PART 3: SCOPE OF WORK

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C3.1: *EMPLOYER*'S WORKS INFORMATION

Contents

1 Description of the *works*

1.1 Executive overview

Group Capital requires a suitable service provider for waterproofing, roof canopy of the park home offices and Miscellaneous works at Majuba Power Station.

This document shall apply to Majuba Power Station GCD Park home and at the vicinity of Transfer House E.

1.2 *Employer*'s objectives and purpose of the *works*

This document covers the engineering requirements in the form of a scope of work for the civil works that are to be covered for water proofing and construction of the roof canopy of park home offices and the Repair of concrete hard stand canal and Miscellaneous Works. The overview of this document is to ensure that all construction and maintenance plans will align with the Civil Maintenance Execution Strategy. It is also intended to comply with the OHS Act.

The scope will entail the following requirements which include:
- Water proofing and construction of roof canopy for all GCD prefabricated office Park homes.
- Repair of concrete hard stand canal at the vicinity of Transfer House E.
- And Miscellaneous works

1.3 Interpretation and terminology

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
EIT	Engineer in Training
SoW	Scope of Works
PS	Power Station
GCD	Group Capital Division

2 Management and start up.

2.1 Management meetings

Meetings will be held monthly between the *Project Manager* and the *Contractor* (and any other co-opted members). The *Contractor* is represented at each meeting by the appropriate members of the staff.

The venue for these meetings is as determined by the *Project Manager*. The *Project Manager* or delegated personnel writes the minutes of the minutes.

Any action of the *Project Manager, Supervisor, Contractor* and *Adjudicator* implied in the minutes of the meetings with implications is confirmed by a communication given in accordance with this Works Information and NEC.

The *Contractor* reports the overall progress and as a minimum requirement, the following is addressed:

a) *Contractor*'s current activity progress and planned finish dates.
b) *Contractor*'s to report on all items listed in the NEC core clause, 31
c) *Contractor*'s and *Project Manager*'s programme agenda compared for delays and milestone targets;

d) Current and projected manpower by class;
e) Health, Safety, Environmental and Quality Management;
f) The progress of any other relevant activities;
g) To discuss any technical or commercial issues,
h) Skills Development, Localisation and Industrialisation;
i) CSI and Infrastructure Project Implementation Plan;
j) Procurement progress;
k) Problem areas or concerns.

Regular meetings of a general nature may be convened and chaired by the *Project Manager* as follows:

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk register and compensation events	Weekly when required	Venue determined by the *Project Manager*	Relevant appointed members of the Risk or/and Compensation Event Committee
Overall contract progress and feedback (from contract date to execution commitment)	Bi-weekly	Venue determined by the *Project Manager*	*Employer*, *Contractor*, Supervisor and Others as determined by the *Project Manager*
Planning meetings (including integration meetings with Others)	Weekly	Venue determined by the *Project Manager*	*Employer*, *Contractor*, Supervisor and Others as determined by the *Project Manager*
SHE Meetings	Fourth nightly	Venue determined by the *Project Manager*	*Employer*, *Contractor*, Supervisor and Others as determined by the *Project Manager*

Meetings of a specialist nature may be convened as specified elsewhere in this Works Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the *works*. Records of these meetings shall be submitted to the *Project Manager* by the person convening the meeting within five days of the meeting.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

2.2 Documentation control

2.2.1 Documentation and Configuration Management

2.2.1.1 Document identification

All documents supplied by the *Contractor* are subject to the *Employer's* acceptance. The language of all documentation is required to be in English. The *Contractor* includes the *Employer*'s drawing number in the drawing title block. This requirement only applies to design drawings developed by the *Contractor* and his *Subcontractors*. Drawing numbers are assigned by the *Employer* as drawings are developed.

The *Contractor* is required to submit the Vendor Document Submission Schedule (VDSS) as per agreed dates to the delegated *Employer's* Representative. The *Employer* pre-allocates document numbers on the VDSS and sends back to the *Contractor* through the delegated *Employer's* Representative. The VDSS is revisable, and changes must be discussed and agreed upon by all parties. The *Contractor*'s VDSS indicates the format of documents to be submitted.

2.2.1.2 Document Submission

The *Contractor* is required to submit documents as electronic and hard copies and both copies must be delivered to the Eskom Representative with a transmittal note. Electronic submissions could be done using the SharePoint Transmittal Site functionality and route. The *Contractor* is provided with the following standard: Technical Documents and Records Management Work Instruction (240-76992014) which must be adhered to. For bulk document submission, the following link can be used https://zendto.eskom.co.za/. Hard copies are submitted to the *Project Manager* accompanied by the Transmittal Note.

2.2.1.3 As-built drawings, operating manuals, and maintenance schedules

The *Contractor* is responsible for the compilation and the supply of all the documentation required during the various project stages and to provide the documentation programmed to link with the milestone dates. Documentation and drawings are programmed for delivery to meet the milestone dates and in accordance with the agreed VDSS.

At Take-over the *Contractor* provides two full sets of as-built documentation as hard copies and electronic PDF and native CAD formats (DGN or DWG) which must be compatible with Bentley Microstation) to the *Employer*.

All documentation, including reports, manuals, etc. is in the English language.

2.2.1.4 Documentation System

The *Contractor's* document system is comprehensive in the management and control of the documentation based on a master document. Automatic prevention of duplication of numbering or ambiguity is built into the system.

All documentation submitted, by the *Contractor*, is accompanied by a signed documentation transmittal note.

The *Contractor* provides the following three weeks before the commissioning

- As-built revision of all the design documents;
- Operating and maintenance manuals were applicable.
- Inspections and test records for the tests and inspections required.

2.2.1.5 Documentation Control

The *Contractor* implements a comprehensive document control of all documents, their revision status and of the document status in relation to the 'as built' and 'as designed' or commonly known as “Approved for Construction” status. Procedures, document control, flow diagrams and indexes are included in this system. The drawing register contains the following information and is submitted monthly in a Microsoft Excel format to the *Employer*:

- Drawing number (*Employer* and *Contractor's* number)
- Revision
- Approval status
- Location of drawing at that stage
- Drawing description
- Sheet number
- Transmittal number
- Date of submission

The *Contractor* is to comply with the Project Controls Specification (240-64037781) when submitting project control information to Eskom.

2.2.1.6 Material Certificates

The *Contractor* provides a copy of the Materials Test certificates for all components and electrical cables included in the Data Books.

2.2.1.7 Final Data Book

The *Contractor* is responsible for the provision of a final data book.

The final data book is broken down in two main categories:

- Technical category
- Cost and planning category

The document contains all the relevant documentation, designs, drawings including as-built drawings, materials certificates, and product specifications on all products used, tests and results etc. which were applicable during the contract. The *Contractor* ensures that all relevant documentation is traceable and cross referenced where applicable.

All planning, scheduling, bar charts, milestones, detailed cost breakdown information, packing and transport are included in the final document.

The content is laid out in a logical manner with main and sub-sections where all the relevant documentation is grouped.

The contents are presented in a hard cover file or files.

The data packages are prepared on a daily basis for all completed work.

Two hard copies and one soft copy of the Data Book are handed to the *Employer* for acceptance.

All submission of documentation to and from the Service Provider shall be accompanied by a populated transmittal form. Only the Document Controller is authorised to sign the transmittal which will then indicate proof of receipt. The document Controller will return a signed transmittal to the sender.

All instructions to the Service Provider will be in writing and shall be deemed to have been received if left with the Service Provider or his agent at the works or at the business premises of the Service Provider or at their office on the site.

2.3 Health and safety risk management

2.3.1 General

In carrying out its obligations to the *Employer* in terms of this contract, which obligations include, amongst others, providing the works; using Plant, Materials and Equipment; and whilst at the site for any reason, the *Contractor* is the "*Employer*" in terms of the Occupational Health and Safety Act, No. 85 of 1993, in respect of its activities and in relation to its employees, agents, *Contractor*s and mandatories.

The *Contractor* does not consider itself under the supervision or management of the *Employer* with regard to compliance with the health and safety requirements.

Furthermore, the *Contractor* does not consider himself to be a subordinate or under the supervision of the *Project Manager* in respect of these matters. The *Contractor* is responsible for the supervision of its employees, agents, *Contractors* and mandatories and takes full responsibility and accountability for ensuring that they are competent, aware of the health and safety requirements, whilst executing the works in accordance with the health and safety provisions.

The *Contractor* ensures compliance with, amongst others:

a) The provisions of the Occupational Health and Safety Act, No. 85 of 1993 and all applicable regulations (as amended), binding in terms thereof

b) The latest versions of standards, procedures, specifications, rules, systems of work and requirements of the *Employer*, copies of which will be provided to the *Contractor* on request.
c) The Health and Safety Plan prepared by the *Contractor* in accordance with the *Employer*'s Health and Safety Specification and requirements.

The *Contractor* ensures that its employees, agents, *Contractors* and mandatories comply with the provisions of the Occupational Health and Safety Act, No. 85 of 1993, and all applicable regulations binding in terms thereof as well as the Employer's Health and Safety Specification whilst making use of plant, materials and equipment and whilst at the Site for any reason whatsoever.

The *Contractor* conforms to a comprehensive health and safety management system, based on the ISO 45001:2018 requirements for utilisation at the project.

The *Contractor* appoints a person, qualified and competent in accordance with the health and safety requirements, as the liaison with the *Employer*'s Project Health and Safety Manager/Officer or delegated person for all such matters as pertaining related to health and safety. The *Contractor* shall ensure that such a person is contactable 24 hours a day and is registered with a registered professional council approved by the Principal Director of the Department of Labour, as per the requirements of the latest Construction Regulations, inclusive of all exemptions and amendments pertaining thereto.

The *Contractor* hereby indemnifies the *Employer* and holds the *Employer* harmless in respect of any and all loss, costs, claims, demands, liabilities, damage, penalties or expenses that may be made against the *Employer* and/or suffered or incurred by the *Employer* (as the case may be) as a result of, any failure of the *Contractor*, its employees, agents, *Contractor*s and mandatories to comply with their obligations, and/or the failure of the *Employer* to procure the compliance by the *Contractor*, its employees, agents, *Contractor*s and/or mandatories with their responsibilities and/or obligations in terms of or arising from the Occupational Health and Safety Act, No. 85 of 1993.

2.3.2 Mandatory Agreements

The *Contractor* confirms that:

a. In terms of sections 37(1) and 37(2) of the OHS Act, the *Employer* is relieved of any and all of its responsibilities and liabilities pertaining to the activities performed by the Principal *Contractor* (and its employees, agents, *Contractor*s and mandatories) relating to the works; the use of plant, materials and equipment; and whilst at the Site for whatsoever reason.
b. The *Contractor* confirms that, in terms of the Construction Regulations, regulation 6, it is hereby mandated as the designer and must perform all duties required of a designer. (This will be applicable only where the *Contractor* is required to do design work as part of its obligations).

The *Contractor* confirms that he has been provided with sufficient information regarding the health and safety arrangements applicable to the works; the use of Plant, Materials and Equipment, as well as at the Site.
In addition, the *Contractor* shall ensure that:

a. Prior to the *Contractor* commencing with any operations/ activities relating to the works and/or prior to gaining access to the Site, the *Contractor* concludes a written mandatory agreement with the *Employer* in terms of section 37(2) of the OHS Act and 5(1)(k) under the construction regulations. The aforementioned agreement constitutes a record of the written arrangements and procedures between the *Contractor* and *Employer* regarding health and safety
b. As far as is reasonably practicable, the safety and absence of risks to health in connection with the production, processing, use, handling, storage or transport of articles or substances are maintained
c. As far as is reasonably practicable, all hazards pertaining to the health and safety of persons and harm to the environment that are attached to any work which is performed, any article or substance which is produced, processed, used, handled, stored or transported and any plant or machinery which is used in its business, is clearly identified and, as far as is reasonably practicable, further establishes what precautionary measures should be taken with respect to such work, article, substance, plant or machinery in order to protect the health and safety of persons and or harm to the environment, and provides the necessary means to apply such precautionary measures
d. Such information, instructions, training and supervision as may be necessary to ensure, as far as is reasonably practicable, the health and safety at work of its employees, agents, Subcontractors and mandatories is provided
e. As far as is reasonably practicable, no employee, agent, *Contractor* and mandatory performs any work or produces, processes, uses, handles, stores or transports any article or substance or operates any plant or machinery, unless the precautionary measures contemplated in paragraph 2.3.3, or any other precautionary measures which may be prescribed have been taken
f. Such measures as may be necessary in the interest of health and safety and the environment are enforced
g. Work is performed and that plant, materials or equipment is used under the direct supervision of a person trained to understand the hazards associated with it and who has the authority to ensure that precautionary measures required by the *Employer* are implemented; and
h. All employees are informed of the scope of their authority as contemplated in OHS Act.

2.3.3 Health and Safety Obligations

In addition to the mandatory agreements, the *Contractor*:

a. Ensures that all statutory appointments (as required in terms of the Occupational Health and Safety Act, No. 85 of 1993 and all applicable regulations binding in terms thereof, as amended) and other appointments required in terms of the *Employer*'s Health and Safety Specification, contract and *Contractor* OHS Management (32–726) are in place and that all appointees are cognisant of their duties and responsibilities in terms of such appointments;

b. Ensures that such appointees execute their duties and responsibilities as required by such an appointment.
c. Ensures that all personnel brought by itself onto site (including employees of *Contractor*s and Subcontractors) are suitably qualified and trained for the performance of the task, duties and functions, which will be allocated to them;
d. Immediately reports any occupational or other injuries, near miss events, property damage, environmental related incidents as well as any potential threat to the health and safety of individuals at the works or on the site, as soon as he becomes aware thereof, to the Project Manager;
e. Complies with the *Employer*'s, Occupational Health & Safety Incident Management Procedure - 32-95, relating to the reporting and investigation of incidents. The classification of incidents contained in such document are considered final and must be applied by the *Contractor* relating to any incidents/ injuries relating to its employees, agents, *Contractor*s, Subcontractors and mandatories whilst on Site;
f. Conducts a risk assessment regarding the utilisation of PPE and thereafter ensure that PPE of good quality is issued (at its own cost) to its employees, agents, *Contractor*s, Subcontractors and mandatories prior to such individuals accessing the site, alternatively performing activities related to the works at the site, as specified in the Eskom PPE Specification - 240-44175132.

2.3.4 Radiographic Examinations

If radiographic tests are carried out in the plant, the danger area must be evacuated with the exception only of authorised radiographic workers, and thereafter barricaded. Compliance is according to Regulatory, Eskom's Health and Safety Specification and Majuba Power Station, Site regulations number 16 for use, conveyance and storage of Radioactive sources; document identifier – Site Regulations 16 No persons will be allowed gate access if the Majuba Power Station Procedure is not followed. The transportation of density tests should be fully complied with before access will be granted into Majuba Power Station.

In advance arrangement needs to be made with GCD, SHE Practitioner for the RPO of Majuba Power Station to be available for testing and authorizing entrance into Majuba Power Station.

The relevant warning signs should be visible on all the vehicles that is transporting radio-active source even density tests on and off site. The relevant warning signs at the lockout gates are bolt secured and not by wire or any other means, which could be removed while radiographic tests are in progress. The area is barricaded and access is restricted until the radiographic process is complete. The radiographic technicians ensure that all the lockout gates are opened on completion of the tests.

2.3.5 Fire Protection

The *Contractor* ensures that adequate firefighting apparatus is provided at all his work sites, and that his staff and sub-Contractors are trained in the use of this apparatus.

Precautions are taken to prevent any occurrence of fires or explosions while carrying out any work near flammable gas and liquid systems.

Any tampering with the *Employer*'s Fire Equipment is strictly forbidden. All exit doors, fire escape routes, walkways, stairways and stair landings are kept free of obstruction, and not be used for work or storage at any time. Firefighting equipment remains accessible at all times.

The *Contractor* shall comply with the health and safety requirements. The *Contractor* ensures that all persons who are employed and or deployed to work on site undergo police clearance and are certified to have no criminal records. This is required before any of the *Contractor*'s employees are allowed or given access to start work on Site (Majuba Power Station).

2.4 Environmental constraints and management

2.4.1 Environmental Requirements

The *Contractor* should adhere to the Majuba Power Station Environmental Management System that must meet the requirements of ISO 14001:2015.

The EMS requirements are detailed in the latest revision of the following documents, which are available from the Majuba Power Station Documentation Centre or Internal Web site, and include:

Description	**Ref Number**
Environmental requirements for contractors and suppliers	ENV/GEN/SPEC/01
Waste management	ENV/GEN/WI/12
Organizational roles responsibilities and authorities	ENV/GEN/WI/15
Majuba power station land management	ENV/GEN/WI/16
Identification of environmental aspects	ENV/GEN/WI/17
Environmental communication	ENV/GEN/WI/18
Competence training and awareness	ENV/GEN/WI/19
Document information	ENV/GEN/WI/07
Majuba power station integrated water and waste management plan	ENV/GEN/PLN/01
Operational planning and control	ENV/GEN/WI/09
Environmental internal audit	ENV/GEN/WI/01
Compliance obligations	ENV/GEN/WI/08
Nonconformity and corrective action	ENV/GEN/WI/02
Monitoring measurement analysis and evaluation	ENV/GEN/WI/11
Environmental management review	ENV/GEN/WI/06
Majuba power station hazardous substance spill management	ENV/GEN/WI/13
Majuba power station alien invasive species management plan	ENV/GEN/WI/14

Prior to the commencement of any activities on site, the *Contractor* shall compile an environmental file with all the applicable EMS requirements and the file must be approved by the Eskom GCD Environmental Department. The *Contractor* will be responsible for complying with any new environmental requirements, relevant to the Works Information that may come into effect as part of Majuba Power Station's EMS for the duration of this contract.

If there is uncertainty around any environmental issues, the Environmental Department at Majuba Power Station may be contacted. The *Contractor* shall ensure that all work and activities complies with the relevant environmental regulations. The *Works* may include the use of some toxic or hazardous substances during

normal and routine maintenance activities. In this case the *Contractor* uses such hazardous substances in accordance with the applicable regulations and procedures and is disposed of by the *Contractor* in accordance with the applicable law.

2.4.2 Training and environmental awareness

Not applicable

2.5 Quality assurance requirements

The *Contractor*'s company quality documents are subject for verification and acceptance by the *Project Manager*.

2.5.1 General

- The *Contractor* complies with the *Employer's* quality and technical requirements including those listed in the *Employers* Supplier Contract Quality Requirements Specification document, QM-58 **240-105658000**.
- The *Contractor* submits a QMS as a returnable schedule and uses it for all phases of the Project. The QMS complies with the requirements of ISO 9001 standard. The *Contractor* provides evidence of a fully implemented QMS. The *Employer* may at his sole discretion carry out an audit on the *Contractor*, the *Contractor's* suppliers and Subcontractors.

2.5.2 Quality Management documents requirements

The *Contractor* submits the following documents, within 30 days of the Contract Date, to the *Project Manager* for review and acceptance and prior to the commencement of work.
The *Contractor* supplies the *Supervisor* with a Contract Quality Plan (CQP) which details the *Contractor's* organisation, quality assurance and quality control procedures within that organisation specific to this project. The CQP is aligned to, and reference ISO 10005:2005 QMS, guidelines for quality plans and is in compliance with the guideline in QM-58 240-105658000. The CQP makes reference to the *Contractor's* QMS Procedures to be used in this Contract:

- The *Contractor's* QMS compliance with the requirements of ISO 9001
- *Contractor's* quality manual
- *Contractor's* quality procedures
- *Contractor's* quality forms and work instructions
- *Contractor's* quality system documents referenced in this Works Information

The *Contractor* supplies the *Supervisor* with a QCP or ITP for review and acceptance*.*
The *Contractor* supplies the *Project Manager* with a detailed contract organogram showing the quality personnel to be used in the Contract. The *Contractor* provides CVs of the quality management employees responsible for quality on Site.

Contractor Quality Management employee's responsibilities include, but are not limited to, the following:

- Implementation of the QMS
- Administration of QA/QC systems
- Verification of approval status of Subcontractor's QCP and procedures
- On-and -offsite inspections
- Co-ordination, inspection and verification of the *Employer's* intervention points
- Review of *Contractor* testing and inspection documents (procedures, test results)

2.5.3 Reporting on quality performance

The *Contractor* submits as a minimum the following documents, as required by the *Project Manager*, which requirement does not constitute a compensation event, during the execution of the *works*.

- Updated QCP register, on a monthly basis.
- Inspection notifications, accompanied by applicable inspection report 48 hours before the inspections
- Non-conformance and Defects registers and reports on a monthly basis
- Updated Site and off-site inspection schedules on a monthly basis
- Inspection and or FAT dates on a weekly basis
- Inspections completed/outstanding on a monthly basis
- Inspection and test reports on a monthly basis
- Monthly contract quality progress report
- Data books for the completed work before commissioning can commence

2.5.4 Quality Responsibility

- The *Contractor* is accountable for the quality of the output and liable for any failures.
- The *Contractor* is responsible for defining the level of intervention of QA/QC or inspections. These are in line with the *Employer's* requirements.
- The *Contractor* is responsible for defining the level of intervention of QA/QC or inspections to be imposed on his sub-Contractor, suppliers and sub-suppliers and ensures that these are in line with the *Employer's* requirements.
- The intervention requirements take into consideration the criticality of the Plant and Materials.
- The intervention points include all witness, hold, verification and review points required by the *Supervisor*. The *Contractor's* failure to allow the intervention points constitutes a non-conformance. (Refer to Section 2.5.5below).

2.5.5 Inspections

- The *Contractor* is responsible for the inspection of all the work that is performed and the *Supervisor* only verifies that the work is conducted as per works information.
- The *Contractor* conducts all inspections in accordance with the accepted QCP/ITP.
- The *Contractor* drafts a QCP or ITP which shows each activity from the Works Information and submits to the *Supervisor* for acceptance.
- The *Contractor* provides suitably qualified personnel to conduct on-and-offsite inspections
- The *Contractor* ensures that all work is inspected and approved before the *Supervisor* is invited for verification.
- The *Contractor* provides a minimum of 24 hour notice for local inspections and 21 working days' notice for foreign inspections. The notice contains copies of the *Contractor's* inspection reports.

2.5.6 Non-Conformances and Defects

Where NCR's and Defect notifications are issued, the *Contractor* acknowledges receipt within 14 calendar days from the date of issue of the Non-conformance and proposes corrective and preventive actions to the *Supervisor* as per the contract response period. The corrective and preventive actions include the implementation and completion dates. Progress on all NCR's and Defect notifications issued to the *Contractor* is reported to the *Supervisor* on weekly basis.

- The *Contractor's* quality manager keeps a register of all NCR's and Defect notifications issued
- Deviations from the contract are treated as a non-conformance.
- Records of NCRs and Defect notifications are kept and form part of the data book records.

During the contract execution phase, the *Contractor* is monitored by the *Supervisor* for performance on quality related aspects. The monitoring is in the form of audits and assessments.

2.5.7 Quality Reporting

The *Contractor* submits a monthly quality report, on the last working day of the month. The report includes but is not limited to the following:

- A register of NCRs and Defects
- Updated QCP / ITP register

- QA monthly report summary
- Planned and completed local and foreign inspection dates
- Completed and outstanding Inspections
- Audit findings report

2.6 Programming constraints

The *Contractor* submits a single programme that incorporates the programmes of all of his subcontractors. The interface points between his different subcontractors as well as the interface points between the individual subcontractor and the *Contractor* are to be clearly identified.

Project Key Milestones (Refer to C1.2 Contract Data Part 1 of Engineering and Construction Contract) as supplied by the *Project Manager*, are incorporated into the programme as per the NEC3 Core Clause 31.2.

2.6.1 Details of the *Employer* and Others who will be occupying the working areas at the same time

Other *Contractor*s are working in the same area as the work of this contract. In this regard, the *Contractor* co-ordinates his work with the *Project Manager* to maintain harmonious working conditions on Site. During the progress of the works the *Contractor* provides access to Others who also execute work in the same area, on an as and when required basis.

The *Contractor* makes his own assessment of the problems and difficulties which may be encountered for providing access to and interfacing with Others (this includes access difficulties experienced during construction, installation or commissioning phase).

No extra payment or claim of any kind on account of providing reasonable access is allowed.

2.6.2 Computerised planning and reporting

The *Project Manager* does not intend duplicating the *Contractor*'s programming and planning, however, portions or high-level extractions of the Accepted Programme may be used in the *Employer*'s internal master project programme for control purposes. The *Contractor* submits updated computer files on a monthly basis, or at any other time as required by the *Contractor* or as instructed by the *Project Manager*.

The updated computer file shows the logic and all filters and layouts used in the programme. The accepted programme will be in Primavera XER file (latest version) or MS Project has been adopted by the *Employer* for all planning, progress monitoring and reporting. The *Project Manager* requires one project programme to be used and updated during the installation process, which will remain with Eskom. This ensures that any changes, deviations to the Programme can be carried out on the agreed programme and monitored. The initial programme supplied to Eskom after Contract award must be fully resource loaded.

Any changes that are required to be made to the Project/Programme i.e. scope changes, delays and the such, will be recorded through the Eskom change process and documentation, where all parties agree to the changes and sign. The *Contractor* and *Project Manager* shall agree on the format of how the updates will be done i.e. PDF, XER, and the frequency of the updates i.e. such as on a weekly basis, or at any other time as required by the *Contractor,* or as instructed by the *Project Manager*.
The *Contractor* obtains this software and applies it for the planning and control of the works in line with the accepted Work Breakdown Structure.

2.6.3 Additional Programme Requirements

The *Contractor* uses the Critical Path Method (CPM) technique for programme and planning. The programme shows the actual critical path clearly. The preparation of the programme contains a programme basis document. This basis document describes the programme and planning methodology, format, project execution philosophy, resource assumptions, qualifications and any other items that may have a substantive impact on the schedule.

The programme layout takes into account the accepted WBS, reflecting the manner in that the works are to be performed and how control data are summarised, reported and monitored. The minimum requirements of the WBS for **MAJUBA POWER STATION GCD OFFICES ROOF CANOPY AND MISCELLANEOUS WORKS PROJECTS** are as per the Works Information.

The following levels of programme are to be used for this project for dynamic integrated project control:

- Management level programme (Level 1)
- Project level programme (Level 2)
- Control level programme (Level 3)
- Discipline speciality programme (Level 4)

2.6.3.1 Management Level Program (Level 1)

The management level programme is used to establish work goals and overall time frames for the works.

It is a statement of project objectives recorded in graphic form. The management level programme defines:

- Established goals or major milestones key dates,
- The duration of major operations and their relationship to one another,
- Identified Long Lead material items,
- Responsibility assignments for accomplishing project objectives.

2.6.3.2 Project Level Program (Level 2)

A "rolled up" programme from the control level programme is produced. It is separated by Unit, plant area and by Phase (Engineering, Procurement, Construction and Commissioning).

2.6.3.3 Control Level Program (Level 3)

The project level programme is prepared representing the significant work activities and deliverables associated with the works. The end product is a time scaled bar-chart schedule developed through use of a logic network. This programme is separated by Unit, by plant area, by Phase, by WBS.

The work within each plant area is broken down by engineering discipline, procurement of tagged equipment and bulks, construction by *Contractor*, and commissioning & start-up. The control level programme is resource-loaded. It forms the basis for progress measurement, progress curves and histograms for each discipline within a plant area.

The programme includes:

a) Major milestones, interface dates, access dates and key dates (for the new plant, existing plant and between Subcontractors)

b) The duration of major activities and their relationship to one another.

c) Identified long-lead material items.

d) Responsibility assignments for accomplishing project objectives end product is a time scaled bar-chart programme developed using logic network.

This programme is separated by unit, by plant area, by phase, by WBS. The work within each plant area is broken down by engineering discipline, procurement, delivery, construction by the *Contractor,* start-up and commissioning. The programme is resource-loaded and it forms the basis for progress measurement, progress curves and histograms for each discipline within a plant area. .This is used for Evaluations and for the accepted programme after contract award. This will be saved and used as the original.

The *Contractor* submits a Level 3 Programme to the *Project Manager* which breaks the Works Information down to a sub-system level as per the Activity Schedules. This programme is in alignment with the *Contractor*'s Method Statement. The *Contractor*'s Forecasted Rate of Invoicing (FRI) should also align with

2.6.3.4 Discipline Speciality Program (Level 4)

The need for supplemental or discipline speciality programme is dependent upon the requirements and/or circumstances of the contract.

The discipline speciality programme developed and maintained by the *Contractor* is generated for tracking and control of various activities and deliverables for all phases of the contract. This programme is usually formatted as a spreadsheet or database report utilising the WBS structure.

This programme typically represents day-to-day tasks which are work unit based and become summarised in the Level 3 activities

Resource information for manpower, plant, material and equipment and reflected in resource histograms is provided by the *Contractor*. Staffing histograms are required to be submitted based on "equivalent personnel" the resource loading on the programme

2.6.4 Submission of revised programmes and progress reporting

The *Contractor* submits a PDF and one electronic copy in Primavera or MS Projects as well as a two weeks lookahead Dash board in excel, of each revised programme and progress report to the *Project Manager* for acceptance. All formally issued reports are to follow the progress reporting requirements as stated below.

2.6.4.1 Weekly Status Reports

A weekly status report is submitted by the *Contractor* to the *Project Manager*. This report is less formal than the monthly report and is used as a tool for the day-to-day management of the project. Contents of a weekly report may include the following
items:

- The updated Primavera programme
- Programme summary narrative
- Progress and performance summaries
- Schedule rolling horizon
- Sectional Completion and Key Milestone status

2.6.4.2 Monthly Progress Report

The contents of the report may vary from month to month depending upon the phase of the project and/or the items of management focus. However, the basic framework of the report consists of the following:

- Executive summary (narrative identifying major movement within the reporting period).
- Revised Programme indicating, actual progress of work against last Accepted Programme.
- A one-month look ahead work window.
- Activities completed during current reporting period per discipline, including the activities of the *Employer* and Others.
- Activities in progress during current reporting period per discipline, including the activities of the *Employer* and Others.
- Activities undertaken during next reporting period per discipline, including the activities of the *Employer* and Others.
- Status overview by unit, by plant area, by phase.
- Key issues / Items of concern and corrective actions.
- Progress curves and tabular progress reports.
- Cost and Cash flow.
- Cost curve 'S-curve'.

- Early warning log.
- Compensation event log.
- General planning report (computer generated).
- Critical activities report.
- Key event report (computer generated).
- Report selecting all of the activities of the *Employer* and Others - (computer- generated).
- Updated bar charts.
- Updated resource schedule and histogram (If changed).
- Updated activity schedule (If changed and if applicable, Option A).
- Forecast rate of payment schedule updated with actual progress.
- Statement and report on works ahead and behind progress.
- The monthly progress reporting cycle is based on a month end “cut-off”.

2.6.5 Meetings

Meetings are held weekly between the *Project Manager* and the *Contractor* (and any other co-opted members). The venue for these meetings is as determined by the *Project Manager* at the inaugural meeting. The *Project Manager* writes the minutes of these meetings. Any action of the *Project Manager*, Supervisor, *Contractor* and Adjudicator implied in the minutes of meeting are to be confirmed by a separate communication given in accordance with this contract.

The *Contractor* reports the overall progress and as a minimum requirement, the following is addressed:

- *Contractor*’s current activities progress and planned finish dates.
- *Contractor*’s planned start and finish dates for the works
- *Contractor*’s and *Project Manager*’s programme agenda compared for problematic differences.
- The progress of any other relevant activities.
- To discuss any technical or commercial issues.

2.6.6 Planning Programmes

The *Contractor* develops a contract programme which will include a bar chart conforming to the project master programme dates included and sufficient detail to indicate the *Contractor*’s intention for executing the works. This programme covers major items relating to design, procurement, manufacture, delivery, erection, start-up and commissioning. The critical path is clearly shown.
Key milestones, access dates, interface dates and commissioning key dates are clearly identified in the contract programme, including access dates and release of terminal points that involve the *Employer* or Others.
The programme makes provision for site related preparation such as site establishment, safety induction and medical clearance of the entire *Contractor*’s staff that will be working on site.

2.6.7 Procurement and Manufacturing Programme

The *Contractor* is required to submit a procurement and manufacturing programme for review by the *Project Manager* which identifies as a minimum:
a) Details of orders and target dates for placing subcontracts
b) Any detailed design required within the manufacturing period
c) Long-lead delivery items
d) Hold-points and witness-points for inspection and tests for acceptance and release.
e) CSI roll out plan to be incorporated.
This programme is in sufficient detail to enable the work to be adequately tracked and progressed.

2.6.8 Construction Programme

The *Contractor* is required to submit a construction programme that is resource loaded for review by the *Project Manager*. This programme includes the following criteria:
a) Full details of all civil/mechanical/electrical/C&I/Low Pressure Services terminal point release requirements
b) Identify any erection or commissioning activities that may affect other construction activities

c) Identify when services are required for commissioning purposes

This programme meets the requirements of the *Contractor* and Others engaged on the project. The programme shall be based on the following working hours: Where applicable

a) Twenty four (24) hours per day
b) Seven (7) days per week
c) Holidays included as working days
d) Pay weekends to be negotiated (if working 7 day work week)

2.7 *Contractor*'s management, supervision and key people

The *Contractor* ensures that all key personnel requiring access to Site meet the requirements of the *Employer*'s security and medical qualifications as well as training and experience generally required by similar utilities elsewhere in respect of similar work.

The *Contractor* provides orientation and technical training for all key personnel requiring access to Site in accordance with the requirements of the *Employer*'s Industrial Safety Programme, and, in general, the whole framework of plant rules (as applicable) and regulations which may be in force at the *Employer'*s Site from time to time, which is available on request.

The following are considered key persons by the *Employer,* and the *Contractor* submits a brief CV with associated records of qualification and related experience at the Contract Date:

- *Contractor's Project Manager*
- *Contractor's* planner
- *Structural* engineer (s)
- Construction Supervisor(s)
- Safety, Health and Environmental Officer

Within two weeks from the start date, the *Contractor* submits an organogram of his key persons (both as required by the *Employer* and as independently stated by the *Contractor* under the Contract Data), their contact details and how they communicate with the *Project Manager* and the Supervisor.

The *Contractor* shall propose any additional resources applicable to this scope.

2.8 Invoicing and payment

The are no additional requirements to the invoicing and payment clauses in Section 5 of the core clauses. At each *assessment interval,* the *Contractor* submits to the *Project Manager* a forecast rate of invoicing that includes all the expected payments by the *Employer* to the *Contractor* on a month by month basis.

The invoices from the *Contractor* contain the following information:

a) The registered name of the *Contractor*
b) *Contractor*'s VAT registration number;
c) Address of the *Contractor*
d) *Employer*'s contract number
e) The *Employer*'s VAT registration number 4740101508;
f) The amount paid to date
g) The value of the invoice split into payments as per the activity schedule as indicated in the Price Lists
h) Any retention monies to be deducted from the invoice
i) Any interest payable
j) Escalation formula used where applicable
k) Settlement discount
l) Proof of ownership of material supplied

Within one week of receiving a payment certificate from the *Project Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice showing the amount due for payment equal to that stated in the *Project Manager's* payment certificate.

The *Contractor* shall address the tax invoice to Eskom Holdings SOC Ltd and include on each invoice the following information.

- Email addresses for invoice submission;
  - All invoices; InvoicesgrpcapitalOTH@eskom.co.za
  - The *Project Manager* shall be copied when submitting invoice/s.
- All queries and follow ups on invoice payments should be made by contacting the FSS contact centre
  - Tel; (011) 800 5060 or email; fss@eskom.co.za
- The *Contractor* ensures compliance with the tax Requirement for submitting invoices electronically
- Electronic invoicing does not guarantee payment but ensures visibility of all invoices and ensures that no invoices get lost. If the goods receipt (GR) is not done, the invoice will be parked and the system will automatically send an email to the *Project Manager* to do good receipts. This is also tracked by *Employer* through the parked invoice report.
- The *Contractor* can request a parked invoice report from the Finance Shared Services (FSS) contact centre which can be followed up and corrected. You are welcome to forward the details of invoices corrected to the FSS contact centre.

2.9 Insurance provided by the *Employer*

Refer to clause Z13.

2.10 Contract change management (Sicelo)

Clause 6 Compensation Events of the conditions of contract refers.

2.11 Provision of bonds and guarantees

The *Contractor* is not required to provide any performance bond or guarantees.

2.12 Records of Defined Cost, payments & assessments of compensation events to be kept by the *Contractor*

There are no additional requirements to the compensation event clauses in Section 6 of the core clauses.

2.13 Training workshops and technology transfer

There will be no requirement of training on this particular project.

3 Engineering and the *Contractor*'s design

The *Contractor* is required to submit designs for acceptance prior to commencement of construction activities in this contract.

The designs, proposed specifications and schedules for items of Plant and Materials and workmanship, shall be accepted by the *Employer* prior to commencement of construction and shall become obligations of the *Contractor* per core clause 20.1.

3.1 *Employer*'s design

No design is to be produced by the *Employer* for this contract. All the *Works* will be designed by the *Contractor*.

3.2 Parts of the *works* which the *Contractor* is to design

3.2.1 General

From the *Employer* provided drawings and site inspections the *Contractor* performs the following design work:

- The structural engineer must cater for visual inspection of the associated structure such as the concrete and steelwork as per the scope of work.
- The design should cater for the successful installation of the Works as per the scope of work.
- The designer must provide the design that has the best social, economic, and environmental benefits or minimal negative impacts when comparing to other designs available.
- The *Contractor* should cater for the relocation of the affected nearby infrastructure and their civil works.
- The *Contractor* should conduct a comprehensive review and assessment of the affected area for execution of the Works, considering current operational requirements, safety standards, and best practices. Validate the design against the specifications and ensure it meets all technical and performance criteria.

The defects found on the structure of the canopy including the roof that can affect the success of the new installation must be included in the programme for repairs; however, the *Employer* must be consulted before any repairs can be done.

3.2.2 Manufacturing related to Installation Works

Where required, the *Contractor* compiles manufacturing drawing details for all design performed. These are inclusive of, but not necessarily limited to:

- Material layout and quantities
- Detailed drawing(s) indicating all site welds
- Cutting list
- Bending schedule
- Welding details and requirements where not specified
- Welding procedure
- Assembly sequence
- Installation quality requirements
- Bill of quantities

3.2.3 Responsibility for Design

1. The *Contractor* is responsible for the design and execution of all temporary and permanent works required for the execution of the *works* including any modifications made to existing infrastructure.

2. The *Contractor* takes full professional accountability and liability for all designs, temporary or permanent done by the *Contractor* as well as any loads exerted on or modifications made to any existing structures.

3. All designs, design reports and construction drawings prepared by the *Contractor* are signed off by an ECSA Professionally registered Technologist or Engineer who takes full professional accountability for the designs.

4. The *Contractor* is mandated in terms of Construction Regulations 2014: Duties of Designer, 6(1) a - j and 6(2) a – d to fulfil all the duties described therein for the detailed and temporary works designs done by the *Contractor*. Any risk associated with the *Contractor*'s design is highlighted to the *Employer* together with mitigation measures. The *Contractor* is responsible for construction monitoring at the level required to certify that the works have been constructed in accordance with the *Contractor*'s design.

5. The *Contractor*'s design is required to be in accordance with all National Standards and Specifications as well as the *Employer*'s Standards referenced in this Works Information.

3.3 Procedure for submission and acceptance of *Contractor*'s design

The *Contractor* provides a manufacturing design report comprising of approved and signed documents and manufacturing drawings. The design report is submitted for acceptance to the *Employer* within thirty (30) days of contract award. Once the *Employer* accepts the design report, this will be considered as the baseline.

Any changes to the approved baseline would constitute a modification which will follow the *Employer*'s Engineering Change Management Procedure 240-53114002. The latter process could take up to 21 days for technical approval. Detail of the minimum report content is given in section 3.4 hereafter.

3.4 Other requirements of the *Contractor*'s design

The manufacturing drawings, manufacturing report and design reports become the property of the *Employer,* and indicate the *Employer's* company logo, title block and drawing numbers on the drawings and reports.

The *Contractor* may not retain or disseminate any drawings or design reports in any format before, during, on or after completion of the project without the express permission of the *Project Manager*.

The *Contractor's* design and drawings become the *Employer's* property.

3.5 Use of *Contractor*'s design

The manufacturing drawings, manufacturing report and design reports become the property of the *Employer,* and indicate the *Employer's* company logo, title block and drawing numbers on the drawings and reports.

The *Contractor* may not retain or disseminate any drawings or design reports in any format before, during, on or after completion of the project without the express permission of the *Project Manager*.

The *Contractor's* design and drawings become the *Employer's* property.

3.6 Design of Equipment

The *Contractor* assesses any possible obstacles with the existing structures. The *Contractor* notifies the *Project Manager* of any possible obstacles before the *works* commence.

The *Contractor* is responsible for making sure that the positioning of the offered equipment respectively makes it possible for maintenance personnel to perform Technical Requirements.

The *Contractor* submits all details for any temporary works (for example rigging attachments) to the *Employer*, not necessarily for his acceptance but as an assurance that the equipment will be able to allow

the *Contractor* to provide the Works efficiently and without delay. The *Contractor* accepts full liability for all his design work executed under this contract.

Additions or alterations to structural works need to be approved by the *Employer*.

Where temporary attachment is made to existing structures, the *Contractor* ensures that there is no adverse effect or damage on the existing structure as detailed in the *Works Information* due to the installation or removal of the attachment. The existing structure including corrosion protection is reinstated to the original condition upon removal of the attachment without any loss of strength."

3.7 Equipment required to be included in the *works*

All necessary equipment to be brought to site for the execution of the Works is a sole responsibility of the *Contractor.*

Any special equipment required to transport, lift, remove, assemble, or install the structure/s must be provided by the *Contractor*.

3.8 As-built drawings, operating manuals and maintenance schedules

The *Contractor* provides as-built drawings for any modifications proposed by the *Contractor*. The as-built drawings should be included in the data books. The drawings become the property of the *Employer*.

The *Contractor* refers all design queries to the *Employer* for resolution (Field Engineering Query List).

All drawings and manuals or instructions shall comply with:
The *Contractor* shall ensure that all documentation is coded (as per the codes assigned by the *Employer*) prior submission to *Employer* for review and acceptance.

4 Procurement

4.1 People

4.1.1 Minimum requirements of people employed on the Site

a) The *Contractor* will be required to provide their own labour for the execution of the works.

b) The *Contractor* is hereby informed to take note of the applicable employment conditions with the neighbouring community which was agreed with the *Employer* in relation to recruitment of the people. Failure by the *Contractor* to adhere to employment conditions stipulated above may have a negative impact on the *Contractor* and such shall be the responsibility of the *Contractor*.

c) The *Contractor*'s recruitment policies and procedures shall be fair and shall not unfairly discriminate against any person or group of persons. The *Project Manager* shall be entitled to inspect the *Contractor*'s recruitment policies and procedures, as well as any records pertaining to pre-selection checks, upon request.

4.1.2 BBBEE and preferencing scheme

The company shall maintain or improve upon their current B-BBEE Contribution level for the duration of the contract. The supplier will be required to submit a new B-BBEE certificate within 3 months, should ownership of the company change during the life of the contract.

The *Contractor* is expected to submit a valid B-BBEE Verification Certificate from a SANAS accredited Verification Agency each year. Failure to submit such a Certificate may be regarded as the breach of the contract by the *Employer*.

4.1.3 Supplier Development, Localisation and Industrialisation (SDL&I)

The *Contractor* complies with and fulfils the *Contractor's* obligations in respect of the SDL&I in accordance with and as provided for in the *Contractor*'s SDL&I requirements

- Local Content and Production

This works/service is a non-designated sector and therefore there is no local production threshold that is applicable as an objective criterion. Tenderers will also be encouraged to utilise local and local to site resources.

- Skills Development (not weighted criteria)

Eskom intends to improve Skills Development by ensuring that technical support is directed towards enhancing supply capacity and capability within the industry or sector of operation. By doing this the capacity and competitiveness of the local supply base will be increased and the goals of shared growth, employment creation, poverty reduction and skills development will be achieved.

- The supplier will be required to provide Workplace Integrated Learning (WIL) to at least two (02) local to site learners

The *Contractor* shall keep accurate records and provide the *Project Manager* with reports on the *Contractor*'s actual delivery against the above stated SDL&I criteria.

The *Contractor*'s failure to comply with its SDL&I's obligations constitute substantial failure on the part of the *Contractor* to comply with his obligations under this contract.

- **Retention**

  a. Eskom shall be permitted to retain 2.5% (two and half percent) of the invoices (excluding VAT) as security for the fulfilment by the tenderers of their SDL&I obligations.

  b. Once Eskom has verified that tenderers have fulfilled their SD & L obligations, the 2.5% retained shall be approved for reimbursement by Eskom to suppliers within 90 (ninety) days of verification by Eskom.

- **Reporting**

  a. The tenderers shall on a monthly /quarterly basis submit a report to Eskom in accordance with Data Collection Template on their compliance with the SD& L obligations described above.

  b. Eskom shall review the quarterly reports submitted by the tenderers within 60 (sixty) days of receipt of the reports and notify the tenderers in writing if their SD&L obligations have not been met.

  c. Upon notification by Eskom that the tenderers have not met their SD&L obligations, the tenderers shall be required to implement corrective measures to meet those SD&L obligations before the commencement of the following quarter, failing which retention clauses shall be invoked.

  d. Every contract shall be accompanied by the SD&L implementation schedule which must be completed by the tenderers and returned to SD&L representative for acceptance **before** contract award. This will be used as a reference document for monitoring, measuring and reporting on the tenderer's progress in delivering on their stated SD&L commitments.

4.2 Subcontracting

4.2.1 Preferred sub*Contractor*s

There are no Subcontractors that are preferred by the *Employer*. The Service Provider to choose their own entities to subcontract should they wish to and if feasible to subcontract some scope of the Works or supporting services.

4.2.2 Subcontract documentation, and assessment of subcontract tenders

It is recommended that the *Contractor* subcontracts using the NEC.

4.2.3 Limitations on subcontracting

Not applicable

4.2.4 Attendance on sub*Contractor*s

Not applicable

4.3 Plant and Materials

4.3.1 Quality

Quality compliances of all the materials and related plant machinery will be measured against the technical defined requirements engineering specification to ensure the full quality assurances.

4.3.2 Plant & Materials provided "free issue" by the *Employer*

No plant or material will be free issued.

4.3.3 *Contractor*'s procurement of Plant and Materials

Local Content Designation - is applicable as the scope of work contains products/goods, material, components and parts that are designated which means that they have stipulated minimum threshold for Local Production and Content that must be complied with before the contract is awarded.

Below Designated Commodities and Material:

Commodity	**Components**	**Local Content Threshold**
Steel Products and Components for Construction	Structural fabricated steel, Joining/ Connecting Components, nuts and bolts, Junction boxes, etc.	100%
Electrical and telecom cables	Cables	100%
PPE	Reflector Vests, Jackets, Boots, Textiles, Clothing, Leather & Footwear, etc.	100%
Bagged and Bulk Cement		
Cement type	**Description**	**Local Content Threshold**
Cem I	Pure Portland cement with a 95-100% clinker.	100%
Cem II	Portland cement containing varying additions of secondary materials, i.e., fly ash, pozzolana, slag, silica fume, or limestone	100%
Cem III	Blast furnace cement, 50% OPC, 50% blast furnace slag	100%
Cem IV	Pozzolanic cement, OPC and fly ash	100%
Cem V	Composite cement: slag and ash cement. Blended cements with more than one blending material	100%
Masonry cement	Mixture of Portland cement and plasticizing materials such as limestone to improve setting time	100%

4.3.4 Spares and consumables

It must be noted that where designs are applicable, material is to be provided by the *Contractor*.

4.4 Tests and inspections before delivery

The *Employer* carries out quality inspections at his discretion.

All inspections and testing to be performed in accordance with the Quality Control Procedure (QCP) developed by the *Contractor* and accepted by the *Project Manager.*

4.5 Marking Plant and Materials outside the Working Areas

Eskom approved barricading is to be used. Guidance to be provided by the *Project Manager* upon request.

4.6 *Contractor*'s Equipment (including temporary works).

Not applicable

4.7 Cataloguing requirements by the *Contractor*

Not applicable

5 Construction

5.1 Temporary works, Site services & construction constraints

5.1.1 *Employer*'s Site entry and security control, permits, and Site regulations

The *Contractor* is required to:

a) Adhere to the South African Environment Protection Act, the waste management code of practice and the South African Occupational Health and Safety Act No. 85 of 1993, the regulations promulgated thereunder and Eskom Safety, Health, Environment and Quality (SHEQ) Policy 32-727 for all *works*.
b) Submit a comprehensive method statement of the entire *works* to the *Project Manager* for acceptance prior to the start of the *works*
c) Submit a project specific health and safety file to the *Employer* for review and acceptance.
d) Submit a detailed level 3 schedule for the *works* to the *Project Manager* for acceptance 2 weeks after contract award.
e) Prepare earthworks for craneage access and working rigging areas if required.
f) Continuously monitor the condition in work areas and surrounding areas for any hazardous chemical agents and in such case, the *Contractor* takes necessary precautionary measures.
g) Manage his access to the working areas and the Site.
h) Manage his activities on Site to ensure that no interference takes place between his work and that of others.
i) Complete "Contract Activities Daily Reports".
j) Liaise with the *Project Manager* regarding utilities and telephone facilities required for his Site establishment.
k) Maintain and promotes labour harmony on the Site and in the working environment.
l) Immediately report any potential labour disharmony to the *Project Manager*.
m) Not recruit or employ any personnel from the *Employer* and Others, without prior acceptance of the *Project Manager*.

5.1.2 Restrictions to access on Site, roads, walkways and barricades

a) The *Contractor* is required to confirm all site dimensions, levels and cast-in items positions on site prior to casting of concrete or any fabrication of steel and other materials that are required for the *works*.

b) The *Contractor* is required to submit a comprehensive method statement of the *works* to the *Project Manager* for acceptance prior to the start of the *works*

c) The *Contractor* takes full professional accountability and liability for all temporary items required for the execution of the *works*.

d) The *Contractor* notifies the *Project Manager* of the hold points.

e) In addition to the above there may be other restrictions once on the Site, plus rules relating to the works to be executed.

5.1.3 People restrictions on Site; hours of work, conduct and records

a) The *Contractor* is responsible for the health and safety of all personnel involved in the works.

b) The *Contractor* is responsible for the design, erection, maintenance and removal of all temporary bracing or propping or falsework required for the execution of the works.

c) The *Contractor* takes all necessary precautions to ensure that none of the existing structures and services that are not in the scope of works is damaged during any execution of the work required. In the event that structures and services which are not in the scope of work is damaged, the *Contractor* is liable to repair or replace the damaged items at their own cost.

d) All construction works complies with SANS 1200 and 2001 standardised specification for civil engineering construction.

e) Access to the site is controlled and it is governed by the terms and conditions lay down by Majuba Power Station security officials. The proposed site will be shown to the *Contractor* during the site meeting or clarification meeting by the *Employer.*

f) The *Contractor* liaises with Eskom SHE Practitioner / Officers for Health and Safety Induction prior work to commence. During Health and Safety Induction, site access permits with a copy of the medical and a certified ID copy/passport (not older than three months) should be handed to the Eskom SHE Practitioner/ Officer for acceptance.

g) The *Contractors* employees will take signed site access documents to security reception official in order to finalize their site access.

h) The *Contractor* ensures that all employees carry their site access forms with them all the time.

i) The *Contractor* is subjected to alcohol testing on a daily basis.

j) The *Contractor* submits applications for vehicle permit to the *Project Manager*. The personnel and vehicles entering and leaving the site are subjected to routine searches.

k) The *Contractor* obtains “Gate Removal Permit” from the *Project Manager* before materials and equipment can be removed from site. The “Gate Removal permit” gives itemised list of material and equipment to be removed from site.

l) The *Contractor* ensures that a tool list is available on the day of arrival and all the tools are captured on the tool list. The tool list will be handed over to the Reception Security official that will stamp the tool list. The tool list will be kept safe and will be used when tools need to be removed from site. This message should be cascaded down to any *Contractor* that will be working in Majuba Power Station.

5.1.4 Health and safety facilities on Site

The *Contractor* keeps records of his people working at Majuba Project offices including those of his Subcontractors which the *Project Manager* or *Supervisor* have access to at any time. Any restrictions onsite will be communicated by the *Employer* prior commencement of the works.

The *Contractor* to attend a Safety Induction before work commences to get guidelines on all safety requirements on site.

The *Contractor* provides a First Aid service and SHE representative to his employees and Subcontractors. In the case where these prove to be inadequate, like in the event of a serious injury, the *Employer’s* Medical Centre and facilities will be available. Outside the *Employer*’s office hours, the *Employer’s* First Aid Services are only available for serious injuries and life-threatening situations. The *Employer* recovers the costs incurred, in the use of the above *Employer*’s facilities, from the *Contractor*.

5.1.5 Environmental controls, fauna & flora, dealing with objects of historical interest

As per the Majuba Power Station environmental work instructions, environmental plans and procedures, which is available from the *Project Manager.*

5.1.6 Title to materials from demolition and excavation

Refer to the Works Information.

5.1.7 Cooperating with and obtaining acceptance of Others

Proper co-ordination and work planning must be done when working in any area where others are also performing work or activities. Interfacing is required with the site staff and other *Contractor*s.

5.1.8 Publicity and progress photographs

The taking of photographs at Majuba Power Station including the Project Works is restricted and subject to the approval by the *Project Manager*.

For the Progress Reporting Requirements, the *Project Manager* may prohibit the taking of such photographs and/or require that all such photographs be taken by an official *Employer* photographer. In the latter event, the *Contractor* is required to make arrangements directly with the photographer for the taking of the photographs required by the *Contractor* for the purpose of the Progress Reporting Requirements.

5.1.9 *Contractor*'s Equipment

The *Contractor* submits a list of all equipment and tools (with serial numbers, wherever possible) to the *Project Manager* in order to get approval before the items can be brought onto site.

A copy of the approved list of items must be supplied to the *Contractor.* Equipment that is not listed on a tool/equipment list cannot be removed from site unless proof of ownership is produced.
Equipment and vehicles left on site is done so at the *Contractor*'s own risk.

5.1.10 Equipment provided by the *Employer*

The *Contractor* submits a list of all equipment and tools (with serial numbers, wherever possible) to the *Project Manager* in order to get approval before the items can be brought onto site.

A copy of the approved list of items must be supplied to the *Contractor.* Equipment that is not listed on a tool/equipment list cannot be removed from site unless proof of ownership is produced.
Equipment and vehicles left on site is done so at the *Contractor*'s own risk.

5.1.11 Site services and facilities

The *Contractor* shall provide everything else necessary for Providing the Works that is not mentioned below.

5.1.12 Facilities provided by the *Contractor*

5.1.12.1 *Contractor*'s Yard, Offices, Workshops and Stores

It is required, for the proper co-ordination and execution of the *works* that the *Contractor* has an office on Site for the duration of the contract.

The *Contractor* includes in his establishment rates for all further treatment of the yard areas that he considers necessary for his entire operation throughout his period of occupation and under all weather conditions. The *Contractor* also includes for all security fencing, security and access arrangements. The yard will be kept clean and tidy at all times, this will include all workshops and storage areas under the control of the *Contractor.* Maintenance of the yard is the *Contractor's* responsibility and is for the *Project Managers* acceptance.

Outfall drainage of all surface run-off drains is constructed by the *Contractor* to the acceptance of the *Project Manager* to minimise erosion and to effect control of contaminated water. The *Contractor's* plan for the layout of his yard area is accepted by the *Project Manager* prior to occupying the yard and the *Contractor* does not occupy any site area other than that allocated to him. The *Contractor's* plan states fully what measures are taken regarding removal and storage of topsoil, stabilisation of eroded areas and further loss of topsoil.

The *Contractor* provides, erects and maintains for his own use adequate size office accommodation and stores together with such drainage, lighting, heating, and hot and cold water services as may be required. Provision is also made for adequate parking and a turning area adjacent to all the aforesaid structures. The *Supervisor* prior to commencement of any work on Site accepts all designs and layouts for these provisions.

The *Contractor* dismantles and clears the yard of all such temporary structures and associated foundations and infrastructure at the direction of the *Supervisor* on Completion of the whole of the *works*. No such dismantling and clearance work is carried out without prior acceptance from the *Supervisor*.

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The *Contractor* complies with the environmental policy given in the Site Regulations. The *Contractor* provides, erects and maintains for his own use adequate size office accommodation and stores together with such drainage, lighting, heating, and hot and cold water services as may be required. Provision is also made for adequate parking and a turning area adjacent to all the aforesaid structures. The *Supervisor* prior to commencement of any work on Site accepts all designs and layouts for these provisions.

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5.1.12.2 Telecommunications

Neither a network point nor a telephone is available on site. Should the *Contractor* require one, he is to make his own arrangements with relevant authorities.

5.1.12.3 Sanitary Facilities and Refuse

The *Contractor* is to supply own sanitary facilities at his *Contractor's* yard. A refuge control system will be established by the *Contractor*. All waste and refuge shall be collected and disposed of as directed by the *Project Manager*, at the Power Station refuse disposal site.

5.1.12.4 Equipment/Appliances

Any electrical Equipment, or appliances, used by the *Contractor* conforms to the applicable OHS Act safety standards and is maintained in a safe and proper working condition. The *Project Manager* has the right to stop the *Contractor*'s use of any electrical Equipment, or appliance, which, in the opinion of *Project Manager*, does not conform to the foregoing. Inspection of equipment/appliance will be done as required by OSH Act.

The *Employer* may assist the *Contractor* with the off-loading of equipment, plant and material but the responsibility for off-loading remains with the *Contractor*.

Any special tools and equipment to be used on site for the execution of the *works* is the responsibility of the *Contractor*.

5.1.13 Existing premises, inspection of adjoining properties and checking work of Others

The *Contractor* is responsible for all the interfaces of this work including work that is performed by Others.

The *Contractor* communicates with the *Project Manager* in writing all challenges that can affect the works.

5.1.14 Survey control and setting out of the *works*

The *Project Manager* designates the working area boundary limits and assign for the *Contractor's* use access roads, parking areas, storage areas, existing facilities areas and construction areas. The *Contractor* do not trespass in or on areas not designated for his work.

The *Contractor* is responsible for keeping *Contractor's* personnel out of areas not designated for *Contractor's* use, except, in the case of isolated work located within such areas for which the *Contractor* is authorised to do so.

5.1.15 Excavations and associated water control

The *Contractor* to comply with Permit To Work conditions and/or excavation permit conditions.

5.1.16 Underground services, other existing services, cable and pipe trenches and covers

All known services will be brought to the attention of the *Contractor* by the *Project Manager*. Should the *Contractor* encounter any other services in the work area, he will immediately bring them to the attention of the *Employer's* site representative who will issue instruction as to what actions are to be taken.

The protection of all pipes, gauges and plant is of extreme importance. Should any damage take place which is due to the *Contractor* negligence, another *Contractor* will be brought onto site to affect repairs. All costs will be to the account of the *Contractor* who caused damage.

5.1.17 Control of noise, dust, water and waste

The Site is located within the Majuba Power Station near the high voltage yard which are close to the units and vicinity of Transfer House E which is inherently and extremely dusty.

The *Contractor* maintains a high standard of cleanliness during the conduct of his activities at the Power Station. This includes areas allocated for storage of materials, site offices etc. to the satisfaction of the *Project Manager.* The *Contractor* keeps these areas clean and free from accumulation of waste materials and refuse regardless of the source.

The *Contractor* ensures during sweeping and dusting, that a minimum amount of dust is liberated into the atmosphere. Cleaning by vacuum cleaners is preferred and the use of compressed air for cleaning is prohibited.

The *Contractor* is responsible for the prompt removal of all waste to a designated disposal area. The disposal area will be on or in the vicinity of the Power Station and be indicated by the *Project Manager.*

For the purpose hereof, "waste" any matter, whether liquid or solid or any combination thereof, which is a by-product, emission, residue or remainder of any process or activity carried out in connection with the *works* and which is not reused on the Site in the in the ordinary course of carrying out the *works* within seven days of production.

The *Contractor* provides an adequate number of marked bins and containers at offices, in yards, at workshops and on the Site for the temporary storage of waste. These bins and containers is subject to acceptance by the *Project Manager.* The *Contractor* is required to segregate certain items of waste by type as designated by the *Project Manager.*

Bins and containers are emptied and waste removed to the designated area at least once a week. All the temporary and waste removed to the designated area at least once a week. All the temporary storage areas for bins and containers are kept tidy and not constitute a nuisance to others. The *Contractor* takes all required steps to avoid spillage of waste alongside the bins and containers during removal and disposal thereof.

All waste that cannot be contained in either a bin or container is placed on a temporary waste site which the *Project Manager* identifies. The waste is removed as soon as possible but, in any event, at least once a week. No burning of waste is allowed at the Power Station.

Hazardous waste is dealt with in accordance with the safety, health and environmental requirements of the works and the *Contractor* is solely responsible for the proper disposal thereof.

During execution of the Works, the *Contractor* ensures that a minimum amount of dust is liberated into the atmosphere. No deviation from the South African Labour Relations Act and any other relevant labour legislation will be allowed.

5.1.18 Sequences of construction or installation

The *Contractor* is responsible for the construction and installation of the equipment according to the *Contractor's* construction and installation plans.

5.1.19 Giving notice of work to be covered up

The *Contractor* provides a notice of work to be covered up to the *Supervisor.*

5.1.20 Hook ups to existing works

The *Contractor* takes cognisance of the fact that the Power Station will be operational during the construction period. Occupations/ outages/permit to work on or in close proximity to the “live” plant can be arranged with the Power Station as per the Generation Plant Safety Regulations 36-681.

The *Contractor* is required to execute the *works* in phases such that *works* in areas that are clear of the “live” plant are prepared and ready for the tie-in into the existing plant. The tie-in into the existing plant and the dismantling of the redundant Plant and Material is to be planned accordingly. The *Employer* provides the following information for assistance and clarity during the development of the implementation/construction methodology:

- Occupations are arranged for work to be done, including proper occupation plans and work method statements.
- The *Contractor* works on existing installations only if the work is done in the presence of and as directed by the *Supervisor*.
- The *Contractor* promptly notifies the *Project Manager* and the *Supervisor* in the event of faults and failures.

5.2 Completion, testing, commissioning and correction of Defects

5.2.1 Work to be done by the Completion Date

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works except for the work listed below which may be done after the Completion Date but in any case before the dates stated. The *Project Manager* cannot certify Completion until all the work except that listed below has been done and is also free of Defects which would have, in his opinion, prevented the *Employer* from using the *works* and Others from doing their work.

a) Apart from any statutory data packages required, the *Contractor* also compiles a data package of the relevant drawings, test certificates etc. which he submits to the *Project Manager* for acceptance. These include, but are not limited to:
    - Welding procedure specifications
    - Welder qualifications
    - Non-destructive weld test results
    - Weld test certificates
    - Steel grade certificates
    - Concrete test results
    - As-built data and drawings of the completed *works* upon handover. As-built drawings are submitted in PDF and native CAD formats (.DGN)
    - Structural Certificate signed by the Professional Civil Engineer confirming that *works* have been constructed in accordance with the design.

5.2.2 Use of the *works* before Completion has been certified

Completion means all *works* are complete.

5.2.3 Materials facilities and samples for tests and inspections

The *Contractor* provides a copy of the Materials Test certificates for all components included in the Data Books.

5.2.4 Commissioning

The *Contractor* complies with the commissioning standard 240-127618272 Completion of Mega and Major Power Plant projects.

5.2.5 Start-up procedures required to put the *works* into operation

Not applicable

5.2.6 Take over procedures

All stakeholders to be present during the final walkdown to ensure the Works is executed to satisfactory completion.

5.2.7 Access given by the *Employer* for correction of Defects

The *Contractor* to comply with permit to work conditions.

5.2.8 Performance tests after Completion

Where compliance is necessary, for example, on the Electrical Statutory section (Electrical COC is required), the Master electrician is to provide necessary certification. This is not limited to electrical systems.

5.2.9 Training and technology transfer

Not applicable

5.2.10 Operational maintenance after Completion

All necessary documentation shall be handed over to the *Project Manager*, where applicable.

6 Plant and Materials standards and workmanship

6.1 Investigation, survey and Site clearance

The *Contractor* is required to carry out further investigation or assessments of existing facilities or of the Site before commencing excavation, installation, etc. Any constraints discovered shall be brought to the *Project Manager's* attention for guidance.

6.2 Building works

Modified sections of buildings shall follow the latest approved standards (SANS) and, if necessary, Eskom guidelines may be provided.

6.3 Civil engineering and structural works

The *Contractor* is required to adhere to the latest editions of, and the normative references within, the following SANS standards, codes of practice, regulations & standards:

Number	Title
240-56364535	Architectural Design and Green Building Compliance Manual
240-56364545	Structural Design and Engineering Standard
240-76992014	Project / Plant Specific Technical Documents and Records Management Work Instruction
240-86973501	Engineering drawing Standard
240-99527377	Inspection Manual for Civil Works at Eskom's Power Stations
240-107981296	Constructability Assessment Guideline
240-54937450	Fire Protection & Life Safety Design Standard
AWS D1.1	American Welding Society - Structural Welding Code - Steel
SANS 10044-1	Welding Part 1: Glossary of terms
SANS 10064	The preparation of steel surfaces for coating
SANS 10100-1	The Structural Use Of Concrete Part 1 – Design
SANS 10100-2	The Structural Use Of Concrete Part 2 – Materials and execution of work
SANS 10160	Basis of structural design and actions for buildings and industrial structures
SANS 10162-1	The structural use of steel Part 1: Limit-states design of hot- rolled steelwork
SANS 10162-2	The structural use of steel Part 2: Cold-formed steel structures
SANS 10400 series	The Application of the National Building Regulations
SANS 1200 series	Standardised specification for civil engineering construction
SANS 121	Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods
SANS 2001 series	Construction Works
SANS 2001-CS1	Construction works Part CS1: Structural steelwork
SANS 1921	Construction and management requirements for works contracts
SANS 2553	Welded, brazed and soldered joints - Symbolic representation on drawings

Number	Title
SANS 50025 series	Hot rolled products of structural steels Parts 1-6
SANS 9606-1	Approval testing of welders - Fusion welding Part 1: Steels
SANS 1123	Pipe flanges

6.4 Electrical & mechanical engineering works

The works shall be carried out according to the latest approved SANS and Safety Standards. Where no standard is available, *The Employer* shall provide guidance.

6.5 Process control and IT works

Not applicable

6.6 Detailed Scope

The detailed drawings of the civil works were done by the *Employer*, covering the following items, objectives and technical deliverable as described below:

- Design, procure and construct roof canopy for all seven prefabricated office park homes including all five (5) links. Measurements for links are 1.5mx1.5m, 1.2mx7m, 1.2mx1m, 1.2mx3.1 and 1.2mx3.1m.
- Waterproofing four (4) prefabricated office park homes. Use Super platina tough sealer product or similar.
- Each park home is eighteen (18) meters length by seven (7) meters wide.
- The roof canopy must overhang approximately 0.5 meters beyond each side of the prefabricated park home container. Roof canopy shall be supported by steel beams, steel columns on a reinforced concrete foundation. Excavate, backfill and compact to 95% Mod AASHTO for foundations. For further detail refer to Fig. 2 attachment. The contractor shall ensure that minimum to none disturbance is caused during construction around GCD offices.
- IBR Roof sheeting for industrial use or purpose. Thickness to be 0.6mm.
- Repair approximately 50 square meters of concrete, which is 100mm Geocells infilled with 30Mpa concrete on various areas at hard stand canal in the vicinity of Transfer House E, for further details refer to attached drawings 0.66/99351. Remove old broken concrete and geocells and dispose at a licensed disposal facility within 100km radius. Request Eskom supervisor to assess the area before preparing for geocells and concrete placing. Excavate, backfill, where required, and compact to 93% Mod AASHTO, prior to concrete placing, to a broom finish.
- Supply and installation of new partitioning wall to create a new office approximately seventeen square meters (17m2). Supply and installation of new door with handle and locking mechanism including two (2) keys in a newly partitioning wall. Relocate existing florescent lighting approximately five hundred millimeters (500mm) away. Relocate a lighting switch and supply and install new lighting switch in a new office. Supply and install skirting (Both sides of the wall) in a partitioning wall. Provide the certificate of compliance (COC) for the new installation.
- Procure, supply and construct two (2) Ready-made/Precast rainwater gully with 110mm diameter solid HDPE pipe. One in front of main entrance and second one in front second entrance of the office park homes. Inlet of the ready-made rainwater gullies to be shaped to allow flow of water. Connect 110mm diameter solid HDPE pipe from new ready-made/precast rainwater gully to existing stormwater manhole. Connection between new ready-made/precast rainwater gully and 110mm diameter solid HDPE pipes to be sealed. The 110mm diameter solid HDPE pipes to have a slope between 0.5 and 1 %. Existing stormwater manholes to be broken for solid HDPE pipes outlet connection and sealed once completed. Distance between new ready-made/precast rainwater Gully and existing Manhole on the main entrance is approximately three (3m) meters long and second entrance is approximately three and a half (3.5m) meters long. For further detail refer to sketches 2 & 3.
- Remove approximately fifty-four(54m2) square meters of the existing paving bricks with edge beams. The paving bricks, sand and edge beams shall be carefully dismantled and unpacked for

reused later. Adjust backfill by lifting at the back by approximately 100mm sloping to old existing manholes using G5 material and compact. Procure and install 250-micron DPC plastic. Spread 25mm of bedding sand and repack the paving bricks to prevent stormwater ponding. Place the kerbs, haunching and backfilling. For further details refer to sketch 4.

- The Contractor to install 3 solar LED flood lights (100W) outside the park home building. The positions to be pointed out by the Project Manager after contract award.

Park Home:

- Dimensions :18m X 7m

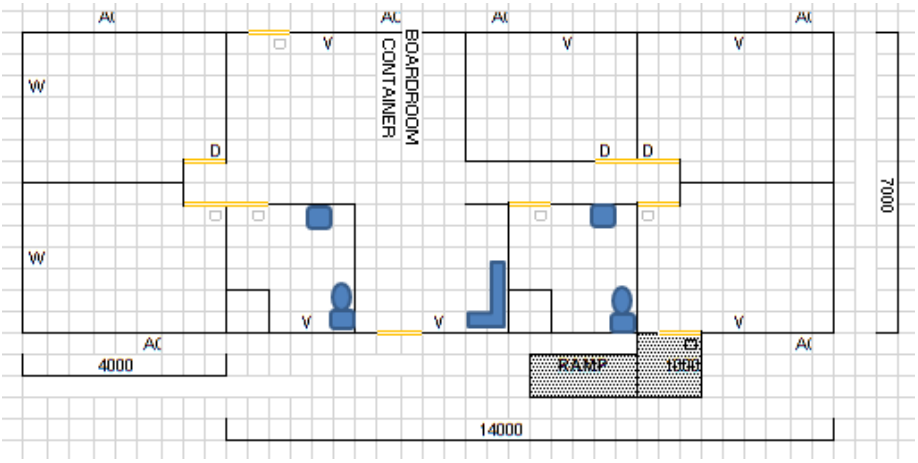

Figure 1: Park Home

6.7 Receivables

(a) User Requirement Specification

6.8 Deliverables

(a) Design, procure and construct.
(b) Submission of proposed design for Acceptance by *Project Manager*.
(c) Cost estimate / BOQ including schedule estimate for construction.
(d) Program with activity breakdown of timelines from start to completion of the work.
(e) As-built drawings (PFD and Native file).
(f) Quality data books.
(g) Galvanized steel and Roof sheeting.
(h) Concrete in 100mm geocells.

6.9 Skills & experience

Skills and experience required are as follows but not limited to:

(a) Construction materials and supervision.
(b) Cost estimates / BOQ.

6.10 Time Frame & Schedule

The *Contractor* will have to propose a schedule to Eskom for approval. This will provide an indication of when deliverables would be anticipated and be compared to progress reports submitted by the *Contractor.* Progress meetings with the *Contractor* & the *Employer*'s team will take place at agreed intervals to ensure that the correct approach is being taken on the project and the schedule is being managed. If at any time that the project looks unfeasible, the *Contractor's* work may be stopped at any point in the schedule and the project will be ceased.

7 List of drawings

7.1 Drawings issued by the *Employer*

This is the list of drawings issued by the *Employer* at or before the Contract Date and which apply to this contract.

Note: Some drawings may contain both Works Information and Site Information.

Drawing number	Revision	Title
B700-C-LSWD-01	**2**	**EXTENSION OF ASH DISPOSAL FACILITY PACKAGE 2 - STORM WATER DRAINAGE LONGITUDINAL SECTION DIRTY WATER DRAIN D6P2**
B700-C-LSWD-02	**1**	**EXTENSION OF ASH DISPOSAL FACILITY PACKAGE 2 - STORM WATER DRAINAGE CROSS SECTIONS DIRTY WATER DRAIN D6P2**
Paving Blocks - Layout sketch 4		
ROOF CANOPY - Concept Design		
SW HDPE PIPE SKETCH no 2		

C3.2 *CONTRACTOR*'S WORKS INFORMATION

The *Contractor* shall submit contract specific information to enable him to perform the *Works*.

The *Contractor* is required to submit designs for acceptance prior to commencement of construction activities if this contract.

The designs, proposed specifications and schedules for items of Plant and Materials and workmanship, shall be accepted by the *Employer* prior to award of contract and shall become obligations of the *Contractor* per core clause 20.1.

The typical information to be submitted could be formatted but not limited to the following sub-headings.:

a) *Contractor*'s design
b) Plant and Materials specifications and schedules
c) Operating Manuals and training matrix, etc

The *Contractor* may compile this section as a separate file.