

East -West Roads Project

Balkhash- Burylbaital section (KM 1855 – KM 2152)

Environmental and Social Impact Assessment (ESIA) Environmental and Social Management Plan (ESMP)

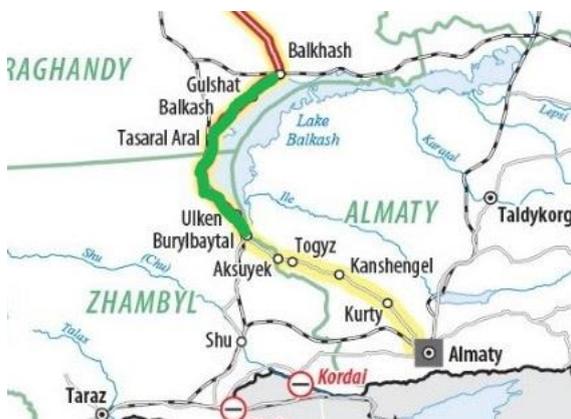
EXECUTIVE SUMMARY

Background

The Committee for Roads within the Ministry of Investment and Development (MID) of the Republic of Kazakhstan is currently implementing the Centre-South Road Reconstruction Project (CSRP) which covers the road corridor between Astana and Almaty. The proposed project, Balkhash-Burylbaital section is a 297 km section of CSRP corridor which passes through the territory of Karaganda and Zhambyl oblasts (Map 1), will be considered for financing under the East-West Road Project (EWRP) currently proposed for restructuring.

In accordance with the requirements of the Government of Kazakhstan, the Environmental and Social Impact Assessment (ESIA) report was prepared for the 297 km road (6 sections) from Balkhash to Burylbaital (1855-2152 km). A draft detailed Environmental and Social Management Plan for these 6 sections have been cleared and disclosed in country and on the World Bank external website on June 1, 2017.

Both the CSRP and the EWRP projects are assigned an environmental Category «A». Accordingly, the ESIA report structure has been prepared as suggested by the World Bank's operational policies and related guidelines triggering policies OP 4.01 Environmental Assessment, and OP 4.11 Physical Cultural Resources. Based on the impact analysis addressed in the original ESIA, the current ESMP for the noted road sections acknowledges the proximity of the sensitive natural habitats and measures relevant to the OP 4.04 Natural Habitat and is now triggered; it also considers and follows the WBG EHS guidelines. This ESMP work has been carried out by the Environmental Team experts from «KazdorNII» BJSC (Astana) together with the Appointed Sub-Consultant of «KazCEP» LLP in accordance with the Terms of Reference agreed with the Committee for Roads.



Map 1. Road section from Balkhash to Burylbaital as a part of Astana- Almaty road

Component 1 finances construction works including the financing of reconstruction of 297 km of existing road - Balkhash – Burylbaital road section (1855-2152). Apart from minor deviations to improve geometry or bypass villages and towns, the improved road will largely follow the existing alignment. However, the original right of way of 40 m will be widened to 70 m along the entire length of the road, and the road itself will become four lanes, instead of two. In addition, it is planned to construct an associated infrastructure which will include bus shelters, pedestrian crossings, interchanges, bridges, drainage structures, and road safety structures.

Balkhash – Burylbaital road section (1855-2152) has been divided into 6 design lots as described in the table below

No. of section	Section/Lot	Length from and to, Km	Length of each section, km	Design completion date	Road section on oblasts
1	«Balkhash-Gulshat»	1855-1905	50	September 2016	Karaganda
2	«Gulshat-Tasaral»	1905-1955	50	September 2016	
3	«Tasaral-Saryshagan»	1955-2005	50	November 2016	
4	«Saryshagan-Mynaral»	2005-2069	64	July 2016	Zhambyl
5	«Mynaral-Ulken»	2069-2105	36	September 2016	
6	«Ulken-Burylbaital»	2105-2152	47	April 2016	
	Total:		297		

Component 1 also includes financing of consulting services for engineering supervision of civil works. Land acquisition and road design costs will be financed separately by the state budget.

Component 2 – Traffic Safety and Development (*Preliminary data: total as per Feasibility Study is US\$1.1 million, IBRD US\$935 thousand*)

This component will identify and prioritize actions to improve road safety, through various types of audits and information databases.

Component 3: Project Management and Construction Supervision (*Preliminary data: total as per Feasibility Study is US\$22 million, IBRD US\$19 million*)

Relevant Project Management (PMC) and Construction Supervision (CSC) Consultants will be involved under this Component. PMC will assist the Implementing Agency in project implementation, monitoring, procurement process, tenders and preparation of necessary documents in accordance with the Bank’s policy. CSC will provide quality control services for the performed works, the applied materials and in coordination of the reconstruction.

The purpose and the scope of the ESMP

This ESMP builds up on the ESIA report prepared and approved by the World Bank in 2015 and also incorporates issues that came up during the additional analysis, in particular, the proximity of the sensitive natural habitats and relevant mitigation measures, as well as the requirements of the World Bank Environment, Health and Safety (EHS) guidelines. The ESMP mainly describes the baseline environmental and social conditions, potential negative impacts from the proposed activities and the agreed environmental and social mitigation and monitoring measures. In addition, it outlines the structure of environmental responsibilities and reporting and the requirements for public consultations and disclosure. The minutes of the public consultations with stakeholders that were conducted in several locations along the project alignment in April 2017 are included as attachments of the main report.

Triggered World Bank Safeguard Policies

Environmental Assessment OP/BP 4.01. Potential negative impacts associated with construction activities will include temporary loss of the top soil and land disturbance during the operation of the borrow pits, generation of waste (construction waste, household waste and wastewater from construction camps), soil erosion dust, noise and vibration. There is also a potential impact on groundwater and surface water from excessive turbidity and siltation, accidental spills of fuel and lubricants from the trucks and construction equipment. Moreover, there is a potential risk of disruption of natural habitats and ecosystems by poor construction management.

Natural Habitats OP/BP 4.04. The project impact on flora and fauna is expected to be insignificant. Birds and animals are generally found far away from the existing alignment. There are no regular or seasonal mass migrations of animals observed in the project area. However, a small section of the alignment (27 km) runs along the border of Zhusandaly State Nature Protection Area which includes various categories of protected zones including Strict Nature Reserves and is a natural habitat for several vulnerable species. The project is not expected to have significant adverse impacts on critical natural habitat.

Physical Cultural Resources (PCR) OP/BP 4.11. This OP/BP is triggered because several PCR objects have been found in the construction area located within the distance of 200 meters from the road. Therefore, these sites might directly be affected by the project. The Action Plan for the Research and Preservation of Archaeological Sites was prepared by the Client and mitigation measures acknowledged in the ESMP.

Involuntary Resettlement OP/BP 4.12. This policy covers the direct economic and social impacts caused by the involuntary land acquisition resulting in (i) relocation or loss of shelter; (ii) loss of assets or access to assets; or (iii) loss of income sources or means of livelihood, forced displacement of persons affected; or the involuntary restriction of access to legally designated parks and protected areas resulting in adverse social impacts. Resettlement Action Plan (RAP) has been prepared for this section.

A Resettlement Policy Framework (RPF) is a stand-alone-document prepared by “KazdorNII” JSC and approved by the Committee for Roads (MID). Site specific RAP will be finalized upon completion of the detailed design of the road section according to the completed list of properties, businesses and the people affected by the road construction.

Baseline Environment and Social Conditions

The project corridor runs through the Kazakh Uplands area and along the northern and eastern shore of the Lake Balkhash. The Climate varies from moderate in the West, to arid in the East, with clear continental character, cold winters and hot, dry summers, precipitation occurring in relatively short periods in spring and fall. Surface waters in the project area, except the Lake Balkhash, are mainly seasonal springs fed by the snow melt and rains. The groundwater table is high due to the proximity of the Lake Balkhash. There are no rivers, adjacent to international watercourses.

The road runs through the desert and semi-desert ecosystems dominated by drought resistant species of plants and animals. None of these species are vulnerable, endangered or critically endangered according to IUCN Red List of Threatened Species and there are no critical natural habitats identified in the project area of influence. A small section of the road, approximately 27 km in Moiynkum District of Zhambul oblast, runs along the border of Zhusandaly State Nature Protection Area. This area includes various categories of protected areas including the IUCN Cat Ia Strict Nature Reserve, which is, however, located far from the project territory. Most of the area of Zhusandaly is a protected area with a sustainable use of natural resources (IUCN Cat VI) where low-level non-industrial use of natural resources is permitted.

Most of the settlements located along the road corridor are involved in human activity traditional for this area, such as cattle-breeding and farming. There is irrigated agriculture along the road section from Balkhash town to Burylbaital village. The entire project corridor shows anthropogenic impact mainly in forms of animal husbandry and agriculture. The project does not provide any transformation of pristine, untouched habitats. However, settlements that are located close to the road alignment may require installation of noise protection screens.

As a result of the archaeological survey conducted by the State Institute for Archaeology, only one burial mound (PCR) was identified. It is called Kashkan-Teniz and is located 6 km to the North from the proposed route.

Local Population and Social and Economic Situation

For all settlements situated along the proposed road corridor section, impacts have been evaluated for land use, road infrastructure, water supply network, power and gas supply, health, education, culture and sport facilities, as well as industry and business.

During site visits and meetings with local residents, no impact on minority groups has been mentioned.

The principal negative impacts are:

- The proposed road can be a potential obstacle for farmer's machinery and cattle movements,
- In some locations, the proposed road can be a potential obstacle for reaching schools, stores and other local facilities,
- During construction, water, electricity and gas supplies to the inhabitants and farms might be affected by the project,
- During construction drainage and irrigation system, the fields can be affected potentially,
- Influx of workers,
- Land acquisition and involuntary resettlement may cause adverse impacts on Project Affected Persons (PAPs), particularly if the process is not managed properly,
- During the construction, some restrictions to land use of PAPs might occur,

- Land acquisition and construction of the road may negatively impact on the livelihoods of PAPs in terms of agricultural production

The principal positive impacts are:

- The new road will provide a better connection with the rest of the districts, the regions and the country.
- The widened dual carriageway will revive local economy, as it will facilitate to the construction of new stores, restaurants, bars, petrol stations, local grocery stores.

Impacts and their mitigation

Climate and air quality. Impacts on air quality and climate will include air emissions from the construction equipment and road plants, and generation of dust from moving vehicles and equipment. The impacts will be mitigated by the good equipment maintenance practices and locating the plants away from the residential and protected areas. During the dry season the roads will be watered for dust suppression. The construction contractors will develop the Environmental Monitoring Program required by the RoK Environmental Code. Parameters to be monitored following the World Bank EHS Guidelines including nitrogen oxides, inorganic dust, sulfur oxide, carbon, PM10, PM2.5 and carbon monoxide.

Noise and vibration. Impact of noise and vibration is expected to be insignificant. It will be generated by the construction machinery and equipment, cement-concrete and asphalt concrete plants, crushers. The contractors will implement regular noise and vibration assessments and provide workers with the noise protection PPE. The noise from the moving vehicles will be reduced by implementing speed control measures. Equipment and plants maintenance is another measure to reduce noise and vibration.

Impacts on water. The road crosses two rivers, which are usually dry in the summer. Two bridges and more than 200 culverts will be constructed along the alignment. During construction, the water for technical needs will be taken directly from the Lake Balkhash. Thus, potential impacts include pollution with fuel and lubricant through a runoff from the construction sites and at the water intake points. Other impacts include ground water pollution at the borrow pits and pollution of the aquifers by the sewage water from the construction camps.

The parking areas near water will be equipped with the proper lining which will be removed after construction is over. The water for technical needs will be taken from the designated intake areas also equipped with containment lining and fenced. Drinking water will be delivered by the designated contractors from the existing water supply system. Sewage will be removed from the construction camps by designated contractors.

Impacts on land. The project includes the use of twenty-six new borrow pits. Excavation of borrow pits is one of the major factors of the adverse environmental impacts. This includes a temporary loss of the topsoil, impacts on the landscape, impacts on the ground waters, possible impacts on natural habitats. Explosions and noise from the moving vehicles may scare away the animals and birds.

In order to avoid negative environmental consequences, any use of unauthorized borrow pits will be forbidden. The project design documentation describes the coordinates of the designated borrow pits. These locations have been approved by the State agencies responsible for the safety of land resources. Contractors will perform land reclamation to return the land to its original condition including the restitution of slopes, backfilling and re-vegetation.

Impacts on the ecosystems, flora and fauna include impacts on vegetation along the alignment and the disturbance of fauna in the area of influence of the construction works. Though the impacts on migratory species is expected to be minimal, The Committee for Roads and their Contractors will consult with the international experts on migratory species when constructing crossing points and underpasses. Illegal hunting around the project area will be prohibited. The contractors will be informed about the proximity of the Zhusandaly National Protected Area and security measures will be implemented to eliminate construction activities (including borrow pits) and the movement of transport within the boundaries of the protected area. Since the road will run on the existing road, it is expected not to have a considerable negative impact on rare or endangered species as well as critical natural habitats.

Impacts on Physical Cultural Resources are not expected to be significant since no PCRs were identified in close proximity to the road. However, Contractors shall observe the appropriate procedures in case of chance finds. In case of chance finds, the works will be immediately stopped and staff of the Department of Cultural Heritage and Art at the Ministry of Culture and Sports will be invited to conduct a further investigation.

Traffic Safety. With an expected increase in traffic during the construction and operation of the road, the traffic accident rate may also increase, specifically at the road sections, located close to settlements and crossings with secondary and the bypass roads. The impact will be mitigated by the speed limit enforcement, correct road marking and signage, provision of the underpasses to the cattle and ship, and use of the construction trucks only at the designated secondary roads.

Occupational Health and Safety (OHS) issues include a wide range of various risks including traffic accidents, injuries resulted from the strokes by moving equipment, falls from height, health issues related to hygiene on campus and other. Contractors will develop their site-specific OHS plans that will reflect site hazards and associated risks in terms of probability and significance of harm. This plan will prioritize the mitigation measures and reduce the risk to the level as low as reasonably practicable. Contractors will also provide training events to raise the awareness on the HIV/ AIDS and implement strict security measures prohibiting alcohol and trespassers in the camp.

Detailed mitigation measures and the relevant monitoring activities are presented in the relevant Environmental mitigation plan and the environmental monitoring management plan (tables below).

Land acquisition and Resettlement

The proposed Project entails land acquisition and associated impacts, as is to be expected in a highway project for the potential bypasses and alignments. The projected road expansion from 2 to 4 lane will go along the existing road alignment other than the proposed by-passes, thus number of people who will be affected by the project in connection to the existing road rehabilitation and reconstruction will be minimal.

On this road section state lands and rented lands fall under acquisition, including the temporary allotment. Landowners of the rented lands as compensation are proposed alternative land sections instead of acquiring land plots. Private lands are not subject to acquisition for reconstruction of road. 1433.772 ha and 942.028 ha accordingly are subject to permanent and temporary allotment for reconstruction of road. In addition, landowners of the acquired lands on these section prefer to get alternative land sections instead of acquired and according to the acting legislation of the RoK the local executive body provided them with alternative land plots of equivalent values. There are no built structures or properties in these lands and they are used only for grazing or pasture lands for cattle and other livestock. In this regard, budget of resettlement at the moment includes only expenses on processing of state acts to land.

On these road sections landowners gave written agreement for submission of equal alternative land sections. Submitting alternative land sections are similar (equivalent) with the similar productive value and are in a direct proximity. No of 23 landowners does not lose the income, the authorities submit the alternative land section to them, which are already determined and approved by landowners. In case if lands of the temporary allotment pass to the category of the constant allotment, then the rights to compensation as for the constant allotment will be guaranteed to them (compensation for the constant allotment or at will and approval of the owner submitted the alternative equivalent land sections paid). Furthermore, facilities (cafes, stores, houses etc.) including illegal constructions are not subject to project impact area.

Reconstruction of the road will require temporary land use for the entire period of construction to accommodate concentrated off-the-way borrows soil, construction camps, parking areas for road-building equipment and road-building materials warehousing sites. However, some of these impacts cannot be verified accurately at this stage. The main adverse impact would be loss of grazing lands and all the affected persons will be provided with alternative pasture lands in the same locality. Lands that required for construction of camps and borrow pits to be acquired from the State and/or obtained through rental agreement on a temporary basis by the contractor, in case of private land. It has been agreed that the contractor pays cash compensation for rental and materials at market rates for the lands acquired. All the lands acquired temporarily and on rental basis will be restored to original status at end of rental.

The RAP will specify the procedures to be followed by the Government of Kazakhstan through the Committee for Roads (CfR) and the Ministry of Investment and Development (MID), as well as actions that will be taken for proper resettlement and compensation payment to the Affected Persons. The document provides description of the land, households and businesses that will be affected by property acquisition. The RAP's objective is to mitigate the negative impacts of land acquisition and displacement, as well as to set out the entitlements of different categories of affected persons, paying particular attention to the most vulnerable ones.

The RAP will be applied to all affected persons regardless whether or not they have legally registered title to the land. The severity of the impact will however affect the nature of the compensation and other assistance provided. The RAP document will be the result of various phases of public hearings, data collection and analyses.

The RAP's requirements are binding to both the Government of Kazakhstan through the Committee for Roads and the Contractors involved in the Project implementation.

Labor influx and management of worker camps

The construction activities require both skilled and unskilled labor. As per the experience from previous road sections completed through Bank funds, contractors may accompany a sizable number of outside labor force (It is difficult to make an estimate on actual size/number required at this stage). Nevertheless, influx of labor will be kept minimal and project will employ local labor force as much as possible for construction works. The road sections completed under the previous Bank support shows that the labor camps established by the contractors are managed well and no reported incidence of adverse social impacts or disputes with local communities. A specific GRM will be established at local community and camp level to address issues related to labor camp management. "Good Practices" and experience of previous road construction projects will be replicated in managing labor camps and to minimize risks related to labor influx.

Public Hearings and Information Disclosure

The Client and the EIA Consultant have conducted public hearings on ESIA Terms of Reference between June and November 2015 in the residential areas along the project route including the villages of Aksu-Ayuly, Akshatau, Saryshagan Gulshat, Kurminka, Kashkanteniz and Shyganak and the city of Balkhash.

The second round of public consultations was organized on the draft ESIA during May and June 2016. The finalized ESIA was disclosed locally and in the Infoshop in June 2016. The latest public hearings were conducted on the draft ESMP between April 17 and April 21, 2017.

All materials were published at the Western Europe – Western China website (www.europe-china.kz) in Russian and English languages.

Conclusion

The proposed road reconstruction project will have low to moderate environmental and social impacts. With appropriate mitigation measures during the project construction phase, the impacts referred to in this report, will be appropriately managed and the risks will be reduced to the level as low as reasonably practicable. The improvement and widening of Balkhash – Burylbaital road section will bring social and economic benefits to the communities living along the alignment. Under the developed ESMP, the project will be acceptable ecologically in accordance with environmental legislation. The final RAP will be prepared and specify all mitigation measures to minimize potential social impacts and alternative solution for temporary restrictions to people and livelihood activities during constructions. A project specific Grievance Redress Mechanism (GRM) has been established and will be available to all affected persons to submit grievances, if any.

ENVIRONMENTAL MANAGEMENT PLAN: MONITORING AND INSTITUTIONAL RESPONSIBILITY: BALKHASH – BURLYBAITAL ROAD SECTION (km 1855-2152)

IMPACTs during construction stage, MITIGATION MEASURES, MONITORING AND RESPONSIBILITY

CATEGORY	POTENTIAL IMPACT	SIGNIFICANCE	LOCAL IMPACTS	MITIGATION	RESPONSIBILITY	MONITORING	RESPONSIBILITY	LONG TERM IMPACT
1. Air quality	Air pollution: emissions from construction machinery and equipment, emissions from cement-concrete, asphalt-concrete plants, crushers, etc. Dust: from construction activity borrow pits and crushers transportation of materials	Potentially significant, especially during dry season	Generally, in the main area of construction, the existing roads or bypass roads; Potential impact on adjacent villages Local impacts on sites in Karaganda and Zhambyl oblasts is not predicted	All vehicles and the equipment used in construction have to be modern, be appropriately maintained and used according to recommendations of manufacturers. All access and bypass roads have to be watered. All plants/dust-generating equipment should be in good repair and be located at distance from all sensitive zones.	The contractor shall bear the responsibility for implementation of mitigation measures. Supervision Engineer monitors the compliance with mitigation plan.	Regular (monthly) monitoring by licensed laboratories at designated sampling points and on-site compliance checks by Construction Supervision Consultant (CSC), Engineer and local environmental protection authorities. The sampling points will be defined by the Project monitoring programs, which will be developed by individual contractors and are required by the law. Parameters to be monitored follow the EHS Guidelines including: nitrogen oxides, inorganic dust, sulfur oxide, carbon, PM10, PM2.5 and carbon monoxide. Meteorological parameters during sampling include air temperature, emission rate, atmospheric pressure and air humidity.	Contractors Construction Supervision Consultant (CSC)/Engineer	Long term impact is limited
2. Noise and vibration	Noise from construction machinery and equipment Noise from cement-concrete and asphalt	Potentially significant	The area of construction, access and bypass roads. Potential impact on nearby residential areas. Potential impact on villages and settlements	All vehicles and the equipment being in use in construction have to be modern, regularly maintained and used according to recommendations of the manufacturers.	The contractor shall bear responsibility for implementation of mitigation measures. Supervision Engineer monitors the compliance with mitigation plan.	Regular (monthly) monitoring, implemented by certified laboratory in specified places of selection of tests and Construction	Contractors (through licensed laboratories) Construction Supervision Consultant (CSC)/Engineer	No long term impact

	concrete plants, crushers, etc. Transport noise on the access roads		Local impacts on Karaganda and Zhambyl oblasts are not predicted.	All plants/noise making equipment have to be in good repair and locate at distance from settlements. Any types of works during night time near villages and settlements in Karaganda and Zhambyl oblasts should be prohibited. Speed limit of 60 km/h for all construction equipment shall be enforced.		Supervision Consultant (CSC), Engineer and local authorities (EP and SES bodies) on-site.		
3. Water, drainage system and floods	Pollution by a runoff from the construction sites in the areas of bridges construction is possible Pollution of underground waters at pits/quarries (accidental spills) Pollution of surface and underground water sewage from camps	Influence is from moderate to insignificant. Places of water intakes from wells (drinking water and technical water) will be agreed with Committee on Water Resources. Pollution of underground waters is unlikely as deep soil excavation isn't planned. Pollution from construction camps can be from moderate to significant	Potential impacts on the adjacent rivers (construction of artificial bridges) Potentially – entire alignment Areas of location of construction camps	Committee for Roads, Committee on water resources and Akimats of districts in consultation with contractors. The contractor shall provide water intake only from designated sources after the receiving of special permission for water use Good management at construction sites. Areas of potential pollution of rivers will be designed to prevent accidental spills and runoff and protected by sediment basins. Sewage at construction camps will be collected in septic reservoir and transported/discharged at wastewater treatment plants.	Committee for Roads, Committee of water resources and Akimats of districts in consultation with contractors. The contractor shall bear responsibility for implementation of mitigation measures. Construction Supervision Consultant (CSC), Engineer monitors the compliance with mitigation plan.	Regular (monthly) monitoring by licensed laboratories at designated sampling points and on-site compliance checks by Construction Supervision Consultant (CSC), Engineer and Regional office of the Committee on Water Resources implement control on site. Controlled parameters include: pH, density, resistance, solid residues, chlorides, nitrogen nitrogen, nitrate nitrogen, fluorine, insoluble matter, etc (e.g., all applicable feasible water parameters referenced in the EHS Guidelines)	Contractors (through licensed laboratories) Construction Supervision Consultant (CSC), Engineer Committee on water resources	Long-term impacts are possible in case of non-execution of mitigation measures
4. Erosion and pollution of soils and subsoil layers	Soil erosion (wind and water) due to removal of vegetation and topsoil is possible. Pollution of the soil and subsoil layers as a result of construction and accidental spills.	Potential impacts are low to medium (excavation works and operation of borrow pits).	Local impacts are expected only in the areas of borrow pits and earthworks on embankment along the alignment.	All recommended methods on reduction and elimination of an erosion were included in the program of construction Construction methods on reduction or elimination of pollution of soils and subsoil layers. All temporarily used lands have to be restored/ reinstated to the initial condition according to the legislation	The contractor shall bear responsibility for implementation of mitigation measures. Construction Supervision Consultant (CSC), Engineer monitor the compliance with design impact reduction plan.	Contractors together with Construction Supervision Consultant during periodic visual inspection (twice a week)	Contractors Construction Supervision Consultant (CSC), Engineer the Committee for Roads	Erosion is possible if there is no proper management and prevention during construction.

5. Flora and fauna and the sensitive and protected territories	Impacts on vegetation along the alignment. Disturbance of fauna in the area of influence of the construction works	Potential impacts are Low to Medium Temporary disturbance of birds and animals in the immediate proximity to the construction sites, concrete plants, crushers or borrow pits is possible.	Moderate loss of planting. Illegal hunting is possible	Culverts, cattle underpasses and bridges will serve as crossing points for wild animals. Illegal hunting around the project area will be prohibited.	The contractor shall bear the responsibility for implementation of the mitigation measures. Construction Supervision Consultant (CSC), Engineer shall monitor the compliance with design impact reduction plan.	Regular monitoring of proper vegetation and rational topsoil management shall be carried out by the Contractor. Construction Supervision Consultant (CSC), Engineer shall monitor the compliance with design impact reduction plan.	Contractors Construction Supervision Consultant (CSC)/Engineer Local Committee of forest management and wildlife	No significant long-term impact on flora and fauna is expected
6. Social / Economic / Farmers	Land loss/land acquisition Possibility of employment during construction Inconvenience for farmers (cattle crossing the road) Loss of trade along the road	Potential impacts are low to moderate Employment opportunities emerge for local population Potential impacts on farmers (animal husbandry)	There are cases of land (open space land) acquisition along the alignment	Land acquisition will be carried out according to the legislation of Kazakhstan and Resettlement Action Plan (RAP) Encouragement of hiring of local labor Consideration with local population on additional cattle crossings as required (October 2014) Compensation for loss of income should be paid or other appropriate mechanisms will be put in place according to the legislation of Kazakhstan and RAP	Contractors Akimats	CfR, Akimats/local authorities and contractors	Regular monitoring of possible impacts on farmers shall be carried out by Construction Supervision Engineer Committee for Roads will monitor the compensation payment to the affected persons.	Long-term consequences are possible if cattle crossings are not built
7. Historical and archeological monuments	Based on research results in zone of road passing on section km 1855-2152 the Historical and cultural heritage were not revealed.	Potential impacts on burial grounds along the road	Potential indirect impacts on archaeological sites if such are identified	Contractors shall observe the appropriate procedures in case of chance findings. According to the state procedures, works will be immediately stopped, for studying, record and excavation.	The contractor will be responsible for fencing of the archaeological monuments, burial grounds and for relocation of memorial monuments In case of finds of additional discovery, the Contractor should immediately inform the Department of Cultural Heritage and Art of the Ministry of Culture and Sport on any found artifacts or remains, and stop all construction works and notify the authorities on cultural heritage.	Construction Supervision Consultant (CSC)/Engineer, local authorities and authorized representatives of the Department of Cultural Heritage and Art of the Ministry of Culture and Sport will check compliance with this plan and procedures in case of finds discovery.	Construction Supervision Consultant (CSC)/Engineer and authorized representatives of the Department of Cultural Heritage and Art of the Ministry of Culture and Sport	Provided that all laws will be observed and the specified archaeological sites will be fenced and memorial place marks relocated, long-term influence is not expected.

					Protection of other monuments is responsibility of institutions on protection of cultural and archaeological heritage (i.e. Ministry of Culture and Sport)			
8. Traffic safety	The traffic volume on the main road can affect the traffic safety	Potential impact is from low to medium	Road sections, located close to settlements and places of access/bypass roads joining the main road	<p>Speed limit enforcement Correct road marking and signage shall be erected Informing of local population. Responsible actions of the contractor. Organization of additional crosswalks, if necessary.</p> <p>Compliance with occupational safety rules during construction to minimize potential impact on local communities:</p> <p>Construction machinery shall adhere to the agreed access roads and comply with speed restrictions</p> <p>Installation of information plates in relation to threats to public safety and information about contact entities in case of emergency situations</p> <p>Prevention of impacts of dangerous materials and waste that are located at the site on the population</p> <p>Accounting of livestock which temporarily cross the site territory and road and interfere with traffic</p> <p>These measures shall be a part of the Construction Plans for Environmental Management, which shall include traffic management plans</p>	Committee of road traffic police of the MIA of the RK Contractors	Regular monitoring and reporting of any accidents and complaints	Construction Supervision Consultant (CSC)/Engineer Committee of road traffic police of the MIA of the RK	No long-term impacts
9. Waste management	Generation of the construction debris and household wastes which are subject to landfill disposal.	Potential impact is low to medium	Potential impacts near construction camps	<p>Construction debris will be used (if technically possible) for roadbed construction. Household waste must be regularly exported from the section to the designated landfills Hazardous waste should be properly managed and discarded by licensed</p>	Contractor in cooperation with local authorities	Construction Supervision Consultant (CSC)/Engineer should carry out regular monthly monitoring of sites and activities on waste management	Construction Supervision Consultant (CSC) and local authorities	Provided that all waste will be exported to the designated landfills, long-term impacts are

				companies at specific landfills assigned by regions/municipalities				not expected
10. Borrow pits and access roads	Borrow pits: Local violations in environment, especially dust and noise from equipment and vehicles. Inconveniences for agricultural activity Access roads: Inconveniences for agricultural activity	Potential impacts are possible. Existing pits have been already defined, however additional borrow pits will be required: Locations of access roads have to be coordinated with local authorities within 2 weeks after the beginning of works.	Considerable local impacts near pits and access roads are possible.	Location of borrow pits and access roads have to be coordinated prior to the works commencement Only borrow pits approved by local authorities can be used, together with the plan of works on closing and reclamation	Contractors Regional offices of the Committee for construction, housing and utilities infrastructure and land resources management of the RK	Regular monthly and special monitoring of any influences, cases and complaints Where applicable, the borrow pits used to source construction materials should undergo a closure process including backfilling and revegetation activities following construction	Construction Supervision Consultant and local authorities	Provided that impacts are mitigated properly, long-term influences are not expected.
11. Health and Safety	Air, noise pollution, operating environment risks	Medium	As a rule, the existing and bypass roads at the main construction site; Potential impacts on the employees of the contractor and nearby villages	Compliance with health and safety requirements in accordance with the laws of the RoK and the WBG. Develop an integrated program of occupational health and safety measures, which will be in line with the national laws, monitoring and management systems, covering any works under the Project. The system shall include the following: Analysis and control of specific risks Requirements for personal protection equipment and compulsion mechanisms Assignment and introduction of areas for smoking Training of the entire personnel in safety using their language Review of contactors' plans for occupational health and safety, orientated on the standards same as the plans of the design company Control over development/implementation of occupational safety and safety measures of the contractor,	Contractor	Regular (daily) monitoring of personal safety among workers	Contractors Construction Supervision Consultant (CSC)/Engineer	No long-term impacts

				<p>including compulsory reporting to CSC.</p> <p>Account, including common operating hours, lost operating hours due to accidents, description of time loss cases, admission to hospitals, fatal cases</p> <p>Instructions for exchange of information for risks, prevention of accidents, etc.</p> <p>Requirements for labor protection shall be followed by all parties, involved in the Project construction and operation.</p>				
12. Contractor's construction camps	Increase in health problems among the community and workers, particularly STD such as HIV/AIDS and STD	Medium	<p>As a rule, existing and bypass roads on the main construction section;</p> <p>Potential impacts on the nearby villages</p>	<p>Issuance of the Code of Conduct to workers, training and creation of information educational campaigns in relation to dissemination and transmission of STD and HIV/AIDS for construction workers and local communities living near the construction camps.</p> <p>Ensuring free distribution and provision of contraceptives to construction workers by the Contractor to avoid dissemination of STD and HIV/AIDS</p> <p>Place informative posters and brochures about HIV/AIDS using local languages in crowded places, at coach stations, schools and roadsides to minimize dissemination of HIV/AIDS.</p> <p>Sanitary and necessary requirements for training of construction workers in accordance with the laws of Kazakhstan, control and assessment of HIV/AIDS program: proper storage and handling of dangerous substances and condition of</p>	Contractors	Regular (daily) monitoring of personal safety among workers	<p>Contractors</p> <p>Construction Supervision Consultant (CSC)/ Engineer and local authorities</p> <p>Experts for HIV/AIDS programs</p>	No long-term impacts

				wearing protective clothing for workers. Construction contract shall include the provision about the Contractor's obligation to provide a first aid station in the construction camp, and that qualified paramedical personnel shall be permanently full-time employed. Simple first aid materials for different minor injuries shall be available at any time for all construction sites; etc.				
13. Closure process for borrow pits	Impact on soil, land, and natural resources	Medium impact	At the borrow pits locations and surroundings	Where applicable, the borrow pits used to source construction materials should undergo a closure process including backfilling and revegetation activities following construction	Contractor or Owner of the borrower pit	Monitoring of the closure process in line with the revegetation/reclamation plan	Supervisor Engineer and Committee for Roads shall ensure proper closure process for borrow pits have taken place following construction	

IMPACTS DURING OPERATION; MITIGATION MEASURES, MONITORING AND RESPONSIBILITY

CATEGORY	POTENTIAL IMPACT	SIGNIFICANCE	LOCAL IMPACTS	MITIGATION	RESPONSIBILITY	MONITORING	RESPONSIBILITY
1. Air quality	Emissions from vehicles on the road Emissions from roads repair and maintenance activities	Insignificant provided that vehicles are in good operating conditions	Potential impact on adjacent sections in Karaganda and Zhambyl oblasts; Other local consequences are not expected	All vehicles must meet emissions standards All the equipment used for road repair and maintenance meets emissions standards Regular monitoring near residential areas to determine the necessity for additional mitigation measures	Committee for Roads, Committee for Environmental Regulation and Control of Karaganda, Almaty and Zhambyl oblasts	Monitoring of air quality in line with EHS Guideline (N2, NOx, CO2, CO, C, hydrocarbon) near residential areas and other areas if necessary. Frequency of monitoring will be determined based on monitoring data on traffic intensity.	Contractors within the DLP
2. Noise	Emissions from vehicles on the road	Insignificant provided that vehicles are in good operating conditions	Potential impact on adjacent sections of Karaganda and Zhambyl oblasts;	All vehicles must meet noise level standards	Committee for Roads, Department of Environment of the Committee for	Monitoring of noise levels near residential areas and other areas if necessary.	Contractors within the DLP

	Emissions from roads repair and maintenance activities		Other local consequences are not expected	Old and faulty vehicles must not be found on the road Compliance with minimum and maximum speed limits All the equipment used for road repair and maintenance meets noise level standards	Environmental Regulation and Control and Sanitary-and-Epidemiologic Institutions of Karaganda and Zhambyl oblasts	Frequency of monitoring will be determined based on monitoring data on traffic intensity.	
3. Water drainage system and floods	Stability of water sources for operation Floods, pollution of surface and ground water due to activities on the road and in services/rest areas	Potentially localized impact Pollution is insignificant if the road is effectively managed	There are no specific local impacts	Maintaining drainage system in a proper condition Good road management and maintenance will ensure normal watercourses	Committee for Water Resources “Kazakhavtodor” Republican State Enterprise Local executive authorities	Monitoring of ground water and drainage water quality in line with EHS Guidelines within the right of way of the alignment Frequency of monitoring will be determined based on monitoring data on traffic intensity.	Committee for Water Resources
4. Flora and fauna and protected territories	Long-term impacts on animals, especially migration and movement routes. Disturbance of flora and fauna resulted by the use of salts and chemical substances for deicing There might be an increase in illegal hunting due to wider accessibility	Low impact	No specific localized impacts	Cattle droves will serve as passages for wild animals have been incorporated in the design) Study the necessity of additional passages through pipes under the bridges for big mammals Control and prohibit illegal hunting	Oblast regional inspection of the Department for Forestry and Fauna	Committee for Roads, Committee for Forestry and Fauna, as well as oblast administration	Oblast regional inspection of the Department for Forestry and Fauna “Kazakhavtodor” Republican State Enterprise jointly with the district administration follows the necessity in additional crossing points within the alignment for mammals and others
5. Social / Economic / Farmers	Increase in economic activities due to the improved road. Opportunities for constant work within the roads maintenance Opportunities for business and employment in roadside service areas Some disturbance to the activities of farmers who were affected by land acquisition for the road construction	Significant economic and social benefits Some unfavorable consequences in relation to the farmers’ activities due to the necessity of underpasses use for movement of cattle and agricultural machinery	There no specific localized impacts, except for agricultural and grazing lands Villages along the existing road alignment	Hold informative activities for local communities on benefits that can be obtained from the improved alignment Consider additional livestock droves and passages for agricultural machinery if necessary and required (See Mitigation Measures)	Local executive authorities and “Kazakhavtodor” Republican State Enterprise will consider additional underpasses (bridges) in collaboration with local communities, if necessary Akimat/ local executive authorities	Monitoring of unfavorable impacts on local communities and farmers Affected persons will be kept in touch for checking compensation payment and other compensation forms provision	Administration of districts and Karaganda and Zhambyl oblasts.

6. Traffic safety/ Aesthetics	Increase in accidents Danger for pedestrians, there is not sufficient amount of pedestrian crossings	Low/ medium impact level	Regular passages crossing the road alignment	Special measures in the project will decrease the accidents risk: dividing strip, good visibility, limited access and exits, guard posts, etc. There will be several settlements near the road and a small number of pedestrians near the road or roads intersection	Have been incorporated in the design	Monitoring and registration of all road accidents	“Kazakhvtodor” Republican State Enterprise
7. Waste management	Waste generated from the road maintenance and rest/service areas: collection and disposal issues	Low impact	In rest and service areas	Committee for Roads should provide regular cleaning and collection of all liquid and solid wastes, as well as disposal in accordance with approved regulations and procedures. The company for road operation will be responsible for waste collection from rest/service areas	“Kazakhvtodor” Republican State Enterprise and Committee for Environmental Regulation and Control	Regular monthly monitoring of sites and wastes collection and disposal	“Kazakhvtodor” Republican State Enterprise