



## ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

**Project Name:** Revitalisation of the Groundwater Monitoring Network in the Shire River and Lake Chilwa basin, Southern Malawi

**Recipient Country:** MALAWI

**Description of work:** Rehabilitation of 20 existing groundwater monitoring wells and Borehole Drilling of 3 new Groundwater Monitoring Sites

**PEA detailed information (name, contact information, affiliation, etc.):** BASEflow | PO Box 30467, Chichiri, Blantyre, Malawi | [info@baseflowmw.org](mailto:info@baseflowmw.org) | Grantee Team Leader: Muthi Nhlema / Email: [muthi@baseflowmw.org](mailto:muthi@baseflowmw.org) / Cell: +265 881 897 531  
Environmental & Social Management Specialist: Steve Kumwenda / [steve@baseflowmw.org](mailto:steve@baseflowmw.org) / Cell: +265999302669

**Contractor's detailed information:** TBC once the contract has been formally signed



**Contact  
Details**

+27 12 051 0419  
[info@sadc-gmi.org](mailto:info@sadc-gmi.org)  
[www.sadc-gmi.org](http://www.sadc-gmi.org)



**Postal  
Address**

Suite 262  
Private Bag X025  
Lynwood Ridge 0040  
South Africa



**Physical  
Address**

Building 24,  
CSIR Campus  
24 Meiring Naude Road  
Brummeria  
Pretoria 0184

| Environmental and Social Management Plan (ESMP)      |  |   |   |   |
|--|--|---|---|---|
| BASEFLOW-MALAWI                                      |  |   |   |   |
| Item   | Mitigation, Management, and Enhancement Measures   | Means of Verification   | Responsibility  | Monitoring Procedure  |
| <b>A. General Requirements for ESHS Management</b>   |  |   |   |   |
| <b><u>Responsibilities and Liabilities</u></b>       | <p>Ensure that all workers, suppliers, and possible subcontractors are familiar with and comply with ESMP's ESHS requirements and specifications.</p> <p>Comply with and implement the World Bank ESF, BASEflow E&amp;S safeguards policies, and information management or monitoring tools (Mwater).</p>  | <p>Induction training performed and recorded.</p> <p>Contracts with subcontractors and suppliers</p>          | <p>BASEflow to confirm compliance</p> <p>Contractor to carry out the requirement.</p> | <p>Review of training records</p> <p>Review of Contracts to ensure that Project requirements are included</p> |
| <b><u>Resources allocated to ESHS Management</u></b> | <p>Given that the number of people working on the site is projected to be less than 15, BASEflow will allocate a hydrogeologist equipped with a checklist and mobility (vehicle) to oversee the implementation of this ESMP on site.</p> <p>The contractor will provide a relevant on-site point person to liaise with the BASEflow hydrogeologist regarding ESMP implementation. This role will be stipulated within the contract as a mandatory requirement.</p> | <p>Final Project-specific ESMP</p> <p>Inform the relevant authorities about the ESHS that is responsible.</p> | <p>BASEflow Contractor</p>  | <p>Review before finalization of Project-specific ESMP</p>  |
| <b><u>Reporting</u></b>                              | <p>Ensure that incidents and accidents are reported to BASEflow and SADC.</p> <p>Ensure the contract agreement with the selected contractor includes a clause/procedure for timely reporting of progress, incidents, accidents, observations, and near misses.</p>   | <p>Final Project-specific ESMP</p> <p>Reporting protocol for ESHS incidents</p>                               | <p>BASEflow to oversee compliance</p> <p>Contractor to carry out the requirement.</p> | <p>Review once prior to finalization of Project-specific ESMP.</p>  |



**Contact  
Details**

+27 12 051 0419  
info@sadc-gmi.org  
www.sadc-gmi.org



**Postal  
Address**

Suite 262  
Private Bag X025  
Lynwood Ridge 0040  
South Africa



**Physical  
Address**

Building 24,  
CSIR Campus  
24 Meiring Naude Road  
Brummeria  
Pretoria 0184

|                                      |  |   |                 |  |
|--------------------------------------|--|---|-----------------|--|
| <p><b><u>Code of Conduct</u></b></p> | <p>Include in the contract agreement with the selected contractor the SADC-GMI project-approved Code of Conduct (including procedures for safeguarding), which will consider (as a minimum standard practice) national legislation, safety rules, substance abuse, environmental sensitivity, communicable diseases, gender issues (sexual harassment), respect for local beliefs and customs, community interactions, etc.</p>  | <p>Code of Conduct in place and rules shared with personnel</p> | <p>BASEflow</p> | <p>Review of Code of Conduct induction records<br/>Review of reported punishable or misconduct behaviour<br/>Review of grievance records</p> |
| <p><b><u>ESHS Training</u></b></p>   | <p>BASEflow, in collaboration with the Prime Partner, shall facilitate induction training to the contractor workforce, local government staff, and land-owner/community representatives to raise awareness regarding the following:</p> <ul style="list-style-type: none"> <li>- Scope of works</li> <li>- Roles and responsibilities of all parties (including liabilities) on site</li> <li>- Health and Safety risks and mitigation measures on site</li> <li>- Code of Conduct (including safeguarding issues and reporting procedures) and</li> <li>- Safeguarding protocols on how cases/ reports (including sexual abuse of gender-based violence) will be handled with confidentiality to ensure the privacy and safety of victims. All parties, i.e., BASEflow, contractors, and surrounding communities, will allocate a Focal point person as a reporting point for safeguarding issues.</li> <li>- Waste disposal protocol and other environmental protections tailored to the project scope.</li> </ul> <p>As part of liability management, all participants will sign a document confirming that they attended the induction training and understood all the above elements of the project/construction works.</p> | <p>Training performed and recorded</p>                          | <p>BASEflow</p> | <p>Review of training records</p>  |

| Item                                    | Mitigation, Management and Enhancement Measures   | Means of Verification   | Responsibility   | Monitoring Procedure  |
|---|---|---|--|---|
| <b>B. Protection of the Environment</b> |   |   |  |   |
| Protection of adjacent areas            | Restrict excavation activities during periods of intense rainfall. Use temporary bunding to reduce the risk of sediment, oil, or chemical spills into the receiving waters.   | Site inspections<br>Supervisory checklist<br>Unsuccessful boreholes backfilled<br>Excavation on hold during intense rainfall  | Contractor   | Check weather forecast<br>Inspect the site conditions prior to and during excavation. |
|   | Ensure that means of protection are in place to avoid or minimize adverse effects on vegetation, soils, groundwater and surface water, biodiversity, natural drainage, and the water quality in areas within the works area. Construction methods to minimize impacts to the extent possible. | No impacts were identified in the adjacent environment<br>Supervisory checklist   | Contractor to carry protection means<br>BASEflow to monitor compliance daily | Daily supervision (including monitoring of adjacent natural resources)                |
|   | Ensure that work site boundaries and limits are in accordance with plans agreed upon in advance. All construction activities should be carried out within boundaries.   | Marking the borders of the works site using danger tape<br>Inform the immediate community of the borders of the work site<br>Displaying signage to inform the workers and community members | Contractor   | Site inspection prior to commencement of activities; and Regular supervision          |

| Item                                    | Mitigation, Management and Enhancement Measures   | Means of Verification   | Responsibility  | Monitoring Procedure  |
|---|---|---|---|---|
| <b>B. Protection of the Environment</b> |   |   |   |   |
|   | Be sure to stay out of the surrounding wetland areas.   | Site inspections<br>Supervisory checklist<br>Pre-construction survey                              | Contractor- to carry out the mitigation measures<br><br>BASEflow-to monitor that the contractor is compliant to the measures                      | Site inspection prior to commencement of activities and Regular supervision |
|   | Ensure to keep the minimum distances from permanent water course and outside of floodable areas; sensitive urban services and buildings (health centre, school, water supply for populations); any housing; | Marking the borders of works site boundaries in line with given limits and usage of warning signs | Contractor- to carry out the mitigation measures<br><br>BASEflow- BASEflow is used to monitor that the contractor is compliant with the measures. | Site inspection prior to commencement of works; and Regular supervision     |
|   | After construction, form reshaped land so that it is inherently stable, adequately drained, suitable for the desired long-term land use, and allows natural regeneration of vegetation.                     | Visual inspection and comparison with adjacent undisturbed areas.                                 | Contractor  | Site inspection before and after completion of works                        |



**Contact  
Details**

+27 12 051 0419  
info@sadc-gmi.org  
www.sadc-gmi.org



**Postal  
Address**

Suite 262  
Private Bag X025  
Lynwood Ridge 0040  
South Africa



**Physical  
Address**

Building 24,  
CSIR Campus  
24 Meiring Naude Road  
Brummena  
Pretoria 0184

| Item                                    | Mitigation, Management and Enhancement Measures  | Means of Verification  | Responsibility  | Monitoring Procedure  |
|---|--|--|---|---|
| <b>B. Protection of the Environment</b> |  |  |   |   |
| Pollution prevention                    | Ensure all works carried out minimize pollution risk (e.g., liquid effluents, air emissions, noise and vibration management, vehicle and equipment maintenance and selection, fuel, oil, and chemical storage and handling) throughout the project's duration. | Ensure that potential pollutants are not stored and handled within 50 m of sensitive receptors (particularly watercourses).<br><br>Ensure that potential pollutants are safely stored, i.e., stored above the catch pan. | Contractor  | Site inspection prior to and during the commencement of works |
| Emissions and dust                      | Ensure that the contractor staff are wearing appropriate PPE, e.g., face mask.<br><br>Sensitize communities to maintain a safe distance  | Visual Inspection of the site<br><br>Supervisory checklist   | Contractor  | Visual inspection during regular supervisory visits           |
|   | Sensitize drivers to turn off their vehicles when not in use   | Vehicle engines are switched off when not in use   | Contractor  | Site inspection and review of grievance records               |
| Noise and vibration                     | Avoid operations like drilling and vehicle movements at night.   | No work conducted between 8 pm and 6 am  | Contractor to carry out<br><br>BASEflow to monitor compliance | Site Inspection and review of grievance records               |

| Item                                    | Mitigation, Management and Enhancement Measures  | Means of Verification   | Responsibility  | Monitoring Procedure   |
|---|--|---|---|--|
| <b>B. Protection of the Environment</b> |  |   |   |  |
|   | Locate stationary equipment (such as power generators) as far as possible from nearby receptors (e.g., worker resting areas, populated areas, and environmentally sensitive areas). Ensure that noise levels don't exceed 120db in case of equipment or vehicle use. | Adequate distances between equipment and receptors are kept<br><br>Use of sound detector to ensure that noise level is kept below recommended level | Contractor to carry out<br><br>BASEflow to monitor compliance | Once before the commencement of works<br><br>Monitor noise levels in case equipment is used<br><br>Review of grievance records |
| Vegetation clearing                     | Obtain necessary permits and approval from the national environmental authority prior to vegetation clearing.  | Necessary national permit and approval obtained   | Contractor/<br>Baseflow                                       | Permit and approval verification   |
|   | Limit vegetation clearing to areas within the site boundary where it is strictly necessary.  | Vegetation clearing minimal<br><br>Marking the borders of works site boundaries   | Contractor/<br>Baseflow                                       | Site inspection prior to commencement of activities.   |
|   | Ensure that no chemicals/pesticides are used, burning vegetation is restricted etc.<br><br>Do not clear vegetation more than two months in advance of operations.  | No use of fires or chemicals on site<br><br>Marking the borders of works site boundaries<br><br>Usage of warning signs                              | Contractor/<br>Baseflow                                       | Site inspection prior to commencement of activities.<br><br>Site inspection during site clearance                              |
|   | Avoid clearing mature trees and endangered species.  | No mature trees were cleared  | Contractor/<br>Baseflow                                       | Site inspection prior to commencement of activities.   |

| Item                                    | Mitigation, Management and Enhancement Measures   | Means of Verification             | Responsibility          | Monitoring Procedure   |
|---|---|-----------------------------------|-------------------------|--|
| <b>B. Protection of the Environment</b> |   |                                   |                         |  |
|   | Avoid, to the extent possible, areas of ecological value.                                     | Areas of ecological value avoided | Contractor/<br>Baseflow | Site assessment prior to site selection.<br><br>Ecological value assessment if needed. |
|   | Avoid natural habitat disturbance.  | No habitats disturbed             | Contractor/<br>Baseflow | Inspection of drilling practices.  |
|   | Ensure that rehabilitated areas don't pose health and safety risks (such as holes and ponds). | Reinstatement completed           | Contractor/<br>Baseflow | Inspection after drilling<br><br>Inspection after heavy rainfalls and snow             |
|   | Avoid, to the extent possible, areas of ecological value.                                     | Areas of ecological value avoided | Contractor/<br>Baseflow | Site assessment prior to site selection.<br><br>Ecological value assessment if needed. |



| Item                                    | Mitigation, Management and Enhancement Measures  | Means of Verification                                    | Responsibility  | Monitoring Procedure   |
|---|--|--|---|--|
| <b>B. Protection of the Environment</b> |  |  |   |  |
| Waste management                        | <p>Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities.</p> <p>Ensure that the temporary waste storage site is identified. Ensure that temporary waste storage does not obstruct the pathways.</p> <p>Mineral construction and demolition wastes will be separated from general refuse, organic, liquid, and chemical wastes by on-site sorting and stored in appropriate containers.</p> <p>Regular and effective final waste disposal and collection will be ensured. Records of waste disposal will be maintained.</p> <p>Whenever feasible, the contractor will reuse and recycle appropriate and viable materials (except asbestos).</p> | <p>Visual inspection.</p> <p>Waste disposal records.</p> | <p>Contractor to implement.</p> <p>BASEflow to monitor.</p> | <p>Regular site visits.</p> <p>Regular inspection of the waste disposal records.</p> |

| Item                                 | Mitigation, Management, and Enhancement Measures  | Means of Verification   | Responsibility  | Monitoring Procedure                    |
|--------------------------------------|---|---|---|---|
| <b>C. Health and Safety</b>          |   |   |   |   |
| <b>Accident reporting</b>            | <p>Ensure all H&amp;S-related incidents (e.g., observations, accidents) on site are recorded and followed up properly.</p> <p>Ensure that incidents and accidents are reported to BASEflow and SADC.</p> <p>Ensure that workers are informed on the ways of reporting incidents and accidents on issues including OHS, environmental pollution, Gender-based Violence, sexual harassment and exploitation, etc.</p>   | H&S incident reporting protocol in place  | BASEflow/Contractor   | Check incident/accident records         |
| <b>Personal protective equipment</b> | <p>The contract agreement with the selected contractor will include a clause/provision of Personal Protective Equipment (PPE) for contractor workers (e.g., hard hats, masks, safety glasses, safety boots) to ensure the health and safety of all parties on site. Furthermore, contractors must provide a cordon (damage tape) to prevent non-technical or community staff from entering the construction site.</p> <p>Ensure that appropriate PPE is provided to workers at all times.</p> | <p>Daily visual inspection</p> <p>A supervisory checklist developed by the Contractor and approved by BASEflow.</p> | <p>The contractor is to provide the PPE to workers.</p> <p>PEA will check that this is adhered to</p> | Regular supervisory visits to check PPE |

| Item                             | Mitigation, Management, and Enhancement Measures   | Means of Verification  | Responsibility                               | Monitoring Procedure   |
|----------------------------------|--|--|--|--|
| <b>C. Health and Safety</b>      |  |  |  |  |
| <b>First-aid</b>                 | <p>The Contractor will ensure the availability of first aid kits for their workers and community members.</p> <p>PEA to ensure availability of first aid kits for their team and Prime Partner team.</p>   | <p>First aid is on site and adequately stocked.</p> <p>A supervisory checklist developed by the Contractor and approved by BASEflow.</p> | Both Contractor<br>And BASEflow to carry out | Regular supervisory visits to check the availability of first aid kit          |
| Hygiene, accommodation, and food | <p>The contractor is responsible for ensuring the provision of Health and Safety (H&amp;S) and hygienic and sanitary facilities at the site, e.g. toilets, potable water, and shaded rest areas as per the number of workforce crew.</p> <p>To comply with health and safety principles, the contractor will ensure the following.</p> <p><b>Hygiene:</b> Strict hygiene protocols for food preparation and handling, as well as handwashing facilities, ensure access to safe drinking water.</p> <p><b>Accommodation:</b> A proper, safe rental accommodation for the workforce crew will be identified. A shaded area with proper ventilation will be provided for workers to rest during breaks.</p> | Daily visual inspection  | Contractor                                   | Regular supervisory checks to verify the availability of rental accommodation. |



**Contact  
Details**

+27 12 051 0419  
info@sadc-gmi.org  
www.sadc-gmi.org



**Postal  
Address**

Suite 262  
Private Bag X025  
Lynwood Ridge 0040  
South Africa



**Physical  
Address**

Building 24,  
CSIR Campus  
24 Meiring Naude Road  
Brummena  
Pretoria 0184

| Item  | Mitigation, Management and Enhancement Measures   | Means of Verification   | Responsibility          | Monitoring Procedure  |
|---|---|---|-------------------------|---|
| <b>D. Labour and relations with local communities</b> |   |   |                         |   |
| <b><u>Labour conditions</u></b>                       | Ensure that minimum legal labour standards, as per Baseflow guidelines and WB ESS2 regulations (child/forced labour, sexual assault, no discrimination, equal opportunities, working hours, minimum wages), are met.            | Grievance Mechanism Records,<br>Training performed and recorded                         | Contractor/<br>BASEFLOW | Review of Inspection reports (also from labour authorities),<br>Review of grievance records<br>Review of training records |
|   | Ensure that all direct and indirect workers have access to and are aware of the Grievance Mechanism, where they can raise workplace-relevant complaints anonymously.<br>(See Sub grants manual – Grievance Mechanism procedure) | Grievance Mechanism in place and grievances recorded<br>Training performed and recorded | Contractor/<br>BASEFLOW | Review of grievance register<br>Review of training records  |
|   | Ensure all workers have the same rights and are treated equally.  | Non-discrimination policy in place  | Contractor/<br>BASEFLOW | Random site inspection<br>Review of grievance register  |
| Local recruitment                                     | Where appropriate, ensure local communities are preferred for supplying goods and services to the Project and Project personnel.  | Local Procurement and Employment Records  | Contractor/<br>BASEFLOW | Review procurement and employment rules and records<br>Review of grievance register                                       |
| Transport   | Organise carpools/buses for worker transportation where needed.   | Carpools/ buses used  | Contractor/<br>BASEFLOW | Review of registered transport policy   |

| Item  | Mitigation, Management and Enhancement Measures   | Means of Verification  | Responsibility          | Monitoring Procedure  |
|---|---|--|-------------------------|---|
| <b>D. Labour and relations with local communities</b> |   |  |                         |   |
| Community interaction                                 | <p>Engage/ communicate/inform communities. Ensure consultations with the local authorities and communities regarding the drilling. Obtain local knowledge regarding chance finds and land acquisition matters.</p> <p>Maintain a grievance record on site.</p> <p>Maintain a grievance box on site.</p> | <p>Minutes of Meetings</p> <p>The Grievance Mechanism would be handled through the BASEFLOW Human resources policy procedures and the SADC GMI procedures. All grievances will be reported accordingly, in accordance with World Bank Procedures.</p> <p>Grievance record on site</p> <p>Submit complaints anonymously using the grievance box</p> | Contractor/<br>BASEFLOW | <p>Review of grievance register</p> <p>Minutes of consultation meetings</p> |
|   | <p>Initiate an efficient Grievance Mechanism to allow potentially affected individuals to raise their concerns.</p> <p>Inform the communities on the method of submitting grievances: email <a href="mailto:safeguard@sadc-gmi.org">safeguard@sadc-gmi.org</a></p>                                      | <p>SADC-GMI Sub-Grant Manual</p> <p>Grievances received through email <a href="mailto:safeguard@sadc-gmi.org">safeguard@sadc-gmi.org</a></p>   | Contractor/<br>BASEFLOW | Review of grievance register  |

| Item  | Mitigation, Management and Enhancement Measures  | Means of Verification  | Responsibility          | Monitoring Procedure  |
|---|--|--|-------------------------|---|
| <b>D. Labour and relations with local communities</b> |  |  |                         |   |
|   | Engage with the local community and potentially affected households to understand their needs and identify the risk of damage to their livelihoods through the Project (e.g., taking pastureland, lack of access to water).  | Minutes of Meetings<br>Grievance Mechanism records   | Contractor/<br>BASEFLOW | Review of grievance register and meeting minutes  |
| Damage to people and property                         | Ensure all contractors implement codes of conduct concerning employment and workforce behaviour (including but not limited to safety rules, zero tolerance for substance abuse, environmental sensitivity of the area, dangers of sexually transmissible diseases and HIV/AIDS, gender equality and sexual harassment, respect for the beliefs and customs of the populations and community relations in general). | Code of Conduct (See Sub grants manual code of conduct)<br><br>Grievance Mechanism records | Contractor/<br>BASEFLOW | Worker interviews, Review of grievance log  |
|   | Ensure that site areas are provided with appropriate security, fencing, signage, and lighting. Use hazard notices/signs/barriers to protect children and other vulnerable people from harm and prevent access to non-workers.  | H&S planning of drilling site completed.<br><br>Items installed                            | Contractor/<br>BASEFLOW | Inspection prior to the activities.<br>Random site inspection<br>Review of grievance register |
| Traffic management                                    | Ensure safe driving by Project personnel (e.g. through training/induction).  | Driver Training Records as part of Induction training                                      | Contractor/<br>BASEFLOW | Review of training records  |

| Item  | Mitigation, Management and Enhancement Measures  | Means of Verification                | Responsibility          | Monitoring Procedure  |
|---|--|--------------------------------------|-------------------------|---|
| <b>D. Labour and relations with local communities</b> |  |                                      |                         |   |
|   | Target signage and outreach activities to improve public awareness of traffic changes and potential hazards for high-risk sections of public roads, including near the site and laydown areas. | Warning signs<br>Minutes of Meetings | Contractor/<br>BASEFLOW | Inspection of traffic routes,<br>Review of grievance register |

|                                       |  |  |                                 |   |
|---------------------------------------|--|--|---------------------------------|---|
| <p>Land acquisition and land take</p> | <p>All monitoring wells and associated infrastructure will be installed and operated on government land and the monitoring equipment is site specific without the need for pipelaying to service other locations. There is no need to secure servitudes to lay pipes and other associated infrastructure. Hence the acquisition of land for this project is therefore not foreseen.</p> <p>For the government-owned land, BASEflow shall engage the Prime Partner to lead on facilitating the accessing of the land using the government standard procedures/protocols</p> <p>In the very unlikely event that land has to be acquired for works on none government-owned land, BASEflow will engage the land owner with the support of the community leader to inform them of the intended land use as part of securing a formal written agreement that the land will be voluntarily donated to the project and such a donation does not impact on the livelihood of the land owner.</p> <p>In the event, the land owner or community leader does not consent to volunteering the land, BASEflow will cease further negotiations on the matter. Avoid to the extent possible land take of both formal and informal land owners/land users.</p> <p>If land take is inevitable, no forced eviction should take place. Where consent has been secured, the land owner will sign a confirmation document to that effect and copies of this document will remain with the</p> | <p>Land acquisition will be avoided by installing the works of government land.</p> <p>However, under unlikely extenuating circumstances where land has to be acquired, a signed document, showing voluntary donation of the land to the project, in place</p> | <p>Contractor/<br/>BASEflow</p> | <p>Inspection during site selection<br/>Review of grievance log</p> |
|---------------------------------------|--|--|---------------------------------|---|



**Contact  
Details**

+27 12 051 0419  
info@sadc-gmi.org  
www.sadc-gmi.org



**Postal  
Address**

Suite 262  
Private Bag X025  
Lynwood Ridge 0040  
South Africa



**Physical  
Address**

Building 24,  
CSIR Campus  
24 Meiring Naude Road  
Brummeria  
Pretoria 0184



| Item  | Mitigation, Management and Enhancement Measures   | Means of Verification | Responsibility | Monitoring Procedure |
|---|---|-----------------------|----------------|----------------------|
| <b>D. Labour and relations with local communities</b> |   |                       |                |                      |
|   | <p>land owner, local government and Prime Partner</p> <p>Irrespective of the necessity for land acquisition, Baseflow will facilitate stakeholder engagement at the start of the project and quarterly thereafter to solicit community participation.</p> |                       |                |                      |