



Environmental & Social Management System

Traffic Management Plan

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1 INTRODUCTION

1.1 Document Number

This document is the Traffic Management Plan (TMP or the Management Plan) for the Gatsuurt Gold Project ('Gatsuurt' or 'the Project'). This TMP combines the specific traffic management measures to be followed by drivers and pedestrians on site, as well the community traffic management measures which are applicable offsite. The document reference number for this Management Plan is Gatsuurt-TMP-Ver. 1.

1.2 Purpose

This TMP has been developed for the exclusive application at the Gatsuurt Gold Project site by Centerra Gold Inc (Centerra) and its wholly owned Mongolian subsidiary, Boroo Gold Company (BGC). This Management Plan is one of a series of management plans that outline how BGC manages the environmental and social aspects of the Gatsuurt Project. This TMP outlines the mechanisms for managing the movement of all traffic associated with the Project for each of the three phases (construction, operation, and closure), in order to minimise associated key internal and external risk associated with Project traffic. This TMP has a specific focus on the Gatsuurt to Boroo haul road, which is also a public road. The TMP highlights the overarching management measures which will be adhered to in order to, in the first instance, avoid, and thereafter minimise or manage the identified impacts. The overall purpose of this Management Plan is to:

- Define the scope of the Management Plan and set out applicable management interfaces;
- Define roles and responsibilities;
- Outline the applicable Project Standards relevant to this Management Plan;
- Define Project commitments, operational procedures and guidance relevant to this Management Plan;
- Define monitoring and reporting procedures, including Key Performance Indicators;
- Defined training requirements; and
- Set out references for supporting materials and information.

The principal role of this document is to provide framework guidance on traffic management measures, to be further developed and detailed prior to construction commencing. The specific objectives of this TMP are to:

- Provide for a safe environment for all road users;
- Provide protection to pedestrians and workers from traffic hazards that may arise as a result of vehicle movements;
- Provide adequate parking areas for vehicles.

In relation to community traffic management, this TMP's aim is to ensure that:

- The community traffic management goals are explicit and understood by all individuals involved within the control of the company, including employees, suppliers, contractors, visitors and to the extent possible local communities and road users among the general public;
- The community traffic management goals are communicated with reasonable efforts to effectively engage with public road users and relevant authorities;
- The potential for traffic related hazards is avoided where possible or otherwise reduced to as low as reasonably possible;
- The potential for traffic incidents associated with mine vehicle activity in the vicinity of and on the mine site, as well as along the Gatsuurt haul road, is avoided where possible or otherwise minimised as low as reasonably possible;
- Vehicle activity associated with the construction, mining and closure activities does not contribute to pollution (air, water, nuisance), and / or damage to the physical conditions of the local transportation routes.

It is BGC's intention to continue working with stakeholders throughout the development of the Project and it should be noted that this TMP will remain "live" and is subject to updates as and when new information

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becomes available. All changes made to this document will be discussed and agreed internally prior to implementation. Should changes potentially impact community traffic aspects, then targeted engagement will be conducted with local communities and relevant authorities.

1.3 Application

The requirements set out in this Management Plan apply to all Gatsuurt operations and personnel, including contractors and suppliers. This Management Plan is based on the BGC Health Safety and Environmental Management System (HSEMS). Any subsequent changes to the HSEMS may result in the changes to this Management Plan.

1.4 Commencement

This Management Plan applies from the commencement of construction of the Gatsuurt Project.

1.5 Authority and Management

This Management Plan is owned by the Gatsuurt Mine President and Executive Director.

Any requests for changes to this Management Plan must be addressed to the owner of this management plan and will be subject to appropriate review and approval processes as outlined in the Company's management of change processes.

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2 SCOPE

2.1 Scope of this Management Plan

This Management Plan applies to all Gatsuurt operations including contractor and supplier activities. It applies to all traffic activities associated with the Gatsuurt project during construction, operations and closure and includes contracted mine ore haulage to Boroo, contractor and employee traffic at the Gatsuurt mine and all employee/contractor traffic between Boroo and Gatsuurt.

2.2 Overlaps with other Management Plans

This Management Plan is part of the overall suite of Management Plans developed for the Gatsuurt Project and as described in the HSEMS. This TMP overlaps with the following management plans, and as such, actions related to these aspects are not contained in the TMP (there are clear references to other management plans throughout this TMP).

- Stakeholder Engagement Management Plan including Grievance Procedure;
- Emissions Management Plan (for the management of dust);
- Biodiversity Management Plan;
- Surface Water Management Plan;
- Emergency Management Plan.
- Community Health Safety, and Security Management Plan;
- Closure Plan;
- Occupational Health and Safety Management Plan;
- Local Employment and Training Management Plan.

3 ROLES AND RESPONSIBILITIES

3.1 Key Roles and Responsibilities for Management Plan Implementation

Principal roles and responsibilities for the implementation of this plan are outlined below.

Table 1 Key Roles and Responsibilities

Role	Responsibilities
Gatsuurt Director	Ensuring Project compliance with the Project Standards and other requirements set out in this Plan. Approval of this Plan and resources required for implementation.
Gatsuurt Director External Relations and Sustainability	Overall responsibility for Plan scope and implementation. Development, monitoring and revision of this Plan.
Mine, Safety, Security and Sustainability Managers	Ensure training relevant to this management plan is implemented. Ensure the nominated access routes and restricted routes are enforced. Authorize the development and approval of traffic control plans (TCPs) for any road. Act as the Centerra representative for required regulatory approval of the plans. Act as the Centerra representative for discussion of health, safety, environmental and social matters between statutory authorities, private industry, contractors, community groups and the wider community. Act as the Centerra representative to establish and engage in consultation with local community leaders to maintain communication to minimize potential conflicts with Project-related traffic. Assess the implementation of this TMP. Conduct regular audits to check for compliance with this management plan.

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Role	Responsibilities
Director Human Resources	Implement any disciplinary as required action under the respective labour and contractual agreements.
Community Relations Supervisor	Timely implementation of this Plan, including coordination with implementing organisations, communities and other stakeholders.
Contractors and Suppliers	Ensuring all assets under their control comply with Gatsuurt policies and procedures. Supplying certification and/or license in accordance with statutory requirements. Complying with Gatsuurt's requirements for environmental and social management. Reporting of all actual and potential environmental and social impacts to relevant supervisor or managing body.
Employees, Contractors and Visitors	Minimise the impact of their activities on the social and physical environment wherever practical and reasonable. Complying with the obligations outlined in this Management Plan, as well as any other relevant Gatsuurt environmental policies and procedures. Reporting of all actual road incidents as well as potential social and environmental impacts to relevant supervisor or managing body.

3.2 Key Interfaces

Key interfaces in the implementation of this Management Plan (i.e. roles with responsibility for delivering elements of this Management Plan) include:

- President and Executive Director Operations, particularly in relation to security management and the safe implementation of off-site activities;
- Director Human Resources, particularly in relation to labour and contractor management;
- Mining, Safety, and Sustainability Managers, in relation to the joint implementation of this TMP.
- Community Relations Officers, in relation to community engagement and awareness building among road users to promote road safety for all users.

4 PROJECT STANDARDS

4.1 Applicable Mongolian Legislation

Key legislation and regulations pertaining to traffic in Mongolia are as follows:

- Mongolian Laws on Roads;
- Mongolian National Standards for road design;
- "Temporary rules for the construction, use and maintenance work of Roads for the transportation of Mining products" by the Road Transportation, Construction and Urban Development Minister's Order #159 dated on 30 May 2012;
- The Rules for vehicles transportation of loads and passengers. Minister's degree #229 of Infrastructure Development (7 Sep, 1999);
- Rules of Road traffic of Mongolia by Resolution #74, Government of Mongolia issued in 2004;
- Law on Safety of Road traffic (30 Apr, 1996);
- Law on Road (2 Jan, 1998);
- Law on Road transportation (4 June, 1999);
- Law on drivers insurance (6 Oct, 2011);
- Law on tax of road transportation and vehicles (1 Dec, 1992);
- Law on Administrative responsibility: Article 25. Traffic Violation of safety rules (27 Nov, 1992);
- Criminal code: Article 24. Crimes against traffic safety and using procedures (3 Jan, 2002);
- Civil code: Article 35. Transportation (10 Jan, 2002);

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- Law on Police: Article 18. Provisions relating to traffic safety (2 Dec, 1993);
- Law on The Convention of Road Traffic (9 Sep, 1997);
- Law on The Convention of Road Traffic (9 Sep, 1997);
- Law on The Convention of Traffic signs and signals (9 Sep, 1997);
- Vehicle driver training procedures, Ministers Joint Resolution #5 of Education, Culture and Science and Justice on 13 Oct, 2002;
- Rules for Drivers professional examination and driver license issue, Minister's Decree #102 of Justice and Internal Affairs on 1 May, 2002;
- Rules on state registration and numbering for vehicles, Minister's Resolution #59 of Road and Transport on 29 Oct, 2012; and
- Traffic control regulations.

4.2 Applicable Mongolian National Standards

Key applicable Mongolian procedures and standards include:

- Procedures on vehicle inventory and making technical inspection;
- Procedures for technical inspection of traffic vehicles;
- Forced stop procedures manual for a vehicle;
- Special audible and light signal using procedures for a vehicle;
- Procedures for vehicle temporary detention;
- Traffic management and inspection procedures;
- The procedures for transportation of dangerous goods;
- Procedures for mini bus transporting service;
- Sample Rule of Aimag's Transportation Regulatory Authorities;
- Guideline for time period of vehicle technical inspection and diagnostic, its standard fees;
- MNS 5831-2007 "International freight and passenger transport. General requirement of transportation";
- MNS 4978-2000 Dangerous goods. Classification. General technical requirements;
- MNS 5645-2006 "Freight transportation of Construction block and gravel materials. Classification, transportation conditions and requirements";
- MNS 4599-2003 "Ergonomically indices of road vehicles";
- MNS 4598-2011 "General requirements for technical condition of road vehicles";
- MNS 4601-2011 "Motor vehicle maintenance and repair system, definition";
- MNS 5344-2011 "General requirements for the economical dust transportation";
- MNS 5345-2003 "Large, long heavy loads transportation, classification and general requirement";
- MNS 5346-2003 "Service of freight and freight forward";
- MNS 4597-2014 "Traffic signs. General technical requirements";
- MNS 4759-2014 "Road markings. General technical requirements";
- MNS 5343-2003 "The easily spoiling transportation, classification and conditions of technical requirement";
- MNS 5044-2003 "Vehicle Inspection Station - Classification, General requirement";
- MNS 5014-2003 "Diesel engine vehicles - Maximum acceptable level and measuring methods of opacity";
- MNS 5013-2003 Petrol engine vehicle - Maximum acceptable level and measuring method of exhaust emission.

4.3 DEIA requirements

General Impact Assessments (GEIA's) and Detailed Impact Assessments (DEIA's) are Mongolian legal requirements. These documents are used to document three basic program elements: (1) baseline conditions that exist prior to the proposed activity, (2) assess the impacts of a proposed project and (3) present the proponent's proposed mitigation measures which would be implemented in order to address the impacts which can be mitigated. In the Mongolian regulatory system, these documents represent permits as the conditions and statements in these documents are fully enforceable as permits would be in most western jurisdictions.

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4.4 Applicable International Standards and Guidelines

The applicable international standards and guidelines applicable to community traffic management include:

- The International Finance Corporation (IFC) 2012 Performance Standards on Social and Environmental Sustainability;
- IFC Guidance Notes: Performance Standards on Social and Environmental Sustainability;
- The European Bank for Reconstruction & Development (EBRD) 2014 Performance Requirements (PRs);
- IFC Environmental Health and Safety Guidelines for Mining (December 2007), includes requirements for the transportation of hazardous materials including explosives.
- IFC General Environmental Health and Safety Guidelines.

As the Gatsuurt Project is seeking finance from the EBRD, and will seek to implement the EBRD PRs, the requirements as set out by the EBRD in relation to traffic management are briefly set out below. Key requirements in traffic and road safety include:

- The client will identify, evaluate and monitor the potential traffic and road safety risks to workers and potentially affected communities throughout the project life-cycle and, where appropriate, will develop measures and plans to address them. For projects that operate moving equipment on public roads and other forms of infrastructure, the client will seek to prevent the occurrence of incidents and injuries to members of the public associated with the operation of such equipment.
- The client will take into consideration relevant EU road and traffic safety management standards, identify road safety measures and incorporate technically and economically feasible and cost-effective road safety components into the project design to mitigate potential road safety impacts on the local affected communities. Where appropriate, the client will undertake a road safety audit for each phase of the project and routinely monitor incident and accident reports to identify and resolve problems or negative safety trends. For clients with vehicles or fleets of vehicles (owned or leased), the client will provide appropriate training to workers on driver and vehicle safety. The client will ensure regular maintenance of all project vehicles.

4.5 Applicable Centerra Standards

This Management Plan is developed within the Centerra corporate policies that include policies for worker health and safety, environmental protection and sustainable development.

5. MITIGATION MEASURES AND MANAGEMENT CONTROLS

The control measures and community traffic management program described below have been developed in response to the risks identified by Gatsuurt through the SIA (see Appendix 1). The control measures will be put in place during the construction, operations, and closure phase for Gatsuurt are detailed in Table 2 below. Management controls for impacts related to land/pasture and the livelihoods obtained thereupon are described in the Social Impact Management Plan. In sum these measures include:

- Inclusion of pasture improvement measures within activities funded through the Soum Development Fund, to:
 - Support herders to improve herd management and animal health issues leading to improved livelihoods;
 - Promote herders joint collaboration initiatives to generate and diversify income; and
 - Preserve the pasture and livestock sector and nomadic culture.

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Table 2 Key Management Controls

ID	Topic/ Aspect	Applicable Project Phase	Control Description	Responsible Parties	Means of verification
TMP/001	Traffic Data to inform TMP	Construction / Operations	Conduct a detailed traffic study in the Project area to better define existing traffic movements. Use the data gathered to further refine the TMP. This will build upon the existing initial traffic study.	Community Relations Department	Traffic Study Report / Updated TMP
TMP/002	Overarching	Construction / Operations	<p>Further develop and implement this Management Plan, effective for direct and indirect employees (i.e. all Project staff and Contractors), comprising strategies to manage vehicles and equipment movement during the construction and operations phases of the Project, including measures that address at minimum:</p> <ul style="list-style-type: none"> • Vehicle movement scheduling; • Traffic accidents on the road; • Traffic fatalities on the road; • Collision with or fatalities of livestock; • Road engineering; • Stakeholder engagement. <p>Design and implementation of specific internal controls on Project drivers and trucks to minimise the potential for incidents, including:</p> <ul style="list-style-type: none"> • Speed control / limits by vehicle type / time of day / driving conditions; • Alcohol and drug use policy; • Safe Operating Procedures; • Blood alcohol/drug testing of drivers daily for compliance with BGC standards; • Driver identification / clear vehicle numbers for easy identification by other road users; • Code of Conduct policy - penalties for verified incidents of any poor driving / speeding; • Vehicle safety inspections completed prior to each shift; 	<p>Construction Manager / Operations Manager / President and Executive Director /</p> <p>Contracts and Procurement Department</p> <p>Mine, Safety, Security and Sustainability Managers</p>	<p>Audits and Inspections records</p> <p>Installation / implementation of internal controls / compliance records</p>

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ID	Topic/ Aspect	Applicable Project Phase	Control Description	Responsible Parties	Means of verification
			<ul style="list-style-type: none"> Annual vehicle safety approval by BGC for all trucks to be used for ore haulage; Parking specifications; Breakdown and recovery specifications; Vehicle inspections and maintenance protocols; Communications protocols. 		
TMP/003	Traffic accidents / fatalities between Project vehicles and the public	Construction / Operations	Establish an internal multi-departmental committee to supervise, monitor and regulate the implementation of the TMP. The internal committee will review the TMP on a regular basis, at (bi-annually during construction and early operations) and will invite experts from the statutory regulatory bodies and local community representatives to take part in the process.	Operations Manager HR Manager Community Relations Department President and Executive Director	Meeting Minutes
TMP/004	Traffic accidents / fatalities between Project vehicles and the public	Construction / Operations	Maintain the public haul road for the duration of the Project.	President and Executive Director	Maintenance records
TMP/005	Engineering to minimise potential for traffic accidents	Construction / Operations / Closure	Set aside funds to upgrade and modify the public haul road for public use only on completion of the Project, should this be agreed with relevant authorities as part of Mine Closure Planning.	President and Executive Director	Financial records / Reinstatement plan for access roads Meeting minutes
TMP006	Road engineering controls to minimise risk of accidents between public and Project traffic	Construction/ Operations	Establishment of safe passing places with appropriate signage to enable Project traffic to pull over while local traffic can pass safely without facing oncoming vehicles <ul style="list-style-type: none"> Widening in particular areas to enable the safe passing of two large vehicles. Engineering controls to prevent passing on blind corners/crests. 	President and Executive Director	Signs erected, safe passing places established / maintenance records

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ID	Topic/ Aspect	Applicable Project Phase	Control Description	Responsible Parties	Means of verification
TMP007	Traffic accidents / fatalities between Project vehicles and the public	Construction / Operations	Conduct driver training and assessment as outlined in the Local Employment and Training Management Plan, in sum: <ul style="list-style-type: none"> Current drivers licence; Company induction; Advanced driver training (as required for the position); Pit entry / permit. 	Training Manager	Training records
TMP008	Traffic accidents / fatalities between Project vehicles and the public / Dust management	Operations	Implement truck controls of covering loads (no unsecure loads) to prevent loose rocks from haul trucks from falling off and hitting cars, and prevent dust pollution.	Operations Manager Mine, Safety, Security and Sustainability Managers	Inspection records
TMP009	Traffic accidents / fatalities between Project vehicles and the public	Construction / Operations	Reasonable efforts to engage with regulators to the extent that is reasonable and possible to minimise potential incidents: <ul style="list-style-type: none"> Establishment and enforcement of speed limits Conduct vehicle spot checks for safety Enforcement of blood alcohol limits Development and training of vehicle emergency incident response including roles and responsibilities 	President and Executive Director / Community Relations Department	Engagement records (recorded in SEP) / Joint Emergency Response Training (see Emergency Response Plan)
TMP010	Traffic accidents / fatalities between Project vehicles and the public	Construction / Operations	Engagement with the community to minimise potential incidents: <ul style="list-style-type: none"> Develop and deliver road safety campaigns with relevant partner organisations, highlighting speed limits, safety belts, and vehicle maintenance; particular campaign actions should also target vulnerable groups such as elderly drivers and children. 	Community Relations Department	Partnership records / Campaign records / Engagement records (recorded in SEP)
TMP011	Traffic accidents / fatalities between	Construction / Operations	Engagement with the community to minimise potential incidents:	Community Relations Department / Operations Manager	Notification / engagement

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ID	Topic/ Aspect	Applicable Project Phase	Control Description	Responsible Parties	Means of verification
	Project vehicles and the public		<ul style="list-style-type: none"> Provide advance public notification of the schedule haulage times, frequency and road risks to road users, using face to face community meetings, television as the preferred medium of communications as well as newspapers and CROs, as documented in the Stakeholder Engagement Plan; notification will be provided prior to commencement of haulage 		records (recorded in SEP)
TMP012	Traffic accidents / fatalities between Project vehicles and the public	Construction / Operations	<p>Engagement with the community to minimise potential incidents:</p> <ul style="list-style-type: none"> Provide notification of the Grievance Mechanism, should any nuisance issues or complaints against particular drivers arise 	Community Relations Department	Notification / engagement records (recorded in SEP)
TMP013	Traffic accidents / fatalities between Project vehicles and the public	Construction / Operations	<p>Engagement with the community to minimise potential incidents:</p> <ul style="list-style-type: none"> Provide notification of emergency services details (including on the roadside as well as through media) in the event of minor or major accidents with people, other vehicles or livestock. It should be noted that mitigation for interactions with livestock on the public road are the same as the above for people and/ or other vehicles. 	Safety Manager / Community Relations Department	Notification / engagement records (recorded in SEP)
TMP014	Traffic accidents / fatalities between Project vehicles and the public	Construction / Operations	Emergency Management Team – conduct drills and exercises to ensure emergency preparedness and familiarity with roles and responsibilities in case of an incident.	Operations Manager Mine, Safety, Security and Sustainability Managers Training Manager	

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6 IMPLEMENTATION SCHEDULE

6.1 Review and Revision of this Management Plan

An internal multi-departmental committee will supervise, monitor and regulate the implementation of this TMP. The internal committee will review the TMP on a regular basis, including bi-annually during construction and early operations, and at least annually thereafter and will invite experts from the statutory regulatory bodies and local community representatives to take part in the process. Stakeholders will be informed of any identified changes to the TMP. If material changes to operating procedures are required (as identified through the Management of Change procedure contained within the Gatsuurt health, safety and environment Management System (HSEMS), this Management Plan may be updated on an “as required” basis.

Any revisions to this Management Plan will be communicated to all relevant personnel and contactors as well as suppliers to ensure access to the latest version of this Management Plan. The TMP will also be published and its revisions will be publicised by meetings with the local community, written notifications to the Governors of Mandal and Bayangol soums and Tunkhel bagh, and others as deemed relevant, along with details of where the TMP will be accessible for review. The TMP document will be available for review at any time in the BGC Community Information Centres, and clarifications will be provided about any recent changes to the document.

7 MONITORING

7.1 Overview of Monitoring Requirements

The Monitoring measures that are to be implemented during the construction and operations phase to assess compliance with Project Standards (see *Section 4: Project Standards*) are described in the section.

In the event that monitoring identified non-conformance with Project Standards, these will be investigated and appropriate corrective actions identified.

7.2 Key Performance Indicators

The table below summarises the key performance indicators and associated key monitoring actions that can be used to assess the progress and effectiveness of proposed mitigation strategies.

Table 3 Key Performance Indicators and monitoring actions – Community Traffic Management

ID	KPI	Target
TMP-KPI 01	Number of mine traffic related incidents resulting in serious injury or fatality	Zero
TMP-KPI 02	Compliance with mandatory driver training program.	90%
TMP-KPI 03	Response to community grievances regarding traffic management	All grievances to be responded to within 14 days
TMP-KPI 04	Traffic incidents involving mine related vehicles will be investigated, root causes identified and corrective actions planned.	All traffic incident investigation completed within 30 days of the incident
TMP-KPI05	Daily monitoring of drivers confirms compliance with BGC alcohol policy	100%

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7.3 Key Monitoring Activities

Monitoring activities will focus on key traffic indicators to enable assessment of whether Project activities are having negative impacts on community safety, livelihoods, pasture and land, cultural heritage, and community health. In the event that any monitoring results identify a non-conformance with the Project Standards, these will be recorded as incidents, investigated and corrective actions identified (see the HSEMS for further details). Key monitoring measures are set out below.

Table 4 Key Monitoring Measures

ID	Topic/Aspects	Methods	Periodicity	Location
TMPm 001	Traffic data	<ul style="list-style-type: none"> Traffic Study 	Prior to construction, and thereafter annually	Project area (focus on Gatsuurt haul road)
TMPm 002	Road Safety	<ul style="list-style-type: none"> Road Condition monitoring 	Bi-annually	Project area (focus on Gatsuurt haul road)
TMPm 003	Health and Safety	<ul style="list-style-type: none"> Alcohol Breath Testing - employees and contractors 	Daily	Site
TMPm 004	Vehicle Safety	<ul style="list-style-type: none"> Vehicle safety inspections/checks completed prior to each shift 	Daily	Site
TMPm 005	Vehicle Safety	<ul style="list-style-type: none"> Annual vehicle safety monitoring by BGC for all trucks to be used for ore haulage 	Annually	Site

8 TRAINING

All employees and Contractors at Gatsuurt will be provided with basic training in the Gatsuurt induction on Traffic Management. Additional advanced driver training is to be provided to those employees and contractors that drive along the Gatsuurt haul road, with a focus on haul truck drivers. Further, all employees will be required to have a current drivers licence. Drivers entering the pit area will also be required to have a pit permit. In addition, advanced driver training may be provided for certain positions.

9 AUDIT AND REPORTING

9.1 Internal Auditing

Daily inspections will be carried out by operational area superintendents and drivers covering a broad range of operational aspects, including vehicle inspections, and driver checks (see Table 4). Any incidents identified during these inspections will be reported to the HSEMS incident management system.

Conformance will be monitored via an annual internal audit program in accordance with the BGC HSEMS. This will be undertaken to assess broad compliance with requirements of the HSEMS management system

All incidents and non-conformances identified during these inspections are reported as per the requirements of the Gatsuurt HSEMS .

9.2 External Auditing

Conformance with this plan will be subject to periodic assessment as part of the Centerra audit programme and by Project Lenders.

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An independent external auditor will also be engaged by Centerra to conduct an independent audit of this Gatsuurt's HSEMS, including the provisions of this TMP.

9.3 Record Keeping

Records of audits, inspections and incidents will be managed in accordance with Gatsuurt procedures.

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Appendix 1: Summary of Community Traffic Impacts

A brief summary of the development process of the haul road is provided here to provide background on the key traffic risks associated with the Project.

- The public road construction was completed in 2010 in agreement with Mandal soum authorities.
- The traffic context was markedly different then compared to 2015, as there were not many cars on the road nor would roads allow for high speed travel in Mongolia at that time and therefore concerns over traffic fatalities, excess speed etc., were not a major concern.
- The application of the mitigation hierarchy ensured that the eventual road design avoided farmers' fields, herders' winter shelters and a Children's Camp as per stakeholder feedback. In addition, the road follows existing road routes to the extent possible, and sensitive receptors (including all springs, known wildlife critical areas, livestock and wildlife crossings, archaeological and culturally significant areas, winter and summer camps, fixed dwellings) have been avoided to the extent possible.
- A key condition of the relevant statutory authorities (MRTT) for the development of the road was that approvals and permits would only be granted if the road was classified as a public road (i.e. not for the sole use of BGC as a haul road).

Road Impact to Pasture Use

Impacts to pasture from the Project stem from nuisance issues to pasture users from use of the public road, specifically: dust, noise and vibration from Project vehicles impacting quality and availability of pasture and agricultural cropland along the public road. Potential impacts for roadside land users from the Project include increased dust generation from Project traffic, with impacts of dust deposition to pasture and cropland. The public road is currently unsealed, with periodic grading by Centerra as required. Dust suppressant is not currently applied to the road. An initial traffic survey (2015) investigated number and types of vehicles travelling on the public road between Boroo, Gatsuurt and Zuunkharaa. The section with the greater potential to impact pasture users and crop farmers is between Boroo and Zuunkharaa; there is less pasture or cropping and more forest from the Zuunkharaa turnoff to Gatsuurt. The survey revealed that the average vehicle travelling on this public road is a light vehicle going from the direction of the Ulaanbaatar road in the west to Zuunkharaa during the day. Baseline research suggested that many of the passenger vehicles travel at speed along this road because of the good road condition, which enables greater dust disturbance. Initial research shows an average of 70 vehicles of all types travelling this section per day.

Haul trucks are larger, noisier and heavier than most of the existing traffic in the area and so will have greater dust, noise and vibration effects on the households located beside the Gatsuurt – Boroo public road. At the time of the baseline survey, there were 18 ger-dwelling (semi-nomadic) households (sensitive receptors) located in proximity to the road. The time of day for haul truck operations will potentially change noise and vibration effects at sensitive receptors, and assumes that there will be greater impact at night when ambient noise levels are lower. Dust generation will be most significant during spring, when ambient conditions tend to be drier and windier.

Road Impacts to Livelihoods

The use of the public road by Project vehicles, particularly haul trucks during the Operations phase, has the potential to increase the number of collisions between Project vehicles and livestock. Mine traffic will travel slower than local traffic, however outbound (fully laden) haul trucks are expected to weigh approximately 30 tonnes, which would prevent them from stopping in time to prevent collisions with livestock should they move onto the road. Baseline data revealed less than 5 reported accidents in Mandal soum caused by hitting an animal with a vehicle (none were reported in Bayangol soum) in 2014. While this appears low as an annual, soum-wide statistic, underreporting may be possible as are unregistered agreements reached between livestock and vehicle owners for compensation to herders.

Minimising potential impacts that could endanger human life and health is a priority. So, the mitigation measures applying to this aspect will also ensure mitigation of potential impacts to livestock and herder livelihoods.

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Traffic Incidents

Vehicle traffic, particularly heavy trucks, will increase as a direct result of the Project. This will include vehicles bringing construction materials to the site, the transportation of workers and goods within and between Project areas, and, significantly, haul trucks along the public road between Gatsuurt and Boroo. This increase in heavy vehicle traffic presents a risk to the local community of accidents that could result in minor injury to serious injury or death. In addition, local emergency response capacity is limited (the Socio-Economic Baseline Study 2015 showed a limited availability of resources, specifically qualified medical personnel and adequately equipped hospital facilities to respond to serious accidents). Centerra's own emergency response team and equipment will be staffed with a qualified emergency response team, including vehicles and equipment. Given the above, local authorities' response time to potential accidents is unlikely to be rapid, increasing the potential risk that any accident will be severe in outcome.

Injury or death from traffic impacts from Project vehicles is a direct negative impact that will be localised and long term (i.e. through the life of the Project, but at highest risk during the operations phase when haul trucks will be operating).

A traffic survey was undertaken to inform the baseline research (2015). In the PAI, the main causes of traffic accident in Bayangol are driving on the wrong side of the road and speeding, while in Mandal the main causes of accidents are drunk driving, speeding and failure to brake. Almost a third of all crime in Bayangol relates to traffic safety and the use of motor vehicles, which is likely due to its proximity to the paved road between the Russian border and Ulaanbaatar.

Intangible Cultural Heritage and Public Safety

The Project infrastructure at the Gatsuurt site has been constructed to avoid all significant receptors, including ovoos as places of worship. An influx of outsiders to the area in search of speculative economic opportunities could further open the communities to external forms of cultural influence, potentially including: religious practices and forms of social interaction. This includes further practices of mountain worship that may not be consistent with or respect the taboos and myths associated with the mountain as practiced and marked by native citizens, as was outlined in the baseline, or, disruption to oral histories which are a major source of information about cultural heritage in the Project area. The key issue associated with cultural heritage is that there is some overlap between the public and Project traffic near the Gatsuurt site where mountain worshipping groups have recently been known to gather. This poses potentially significant risks to public safety, particularly given the lack of space to park off the road, which during operations will be exposed to haul trucks.