Section VI: Requirements

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Since the Appendices are too large for upload to ECEPP they are saved in the Client's OneDrive and access will be provided to any Tenderer who downloads the tender documents. The link to the files is:

https://rdpcr-my.sharepoint.com/:f:/g/personal/bertsetseg_rdpcr_mn/EprO5I8cVQNFu8_2qA85nboBMdpAJ5MXL824V2s7CrDVyw?e=iSR6ZZ

Scope of Works

Purpose of the Works

The Clients desires the Works described below to be executed in order to increase the thickness of the asphalt wearing course of the existing road.

Participants shall ensure that the Works they undertake to execute are fit for the stated purpose, as per the design, provided for by the Client.

Description of the Works

- **Project Overview**

  The Government of Mongolia (the "Government") represented by the Ministry of Finance (the "MoF") and the Ministry of Road and Transport Development (the "MRTD" or the "Client") have received financing from the European Bank for Reconstruction and Development (the "Bank" or "EBRD") for the expansion of the existing 204.5 km road from the city of Ulaanbaatar to the city of Darkhan ("the Project".) This is one of the busiest roads located on the key route connecting China, Mongolia and Russia that consists of two lanes. The road has now been widened to a 4-lane asphalt highway.

  For various reasons the Government opted to split the Project in two parts including (i) rehabilitation of the existing road (Phase 1) and (ii) capacity expansion via construction of a parallel two-lane road (Phase 2). The rehabilitation of the existing road is financed by the Asian Development Bank ("ADB"); project design was finalised in August 2019; rehabilitation construction works financed by the ADB commenced in 1H 2019. The Government requested the EBRD to provide financing for expanding the capacity of Ulaanbaatar – Darkhan road via construction of a parallel two-lane road. The works to be financed by the EBRD loan commenced in August 2020.

  Due to differences in design between the Phase 1 and 2 works, the Phase 1 asphalt pavement is currently only 5 cm thick. Therefore this contract is required to increase the thickness of 130.5 km of the Phase 1 asphalt pavement to a total of 10 cm for sections with a separate carriageway to the Phase 2 road.

  The Phase 1 works were split into 5 sections and works' contracts. For all sections other than Section 4 the asphalt pavement works under these works' contracts are complete. The Section 4 works are due for completion in 2024, although the asphalt pavement works are well advanced. The status of each section is summarised in the table below:

Phase 1	Length (km)	Status
Section 1	37.28	A Taking Over Certificate of part of the Works was issued on 21.09.2023. Defects in the work are being rectified. The initial 5 cm asphalt pavement is complete and the site is available for works under this contract.
Section 2	45.49	It is anticipated that a Taking-Over Certificate for Part of the Works will be issued in May 2024. This covers 45.5 km continuous road which is substantially completed including 5 minor bridges and 67 culverts. The remaining work comprises:

		(i) Guideposts at few location of culverts (under progress at site and will be completed within December 2023) (ii) Standard informative boards in 11 locations (iii) Stone masonry lining in ditches at 3 minor bridge locations, (iv) Stone pitching (2 layer) at 1 minor bridge location (v) Catch water drain @ 18 Kms The initial 5 cm asphalt pavement is complete and the site is available for works under this contract.
Section 3	45.75	A Taking Over Certificate of part of the Works was issued on 21.09.2023. Defects in the work are being rectified. The initial 5 cm asphalt pavement is complete and the site is available for works under this contract.
Section 4	45.06	Works are ongoing and due for completion by 31.07.2024, after which the site will be available for works under this contract.
Section 5	28.84	A Taking Over Certificate of part of the Works was issued on 21.09.2023. Defects in the work are being rectified. The initial 5 cm asphalt pavement is complete and the site is available for works under this contract.

- **Contract Overview**

  Works will be awarded for Lots 1 and 2 in two (2) contracts to increase the thickness of 130.5 km of the Phase 1 asphalt pavement to a total of 10 cm by construction of a 5 cm asphalt pavement wearing course for sections with a separate carriageway to the Phase 2 road. If the Lots are awarded to the same Participant one contract will be awarded covering both Lots.

  Lot 1 comprises the works to be carried out in Sections 1 and 2 as well as the first 17,300 m in Section 3, giving a total length of construction of 5 cm asphalt concrete wearing course of 65.4 km.

  Lot 2 comprises the works to be carried out in Sections 4 and 5 as well as the remaining 17,840 m in Section 3, giving a total length of construction of 5 cm asphalt concrete wearing course of 65.1 km.

  The contract period for each Lot shall be 120 days for completion of the works plus 1095 days for the Defects Notification Period. If the Lots are awarded to the same Participant the contract period shall remain 120 120 days for completion of the works plus 1095 days for the Defects Notification Period.

- **Collaboration with Third Parties**

  Other contractors may still be working around the Project Site for completion of their works and/or defect rectification. The contractor shall liaise with these contractors, as well as the Supervision Engineer and Employer (represented by its Project Implementation Unit (PIU)) concerning their activities, access to site, vehicular movements, road safety issues, signage, and any traffic diversions.

Collaboration with third parties is also required with respect to possession of the Site, whereby the following process shall be followed:

- Before issuance of the Performance Certificates for Phase 1 sections, the Phase 1 Supervision Engineers needs to inspect the works to ensure that all defects have been rectified and that there are no new defects. This is documented and along with any unperformed obligations, which remain the Phase 1 contractors' liability.
- The Phase 1 contractors then have 28 days to clear their Sites.
- A working group shall be appointed by the Employer's decision comprising of representatives from the PIU, Supervision Engineer, Phase 1 contractors and the contractor(s) appointed for this Contract.
- This working group shall jointly inspect the shoulder and pavement works of each section and measure and determine quantities of works to be done and defective areas, if any, with a comparison to the last documentation of defects by the Phase 1 Supervision Engineer.
- The defects, if any, shall be rectified by the original Contractor.
- Site possession can only occur once the Works have been handed over.
- Any defects occurring during the Defects Notification Periods of the Phase 1 contractors will follow the normal procedure of repair/ correction to be done by the Contractor to whom the defects are attributable to.

- **Site Information**

Site location

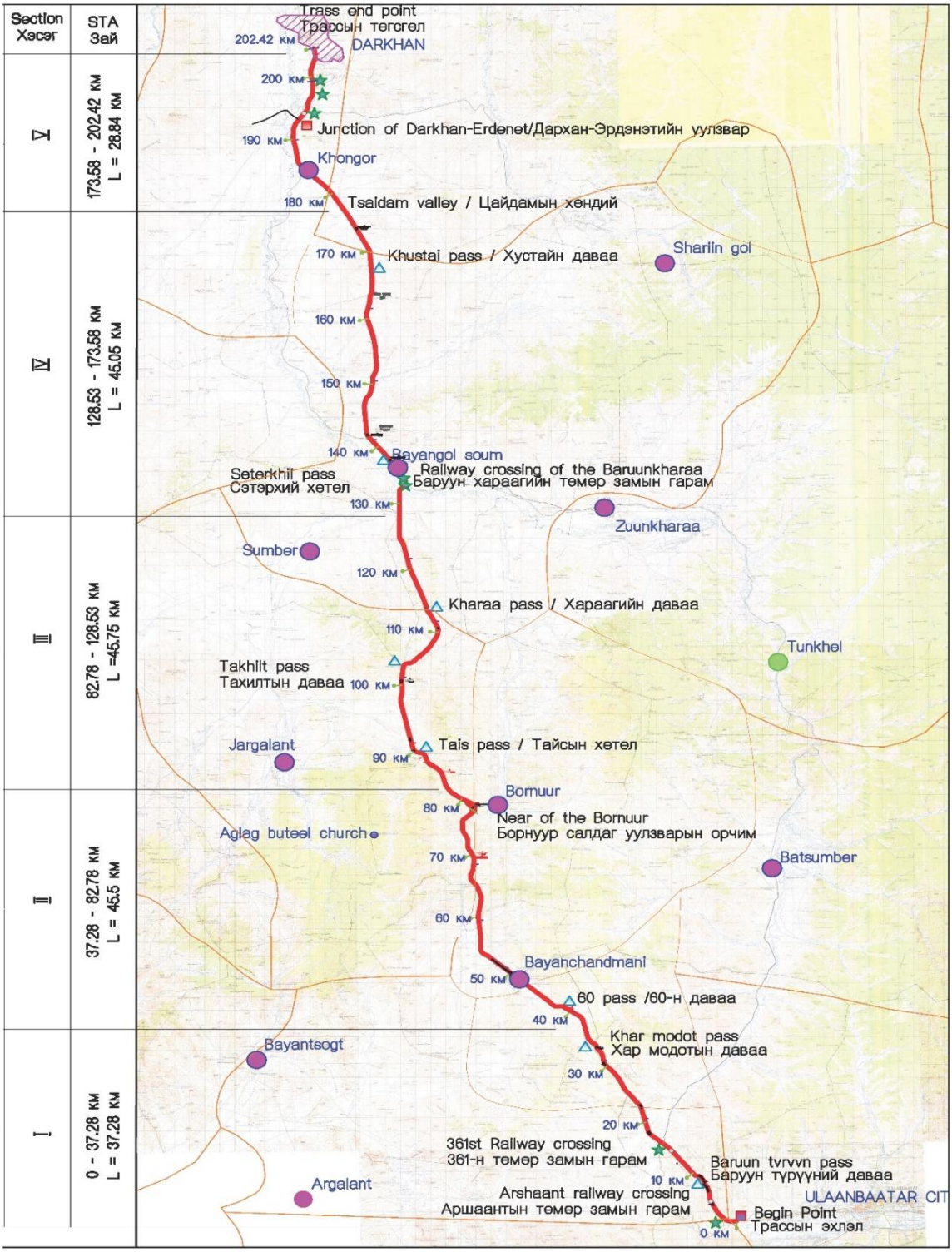
Mongolia is connected to the Asian Highway Network through three routes - the AH-3 (Altanbulag-Ulaanbaatar-Zamiin Uud), AH-4 (Yarant-Khovd-Ulgii-Ulaanbaishint) and AH-32 (Sumber-Undurkhaan-Ulaanbaatar-Tsetserleg-Uliastai-Khovd-Ulgii-Ulaanbaishint). The AH-3, of which the Project is a part, connects Russia-Mongolia-China and is a vital part of the “Economic Corridor” of the three countries.

Figure 1: AH-3 route of Asian Highway Network in Mongolia (Ulaanbaatar-Darkhan section in red)[1]

[1] Source: MCPC (21 May 2019), Engineering Explanatory Report – Part 1

The route of is shown in the figure below. The Project has been divided into five sections or “lots” and starts from the roundabout junction of Darkhan-Emeelt outside Ulaanbaatar and passes through three aimags and six soums, finishing in the south of Darkhan City, as follows:

- Soums of Bayanchandmani and Bornuur and Sumber in Tuv aimag;
- Soums of Bayangol and Mandal in Selenge aimag; and
- Khongor soum and Darkhan city in Darkhan-Uul aimag.



Climatic conditions

The Project Area is characterized by a harsh and cold continental climate which means long winters and sharp fluctuations of air temperature between day and night. Like other regions of Mongolia, the road corridor experiences sub-zero temperature between November and March with the coldest month being January, with temperatures dropping to -24.8°C in Baruunkharaa. The hottest month by monthly average temperature is July, with a maximum average temperature of 20.1°C in Darkhan.

The Project Area annual precipitation range is 262 mm in Ulaanbaatar area and 331 mm in Darkhan. This is the typical precipitation distribution pattern in Mongolia, with increasing precipitation in the northern parts of the country. Precipitation in winter months (December to February) constitutes only 9% of total annual precipitation. Summer precipitation accounts for about 75% of the annual precipitation.

Average annual relative humidity range along the road corridor is 61-71% with higher humidity occurring in the southern part of the corridor. Seasonal variation of relative humidity is high for all areas. Warmer months are usually dry, for example, the monthly average relative humidity is 46% in Darkhan. Humidity decreases in spring months reaching the lower values in summer but increases during autumn exceeding 70% in all locations during winter months.

The average annual wind speeds in the road corridor ranges between 1.7-3.1 metres per second (m/s). Wind speed changes with seasons in the project area; monthly average wind speed reaches 2.7-4.3 m/s during April-May, but it decreases to 0.7-1.4 m/s during winter months. Monthly maximum wind speed average is about 24 m/s with high speed winds mostly occurring during spring and autumn months. Most of the strong winds (wind velocity exceeding >15 m/s) occur during April and May along the road corridor.

The dominant wind directions along the road corridor are north-westerly to northern, except for January winds in Baruunkharaa and July winds in Ulaanbaatar.

Monthly average soil surface temperature in the project region exhibits strong seasonal variation ranging between -26°C during winter and 27°C during summer. Soil temperature drops to sub-zero temperatures during the months of November to March.

There are other climatic conditions that are of concern for road construction and operation such as road surface frosting or snowstorms that could potentially affect road usage and traffic safety.

- Snow fall occurs, on average, about 35-45 days a year in the road corridor during September to May. Most of the snow falls occur in November and December. During these months snow falls 5 to 9 days per month in the Project Area.
- Weather records show 10-24 dust storm occurrences in the Project Area. Dust storm events occur 22-35 days a year in the project area. Dust storm frequency is highest during April and May months due to the windy conditions and general dryness of the season. Dust storm occurrence is dependent on other climatic conditions such as soil moisture and snow cover. Strong dust storms create reduced visibility for traffic, as well as respiratory health concerns if people exposed to dust for extended periods. In some cases, similar to snowstorms, dust storms could deposit excessive dirt on the roads creating additional traffic hazard and road maintenance work.

Site access

The Site is part of the new constructed Ulaanbaatar – Darkhan road and can be accessed from this road. All areas are accessible.

Land acquisition

No land acquisition is required under this contract. Areas for contractor camps, and asphalt and crushing plant shall be agreed upon with the Employer and the local soum administrations.

Photos of site

Section 1	
Section 2	

Section 3	
Section 4	
Section 5	

- **Scope of Works**

The scope of works is for the construction of an additional 5 cm asphalt concrete wearing course for 130.5 km of the Ulaanbaatar-Darkhan highway. The contractor(s) shall also ensure adaptation of the asphalt pavement at entrances / exits to the road.

The figures below show how Phase 1 (blue) of the Ulaanbaatar – Darkhan road expansion will be linked to Phase 2 (red). There are two main types of road cross-sections, which are a) double extensions b) one-way extension.

The scope of works is for the second type, i.e., one-way extension.

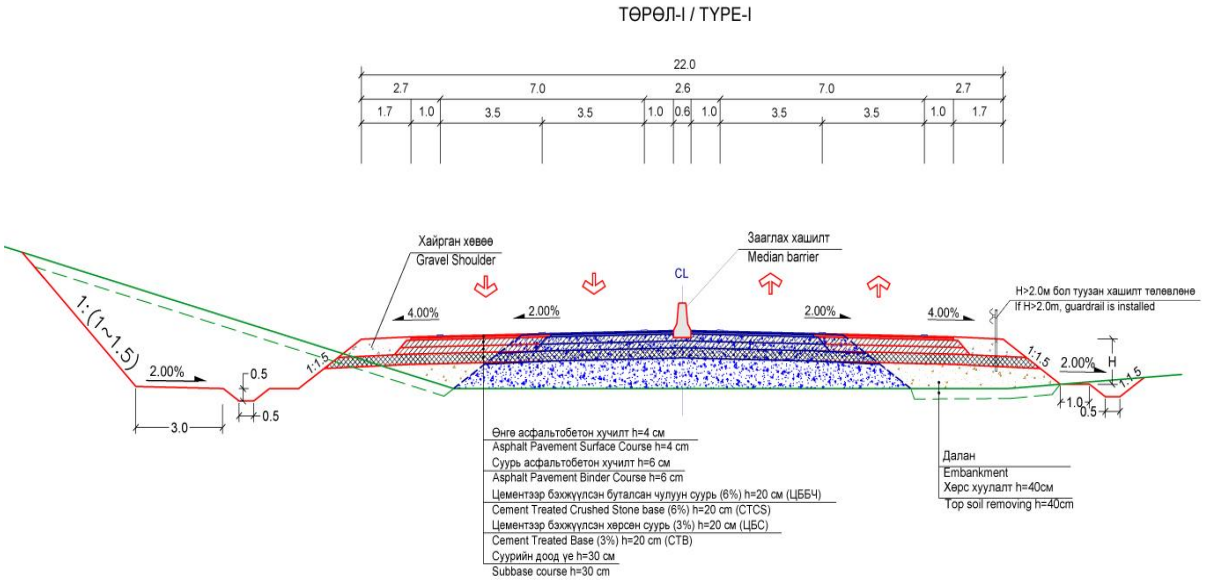


Figure 2: Typical cross-section for 71,920 m of the road with expansion by double extension

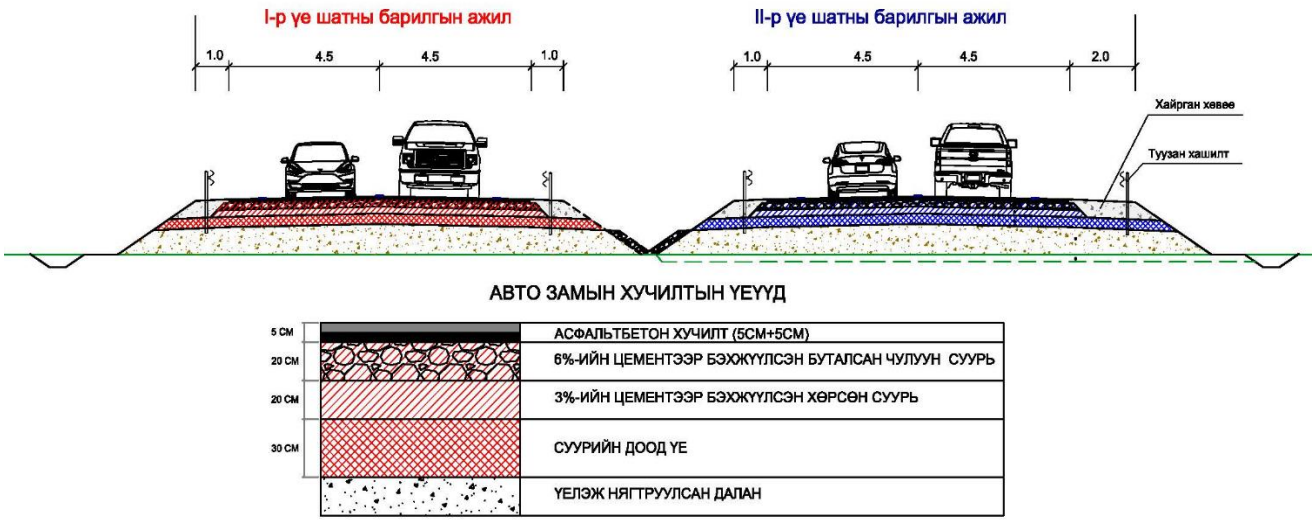


Figure 3: Typical cross-section for 130,506 m of the road with expansion by one-way extension

The tables below set out the locations of the one-way extensions within each Section and the associated quantities of works to be carried out:

Section 1 locations:

From (km)	To (m)	Left side (m)	Right side (m)	Length (m)
10+000	12+000		1900	1900
17+000	21+600	4600		4600
22+200	29+340		7140	7140
35+900	37+260	1360		1360
			Total	**15000**

Section 1 quantities:

Item description and calculation	Unit	Quantity
Tack Coat (15000*9+270*2+1524)	m²	137,064.00
Asphalt pavement (15000*9+270*2)*0.05+1524*0.05	m³	6,853.20
Gravel Shoulders (15000*2*0.05)	m³	1,500.00
Road Marking (15000*3+35*3*2)	m	45,210.00
Road Furniture (based on design drawings)		
a/Removal and reinstallation of guardrail	m	23,00.00
b/Removal and reinstallation of guide post	no.	84
c/ Removal and reinstallation of road sign	no.	86

Section 2 locations:

From (km)	To (m)	Left side (m)	Right side (m)	Length (m)
0+000	2+680	2680		2680
12+780	28+400		15620	15620
30+300	41+080		10780	10780
41+500	45+506	4006		4006
			Total	**33086**

Section 2 quantities:

Item description and calculation	Unit	Quantity
Tack Coat (33086*9m+3355)	m²	301,129.00
Asphalt pavement (33086*9*0.05+3355*0.05)	m³	15,056.45
Gravel Shoulders (33086*2*0.05)	m³	3,308.60
Road Marking (33086*3)	m	99,258.00
Road Furniture (based on design drawings)		
a/Removal and reinstallation of guardrail	m	18,000.00
b/Removal and reinstallation of guide post	no.	196
c/ Removal and reinstallation of road sign	no.	281

Section 3 locations:

From (km)	To (m)	Left side (m)	Right side (m)	Length (m)
0+000	17+300	17300		17300
22+200	28+100		5900	5900
33+800	45+740		11940	11940
			Total	**35140**

The works from 0+000 to 17+300 shall be included in Lot 1, and the remainder of the works shall be included in Lot 2.

Section 3 quantities:

Item description and calculation	Unit	Quantity
Tack Coat (35140*9m+900)	m²	317,160.00
Asphalt pavement (35140*9*0.05+900*0.05)	m³	15,858.00
Gravel Shoulders (35140*2*0.05)	m³	3,514.00
Road Marking (35140*3+5*3*35)	m	105,945.00
Road Furniture (based on design drawings)		
a/Removal and reinstallation of guardrail	m	18,620.00
b/Removal and reinstallation of guide post	no.	188
c/ Removal and reinstallation of road sign	no.	136

of which the following quantities are in **Lot 1** (0+000 to 17+300):

Item description and calculation	Unit	Quantity
Tack Coat	m²	155,700.00
Asphalt pavement	m³	7,785.00
Gravel Shoulders	m³	1,730.00
Road Marking	m	51,900.00
Road Furniture		
a/Removal and reinstallation of guardrail	m	9,310.00
b/Removal and reinstallation of guide post	no.	94
c/ Removal and reinstallation of road sign	no.	68

and of which the following quantities are in **Lot 2** (22+200 to 28+100, and 33+800 to 45+740):

Item description and calculation	Unit	Quantity
Tack Coat	m²	161,460.00
Asphalt pavement	m³	8,073.00
Gravel Shoulders	m³	1,784.00
Road Marking	m	54,045.00
Road Furniture		
a/Removal and reinstallation of guardrail	m	9,310.00
b/Removal and reinstallation of guide post	no.	94
c/ Removal and reinstallation of road sign	no.	68

Section 4 locations:

From (km)	To (m)	Left side (m)	Right side (m)	Length (m)
0+000	2+100		2100	2100
3+800	4+300		500	500
9+900	32+700		22800	22800
36+700	45+080	8380		8380
			Total	**33780**

Section 4 quantities:

Item description and calculation	Unit	Quantity
Tack Coat (33780*9m+2100)	m²	306,120.00
Asphalt pavement (33780*9*0.05+2100*0.05)	m³	15,306.00
Gravel Shoulders (33780*2*0.05)	m³	3,378.00
Road Marking (33780*3)	m	101,340.00
Road Furniture (based on design drawings)		
a/Removal and reinstallation of guardrail	m	9,700.00
b/Removal and reinstallation of guide post	no.	108
c/ Removal and reinstallation of road sign	no.	75

Section 5 locations:

From (km)	To (m)	Left side (m)	Right side (m)	Length (m)
0+000	9+500	9500		9500
16+500	18+100		1600	1600
23+200	24+500		1300	1300
26+100	27+200		1100	1100
			Total	**13500**

Section 5 quantities:

Item description and calculation	Unit	Quantity
Tack Coat (13500*9m+27040+2165)	m²	150,705.00
Asphalt pavement ((13500*9*0.05+(27040+2165)*0.05)	m³	7,535.25
Gravel Shoulders (13500*2*0.05+1690*2*0.05)	m³	1,519.00
Road Marking (15000*3+)	m	50,970.00
Road Furniture (based on design drawings)		
a/Removal and reinstallation of guardrail	m	300.00
b/Removal and reinstallation of guide post	no.	32
c/ Removal and reinstallation of road sign	no.	59

- **Approvals**

In addition to requirements for approvals identified in the conditions of contract, the following approvals are required:

Activity	Approval / Permit	Issuing Authority
Permit for use of quarries and borrow pits	Permit for use quarries and borrow pits	Ministry of Mining and Heavy Industry
Fresh Water Management	Water use permission	Depending on conditions: • Aimag, capital city Environmental Authority or • Soum, district environmental rangers or • Basin administration
Fresh Water Management	Wastewater removal permit	Depending on conditions: • Aimag, capital city Environmental Authority or • Soum, district environmental rangers or • Basin administration
Groundwater Management	Conclusion on water use (for groundwater abstraction)	Depending on conditions: • Aimag, capital city Environmental Authority or • Soum, district environmental rangers or • Basin administration
Land Use/ Soil / Subsoil	Land possession licence	Land officials of soum or district Land Departments; Governors of soums and districts.
Land Use/ Soil / Subsoil	A contract of land possession or Land use contract.	Land officials of soum or district Land Departments; Governors of soums and districts.
Waste and Wastewater Management	Agreement for collection and transportation of waste;	Soum and district governors
Waste and Wastewater Management	Agreement for waste disposal ('land-filling');	Soum and district governors
Waste and Wastewater Management	Permit for collection, transportation and disposal ('land-filling') of waste.	Soum and district governors
Hazardous Materials Management	The permission to hold activities on export, import, production, trade and use of hazardous and toxic chemicals	[to be confirmed]

Furthermore, the contractor shall provide evidence to the client that the following permits and agreements are in place:

- Signed agreements for use of land for labour camp(s), and plant (e.g., asphalt mixing plant)

- Permit and signed agreement for supply of site electricity
- Permit for temporary and access roads (if necessary)
- Signed contract for waste disposal
- Signed contract for disinfection and hygiene
- Signed contract for monthly environmental monitoring

- **Environmental, Social, Health and Safety (ESHS) Requirements**

ESHS Management Plans

The winning Contractor shall submit comprehensive Environmental, Social, Health and Safety and Labour Management Strategies and Implementation Plans. These plans shall describe in detail the actions, materials, equipment, management processes etc. that will be implemented by the Contractor, and its subcontractors.

Management of ESHS and labour risks and impacts shall be in accordance with the Applicable Law and to a standard no less stringent than comparable international industry standards, as outlined in the Environmental and Social Impact Assessment (ESIA) for the Project and be in conformance with the EBRD Performance Requirements as outlined in the Environmental and Social Policy (2019) available https://www.ebrd.com/news/publications/policies/environmental-and-social-policy-esp.html.

The full ESIA disclosure package is available at the following link http://www.ebrd.com/work-with-us/projects/esia/ulaanbaatar-darkhan-road-project.html and contains:

1. Environmental and Social Impact Assessment (ESIA) in English and Mongolian
2. Non-Technical Summary (NTS) in English and Mongolian
3. Stakeholder Engagement Plan (SEP) in English and Mongolian
4. Environmental and Social Action Plan (ESAP) in English and Mongolian
5. Land Acquisition and Livelihood Restoration Framework (LARF) in English and Mongolian
6. Environmental and Social Management and Monitoring Plant (ESMMP) in English and Mongolian

The Contractor shall comply with the relevant provisions of the above mentioned documents and shall be responsible for the implementation of the relevant actions under Environmental and Social Action Plan (ESAP).

The Contractor shall submit, on a continuing basis, for the Engineer's prior approval, such supplementary Management Strategies and Implementation Plans as are necessary to manage the ESHS and labour risks and impacts of ongoing works

The Management Strategies and Implementation Plans shall be approved by the Engineer prior to the commencement of construction activities (e.g., excavation, earth works, bridge and structure works, stream and road diversions, quarrying or extraction of materials, concrete batching and asphalt manufacture). The approved plans shall be reviewed, periodically (but not less than every six (6) months), and updated in a timely manner, as required, by the Contractor to ensure that it contains measures appropriate to the Works activities to be undertaken. The updated plans shall be subject to approval by the Engineer.

A. Construction Environmental and Social Management Plan (C-ESMP)

The Construction Environmental and Social Management Plan (C-ESMP) or Plans will identify all Environmental and Social (E&S) impacts specific and relevant to the Works and shall provide information explaining how the identified impacts will be managed by the Contractor. The C-ESMP shall include details of the Contractor's E&S management system, including the Contractor's plans to manage and monitor E&S impacts associated with all construction work under its control (including its subcontractors' work).

The C-ESMP shall be based on the outcomes of the Environmental and Social Impact Assessment (ESIA), which identifies and describes the impacts of the Works, and proposes mitigation measures that are developed further in the C-ESMP.

As a minimum the C-ESMPs will include the following sections or discrete plans covering the following areas, risks and impacts:

- CONTRACTOR E&S Policy/Statement
- Legal and other Requirements
- CONTRACTOR Environmental and Social Organizational Chart
- Roles and Responsibilities
- Monitoring, reporting, inspections, audits, incidents and non-conformances
- Description of Contractor management process and Management of change process
- Pollution Prevention and Control (including hazardous materials, noise and vibration, air pollution, effluent management and surface run-off);
- Emergency Preparedness and Response (including spills);
- Waste Management;
- Ecological Management;
- Cultural Heritage
- Land Management and Reinstatement, (including Topsoil management and infrastructure and service management);
- Stakeholder engagement
- Spoil disposal;
- Construction Camp (layout and management plan)
- Local Content (local procurement and local employment, including training)

Monitoring, Inspections and Audit

The Contractor shall implement a regular inspection programme to confirm the effectiveness of the implementation of the C-ESMP and other E&S management and mitigation measures. The frequency of monitoring shall be established based on the potential impact or risk significance. The programme will be documented within the C-ESMP.

As requested by the Employer, such inspections shall be carried out jointly with the Employer or the Employer's nominated representative.

All inspections shall be implemented and documented in accordance with standard protocols and checklists with supporting photographs retained. Weekly inspections shall be made available to the Employer within xx days/on request

Environmental monitoring of specific parameters shall be carried out by the Contractor as required to demonstrate compliance with the applicable law; these ESHS Requirements and to assess the effectiveness of the implementation of mitigation measures as necessary. Contractor's monitoring programme will be included within the C-ESMP and as minimum include the parameters to be monitored; frequency; purpose and use of any third parties for monitoring and/or further analysis.

Contractor shall develop an audit programme to regularly assess conformance with these Employers Requirements. Contractor's audit programme will be included within the C-ESMP and as minimum include the topic of the audit; frequency (which shall be established based on the potential impact or risk significance); personnel involved and an audit schedule.

All non-conformities identified by the Contractor during monitoring, inspections and audits shall be documented by a digital photograph with captions to provide a visual illustration, explicitly indicating the location, date of inspection and the non-conformity in question. Corrective and preventative actions shall be implemented and managed via an action tracking system to record their status and verified close-out.

Pollution Prevention and Control

The Contractor shall prepare for Engineer's approval and implement a Pollution Prevention and Control Plan as part of the C-ESMP. The plan shall detail all site-specific measures the Contractor will implement during the Works to identify and manage the following:

(a) hazardous materials
(b) liquid effluents;
(c) air emissions;
(d) noise and vibration;

(e) vehicle and equipment maintenance and selection;
(d) fuel, oil and chemical storage and handling..

The details of any monitoring, the locations, frequency, parameters to be measured and analysis techniques will be set out in the Pollution Prevention and Control Plan.

The parameters to be measured are those that are listed in the applicable legislation, or if these do not exist, the parameters referenced in the Employers Requirements.

The Contractor will list, locate, and characterise (flow, expected quality, discharge frequency) all sources of effluents and outlets to the natural environment in the Pollution Prevention and Control Plan

It is CONTRACTOR'S responsibility to avoid environmental pollution and to maintain appropriate spill response and clean-up capability to respond to any spills associated with the WORKS.

Prior to mobilisation on Site, the Contractor shall prepare, submit for Engineer's approval and implement a Spill Contingency Plan demonstrating its capability and state of readiness for responding and taking appropriate action in the event of a pollution spill.

Hazardous Materials

A substance is considered dangerous if one or several of its properties render it hazardous, as defined in the Contractor (e.g. Explosive, Inflammable, Irritant, Toxic, Corrosive, React with water, Dangerous for the environment).
The Contractor will be responsible for identifying and managing hazardous substances planned for use.
The Contractor will store fuel and hazardous chemicals/materials in secure and designated areas, except for quantities generated or required for the daily construction activities.
Fuel, oil or hazardous materials required to be temporarily stored onsite for daily use shall be stored within secondary containment located greater than 50m from a watercourse or water body and used in a way preventing groundwater contamination.
All fuel and hazardous chemical storage facilities shall be contained within a bund designed to contain at least 110% of the total capacity of the storage containers plus 10% of the aggregate tank volume within the containment area or as otherwise specified by the Applicable Law. The bund walls and floor shall be constructed of concrete or other suitably impermeable material. The filling connection must be within the bund. No drain valves or other connections through the bund walls shall be permitted. Tanks shall be fitted with a gauge to allow the fill level to be monitored during refilling and preferably with a high-level alarm.
CONTRACTOR shall ensure that sufficient bunded areas are available to store incompatible materials separately; a single bunded area must not be used to store two or more incompatible materials. All containers must be clearly labelled in appropriate languages, identifying the nature of the contents, the appropriate spill response actions, and the location of the relevant spill response equipment.
The Contractor shall maintain an up to date register of all hazardous materials, with indicative quantities and up to date set of Material Safety Data Sheets (MSDS or equivalent) for all hazardous substances on site. The set of MSDS should be held in the store and a copy at the site office. The MSDS should be in appropriate language to be understood by the site management, workforce, local authorities and local emergency services.
For each dangerous substance used, the Contractor will implement the recommendations described (i) in the MSDS, and (ii) by the Globally Harmonized System of Classification and Labelling of Chemicals established by the United Nations for hazardous chemicals.
All refuelling shall be undertaken by trained personnel with all due care to avoid spills in accordance with a written provisions defined in the CEMP.
Refuelling of Project vehicles and plant shall be undertaken at dedicated refuelling stations equipped with impervious platforms.
Refuelling of fixed or limited mobility machinery outside refuelling stations shall be performed using dedicated mobile equipment to minimise risks of leakage and soil contamination. Portable retention equipment shall be used systematically to collect any accidental spill.
Use of below ground storage tanks of hazardous liquids is prohibited without submission and approval by the Engineer of a groundwater impact risk assessment and monitoring plan.

Asbestos Containing Materials

The Contractor will prohibit the use of asbestos containing materials (ACMs) or products in any construction work whether the materials or products are bonded or unbounded. This includes the use of cement based ACMs such as pipes and roof sheets. Where construction work may involve major refurbishment or demolition, the contractor will carry out an asbestos survey to identify the presence of ACMs prior to the commencement of any construction work. Where the presence of ACMs has been identified and the construction work is likely to cause disturbance or

damage, the Contractor will remove the ACMs using specialist asbestos removal contractors that will adopt a safe system of work which follows good international practice.

Ozone Depleting Substances

The Contractor will prohibit the use and import of any substances that have been identified as an ozone depleting substance such as Hydrochlorofluorocarbons (HCFCs), Chlorofluorocarbons (CFCs), Carbon tetrachloride CTC), 1,1,1-trichloroethane (TCA), Hydrobromofluorocarbons (HBFCs), Chlorobromomethane (CB), and Methyl Bromide (MB). In addition the Contractor will prohibit the use of products or equipment containing or relying on these substances. Where the contractor identifies the presences of ozone depleting substances in the course of any construction work (demolition or major refurbishment of structures etc.), they will minimise the release and prevent any leakages of any of these substances into the atmosphere.

Noise and Vibration

The Contractor shall define the measures for minimising noise and vibration during the construction works in the Pollution Prevention and Control Plan

The Contractor shall use equipment and adopt construction, operation and transport methods in accordance with GIIP so as not to generate noise levels at the nearest occupied off-site receptor in excess of threshold values provided in the Applicable Legislation, Guidelines for community noise (WHO, 1999) and Employers Requirements. Contractor shall meet whichever is more stringent.

Where communities are located close to working areas, and access roads, the Contractor shall study, propose, implement and monitor the efficiency of, all reasonable and practicable measures to minimise noise resulting from the activity and to minimise the acoustic nuisances to adjacent households during day and night

Noise monitoring shall be carried out by Contractor at sensitive receptors where there is likelihood that threshold levels could be exceeded, as defined in the Pollution Prevention and Control plan and in response to any complaints received regarding noise disturbance

The Contractor will plan high noise generating works (e.g. pile driving, blasting, rock clearing, drilling, percussion drilling) in line with the applicable law and respect maximum ambient noise-levels and night time rest hours at the nearest receptors. A receptor is defined as an area used for nocturnal socio-economic activities (e.g. accommodation camps, residential areas, hotels, health centres).

Any night time work (between the hours of 1900-0700 shall be subject to APPROVAL by the ENGINEER and CONTRACTOR shall be required to demonstrate that ambient noise levels at the nearest receptors do not exceed Applicable Legislation, Guidelines for community noise (WHO, 1999) and Employers Requirements, whichever is more stringent.

The CONTRACTOR to provide adequate warning to the Engineer, Employer and the communities with reasonable and practical notice if community receptors are likely to be affected, prior to particularly noisy activities

The Contractor shall locate stationary equipment (such as power generators and compressors) as far as possible from nearby receptors (e.g. worker resting areas, populated areas and environmentally sensitive areas). Equipment known to emit noise strongly in one direction, whenever possible, will be orientated so that the noise is directed away and downwind from sensitive receptors and if required acoustic barriers put in place between the source of noise and the receptor.

CONTRACTOR shall consider the noise level when selecting EQUIPMENT and preferentially select EQUIPMENT that generates low levels of noise, and operate it in a manner sympathetic to the ambient noise environment (e.g. not leaving EQUIPMENT idling unnecessarily or revving engines unnecessarily). All EQUIPMENT shall be maintained in accordance with the manufacturer's instructions to minimise noise emissions.

Contractor shall monitor the vibration level at third party buildings nearest to the works during activities which could generate offsite vibration effects at these locations. Vibration levels are to be compared to local and international norms and standards (or as referenced in the Employers Requirements) as agreed with the Engineer and in the case of exceedance, a control plan is to be agreed with the Engineer and implemented.

Air Pollution

The Contractor shall detail within the Pollution Prevention and Control Plan to be implemented during the construction works to identify and manage the source of air emissions and dust production resulting from the construction activities. In particular, the plan should identify the sensitive locations such as settlements, properties, crops or sensitive biodiversity areas where the application of the described measures will be implemented.

The Contractor shall use equipment and adopt construction and transport methods with atmospheric emissions that are not in excess of the threshold emission values specified in the Applicable Law and Employers Requirements, whichever is the more stringent. ,.

Contractor shall minimise emissions of dust from its activities, including traffic, at work sites, in residential areas and on haul and access roads. The Contractor shall implement dust-reduction measures on the site and along access tracks used by construction vehicles when necessary.

The Contractor shall ensure that emissions from its activities do not cause an exceedance of ambient air quality threshold values for Particulate Matter, Nitrogen Dioxide and Sulphur Dioxide at relevant receptors in accordance with the WHO Ambient Air Quality Guidelines (2005) and the EU ambient air quality directive (2008/50/EC)

Where it is deemed that dust is impacting or may have an impact on human, plant or animal receptors or where dust may cause sedimentation of watercourses/water bodies or unacceptable levels of soil loss the Contractor shall take action to abate fugitive dust emissions generated by vehicles or mobile equipment on roads used by construction vehicles in residential areas, adjacent to crops, and in areas of biodiversity interest, during dry and windy conditions.
This shall include:

- effective implementation of reduced vehicle speed in sensitive areas;
- ensuring trucks hauling sand, dirt or other loose materials are covered (sheeting trucks);
- suspending topsoil stripping and replacement during strong winds;
- using a dust collection system for bulk materials unloading;
- wet suppression (as needed, depending on the soil type) in the dry season,
- where unpaved roads and/or the working strip is located <200 m from settlements provision of dedicated vehicles to implement the regular spray of water or any other non-hazardous dust suppression agents to maintain humidity of the road and the cohesion of fine particles.

Dust monitoring shall be carried out by Contractor at sensitive receptors where there is likelihood that threshold levels could be exceeded, as defined in the Pollution Prevention and Control plan and in response to any complaints received regarding air pollution and dust nuisance.
The Contractor shall implement measures to clean vehicles which could transport dirt onto local sealed roads.
Visual inspections of dust emissions within the Project Areas and along sensitive sections of roads will be undertaken by the Contractor on a regular basis as defined in the Pollution Prevention and Control Plan.

Effluent Management

CONTRACTOR's Pollution Prevention and Control Plan shall identify and address effluent discharges including but not limited to sewage, water used for pressure testing; site run-off; concrete washout water; water ponding in excavations any other waste waters produced on site and shall include an identification of all potential effluent sources, potential composition, treatment techniques and discharge points.

No effluent can be discharged by the Contractor, or the Contractor's activities, into watercourses or soils without prior treatment and without monitoring of the treatment's performance to guarantee acceptable effluent quality as per applicable national requirements and the Urban Waste Water Directive 91/227/EEC (whichever is more stringent).

Effluent from batching activities and cleaning of concrete trucks shall be collected in settlement ponds and treated in line with Good International Practice (GIP). Treatment technique and it's effectiveness will be subject to approval by the Engineer in advance, to allow mobilisation of the appropriate treatment equipment.
All areas with generators, hydrocarbon storage tanks, refuelling stations, workshops, parking areas and garages shall have impervious surfaces with secondary containment and shall be drained and equipped with an oil/water separator. Secondary containment shall be inspected and maintained on a regular basis to ensure the containment functions effectively. Separators shall be inspected on a daily basis.
Contractor shall provide, install and maintain welfare facilities including sewage collection/treatment. Facilities shall be sufficient for the number of personnel. All sanitary wastewater shall be subject to collection and treatment to achieve acceptable effluent quality as per applicable national requirements and the Urban Waste Water Directive 91/227/EEC (whichever is more stringent) on or off site.
Sewage sludge shall be managed as a hazardous waste in accordance with these E&S requirements.
Effluent discharge and flow rates into natural water bodies or soil will be managed to control erosion/sediment loading/flooding risks.

Surface Runoff

Surface Runoff consists of rainwater flow on the surface or the soil and other technical surfaces at the site.. Surface Runoff is considered as an effluent unless demonstrated otherwise, as documented and substantiated by the Contractor, in the Pollution Prevention and Control Plan
The site run-off/stormwater running through Vehicle maintenance, Vehicle wash areas, Waste transfer stations, and other potential contaminating sources shall be routed to appropriate wastewater treatment units to remove oil, chemical residues and suspended solids to achieve appropriate waste water quality. .

Contractor shall ensure that the gradient of work sites and install drainage as required to allow the collection, drainage and treatment for removal of suspended solids of rainwater from the entire surface area to one or several discharge points and that no pools of water are created.
Surface-Runoff from construction areas such as access tracks and working areas shall be directed to adjacent vegetated verges to allow natural infiltration rather than collection and concentration.
Sediment control measures should be installed where a work site has disturbed the land, particularly on steep slopes, adjacent to watercourses, wetlands or near to water supplies. Particular care should be taken to control sediment transport on steep slopes and where access tracks or construction works pass over watercourses
Surface Runoff from the construction works (including dewatering of excavations) shall not be allowed to discharge onto agricultural land, wetlands, watercourses or community water supplies, without appropriate treatment and controls on discharge rate and volume and installing physical erosion control measures to control the sediment load. Prior approval from the Engineer is required.
In addition, when dewatering excavations, dewatering hoses shall be elevated from the bottom of the excavation and the discharge directed through a filtering medium. Sediment settling ponds shall be installed where other measures to control erosion and sediment run-off are not effective.

Waste Management
The CONTRACTOR is responsible for managing all waste generated during the Work in a manner which does not pose a threat to human health and the environment. All waste shall be managed in accordance with
the following "waste hierarchy", with priority to given to the waste management measure closest to the top of the hierarchy: Prevention; Minimisation; Re-use; Re-cycle; Treatment; Disposal;
with national legislation and
EU Waste Framework Directive (208/98/EC)
with the objective of protecting soil and water resources.

CONTRACTOR'S C-ESMP shall include a Waste Management Plan identifying the predicted individual waste streams to be generated during the WORK and how they will be managed, including as a minimum:
- Activities resulting in various waste streams
- Waste streams classification – solid, liquid, inert, hazardous and non-hazardous etc (as per EU Waste Directive and European Waste Catalogue codes)
- Location of waste storage area with description of appropriate waste storage facilities;;
- Predicted volumes
- Special handling instructions;
- Type of disposal for each waste category (reuse, recycling, disposal at landfill, incineration etc.)
- licenced transportation contractor;
- licenced final recipient of the waste

Waste shall be categorized according to the following definitions and the European Waste Catalogue:
a) Non-hazardous solid waste generated at construction and decommissioning sites includes excess fill materials from grading and excavation activities, scrap wood and metals, and small concrete spills. Other non-hazardous solid wastes include office, kitchen, and dormitory wastes when these types of operations are part of construction project activities.
b) Hazardous solid waste includes contaminated soils, which could potentially be encountered on-site due to previous land use activities, or small amounts of machinery maintenance materials, such as oily rags, used oil filters, and used oil, as well as spill cleanup materials from oil and fuel spills.
c) Hazardous liquid waste includes effluents and waste material containing "free liquids" (e.g. used cutting oil or wastewater mixed with oil after cleaning machinery).
In line with Waste Management Plan the Contractor shall establish and maintains a waste register, which is at the disposal of the Engineer. This register will record all waste management operations: production, collection, transport, treatment. It will be available as of the Contractors mobilisation to any site.

The following aspects are documented in this register:
a) Type of waste, using the nomenclature specified above and in the European Waste Catalogue;
b) Waste quantities;
c) Name and address of the third party waste management facilities receiving waste or parties taking possession of the substances no longer considered as waste;
d) Name and address of waste transport Contractors;
e) Planned waste treatment

CONTRACTOR shall segregate non-hazardous and hazardous wastes and each individual waste stream as required to allow it to be managed separately

Prior to commencement of construction Contractor shall provide a sufficient number of waste segregation and management areas at strategic points around the Project area and in accordance with the type of activity planned,

numbers of PERSONNEL and predicted wastes and volumes. Personnel should be trained on requirements in regards to waste stream separation and handling in appropriate language.

All waste containers shall be appropriate in terms of volume, composition, shape, and opening for the material that is being stored. Containers shall be covered and stored on impermeable/bunded area as required and depending on the nature of the waste stream and its final destination and the need for litter, dust and vermin control and prevention of water ingress. All containers shall be appropriately labelled.

Waste storage areas shall be (i) located at a distance of over 100m from any natural sensitive area and over 500m from any socioeconomic sensitive area (school, market, healthcare centre, water abstraction well or catchment area); (ii) protected from moving machinery and vehicles, but easy to access for regular collection; (iii) protected from the possibility of landslides; (iv) located on a flat impervious surface to prevent infiltration; (v) under cover for non-inert waste; (vi) stored in containers of the appropriate size, tightness and level of resistance depending on the danger and phase (solid, liquid, gas) of the waste; (vii) Liquid wastes storage is equipped with secondary retention with a volume at least 110% of the largest container; (viii) hazardous waste stored in a fenced secure area, pursuant to practices approved by the Engineer..

Waste shall be collected and removed from its point of generation and/or temporary storage on a frequency appropriate to its nature; frequency and volume of generation; and its treatment method. As a minimum the removal frequency shall ensure:

- No overflow from containers.
- No unpleasant odour or emissions which are dangerous for human health.
- No proliferation of insects, rodents, dogs or other animals which are harmful or dangerous for human health or who predate small mammals and birds.
- Regular cleaning of containers and surfaces on which they are located. and potential to cause harm to human health (including via attraction of vermin and odour) and the environment.

Unless otherwise specified in the Contract or instructed by the Engineer, waste incineration is prohibited on site.
All third party waste management contractors and facilities shall at a minimum be certified in accordance with national legislation including for the specific types of Contractor waste they will manage.

The use of third party waste management services is subject to obtaining copies or relevant national certifications, entries to national registers of waste carriers and disposal facilities or documented prior audit of the treatment, storage and recycling facilities by the Contractor A copy of relevant certificates/register entries or the audit shall be provided to the Engineer.

CONTRACTOR shall implement a documented system of waste transfer to implement the duty of care principle and ensure waste is managed in accordance with the C-ESMP and these E&S requirements.

Ecological Management

Vegetation and tree removal shall be limited to that necessary to complete the work in accordance with the SPECIFICATION and Contractor shall physically demarcate zones to be cleared and provide appropriate training provided to Personnel involved in clearance activities.
Tree and vegetation clearance using burning or chemicals is not permitted.

Contractor shall not introduce foreign/non-adapted/invasive species to any worksite.

Topsoil shall be removed from working areas by the Contractor only when absolutely necessary to complete the WORK and in accordance with the SPECIFICATION. Areas subject to topsoil stripping will be identified prior to grading activities Unless indicated otherwise in the SPECIFICATION or specified in the relevant permits, the top 25cm of the soil will be considered as topsoil.

After vegetation clearance, all topsoil from temporary or permanent works areas shall be removed and safely stored separately from other superficial deposits, sub-soil, excavation spoil to prevent mixing and shall be reinstated in reverse order of excavation. Topsoil should be stored in piles no more than 15m long by 10m wide and shall be limited to 3m in height which shall be clearly indicated on site by appropriate signs

Topsoil shall not be handled when: i) the topsoil is frozen; ii) the site is experiencing persistent rainfall; iii) the topsoil is saturated.

Soil stockpiles shall be present for the shortest practicable timeframe, with stockpiled soil being reinstated as the construction works progress. All soil stockpiles required for more than 3 months will be covered or seeded (as may be appropriate to the location and type of stockpile) as soon as practicable to prevent deterioration, minimise the generation of wind-borne particles, surface water runoff or the transfer of materials to adjacent land.

Soil stabilising methods shall be undertaken to minimise the risk of erosion, the creation of leachate, silt and dust generation (e.g. soil stabilisation, covering of soil stockpiles, runoff management, seeding) and potential water quality issues

CONTRACTOR shall identify areas where the lay-down/temporary storage areas of soil and loose construction materials stockpiles will have the minimum impact on habitats and where practical such areas shall be located in areas that will be disturbed during future works

Contractor shall maintain a vegetation buffer between works and watercourses until specific construction activities are due to be completed imminently on the watercourse.

CONTRACTOR shall ensure that watercourse bed and bank materials will be separately excavated, segregated and replaced following construction. CONTRACTOR shall maintain a sufficient distance between the watercourse bank and material storage areas to avoid erosion and sediment entering the watercourse.

Contractors' vehicles must use existing watercourse crossings or those installed to GIP for the purposes of the Project. Only plant and equipment necessary for the construction shall enter a watercourse subject to a pre-entry inspection to confirm they are free from fuel/lubricant or other leaks.

Temporary access tracks across watercourses will be designed to allow continued fish and small mammal passage during the construction works, avoiding disruption of fish migration or small mammal movement within their home range

Contractor shall ensure that all Personnel are informed and aware of the importance to protect species, habitats, fauna and flora and are informed about wildlife encounter procedures. Information and awareness training is to include biodiversity tool box talks and is to be documented

Under the Employer Requirements the Contractor will be provided with a range of ecological surveys prior to the start of construction, conducted by or on behalf of the Employer. These will include but not be limited to the type and location of identified species and habitats of conservation interest within or in the vicinity of the site and any resulting measures that are required. The outcomes of such surveys and conservation measures are available in ESIA and ESAP, mentioned above.

The Contractor will check project planning permits and other documents as specified in Employers Requirements in regards to constraints relating to seasons for the protection of birds and wildlife, which may result in , construction is restrictions during a certain period and/or precautionary measures undertaken by the Contractor in compliance with respective national laws, as stipulated by the respective local authorities or stated in Employers Requirements.. The Employer may update information on the presence of wildlife or sensitive or endangered species' in the Project Area following any additional wildlife/endangered species´ survey. If any are identified, the Employer will notify the Contractor who will ensure that all personnel are informed and aware of the required mitigation procedures as communicated by the Employer.
Regarding habitat loss/degradation and habitat fragmentation Contractor will:
a) site permanent infrastructure on unused land of no particular ecological value;
b) take no construction materials from the surrounding environment unless otherwise specified in the respective management plan;
c) monitor the impacts on flora and fauna at sensitive locations.

The Contractor will adopt best construction site practices to minimize the risks of adverse effects on neighbouring habitats/species from construction activities (dust, noise, waste disposal etc.) as outlined in the C-ESMP and these E&S requirements.

Contractor´s personnel shall not approach, injure, hunt, capture, possess, feed, transport, rear or trade wild animals and/or collect birds' eggs on the site and in the vicinity.
CONTRACTOR shall record and notify the Engineer of any injury or mortality to wildlife during the WORKS.
The Contractor shall report any sighting or finding of dead wildlife killed by the works to the Engineer immediately.
The Contractor shall protect excavations with temporary fencing to prevent injury to animals
The Contractor shall release any trapped uninjured animals immediately

Reinstatement
In non-agricultural areas early re-seeding of the reinstated ground shall be undertaken, where reasonably practicable and considering the season, immediately after reinstatement, to help re-establish and stabilise soil structure. Erosion matting shall be installed in accordance with the SPECIFICATION and as agreed with the Engineer to provide an immediate protection for exposed soil against erosion, prevent the washing-out of seeds and enhance the micro-climatic conditions in the soil for plant growth.

In agricultural areas the reinstatement shall include preparation of the land for onward use by the landowner as agreed with the landowner and confirmed by the Engineer, as a minimum to include: restore the land to its pre-construction topography, including any drainage features and tined to remove compaction

Cultural Heritage

All cultural heritage elements recognised by the Authorities or considered to be of local value located less than 50m to a construction site shall be protected from potential damage due to construction methods. This shall apply to cemeteries.

The Contractor shall not block accesses to places of worship or cultural heritage elements of local value (such as cemeteries or graves) throughout the construction phase as much as possible, taking into consideration safety issues.

CONTRACTOR shall develop a Chance Finds procedure describing the steps to be taken upon discovery of any item of archaeological interest and roles and responsibilities of individual Personnel.
This shall include:

- Notification of relevant AUTHORITIES of found objects or sites;
- Alerting Project personnel to the possibility of chance finds being discovered;
- Securing the area of finds to avoid any further disturbance or destruction;
- Reporting to the EMPLOYER

CONTRACTOR shall, upon discovery of any such finding, stop WORKS, take measures to prevent further disturbance of destruction of the finding (including by Contractor's Personnel or third parties) and promptly give notice to the Employer, who shall issue instructions for dealing with it.

Stakeholder Engagement

The Contractor will review as required, update and implement the Stakeholder Engagement Plan (SEP) developed for the Project which is provided at the following link http://www.ebrd.com/work-with-us/projects/esia/ulaanbaatar-darkhan-road-project.html. The SEP will be commensurate with the size of Construction activities and unsolved potential disturbances of the local communities and risks to public health and safety.

Updated SEP will be submitted to the Engineer for review and acceptance prior the commencement of any works or traffic related to works.

The SEP shall include a schedule of planned work activities which may impact a neighbouring community and describe (i) the activities per task and phase which may impact the neighbouring communities (ii) the approach to engage and communicate with stakeholders related to the works defined in (i); (iii) responsibilities for community interaction per task and phase.

The Contractor shall disclose relevant information related to the involved impacts and risks to communities (e.g. related to Traffic Management or e.g. to entering of private property for surveys) in local language and at a level of complexity that is commensurate with local realities to ensure that stakeholders fully understand the content.

The Contractor will establish effective grievance mechanism to receive and facilitate resolutions of stakeholders concerns and grievances. The grievance mechanism should address the concerns promptly and effectively in a transparent manner that is culturally appropriate and readily accessible to all segments of the affected communities, at no cost and without retribution.
The Contractor will monitor submitted grievances and status of their resolution and will report on these to the Employer.
The SEP will include information about the Employer´s grievance mechanism and the contact details in all community communication materials

B. HEALTH AND SAFETY

As a minimum, the Occupational and Community Health and Safety Plan will include the following sections or discrete plans covering the following areas, risks and impacts:

- CONTRACTOR H&S Policy/Statement
- Legal and other Requirements
- CONTRACTOR Health and Safety Organizational Chart
- Roles and Responsibilities
- Information and Training
- Communication
- Monitoring, inspections, audits, and non-conformances
- Accident and Incident Investigation and Reporting
- Description of Contractor management process and Management of change process
- Arrangements for Controlling Significant Risks associated with the Work including but not limited to:
  - Working at Heights;
  - Lifting Operations;
  - Traffic Management – Inside and Outside the Site
  - Ground disturbance and excavations;
  - Working with and around live electrical conductors
- Security management – including interaction with local communities
- Workers Accommodation
- Emergency Arrangements and Emergency Response
- First Aid

Personal Protective Equipment

The Contractor shall provide, at no cost to its workers, Personal Protective Equipment (PPE) to control residual risks. The PPE shall be suitable for the relevant hazards workers are exposed to and replaced at no cost to the worker, when it becomes damaged or worn. As a minimum, PPE shall be protective toe cap safety footwear, head protection and an item of high visibility clothing.

Workers Welfare Accommodation

The Contractor shall provide a suitable seating area for workers to use during breaks. This area shall be clean, located where food will not become contaminated and provide reasonable thermal comfort during high and low temperatures. The Contractor shall also provide adequate access to toilets and wash basins for their workers.

Contractor's Personnel

The Contractor shall ensure that all personnel employed to carry out work are competent and fit to carry out the work they are employed to do. All Contractor personnel shall receive a site safety, environmental and social induction before they start work which should identify the hazards, the risk to their health and safety and the control measures that shall be implemented; potential environmental and social impacts and mitigations. Any worker who fails to cooperate with the Contractor or fails to take reasonably care of themselves or others and placing them at risk of injury or ill health, shall be removed from the Site.

First Aid

Prior to the start of work the Contractor shall carry out a first aid needs assessment to determine the provisions necessary to preserve life and provide immediate first aid to a casualty. The assessment shall consider the degree of hazards, potential risks and the number of employees at the Site. In addition, consideration shall be made to risks created in the course of work in particular hot works causing burns and hazardous liquids splashing into the face. The Contractor shall ensure competent first aid trained personnel are available in convenient locations on site to ensure prompt response to administer immediate first aid.

Working at Heights

The Contractor shall introduce a procedure that requires all working at heights to be avoided where possible. Where working at heights cannot be avoided, the Contractor shall assess all working at heights to satisfy themselves that suitable fall prevention measures are in place before any work activity commences. Where the risk of a fall may still exist, the Contractor shall introduce measures to mitigate a fall, in the event of one occurring. The Contractor shall undertake periodical monitoring of the working platforms and fall prevention measures to ensure they remain adequate and in a good working order.

Ground Disturbance and Excavations

The Contractor shall ensure all ground disturbance and excavation activities are to be carried out under a safe system of work which includes a comprehensive assessment of the risks by a competent person, regardless of depth, to ensure it is safe and adequately supported. Entry into any excavation by any person is to be avoided where possible. Where entry cannot be avoided, robust engineering methods shall be used to support excavations to prevent any worker being trapped or suffering injury or ill health. At no point shall any worker enter an unsupported excavation.

Live Electrical Services

The Contractor is to familiarise themselves with all electrical services within the designated Site, this shall include all above and below ground services. All live conductors are to be securely covered and be inaccessible to unauthorised personnel. Where there is a risk of contact, either by a worker or any operated equipment, the Contractor shall arrange for the service to be temporary isolated or rerouted prior to the start of work. At any time no worker or third party shall be exposed to any live conductors unless they are authorised and competent to work on or around these services.

Movement of Vehicles and Mobile Work Equipment

The Contractor shall minimise the movement of traffic and mobile work equipment and continually assess the on and off site effects. Where possible, one way systems shall be introduced to avoid vehicles coming into contact with each other. Reversing of vehicles and mobile work equipment shall be avoided on site, where this is not possible an effective system must be in place to control reversing so there is no risk of injury or damage to property. All moving vehicles and mobile work equipment on the Site shall have a fitted flashing amber warning beacon which must be in use while in operation. The Contractor shall ensure any vehicles or mobile work equipment entering the Site shall be checked and confirmed suitable for site conditions with specialist consideration to lights, brakes, steering, mirrors and restraints/seatbelts. Fitted restraints/seatbelts shall be worn at all time when the vehicles or mobile plant is in operation.

Confined Space Working

The Contractor shall identify all areas which are, or could become a confined space, and prevent entry into these areas. If no method of working is possible without entry, the Contractor shall carry out a risk assessment and introduce a system of work to eliminate or control hazards and foreseeable risks and prevent a risk of injury or ill health to workers. At all times the Contractor shall ensure that the worker entering the confined space is provided with, as a minimum, uncontaminated breathable air, a method to detect unhealthy and flammable atmospheres, clear access to and egress from the confined space and emergency arrangements to remove the worker if self-rescue is not possible.

Exposure to Thermal Environment (Hot and Cold)

The contractor will carry out an assessment and monitor the thermal environment and the type of activities workers are undertaking during the course of any construction work. Where the thermal environment may expose workers to thermal stress or discomfort, the contractor will introduce measures to prevent and / or mitigate the potential risk of heat or cold stress illnesses to workers.

Emergency Preparedness

The Contractor shall develop necessary emergency plans and procedures which will allow them to prepare to and respond to incidents, accidents and emergency situations in a manner appropriate to the operational risks related to the project. Where necessary, the Contractor will assist and cooperate with the relevant authorities, emergency services and the affected communities in their preparations to

respond effectively to emergency situations. If local authorities or responders have little or no capacity to respond effectively, the Contractor shall play an active role in preparing for and responding to emergencies associated with the project, and will provide adequate evidence to demonstrate capacity to respond to reasonably predictable incidents, either directly or indirectly.

Traffic Management

The Contractor shall identify, evaluate and monitor the potential traffic and road safety risks to workers and project-affected communities throughout the project life-cycle. The Contractor will developed and implement as appropriate a Traffic Management Plan to address the risks. Where mobile work equipment is operated on public roads and other forms of infrastructure, the Contractor will prevent the occurrence of incidents and injuries to workers communities by introducing necessary traffic management arrangements.

C. LABOUR MANAGEMENT

A Labour Management Plan shall be developed to outline the Contractor's methods to management and monitoring labour and working conditions (including workforce welfare and employee relations).

Where large scale recruitment of new personnel is required both from the Employer's country and for Foreign Personnel, the Contractor shall develop a Recruitment Plan outlining how the recruitment process will be undertaken to meet the Contract and these Employer's Requirements.

As a minimum the Labour Management Plan will include the following information, sections or discrete plans covering the following areas, risks and impacts:

- The Contractor has a named manager with defined responsibility for labour issues – including those in relation to sub-contractors and labour agencies
- The Contractor has a documented human resources policy
- The Contractor has an equal opportunities policy in place, including anti-sexual harassment; the Contractor ensures equal remuneration for men and women for work of equal value
- The Contractor has implemented procedures for enhancing staff skills, including regular, documented training with clear objectives
- The Contractor maintains regular contact with trade unions or, in their absence, other workers' representatives
- The Contractor has a confidential worker grievance and dispute resolution process
- The Contractor has policies in place on the recruitment and treatment of migrant workers by subcontractors and labour agencies, including prohibiting charging workers recruitment fees and employer retention of worker identify documents
- The Contractor adheres to a code of conduct on labour issues
- The Contractor insists on contractual provisions with sub-contractors and labour providers which require sub-contractors and labour providers to comply with national legislation, EBRD PR2 Requirements of ESP, and provisions of any code of conduct
- The Contractor operates a process of regular review of performance on labour issues and co-operates with other actors in the construction sector to identify areas of concern and seek solutions.

Furthermore, the Contractor shall refer to the conditions of contract with respect to requirements for labour and working conditions and documentation thereof.

D. ENVIRONMENTAL AND SOCIAL ACTION PLAN (ESAP)

The Contractor shall implement the activities as per the ESAP appended to these Requirements as Appendix 3.

E. ESHS RESOURCES

ESHS PERSONNEL

The Contractor shall ensure that adequate resources are mobilised to implement the specific Environmental and Social, Health and Safety and Labour Management Plans, including input from any specialist resources necessary to ensure effective planning and implementation of measures. The C-ESMP, H&S and Labour Plan shall define the organisational structure including positions, responsibilities and competence.

As a minimum the Contractor shall provide the following dedicated personnel responsible for E&S management

- Health and Safety/Environment/Social Manager(s) - 1 person per qualification area to be covered; who shall have a minimum of 5 years' experience in a similar position, including a minimum of 3 years as manager of similar works;
- Health and Safety; Environmental Advisor/Officer/Supervisor - minimum 1 person per qualification area to be covered, who shall have a minimum of 3 years' experience in a similar role;
- Stakeholder Relations Manager - 1 person, who shall have a minimum of 5 years' experience in a similar position, including a minimum of 3 years as manager of similar works and fluent in spoken and written English and Mongolian (preferred) languages
- Community Liaison Officer - 1 person; who shall have a minimum of 3 years' experience in a similar role, in spoken and written Mongolian and English (preferred) languages

Proposed personnel will be approved by the Engineer.

ESHS RESOURCES

The dedicated E&S personnel shall be equipped with the necessary resources to operate independently and get to all locations of the Project Area without undue delay. Commensurate with the size and location of the Project, this may include:

- A 4WD vehicle and the necessary operating budget;
- A complete IT workstation: computer, printer, Internet access;
- Field equipment: GPS, digital camera;

One communication equipment per person adapted to the context (mobile phone, satellite phone, or, should coverage not be adequate, a long-range two-way radio).

Sufficient monitoring and measurement equipment shall be provided, certified and/or calibrated to industry recognised standards, as required to implement or verify conformance with these Requirements.

F. ESHS Code of Conduct

Upon award and signature of the Contract the Contractor shall submit the Code of Conduct that will apply to the Contractor's employees and workers and subcontractors. The Code of Conduct shall ensure compliance with the ESHS provisions of the contract. In addition, the Contractor shall submit an outline of how this Code of Conduct will be implemented. This will include: how it will be introduced into conditions of employment/engagement, what training will be provided, how it will be monitored and how the Contractor proposes to deal with any breaches.

Minimum Requirements for the Tenderer's Code of Conduct

A satisfactory Code of Conduct will contain obligations on all the Contractor's Personnel (including sub-contractors and day workers) that are suitable to address the following issues, as a minimum. Additional obligations may be added to respond to particular concerns of the region, the location and the project sector or to specific project requirements. The code of conduct shall contain a statement that the term "child" / "children" means any person(s) under the age of 18 years.

The issues to be addressed include:

1. Compliance with applicable laws, rules, and regulations
2. Compliance with applicable health and safety requirements to protect, the local community (including vulnerable and disadvantaged groups), the Employer's Personnel, and the Contractor's Personnel (including occupational health and safety, and the duty to report conditions or practices that pose a safety hazard or threaten the environment)
3. Compliance with applicable labour requirements to protect, the Employer's Personnel, and the Contractor's Personnel (including core labour standards)
4. The use of illegal substances
5. Non-Discrimination in dealing with the local community (including vulnerable and disadvantaged groups), the Employer's Personnel, and the Contractor's Personnel (for example on the basis of family status, ethnicity, race, gender, religion, language, marital status, age, disability (physical and mental), sexual orientation, gender identity, political conviction or social, civic, or health status)
6. Interactions with the local community(ies), members of the local community(ies), and any affected person(s) (for example to convey an attitude of respect, including to their culture and traditions)
7. Sexual harassment, sexual exploitation and abuse (together "gender-based violence") in the workplace and in community(ies), for example
    - to prohibit use of language or behaviour, in particular towards women and/or children, that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate
    - to prohibit acts that inflict physical, mental or sexual harm or suffering, threats of such acts, coercion, and deprivation of liberty
    - to prohibit the exchange of money, employment, goods, or services for sex, including sexual favours or other forms of humiliating, degrading behaviour, exploitative behaviour or abuse of power.
8. Protection of children (including prohibitions against sexual activity or abuse, or otherwise unacceptable behaviour, towards children, limiting interactions with children, and ensuring their safety in project areas)
9. Sanitation requirements (for example, to ensure workers use specified sanitary facilities provided by their employer and not open areas)
10. Avoidance of conflicts of interest (such that benefits, contracts, or employment, or any sort of preferential treatment or favours, are not provided to any person with whom there is a financial, family, or personal connection)
11. Respecting reasonable work instructions (including regarding environmental and social norms)
12. Protection and proper use of property (for example, to prohibit theft, carelessness or waste)
13. Duty to report violations of this Code
14. Non retaliation against workers who report violations of the Code, if that report is made in good faith.

The Code of Conduct should be written in plain language and signed by each worker to indicate that they have:

- received a copy of the code;
- had the code explained to them;
- acknowledged that adherence to this Code of Conduct is a condition of employment; and
- understood that violations of the Code can result in serious consequences, up to and including dismissal, or referral to legal authorities.

A copy of the Code shall be displayed in a location easily accessible to the community and project affected people. It shall be provided in languages comprehensible to the local community, Contractor's Personnel, Employer's Personnel, and affected persons.

G. ESHS AND LABOUR REPORTING

A reporting procedure for all incidents, non-conformances and non-compliances shall be included within the C-ESMP, H&S Management Plan and Labour Management Plan. This shall describe the mechanism, frequency, time limit and lines of reporting for all incidents, non-conformances and non-compliances.

Monthly progress reports shall include the information as described in the Section "Information and Reporting Requirements" below and in a format approved by the Engineer

H. PAYMENT FOR ESHS REQUIREMENTS

The costs for compliance with all ESHS requirements are explicitly provided in Price Schedule No. 1 and shall be priced by the Tenderer.

- **Programme and Phasing of Works**

  Participants shall propose their Programme and Phasing of the Works to comply with the requirement for the Time for Completion based on the information provided in these tender documents and their site visit(s).

  Participants shall also demonstrate their intended construction logistics for the Works, e.g., locations of camp(s) and plant, work in sections, traffic management measures etc.

  The Contractor awarded the Works shall submit its detailed time programme in accordance with the conditions of contract.

- **Insurance Requirements**

  Insurance requirements shall be in accordance with the conditions of contract.

- **Information and Reporting Requirements**

  In addition to Progress Reports as required by the conditions of contract, the Contractor shall include ESHS metrics in the Progress Reports as follows:

  a. environmental incidents or non-compliances with contract requirements;
  b. health and safety incidents or non-compliances with contract requirements;
  c. interactions with regulators;
  d. status of all permits and agreements;
  e. health and safety supervision including inspections, findings and corrective actions;
  f. worker accommodations including numbers of residents, inspections and actions;
  g. workforce health;
  h. gender (for expats and locals separately); number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);
  i. training:
     a. number of new workers, number receiving induction training, dates of induction training;
     b. number and dates of toolbox talks, number of workers receiving ESHS training by topic;
  j. environmental and social supervision including inspections, findings and corrective actions
  k. Grievances: new, pending and resolved grievances
     a. worker grievances;
     b. community grievances;
  l. Traffic and vehicles / equipment:
     a. traffic accidents involving project vehicles and equipment;
     b. accidents involving non-project vehicles or property;
  m. Environmental mitigations and issues (what has been done):
  n. Compliance:
     a. compliance status for conditions of all relevant consents / permits, for the work;

b. compliance status of C-ESMP/ESAP requirements; Worker and Community Health and Safety Management Plan; and Labour Management Plan

The Contractor shall provide the following reports and submissions in accordance with national requirements:

- Drawings:
  (a) Upon initiating each given stage of construction, the Contractor shall prepare Shop Drawings and have them approved by the Engineer 14 days in advance of the respective works;
  (b) prepare Measurement Drawings and have them approved;
  (c) develop final As Built Drawings and have them approved upon completion of the Works;
- Work Schedule/Program & Methodology; after receiving written confirmation of the Contract Award within 28 days the Contractor shall present to the Engineer designated management and methodology to perform the contract work.
- Work Acceptance Certification;
- Quality Assurance & Quality Control (QA/QC) Plan;
- ESHS Management Plan;
- Inspection and Testing Plan/Procedure;
- Work Completion Report.

- **Contractor's Equipment**

Participants are required to demonstrate that, based on known commitments, this equipment will be available for use in the Contract.

Participants shall be allowed to list alternative equipment, which they would propose to use for the Contract, together with an explanation of the proposal.

No.	Description	Minimum number required	
		Lot 1	Lot 2
1	Asphalt plant 150 t/h	1	1
2	Crusher plant 80 m^3/h	1	1
3	Asphalt Paver	1	1
4	Compaction Equipment	3	3

- **Key Personnel**

Participants are required to provide suitably qualified personnel for the key contractual positions. For each position the Participant shall provide information on a first choice candidate and an alternate, each of whom should meet the specified experience requirements.

Lot 1:

No.	Description	Total Work Experience (years)	In Similar Works Experience (years)
1	Site manager	15	10
2	Contract manager (experience in managing FIDIC contracts)	10	5
3	Quality control specialist	10	5
4	Environmental and social specialist	5	3
5	Health and safety manager	5	3
6	Pavement Engineer	5	5
7	Geodesy Engineer	5	3
8	Materials Engineer	3	3

Lot 2:

No.	Description	Total Work Experience (years)	In Similar Works Experience (years)
1	Site manager	15	10
2	Contract manager (experience in managing FIDIC contracts)	10	5
3	Quality control specialist	10	5
4	Environmental and social specialist	5	3
5	Health and safety manager	5	3
6	Pavement Engineer	5	5
7	Geodesy Engineer	5	3
8	Materials Engineer	3	3

Participants submitting proposals for both Lots 1 and 2 do not need to submit two sets of candidates for the following positions:

- Contract manager (experience in managing FIDIC contracts)
- Pavement Engineer
- Environmental and social specialist
- Geodesy Engineer
- Materials Engineer

- **Requirements for Warranties**

  Warranties shall be in accordance with the conditions of contract.

- **Inspection and Test Procedures**

  Inspection and test procedures shall be in accordance with the conditions of contract.

- **Commissioning and Taking Over Procedures**

  Commissioning and taking over procedures shall be in accordance with the conditions of contract.

Appendix 1: Specifications

General

The Works shall be built in accordance with the Specifications for the Project, which are appended to these Requirements. The sections listed below are identified as directly applicable to the Works; however, the complete Specification is included all chapters remain applicable.

100 General

200 Material Testing and Sampling

300 Construction Staking and Tolerances

600 Quarries and Borrow Areas

700 Traffic Proceeding

1000 Asphalt Pavement Works

1100 Shoulders

1500 Pavement Markings

1600 Roadway Equipment

Equivalence of Standards, Codes and Products

Wherever reference is made in the Specifications to specific standards and codes to be met by the materials, Plant or workmanship to be furnished, the provisions of the latest current edition or revision of the relevant standards or codes in effect shall apply, unless otherwise expressly stated in the Specifications. Where such standards and codes are national or related to a particular country or region, other authoritative standards that ensure substantial equivalence to the standards and codes specified will be acceptable.

Wherever a reference is made in the Specifications to specific brand names, trademarks, patents, copyrights, designs or other designations, other Materials or Plant of equivalent or higher quality and/or performance will be acceptable.

Appendix 2: Drawings

For each of Sections 1 to 5, the following types of detailed design drawings for the Phase 1 works are enclosed with this tender.

General Plan

Setting Out

Plan and Profile

Dimensions of Intersections and Tapers

Typical Cross-Sections

Details of Superelevation

Collection of Cross-Sections

Traffic Regulations

Road Equipment

Interceptor and Side Ditch

Reinforced Culverts / Pipes

Upon initiating each given stage of construction, the Contractor shall prepare Shop Drawings for the Works and have them approved by the Engineer 14 days in advance of the respective works.

Appendix 3: Environmental and Social Action Plan (ESAP) - Ulaanbaatar to Darkhan Road Project

No.	Action	Environmental & Social Risks (Liability/ Benefits)	Requirement (Legislative, EBRD PR, Best Practice)	Resources, Investment Needs, Responsibility	Timetable	Target and Evaluation Criteria for Successful Implementation	Status
PR1	**Assessment and Management of Environmental and Social Impacts and Issues**						
1.5	**ESMS, Policies and ESMMP.** Implement the Project ESHS, including policies and Project ESMMP (#1.2, 1.3 and 1.4). As necessary, develop detailed Lot-specific Construction ESMMP based on the Project ESHS performance requirements and the Supplementary ESIA/ESMMP/Project ESMMP and site requirements (e.g. temporary landtake requirements), for approval by PIU. Topics to be covered in the Lot-specific Construction ESMMP include as a minimum: • Water management • Emergency preparedness and response (see 4.6) • Spill prevention and response • Materials use (including borrow pits and quarry management) and waste management • Hazardous materials management • Labour management (including construction camps) (see 2.1) • Labour grievance mechanism (see 2.6 to 2.8) • Traffic management (on and off construction site areas) (see 4.4) • Occupational Health and Safety (OHS) (see 4.1) • Community health and safety (see 4.2) • Air emissions • Noise and vibration • Security • Training Plan	Optimisation of ESHS management though a formalised system. Contractor management.	EBRD PR1, PR3, PR4. Good international practice.	Contractor (and any of their sub-contractors).	Develop prior to construction on site. Maintain permanently during construction.	Develop detailed Lot-specific Construction ESMMP, approved by PIU. Plans provided to Bank for review and no-objection approval. Implement Lot-specific Construction ESMMP and report through monthly, quarterly and annual reporting.	

No.	Action	Environmental & Social Risks (Liability/ Benefits)	Requirement (Legislative, EBRD PR, Best Practice)	Resources, Investment Needs, Responsibility	Timetable	Target and Evaluation Criteria for Successful Implementation	Status
	• Site rehabilitation • Stakeholder Engagement Plan including a community grievance mechanism (see PR10) • Training The management plans should, as necessary, identify impacts of proposed location of borrow pits, construction camps and any temporary works areas including any haul/access roads. Detailed monitoring requirements/plan to be incorporated into ESMMP.						
1.8	**Permits.** Ensure relevant permits are in place and compliance with permit requirements for relevant Lot(s). All necessary permits to be in place prior to the start of permitted activities (e.g. water abstraction permit batching plant, construction camps, borrow pits, etc.).	Compliance with EBRD PRs and Mongolian legislation.	EBRD PR1. Mongolian legislation.	Contractor.	Maintain Lot permit register up-to-date during construction and operation.	Permit Register for relevant Lot(s). Maintained Lot permit register(s) and record of permits obtained.	
1.11	**Organisational Capacity and Commitment (Contractor).** Provide sufficient staffing to manage the ESHS performance of the construction phase for relevant Lot(s).	Ensure appropriate Organisation Capacity and Competency.	EBRD PR1, PR2. Good international practice.	Contractor.	Prior to start of construction.	Appointment of qualified contractor person, including ESHS lead per contractor, approved by PIU. Named personnel for roles.	
1.14	**Project Monitoring and Reporting.** Provide regular reports on performance to PIU during construction. Provide ESHS incident reporting in accordance with Project procedure. Identification of corrective actions procedure.	Continual assessment of ESHS performance against EBRD PRs. To record incidences and apply lessons learned.	EBRD PR1 to EBRD PR10 excluding PR7 & PR9.	Contractors.	Requirement for contractor reporting on ESHS aspects incorporated into tender documents. Monthly, quarterly and annually during construction.	ESHS incident reports. Submission of reports on ESHS compliance on schedule and in a mutually agreed format to PIU. Contractor reports sufficient to allow PMU to include relevant data in reports to the Bank, and to allow evaluation of need for corrective actions.	

No.	Action	Environmental & Social Risks (Liability/ Benefits)	Requirement (Legislative, EBRD PR, Best Practice)	Resources, Investment Needs, Responsibility	Timetable	Target and Evaluation Criteria for Successful Implementation	Status
PR2	**Labour and Working Conditions**						
2.3	**Human Resource Policies, Working Relationships, Wages, benefits, and Conditions of Work.** Follow Project HR policies and Project Labour Management Plan. Demonstrate employment of local population taking into account gender policy and local skills, with preference for those who may be directly affected by noise, traffic, or other project activities. Provide necessary training to upgrade skills of unskilled local workers. Ensure risk insurance policies available triggered automatically. Demonstrate use of local supply chains. Put arrangements in place for construction workers so that they have access to welfare facilities such as toilets and shaded and/or heated locations for breaks.	To ensure management of workforce in line with EBRD requirements and Mongolian Labour Law. Provision of equal opportunities and improving economic prospects of local residents. To ensure welfare of workers during site preparation and construction activities.	EBRD PR2. Good international practice.	Contractor.	Prior to and during construction.	Detailed contractor policies and plans provided for approval by PIU, including arrangements to be put in place for construction workers prior to start of construction. Report on numbers of local residents employed, taking into account gender policy within the monitoring reports to PIU.	
2.4	**Wages, Benefits, and Conditions of Work and Accommodation.** Provide labour accommodation strategy and principles, in accordance with EBRD guidance for workers accommodation camps. Identify a suitable location of accommodation and obtain any necessary permits. Adopt Project Code of conduct and ensure all personnel are trained in the Code.	To minimise the impact of any in-migration of construction workers on local communities. To ensure welfare of workers.	EBRD PR2. Good international practice.	Contractor.	Contractor document prior to construction of labour accommodation, or camp being accommodated by workers.	Necessary permits in place. Workers' Camp Management Plan. Camp set up and maintained in compliance with EBRD requirements. Code of Conduct in place and evidence of training of personnel in the Code.	
2.7	**Grievance Mechanism.** Set up and maintain a formal labour grievance mechanism for contractor employees and disseminate information about its uses to the workforce in the language(s) of the workers, including possibility of anonymous grievances submission.	To provide a channel for raising workers' concerns and a transparent, consistent mechanism for resolution.	EBRD PR2, PR10. Good international practice.	Contractor.	Develop prior to activities commencing. Implement during construction.	Adoption of formal labour grievance mechanism for contractor employees in line with Project ESHS. Grievances and resolutions proposed to be reported to PIU as a minimum in monthly reports.	

No.	Action	Environmental & Social Risks (Liability/ Benefits)	Requirement (Legislative, EBRD PR, Best Practice)	Resources, Investment Needs, Responsibility	Timetable	Target and Evaluation Criteria for Successful Implementation	Status
2.9	**Security Personnel Requirements.** Conduct due diligence investigation for all security personnel to make sure they have appropriate licensing, experience and training. Provide evidence to the PIU.	Prevent conflict between security personnel and local communities. Prevent potential human rights violations by security personnel.	EBRD PR2.	Contractor.	Prior to employing security personnel. Incident reporting during construction.	Due diligence carried out and documented/reported to PIU. Report to EBRD any incidents involving security guards.	
PR3	**Resource Efficiency and Pollution Prevention and Control**						
3.2	**Air Emission Controls and Monitoring.** Prepare and implement detailed Construction ESMMP with measures to control fugitive emissions and point source emissions and dust as identified in the Supplementary ESIA/ESMMP/Project ESMMP. Crusher site and mixing plants should be located at least 500 m to 1 km downwind from receptors. Develop detailed air quality monitoring plan and conduct baseline air quality monitoring in accordance with requirements set out in the Supplementary ESIA/ESMMP. Conduct visual dust monitoring daily during construction.	Management of environmental impacts on receptors.	EBRD PR3. Good international practice.	Contractor.	Develop prior to construction activities commencing. Implement prior to and during construction.	Detailed air quality and dust management plan approved by PIU. Plans provided to Bank for review and no-objection approval. Pre-construction baseline established. Periodic air quality monitoring, as required. Progress report from contractor during construction through monthly, quarterly and annual reporting to PIU.	
3.3	**Pollution Prevention and Control – Waste waters.** Prepare and implement detailed Construction ESMMP with enhanced measures on waste water management in line with the Supplementary ESIA/ESMMP/Project ESMMP. Specify measures to be used on site and at camps.	Management of environmental impacts on receptors.	EBRD PR3. Good international practice.	Contractor.	Develop prior to construction activities commencing. Implement during construction.	Detailed waste water management plan approved by PIU. Plans provided to Bank for review and no-objection approval. Progress report from contractor during construction through monthly, quarterly and annual reporting to PIU	
3.4	**Water.** Undertake a water needs and impacts assessment for water demand during construction. Prepare and implement detailed Construction Water Management Plan with enhanced measures	Management of environmental impacts on receptors.	EBRD PR3. Compliance with regulatory requirements of Mongolia.	Contractor.	Develop prior to construction activities commencing.	Detailed Construction Water Management Plan approved by PIU. Plan provided to Bank for review and no-objection approval.	

No.	Action	Environmental & Social Risks (Liability/ Benefits)	Requirement (Legislative, EBRD PR, Best Practice)	Resources, Investment Needs, Responsibility	Timetable	Target and Evaluation Criteria for Successful Implementation	Status
	to protect local water sources in line with the Supplementary ESIA/ESMMP/Project ESMMP. Identify location of herder groundwater supplies prior to construction on site and protect them from damage in construction. Survey of well presence in all areas affected by construction including camps, lay down areas and haul roads. Develop 'water protection zones' around surface water identified in DEIA and Supplementary ESIA/ESMMP/Project ESMMP. No refuelling to be permitted within 50 m of zone of these sites. Any water permits required to be obtained prior to abstraction. Provide well drilling (water supply) method statement for any wells proposed. Monitor water use/extraction from groundwater wells.		Good international practice.		Implement prior to and during construction.	Herder well survey completed and wells demarcated. Water protection zones demarcated. Permits for water abstraction in place. Well drilling (water supply) method statement for approval by PIU. Groundwater use monitoring report. Progress report from contractor during construction through monthly, quarterly and annual reporting to PIU.	
3.5	**Waste controls.** Develop detailed construction Materials use and Waste Management Plan (to include hazardous wastes) as part of the Lot-specific Construction ESMMP, which includes the following: • Application of waste hierarchy in project planning to ensure efficient use and management of resources so that priority is to prevent from generation of waste at source as much as possible. • Minimum rate of recovery of at least 60%. • Pre-determine types and amount of waste (especially hazardous waste) to be generated as much as possible in order to enable planning of management actions effectively prior to construction • Procedures for proper handling of all waste generated and waste segregation/ designated storage locations	Management of environmental impacts on receptors. Compliance with regulatory requirements of Mongolia.	EBRD PR3. Compliance with regulatory requirements of Mongolia. Good international practice.	Contractor. PIU to preapprove waste disposal routes.	Develop prior to construction activities commencing. Implement during construction.	Detailed management plan approved by PIU. Plans provided to Bank for review and no-objection approval. Progress report from contractor during construction through monthly, quarterly and annual reporting to PIU.	

No.	Action	Environmental & Social Risks (Liability/ Benefits)	Requirement (Legislative, EBRD PR, Best Practice)	Resources, Investment Needs, Responsibility	Timetable	Target and Evaluation Criteria for Successful Implementation	Status
	• Secondary containment measures for hazardous materials and stored in construction compounds. Use fluid catchment trays in vehicle refuelling areas • Review for potential contamination related to any realignment or removal of any petrol stations • Identify licensed facilities for acceptance and disposal of construction waste and other waste streams including hazardous waste • Obtain related permits and have agreements with relevant local authorities for waste management, including transportation and disposal of solid and liquid waste • Methods to verify proper off-site management of related wastes by contractors						
3.6	**Noise and Vibration Controls and Monitoring.** Prepare and implement detailed Lot-specific Construction ESMMP with enhanced measures to control noise and vibration in accordance with the Supplementary ESIA/ESMMP/Project ESMMP. Conduct a noise survey to identify potential noise impacts in soums where the road will effectively be closer to residential properties in accordance with requirements set out in the Supplementary ESIA/ESMMP/Project ESMMP.	Management of environmental impacts on receptors.	EBRD PR3. Good international practice.	Contractor.	Prior to construction activities commencing. Implement prior to and during construction.	Detailed plan approved by PIU. Plans provided to Bank for review and no-objection approval. Pre-construction baseline established. Monitoring during construction. Progress report from contractor during construction through monthly, quarterly and annual reporting to PIU.	
3.7	**Soil Erosion and Pollution Controls.** Prepare and implement detailed Lot-specific Construction ESMMP in accordance with the Supplementary ESIA/ESMMP/Project ESMMP. This should include planning of any cut and fill slopes, haul roads and temporary works areas/ camps in a way to disturb minimal amount of area and therefore minimum topsoil stripping (ie: maximizing use previous dirt roads). It should also take into account any requirements for soil	Management of environmental impacts on receptors.	EBRD PR3. Good international practice.	Contractor.	Prior to construction activities commencing. Implement during construction.	Detailed management plan approved by PIU. Plans provided to Bank for review and no-objection approval. Progress report from contractor during construction through monthly, quarterly and annual reporting to PIU.	

No.	Action	Environmental & Social Risks (Liability/ Benefits)	Requirement (Legislative, EBRD PR, Best Practice)	Resources, Investment Needs, Responsibility	Timetable	Target and Evaluation Criteria for Successful Implementation	Status
	protection in relation to permafrost, where relevant along the road.						
PR4	**Health and Safety**						
4.3	**Community Health and Safety.** Develop and implement procedures to protect public health and safety within contractors' detailed Lot-specific Construction ESMMP. Procedures to include (but not to be limited to): • Public notice of construction operations in areas open to the public • Notice to nearby residents and local authorities before major activities and traffic • Public education/awareness raising sessions be held in high risk areas (i.e. construction near population centres, schools, etc.) and people (e.g. herders, for example, encourage herders not to leave small livestock unattended) to make potentially affected people aware of the risks and controls in place • Toolbox talks with workers to ensure workers are aware of measures to avoid risk to local communities; Implementation of safe working practices during construction including provision of hazard notices/signs/barriers • Employ adequate measures to prevent unauthorized access to the construction	To minimise accidents and incidents with road users, local communities and livestock.	EBRD PR4. Good international practice.	Contractor.	Develop prior to construction activities commencing. Implement during construction.	Detailed management plan/procedures approved by PIU. Plans/procedures provided to Bank for review and no-objection approval. Progress report from contractor during construction through monthly, quarterly and annual reporting to PIU.	
4.4	**Traffic and Road Safety.** Develop traffic management plan as part of the ESMMP in accordance with the Supplementary ESIA/ESMMP/Project ESMMP. It should include as a minimum: • Management of haul roads, access roads and haul traffic	To minimise accidents and incidents with road users, local communities and livestock, and maintain local access.	EBRD PR4. Good international practice.	Contractor.	Develop prior to construction activities commencing. Implement during construction.	Detailed management plan/procedures approved by PIU. Plans/procedures provided to Bank for review and no-objection approval. Progress report from contractor during construction through monthly, quarterly and annual reporting to PIU.	

No.	Action	Environmental & Social Risks (Liability/ Benefits)	Requirement (Legislative, EBRD PR, Best Practice)	Resources, Investment Needs, Responsibility	Timetable	Target and Evaluation Criteria for Successful Implementation	Status
	• Provision of safe access and egress across works for local communities • Publication of details on temporary livestock crossings • Construction vehicles to keep to agreed access routes, minimise risk and disruption to project affected communities and other road users and adhere to speed limits • Appropriate management of interaction of construction traffic with public road users, such as use of traffic marshals/flagmen • Complex traffic control to be coordinated in liaison with the Road Police						
4.8	**Exposure to Disease.** Develop and implement procedures to control exposure to disease in accordance with the Supplementary ESIA/ESMMP/Project ESMMP; to include as a minimum: • Disease control measures • Construction workers' camps measures to meet IFC/EBRD requirement, especially hygiene standards • Medical surveillance of all workers to detect the risk of any STDs to workers and the general public • Toolbox talks with workers	To minimise spread of diseases.	EBRD PR4. Good international practice.	Contractor.	Develop prior to construction activities commencing. Implement during construction.	Detailed management plan/procedures approved by PIU. Plans/procedures provided to Bank for review and no-objection approval. Progress report from contractor during construction through monthly, quarterly and annual reporting to PIU.	
4.9	**Emergency Preparedness and Response.** Prior to construction on site, the Emergency Preparedness and Response Plan should be developed in full as part of the Lot-specific Construction ESMMP, in accordance with the Supplementary ESIA/ESMMP/Project ESMMP. It should include as a minimum: • Identification of potential emergencies and risk assessments • Roles and responsibilities	Prepare for emergencies to minimise negative impacts.	EBRD PR4. Good international practice.	Contractor.	Develop prior to construction activities commencing. Implement during construction.	Detailed management plan/procedures approved by PIU. Plans/procedures provided to Bank for review and no-objection approval. Progress report from contractor during construction through monthly, quarterly and annual reporting to PIU.	

No.	Action	Environmental & Social Risks (Liability/ Benefits)	Requirement (Legislative, EBRD PR, Best Practice)	Resources, Investment Needs, Responsibility	Timetable	Target and Evaluation Criteria for Successful Implementation	Status
	• Development of procedures to respond to identified emergencies • Equipment required e.g. first aid facilities, firefighting equipment, etc. • Testing and inspection regimes for emergency equipment • Muster points. evacuation routes • Training requirements • Communication protocols to workers, public and other affected parties • Location of nearest medical facilities • Update and review cycle This plan should be developed and implemented in liaison with local community members, authorities and emergency services, and cover the requirements of this PR. This should be in place prior to construction commences on site.						
PR5	**Land Acquisition, Involuntary Resettlement and Economic Displacement**						
5.4	**Land Acquisition Documentation and Implementation.** Ensure all temporary land requirements (e.g. construction camps, borrow pits, haul roads, etc) that will result in temporary or permanent physical and/or economic displacement are secured in accordance with the LARF. Where appropriate and required, development and implementation of a land acquisition and resettlement plan (LARP) in accordance with the LARF. This should be undertaken in liaison with PIU. All compensation disbursed prior to start of works on site with affected asset.	Ensure compliance with EBRD requirements.	EBRD PR5	Contractor.	Prior to construction works that will affect asset identified.	LARP. Disbursement of compensation. Number of grievances.	
PR7	**Indigenous People**						
7.1	Not applicable.						

No.	Action	Environmental & Social Risks (Liability/ Benefits)	Requirement (Legislative, EBRD PR, Best Practice)	Resources, Investment Needs, Responsibility	Timetable	Target and Evaluation Criteria for Successful Implementation	Status
PR10	**Information Disclosure and Stakeholder Engagement**						
10.1	**Construction SEP and Operational Grievance Mechanism.** Building on the Supplementary/Project SEP, develop and implement detailed Lot-specific Construction SEPs for approval by PIU. Community liaison officer or equivalent to be appointed by contractors. Ensure early notice to villages and residents prior to major project activities that could affect them. Undertake public education/awareness raising sessions in high risk areas (i.e. construction near population centres, schools, etc.) and with high risk groups (e.g. herders, for example, encourage herders not to leave small livestock unattended). Grievance mechanism log and reporting.	Compliance with EBRD requirements.	EBRD PR1, PR10.	Contractor.	Develop prior to construction on site. Implement during construction.	Lot-specific Construction SEP for each contractor approved by PIU. Contractor community liaison office to be appointed. Grievance mechanism log and records.	