

## P-11 Traffic Management Plan

Aim and Objective				
<p>The purpose of <b>P-11 Traffic Management Plan</b> (TMP) is to define measures to safely manage vehicular and pedestrian traffic during construction. This TMP applies to all Project employees and subcontractors moving material, machinery and human resources to and from construction zones. The objectives of the TMP are to:</p> <ul style="list-style-type: none"> <li>• Avoid or minimise potential impacts of construction activities on road safety</li> <li>• Avoid or minimise potential impacts on the community and other road uses with respect to traffic and transport.</li> <li>• Identify actions to minimise and mitigate impacts on road safety, traffic flow and access.</li> </ul> <p>The TMP will assist in meeting THL's obligations under the legislation of Solomon Islands and comply with the requirements of CFPs, including adherence to the World Bank Group's Environmental Health and Safety Guidelines.</p>				
Summary of Impacts and Risks				
<p>The movement of vehicles associated with the construction of the Project poses a risk to workers, the community and environment. Construction activities will be 24 hours per day, 7 days per week, with associated vehicle movements. The potential impacts and risks associated with construction traffic include:</p> <ul style="list-style-type: none"> <li>• Potential incidents, injuries or fatalities associated with vehicles, roadway hazards or obstructions.</li> <li>• Conflicts between road users due to increased usage of public roads by light and heavy vehicles.</li> <li>• Property damage to roadside properties, water sources etc. from road construction-activities</li> <li>• Environmental impacts from road construction and use, including impacts to air quality, noise, biodiversity values, water quality.</li> </ul> <p>Note that the TMP is to be implemented in conjunction with <b>P-1 Construction ESMP, P-2 Biodiversity Management Plan, P-6 Grievance Redress Mechanism, P-7 Security Management Plan, P-8 Worker's Health and Safety Plan, P-9 Workers Code of Conduct, P-12 Waste Management and Point Source Pollution Plan, P-14 Spill Prevention and Emergency Response Plan, P-15 Air Quality Management and Dust Control Plan, C-3 Forest Clearance Plan, C-5 Quarry Management Plan, C-8 Watercourse Crossing Management Plan, C-10 Drainage, Erosion and Sediment Control Plan, C-13 Noise and Vibration Management Plan, M-1 Suspended Sediment Monitoring Plan, M-2 Water Quality Monitoring Plan, M-5 Flora and Fauna Monitoring Plan, M-6 Construction Works Monitoring Plan, and M-7 Air Quality and Noise Monitoring Plan.</b></p>				
Mitigation and Management Actions				
#	Issue or Risk	Action	Timing / Frequency	Responsibility
P-11-1.	Impacts on sensitive receptors, roadside properties, water sources from road design, alignment and construction	<ul style="list-style-type: none"> <li>• Access roads will be designed and constructed to: <ul style="list-style-type: none"> <li>- Minimise land usage and the associated need for land clearing and/or vegetation removal.</li> <li>- Where possible, identify and avoid sensitive biodiversity areas (including rare flora, fauna habitat, large trees that need to be protected, wetlands and streams). Refer <b>P-2 Biodiversity Management Plan</b> and <b>C-3 Forest Clearance Plan</b>.</li> <li>- Create a stable road design and pavement relating to road grades, slope and embankment stability of excavation and fill, and drainage.</li> <li>- Design and position culverts and watercourse crossings in accordance with <b>C-8 Watercourse Crossing Management Plan</b>.</li> <li>- Maintain existing access to residential properties and agricultural landholdings (except short-term restrictions in access with prior informed consent).</li> <li>- Should new accessways be constructed by the community along project access roads that block drainage or otherwise jeopardise the road and access these will be removed by the Project and resolved through <b>P-6 Grievance Redress Mechanism</b>.</li> </ul> </li> <li>• Earthworks will be strictly undertaken within marked areas, avoiding vegetation and soil disturbance beyond these designated sites. Refer <b>C-3 Forest Clearance Plan</b>.</li> <li>• Erosion and sediment control measures will be installed in accordance with <b>C-10 Drainage, Erosion and Sediment Control Plan</b>.</li> </ul>	Design Pre-construction Construction	HEC Construction Manager THL Subcontractor
P-11-2.	Increase in traffic volumes from workforce commute and provision of adequate parking	<ul style="list-style-type: none"> <li>• Construction workers will be transported to site using vans and/or busses, to minimise traffic congestion on public roads.</li> <li>• Adequate parking will be provided at the Workers Accommodation Camp and Site Office, to avoid parking on public roads.</li> <li>• Personnel and visitors will be required to park by backing into parking bays, as a driver who arrives driving a vehicle has a greater awareness of pedestrians.</li> </ul>	Throughout construction	HEC Construction Manager HSE Manager
P-11-3.	Damage to project roads and wider road network from construction vehicles resulting in accidents, damage to vehicles, decreased pedestrian safety and environmental impacts.	<ul style="list-style-type: none"> <li>• The condition of all existing roads (Lot 1) and project roads (Lots 2 and 3) will be regularly monitored as part of the <b>Audit Checklist for Traffic Management (Annex P-11-X)</b>, for signs of wear and tear and damage.</li> <li>• All roads (Lots 1, 2, 3) will be regularly maintained to prevent degradation. This includes: <ul style="list-style-type: none"> <li>- Repairing the surface of the road where deterioration has the potential to be a safety issue, cause traffic to become restricted or result in an ongoing maintenance issue. For sealed roads this may include measures such as patch repairs or removing and resealing sections of the road. For unsealed roads this may include regrading of roads to provide a better surface with sufficient crown or cross-fall to allow drainage to occur, and addition of aggregate.</li> <li>- Conducting regular repairs and maintenance of erosion and sediment control devices, drains, culverts, bridges and other roading infrastructure.</li> <li>- Control of weeds and other vegetation, with a particular focus at intersections to improve line of sight.</li> </ul> </li> </ul>	Throughout construction	HEC Construction Manager HEC E&S Supervisor HEC HSE Manager Subcontractor
P-11-4.	Vehicles speeding	<ul style="list-style-type: none"> <li>• On public roads, Project vehicles will adhere to all speed limits (40 km/hr in Honiara; 60 km/hr in rural areas)</li> <li>• Project traffic will be limited to a maximum speed of <b>50 km/hr</b> in Lot 1 (reducing to 30 km/hr in local areas when required to suit site restrictions).</li> <li>• Project traffic will be limited to a maximum speed of <b>20 km/hr</b> in Lots 2 and 3 and active construction sites areas.</li> <li>• Project traffic will be limited to a maximum speed of <b>20 km/hr</b> at all times through villages and past schools in Lots 1, 2, and 3.</li> <li>• Project traffic will be limited to a maximum speed of <b>10 km/hr</b> at the Site Office and Workers Accommodation Camp.</li> </ul>	Throughout construction	HEC Construction Manager HEC E&S Supervisor
P-11-5.	Increased number of vehicle related injuries and fatalities due to increased heavy	<ul style="list-style-type: none"> <li>• All drivers and operators will be trained and licenced/certified to drive the equipment that they are in control of.</li> <li>• Movement and transport of machinery and equipment from Honiara port must be undertaken in accordance with the details on the required route, list of heavy equipment to be transported; intended road closures, and timing for travel along the indicated route provided in <b>Annex P-11-I Equipment Transportation Plan</b>.</li> </ul>	Throughout construction	HEC Construction Manager HEC E&S Supervisor HEC HSE Manager

	vehicles and construction traffic	<ul style="list-style-type: none"> <li>All machinery and vehicle operators must fulfil the requirements detailed in <b>P-4 Human Resources and Labour Management Plan, P-9 Workers Code of Conduct</b>, and complete the <b>Driver and Operator's Declaration (Annex P-11-II)</b>.</li> <li>Drivers and machine operators must at all times comply with the applicable Solomon Island traffic and road acts a summary of which is provided in <b>Annex P-11-III</b>.</li> <li>All drivers and machine operators must comply with the <b>Fatigue Training and Controls for Drivers/Operators</b> requirements (<b>Annex P-11-IV</b>), Driver /Operator Licensing (<b>Annex P-11-V</b>) and Equipment Maintenance Requirements (<b>Annex P-11-VI</b>).</li> <li>All HEC and subcontractors' vehicles must be covered by insurance and in the event of an accident the insurance company will apply standard practice compensation and restitution arrangements in case of accidents (<b>Annex P-11-VII</b> and <b>Annex P-11-VIII</b>).</li> <li>All vehicle and machinery operators will be provided with the map of sensitive receptors (villages, schools, churches, tambu sites) along the access road provided as <b>Annex P-11-IX</b>.</li> <li>Employees and subcontractors are prohibited from being under the influence of alcohol or any form of drugs (including betel nut) when on site.</li> <li>Vehicle access to the new constructed roads (i.e. Lots 2 and 3) will be restricted to Project related traffic only. Pedestrian access to Lots 2 and 3 after construction will be limited to local community determined in consultation with the Tina Core Land Company. During the BOOT period, the section of road between Managikiki to dam site will remain private access</li> <li>The contractor will deploy stop/go personnel where road access is temporarily restricted due to construction activities.</li> <li>Liaison with the police and other authorities will occur prior to the movement of any abnormal loads. In particular, liaison with the Ministry of Infrastructure Development will occur prior to transportation on Kukum Highway and any other public road HEC will use.</li> <li>Heavy machinery operators will maintain lines of communication to other workers in the work area (e.g. radio, hand signal/line of sight), and flag people/traffic controllers will be used to watch movement of the vehicle and look out for any hazards.</li> <li>Transport of unauthorised passengers in project vehicles or in the tray of vehicles is not permitted.</li> <li>If a temporary road closure or restriction in access is required due to construction activities, HEC will inform the local community and relevant authorities (e.g. ambulances and fire services) verbally and in writing, at least one week in advance of the scheduled activities.</li> <li>The night driving procedures provided in <b>Annex P-11-XI</b> will be complied with by all workers with night time driving responsibilities.</li> </ul>		Subcontractor
P-11-6.	Conflicts between road users near communities and schools	<ul style="list-style-type: none"> <li>Project traffic will be limited to a maximum speed of 20 km/h at all times through villages and past schools.</li> <li>Education on traffic safety will be provided by the HEC Training Supervisor to communities and schools, with refresher training every six months.</li> <li>Regular engagement with the community about construction activities and progress will be conducted in accordance with <b>P-3 Stakeholder Engagement and Communications Plan</b>.</li> <li>If a temporary road closure or restriction in access is required due to construction activities, HEC will inform the local community and relevant authorities (e.g. ambulances and fire services) verbally and in writing, at least one week in advance of the scheduled activities.</li> </ul>	Throughout construction	HEC Construction Manager HEC HSE Manager Subcontractor
P-11-7.	Accidents, Injury or fatalities from light vehicles entering or leaving the Workers' Camp	<ul style="list-style-type: none"> <li>Mirrors at camp entrance will be installed to improve visibility to drivers of the presence of pedestrians and vehicles coming along feeder road.</li> </ul>	Throughout construction	HEC Construction Manager HEC HSE Manager Subcontractor
P-11-8.	Accidents, noise and air emissions due to inadequate vehicle maintenance	<ul style="list-style-type: none"> <li>All vehicles will be maintained in accordance with the schedule in <b>Annex P-11-V Equipment and Maintenance Register</b>.</li> <li>Management of emissions and the generation of dust from the movement of vehicles and other machinery will be undertaken in accordance with <b>P-15 Air Quality Management and Dust Control Plan</b>.</li> <li>Management of impacts to sensitive receptors from increased noise from heavy vehicles and construction traffic will be undertaken in accordance with <b>C-13 Noise and Vibration Management Plan</b>.</li> </ul>	Throughout construction	HEC Construction Manager HEC HSE Manager Subcontractor
P-11-9.	Emergency response procedures not followed	<ul style="list-style-type: none"> <li>In the event of an accident or emergency, <b>Annex P-8-VII Emergency Response Plan</b> will be implemented.</li> </ul>	Throughout construction	HEC Construction Manager HEC HSE Manager Subcontractor
P-11-10.	Spills of hydrocarbons and other contaminants	<ul style="list-style-type: none"> <li><b>P-14 Spill Prevention and Emergency Response Plan</b> will be implemented in the event of a spill.</li> </ul>	Throughout construction	HEC Construction Manager HEC HSE Manager Subcontractor
P-11-11.	Night Works for Access Road	<ul style="list-style-type: none"> <li>Vehicle movement along Lot 1 access road passing through communities shall be minimized.</li> <li>Haulage operations will be limited to the Project Core Boundary.</li> <li>Workers driving at night shall lower their speed at villages and schools (20 km/h), and at the site office and WAC (10km/h).</li> <li>Assign trained spotters to assist vehicle operators.</li> <li>Install clear and visible signage to indicate pedestrian crossings and caution zones.</li> <li>Ensure dump trucks have reverse lamps and operating reverse warning beepers.</li> <li>To prevent falls, one-meter bunds will be installed in areas where there is a risk of falling.</li> <li>Use two-way radios or devices to facilitate communication between workers and vehicle operators.</li> <li>Signal to be exchanged between operators and signalman will be trained.</li> <li>Clear and consistent communication channels will be established between operators, spotters, supervisors.</li> </ul>	Access Road Construction Works at Night	HSE Manager Subcontractor

		<ul style="list-style-type: none"> <li>To ensure the smooth and safe flow of traffic at the worksite, clear light signals will be employed using traffic light batons. A blinking red light will indicate "Go," while a constant red light will signal "Stop." When passing two trucks, the unloaded vehicle will be directed to wait while the loaded truck is given priority to pass freely.</li> </ul> <p>Refer to <b>Plan for Construction Works at Night – Access Road</b> for details.</p>			
Monitoring Requirements					
#	Title	Description	Target / Performance Indicator	Timing / Frequency	Responsibility
P-11-A.	Weekly Site Inspections	During weekly routine HSE Site Inspections, monitor implementation of TMP requirements.	Compliance with all requirements of the Audit Checklist for Traffic Management ( <b>Annex P-11-X</b> )	Weekly	HEC HSE Manager
P-11-B.	Weekly Speed Monitoring	Conduct random surveys of Project vehicle speeds using handheld speed gun (at least once weekly, in different locations each time).	Adherence to speed limits and lower speeds at villages and schools	Weekly	HEC HSE Manager
P-11-C.	Alcohol and Drug Testing	<p>Random alcohol and drug testing for all HEC and Sub-contractor staff, including Light Vehicle/Heavy Equipment Operators. Reporting as part of HEC's quarterly E&amp;S report is to include:</p> <ul style="list-style-type: none"> <li>Number of random breath alcohol tests conducted fortnightly (disaggregated by age, gender, place of origin, and role type of workers (e.g. skilled, unskilled, semi-skilled roles))</li> <li>Number of failed tests (disaggregated by test type (alcohol; drugs), worker's age, gender, place of origin, and role type) including follow-up actions taken.</li> <li>Number and percentage of total HEC and subcontractor workforce tested (disaggregated by role type – skilled, semi-skilled and unskilled).</li> </ul>	<p>All tests are recorded by the HEC H&amp;S Team</p> <p>All staff to be tested at least once per month.</p> <p>Aim for 0 positive tests.</p>	<p>Testing to be conducted 6 days per fortnight.</p> <p>Every Monday, and on four randomly selected (non-regular) days per fortnight.</p>	HEC HSE Manager
P-11-D.	Drivers Licence and Training Records	Records of driver's licenses, certification and training held by for workers who intend to drive on site or while employed on the Project will be kept by HEC.	Drivers' licences and certification for all HEC and Sub-contractor Light Vehicle/Heavy Equipment Operators on record.	On commencement of new operator	HEC HSE Manager
Supporting Documents					
Annex	Name	Description			
P-11-I.	Equipment Transportation Plan	Provides details on the heavy equipment to be transported, intended road closures, and timing for travel along the indicated route from Honiara port.			
P-11-II.	Driver and Operator's Declaration	Declaration of requirements for project divers and machine operators.			
P-11-III.	Solomon Islands Traffic and Road Acts	Summary of the applicable requirements of the Traffic Act 1996, Traffic (Amendment) Act 2009 and the Roads Act 1996.			
P-11-IV.	Fatigue Training and Controls for Drivers/Operators	Fatigue and stress controls for heavy vehicle drivers and operators and associated training materials			
P-11-V.	Driver / Operator Vehicle License Requirements	List of requirements for vehicle licensing for specialist operators and drivers and vehicle maintenance requirements			
P-11-VI.	Equipment List and Maintenance Schedule	Vehicle maintenance schedule			
P-11-VII.	Insurance of Motor Vehicles	Details standard practice compensation and restitution arrangements by the insurance company in case of accidents			
P-11-VIII.	Insurance Register	Vehicle insurance details			
P-11-IX.	Location of Sensitive Receptors, Traffic Signage and Safety Fencing	Road sign and safety fencing requirements along roads and in the vicinity of villages, school, church; location of sensitive receptors.			
P-11-X.	Audit Checklist for Traffic Management	Subcontractor's traffic management performance checklist addressing compliance with the TMP, accident reporting, risk assessment, monitoring records and emergency preparedness.			
P-11-XI.	Night Driving Safety Procedure	Safety standards and procedure for drivers of heavy equipment and light vehicles to facilitate construction works during the night.			