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| POSITION TITLE AND NO. | K-7, ENVIRONMENTAL EXPERT (PHASE 3) | | |
| NAME OF EXPERT | Fredrika Ndeutala Shagama | | |
| NAME OF FIRM | Excel Dynamic Solutions (Pty) Ltd (EDS) | | |
| DATE OF BIRTH | 19 October 1990 | | |
| COUNTRY OF CITIZENSHIP / RESIDENCE | Namibia | | |
| EDUCATION | <ul style="list-style-type: none"> • PhD Student: Civil Engineering (Geotechnics & Hydrogeology): Faculty of Civil Engineering, VSB – Technical University of Ostrava (September 2019 to date) • MSc. Geological Engineering (cum laude) with a primary focus in Hydrogeology: Faculty of Mining & Geology, VSB – Technical University of Ostrava (2015) • BSc. Geological Engineering: Faculty of Mining & Geology, VSB – Technical University of Ostrava (2013) <p>TRAINING:</p> <ul style="list-style-type: none"> • Numerical Surface and groundwater Modelling (MIKESHE by DHI) and Groundwater Modelling System (GMS) MODFLOW -ongoing • Environmental Problems in Geotechnics: Landslide and Groundwater issues on highways in the Czech Republic – April 2020 • Academic& Scientific writing Workshop by the Department of Languages and Technical Reporting of VSB Technical University of Ostrava, Czech Republic (July 2020) • Scientific Presentation, Writing and Speaking sponsored by GeoUS and presented by the University of Vaasa (Finland) – May 2020 • Groundwater Flow Modelling with GMS (MODFLOW, MODPATH) by AQUAVEO at the VSB-Technical University of Ostrava - June 2015 | | |
| EMPLOYMENT RECORD RELEVANT TO THE ASSIGNMENT: | | | |
| Period | Employing organization and your title/position. Contact information for references | Country | Summary of activities performed relevant to the Assignment |
| Jan 2019 to date | Name of Employer: EDS Position: Hydrogeologist and EAP Contact information for references: Name: Mr. Nerson Tjelos Designation: Managing Member and Principal Consultant Tel No.: +264 81 152 4420 Email: ntjelos@edsnamibia.co | Namibia | Conducting Groundwater studies, Environmental Impact Assessments (EIAs), compilation of; EIA Reports and Management Plans (EMPs), technical reports for Groundwater studies (including reports for water permit applications), Technical & Financial Proposal, Project Management, Renewal of Environmental Clearance Certificates (ECCs), conducting Environmental Monitoring (Compliance Auditing) and training of junior water and environmental consultants |

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| Aug 2015 – Dec 2018 | Name of Employer: GCS Water Environmental Engineering (Pty) Ltd Namibia Position: Country Hydrogeologist & EAP Contact information for references: Name: Mrs Eloise Carstens Designation: Former Country Manager Tel No.: +64 27 258 9337 Email: eloise@ec-it.org | Namibia | Conducting Groundwater (Hydrogeological), Geological & Geochemical studies, Geotechnical investigations (Phase 1 only), Groundwater Monitoring, Air Quality Monitoring, Project Management, Proposal and Technical Report writing and Environmental Impact Assessments & Environmental Management Plans. Further responsibility included training of junior geologists and environmental assessment practitioners and ensuring health and safety implementation in the | | |
| Jul 2014 – Sep 2014 | Name of Employer: Dundee Precious Metals Tsumeb (DPMT) Position: Student (Intern Geologist / Hydrogeologist) in the Environmental Department (under the Supervision of GCS Water & Environmental Consultants (Pty) Ltd) Contact information for references: Name: Mr Edison Hiwanaame Designation: Environmental Specialist Tel No.: +264 81 323 9294 Email: eddietngny@gmail.com | Namibia | Measuring Groundwater Levels, Water Sampling and Preservation. | | |
| MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS AND PUBLICATIONS | | <ul style="list-style-type: none">International Association of Hydrogeologists - Full Member, No.139790 https://iah.org/wp-content/uploads/2019/05/IAHSpring2019Newsletter_web.pdf on page 19Namibian Hydrogeological Association - Member, http://namhydro.com/wp/members/.Environmental Assessment Professionals of Namibia (EAPAN) - Ordinary member practitioner, No. 183, https://eapan.org/registered-membersPublications pending (upon approval by publishing journals) | | | |
| LANGUAGES SKILL | | | READ | WRITE | SPEAK |
| | | English | Excellent | Excellent | Excellent |
| | | Oshiwambo | Excellent/Native | Excellent | Excellent |
| | | Czech | Excellent | Excellent | Excellent |
| ADEQUACY FOR THE ASSIGNMENT: | | | | | |
| Detailed Tasks Assigned on Consultant’s Team of Experts: | | | | | |

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| | <p>Position: Lead Environmental Assessment Practitioner</p> <p>Activities performed: Project Management, Site visit & Assessment, Facilitation of Public Participation/Consultation (including meetings) and Compilation of Environmental Assessment Report & Environmental Management Plan.</p> |
| <p>Deliverable related to this assignment:</p> <p>Phase 1:</p> <p>Phase 3: D8</p> | <p>Name of Assignment or Project: Environmental Assessment and Management Plan for the Existing Sewage Oxidation Ponds</p> <p>Year: April 2022 - Jan 2023</p> <p>Location: Divundu, Kavango East</p> <p>Client: Divundu Village Council (free offer by EDS)</p> <p>Main project features: Undertaking the EA process, public consultation & engagement facilitation, compilation of ECC applications, EIA Report and EMP.</p> <p>Position: Lead Environmental Assessment Practitioner</p> <p>Activities performed: Project Management, Site visit & Assessment, Facilitation of Public Participation/Consultation (including meetings) and Compilation of Environmental Assessment Report & Environmental Management Plan.</p> |
| <p>Phase 1:</p> <p>Phase 3: D8</p> | <p>Name of Assignment or Project: Environmental Assessment and Management Plan for the Existing Dumpsite</p> <p>Year: April 2022 - Jan 2023</p> <p>Location: Rundu, Kavango East</p> <p>Client: Rundu Town Council (free offer by EDS)</p> <p>Main project features: Undertaking the EA process, public consultation & engagement facilitation, compilation of ECC applications, EIA Report and EMP</p> <p>Position: Lead Environmental Assessment Practitioner</p> <p>Activities performed: Project Management, Site visit & Assessment, Facilitation of Public Participation/Consultation (including meetings) and Compilation of Environmental Assessment Report & Environmental Management Plan.</p> |

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| <p>Phase 1:</p> <p>Phase 3:</p> <p>D8</p> | <p>Name of Assignment or Project: Environmental Assessment and Management Plan for the Proposed Sewage Treatment Plant & Existing Sewage Ponds</p> <p>Year: April 2022 - Jan 2023</p> <p>Location: Eenhana, Ohangwena</p> <p>Client: Eenhana Town Council (free offer by EDS)</p> <p>Main project features: Undertaking the EA process, public consultation & engagement facilitation, compilation of ECC applications, EIA Report and EMP</p> <p>Position: Lead Environmental Assessment Practitioner</p> <p>Activities performed: Project Management, Site visit & Assessment, Facilitation of Public Participation/Consultation (including meetings) and Compilation of Environmental Assessment Report & Environmental Management Plan.</p> |
| <p>Phase 1:</p> <p>Phase 3:</p> <p>D8</p> | <p>Name of Assignment or Project: Environmental Assessment and Management Plan for Existing Sewage Oxidation Ponds</p> <p>Year: April 2022 - February 2023</p> <p>Location: Ruacana, Omusati</p> <p>Client: Ruacana Town Council (free offer by EDS)</p> <p>Main project features: Undertaking the EA process, public consultation & engagement facilitation, compilation of ECC applications, EIA Report and EMP</p> <p>Position: Lead Environmental Assessment Practitioner</p> <p>Activities performed: Project Management, Site visit & Assessment, Facilitation of Public Participation/Consultation (including meetings) and Compilation of Environmental Assessment Report & Environmental Management Plan</p> |
| <p>Phase 1:</p> <p>Phase 3:</p> <p>D8</p> | <p>Name of Assignment or Project: Environmental Assessment and Management Plan for the Proposed Solid Waste Dumpsite</p> <p>Year: April 2022 - February 2023</p> <p>Location: Oniipa, Oshikoto</p> <p>Client: Oniipa Town Council (free offer by EDS)</p> |

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| | <p>Main project features: Undertaking the EA process, public consultation & engagement facilitation, compilation of ECC applications, EIA Report and EMP</p> <p>Position: Lead Environmental Assessment Practitioner</p> <p>Activities performed: Project Management, Site visit & Assessment, Facilitation of Public Participation/Consultation (including meetings) and Compilation of Environmental Assessment Report & Environmental Management Plan.</p> |
| <p>Phase 1:</p> <p>Phase 3: D8</p> | <p>Name of Assignment or Project: Environmental Assessment and Management Plan for Existing ELCIN Cemetery</p> <p>Year: April 2022 - February 2023</p> <p>Location: Omuthiya, Oshikoto</p> <p>Client: Omuthiya Town Council (free offer by EDS)</p> <p>Main project features: Undertaking the EA process, public consultation & engagement facilitation, compilation of ECC applications, EIA Report and EMP</p> <p>Position: Lead Environmental Assessment Practitioner</p> <p>Activities performed: Project Management, Site visit & Assessment, Facilitation of Public Participation/Consultation (including meetings) and Compilation of Environmental Assessment Report & Environmental Management Plan.</p> |
| <p>Phase 1:</p> <p>Phase 3: D8</p> | <p>Name of Assignment or Project: Environmental Assessment and Management Plan for Existing Sand Mining Borrow Pits</p> <p>Year: April 2022 - February 2023</p> <p>Location: Otjiwarongo, Otjozondjupa</p> <p>Client: Municipality of Otjiwarongo (free offer by EDS)</p> <p>Main project features: Undertaking the EA process, public consultation & engagement facilitation, compilation of ECC applications, EIA Report and EMP</p> <p>Position: Lead Environmental Assessment Practitioner</p> <p>Activities performed: Project Management, Site visit & Assessment, Facilitation of Public Participation/Consultation (including meetings) and Compilation of Environmental Assessment Report & Environmental Management Plan.</p> |

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| <p>Phase 1:</p> <p>Phase 3:</p> <p>D8</p> | <p>Name of Assignment or Project: Environmental Assessment and Management Plan for Proposed & Existing Cemeteries</p> <p>Year: April 2022 - January 2023</p> <p>Location: Oranjemund, Karas</p> <p>Client: Oranjemund Town Council (free offer by EDS)</p> <p>Main project features: Undertaking the EA process, public consultation & engagement facilitation, compilation of ECC applications, EIA Report and EMP</p> <p>Position: Lead Environmental Assessment Practitioner</p> <p>Activities performed: Project Management, Site visit & Assessment, Facilitation of Public Participation/Consultation (including meetings) and Compilation of Environmental Assessment Report & Environmental Management Plan.</p> |
| <p>Phase 1:</p> <p>Phase 3:</p> <p>D8</p> | <p>Name of Assignment or Project: Environmental Assessment and Management Plan for Existing Effluent / Wastewater Treatment Plant</p> <p>Year: April 2022 - January 2023</p> <p>Location: Lüderitz, Karas</p> <p>Client: Lüderitz Town Council (free offer by EDS)</p> <p>Main project features: Undertaking the EA process, public consultation & engagement facilitation, compilation of ECC applications, EIA Report and EMP</p> <p>Position: Lead Environmental Assessment Practitioner</p> <p>Activities performed: Project Management, Site visit & Assessment, Facilitation of Public Participation/Consultation (including meetings) and Compilation of Environmental Assessment Report & Environmental Management Plan.</p> |
| <p>Phase 1:</p> <p>Phase 3:</p> <p>D8</p> | <p>Name of Assignment or Project: Environmental Assessment and Management Plan for Existing Dumpsite</p> <p>Year: April 2022 - January 2023</p> <p>Location: Rehoboth, Hardap</p> <p>Client: Rehoboth Town Council (free offer by EDS)</p> <p>Main project features: Undertaking the EA process, public consultation & engagement facilitation, compilation of ECC applications, EIA Report and EMP</p> |

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| | <p>Position: Lead Environmental Assessment Practitioner</p> <p>Activities performed: Project Management, Site visit & Assessment, Facilitation of Public Participation/Consultation (including meetings) and Compilation of Environmental Assessment Report & Environmental Management Plan.</p> |
| <p>Phase 1:</p> <p>Phase 3:</p> <p>D8</p> | <p>Name of Assignment or Project: Environmental Assessment and Management Plan for the for the Programme to provide acceptable and affordable sanitation solutions in the informal settlements of Windhoek</p> <p>Year: May 2021 - June 2022</p> <p>Location: Windhoek, Khomas</p> <p>Client: The United Nations Children's Fund (UNICEF)</p> <p>Main project features: Undertaking the EA process, public consultation & engagement facilitation, compilation of ECC applications, EIA Report and EMP</p> <p>Position: Lead Environmental Assessment Practitioner</p> <p>Activities performed: Project Management, Site visit & Assessment, Facilitation of Public Participation/Consultation (including meetings) and Compilation of Environmental Assessment Report & Environmental Management Plan.</p> |
| | <p>Name of Assignment or Project: Strategic Environmental Assessment (SEA) for the City of Windhoek</p> <p>Year: July 2020 - May 2023</p> <p>Location: Windhoek, Khomas</p> <p>Client: Windhoek Municipality Council</p> <p>Main project features: Undertaking the SEA process, public consultation & engagement facilitation, SEA Report and SEMP</p> <p>Position: Water Specialist</p> <p>Activities performed: Project Management, Sites visit & Assessment, Facilitation of Public Participation/Consultation (including meetings) and Compilation of Strategic Environmental Assessment Report & Strategic Environmental Management Plan.</p> |

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| <p>Phase 1:</p> <p>Phase 3:</p> <p>D8</p> | <p>Name of Assignment or Project: Environmental Assessment and Management Plan for the Construction and Operation of four oxidation ponds in the Tses Village, //Karas Region</p> <p>Year: Oct 2020 - Jan 2021</p> <p>Location: Tses, //Karas Region</p> <p>Client: Dunamis Project Managers & Consulting Engineers (Pty) Ltd</p> <p>Main project features: Undertaking the EA process, public consultation & engagement facilitation, compilation of ECC applications, EIA Report and EMP</p> <p>Position: Lead Environmental Assessment Practitioner</p> <p>Activities performed: Project Management, Site visit & Assessment, Facilitation of Public Participation/Consultation (including meetings) and Compilation of Environmental Assessment Report & Environmental Management Plan</p> |
| <p>Phase 1:</p> <p>Phase 3:</p> <p>D8</p> | <p>Name of assignment or project: Namibia Water Sector Support Program (NWSSP) Phase 1: Strategic Environmental and Social Assessment (SESA) / Environmental and Social Management Framework (ESMF)</p> <p>Year: Aug 2019 – Nov 2019</p> <p>Location: In all the 14 Regions of Namibia (the Rundu Scheme extension forms part of the AfDB funded project in this phase)</p> <p>Client: African Development Bank Group (AfDB) with the Ministry of Agriculture, Water and Land Reform (MAWLR)</p> <p>Main project features: Risk Assessment: Environmental and Social Assessment for the Water Supply and Sanitation Facilities</p> <p>Position held: Environmental and Water Resources Consultant</p> <p>Activities performed: Baseline Water Resources & Environmental Assessment, Compilation of the Scoping & SESA Report and Framework, Key Stakeholders Engagement, and Internal Documents Review</p> <p>Some of the project documents are available here https://www.afdb.org/sites/default/files/documents/environmental-and-social-</p> |



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| <p>Phase 3: D8</p> | <p>distribution line between Maroelaboom and Mangetti Dune, Otjozondjupa Region, Namibia</p> <p>Year: Sep 2020 – Nov 2020</p> <p>Location: Otjozondjupa Region - Namibia</p> <p>Client: Central North Regional Electricity Distributor Pty Ltd (CENORED)</p> <p>Main project features: Infrastructure (energy distribution) development, ECC Application, Compilation of the Environmental Assessment Report and EMP</p> <p>Position held: Lead Environmental Assessment Practitioner</p> <p>Activities performed: Project Management, Site visit & Assessment, Facilitation of Public Participation and Compilation of Environmental Assessment Report & Environmental Management Plan</p> |
| <p>Phase 1:</p> <p>Phase 3: D8</p> | <p>Name of assignment or project: Desktop Geohydrological Assessment (DGA): Proposed Groundwater Abstraction for Agricultural activities along the Orange River between Oranjemund (Namdeb Mining area) and Rosh Pinah in the Oranjemund Constituency, //Karas Region)</p> <p>Year: 2020</p> <p>Location: Rosh Pinah / Oranjemund, //Karas Region - Namibia</p> <p>Client: KPM Environmental Consulting for Oranjemund Constituency Office</p> <p>Main project features: Water Resource Availability for Irrigation/Agricultural activities between the two Mining Towns</p> <p>Position held: Hydrogeologist (specialist)</p> <p>Activities performed: Baseline Geohydrological Assessment, Data Analysis, Compilation of the Report and adding inputs into the project' EMP</p> |
| <p>Phase 1:</p> <p>Phase 3: D8</p> | <p>Name of assignment or project: Groundwater Assessments as part of two Environmental and Social Impact Assessments (ESIAs) for the Proposed Pilot Desalination Plants in Bethanie Town and Grünau Settlement in the //Karas Region</p> <p>Year: 2019</p> <p>Location: Bethanie and Grünau, //Karas Region - Namibia</p> <p>Client: NamWater (under KPM Environmental Consulting)</p> |

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| | <p>Main project features: Assessment of potential project impacts by desalination plant facilities on local groundwater resources (aquifers)</p> <p>Position held: Specialist – Hydrogeologist</p> <p>Activities performed: Baseline Geohydrological Assessment, Data Analysis and Compilation</p> |
| <p>Phase 1:</p> <p>Phase 3:</p> <p>D8</p> | <p>Name of assignment or project: Hydrogeochemical Data Management for the Kladno District Project in the Central Bohemian Region, Czech Republic</p> <p>Year: 2020</p> <p>Location: Kladno District, Central Bohemian Region – Czech Republic</p> <p>Client: Green Gas DPB a.s under VSB-TU Ostrava projects</p> <p>Main project features: Groundwater Data Analysis</p> <p>Position held: Groundwater Consultant / Assistant</p> <p>Activities performed: Groundwater and soil chemistry Data Analysis in Preparation for Reporting & Database entry.</p> |
| <p>Phase 1:</p> <p>Phase 3:</p> <p>D8</p> | <p>Name of assignment or project: Desktop Water Resources Assessments as part of the two Environmental Impact Assessments (EIAs) for the Embankment of Muzii and Nankuntwe Combined School Platforms in the Zambezi Region</p> <p>Year: May 2020 – Jun 2020</p> <p>Location: Muzii and Nankuntwe Schools, Zambezi Region, Namibia</p> <p>Client: I.N.K Enviro Consultants CC for the Zambezi Regional Council</p> <p>Main project features: Water Resources impact assessment for the platforms' establishment</p> <p>Position held: Groundwater Consultant / Assistant</p> <p>Activities performed: Baseline Assessment of surface & groundwater resources and Compilation of Water Resources Risk Assessment Reports</p> |
| <p>Phase 1:</p> <p>Phase 3:</p> <p>D8</p> | <p>Name of assignment or project: Environmental and Water Resources Assessments for the proposed piggery establishment in Oshikondiilongo Village, Oshana Region</p> <p>Year: November 2018 – February 2019</p> |

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| | <p>Location: Okatjali Constituency, Oshana</p> <p>Client: Namibia Correctional Service</p> <p>Main project features: Environment and Water Resources impact assessment</p> <p>Position held: Groundwater Consultant / EIA Assistant</p> <p>Activities performed: Environmental Assessment, Report and EMP, Compilation of the groundwater Impact Assessment Report, Specialist input into the Environmental Management Plan</p> |
| <p>Phase 1:</p> <p>Phase 3: D8</p> | <p>Name of assignment or project: Hydrogeological Assessment for the Expansion of Tsumeb Smelter Monitoring network (new boreholes)</p> <p>Year: 2019</p> <p>Location: Tsumeb, Oshikoto</p> <p>Client: Dundee Precious Metals Tsumeb (DPMT)</p> <p>Main project features: Hydrogeological Study for the Expansion of Tsumeb Smelter boreholes monitoring network</p> <p>Position held: Groundwater Consultant</p> <p>Activities performed: Borehole siting (geophysical survey), Drilling & borehole construction supervision & data analysis</p> |
| <p>Phase 1:</p> <p>Phase 3: D8</p> | <p>Name of assignment or project: Geohydrological Investigation of the Groundwater Resources at Outjo and the Possible Impact of the Development of 60 New Residential Plots in the Kunene Region, Namibia</p> <p>Year: September 2016 – October 2016</p> <p>Location: Outjo, Kunene</p> <p>Client: Outjo Municipality</p> <p>Main project features: Groundwater Resources investigation for water supply</p> <p>Position held: Groundwater Consultant</p> <p>Activities performed: Baseline Assessment of surface & groundwater resources and Compilation of Water Resources Risk Assessment Reports</p> |

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| <p>Phase 1:</p> <p>Phase 3:</p> <p>D8</p> | <p>Name of assignment or project: Geotechnical Investigation of the proposed new Tsumeb Minewaste and Tailings Facility in the Oshikoto Region, Namibia</p> <p>Year: February 2016 – May 2016</p> <p>Location: Tsumeb, Oshikoto</p> <p>Client: Dundee Precious Metals Tsumeb (DPMT)</p> <p>Main project features: Geotechnical and groundwater investigation and drilling supervision</p> <p>Position held: Groundwater Consultant</p> <p>Activities performed: Borehole & Test pit Logging, Geological mapping, Supervision of geotechnical borehole drilling and test pit excavation</p> |
| <p>Phase 1:</p> <p>Phase 3:</p> <p>D8</p> | <p>Name of assignment or project: Groundwater Monitoring and Sampling for Dundee Precious Metals in Tsumeb (from 2015 to 2017) in the Oshikoto Region, Namibia</p> <p>Year: February 2015 to November 2017 (long term monthly monitoring)</p> <p>Location: Tsumeb, Oshikoto</p> <p>Client: Dundee Precious Metals Tsumeb (DPMT)</p> <p>Main project features: Hydrogeological investigation and Boreholes monitoring</p> <p>Position held: Groundwater Consultant</p> <p>Activities performed: Hydrocensus, Borehole profiling and Data analysis</p> |
| <p>Phase 1:</p> <p>Phase 3:</p> <p>D8</p> | <p>Name of assignment or project: Skorpion Zinc Mine Closure Plan in the //Karas Region, Namibia</p> <p>Year: June 2015 – August 2015</p> <p>Location: Roshpinah, Karas</p> <p>Client: Skorpion Zinc Pty Ltd</p> <p>Main project features: Mine Closure Plan drafting</p> <p>Position held: Assistant Practitioner</p> <p>Activities performed: Compilation of Mine Closure Report, Geochemical and Groundwater input, Integrating specialists' inputs in EIA report</p> |

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| EXPERT'S CONTACT INFORMATION: | e-mail: info@edsnamibia.com or shagama@edsnamibia.com phone: +264 61 259 530 or +264 81 152 4420 |
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| CERTIFICATION | | |
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| <p>I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available, as and when necessary, to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client, and/or sanctions by the Bank.</p> | | |
| Fredrika Ndeutala Shagama |  | 07/07/2023 |
| Name of Expert | Signature | Date |
| Abel Mashoko |  | 07/07/2023 |
| Name of Authorised Representative of the Consultant | Signature | Date |