



SNC • LAVALIN

Mongolia: Choir-Sainshand Transmission Line Project

Environmental and Social Impact Assessment
(ESIA) Non-Technical Summary (NTS)

June 2021

Notice

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Client signoff

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Acronyms and abbreviations

| Acronym / Abbreviation | Description |
|------------------------|---|
| EBRD | European Bank for Reconstruction and Development |
| EIA | Environmental Impact Assessment |
| DEIA | Detailed Environmental Impact Assessment |
| EMF | Electric and magnetic field |
| ESAP | Environmental and Social Action Plan |
| ESIA | Environmental and Social Impact Assessment |
| ESMMP | Environmental and Social Management and Monitoring Plan |
| IUCN | International Union for Conservation of Nature |
| kV | Kilovolt |
| LARF | Land Acquisition and Resettlement Framework |
| MNS | Mongolian National Standard |
| NPTG | National Power Transmission Grid |
| NTS | Non-Technical Summary |
| OHTL | Overhead transmission line |
| SEP | Stakeholder Engagement Plan |

1. Introduction

1.1. Background

The European Bank for Reconstruction and Development (EBRD) is considering providing finance to the Government of Mongolia for the construction of an approximately 220 kilometre (km) double circuit 220 kilovolt (kV) overhead transmission line (OHTL) between Choir and Sainshand; the construction of a new 220/110/35 kV substation in Sainshand and extension of 220 kV Choir substation (hereafter referred to as the Project). The Ministry of Energy will be the Client. The National Power Transmission Grid State Owned Joint Stock Company (the Company or NPTG), a state-owned power transmission utility, may act as the implementing entity and will operate the Project.

The Project location is shown in Figure 1-1. It is proposed to start at an existing substation in Choir, in the main city of Govi-Sumber *aimag* (province). The OHTL will run from this substation in a south-east direction to finish at a new substation approximately 2.5 km north of the existing substation in the city of Sainshand, the capital of Dornogovi *aimag*.

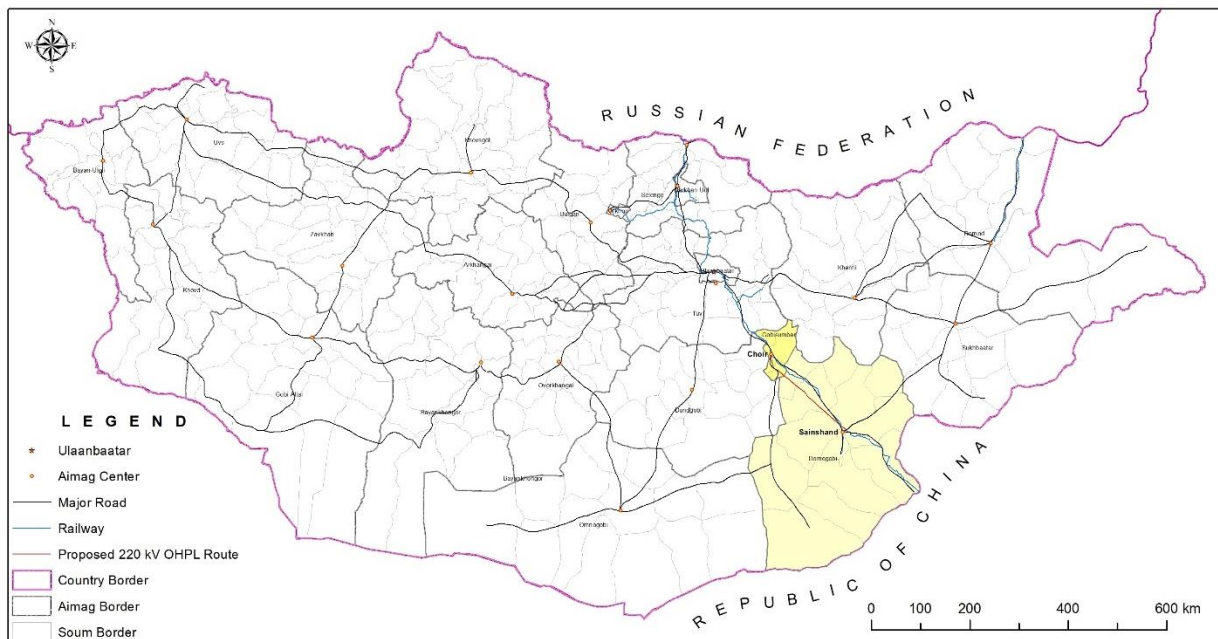


Figure 1-1. Project location

The EBRD has categorised the Project as a Category A project in relation to its 2014 Environmental and Social Policy, which means that a comprehensive Environmental and Social Impact Assessment (ESIA) is required to determine the bankability of the Project.

WS Atkins International (Atkins), together with their sub-consultants and Sustainability East Asia LLC, Independent Research Institute of Mongolia LLC and EcoTrade LLC, have been commissioned by the EBRD to undertake the ESIA and prepare an ESIA Disclosure Package to EBRD requirements.

This Non-Technical Summary (NTS) is one of a number of documents within the ESIA Disclosure Package, as follows:

- ESIA Report;
- Stakeholder Engagement Plan (SEP);
- Environmental and Social Mitigation and Management Plan (ESMMP);
- Land Acquisition and Resettlement Framework (LARF); and
- Environmental and Social Action Plan (ESAP).

1.2. Purpose of the Non-Technical Summary

The purpose of this NTS is to provide an easily understandable summary of the information that is provided in the ESIA Disclosure Package documents identified above. It provides the public with information about the Project, including the outcomes of the ESIA, the management actions to address positive and negative environmental and social impacts, and the proposed Stakeholder Engagement process and grievance mechanism.

1.3. Scope of the Non-Technical Summary

This NTS identifies:

- The Project and alternatives considered;
- Summary of environmental and social impacts associated with the Project during construction and operation;
- Mitigation measures and monitoring requirements to address negative impacts;
- Summary of management measures; and
- Overview of the Stakeholder Engagement Plan and Grievance Mechanism.

2. Description of the Project

2.1. Project Overview

The Project has been identified as top priority by the Ministry of Energy. A Feasibility Study was prepared by the Ministry of Energy in 2013 which looked at a longer transmission line and associated substations, between Choir-Sainshand-Zamyn Uud. A Technical review of the Feasibility Study has been undertaken by Mercados – Aries International in 2020. The Project forms a part of this longer transmission route; and will contribute to meeting the approved State Policy on Energy for 2015-2030 which outlined the priority areas and strategic goals for the Mongolian power sector as improvement of efficiency, safety, and environment protection.

2.2. Need for the Project

The existing power transmission and distribution infrastructure in Mongolia is characterised by aged infrastructure, it is inefficient and unreliable with major losses along transmission lines and is in urgent need of rehabilitation and upgrade. Most of Mongolia's electricity generation and transmission facilities were built between 1960 and 1980 and run on outdated technology.

According to data of Ministry of Energy of Mongolia of 2019, Mongolia experiences losses of approximately 13% in transmission and distribution, far from the international best practice of 5%. It is therefore crucial for the Mongolian Government to secure a reliable transmission network to ensure the development of other sectors and to support and increased generation capacity from renewable energies (such as wind and solar power).

The Project is needed as electricity transmission load demand has been increasing over the years in Dornogovi and Sumer *aimags*. It is expected that the planned Zamyn Uud Free Economic Zone and other development projects in the Project Area will drastically increase the electricity demand beyond the current capacity of the existing transmission lines; and therefore, new transmission infrastructure is required.

2.3. Key Project Characteristics

2.3.1. Project Route

The location of the Project is shown in Figure 2-1. The Project starts at an existing substation in Choir, the main city of Govi-Sumber *aimag* and will finish at a new substation in Sainshand, the capital of Dornogovi *aimag*. The OHTL will run in the vicinity of the settlements of Sumer and Shiveegovi *soums* (districts) in Govi-Sumber *aimag* and Dalanjargalan, Airag, Saikhandulaan, Altanshiree and Sainshand *soums* in Dornogovi *aimag*. In general, the OHTL route is sparsely populated and has vegetation characteristics of the Gobi Desert.

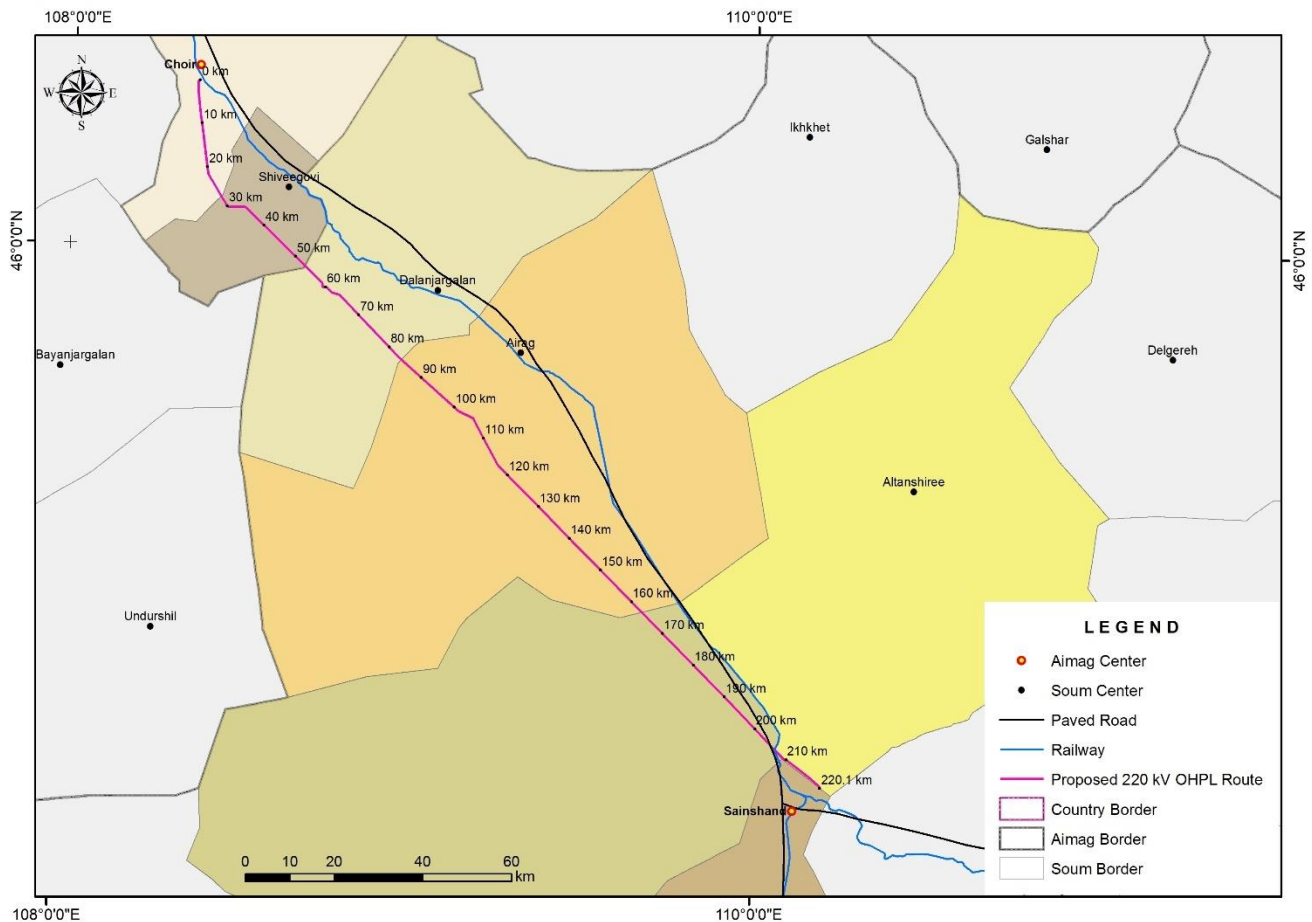


Figure 2-1. Transmission line route

2.3.2. Proposed Works

The Project comprises the following main components:

- **Transmission line.** A 220 km 220 kV double circuit overhead line will be constructed between the planned new substation in Sainshand and the existing substation in Choir.
- **Pylons.** The double circuit OHTL will be supported by a combination of twin steel poles in a portal formation with lattice towers where longer spans are required. It is planned that a total of 663 pylons will be used, using five different types of pylon.
- **Substations.** Extension of the existing substation in Choir. A new 220/110/35 kV substation will be built in Sainshand covering an area of approximately 63 m².

2.3.3. Establishment of a Right of Way

The Mongolian Law on Energy of 2001 and Mongolian Government Resolution No. 97 of 18 March 2020, sets out the establishment of protection zones or Rights of Way for transmission lines. Any activities that may interrupt energy transmission are prohibited within a Rights of Way. This includes prohibition of infrastructure development. The Right of Way for the OHTL is 25 m either side of the line route (so a 50 m zone in total) in the rural areas through which it will pass. This zone is reduced to 6 m either side of the line route in urban areas i.e. where the line runs into the substations.

A Right of Way of 25 m is also established around any substations, where no trees or agricultural plantations are allowed.

2.3.4. Construction Stage

Typical works that will be required during construction include:

- Establishment of site storage areas/compounds, workers' camp and site access roads;

- Transportation of equipment and workers to site;
- Civil works and installation of substation;
- Levelling and excavation of pole and tower foundations;
- Erection of towers/poles;
- Vegetation clearance of the Right of Way;
- Stringing of lines;
- Waste management; and
- Testing and first operation of equipment.

The types of construction equipment that will be required includes:

- | | |
|--|-------------------|
| • Excavators | • Concrete mixer |
| • Bulldozers | • Trucks |
| • Dump trucks for transporting excavation soil, construction materials and equipment | • Scaffolding |
| • Cranes | • Compactors |
| • Forklifts | • Mechanical saws |
| | • Light tools |

Construction raw materials will be influenced by the final design, however it can be assumed as a minimum raw materials will include concrete for foundations; water; power supply; construction aggregate; and road materials. Concrete for foundations will either be provided via on-site small mixers (250 litres) or will be purchased from batching plants within the vicinity of the Project. These requirements will be determined by the Construction Contractor once appointed.

2.3.5. Operation Stage

Operation and maintenance of equipment will be based on accepted international standards and in accordance with national legislation and practices as set out by the Mongolian Ministry of Energy.

The main activities to be carried out during the operation of the Project include operation of the substations; monitoring of the condition of the overhead lines, pylon towers and Right of Way; routine, planned and emergency maintenance and repairs; and vegetation control.

2.4. Project Alternatives

The Project has considered alternatives to site locations and layout, and to the process and operational aspects of the activity. A 'No Project' alternative was also considered and rejected as this could result in failure to meet future electricity demand to improve energy supply and efficiency in the generation, transmission and distribution networks and to fulfil energy development goals.

The route of the transmission line was considered near to an existing 110 kV transmission line that runs alongside the Choir-Sainshand main road; however, it was considered there was insufficient space and this would result in a high tension line passing through two *soum* centres and across an open mine. This would also result in a longer line, which is more expensive. The more rural route was therefore selected and was adjusted marginally to avoid two mining licence areas in 2021. The final selected route is shown in Figure 2-1 above.

The location of the new substation in Sainshand was considered at the existing substation and at a new location. A new location was decided approximately 2.5 km north of the current substation as more space was available and this is further from the city of Sainshand.

Overhead or underground transmission line options exist for transmission lines. Overhead lines are generally cheaper and tend to have a longer lifespan and shorter outage durations (as faults are easier to identify and repairs are easier to address). Overhead lines can also more easily withstand overloads and are more easily tapped, rerouted or modified to serve customers. However, they can be more susceptible to damage such as high winds and ice-loading conditions from extreme weather. Underground lines provide less risk to the public, can be more reliable (i.e. fewer short and long-duration interruptions to supply) and have less voltage drop as reactance is lower. However, underground lines are more difficult to modify after the cables have been installed and are more expensive. As overhead lines are generally used in Mongolia, these were selected for this Project.

In terms of the material for the transmission tower/pylon/poles that can be used, options include wood, concrete and steel. Steel is typically used for 220 kV transmission lines and therefore has been selected for this Project. The structure of the pylon depends on whether a single or double circuit is being used, the terrain and whether or not the purpose of the structure is suspension, tension, terminal (at the end of the line) or transposition. Five types of structures have been identified that will be used for this Project to reflect technical requirements and the terrain.

3. Legal Aspects and Compliance

3.1. National Requirements

The Environmental Impact Assessment (EIA) requirements of Mongolia are regulated by the Law on EIA, 1998 (amended in 2002 and 2012). The terms of the law apply to all new projects, as well as rehabilitation and expansion of existing industrial, service or construction activities and projects that use natural resources. A permit will be required from the Ministry of Environment and Tourism for this Project.

A Detailed EIA (DEIA) has been prepared by EcoTrade alongside this EBRD ESIA and will be submitted to the Ministry of Environment and Tourism for approval.

3.2. EBRD Requirements

The EBRD requirements include compliance with their Performance Requirements. The Performance Requirements applicable to this Project are:

- Performance Requirements 1: Assessment and Management of Environmental and Social Impacts and Issues;
- Performance Requirements 2: Labour and Working Conditions;
- Performance Requirements 3: Resource Efficiency and Pollution Prevention and Control;
- Performance Requirements 4: Health and Safety;
- Performance Requirements 5: Land Acquisition, Involuntary Resettlement and Economic Displacement;
- Performance Requirements 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources;
- Performance Requirements 8: Cultural Heritage; and
- Performance Requirements 10: Information Disclosure and Stakeholder Engagement.

The EBRD also requires the Project to meet all relevant European Union (EU) environmental standards.

The most relevant EU Directive in relation to the Project is EU Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment, as amended by 2014/52/EU (the EIA Directive) and the EU Directive on the conservation of wild birds (2009/147/EC), referred to as the Birds Directive.

EBRD also observes the Aarhus Convention (on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters), the Espoo Convention (on Environmental Impact Assessment in a Transboundary Context) and the International Labour Organization (ILO) core conventions.

The ESIA Disclosure Package has been prepared to meet the requirements of the EBRD and the above-mentioned EU and ILO requirements.

4. Summary of Environmental and Social Impacts and Mitigation Measures

4.1. Introduction

Baseline data was collected through desk-based research and field surveys, as follows:

- Biodiversity and Environment Team site reconnaissance, 15-17 April 2020
- Social and Stakeholder Team site reconnaissance, 19-22 April 2020
- Spring bird survey, 5 to 15 May 2020
- Autumn bird survey, 10 to 20 September 2020
- Social and stakeholder engagement survey, 8 to 12 June 2020
- Environmental survey 1 (Geography & subsoil, flora, fauna, water, soil, traffic, protected area), 4-10 June 2020
- Environmental survey 2 (Air quality, noise), 12 to 16 June 2020
- Site reconnaissance for the minor alignments to avoid two mining licences, 6 to 7 May 2021

4.2. Construction Phase

4.2.1. Terrestrial Biodiversity, Flora and Fauna

There is one internationally recognised biodiversity conservation site within the Project Area, Ikh Nart Important Bird Area. This Important Bird Area overlaps with the Ikh Nart Nature Reserve and is located 10 km southwest of the OHTL route. This IBA area covers an area of 43,740 ha and has over 120 bird species have been recorded in Ikh Nart. The other Nationally Protected Area is Choiryn Bogd Nature Reserve, 27 km to the northeast of the OHTL route. These sites are shown in Figure 4-1.

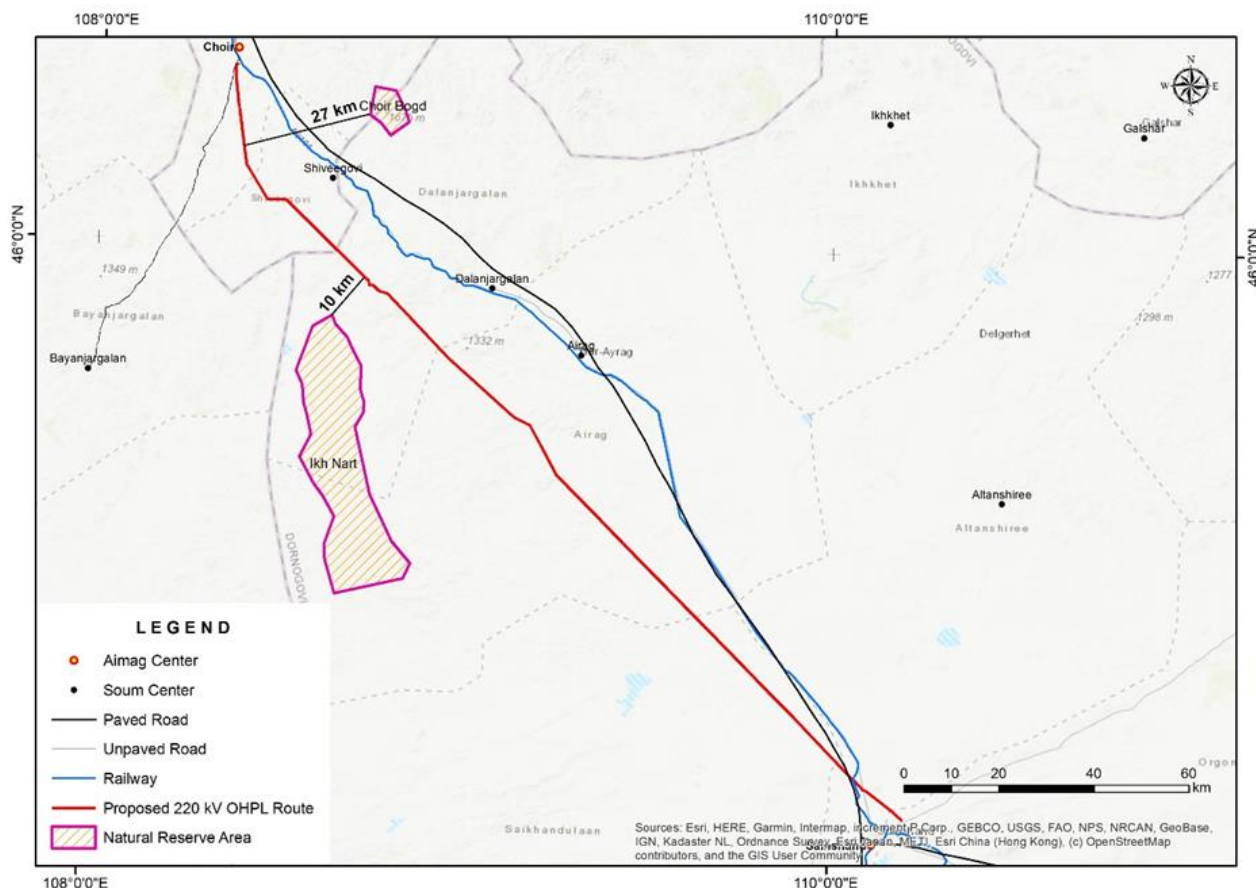


Figure 4-1. Locations of State Protected Areas in Project Area

There are 47 Locally Protected Areas in the Sainshand-Choir *soums*. The proposed OHTL route crosses two of the locally protected areas, as shown in Figure 4-2.

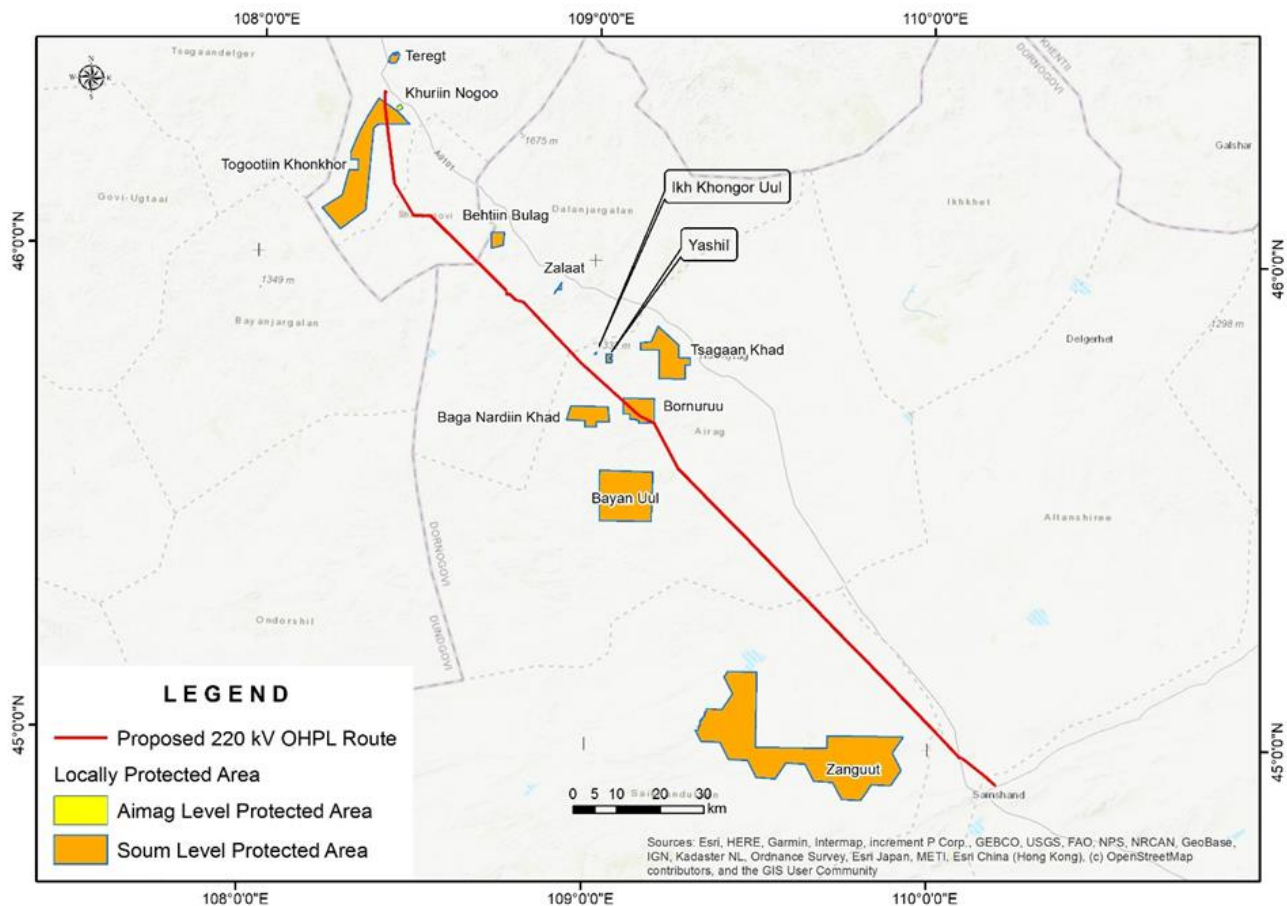


Figure 4-2. Locations of locally protected areas in the Project Area

Biodiversity surveys indicated that vegetation coverage was generally low and no International Union of Conservation of Nature (IUCN) Red Listed threatened plants species were observed however, two plant species listed as threatened in the Mongolian Red List, were recorded. Mammals, reptiles, invertebrates and birds were also observed. The majority of the bird species recorded during the spring bird survey have low conservation priorities however, two threatened category birds were identified. Sensitive species were identified as:

Flora:

- Shardalan (*Tugarinovia mongolica*) Mongolian Red List 'Vulnerable' and 'Very rare' category species by Mongolian regulatory designation; and
- Desert living cistanche (*Cistanche deserticola*). Mongolian Red List 'Endangered' and "very rare" category species by the Mongolian regulatory designation.

All other plant species in the Project Aol are considered to have low sensitivity.

Mammals:

- Goitered gazelle (*Gazella subgutturosa*). Both IUCN and Mongolian Red List 'Vulnerable' category species;
- Mongolian gazelle (*Procapra gutturosa*). Mongolian Red List 'Endangered' category species;
- Argali (*Ovis ammon*). Mongolian Red List 'Endangered' category species; and
- Siberian ibex (*Capra Sibirica*). Mongolian regulatory designated 'Rare' mammal.

Birds:

- Swan goose (*Anser cygnoid*). IUCN Red List 'Vulnerable' category species;
- Great bustard (*Otis tarda*). IUCN Red List 'Vulnerable' category species;

- Steppe eagle (*Aquila nipalensis*). IUCN Red List 'Endangered' category species;
- Saker falcon (*Falco cherrug*). IUCN listed 'Endangered' and Mongolian Red List 'Vulnerable' category species;
- Cinereous vulture (*Aegypius monachus*). IUCN Red List 'Near-threatened' category species; prone to OHTL collision and electrocution and present in high numbers;
- Tree pipit (*Anthus trivialis*). Mongolian regulatory designated 'Rare' bird;
- Pallas's sandgrouse (*Syrrhaptes paradoxus*). Common in the Project Area;
- Oriental plovers (*Charadrius veredus*). Common in the Project Area; and
- All other nesting species.

Impacts such as direct loss of flora and fauna habitats in the footprint of temporary and permanent land take, degradation of natural habitats, and disturbance and displacement of fauna are anticipated however, impacts are not anticipated to be significant. Damage may also arise to habitats from poor management of construction activities and equipment movement on site, and contamination of soils by accidental spillage.

The main potential direct impact to large mammals will be collision with Project related vehicles, as the Project construction sites overlap with these species' regional habitats.

The impacts to bird species from construction activities include potential habitat loss under the Project temporary and permanent footprint and disturbance from human activities including destruction of nests or nesting habitats and disruption of breeding behaviour and nest abandonment.

Introduction of invasive species could also pose a potential threat to native species, but considering the arid regional climate and soil conditions, invasive species are not considered a threat. Additional, Project personnel could threaten species through gathering and hunting.

With the implementation of mitigation measures proposed below, the overall impact due to the OHTL construction is expected to be Minor Adverse on flora and Negligible to Minor Adverse for mammals and birds.

The following mitigation measures have been recommended:

- A Land Disturbance Permit for all vegetation clearing activities will be required and will be subject to a prior disturbance survey for each vegetation clearing activity and conditions imposed for the planned works.
- Selection of construction camp locations and temporary access roads will be based on a pre-disturbance survey and avoid sensitive species and areas. New access roads where required should, as far as possible, also use existing earth tracks.
- A Traffic Management Plan will be implemented. Vehicle speed limits will be enforced to minimise the risk of road accidents with wildlife.
- All Project personnel will be prohibited from collecting, purchasing or damaging sensitive flora or fauna species. Appropriate training awareness will be provided.
- All affected areas will be rehabilitated.

4.2.2. Soils

Loss and disturbance of soils, compaction, potential soil loss through erosion where vegetation is disturbed or removed, and contamination may occur during construction activities. The OHTL will be constructed in an area used as pasture for grazing livestock. Soils will need to be excavated for the pylon foundations and for the substation at Choir. Inappropriate storage (e.g. stockpile too high) or storage for too long may result in loss of soil structure. Potential pollution to soils may also occur from accidental spills and contaminated soil may be present around the existing Choir substation area.

With the implementation of mitigation measures proposed below, the overall impact on soils will be Minor Adverse.

The following mitigation measures have been recommended:

- A Soil Management Plan, Spill Prevention and Emergency Response and Preparedness Plan, Traffic Management Plan and Waste Management Plan will be implemented.
- The Contractor will plan construction haul roads and obtain approvals from *Soum* authorities, avoiding generating multiple earth tracks.
- The Contractor will strip topsoil and store in accordance with Mongolian standards, protect against wind and rain erosion and contamination with waste and other materials and not strip soil during windy periods.
- Construction sites will be properly organized and managed to reduce the amount of damage to adjacent areas.

- Contractor will rehabilitate sites impacted by construction activities.

4.2.3. Water Resources

There are no natural rivers or streams in the region however, there are dry riverbeds with temporary rainwater runoff, rainwater-fed saline lakes and dry lake beds which can be spring fed and wells which are actively used. Groundwater is the main water supply.

Impacts on surface water and groundwater may occur due to demand for the construction works and the workforce, which may reduce local resources, construction site clearance and activities that may result in changes to the natural drainage regime and the risk of pollution from accidental spills. Accidental damage may also occur above ground well infrastructure during the construction works.

It is anticipated that groundwater wells will be developed and used for construction water requirements.

Although dry for the majority of the year, the 31 river channels in the OHTL corridor fulfil a valuable role in moving storm water from the area during periods of heavy precipitation and construction workers could be put at risk when construction takes place in flood prone areas during rainfall events or flood risk to local herder properties could be increased with a poorly sited construction sites or construction drainage.

With the implementation of mitigation measures proposed below, the overall impact on water resources will be Minor to Moderate Adverse for groundwater resources depletion, Minor Adverse to Positive for groundwater accessibility, Minor Adverse for water pollution and flood risk and Negligible for surface water hydrology.

The following mitigation measures have been recommended:

- A Water Management Plan, Spill Prevention and Response Plan and Emergency Preparedness and Response Plan will be developed and implemented.
- No surface or groundwater to be used without prior permissions in place.
- Contractor will monitor water use / extraction from permitted groundwater wells to ensure there is no adverse effect on herder wells.
- Contractor will not allow any permanent or temporary construction related activities to take place in or within 50 m of dry river beds or dry lakes and will ensure no flood risk exacerbation through careful consideration of construction drainage and flood risks to local properties from construction activities.
- Contractor will not cause any change to the flow or channel morphology of ephemeral streams. Contractor will not site any pylon foundations in ephemeral streams.
- No local herder wells will be used for the Project water source. Local herder wells will be mapped within and adjacent to the Project footprint and these will be demarcated and protected from damage. Any loss of wells caused by construction activities will be replaced.

4.2.4. Air Quality

The main potential impacts on air quality during construction will be associated with generation of dust and gaseous emissions. Earthworks will result in exposed areas of soil which will potentially generate dust when it is windy. Construction activities will result in dust generation from site preparation, site excavation, construction activities and movement of heavy goods vehicles. The presence of concrete batching plant could also result in significant emissions of dust.

Although unlikely to cause long-term or widespread changes to local air quality, the Project area is in an area where dust is already a concern for residents, and for example living quarters such as *gers* are not equipped with glass windows to prevent dust ingress. Impacts will mainly be felt where properties are within 50 m of construction roads or 350 m of the construction activities, which may affect a few herder households.

The main sources of gaseous emissions during construction will be from construction machinery, equipment and trucks used for material transportation. The greatest impact on air quality from these emissions will be in the areas immediately adjacent to site access.

With the implementation of mitigation measures proposed below, the overall impact on air quality from dust during construction is considered to be Minor to Moderate Adverse (depending on weather conditions) and Minor Adverse for gaseous emissions. These impacts will be temporary where construction works are in progress.

The following mitigation measures have been recommended:

- Compliance with Mongolian dust emission standard (MNS 4585: 2007).

- Soil stripping during windy periods will be prohibited where this does not constrain the construction programme; or water dousing will be employed.
- Construction vehicles will meet emission standards and will strictly follow approved routes to avoid creating multiple earth tracks.
- Regular dust suppression along roads and the earthwork sites will be implemented.
- Contractor will inform herder households of construction schedule in advance activities and a Community Grievance Mechanism will be in place.

Monitoring requirements will include:

- Monitoring of dust emissions at the select locations, where necessary (e.g. herder households in close proximity to construction works).

4.2.5. Noise and Vibration

During construction, construction activities and movement of construction vehicles; and any concrete mixing/batching plant used are a source of noise and vibration. The proposed OHTL corridor is in an area with limited significant and sustained sources of noise.

Excavation and constructing the substation and transmission line will be major noise sources, however these sites are generally far from settlements. Based on the likely activities to be employed during construction, it is inevitable that some disturbance to those living nearby i.e. herder households will arise however, overall, noise impacts during construction are temporary and for the most part localised.

With the implementation of mitigation measures proposed below, the overall impact on noise and vibration during construction is considered to be Negligible for local communities living near the towns and Minor to Moderate Adverse for herder households where winter camps may be in closer proximity to the OHTL route.

The following mitigation measures have been recommended:

- Advance warning to local community regarding construction activities (e.g. construction schedule). A Community grievance mechanism will be in place.
- Noise emission levels of vehicles and machinery will comply with national and international standards.
- Location and duration of noisy activities will be limited near sensitive receptors.
- No noise generating activities will take place during the daytime unless this unavoidable. If night-time works are required, advance warning will be given to those potentially affected.

Monitoring requirements will include:

- Monitoring of noise and vibration levels at the select locations, where necessary (e.g. herder households in close proximity to construction works).

4.2.6. Traffic and Transport

During construction, construction vehicles will likely need to use the main road between Choir and Sainshand to access the site, which could result in increased traffic, congestion and general nuisance locally. The Right of Way of the OHTL route will be used as a haul road and it is likely that some additional temporary or permanent access roads will be required from the main road to the OTHL route, using existing tracks wherever possible. Access roads and use of the Right of Way as a haul road could create conflict with local users, especially herders and their roaming livestock; however, any nuisance would be temporary.

With the implementation of mitigation measures proposed below, the overall impact on transport and access is considered to be Minor Adverse.

The following mitigation measures have been recommended:

- A Traffic Management Plan will be implemented.
- Wherever possible, the Right of Way will be used as the haul road, minimising the need for new access roads.
- A Grievance Mechanism will be in place.

4.2.7. Materials Use and Waste Management

The use of raw materials and generation and disposal of waste will occur during construction. The main resources required include aggregates, concrete and water. The consumption of natural and non-renewable resources will have an adverse impact on material resources. Specific details of quantities required are not currently available; the impact will depend on the volumes required and origins and sources of materials, including their general availability. The majority of the materials will be provided in country, from existing resources which will reduce the potential impact of sourcing new quarries or borrow pits.

Both non-hazardous and hazardous waste will be generated during construction. The generation, storage and disposal of waste can have adverse effects. Anticipated waste types will include excavated material, construction material, municipal solid waste and wastewaters. Non-hazardous waste, such as construction debris, packaging waste, waste wood and metals, in addition to hazardous waste such as used oil, empty drums or replaced parts of the construction machinery may cause environmental pollution if poorly disposed of.

The main activities that will generate excavated materials are excavations for the substation at Sainshand and for the pylon foundations along the OTHL route. Reuse of material on site where possible (e.g. backfilling) will reduce the amount of site traffic on the roads and burden on local waste management infrastructure.

Solid waste management infrastructure is limited in the Project Area. There are no official landfills within the however, there is a waste dumping area just outside Choir. It is therefore likely that specific arrangements for waste management will be made with local government administrations.

With the implementation of mitigation measures proposed below, the overall impact on materials use and waste is considered to be Minor Adverse on hazardous waste management and Minor to Moderate Adverse on non-hazardous waste, depending on final waste disposal measures used.

The following mitigation measures have been recommended:

- A Materials Use and Waste Management Plan and Spill Prevention and Response Plan will be implemented.
- The waste hierarchy will be applied in project planning to ensure efficient use and management of resources to prevent generation of waste at source and facilitate waste recovery wherever possible.
- Waste permitting documentation/licenses will be obtained.
- Waste storage, collection, transportation and disposal will be undertaken according to the legal requirements, by licenced/certified companies.
- Waste will be disposed of to an official landfill site to be determined as part of the Project.

4.2.8. Land Use, Tenure and Displacement

The Project will require permanent land take for the construction of the new substation at Sainshand and for construction of the tower foundations for the OHTL along the Project route. The designation of the right of way will also result in some temporary clearance of vegetation, though does not result in the restriction of all activities once operational. Temporary land take will also be required for construction facilities such as construction compounds and access (haul) roads. Existing quarries and borrow pits will also be used wherever possible.

The site for the Sainshand substation is currently unused and there are no businesses or residential properties within the 25 m RoW of the station site and therefore the substation will not have an impact on existing land uses or result in any physical or economic displacement. The substation at Choir is already existing; the nearest buildings are mainly industrial with the town on the other side of the railway; therefore, works at or near this site will not have an impact on existing land uses or result in any physical or economic displacement.

The OHTL route between Choir and Sainshand substations passes predominately in open countryside, across pastureland. The land across which the OHTL passes is, effectively, all State-owned land; though there are several mining licence areas and some herders may possess land under Herder Possession Certificates. The land for the OHTL route is in the process of being allocated to the Project by the local *aimag* governments and no issues are anticipated in obtaining these orders. However, depending on the final route design, the Project could affect those herders that have Possession Certificates. The current route also passes through four exploratory mining concession licences and two locally protected areas, Togootliin Khonkhor and Bornuruu, which are owned and designated at *soum* level (Figure 4-2).

There are no herder household structures, temporary or permanent, within the Right of Way of the OHTL currently, although a number of herder households are registered in wider Project Area. Whilst most of the households move to summer pastures in June, some remain in the winter pastures (i.e. closer to the OHTL route). No physical displacement of winter camps is therefore anticipated along the OHTL route. No wells have been identified within the Right of Way. However, given the transient nature of herders and any changes that

may occur in the final design, further survey work will be undertaken to confirm these assumptions once the final route design has been selected.

Construction will result in a temporary loss of access to pastureland within the temporary working footprint of the Project OHTL route, which could affect herders; the impact will be less significant if works are undertaken during summer, when most households move to summer pastures and are more flexible as to the location of those pastures. However, some level of impact on pastures will occur during the construction phase whilst restrictions occur due to the presence of the construction activities.

With the implementation of mitigation measures proposed below, the overall impact related to land use, tenure and displacement is considered to be Negligible to Minor Adverse.

The following mitigation measures have been recommended:

- A line route survey is required to identify the specific location of towers. The final corridor and tower locations should be reviewed and any affected assets (e.g. herder wells or camps) within the final corridor identified and avoided to the best extent possible. If any physical or economic displacement will occur (where the design cannot be changed to avoid this), a Resettlement Action Plan and/or Livelihood Restoration Plan will be prepared and implemented.
- In selecting the final location of towers and any temporary works sites and access roads, the Project and Contractor will consult with local authorities, mining concessionaires and herders. Due attention to be given to herders owning Possession Certificates.
- The Right of Way clearance and construction works sites and timings will be announced in advance to herders to allow them to take adequate actions.
- The timing of the works will be such to minimize impact on herders, where possible e.g. during summer months when there are fewer herders present.
- Contractor will ensure the reuse of existing paths and tracks for access roads wherever possible. Any temporary roads should be reinstated after use.
- Clearance and construction works shall be restricted to within designated working areas.
- A Grievance Mechanism will be put in place.

Monitoring requirements will include:

- Monitoring of any compensation for loss or relocation of assets, where necessary, will be undertaken.

4.2.9. Employment, Economy and Livelihoods

Project construction will have a number of positive national, regional and local economic and employment benefits. The construction phase will be in the order of 24 months and it is expected that during this period, limited, short term direct employment opportunities will be created. There will also be an increased demand for local services and goods. Benefits may be enhanced if local companies are employed during construction and local business are promoted for use by the Construction Contractor.

In the Project Area, unemployment is generally highest amongst the young (aged 16-34) therefore the livelihood opportunities of Project construction represent significant benefits, particularly, and most directly, for Project workers and their families for whom improved financial security and extended skills and experience will be relatively quickly realised.

With the implementation of mitigation measures proposed below, the overall impact on the economy, employment and livelihoods overall is considered to be Moderate Positive.

The following mitigation measures have been recommended:

- A Labour Management Plan and Grievance Mechanism will be in place.
- Contractor will develop a local procurement and recruitment policy that enhances purchase of local content, use of local workers, and promotes the use of local goods and services.
- Contractor will ensure their recruitment process is fully disclosed to the public and open to all people locally of working age and ability, including women.
- Contractor will ensure employment and training of the local workforce and collaborate with local authorities to reduce discrimination against local workers in the community.

4.2.10. Community Health, Safety and Security

There are a number of public health, safety and security risks and impacts that need to be considered during construction, including public injuries as a result of, for example; increased road traffic; construction materials and equipment being dropped; unprotected tower base excavations (risk to children and livestock in particular); and, machinery or operator loss of control. There are also elevated risks to public health as a specific result of increased construction traffic and equipment use; dust arising from clearance of the right of way RoW; and increased demand for local emergency services; as well as increases in noise levels.

As site construction works will be restricted access areas, the main source of risk of injury will be from construction traffic. These potential traffic impacts will be associated mainly with the *soum* communities living in close proximity to main road and near Choir substation and herders. The livestock of herders in the rural areas around the OHTL route roam freely, providing an additional source of potential collision risk with construction traffic, depending on haul routes selected.

In relation to safety and security, the presence of the construction workforce may lead to risks associated with 'local influx' if expat/or inter-regional workers move to the Project area for jobs, especially for women. It is expected that the Project workforce will be accommodated in temporary construction camps, with up to three camps possibly being required. This influx of non-local workers could potentially cause local discomfort and nuisance as well as a health risk from a potential increase gender-based violence and the spread of Sexually Transmitted Diseases.

With the implementation of mitigation measures proposed below, the overall impact on the community health and safety is considered to be Minor Adverse for health and safety and security.

The following mitigation measures have been recommended:

- A Traffic Management Plan and Community Health, Safety and Security Plan will be implemented.
- A Grievance Mechanism will be in place.
- Speed limits will be imposed on construction traffic to minimise risk of accidents.
- Contractor will undertake community liaison in advance of works to ensure that the local community and road users are aware of the risks associated with construction sites.
- Community awareness and responsibility training will be included as part of the induction programme for workers and all workers will be issued and trained in the Project Code of Conduct.
- Contractor will be required to locate the work camps, facilities, laydown and storage areas and access roads at least 500 m from herder winter camps or other structures used by herders.
- An emergency response plan will be prepared, that will take into account impacts on local communities and how local communities may need to respond in the case of an emergency.
- Contractor will be required to undertake a due diligence investigation for all security personnel and organisations to be used.

4.2.11. Labour and Working Conditions

Details about the labour procedures and management and construction camps are not yet known. However, it is expected that the Contractor will comply with the Mongolian Labour Code and will ensure that all employees, permanent and temporary, will be provided with a contract. In Central Asia, there have been cases of child labour and forced labour, which arises mainly due to the lack of supply chain monitoring. Construction workers' camps will be required to comply with EBRD Performance Requirements.

In relation to occupational health and safety, it is assumed that the Contractor selected will have sufficient workforce and equipment to deliver the Project. However, as with all construction sites, there is a potential that workers could be exposed to an additional level of personal safety risk relating to workplace activities. The Contractor will be required to develop management arrangements and procedures to remove hazards and, where this is not possible, to reduce risks to workforce health and safety.

With the implementation of mitigation measures proposed below, the overall impact on the labour conditions is anticipated to be Minor Adverse and on occupational health and safety, Minor Adverse though with significant consequences if an accident were to occur.

The following mitigation measures have been recommended:

- A Labour Management Plan will be implemented; and a Labour Grievance Mechanism will be in place.

- Worker camps will be established in accordance with EBRD/IFC guidance: Workers' accommodation: processes and standards.
- An Occupational Health and Safety Plan will be implemented.
- Opportunities to maximise gender equality should be taken where possible by the Contractor.
- Contractor will ensure employment and training of the local workforce.
- Job and task specific hazard analysis and controls will be undertaken for all activities.
- Contractor will provide, implement and disseminate a detailed Emergency Preparedness and Response Plan.

4.2.12. Cultural Heritage

All Project works that involve earthworks could potentially result in physical damage to previously identified or unidentified tangible cultural heritage sites, both archaeological objects and sacred sites, and loss or limitation of access to sacred sites.

A tomb/burial place of unknown age has been identified in the Project Area that could potentially be affected by the footprint or proposed temporary works areas. Five locally protected sites are located 3-4 km away from the OHTL route centreline, and therefore are considered to not be affected by the Project. However, this will depend on the siting of haul roads and other temporary land take requirements, that should avoid these sites.

Potential physical damage to both identified and unidentified tangible cultural heritage can be also caused by the presence of non-local workforce during construction.

Intangible cultural heritage in the context of the Project could be affected by the disturbance to traditional lifestyles due to the influx of non-local workforce during the construction works, that might lead to tensions/conflicts between workers and host population, especially nomadic herders.

The overall effect on identified and unidentified buried tangible cultural heritage, and intangible cultural heritage is considered likely to be Minor Adverse, provided that further survey work and a Chance Finds Procedure is implemented for all areas where works will take place.

The following mitigation measures have been recommended:

- A professional organization will be hired to conduct archaeological and paleontological survey prior to construction, including review of the potential burial mound identified in the ESIA. For any sites identified, the measures proposed by the professional organization will be implemented.
- A Cultural Heritage Chance Finds Procedure and chance find register/reports will implemented.
- If chance finds occur construction works will be stopped immediately, the Project administration will notify the *soum*, district Governor, the police and the relevant authorities, and the professional to identify the finding will be hired.
- A Code of Conduct will be established to advise construction workers how to protect cultural heritage.
- Contractor will fence off any areas that require protection during construction works, with access provided for locals where applicable.
- Contractor will minimise publication of details on known cultural heritage resources to prevent theft or damage to sites, unless based on the advice of specialists.

4.3. Operation Phase

4.3.1. Terrestrial Biodiversity, Flora and Fauna

The main potential impacts on large mammals during operation is avoidance of the OHTL corridor. Wildlife may avoid crossing the powerline corridor initially due to the presence of new infrastructures and potential noise from live conductors, but over time they will get used to it. As the Project landscape is relatively flat with traffic access from all directions, any permanent maintenance roads maintained for the operation period are unlikely to create a barrier to movement or result in increased disturbance.

Impacts to birds during Project operation will mainly be limited to collision and potential electrocution with the overhead line. This is currently understood to mostly affect Pallas's sandgrouse (*Syrrhaptes paradoxus*) which is the common and vulnerable species to OHTL collision in the Project Area; and Oriental plovers (*Charadrius veredus*) which is a species of socio-economic value and prone to OHTL collision. This will however be verified following an Autumn Bird survey. Visual structures (known as bird flight diverters) can be placed on the OHTL wires to divert birds from a collision path of flight.

With the implementation of mitigation measures identified below, the overall impact during operation will be Minor to Moderate Adverse.

The following mitigation measures have been recommended:

- Provision of best-design bird flight diverters on conductors and earth wires following manufactures recommendations for spacing at sites identified in the bird surveys to protect Oriental plover, Pallas sandgrouse, Saker falcon, Steppe eagle, Cinereous vulture and Swan goose.

Monitoring requirements will include:

- Routine monitoring of powerlines for bird carcasses will be undertaken. Where necessary, additional adaptive management measures to increase bird diverter placement or other measures in areas with high mortality rates will be recommended.

4.3.2. Noise and Vibration

Potential noise impacts along the OHTL may be caused by the Corona effect (the localized electric field near energized components and conductors can produce an electric discharge that causes the surrounding air molecules to ionize and be subject to a localized change of electric charge) and aeolian noise from wind blowing at specific angles. The only sensitive receptors are herder households and their livestock and the operational workforce, however, the noise produced by the corona effect is not considered significant for the Project, provided that the design of the OHTL will adopt the best available techniques to prevent and minimise the corona effect and aeolian noise.

With the implementation of mitigation measures identified below, the overall impact during operation will be Negligible.

The following mitigation measures have been recommended:

- Design of the substation and OHTL will be to best practice standards and equipment will comply with national and international WHO noise regulations.
- If noise complaints are received in relation to the substations, the noise level caused by the transformers should be verified.
- Equipment should be kept well maintained and in good working order.

4.3.3. Waste Management

The volume of expected operational waste cannot yet be calculated and routine operation and maintenance works are not yet known. Anticipated solid waste streams during operation are likely to arise from vegetative matter (occasional clearance of the right of way), packaging materials, damaged or broken cables, conductors and insulators. Accidental spills may also occur of oil, fuel or paints. The operation of the substations will generate wastes including transformer oils, waste materials from site maintenance and domestic waste including paper and food waste. Accidental spills may also occur of oil, fuel or paints.

There are potentially a number of risks to human health and the environment that may be associated with the handling, storage and disposal of waste, or lack of collection of waste. Incorrect handling and storage could result in possible cross contamination, wind-blown litter, and contamination of air, soil and water resources; as well as direct and indirect effects on human health (workers and the local community) and fauna (including livestock).

There are no licensed landfills or hazardous waste management facilities in the Project Area, and therefore wastes will need to be disposed of to a designated site approved by local authority.

With the implementation of mitigation measures identified below, the overall impact during operation will be Minor Adverse.

The following mitigation measures have been recommended:

- An operation phase Waste Management Plan will be implemented.
- Removal of hazardous waste will be undertaken by a specialist licensed company.

4.3.4. Land Use

The Project will result in a permanent change of land use for four current exploratory mining concession licences where the licenced land falls within the OHTL Right of Way under the footprint of the towers; the licence holders have agreed to the OHTL passing through their licence areas (no operational mines are

affected). The OHTL also passes across a fifth area, but the licence for this areas has not been renewed and the land has been agreed for the Project. The Project will also result in a permanent loss of land within two locally protected areas, Togootliin Khonkhor and Bornuruu; however, the total footprint area of the pylons is considered very small.

No permanent structures will be allowed to be erected in the Right of Way, however grazing of livestock is permitted and therefore, no adverse effects on grazing land uses are anticipated. Occasional clearance of the Right of Way may be undertaken, which could affect access temporarily.

Stakeholder engagement has identified that there is a shortage of pastures in the Project Area due to overgrazing and lack of water supply points. There is concern locally that the Project will provide a reliable source of energy for the region, to support further mining and other heavy industries at the expense of herders however, it is anticipated that future development will be focused around the cities with minimal impact on herders.

The Project will contribute to the provision of a more reliable transmission of energy that will facilitate a number of developments that have been identified in the Project Area, mainly around Sainshand and Choir cities; and future developments.

With the implementation of mitigation measures proposed below, the overall impact related to land use during operation is considered to be Negligible to Moderate Positive.

4.3.5. Economy, Employment and Livelihoods

During operation, the Project will have a direct positive impact on the national, regional, and local economy. An improved transmission service can also stimulate development of new businesses in the Project Area which will have knock on effects in the local economy and provide revenue at the regional and national level.

After construction, there would be relatively limited employment opportunities however, operations and maintenance staff will be required, and staff will be required at the new substation. At this stage it is not known if additional workforce would be required.

Potential impacts on livelihoods will in the main be positive, as overall an improvement in transmission will result in an improvement in energy supply, which will contribute to the local economy, which in turn will have a positive effect on livelihoods and no permanent impacts are anticipated on herders.

With the implementation of mitigation measures proposed below, the overall impact on the economy and livelihoods is considered to be up to Moderate Positive.

The following mitigation measures have been recommended:

- Recruiting from the local community where feasible for new job opportunities.
- Use of local supplies and contractors for operation and maintenance activities.

4.3.6. Community Health, Safety and Security

Once completed, risks of the Project to the general public include risk of electrocutions, fire generation from falling overhead lines and from lightening; falling and/or swinging objects; falling of live electrical conductor due to mechanical failure; and potential collapse of poles/towers. The presence, storage and use of oils, fuels and other flammable products on the premises of the substations may give rise to fire outbreaks.

The design of the OHTL will include for appropriate health and safety measures. All structures will be adequately earthed, and earthing cables used. Signs, fencing and other barriers such as anti-climb barriers or barbed wire will be used. The substations will be fenced and made secure from the public, with authorized access only permitted. Operation and maintenance activities could result in disturbances locally (noise, dust and vibration), especially for herders near the OHTL however, this is considered to be low risk.

Electric overhead lines are considered a source of power frequency, electric and magnetic fields (EMFs), which may have a perceived health effect. The design of the OHTL will need to ensure that electromagnetic fields levels are within accepted guidelines for occupational and human health exposure and community education will be required to explain the dangers of electromagnetic fields.

With the implementation of mitigation measures proposed below, the overall impact on community health, safety and security is considered to be Negligible to Minor Adverse.

The following mitigation measures have been recommended:

- Design of the OHTL to ensure that EMF levels are within accepted guidelines for occupational and human health exposure.

- If considered necessary (e.g. complaints), the Client will model the levels of exposure and identify mitigation measures. Where necessary additional measures could be employed such as shielding with specific metal alloys; modifications to size, spacing and configuration of towers to address any localised issues.
- Appropriate design and ongoing maintenance to reduce health and safety risks e.g. adequately earthed and earthing cable, signs, fencing and other barriers such as anti-climb barriers of barbed wire will be used.
- Capacity building and awareness campaigns to enable local communities to be aware of the risks associated with higher voltage lines.
- Substations will be made secure at all times and unauthorized persons will be kept away from the premises.
- Appropriate firefighting facilities will be available at the substations. The use of fire within the Right of Way will not be permitted.

4.3.7. Labour and Working Conditions including Occupational Health and Safety

Operations and maintenance staff will be required, serviced both from within the Ministry of Energy, NPTG and through contracts however, at this stage it is not known if additional workforce would be required. It is expected that the Client and Contractors will comply with the Mongolian Labour Law and will ensure that all employees, including permanent and temporary, will be provided with a contract.

Occupational Health and Safety risks during operation include risk of electrocutions; fire generation from falling overhead lines and from lightning; falling and/or swinging objects; potential collapse of poles/towers; falling from heights; and fire risk at substations.

As with community health and safety above, based on the research the proposed transmission may pose potential health risks limited to areas where the distance from the centreline are limited to 20 m and where workers will remain within this area for more than 4 hours per day. It is possible operational and maintenance activities may exceed this duration and the Client and the NPTG should therefore implement the necessary provisions to ensure that the risk of exposure of the workers, especially at the substations, will be assessed and monitored.

The potential impacts on labour and working conditions and occupational health and safety are anticipated to be low risk and overall could have a Negligible to Minor Positive effect during operation.

The following mitigation measures have been recommended:

- An Operation and Maintenance Management Plan will be implemented. This will cover Labour Management and Occupational Health and Safety.
- An Emergency Preparedness and Response Plan will be implemented.
- A labour Grievance Mechanism will be in place.
- Design of overhead line to ensure that EMF levels are within accepted guidelines for occupational exposure. The Client / NPTG should implement the necessary provisions to ensure that the risk of exposure of the workers, especially at the substations, will be assessed and monitored.

4.3.8. Infrastructure

The induction effect arising from overhead lines can result in interference of telecommunications, including radio, television and phone lines/mobiles however, there are no telecommunication masts within the immediate vicinity of the proposed route, and no impacts on other utilities or telecommunications are anticipated. The line should be designed specifically to minimise radio and television interference levels.

During operation, there may also be a demand of local services such as local medical facilities in the event of accidents, and/or increased policing of towers where incidences occur. The pressure on local services would be managed through liaison with the relevant services and the preparation of an Operation and Maintenance Emergency Preparedness and Response Plan.

4.4. Cumulative Impact Assessment

During construction, the combined effects of dust, air emissions and noise on humans and flora and fauna will be greater than the effect of a single impact on these receptors. Herder households living in the vicinity of the main construction sites will experience increased nuisance and disturbance as a result of increased air and noise emissions and traffic volumes and poor waste management practices. Flora and fauna adjacent to these sites may also be affected by a combination of noise and dust, as well as mismanaged wastes and pollution events.

During operation, no adverse combined effects are anticipated. The provision of a more efficient and reliable transmission network will have an overall cumulative positive effect on the economy through a combination of various impacts, including the encouragement of the provision of more renewable energy sources and development locally, which will in turn improve employment opportunities and the local economy.

No major projects are currently known to be planned in the Project Area during the construction of the Project; however, a number of developments have been identified in the Project Area in the future, which are partially reliant on sufficient energy being provided to the Project Area. Therefore, in operation there could be positive cumulative impacts in relation to developments being facilitated in the Project Area, which would result in a cumulative increase in employment and economic benefits; though additional development could have a negative cumulative effect on the environment, pasture degradation and ultimately a decrease in traditional livelihoods and associated intangible cultural heritage.

5. Stakeholder Engagement and Grievance Mechanism

5.1. Stakeholder Engagement

A Stakeholder Engagement Plan (SEP) has been developed as part of the ESIA Disclosure Package and covers the following:

- Introduction;
- Project Description;
- Legal framework for stakeholder engagement and information disclosure;
- Stakeholder identification;
- Supplementary engagement;
- Future stakeholder engagement programme;
- Grievance mechanism;
- Monitoring and reporting; and
- Resources and responsibilities.

The SEP defines the stakeholder engagement approach for the Project, the key identified stakeholders and how to provide feedback and how any feedback and comments are addressed. **Any stakeholders requiring to be included within the consultation process should contact the NTPG.**

The ESIA Project Team have undertaken two phases of engagement to input to the ESIA Disclosure Package:

- An initial engagement phase between 19 to 23 April 2020 for the purposes of collecting baseline information and listening to concerns and issues about the Project. COVID-19 restrictions and the lambing period both had the effect of limiting the number of key officials available for the interviews. Twenty-nine officials from two locations participated in the meetings.
- A second period of engaged between 8 to 12 June 2020, covering formal meetings, Key Informant Interviews and Herder Household surveys. The five *soums* of Sumber, Shiveegovi, Dalanjargalan, Airag and Sainshand were visited. A total of 54 officials were engaged, and 34 Key Informant Interviews and 22 Household Surveys undertaken.

The future Stakeholder Engagement Programme will comprise several phases as follows:

- ESIA Disclosure Phase;
- Pre-construction Phase;
- Construction Phase; and
- Operational and Maintenance Phase.

The purpose of the disclosure will be to ensure that stakeholders have the opportunity to make themselves aware of the environmental and social impacts that may occur and how the Project will avoid, minimise and / or manage these impacts; and feed back any concerns to the Project Team. The Project ESIA Disclosure

Package will be provided in English and Mongolian and posted on the EBRD website (www.ebrd.com) for a period of 120 days in line with EBRD requirements.

Hard copies of these documents will also be available at EBRD offices and the Client offices in Ulaanbaatar, Mongolia. Hard copies of the NTS, LARF, and SEP will be shared with the local administrations at the *aimag*, *soum* and *Bagh* level in Project-affected soums and Bagh's for review by interested parties. Where possible, a round of face-to-face meetings (using current safe social distancing practices) will be held with the key administration representatives; however, if this is not possible a telephone or web conference call will be organized. Other channels of information dissemination will include notice boards and Facebook.

5.2. Grievance Mechanism

A Grievance mechanism is set out in the SEP. This will be developed and open to all stakeholders to submit complaints or register concerns, and to receive and facilitate resolution of stakeholders' concerns and grievances, in particular, about the Project's environmental and social performance. It will allow the Project to be aware of and respond to stakeholders' concerns related to the Project in a timely manner.

6. Environmental and Social Management

6.1. Project Management and Delivery

The Ministry of Energy is the Client and it is likely that a Project Implementation Unit will be set up within the Ministry to oversee Project implementation during construction. Within the Project Implementation Unit, a person responsible for the Environmental and Social Management System (ESMS) will be appointed. This individual will be responsible for ensuring adequate training of the Project Implementation Unit staff and, where necessary, Contractor staff.

A Construction Contractor (or Contractors) will be appointed for the construction of the Project. The Construction Contractor will be expected to undertake monitoring and inspections of their compliance with the Project ESMS documentation.

The Project Implementation Unit will undertake regular inspections and audits of the Construction Contractor to ensure compliance with the Project ESMS.

6.2. Environmental and Social Action Plan

An Environmental and Social Action Plan (ESAP) has been prepared for the Project to meet EBRD requirements. The purpose of the ESAP is to detail the objectives, schedule of activities and responsibilities to manage, limit and mitigate negative impacts (and enhance positive impacts) from the Project and set indicators against which Project (and Contractor) performance can be measured.

The ESAP sets out the requirement for the Project to have an ESMS. During construction and operation, Project staff and the Construction Contractor will be accountable for completing work in a way that is compliant with the expectations set out in the ESAP. The ESAP is designed to ensure compliance with Mongolian permitting requirements and legislation and the EBRD ESIA Disclosure Package.

6.3. ESMS and Management Plans

A Project ESMS will be prepared that will provide the framework for the Contractor's management systems. The ESMS will cover:

- Policies and procedures;
- Project Environmental and Social Management and Monitoring Plan (ESMMP);
- Legal and permit register;
- Roles and roles and responsibilities; and
- Project schedule.

As part of the ESIA Report, an ESMMP has been developed. It is expected that the Project Implementation Unit will develop this in more detail prior to contracting the Construction Contractor, to reflect additional surveys and any updates to the Project design – this will become the Project ESMMP. The Project ESMMP will form a requirement of the tender documents.

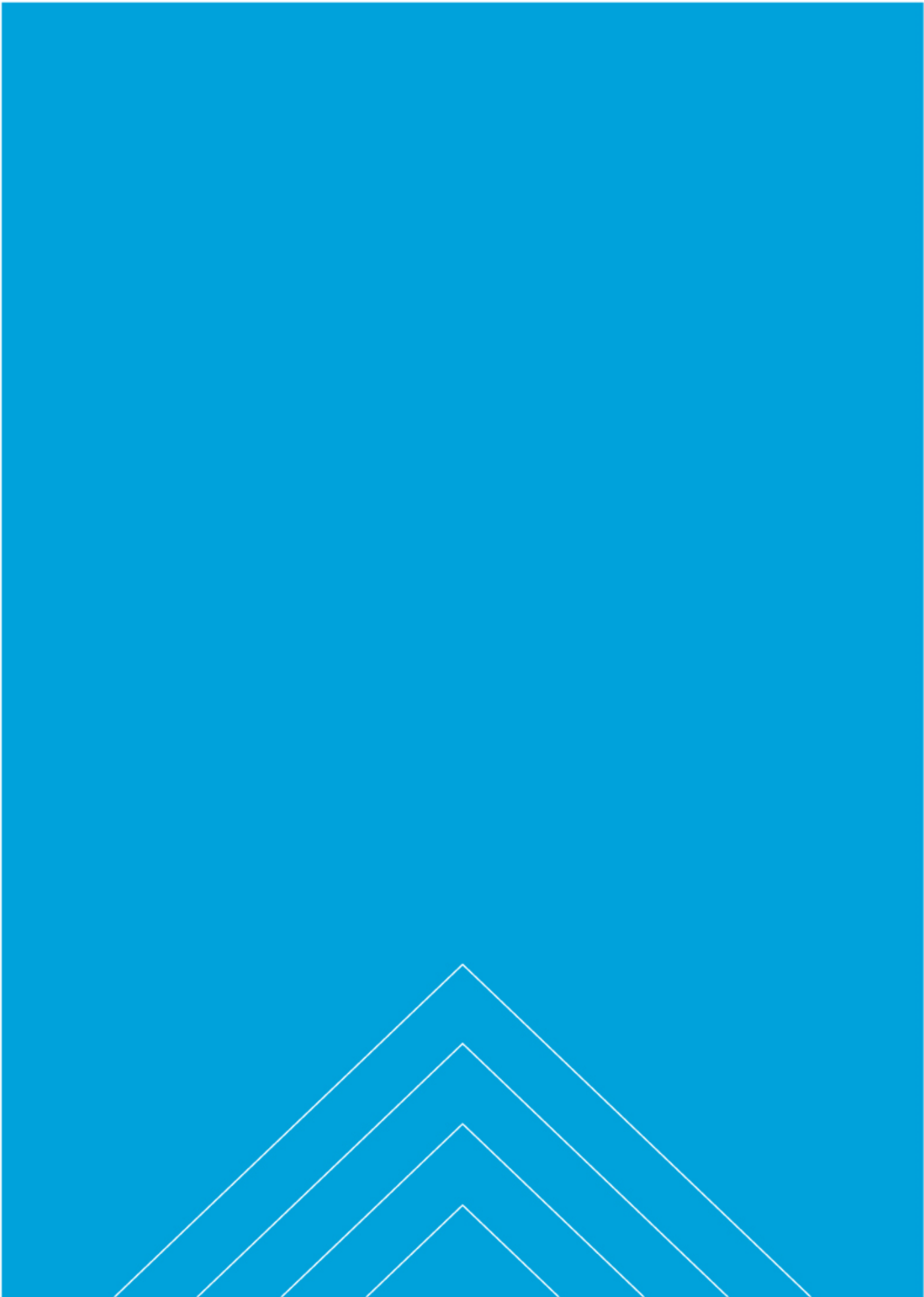
The Construction Contractor will be obliged to adopt the Project ESMS and develop more detailed systems and plans to address construction-specific aspects of Project delivery. They will prepare a detailed Construction ESMMP.

6.4. Temporary Site Requirements

At the time of writing, no information is available on the location of the Contractor camps or other temporary sites such as works areas and access roads. The Construction Contractor will be required to select sites on the basis of minimal environmental and social impacts, and assess final sites chosen so that, where necessary, additional mitigation measures can be applied to reduce adverse impacts.

6.5. Site Handover

Prior to handover of the site from the Construction Contractor to the Client following the construction works, the Contractor will be required to undertake rehabilitation of sites including all temporary works areas and removing all wastes from the Project corridor, to the satisfaction of the Client.



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