrue to the majority of the existing Temirlan community.

**Land acquisition and resettlement**

As per Resettlement Action Plan that is being prepared by resettlement specialists, total area of permanently required land is 103.762 ha - 61 land plots. As of date, 52 land plots have been acquired in accordance with Resettlement Policy Framework for WE-WC project. Temporary land acquisition for construction period will be 26.5 hа.

**Public consultations**

Four public consultations were held at the Temirlan village to determine the views of affected persons and various stakeholders. All the participants believe that the project will be responding to ensuring safe and cost effective passenger and freight transportation between the regions and they will be benefitted directly or indirectly. The final draft ESIA (this document) will be disclosed to the affected stakeholders and their views and input taken into account in the final version for project implementation.