

## ANNEXURE 3 SPECIFICATION

### 1. SCOPE OF WORK AND AREAS OF FOCUS

#### 1.1 SCOPE OF THE DESIRED SOLUTION

- 1.1.1 The scope of work required is for the service provider to provide a TURNKEY (Design and Construction) for the upgrading of drainage system, track works including the improvement of formation, subsurface conditions, stream works and rehabilitation of embankment between Midway and Lenz stations.
- 1.1.2 The appointed Service Provider is expected to provide designs and includes the following in terms of work to be done:
- 1.1.2.1 Do own assessment of work (Geotechnical investigation, Site surveys, Tests, analyses, and other investigations etc)
  - 1.1.2.2 Refine Schematic/Concept and develop Design Development documents (to be approved by PRASA) : Conceptual drawings attached Annexure B.
  - 1.1.2.3 Following conceptual design approval, do detail design and submit for approval
  - 1.1.2.4 Submit construction documents and schedule for approval.
  - 1.1.2.5 Construction delivery and payment schedule
  - 1.1.2.6 Undertake construction as per approved designs
  - 1.1.2.7 Testing and commissioning
  - 1.1.2.8 Handover and close out.
- 1.1.3 Construction work entails upgrading of drainage system, stream works, reconstruction of rail formation, embankment rehabilitation and will include the following activities:
- 1.1.3.1 Establishment of the contractor site.
  - 1.1.3.2 Provision of offices for the Engineer's site staff.
  - 1.1.3.3 Maintenance of existing services until the contract has been handed over to the Employer.
  - 1.1.3.4 Removal of site establishment.
  - 1.1.3.5 Bush Clearing and removal of dumped material.
  - 1.1.3.6 Exposing of existing services by hand excavation.

- 1.1.3.7 Cut, remove, and store rails for later use.
- 1.1.3.8 Remove, (Replace damaged) and store sleepers for later use
- 1.1.3.9 Mill out existing ballast.
- 1.1.3.10 Excavations and earthworks for stormwater management system and rail formation layer works.
- 1.1.3.11 Excavate and remove to spoil unsuitable material
- 1.1.3.12 Construction of open channels, culverts, retaining structures, stream works as means of upgrading drainage system and stabilizations of rail infrastructure.
- 1.1.3.13 Construct rockfill and new formation parcel as per approved designs.
- 1.1.3.14 Rehabilitate existing formation layers to various depths as per approved designs.
- 1.1.3.15 The replacement of track formation with material from commercial sources which comply with specification.
- 1.1.3.16 Reinstate track to the required standard.
- 1.1.3.17 Cleaning and tamping of ballast to specification where required
- 1.1.3.18 Tamp and realignment of track.
- 1.1.3.19 Clearing of existing drains and culverts.
- 1.1.3.20 Reconstruction of prefabricated culverts inlet and outlet structures.
- 1.1.3.21 Construction and upgrading of stormwater drainage including side drains, either lined or unlined at the toes of embankment, cut-off berms at the top of embankment where the fall of the natural ground is towards the rail servitude, and erosion protection to embankments.
- 1.1.3.22 Construction of attenuation pond to intercept surface water approaching the track structure from the upstream side of rail reserve.
- 1.1.3.23 Landscaping to improve drainage such that no ponding of water will occur on surface in the rail reserve.
- 1.1.3.24 Regrading of existing service road(s) and provide supplementary material for new wearing course.

## 1.2 DETAILS ON THE PREFERRED SOLUTION

The preferred solution in addressing this challenge is for the potential bidders to provide PRASA with design and construction of a new drainage system, upgrading of the existing drainage system, track works with improvement of formation, subsurface conditions, and rehabilitation of embankment between Midway and Lenz stations

## 1.3 AREA TARGETED BY THIS PROJECT

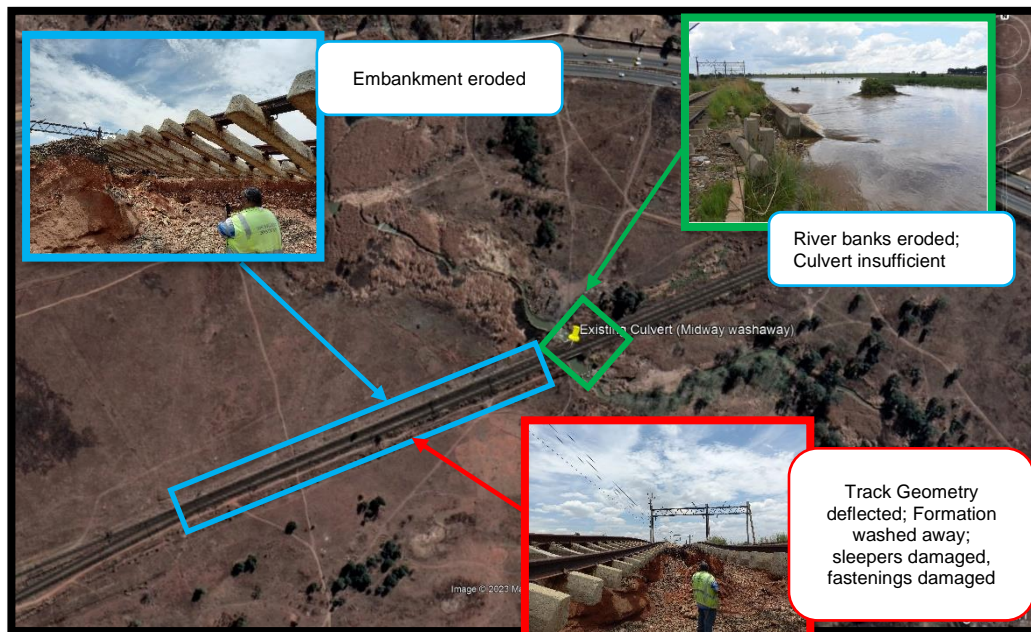
The place of work shall be section between Midway and Lenz station in the Johannesburg - Vereeniging corridor.

## 1.4 EXTENT AND COVERAGE OF THE PROPOSED PROJECT

The project site is in Soweto, along the PRASA railway line stretching from Midway to Lenz station. The affected area covers approximately 1km.



**Figure 3:** Locality map of Midway to Lenz station Railway line 26°17'51.16"S 27°50'14.17"E



**Figure 4:** The overview extent and coverage of the project

## 1.5 OTHER RELATED PROJECTS

1.5.1 The identified related projects are as outlined below:

- Drainage upgrade and formation rehabilitation between Avenue and Daveyton stations
- Drainage upgrade and formation rehabilitation between Leralla and Tembisa stations
- Drainage upgrade and formation rehabilitation between Elandsfontein and Isando stations
- Drainage upgrade and formation rehabilitation between Germiston and Knights stations
- Drainage upgrade and formation rehabilitation between Driehoek and Geldenhuis Stations
- Drainage upgrade and formation rehabilitation between Jeepe and George Goch Stations
- Drainage upgrade and formation rehabilitation between Doornfontein and Johannesburg Stations
- Drainage upgrade and formation rehabilitation between Phefeni and Dube Station
- Drainage upgrade and formation rehabilitation between Inhlazane and Merafe Station
- OHTE Projects for reinstatement of service.

## **2. SPECIFICATION OF THE WORK OR PRODUCTS OR SERVICES REQUIRED**

This specification covers the appointment of a service provider TURNKEY (Design and Construction) for the upgrading of the drainage system, subsurface conditions, embankment, stream works and track works including rail formation rehabilitation between Midway and Lenz stations.

### **2.1 CONTRACT AREA**

- 2.1.1 The contract area will be within the Johannesburg - Vereeniging corridor via Midway in the Gauteng Region.
- 2.1.2 PRASA will provide the Contractor with a preliminary working program. The Technical Officer will also arrange for a depot planning meeting 2 weeks in advance of the machine arriving on site. This meeting will involve all the local stakeholders and production aspects of all work required for the drainage system upgrade, embankment and formation rehabilitation will be discussed and recorded by means of the official meeting minutes.

## 2.2 SCOPE OF WORK

- 2.2.1 This project entails, broadly the following elements and the appointed services provider will be required to undertake the following services;
- 2.2.1.1 Investigation and report on the problems regarding the storm water control system, the stability of the track formation and retaining structures. Hydrological survey of the area to determine the relevant storm water characteristics shall be included.
- 2.2.1.2 Ascertain the extent of the works, with respect to the washaway on railway infrastructure.
- 2.2.1.3 Preparation of a Complete Preliminary Investigation Report Detailing the extent of the problem highlighting the different problem areas as well as recommending specific solution to the problem.
- 2.2.1.4 Following the acceptance and approval of the report by PRASA the preparation of Complete Detail Designs in accordance with the latest Technical Specifications.
- 2.2.1.5 Submission of the prepared Detail Designs for construction to PRASA for approval:
- 2.2.1.5.1 **Drainage:** Track drainage is an important requirement. Careful consideration should be given to the design of drainage to ensure that the storm water run-off from the formation can be discharged adequately into the main watercourses in order to limit possible damage to the earthwork's formation.
- 2.2.1.5.2 **Formation Design:** The proposed formation layer works are to be designed as specified in the *Specification for Railway Earthworks S410* included in this document. The formation shall meet the minimum structural requirements for 20t axle loading (S410 Figure 2).
- 2.2.1.5.3 Culverts site survey to be carried out at points where major streams or rivers cross the railway line.

- 2.2.1.5.4 The design requirements of culverts should be such that the risk of 1:50 year storm water damage is limited along the affected length of the rail corridor.
- 2.2.1.5.5 Careful consideration should be given to natural watercourses and the possible development of new watercourses that may form as a result of the construction of the drainage system. These watercourses should be fully integrated in the design of the drainage system.
- 2.2.1.5.6 Repair of embankment and construction of cut-off protection berms upstream to reduce pressure on side drains from water seepage through the embankment: The design shall include construction of the attenuation pond right through the embankment. Also ensure construction of energy dissipators where required.
- 2.2.1.5.7 Erosion control: Adequate erosion protection measures should be designed to prevent unnecessary scouring and erosion of the earthworks formation where required. Hand screening of all ballast is required in all affected lines. Wing walls to be erected on the existing culverts.
- 2.2.1.6 Submission to PRASA of project technical information for records.
- 2.2.1.7 Construction and commissioning of the works in accordance with the approved designs.
- 2.2.1.8 Preparation of Close out Reports and Submission of As-built Drawings.
- 2.2.1.9 The standard specification for rail and track works shall be the relevant E.10 Specifications.
- 2.2.1.10 Project Management, Cost Control and Quality Management as well as Value Engineering from concept right through to implementation and commissioning.
- 2.2.1.11 Environmental Impact Assessments (EIA) approved by the Water Affairs department. Acquiring of water license.
- 2.2.1.12 Compile a risk assessment matrix and manage the risk matrix on behalf of the PRASA.
- 2.2.1.13 Negotiate and compile service level agreements with relevant parties as and when required.

2.2.1.14 Finalization and submission of completion documents as well as submission of “Close out” report.

2.2.2 The following studies and services are required from the Supplier/Consultant in conducting the design and the list is not limited to the following:

2.2.2.1 Topographical Surveys;

2.2.2.2 Geotechnical investigations;

2.2.2.3 Occupation Health and Safety;

2.2.2.4 Cadastral Surveys; Engineering Surveys

2.2.2.5 Service Detection;

2.2.2.6 Stream modelling, drainage modelling

2.2.2.7 Existing roads

2.2.3 The winning bidder shall acquaint him/herself with all and any standards and requirements laid down by a local authority, provincial or Government administration for the work in the contract and shall abide by such standards and requirements for the duration of the contract. Adherence to environmental and pollution requirements shall be strictly observed.

2.2.4 The work will be in a close proximity to intense suburban rail service and a large proportion of the work will have to take place under permit conditions possibly including weekend. Occupation on main lines would most probably be granted during weekends in order to minimize the disruption of service. However, occupation might be arranged during weekdays as well.

2.2.5 No security will be provided on site by PRASA, this is the responsibility of the tendering party

2.2.6 Aerial survey results of the stations might be accessed on the Internet Site [www.prasacres.co.za](http://www.prasacres.co.za), section GIS.

2.2.7 No geo-technical or topographical survey results are available. It will be necessary for the contractor to carry out sufficient geo-technical investigations to enable realistic assumptions to be made in respect of the soil profile of the rail formation and embankment.

2.2.8 In addition, the contractor must note the Client's SPK7/2 *Specification for Works On, Over, Under or Adjacent to Railway Lines and Near High Voltage Equipment*.

2.2.9 **PUBLIC PARTICIPATION PROCESS.** Public participation will also form an important and necessary part of the project delivery process. Public input will be facilitated by the appointed project manager through the established local community liaison forum. It will be required to accurately document the proceedings at every liaison meeting and to record the attendance of representatives by means of a signed attendance register.

2.2.10 **COMPETENCY.**

Due to the nature of the work to be undertaken, the contractor must reflect in his or her proposal the access to suitable knowledge of rail specification and rail competency.

5.1.10.1. The Contractor shall be familiar with the restrictions to access and other matters as stated but not restricted to the SPK 7/2 (Specification for Works on, Over, Under or Adjacent to Railway Lines and near High Voltage Equipment),

5.1.10.2. PRASA SHE Specification [Safety Arrangements and Procedural Compliance with the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and Applicable Regulations (January 2006)], and the Standard for Uniformity in Construction Procurement (CIDB Act, 2000 – Act 38 of 2000, as amended).

2.2.11 **BUSSINES SCOPE**

2.2.11.1 The multi-disciplinary elements associated with this project have been indicated in previous sections. The following listing, **not exhaustive**, highlights the areas of expertise that are anticipated:

2.2.11.1.1 Project and Construction Management

- 2.2.11.1.2 Civil Engineering (Structural / Water / Waste Management / Transportation (Roads /access)/ Environmental)
- 2.2.11.1.3 Quantity Surveying
- 2.2.11.1.4 Health & Safety
- 2.2.11.1.5 Environmental input
- 2.2.11.1.6 Historical input
- 2.2.11.1.7 Community liaison (Public Involvement Participation)
- 2.2.11.2 Broad areas of responsibilities for this multi-disciplinary project are amongst others:
  - 2.2.11.2.1 Civil and Perway activities.
  - 2.2.11.2.2 Structural Engineering activities.
  - 2.2.11.2.3 Water Engineering activities.
  - 2.2.11.2.4 Geotechnical Engineering activities.
  - 2.2.11.2.5 Transportation Engineering activities.
  - 2.2.11.2.6 Environmental activities.
  - 2.2.11.2.7 Health and safety activities.
  - 2.2.11.2.8 Project management.
  - 2.2.11.2.9 Construction activities.

## 2.2.12 MANAGEMENT SCOPE

The Project manager (Consultant), as part of the Contractor's team shall be responsible for the following:

### 2.2.12.1 **General:**

2.2.12.1.1 Insure himself or herself, Principals, Associates, Specialist Contractors and staff and provide proof thereof that Works in the PRASA environment are included, thereby indemnifying PRASA against all claims arising from consequential work performed by him in this environment.

2.2.12.1.2 Provide a cost for the different elements contained in the project as well as a cash flow projection for the entire project.

2.2.12.1.3 Submit monthly project reports to the Client's office by e-mail and hard copy using "Microsoft Office- 2010" (written reports) and "Microsoft Projects" (Gantt chart/s).

2.2.12.1.4 Liaise with the PRASA/Metrorail and Transnet regarding technical standards, specifications and statutory provisions relating to the rail infrastructure and Trains Operations when necessary.

2.2.12.1.5 Chair regular meetings with Technical team, Contractors, Sub-contractors and any other role players to ensure that all activities are well integrated and proceed in an orderly manner and suitable tempo.

2.2.12.1.6 Liaise with any relevant third party regarding the establishment and usage/relocation of services or facilities associated with this project.

2.2.12.1.7 Carry out the tasks associated with his appointment with due diligence.

2.2.12.2 **Inception Stage:**

2.2.12.2.1 Provide all normal services as described in Clause 3.2.1, sub clauses (1) to (10) of the ECSA Guideline Scope of Services and processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000), March 2021. Sub-clauses (9) and (10) shall not apply.

2.2.12.3 **Concept and Viability (Often called Preliminary Design):**

2.2.12.3.1 Provide all "Normal Services as described in Clause 3.2.2 sub-clauses (1) to (12) of the ECSA Guideline Scope of Services and processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000), March 2021. Sub-clauses (1) and (12) shall not apply.

2.2.12.3.2 Prepare and obtain formal acceptance of all relevant working drawings.

2.2.12.4 **Design Development (also termed Detail Design):**

2.2.12.4.1 Provide all "Normal Services" as described in Clause 3.2.3 sub-clauses (1) to (9) of the ECSA Guideline Scope of Services and processes for

Estimating Fees for Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000), March 2021, Sub-clauses (1) and (9) shall not apply.

2.2.12.4.2 Prepare and obtain formal acceptance of all relevant working drawings.

2.2.12.5 **Documentation and Procurement:**

2.2.12.5.1 Provide all “Normal Services” as described in Clause 3.2.4 sub-clauses (1) to (13) of the ECSA Guideline Scope of Services and Processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000), March 2021, Sub-clauses (1) and (9) shall not apply.

2.2.12.5.2 Prepare procurement and construction documentation, confirm, and implement the procurement strategies and procedures.

2.2.12.6 **Contract Administration and Inspection:**

2.2.12.6.1 Provide all “Normal Services” as described in Clause 3.2.5 sub-clauses (1) to (20) of the ECSA Guideline Scope of Services and processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000), March 2021, Sub-clauses (1) and (2) shall not apply.

2.2.12.6.2 Manage, administer, and monitor construction processes and contracts, prepared construction drawings and As-built drawings.

2.2.12.6.3 Prepare, print, and bind a suitable Quality Assurance Plan for implementation during the construction phase of the project.

***This plan shall be ready for publication before construction works can commence.***

2.2.12.6.4 Prepare, print and bind a suitable Environmental Management Plan for implementation during the construction phase of the project.

***This plan shall be ready for publication before construction commence.***

Ensure compliance with legislation in terms of Environmental Impact Assessment process.

2.2.12.6.5 Negotiate and compile a formal Service Level Agreement with the local Metrorail Manager (Perway Regional Engineer) for the provision of suitably skilled, qualified and accredited personnel to perform the following statutory tasks required of him or her as a maintenance executer, **where necessary:**

2.2.12.6.5.1 Electrical switching and supervision during construction and takeover of completed Works.

2.2.12.6.5.2 Perway supervision of pipe crossings and cutting of block joints, as well as take over completed Works

2.2.12.6.5.3 Flagmen for the protection of PRASA's assets, (The contract shall be responsible for the provision of Flagmen to protect his own staff and assets).

2.2.12.6.5.4 Liaison Officer to co-ordinate and supervise the movement of a construction train (If required this cost will be for the contractor's account).

2.2.12.6.5.5 Signalling supervision and take-over of completed Works.

2.2.12.6.5.6 Bussing of rail passengers during track occupations.

2.2.12.6.6 Negotiate and compile a formal Service Agreement with Transnet for the provision of the following services **where required:**

2.2.12.6.6.1 Hire of Rail wagons: Assistant General Manager-Operational Maintenance (Wagons)

2.2.12.6.6.2 Diesel Locomotives: Assistant General Manager-Operational Maintenance (Traction)

2.2.12.6.6.3 Train crew: Chief operating Officer-Service Delivery

**All the above officials are based in Gauteng Metrorail region and Transnet.**

2.2.12.6.7 Ensure the timeous submission of the prescribed Contract Insurance notices to the Client at contract award, upon extension of the contract completion dates and at contract termination.

- 2.2.12.6.8 Submit to the Client detailed project execution programs covering all the main areas of activity.
- 2.2.12.6.9 Undertake the approval of the contractor designs and drawings by an authorized and **professionally registered Engineer/Technologist**.
- 2.2.12.6.9.1 Furthermore, in the case of signalling work, an authorised and accredited Signalling Engineer is required to undertake the checking and approval of the contractor designs and drawings.
- 2.2.12.6.10 Monitor and report on the physical progress of the work against the planned.
- 2.2.12.7 **Additional Services**: The Consultant/Contractor shall;
- 2.2.12.7.1 Provide all Additional Services as described in Clause 3.3.1, paragraphs (1), (3), (4), (5), (6), (7), (8), (9), (10), (11), (13), (14), (15), (16), (17), (18) and (19) of the ECSA Guideline Scope of Services and Tariff of Fees-March 2021. Paragraphs (2), and (12) shall not apply.
- 2.2.12.7.2 **Occupational Health and Safety Act**: The Consultant shall be familiar with the restrictions to access and other matters as stated but not restricted to the SPK 7/2 (Specification for Works on, Over, Under or Adjacent to Railway Lines and near High Voltage Equipment) and PRASA SHE specification [Safety Arrangements and Procedural Compliance with the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and Applicable Regulations (January 2006)]. The service provide shall ensure that there is compliance to all contract and legislation issues.
- 2.2.12.7.3 **Quality Assurance System**: Provide all duties as prescribed in Clause 3.3.4 of the ECSA Guidelines of the Scope of Services and Processes for Estimating Fess for Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000), March 2021.

- 2.2.12.7.4 **Lead Consulting Engineer:** Clause 3.3.5, all services are deemed to be included.
- 2.2.12.7.5 **Principal Agent of the Client:** Clause 3.3.8, all services are deemed to be included
- 2.2.12.7.6 **Engineering Management Services:** The fee elements for a lead Consulting Engineer, Principal Agent of the Client or Engineering Management Services are not considered appropriate in this instance and must be included in the proposal.
- 2.2.12.7.7 **Mediation, arbitration and litigation proceedings and similar services:** Clause 3.3.7 of the ECSA Guideline Scope of Services and Processes for Estimating Fess for Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000), March 2021.
- 2.2.12.7.8 Co-ordinate all interaction between the Contractors and the Technical and Operating departments of PRASA/Metrorail for the entire duration of the work.
- 2.2.12.7.9 The management of track occupations and the overall co-ordination thereof shall be the responsibility of the consultant.
- 2.2.12.7.10 Ensure the execution of, and certify all commissioning, functional and operational tests if necessary.

The deliverable for this appointment will be, amongst others, the successful completion of the contract/s, on time, within the approved budget and to the required standard of quality providing a workable asset or assets.

## 2.2.12.8 **Construction Monitoring**

- 2.2.12.8.1 Level 4 Construction Monitoring in terms of Clause 3.3.2 of the ECSA Guideline Scope of Services and Processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000), March 2021 is required during the execution of site activities.

2.2.12.8.1.1 The Quality Plan is to be implemented as part of this service.

2.2.12.8.2 As site activities move within the confines of the rail tunnel environment (within 3 meters of track centre line) and within proximity to live installation or when they are interfering with the normal train movement, Level 4 Construction Monitoring in terms of Clause 3.3.2 (d) of the ECSA Guideline Scope of Services and Processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000), March 2021, is required during the execution of site activities.

2.2.12.8.3 In addition, the presence of a Resident, Authorised and Accredited signal engineer is required to undertake the testing and commissioning of the signalling installation, where applicable.

2.2.12.8.4 The Contractor with its Specialist Engineer shall be held responsible for the safe and successful execution of the project including the testing and commissioning facets of the project.

## 2.2.12.9 Finalisation and Close Out

2.2.12.9.1 Procure on a Compact Disc and verify "as-built" plans in Autocad14 format, maintenance schedules, spare part catalogues etc. for handing over to the Client within **one month** of completion and handing over the Works.

2.2.12.9.2 Within **one month** of completion and handing over of the Works, prepare and submit completion and handover certificates to the Program Manager together with the close out report, as applicable.

## 2.3 PROJECT ORGANISATION

2.3.1 The Contractor shall be required to consult with and solicit information from some or all of the following people and departments (amongst others) for the duration of the appointment.

2.3.1.1 The Regional Engineer Perway, located in the Gauteng Metrorail region must be approached in the first instance for authorised staff to attend to project requirements and the appointed contractor/s where access to

restricted site and plant is necessary as well as for any Permanent Way, Electrical, Signals, Telecoms, and Facilities matters.

2.3.1.2 The Infrastructure Manager, Gauteng Metrorail.

2.3.1.3 The Regional Engineers (Electrical and Signals), Gauteng Metrorail for any electrical and signals matters.

2.3.1.4 The Managers Train Operations Metrorail and Transnet, for any matters related to the train operations.

2.3.1.5 The Rolling Stock Managers, Metrorail and Transnet, for any Rolling Stock matters.

2.3.1.6 A Steering Committee formed for this project.

2.3.2 This project will be coordinated in the office of Perway Regional Engineer, PRASA Gauteng Infrastructure.

2.3.3 Your proposal is to include the nomination, by name, of staff members, formal Associates and/or Specialist Contractors who will be specifically appointed to this project in respect of the following roles and functions, should your bid be successful;

2.3.3.1 Consultant who will be responsible for all deliverables in terms of the appointment.

2.3.3.2 Names, designation, and authorities of all key personnel assigned to the contract for project management, engineering, safety, construction and commissioning and shall include reporting channels.

2.3.3.3 Engineers/Technicians/Specialist Contractors responsible for Survey, Site aspects, Quality Control, Testing, Commissioning of systems etc.

2.3.3.4 Any other functions you may consider necessary to delineate.

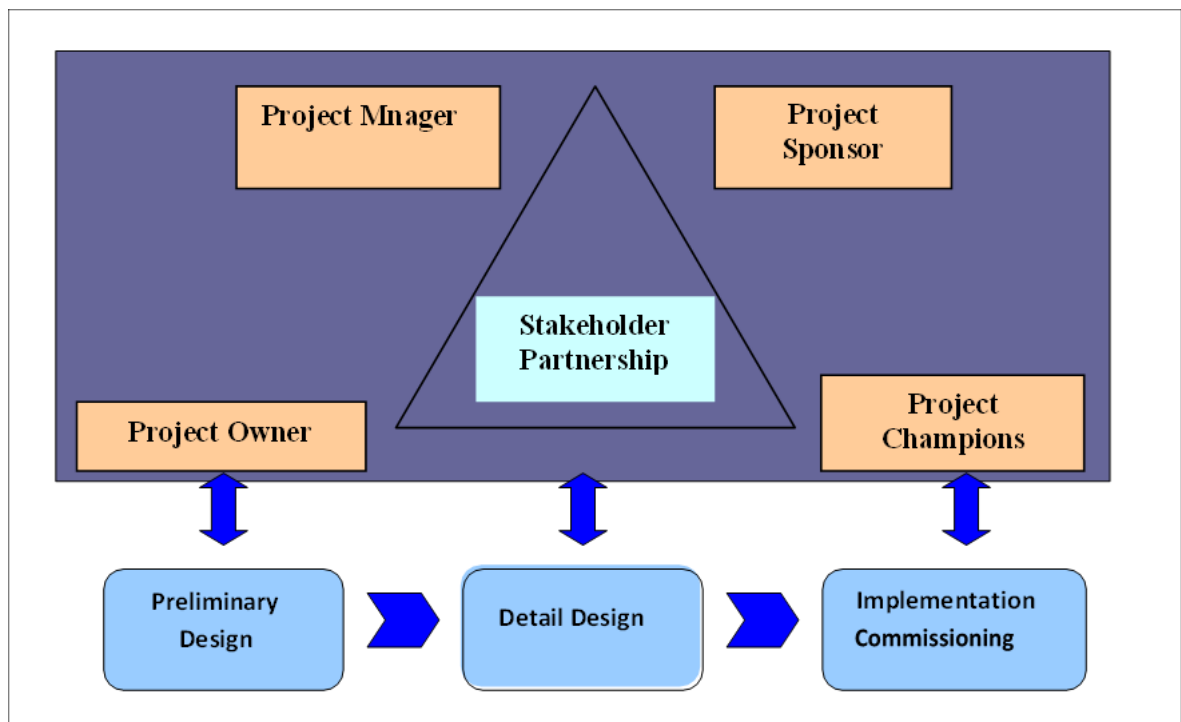
2.3.4 The PRASA reserves the right to approve/disapprove any individual so nominated. Any alterations to the organizational chart, submitted at tender stage, during the execution of the project shall be submitted in writing. A final list of sub- contractors to be used with detailed statements of qualifications and experience of their representatives on site shall accompany this proposal for approval by PRASA.

- 2.3.5 After award, no changes to the Project team shall be made without the approval of PRASA.
- 2.3.6 The Regional PRASA/Metrorail Infrastructure manager Gauteng Metrorail shall issue a letter authorizing your staff to enter the site (Site Access Certificate). Whilst within the restricted area or in close proximity to live equipment, your staff shall submit to the authority of the Metrorail authorized representative on all matters of safety
- 2.4 **SCOPE OF WORK OF RISK AND SAFETY (CONSULTANT TO BE INCLUDED IN THE PROPOSAL)**
- 2.4.1 Assess the Contractors Health and Safety Plan, which was prepared based on the Health and Safety Specification, ensure that the said Health and Safety Plan complies with the specification, has addressed all the identified and likely hazards that would be encountered while performing the work, and has included safe work procedures (method statements) to mitigate, reduce or control the hazards identified. Should the plan not comply fully, the Agent will be required to direct the Contractor to make the necessary changes so that the approved Health and Safety Plan is compliant to the specification and any other legislative requirements.
- 2.4.2 Ensure that this Health & Safety Plan and all the other required record documents (e.g. Appointments, inspection, compliance certificates, “as built” documents, etc.) are kept in the Contractor’s Health & Safety file on site. The service provider is expected to comply to PRASA Tech safety specification
- 2.4.3 Approve the Health & Safety Plan and appoint the Principal Contractor in writing.
- 2.4.4 Ensure that any sub-contractor of the Principal Contractor has provided their own specific Health and Safety Plan, which plan conforms to the main Health & Safety Plan requirements.

- 2.4.5 Audit the Contractor’s work on a monthly basis to ensure compliance with the agreed Health & Safety Plan, and that any sub-contractors also comply with the agreed plan. Furthermore, advise PRASA in writing should it be required that PRASA should stop a Contractor working in instances where the Contractor is not working in accordance with the Health & Safety Plan or if working unsafely. Furthermore, ensure that the Principal Contractor has corrected the defects reported in the Client’s monthly inspection audit.
- 2.4.6 Ensure that should any changes be brought about to the design or construction; sufficient Health & Safety information and appropriate resources are made available to the Principal Contractor to execute the work.
- 2.4.7 Evaluate the Principal Contractor consolidated Health & Safety file before handover to the PRASA.

**2.5 TECHNICAL SCOPE:**

2.5.1 Project Management requirements



2.5.2 Standards, Design Criteria & Requirements:

- 2.5.2.1 A Typical Network Schematic is attached as Annexure A
- 2.5.2.2 Standards and design criteria will be as per those contained within the relevant documentation employed, maintained or used by the PRASA/ Metrorail and any other requirement governed by legislation or regulation.
- 2.5.2.3 Where interface with the City of Johannesburg urban design occurs, the appropriate standards and design criteria should be applied to ensure a seamless design co-ordination is achieved.
- 2.5.2.4 All materials and equipment supplied must be new and conform to the relevant Transnet and PRASA Specifications.
- 2.5.3 The following principles are to be applied in dealing with the works:
- 2.5.3.1 The contractor shall be responsible for the supply, transport, delivery on site, off- loading, storage, placing, fixing, installation, erection, making-off, connecting up, testing, commissioning, guarantees, materials and labour needed to complete the project for final handover in complete working order and in accordance to the specifications, drawings and project schedules.
- 2.5.3.2 All work undertaken by the contractor shall be subject to a guarantee for a period of one year against faulty and /or inferior workmanship **Handover**
- 2.5.3.3 The guarantee period shall commence the day the installation is formally handed over and accepted by the local Metrorail Regional Engineer or his/her own delegates.
- 2.5.3.4 The Contractor shall undertake to repair all faults or defects due to bad workmanship and/or faulty materials during the guarantee period (The works shall be handed over on completion as required by the client.
- 2.5.3.5 The Contractor shall undertake work on the rectification of any defects that may arise during the guarantee period within 7 days of being notified by the Client.

- 2.5.3.6 Should the Contractor fail to comply with the requirements stipulated above, the Client shall be entitled to undertake the necessary repair work or effect replacement of defective apparatus or material, and the Contractor shall reimburse the client the total cost of such repair or replacement, including the labour costs incurred in replacing defective Retention Period
- 2.5.3.7 Two handing-over dates shall be met. The first handing over shall be when the works is commissioned to the satisfaction of PRASA/Metrorail. All non-consumable equipment and labour shall be guaranteed for twelve months after this date. The final inspection and final handover shall end the guarantee period.
- 2.5.3.8 The PRASA optic fibre cable shall be moved/suspended by the Contractor, whilst the third-party optic fibre call shall be re-routed by third party. The Contractor shall be responsible to arrange with PRASA Telecoms department for any work that involves the optic fibre cable.
- 2.5.3.9 The responsibility (Planning and Coordination) for the relocation of existing services pertaining to other disciplines not referred to in clause 5.4.3.8 is that of the contractor.
- 2.5.3.10 All rubble to be disposed to a dumping site and material to be transported to Driehoek stores.
- 2.5.4 Environmental Compliance
- 2.5.4.1 The contractor shall ensure Compliance with Environmental legislation and regulations.
- 2.5.5 Sustainability
- 2.5.5.1 The design philosophy that is adopted will be cognisant of the need to ensure sustainability in the output or deliverable.
- 2.5.5.2 Life cycle costing implications need to be taken into account in all proposals that are submitted.
- 2.5.6 Critical Success Factors
- 2.5.6.1 Alignment of purpose between the PRASA TECHNICAL HEAD OFFICE, PRASA Rail and Gauteng South Metrorail Region.
- 2.5.6.2 Stakeholders buy-in of the final anticipated outcome.

- 2.5.6.3 Regular Steering Committee, technical co-ordination, and task team interaction.
- 2.5.6.4 Professional project management, programme management and co-ordination supported by full contract documentation (documentation in the broader understanding including formal management progress reports, minutes, decisions log, issues log, Risk log, correspondence, appointments etc)
- 2.5.6.5 Timeous availability of resources to ensure the smooth functioning of the project.
- 2.5.6.6 Detailed account of programme progress and budget performance.

### 2.5.7 Technical Requirements

The firm bidding or leading the consortium for this appointment shall;

- 2.5.7.1 Have the required CIDB contractor grading of **7CE or Higher**.
- 2.5.7.2 Have a record of having managed and executing projects of a similar nature or, in the case of Emerging Enterprises, be able to provide proof at the time of submitting his or her proposal, of an association with a specialist professionals and contractors with the necessary experience and expertise.
- 2.5.7.3 Provide Construction Costs as well as Professional fees, plus a monthly cash flow projection.
- 2.5.7.4 Provide a payment schedule indicating deliverables/milestones for each payment.
- 2.5.7.5 Provide a proposal containing various options as listed below (Do note that this list is not exhaustive):
  - 2.5.7.5.1 The priced proposal stipulating the scope of work plus associated cost required to address the drainage and rail formation problem. This proposal needs to include all statutory cost (Diesel Locomotives, DZ trucks, Occupations, Relocation of Services, Switching of electrical power etc)
  - 2.5.7.5.2 **Do note the price proposal must include reformation of berms, attenuation pond, drainage upgrade infrastructure (Culverts,**

**Channels, dissipators), Track work and embankment rehabilitation as part of the solution!!**

- 2.5.7.6 Provide proof of the “All Risk Insurance and Indemnity Insurance” with respect to himself, consultants, Principals, Associates, Specialist Contractors and staff and provide proof thereof that the specific Works in the PRASA environment are included, thereby indemnifying PRASA against all claims arising from consequential work performed by him in this environment.
- 2.5.7.7 Include in his/her proposal abridged Curriculum Vitae of Principals, Associates, Specialist Contractors and consultants and staff proposed for the project.
- 2.5.7.8 Have the capacity available to perform the functions within PRASA's overall time schedule for the project.
- 2.5.7.9 Being member of recognized contractor and trade association, and in the case of consultants, membership of Consulting Engineers of South Africa(CESA) might be considered an advantage:
- 2.5.7.10 Having a fully functional office in Gauteng South at the time of submission of this project proposal, and for the duration of the appointment, might be considered an advantage.

**2.6 OPERATING ENVIRONMENT**

- 2.6.1 The Works site is situated within the restricted confines of the rail line at Gauteng South respectively.
- 2.6.2 The work will be in a close proximity to intense suburban rail service and most of the work will have to take place under permit conditions possibly including weekend.
- 2.6.3 Occupation on main lines would most probably be granted during weekends (Including nights) in order to minimize the disruption of the train service.

- 2.6.3.1 However some occupations might be granted during weekdays, during off peak hours.
- 2.6.3.2 The Contractor shall be responsible for arranging all occupations, and outside of any special occupation, the Contractor shall ensure that his work in no way interferes with nor causes any delays to the normal operations of the railway lines or trains.
- 2.6.4 No security will be provided on site by PRASA, the contractor is expected to have its own security.
- 2.6.5 No geo-technical or topographical survey results are available. It will be necessary to carry out sufficient geo-technical investigations to enable realistic assumptions to be made where required.
- 2.6.6 Access to site is restricted and will only be granted once the necessary requirements are met and a site access certificate has been issued.

## 2.7 **THE PROPOSAL**

- 2.7.1 The main proposal, which is to be limited to a maximum of Two hundred (200) A4 pages in triplicate (one original, two clearly marked copies and a copy electronically stored on a CD) only, shall state the following, amongst others:
  - 2.7.1.1 The tenderer's understanding of and approach to the scope of work:
    - 2.7.1.1.1 A proposed scope of work for the project and/or comments on the scope of work included in the Request for Proposal
    - 2.7.1.1.2 A Project Team Organogram showing names, functions & responsibilities.
  - 2.7.1.2 Qualifications of the firm to perform this project (based on similar work) to include the firm specific experience in the following areas, amongst others:
    - 2.7.1.2.1 Project and Construction Management
    - 2.7.1.2.2 Civil Engineering (Perway / Structural / Water / Waste Management / Roads (access))
    - 2.7.1.2.3 Quantity Surveying
    - 2.7.1.2.4 Health & Safety Management
    - 2.7.1.2.5 Environmental Management
    - 2.7.1.2.6 Community liaison (Public Involvement Participation)

- 2.7.1.3 Key personnel and their qualifications and availability to perform the work:
- 2.7.1.3.1 Identification of key personnel who will be assigned to each phase of the project. Information about key personnel should include, amongst others:
- 2.7.1.3.1.1 Condensed CV's of individual team members.
- 2.7.1.3.1.2 Role in the project and previous similar experience.
- 2.7.1.3.1.3 Location of the office/s where key personnel are based and where they will perform the work.
- 2.7.1.4 A detailed proposed baseline schedule including time & the following deliverables, amongst others:
- 2.7.1.4.1 Start and completion dates for all major activities.
- 2.7.1.4.2 Phases of the work, to include design, design reviews and approvals.
- 2.7.1.4.3 Submission of Quality Assurance Plan, Environmental Plan, Environmental Impact Assessment Process.
- 2.7.1.4.4 Project Execution Plan including construction by major activity.
- 2.7.1.4.5 Submission of Handover certificates, As-built drawings and Close-out report
- 2.7.1.5 Cost and fee information:
- 2.7.1.5.1 A detailed cost estimate for the work shall be developed, including a breakdown of costs to complete each major task
- 2.7.1.5.2 Allowances: Listing of specified allowances and acknowledgement that they are in the lump sum quoted amount, to include all associated profit, overhead, fees and general conditions and design/engineering costs.
- 2.7.1.5.3 Monthly Cash flow breakdown.
- 2.7.1.6 Alternatives: Quoted pricing for any alternates, with the acknowledgement that the lump sums quoted for each alternate includes all required labour, equipment, materials, associated material and/or equipment items, profit, overhead, fees and general conditions and design/engineering costs to provide the work in a complete and timely manner.
- 2.7.1.7 Suggested reporting framework.
- 2.7.1.8 Any special observations & comments.

2.7.1.9 A statement of professional indemnity and insurance with supporting evidence and proof that Principals, Specialist Contractors, Staff, and Works in the PRASA environment are included.

## 2.8 HOURS OF WORK / OCCUPATION PERIOD

2.8.1 The site shall be available to the contractor on unlimited hours until the works are complete.

## 2.9 CONSTRUCTION IN CONFINED SPACE

2.9.1 **It may be necessary for the Contractor to work within confined areas and no additional** payment will be made for work done in restricted areas. The method of construction in these confined areas will depend largely on the contractor's construction plan.

2.9.2 The tendered rates and amounts shall include full compensation for all special equipment and construction methods and for all difficulties encountered during working in confined areas and narrow widths, and at, around or through obstructions, and that no extra payment will be made nor will any claim for additional payment be considered in such cases.

2.9.3 The contractor will be held responsible when working in confined areas for the repair, at his own cost, of damage caused by him to any asset or service indicated to him.

## 2.10 PROJECT SCHEDULE / PROGRAM

2.10.1 Bidders shall submit with their tender a detailed method statement and sequenced program of how he/she proposes to execute the work.

2.10.1.1 This shall include details of a number and grades of staff, plant, equipment, and all resources that he or she intends using for the duration of the appointment.

2.10.1.2 On award of the tender the Contractor's first task under the contract shall be to agree with the Project Manager on the final work programme to be followed. This must be done within 7 (seven) days from date of award.

## 2.11 DURATION OF CONTRACT

- 2.11.1 The Contractor should be able to commence once all necessary documentation has been completed including acquiring site access certificate.
- 2.11.2 The Contract duration will be 12 Months from the award date/appointment letter signed by the contractor.

## 2.12 ESTABLISHMENT OF PLANT AND MACHINERY ON SITE

- 2.12.1 The contractor shall deliver the plant and machinery, in operational condition with maintenance crew, operator crew labour and consumables (diesel, lubricants, etc.) to the initial place of work as directed by the Project Manager.
- 2.12.2 This time shall not be regarded as travelling time.

## 2.13 PROTECTION OF WORKPLACE AND SECURITY ON SITE

- 2.13.1 Protection of the workplace will be done by flagmen supplied by the contractor and all liaisons with Train Services shall be done by the contractor's supervisor or PRASA RAIL Track Inspector/master.
- 2.13.2 It is the responsibility of the contractor to provide security on site for equipment, material and personnel for the duration of the contract.

## 2.14 TO BE PROVIDED BY PRASA

- 2.14.1 PRASA Rail (in cooperation with the contractor) will arrange for the occupations during which the project will take place where applicable relative to the project.
- 2.14.2 PRASA Rail will arrange and provide:
  - 2.14.2.1 Rails and fastenings for the project.
  - 2.14.2.2 Client based Supervision of works.

## 2.15 TO BE PROVIDED BY CONTRACTOR

- 2.15.1 The contractor shall in addition to what is stipulated in the Conditions of Contract, also supply the following:
- 2.15.1.1 A Site book (in triplicate) to record all incidents as well as the progress of work done during the occupation.
  - 2.15.1.2 All equipment, tools and labour that he/she shall need to successfully complete the project.
  - 2.15.1.3 Supervision over of the work site by qualified people.
  - 2.15.1.4 Provide barricade onsite on all the works and ensure protection of works from damages.
  - 2.15.1.5 Staff – with valid track required qualification for all types of track work.
  - 2.15.1.6 The Contractor will have to ensure he/she is familiar with the specifications within this contract documents.

## 2.16 **GUARANTEES**

- 2.16.1 All work done shall be guaranteed for a period of 12 months after the successful handover.
- 2.16.2 All completion certificates will be given in writing after all contract obligations are met and approved by PRASA Project Manager.
- 2.16.3 Corrective action to be taken by the Contractor during the guarantee period at his/her own cost and expense.
- 2.16.4 Project Manager will, where practicable be entitled to take corrective action of its own should the Contractor not be able to give immediate attention at the time a fault occurs and recover from the contractor any costs and expenses reasonably incurred by it in doing so as per penalty clauses.

## 2.17 **PAYMENT CERTIFICATE**

- 2.17.1 On or after the assessment date, the Project Manager and the Contractor will together assess the quantities of the progress on each item in the Bill of Quantities and complete the Progress Assessment Detail form, where after the Progress Assessment Certificate will be issued.

- 2.17.2 The Contractor shall then submit a VAT invoice and attach the above Progress Certificate for payment by the Employer.
- 2.17.3 Claims for payment will only be made on a monthly basis and payments will be made within 30 days of approved invoices.
- 2.17.4 Contractor to provide the Employer with the necessary details regarding banking details to enable the Employer to make electronic payments.

## 2.18 **PRICING THE WORKS**

- 2.18.1 The contractor is required to provide firm prices/ rates for material and labor for the duration of the contract.
- 2.18.2 The contract period shall be inclusive of the construction work for drainage upgrade, embankment, stream works and track works including formation rehabilitation for a period of 12 months.
- 2.18.3 The Contractor is advised to study the requirements of the SPK 7/2 and ensure that all works can be completed in accordance with these requirements.
- 2.18.4 The contract offer shall be based on the rates as indicated in the bill of quantities.

## 2.19 **PENALTIES**

- 2.19.1 If the Contractor fails to complete the Services within the time as stipulated in this Contract for completion of Services or a part or portion of Services, the Contractor shall be liable to the Employer for an amount calculated at 0.03% of the Contract Price per delayed Day, which shall be paid for every day which shall elapse between the time for due completion and completion of the relevant Services. However, the total amount due under this sub-clause shall not exceed the maximum of 10% of the Contract Price.
- 2.19.2 The imposition of such penalty shall not relieve the Contractor from its obligation to complete Services or from any of its obligations and liabilities under the Contract,
- 2.19.3 PRASA may set off or deduct from the fees due to the Contractor any penalty amounts due and owing by the Contractor in terms of clause 5.19.1

- 2.19.4 The following penalties will be recovered from the Contractor for delays to PRASA trains as described above:
- 2.19.5 Each train R2500,00 per hour or part thereof - maximum of R22 500,00 per day.
- 2.19.6 Any missing released materials not accounted for will be deducted from the invoice according to following items:
- 2.19.6.1 R740.00 Per Wooden sleeper.
- 2.19.6.2 R970.00 Per Concrete sleeper.
- 2.19.6.3 R130.00 Per Chair.
- 2.19.7 Any missing released materials not accounted for will be deducted from the invoice according to the following prices:
- 2.19.7.1 R900.00 Per old, vandalized and faulty rail lubricator.

## 2.20 **CONSTRUCTION RELATED SECURITY**

### 2.20.1 MANDATORY SECURITY REQUIREMENTS

- 2.20.1.1 All security companies used by the Contractor shall be PSIRA registered with valid letter of good standing.
- 2.20.1.2 Security personnel shall all be PSIRA registered with a clear criminal record no criminal pending cases and preferably be sourced from the local community.
- 2.20.1.3 All personnel employed by the Contractor including sub-contractors shall have undergone a Health and Safety Induction.
- 2.20.1.4 The security to be provided by the contractor shall be responsible for both the appointed contractor's assets and PRASA's assets on site until the site is handed over to PRASA. A list of all functioning equipment that do not form part of this scope of work will be shared with the successful bidder and shall be signed off by both the successful bidder and PRASA's representative.
- 2.20.1.5 PRASA assets that shall be guarded by the contracted security includes Permanent way assets, All Train Authorisation on track elements, all train

stations (with all assets included) along the section and all functioning equipment along the corridor.

2.20.1.6 Any lost or stolen material shall be replaced by the contractor at his own cost.

2.20.1.7 The contractor shall provide on-site security for personnel and material stock and should ensure that patrols are in place at the section handed over to the contractor and until the completed work is handed over to PRASA. No claims of material or losses shall be lodged with the client for stolen goods during the construction before the completed work is handed over to PRASA.

2.20.1.8 Furthermore, it is the contractor’s responsibility to ensure that valuable metal i.e. Rail fastenings and turnout components are adequately protected while in transit to and from site.

2.20.1.9 The contractor shall make sure that all material removed from site is quantified, counted, logged in the site diary and that it is co-signed by a PRASA representative on site before it is removed from site.

2.20.1.10 Scrap metal removed from the section shall be adequately protected until it is delivered to PRASA’s stores (Driehoek Stores)

2.20.1.11 PRASA reserves the right to conduct ad-hoc inspections to ensure Compliance.

## 2.20.2 Risks

2.20.2.1 Tabulated below are the associated security Risks and proposed mitigation measures. It should be noted that this are minimum risks identified and bidders shall be responsible for conducting their own risk assessment that will influence their quotations.

<b>Risk</b>	<b>Probability</b>	<b>Mitigation</b>
Project Hi-jacking – Regulation 9 30% Subcontracting. This includes the provision of security.	High	Social Facilitation to ensure community involvement and buy in. PRASA recommends an

		approach that involves the local community. Failure to ensure local involvement can result in serious work stoppages.
Theft of Installed equipment	High	Fit for purpose security with an integrated plan for assets installed and physical security at site office. Ensure protective measures for site with an access gate.
Hi-jacking of site personnel vehicles	High	Armed Escorts to and from the site
Armed Robbery of personnel on site and Storage Facility at site	High	Armed Guarding at site and site office with an armed response for mobilisation

### 2.20.3 PROPOSED INTERVENTIONS

2.20.3.1 Minimum of 2 vehicles with armed response officers (2-4) per vehicle strategically deployed within the site. To supplement the vehicles, a suitable number of day and night visible officers on foot patrol is required.

2.20.3.2 Requisite equipment:

2.20.3.2.1 Bullet proof vests;

2.20.3.2.2 Spotlight;

2.20.3.2.3 Night vision equipment; Torches;

2.20.3.2.4 Tactical Radios (PTT with GPS and Panic Button). This should be the primary communication for all personnel on site.

2.20.3.2.5 Handcuffs (disposable type) and other standard equipment;

2.20.3.2.6 Firearms with extra magazine; and

2.20.3.2.7 Any other equipment identified through the risk assessment.

## 2.21 OVERALL STAFFING AND KEY RELATED PROFESSIONAL STAFF

### 2.21.1 PROFESSIONAL TECHNICAL STAFF REQUIREMENTS

The appointed Service provider will be required to provide qualified and experienced professional staff with the following key professional expertise:

- 2.21.1.1 Team Leader/Project Director (Civil or Structural)
- 2.21.1.2 Civil / Structural Engineer
- 2.21.1.3 Civil Geotechnical Engineer
- 2.21.1.4 Civil Roads and Stormwater Engineer
- 2.21.1.5 Civil – Resident Engineer
- 2.21.1.6 Environmental Practitioner
- 2.21.1.7 Construction Health and Safety Officer
- 2.21.1.8 Perway – Track Inspector/Track master
- 2.21.1.9 Perway – Track welder
- 2.21.1.10 Railway – Flagman

#### 2.21.2 PROFESSIONAL BODY REGISTRATION

- 2.21.2.1 **Engineering Council of South Africa:** Pr. Engineer/s, Pr. Technologist/s, Pr. Technician/s
- 2.21.2.2 **South African Institute of Civil Engineering:** SAICE
- 2.21.2.3 **South African Council for the Project and Construction Management Professions:** Pr. CPM, CPM and/or Pr. CM, CM and/or Pr. CHSA, CHSO and CHSM
- 2.21.2.4 **Project Management Profession Certification:** PMP
- 2.21.2.5 **Environmental Assessment Practitioners Association of South Africa (EAPA)/ South African Council for natural Scientific Professions :**

#### 2.21.3 DETAILS OF THE MINIMUM QUALIFICATIONS FOR THE TECHNICAL STAFF LISTED ON 5.21.1 ARE AS OUTLINED BELOW.

##### 2.21.3.1 TEAM LEADER / PROJECT DIRECTOR

The desired minimum qualifications for the Team Leader/Project Director are as follows:

- 2.21.3.1.1 BSc Degree/B-Tech Degree in Civil Engineering.

2.21.3.1.2 ECSA registration as a Professional Engineer (Pr Eng)/Technologist (Pr Tech Eng).

2.21.3.1.3 A minimum of 5 years experience post professional registration in the Built Environment field of study with a minimum of five (5) years relevant Project Management experience in similar project disciplines in the Built Environment.

2.21.3.1.4 Project Management qualification and over 5 years' experience in Project Management.

2.21.3.1.5 South African Council for the Project and Construction Management Professions (SACPCMP) professional registration certification or Project Management Professional (PMP) Certification with a minimum of five (5) years relevant post-certification practical experience.

2.21.3.1.6 A minimum of 5 years of leadership experience on multi-disciplinary similar or related projects;

2.21.3.1.7 A minimum of 5 years experience in the planning and design of multi-disciplinary similar or related projects.

### 2.21.3.2 **CIVIL ENGINEER/ TECHNOLOGIST (CIVIL STRUCTURAL EXPERIENCE)**

The desired minimum qualifications for the Civil and structural Engineer/s are as follows:

2.21.3.2.1 BSc Degree/ B-Tech Degree in Civil Engineering.

2.21.3.2.2 ECSA registration as a Professional Engineer (Pr Eng)/Technologist (Pr Tech Eng).

2.21.3.2.3 A minimum of 5 years post-graduate experience in Civil and Structural design including Construction Management experience, with 5 years post professional registration.

2.21.3.2.4 Project Management qualification and a minimum of 5 years' experience in Project Management;

2.21.3.2.5 South African Council for the Project and Construction Management Professions (SACPCMP) professional registration certification or Project Management Professional (PMP) Certification;

2.21.3.2.6 A minimum of 5 years of leadership experience on similar or related projects;

2.21.3.2.7 A minimum of 5 years experience in the planning and design of similar or related projects.

### 2.21.3.3 **CIVIL ENGINEER (GEOTECHNICAL AND PERMANENT WAY)**

The desired minimum qualifications for the Civil Engineer (Geotechnical and Permanent Way) are as follows:

2.21.3.3.1 BSc Degree/B-Tech Degree in Civil Engineering.

2.21.3.3.2 ECSA registration as a Professional Engineer (Pr Eng)/Technologist (Pr Tech Eng).

2.21.3.3.3 A minimum of 5 years post-graduate experience in Geotechnical and Permanent way Design including Construction Management experience with 5 years post professional registration.

2.21.3.3.4 Project Management qualification and over 5 years' experience in Project Management;

2.21.3.3.5 South African Council for the Project and Construction Management Professions (SACPCMP) professional registration certification or Project Management Professional (PMP) Certification;

2.21.3.3.6 A minimum of 5 years of leadership experience on similar or related projects;

2.21.3.3.7 A minimum of 5 years experience in the planning and design of similar or related projects.

### 2.21.3.4 **CIVIL ENGINEER (ROADS AND STORMWATER)**

The desired minimum qualifications for Civil Engineer (Roads and Stormwater) are as follows:

2.21.3.4.1 BSc Degree/ B-Tech Degree in Civil Engineering.

2.21.3.4.2 ECSA registration as a Professional Engineer (Pr Eng)/Technologist (Pr Tech Eng).

2.21.3.4.3 A minimum of 5 years post-graduate experience in Roads and Stormwater Design including Construction Management experience with 5 years post professional registration.

2.21.3.4.4 Project Management qualification and over 5 years' experience in Project Management;

2.21.3.4.5 South African Council for the Project and Construction Management Professions (SACPCMP) professional registration certification or Project Management Professional (PMP) Certification;

2.21.3.4.6 A minimum of 5 years of leadership experience on similar or related projects;

2.21.3.4.7 A minimum of 5 years experience in the planning and design of similar or related projects.

#### 2.21.3.5 **CIVIL - RESIDENT ENGINEER**

The desired minimum qualifications for Resident Engineer are as follows:

2.21.3.5.1 BSc Degree/ B-Tech Degree in Civil Engineering.

2.21.3.5.2 ECSA registration as a Professional Engineer (Pr Eng)/Technologist (Pr Tech Eng).

2.21.3.5.3 A minimum of 5 years post-graduate experience in Civil and Structural Design including Construction Management experience with 5 years post professional registration.

2.21.3.5.4 Project Management qualification and over 5 years' experience in Project Management;

2.21.3.5.5 South African Council for the Project and Construction Management Professions (SACPCMP) professional registration certification or Project Management Professional (PMP) Certification;

2.21.3.5.6 A minimum of 5 years of leadership experience on similar or related projects;

2.21.3.5.7 A minimum of 5 years' experience in the planning and design of similar or related projects.

#### 2.21.3.6 **ENVIRONMENTAL PRACTITIONER**

The desired minimum qualifications for Environmental Practitioner are as follows:

2.21.3.6.1 BSc Degree/ B-Tech Degree in Environmental Science, Natural Resource Management or related field but affiliated and registered with EAPA

2.21.3.6.2 EAPA registration

2.21.3.6.3 A minimum of 5 years of post-graduate experience in environmental management especially on bridges over watercourses.

2.21.3.6.4 Experience in water license applications, control of wetlands and natural attenuation ponds.

2.21.3.6.5 Experience on river trainings, watercourse upgrade and environment management.

#### 2.21.3.7 **CONSTRUCTION HEALTH AND SAFETY AGENT (PRCHSA)**

The desired minimum qualifications for Health and Safety Agent are as follows:

2.21.3.7.1 B-Tech Degree in Safety Management.

2.21.3.7.2 A minimum of 5 years post-graduate experience in Health and Safety including Construction Management experience with 5 years post professional registration.

2.21.3.7.3 South African Council for the Project and Construction Management Professions (SACPCMP) professional registration certification.

#### 2.21.3.8 **PERWAY – TRACK INSPECTOR / MASTER**

The desired minimum qualifications for the Perway Track Inspector / Master are as follows:

2.21.3.8.1 Recognised Track Inspector / Master qualification;

2.21.3.8.2A minimum of 5 years experience;

2.21.3.8.3A minimum of 5 years of leadership experience on similar or related projects;

### 2.21.3.9 **PERWAY – TRACK WELDER**

The desired minimum qualifications for the Perway – Welder are as follows:

2.21.3.9.1 Recognised Perway – Welder qualification.

2.21.3.9.2A minimum of 5 years experience;

2.21.3.9.3A minimum of 5 years experience.

### 2.21.3.10 **RAILWAY – FLAGMAN**

The desired minimum qualifications for the Railway – Flagman are as follows:

2.21.3.10.1 Valid and recognised Railway – Flagman certificate.

2.21.3.10.2 A minimum of 3 years experience.

2.21.3.10.3 A minimum of 3 years of leadership experience on similar projects.

NB: A minimum of three qualified railway flagmen shall be deployed for each occupied section.

## **3. TECHNICAL SPECIFICATIONS RELATED TO THE PROJECT**

6.1. The documents forming the contract are to be taken as complimentary to each other. In case of any discrepancy or inconsistency between contract documents, the order of precedence will be:

SANS 3000-1 to 2,	Railway Safety Management
SABS 1200NB	Railway Sidings (Track work)
EN13674-1	Specification for new Railway Rails or the latest equivalent standard
UIC 860-0, UIC 8610-1	UIC Codes or the latest equivalent standard
EN13848	Railway applications – Track geometry quality standard
E7/2	Specification for Works on, Over, Under or Adjacent to Railway Lines and Near High Voltage Equipment
PRASA SHE Specification	Safety Arrangements and Procedural Compliance with the Occupational Health and Safety Act (Act 85 of 1993) and Applicable Regulations; including any subsequent amendments;
SANS 3000-2-2-1	Level Crossings Standard.
SABS 1083:1994	Aggregates from natural sources
SABS 0100-2: 1992	The Structural use of concrete – Part 2: Materials and execution of work
SABS 50197 – 1: 2000	Cement – composition, specifications, and conformity criteria. Part 1: Common cements
SABS 1491 – 1: 1989	Cement extenders – Part 1 Ground granulated blast furnace slag
SABS 1491 – 2: 1989	Cement extenders – Part 2 Fly ash
SABS 1491 – 3: 1989	Cement extenders – Part 3 Condensed Silica Fume
Bridge Code: 1983	South African Transport Service
COLTO	Standard specifications for Road and Bridge Works for State Road Authorities, 1998
SANS 1200A	Standardised Specifications for Civil Engineering Construction, Section A: General
SANS 1200C	Standardised Specifications for Civil Engineering Construction, Section C: Site Clearance
SANS 1200D	Standardised Specifications for Civil Engineering Construction, Section D: Earthworks
SANS 1200L	Standardised Specifications for Civil Engineering Construction, Section L: Medium Pressure Pipelines
SANS 1200LB	Standardised Specifications for Civil Engineering Construction, Section L: Bedding (Pipes)
SANS 1200LD	Standardised Specifications for Civil Engineering Construction, Section L: Sewers
SANS 1200G	Standardised Specifications for Civil Engineering Construction, Section G: Concrete

SANS 1200M	Standardised Specifications for Civil Engineering Construction, Section M: Roads (General)
SANS 1200ME	Standardised Specifications for Civil Engineering Construction, Section ME: Subbase
SANS 1200MFL	Standardised Specifications for Civil Engineering Construction, Section MFL: Base (Light Pavement Surfacing)
SANS 1200MH	Standardised Specifications for Civil Engineering Construction, Section MH: Asphalt Base and Surfacing
SANRAL	Drainage Manual 6 <sup>th</sup> Edition 2013;
S410	Specification for Railway earthworks
BBC4038	Geosynthetics Specification for Railway earthworks construction
TRH4	Structural design of flexible pavements for interurban and rural roads
TRH14	Guidelines for road construction materials
TRH15	Subsurface drainage for roads
TRH17	Geometric design for rural roads
TMH1	Standard methods of testing road construction materials
TMH7	Code of practice for the design of highway bridges and culverts in South Africa TMH7: 1985
E10	General Specifications for Railway Track work (1996)
E10/1:	Laying of rails
E10/2:	Laying of sleepers
E10/3:	Ballast cleaning
E10/4:	Ballasting and tamping
E10/5:	Destressing of Rails
E10/6:	Building and Replacement of sets
E10/7:	Field welding of Rail joints
E10/8:	Field welding of skid marks
E10/9:	Slewing and Alignment
E10/10:	Drain cleaning
E10/11:	Survey and setting out of Track Alignment and Referencing
E10/14:	Building of New Lines
EN 13481- Part 1	Performance requirements for fastening systems
EN 13146	Test methods for fastening systems
EN 10089	Hot rolled steels for quenched and tempered springs
EN ISO 6506-1	Brinell hardness test method for rails
CCE 1/57/2	Specification for concrete sleepers to standard dimensions 1065mm gauge track
PWM 2/5	Specification for prestressed concrete sleepers used on 1065mm gauge Railway track

SABS 1083:2013	Ballast specification (latest revision for Railway lines)
S406 (1998)	Transnet specification for supply of ballast stone
EN13674	Specification for new Railway Rails
CP1/1	Exothermic welding portions packaging specification
SABS 1431	Grade 300wa for weldable structural steel
E160	Maintenance of Railway Track with On-Track Machinery
Track Manual	Manual for Track Maintenance (2000)
BBB8341	Manual for Track Welding (2007)

#### 4. IS THIS A CIDB RELATED PROJECT? (YES / NO)

If YES, what is the applicable Class of Work & Grade?

Class of Work:           CE          

Minimum Grade:           7          

#### 5. PROJECT SPECIFIC TERMS AND CONDITION

##### 5.1 INCREASE OR DECREASE IN COSTS

5.1.1 PRASA intends to enter into a fixed price, turnkey contract with the winning tenderer. No escalation will be allowed in the contract, and no contract price adjustment will be applied to allow for all increases or decreases in production costs of a product, from any cause whatsoever, which may occur after the closing date of the submission of tenders and before the date of completion.

5.1.2 Price shall be firm for the duration of contract.

5.1.3 It is the tenderer’s responsibility to ensure that they provide such explanatory notes and rationale to their tender submission as to satisfy PRASA that their proposal meets the user requirements, within the fixed allocated budget.

##### 5.2 EXCHANGE RATE

The contract price payable to the Contractor will not be adjusted for increases and decreases in costs of imported materials, machines and spare parts, due to fluctuations in foreign currency exchange rates after the conclusion of the Contract and for the duration thereof.

### 5.3 SITE PHYSICAL CONDITIONS

5.3.1 The tenderer must ensure that they make any provision in their tender price and programme for foreseeable and unforeseeable circumstances that may occur.

5.3.2 It is the tenderer's responsibility to obtain such information about the site and project circumstances, as is necessary for them to submit a fixed price.

## 6. PRICING SCHEDULE

### 6.1 PRICING SCHEDULE OF WORKS

	ITEM NO.	DESCRIPTION	PRICE
	1.	Design and Construction	
	1.1	Planning, Studies, Investigations and Assessments including the Geotechnical studies/tests, Environmental assessments, Hydrological & Hydraulic studies, Health & safety requirements, Track Tests, Modelling, Surveys, etc.	
	1.2	Drainage Upgrade works: All works surface and subsurface, dissipators, Culverts, channels, retaining structures, foundation works, stream training, bridge works (all components inclusive), concrete works, etc.	
	1.3	Embankment: Bulk earthworks, Retaining structures, slope protection, Tree felling, drainage, Geotextiles, in suite material, concrete works, etc.	
	1.4	Track works: Rails, Ballast, sleepers, Fastenings, formation rehabilitation,	
	2	All temporary works: Management of watercourse	
	3	Preliminaries and General	
	4	Additional Services pertaining to all Stages of the Project	
	5	Construction Monitoring, controls on execution	
	6	Occupational Health and Safety Act, 1993	
	7	Quality Assurance System	
Total Excluding VAT			
VAT at 15%			
<b>Total Including VAT</b>			

Prices to remain fixed for the duration of contract.

## 6.2 PAYMENT MILESTONES

ITEM	DESCRIPTION	%
1	Project Mobilisation Submission of Project documentation including: <ul style="list-style-type: none"> <li>• Design &amp; Engineering Plan</li> <li>• Quality Plan</li> <li>• Safety Plan</li> <li>• Baseline Project Schedule and Occupation Plan</li> </ul>	(5%)
2	Detailed Design complete and approved by PRASA	(10%)
3	Site Establishment Complete and Construction Start	(5%)
4	First 25% of scope of works complete	(15%)
5	Construction Works 50% Complete	(25%)
6	Construction Works 80% Complete	(20%)
7	Substantial completion of 95% Total Works including snags	(15%)
8	Contract closure: Official Handover and submission of the complete sets of As-built drawings in CAD.	(5%)
<b>TOTAL</b>		<b>(100%)</b>

## 7. PROJECT SPECIFIC SAFETY RELATED REGULATIONS

12.1. The contractor shall comply with requirements of safety legislations and regulations in all respects.

12.2. It is the requirement of this contract that the contractor should provide PRASA with a detailed safety plan prior to being issued with a site access certificate, in accordance with the latest version of the Occupational Safety Act, 1993 (Act No: 85 of 1993) and the SPK7, PRASA SHE Specification and National Environmental Management Act 107 of 1997

12.3. All drivers shall be in possession of valid driver's licenses and Public Drivers Permits (PDP) where applicable. Crane operators will be required to have a valid Crane Operator's certificate. All vehicles shall be road worthy.

- 12.4. The contractor shall be responsible for all protective clothing and equipment for his employees. All employees required to climb structures shall be issued with suitable harnesses.
- 12.5. A copy of the act as well as an approved safety file shall be kept on site for the duration of the project.
- 12.6. The Contractor shall comply with all applicable legislation and PRASA's safety requirements adopted from time to time and instructed by the Project Manager. Such compliance shall be entirely at the contractor's cost and shall be deemed to have been allowed for in the rates or total prices in the contract.
- 12.7. The Contractor shall report all incidents verbally within 5 minutes of occurrence to the responsible project manager
- 12.8. The Contractor shall report all incidents within 5 minutes of occurrence to the responsible project manager. All personnel employed by the Contractor shall have undergone a Health and Safety Induction.
- 12.9. The Contractor shall make necessary arrangements for sanitation, water, and electricity at these relevant sites during the installation of the equipment.
- 12.10. The safety file will be approved only after all the requirements on the checklist are met. WITS\_LIB/RISK\_MGT/SHE File Checklist (version 3) is attached in this regard.
- 12.11. All work shall at all times comply with the E7/2 Specification attached hereto.
- 12.12. Normal protection measures in accordance with the Protection Manual shall apply.
- 12.13. The contractor shall at all times be required to supply adequate and competent supervision. **The contractor shall provide a fully qualified Track Inspector/Master - with Track Inspector/Master certificate** (as required by PRASA) to properly supervise the execution of the track work.
- 12.14. The contractor must supply his or her own flagmen with valid flagmen certificate as required per work site for protection duties. (At least 3 flagmen per site)
- 12.15. The contractor shall appoint at each work site a person whose sole task shall be to be on the lookout for approaching rail traffic. This employee shall

operate an audible warning device to timeously warn all people on the work site of approaching rail traffic.

12.16. The contractor shall not allow any persons on the work site to venture within the structure gauge when this warning procedure is not operating effectively.

12.17. The warning device shall be such that its sound can be clearly and effectively heard above the noise on the work site by all personnel within a radius of 100m around the center of each work site. The cost to the contractor of providing the lookout as well as the warning device shall be deemed to be included in the rates tendered and no separate payment shall be made.

12.18. An effective safety procedure to be followed by all personnel on any work site in the case of approaching rail traffic shall be compiled by the Contractor and implemented before any work commences. This procedure shall be updated whenever the need arises and any changes shall be communicated to all employees on a works site before work proceeds.

12.19. The Contractor shall accept responsibility for safe custody of the material and care of PRASA assets from the time the site and material is handed over into his custody by PRASA RAIL.

12.20. Any loss or damage to Material and PRASA assets will be recovered on the contractor's account.

12.21. This clause will remain effective to the duration of the contract until the contractor hand back the site to PRASA project manager.

### **13. EVALUATION METHODOLOGY**

#### **13.1. EVALUATION AND SCORING METHODOLOGY**

The evaluation of the Bids by the evaluation committees will be conducted at various levels.

The following levels will be applied in the evaluation:

<b>LEVEL</b>		<b>DESCRIPTION</b>
Verify completeness		The Bid is checked for completeness and whether all required documentation, certificates; verify

LEVEL		DESCRIPTION
		completeness warranties and other Bid requirements and formalities have been complied with. Incomplete Bids will be disqualified.
Verify compliance		The Bids are checked to verify that the essential RFP requirements have been met. Non-compliant Bids will be disqualified.
Detailed Evaluation of Technical		Detailed analysis of Bids to determine whether the Bidder is capable of delivering the Project in terms of business and technical requirements. <b>The minimum threshold for technical evaluation is [80%], any bidder who fails to meet the minimum requirement will be disqualified and not proceed with the evaluation of Price and Specific Goals.</b>
Specific Goals		Evaluate Specific Goals
Price Evaluation		Bidders will be evaluated on price offered.
Scoring		Scoring of Bids using the Evaluation Criteria.
Recommendation		Report formulation and recommendation of Preferred and Reserved Bidders
Best and Final Offer		PRASA may go into the Best and Final Offer process in the instance where no bid meets the requirements of the RFP and/or the Bids are to close in terms of points awarded.
Approval		Approval and notification of the final Bidder.

Table 1: Levels that will be applied in the evaluation

### 13.2. EVALUATION PROCESS

Interested bidders for this project shall be evaluated in terms for their administrative responsiveness, substantive responsiveness, technical/functional (capacity testing) evaluation and preference points. The evaluation committee shall use the following Evaluation Criteria depicted in table 2 below for the selection of the preferred bidder that shall render / deliver the required works, goods and / or services.

EVALUATION CRITERIA	WEIGHTING
<b>Stage 1</b>	<b>Compliance</b>
Stage 1A - Mandatory Compliance	
Stage 1B – Technical Mandatory Compliance	
<b>Stage 2 - Technical Mandatory Requirements</b>	<b>Technical/Functionality</b>
Technical/Functional Requirements	Threshold of 80%
<b>Stage 3</b>	<b>Price and Specific Goals</b>
Price	90
Specific Goals	10
<b>TOTAL</b>	<b>100</b>

Table 2: Evaluation criteria for the selection of a potential bidder

The details of the stages outlined in Table 2 above are presented in following sections below.

#### STAGE 1: COMPLIANCE REQUIREMENTS

Bidders must comply with all mandatory requirements and failure to comply will lead to immediate disqualification.

##### Stage 1A- Mandatory Requirements

If you do not submit/meet the following mandatory documents/requirements, your bid will be automatically disqualified:

No.	DESCRIPTION OF REQUIREMENT	
a.	Completion of ALL RFP documentation (includes ALL)	
b.	Submission of a signed Briefing session Form D and signed briefing session attendance register	

c.	Signed Joint Venture, Consortium Agreement or Partnering Agreement (whichever is applicable) if applicable.	
d.	Clause to clause compliance to Specification	
e.	Proof of valid registration with CIDB at 7CE or Higher	

Table 3: List of Mandatory Compliance Documents

### Stage 1B – Other Mandatory Requirements

If you do not submit/meet the following mandatory documents/requirements, PRASA may request the bidder to submit the information within five (5) working days. Should this information not be provided, your bid proposal will be disqualified.

Other Mandatory Requirements are presented in the Table 4 below.

No.	Description of requirement	
a)	Letter of Good Standing: COID	
b)	Valid SARS Pin	
c)	CSD supplier registration number	

### STAGE 2: TECHNICAL / FUNCTIONALITY REQUIREMENTS

Qualifying bidders shall then be evaluated on functionality after meeting all compliance requirements outlined above. The minimum threshold for the technical/functionality requirements is 80% as per the standard Evaluation Criteria presented in table 2 above. Bidders who score below this minimum requirement shall not be considered for further evaluation in stage 3.

Details of the technical/functional requirements are presented in the table 5 below.

ITEM	CRITERIA	WEIGHT
1	Organizational Experience: Track record of Tenderer on similar type and sizes (or more) of projects previously executed – Professionals Services	30
2	Organogram and Experience of key staff – Professionals Services	30
3	Project Methodology	20
4	Project Schedule	20
	<b>TOTAL</b>	<b>100</b>

Table 5: Technical Evaluation Criteria

### Technical Evaluation Criteria

Evaluation Area	Weight	Technical/Functional Criteria and Scoring
<p><b>Organizational Experience</b></p> <p>Track record on similar type and size (or more) of projects previously executed – Design and construction of drainage, formation earthworks and track work:</p> <ol style="list-style-type: none"> <li>1. Civil Engineering</li> <li>2. Structural services</li> <li>3. Civil Geotechnical and Railway earthworks</li> <li>4. Water Engineering</li> <li>5. Civil roads and stormwater</li> <li>6. Railway Infrastructure (Perway Projects)</li> </ol> <p><i>N.B. Provide for each successfully completed project/s in the following sequence;</i></p> <p><b>1. Letter of Award</b> on a letterhead of the client, signed and dated by an official from the client. Copy of an appointment letter/s (on a company letterhead), description of the project, Client name,</p>	<p>30</p>	<p>Score will be based on the similar successfully executed and completed projects:</p> <p>0: Not submitted information/No response = 0 points</p> <p>1: 1 similar project with certificate of completion = 6 points.</p> <p>2: 2 - 3 similar projects with certificate of completion = 12 points.</p> <p>3: 4 similar projects with certificate of completion = 18 points.</p> <p>4: 5 similar projects with certificate of completion = 24 points.</p> <p>5: More than 5 similar projects with certificate of completion = 30 points.</p> <p><b>NB: A minimum of 80% shall be attained for the bidder to be evaluated further</b></p>

Evaluation Area	Weight	Technical/Functional Criteria and Scoring
<p><i>Client contact (i.e. email and office number), Project start date, project end date, extension of time where applicable, contract value inclusive of VAT.</i></p> <p><b>2. The Certificate of Completion</b> on a letterhead of the client, signed and dated by an official from the client. Attach completion certificates signed by client indicating the value and type of work performed.</p>		
<p><b>Experience of key personnel</b> (based on CVs submitted)</p> <ol style="list-style-type: none"> <li>1. <i>Project Director / Team Leader</i></li> <li>2. <i>Civil / Structural Engineer</i></li> <li>3. <i>Civil Geotechnical and Railway services</i></li> <li>4. <i>Civil roads and storm water services</i></li> <li>5. <i>Civil – Resident Engineer services</i></li> <li>6. <i>Safety, Health and Environmental Agent</i></li> <li>7. <i>Environmental Practitioner</i></li> </ol>	30	<p>In this section a number of 9 key professional team members stated on the left with 5 years experience is now evaluated.</p> <p>Score will be allocated as follows:</p> <ol style="list-style-type: none"> <li>0: No submission/Non-compliance = 0 points</li> <li>1: Listed two (2) key staff team members with minimum of 5-years related experience on submitted CV's = 6 points</li> <li>2: Listed five (5) key staff team members with minimum of 5-years related experience on submitted CV's = 12 points</li> <li>3: Listed seven (7) key staff team members with minimum of 5-years related experience on submitted CV's = 18 points</li> <li>4: Listed all nine (9) key staff team members with minimum of 5-years related experience on submitted CV's = 24 points</li> </ol>

Evaluation Area	Weight	Technical/Functional Criteria and Scoring
<p>8. <i>Track Inspector/master</i></p> <p>9. <i>Track Welder</i></p> <p><i>(N.B. Provide copies of original qualifications and certificates of professional bodies. The copies must be certified by commissioner of oath. The date on the stamp shall be three months or less old, before the closing date of the tender. If the qualification has been awarded in other language either than English, please provide SAQA accreditation)</i></p> <p><b>NB: The minimum experience for each key staff member is 5 years. and CVs for each personnel to be submitted</b></p>		<p>5: Listed ten (10) or more key staff team members with minimum 5-years related experience. = 30 points</p> <p><b>NB: A minimum of 80% shall be attained for the bidder to be evaluated further</b></p>
<p><b>Project Approach and methodology</b></p> <p>Provide detailed technical approach / methodology that is aligned to the scope of work/ highlighting the risk/s and mitigation measures associated</p>	20	<p>The points for the project approach and methodology will be allocated as follows:</p> <p>0: No methodology or unrelated/ Irrelevant information provided = 0 points</p> <p>1: Methodology detailing less than five (5) elements in line with the scope of work provided = 4 points.</p> <p>2: Methodology detailing 6 - 7 elements in line with the scope of work = 8 points.</p>

Evaluation Area	Weight	Technical/Functional Criteria and Scoring
<p>with working within the Rail environment</p> <p><i>Technical approach and methodology must demonstrate the understanding of the project scope of work in accordance with the following elements:</i></p> <ul style="list-style-type: none"> <li>- <i>Identification of risks and mitigation</i></li> <li>- <i>Inception and studies to be completed</i></li> <li>- <i>Design timelines including reviews</i></li> <li>- <i>Submission to Municipality and obtain Approval of Site Development Plan and Building Plans</i></li> <li>- <i>Site establishment</i></li> <li>- <i>Works commencement</i></li> <li>- <i>Ordering of equipment/materials</i></li> <li>- <i>Equipment installations</i></li> <li>- <i>Works completion</i></li> <li>- <i>Snag list and close out</i></li> </ul>		<p>3: Methodology detailing 8 -9 elements in line with the scope of work 12 = points.</p> <p>4: Methodology detailing all 10 elements in line with the scope of work = 16 points (10)</p> <p>5: Methodology detailing 11 and more elements in line with the scope of work = 20 points</p> <p><b>NB: A minimum of 80% shall be attained for the bidder to be evaluated further</b></p>

Evaluation Area	Weight	Technical/Functional Criteria and Scoring
<p><i>The element listed above are not exhaustive.</i></p> <p><i>At least a minimum of 10 elements should be provided</i></p>		
<p><b>Project Program (Work plan)</b></p> <p><i>(N.B. Provide a project schedule in MS Project or similar format that meets the client's timeline requirements and the schedule to cover the following key Milestones:</i></p> <ul style="list-style-type: none"> <li>- <i>Inception and studies to be completed</i></li> <li>- <i>Design timelines including reviews</i></li> <li>- <i>Submission to Municipality and obtain Approval of Site Development Plan and Building Plans</i></li> <li>- <i>Site establishment</i></li> <li>- <i>Works commencement</i></li> <li>- <i>Ordering of equipment/materials</i></li> <li>- <i>Equipment installations</i></li> <li>- <i>Works completion</i></li> </ul>	<p>20</p>	<p>Score will be allocated for Project Schedule provided</p> <p>0: No submission/Non-compliance = 0 points</p> <p>1: Schedule with 7 – 8 of the 13 listed key milestones on required format = 4 points.</p> <p>2: Schedule with 9 – 10 of the 13 listed key milestones on required format = 8 points.</p> <p>3: Schedule with 11 – 12 of the 13 listed milestones on required format = 12 points.</p> <p>4: Schedule with all 13 key milestones on required format = 16 points</p> <p>5: Schedule with all key milestones 14 and above on required format clearly indicating sequencing of activities and commitment to practical and final works completion = 20 points</p> <p><b>NB: A minimum of 80% shall be attained for the bidder to be evaluated further</b></p>

Evaluation Area	Weight	Technical/Functional Criteria and Scoring
<ul style="list-style-type: none"> <li>- <i>Snag close out</i></li> <li>- <i>Practical completion</i></li> </ul> <p>– Phase 1</p> <ul style="list-style-type: none"> <li>- <i>Practical completion</i></li> </ul> <p>– Phase 2</p> <ul style="list-style-type: none"> <li>- <i>Provision of close out documentation</i></li> <li>- <i>Final works completion</i></li> </ul> <p>The overall schedule should clearly indicate sequencing of activities with clear understanding of scope</p> <p><i>The element listed above are not exhaustive.</i></p> <p><i>At least a minimum of 13 elements should be provided</i></p>		
Total	100	

Table 6: Detailed scoring methodology

**Note: Bidders that fail to achieve the minimum qualifying score of 80% on each evaluation criteria of functional/ technical requirements will not be considered for further Price and SPECIFIC GOALS evaluation.**

### STAGE 3 - PRICING AND SPECIFIC GOALS

*Include or attach detailed pricing schedule.*

Bidders should provide their price proposal in envelope 2, which should include Form C (Financial Offer) and also provide proof of Specific Goals.

The following formula shall be used by the Bid Evaluation Committee to allocate scores to the interested bidders.

$$P_s = 90 \left[ 1 - \frac{P_t - P_{\min}}{P_{\min}} \right]$$

Where:

$P_s$  = Points scored for the price of tender under consideration;

$P_t$  = Rand value of the tender under consideration;

$P_{\min}$  = Rand value of the lowest acceptable tender.

The minimum qualifying criteria for pricing is 90 points as per the standard Evaluation Criteria presented in figure 2 above.

### POINTS AWARDED FOR SPECIFIC GOALS

In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:

In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—

- (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or
- (b) any other invitation for tender, that 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

**Table 7: Specific goals for the tender and points claimed are indicated per the table below.**

**Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)**

The specific goals allocated points in terms of this tender	Evidence	Number of points allocated  80/20 system)  (To be completed by the organ of state)	Number of points allocated  (90/10 system)  (To be completed by the organ of state)	Number of points claimed (90/10 system)  (To be completed by the tenderer)	Number of points claimed (90/10 system)  (To be completed by the tenderer)

Black Women owned	Certified copy of ID Documents of the Owners	4	2		
Black Youth owned	Certified copy of ID Documents of the Owners	4	2		
EME or QSE 51% Black Owned	Audited Annual Financial/B-BBEE Certificate/ affidavit	4	2		
Owned by black persons with disabilities	Certified copy of ID Documents of the Owners and Doctor's note confirming the disability	4	2		
Black people living in rural areas	Municipal/Eskom Bill or letter from Induna/Chief confirming residential address not older than 3 months	4	2		

Subject to section 2(1)(f) of the Act, the contract must be awarded to the tenderer scoring the highest points

## 14. THE NATIONAL INDUSTRIAL PARTICIPATION PROGRAMME

The National Industrial Participation Programme (NIPP), which is applicable to all government procurement contracts that have an imported content, became effective on the 1 September 1996. The NIP policy and guidelines were fully endorsed by Cabinet on 30 April 1997. In terms of the Cabinet decision, all state and parastatal purchases / lease contracts (for goods, works and services) entered into after this date, are subject to the NIP requirements. NIP is obligatory and therefore must be complied with. The Industrial Participation Secretariat (IPS) of the Department of Trade and Industry (DTI) is charged with the responsibility of administering the programme.

Bidders are therefore required to complete SBD 5 to give effect to the above. **Bidders who do not complete this form will be automatically disqualified**