



ERONGO COAL POWER STATION PROJECT

Request for Proposal for the Provision of
Geotechnical Services

TENDER NO. NP/RFP/2012/02

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SECTION 1

REQUEST FOR PROPOSAL

1. REQUEST FOR PROPOSAL

NAMIBIA POWER CORPORATION

REQUEST FOR PROPOSAL FOR GEOTECHNICAL SERVICES FOR THE ERONGO COAL-FIRED POWER STATION PROJECT

TENDER NO.: NP/RFP/2012/02

The establishing of a coal fired power station in the Erongo region has been identified as part of NamPower's (the national electricity utility of the Republic of Namibia) security of supply plan.

NamPower now requests proposals for the provision of geotechnical services on the Erongo Coal-fired Power Station project. These services will include a detailed geotechnical survey and investigation of the identified project area, the results of which shall form the basis for development of the Erongo Coal-fired Power Station.

The geotechnical services for the Erongo Coal-fired Power Station project will be procured based on the FIDIC Client/Consultant Model Services Agreement 4th Ed (2006).

The Request for Proposal Document may be down loaded free of charge from the NamPower website www.nampower.com.na, where registration for the Project will be required.

A compulsory site visit will be arranged for 1 March 2012. Details and arrangement of the site visit and transport arrangements will be provided in the Request for Proposal Document.

Tender submission closing date is Friday, 16 March 2012 before 12h00 Namibian Time. No late submissions will be accepted.

It is required that one original, one photocopy set and one CD/DVD ROM set of the proposal is submitted in a sealed package marked "**Proposal for Geotechnical Services: Erongo Coal-fired Power Station Project: Tender No.: NP/RFP/2012/02**" and addressed to the Tender Administrator of the NamPower Tender Board. The submission is to be deposited into the tender box located at the entrance foyer at NamPower Centre, 15 Luther Street, Windhoek, Namibia. No submissions by email will be accepted.

**KINDLY NOTE THAT ALL TENDERS ARE SUBJECT TO THE RULES AND REGULATIONS OF THE
NAMPOWER TENDER BOARD**

SECTION 2

INFORMATION TO CONSULTANTS

2. INFORMATION TO CONSULTANTS

2.1 Introduction

- 2.1.1. For the purpose of this Request for Proposal Document, the Project is defined as the **Proposal for Geotechnical Services: Erongo Coal-fired Power Station Project: Tender No.: NP/RFP/2012/02**. For purposes where the Project Name must be indicated on the forms included in the Request for Proposal Document, the above name will also apply.
- 2.1.2. These instructions for the preparation of the proposal submission ("these Instructions") relate to a Request for Proposal Document ("RfP"), in which companies are requested to submit a proposal to the Client.
- 2.1.3. These instructions prescribe the procedures to be followed until the Client either enters into an agreement with a consultant or advises them that the Client does not intend to do so.
- 2.1.4. Words and expressions defined in Clause 1 of the Conditions of Contract shall have the same meanings in these instructions.
- 2.1.5. The Client reserves the right to accept or reject any proposal, or to annul the RfP process and reject all proposals, without incurring liability to any consultant and without notifying any consultant of the reasons for the Client's action.
- 2.1.6. The consultant shall bear all its costs incurred in the preparation and submission of the proposal and negotiations of a Contract, including visits, interviews, and other actions mentioned or implied in these Instructions. The Client will not be responsible or liable for such costs, regardless of the conduct or outcome of the tendering process.
- 2.1.7. Tender procedures are subject to the law of Namibia and the rules applicable hereunder.
- 2.1.8. All proposal documents received by the consultant shall be considered as their personal documents and shall not be transferred to a third party.

- 2.1.9. Information given in the RfP documents shall be regarded as confidential and may not be divulged to Third Parties except as reasonably required for preparation of a proposal, irrespective of whether a proposal is submitted or not.

2.2 Eligibility of the Consultant

- 2.2.1. The consultant must not have been barred from tendering for any reason.
- 2.2.2. The Client's employees and their direct family members are not allowed to participate in any proposal to the Client, nor shall they be entrusted with the execution of works or the purchase of material whether in their own name or through a firm in which they are shareholders, agents or members of the management board.
- 2.2.3. Each consultant shall, in order to be considered for eligibility, submit the information as stipulated in this RfP. In the case of a joint venture of two or more legal persons, the information shall be submitted in respect of each of these persons and in respect of the joint venture proposal.
- 2.2.4. No such member in a joint venture or sole consultant shall participate in the preparation of another consultant's proposal for the same assignment. If any member is found to have participated in two or more proposals, other than alternative proposals from the same consultant, all such proposals will be rejected.
- 2.2.5. However, any entity may be proposed as a prospective sub-consultant by more than one consultant.
- 2.2.6. Consultants shall not be eligible for the assignment if this would conflict with their prior or current obligations to other clients, or may place them in a position of not being able to carry out the assignment in the best interest of the Client.
- 2.2.7. A consultant (if a joint venture any of its members) who may be affected by a potential conflict of interest shall attach to his proposal a notification to the Client with the details of this conflict of interest.
- 2.2.8. Consultants may be disqualified from tendering and entering into the contract if there could be potential conflict between the consultant's activities under this

contract and the consultant's activities in providing other services for the same Project, unless the consultant can substantively prove the activities are being adequately ring fenced such that the same experts are not being utilised under this contract and the consultant's other activities in providing services for the same Project

2.3 Requirements for a Joint Venture

- 2.3.1. If the consultant is an association as a joint venture, consortium or other unincorporated grouping of two or more legal entities (here called a joint venture) the following shall apply:
- i) The proposal shall be signed by all members of the joint venture.
 - ii) The members shall attach to the proposal a letter of intent including:
 - a) a definition of the roles and percentage input in monetary terms of each member of the joint venture,
 - b) a statement that the members of the joint venture will undertake, **jointly and severally**, the obligations of the joint venture under the contract if awarded,
 - c) a statement that the members of the joint venture appoint and authorise the lead member (named) with authority to bind the joint venture, and to act on its behalf in all matters in connection with or arising out of this Agreement,
 - d) a statement that the joint venture shall, upon the award of contract, submit for approval of the Client, a proper joint venture agreement detailing the role, input and responsibilities of the members as well as the administration and financing of the joint venture,
 - e) a statement that the composition or constitution of the joint venture shall not be altered without prior written consent by the Client, and,
 - f) a statement that, for the purposes of the implementation of the Contract, the joint venture shall act as and be considered a single entity and in particular shall have a joint bank account in its name, submit joint advance

payment guarantees, joint invoices, and joint reports, and shall establish common Quality Assurance.

2.4 Clarifications and Amendments

- 2.4.1. Consultants may request a clarification of any of the RfP documents up to the seven (7) calendar days before the proposal submission date. Any request for clarification must be sent in writing by facsimile, or electronic mail to the Client's address:

Tender Administrator of the NamPower Tender Board

Ms M. Sampati

Tel: +264 61 205 2206

Fax: +264 61 205 2397

Email: mwale.sampati@nampower.com.na

The Client will respond by facsimile or electronic mail to such requests and will send written copies of the response (including an explanation of the query but without identifying the source of inquiry) to all invited consultants who intend to submit proposals.

- 2.4.2. At any time before the submission of proposals, the Client may, for any reason, whether at its own initiative or in response to a clarification requested by a consultant, amend the RfP. Any amendment shall be issued in writing through addenda. Addenda shall be sent by facsimile or electronic mail to all consultants who have registered for this Project and will be binding on them. The Client may at its discretion extend the deadline for the submission of proposals.

2.5 Conflict of Interest

- 2.5.1. The Client's policy requires that consultants provide professional, objective, and impartial advice and at all times hold the Client's interests paramount, without any consideration for future work, and strictly avoid conflicts with other assignments or their own corporate interests. Consultants shall not be hired for any assignment that would be in conflict with their prior or current obligations to other clients, or that may place them in a position of not being able to carry out the assignment in the best interest of the Client.

- 2.5.2. Any previous or on-going participation in relation to the assignment by the firm, its professional staff, or its affiliates or associates under a contract with NamPower for the same Project may result in rejection of the proposal. Consultants should clarify their situation in that respect with the Client before preparing the proposal.

2.6 Ethical Practice

- 2.6.1. It is the Client's policy to require that consultants observe the highest standard of ethics during the selection and execution of Contracts. In pursuance of this policy, the Client defines, for the purposes of this provision, the terms set forth below as follows:

- a) "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the selection process or in contract execution; and
- b) "fraudulent practice" means a misrepresentation of facts in order to influence a selection process or the execution of a contract to the detriment of the Client, and includes collusive practices among consultants (prior to or after submission of proposals) designed to establish prices at artificial, non-competitive levels and to deprive the Client of the benefits of free and open competition.

- 2.6.2. Consultants shall furnish information as described in the Financial Proposal Submission Form (Form B1) on commissions and gratuities, if any, paid or to be paid to agents relating to this proposal, and to execute the work if the firm is awarded the contract.

- 2.6.3. Consultants shall be aware of the provisions on fraud and corruption stated in the Contract.

2.7 Consultant Requirements

2.7.1 Duration of Services

- 2.7.1.1 The duration of the consultants services is expected to be 6 to 9 weeks

2.7.2 Experience of Professional Staff

2.7.2.1 Apart from the project manager who should be a registered professional with a minimum of 15 years' experience, the following specialist work needs to be provided by registered professionals with no less than 10 years applicable experience:

- Site Supervisor
- Engineer with geotechnical skills and experience

2.7.3 Site Visit

2.7.3.1 A compulsory site visit is required for all consultants. The scheduled site visit will be conducted on the 1 March 2012. All parties will be required to meet at the Arandis fuel station at 9h00, where an attendance register will be completed. By 9h15, the consultants will be escorted from the meeting point, to the identified site where the geotechnical services will be conducted. No consultant will be allowed to access the identified site without prior arrangement with the Client as the land still forms part of the #Gaingu Community Conservancy.

2.7.3.2 The consultants must visit and examine the site, its surroundings and other parts of the Country, and must obtain for itself on its own responsibility and cost all information which may be necessary for preparing the Tender and entering into the Agreement.

2.7.3.3 The consultant and any of its personnel or agents will be granted conditional permission by the Client to visit the site. The permission shall be deemed to have been based upon the consultant, its personnel and agents indemnifying the Client and its personnel and agents from and against all liability and upon the consultant being responsible for personal injury (whether fatal or otherwise), loss of or damage to property and any other loss, damage, costs and expenses (however caused) which would not have arisen other than due to the exercise of such permission.

2.7.3.4 This compulsory site visit is intended to supplement and not to replace the individual inspections carried out by each consultant. The Client accepts no responsibility for providing any indication of relevant aspects, or access to appropriate areas, which a competent consultant may consider necessary for the preparation of a proposal.

2.7.3.5 The Client shall not be bound by any oral representations which may be made during a joint field visit, whether by the Client's Representative or the or by others, and whether during a formal meeting or otherwise.

2.8 Preparation of the Proposal

2.8.1 Technical Proposal

2.8.1.1 In preparing the Technical Proposal, consultants are expected to examine the documents constituting this RfP in detail. Material deficiencies in providing the information requested may result in rejection of a proposal.

2.8.1.2 While preparing the Technical Proposal, consultants must give particular attention to the following:

- a) If a consultant considers that it does not have all the expertise for the assignment, it may obtain a full range of expertise by associating with individual consultant(s) and/or other consultants or entities in a joint venture or sub consultancy, as appropriate. The consultants are encouraged to seek the participation of local consultants by entering into a joint venture with, or subcontracting part of the assignment to local consultants.
- b) It is desirable that the majority of the key professional staff proposed be permanent employees of the firm or have an extended and stable working relationship with it.
- c) Proposed professional staff must, at a minimum, have the experience indicated in sub-clause 2.7.2, preferably working under conditions similar to those prevailing in the country of the assignment.
- d) Alternative professional staff shall not be proposed, and only one curriculum vitae (CV) may be submitted for each position.
- e) Reports to be issued by the consultants as part of this assignment must be in English. It is desirable that the firm's personnel have a working knowledge of the Client's national language.

2.8.1.3 The Technical Proposal shall provide the following information using the Standard Forms in Section 4:

- a) Completed Technical Proposal Submission Form (Form A1).
- b) Completed Power of Attorney (Form A2).
- c) Completed Minimum Criteria for Qualification Questionnaire (Form A3). Companies unable to answer "YES" to all of the questions will not be qualified and should not consider submitting a proposal.
- d) Completed Covenant of Integrity (Form A4).
- e) Certificated of Good Standing from the Receiver of Revenue (Form A5 or equivalent) confirming your company has fulfilled its obligations in relation to payment of taxes in Namibia (if applicable) and country of registration as well as a Certificate of Good Standing with Social Security.
- f) Completed General Company Information (Form A6).
- g) A brief description of the firm's organization including an organisation chart showing the company structure including the positions of directors and relevant key personnel, and an outline of recent experience on assignments (Form A7) of a similar nature. For each assignment, the outline should indicate, inter alia, the profiles of the staff proposed, duration of the assignment, contract amount, and firm's involvement.
- h) Any comments or suggestions on the Terms of Reference and on the data, a list of services, and facilities to be provided by the Client (Form A8).
- i) A description of the methodology and work plan for performing the assignment (Form A9).
- j) The list of the proposed staff team by specialty, the tasks that would be assigned to each staff team member, and their timing (Form A10).
- k) CVs recently signed by the proposed professional staff and the authorized representative submitting the proposal (Form A11). Key information should

include number of years working for the firm/entity and degree of responsibility held in various assignments during the last ten (10) years.

- l) Estimates of the total staff input (professional and support staff; staff time) needed to carry out the assignment, supported by bar chart diagrams showing the time proposed for each professional staff team member (Forms A12 and A13).
- m) The Technical Proposal shall not include any financial information.

2.8.2 Financial Proposal

2.8.2.1 In preparing the Financial Proposal, consultants are expected to take into account the requirements and conditions outlined in the RfP documents. The Financial Proposal should follow Standard Forms (Section 4). It lists all costs associated with the assignment, together with an annual rate of escalation, including (a) remuneration for staff (foreign and local, in the field and at headquarters), and (b) reimbursable expenses such as subsistence (per diem, housing), transportation (international and local, for mobilization and demobilization), costs for inspection services in foreign countries, services and equipment (vehicles, office equipment, furniture, and supplies), office rent, insurance, printing of documents, surveys, and training, if it is a major component of the assignment. If appropriate, these costs should be broken down by activity and, if appropriate, into foreign and local expenditures.

2.8.2.2 The Financial Proposal should clearly estimate, as a separate amount, the local taxes (including social security), duties, fees, levies, and other charges imposed under the applicable law, on the consultants, the sub consultants, and their personnel (other than nationals or permanent residents of the government's country).

2.8.2.3 Consultants should express the price of their services in Namibian Dollars.

2.8.2.4 Proposals must remain valid for ninety days (90) after the submission date. During this period, the consultant is expected to keep available the professional staff proposed for the assignment. The Client will make its best effort to complete negotiations within this period. If the Client wishes to extend the validity period of

the proposals, the consultants who do not agree have the right not to extend the validity of their proposals.

2.8.3 Submission, Receipt and Opening of Proposals

2.8.3.1 The original proposal (technical proposal and financial proposal) set shall be prepared in indelible ink. It shall contain no interlineations or overwriting, except as necessary to correct errors made by the firm itself. Any such corrections must be initialled by the persons or person who sign(s) the proposals.

2.8.3.2 An authorized representative of the firm initials all pages of the proposal. The representative's authorization is confirmed by a written power of attorney accompanying the proposal.

2.8.3.3 For each proposal set, the consultants shall prepare the one original, one photocopy set and one CD/DVD ROM set.

2.8.3.4 The proposal on the CD/DVD ROM shall be in PDF format and as a single file only for the technical and financial proposal respectively. Brochures shall not be included in the CD/DVD ROM

2.8.3.5 The response shall be submitted in a sealed package. The sealed package shall be marked "**Proposal for Geotechnical Services: Erongo Power Station Project: Tender No.: NP/RFP/2012/02**"

2.8.3.6 Each copy of each bound file that forms part of the proposal shall be clearly marked with the name of the company.

2.8.3.7 The proposal shall be properly packaged, sealed and bound.

2.8.3.8 If there are any discrepancies between the original and the copies of the proposal, the original governs.

2.8.3.9 The completed proposal must be delivered at the submission address on or before the time and date stated in the **Request for Proposal**. Any proposal received after the closing time for submission of proposals shall be returned unopened.

2.8.3.10 The contents of proposals received will be regarded as confidential and no information other than the names of tenderers participating and any immediate

disqualifications will be announced at the tender opening. Financial offers will not be opened at the official tender opening, therefore no prices will be read.

2.9 Evaluation of Proposals

2.9.1 General

2.9.1.1 From the time the proposals are opened to the time the contract is awarded, if any consultant wishes to contact the Client on any matter related to its proposal, it should do so in writing at the address indicated in the Particular Conditions. Any effort by the firm to influence the Client in the Client's proposal evaluation, proposal comparison or contract award decisions may result in the rejection of the consultant's proposal.

2.9.2 Evaluation of Responsiveness

2.9.2.1 Proposals will be firstly evaluated to determine whether they are complete, whether the documents have been properly completed and signed, and whether the proposals are generally in order.

2.9.2.2 A responsive proposal is one in which all the information that has been requested in the request for proposal has been supplied and is of sufficient quality to enable an evaluation to be done.

2.9.2.3 Any proposals found to be non-responsive may be rejected and not included for further consideration and may not subsequently be made responsive by the provision of missing information by companies.

2.9.3 Technical Evaluation

2.9.3.1 The technical evaluation of the proposals shall be based upon the principles outlined in the evaluation criteria. Unless specifically stated, no criterion will take precedence over any other criteria, and the evaluation shall be based on an overall consideration.

2.9.3.2 The evaluation criteria will be scored as depicted in the table below:

<u>Evaluation Criteria</u>	<u>Points Allocation</u>
Rating of Company credibility	10
Specific experience related to the geotechnical services for medium to large power stations, preferably coal	10
Adequacy of the proposed work plan and methodology in responding to the Terms of Reference	30
Qualifications and competence of the key staff for the Project	40
Namibian BEE participation (as reflected by nationals among key staff presented by foreign and local firms)	10
TOTAL	100

2.9.3.3 The number of points to be given for the evaluation of the sub-criteria “Qualifications and competence of key staff for the Project are:

- | | | |
|----|--|----|
| a) | General qualifications | 25 |
| b) | Adequacy for the contract scope | 50 |
| c) | Experience in Namibia, region & language | 25 |

Total Points: 100

2.9.3.4 The minimum technical score required to pass: 75 Points

2.9.4 Financial Evaluation

The following formula for determining the financial scores will be used:

$$S_f = 100 \times F_m/F$$

Where: Sf is the financial score

Fm is the lowest price and

F the price of the proposal under consideration

2.9.5 Total Evaluation Score

2.9.5.1 Proposals will be ranked according to their combined technical score (St) and financial score (Sf) using the following weights:

- Technical Proposal weight (T) = 0.8
- Financial Proposal weight (P) = 0.2

2.9.6 Clarification during Tender Evaluation

2.9.6.1 To assist in the examination, evaluation and comparison of Tenders, the Client may at its discretion and at any time, ask any Consultant for a clarification of its Tender. The request for clarification and the response shall be in writing or by fax.

2.9.6.2 Consultants may be invited to a clarification meeting. These discussions may include a review and clarification of the technical proposal, the proposed methodology (work plan), staffing and any suggestions made by the consultant to improve the Terms of Reference.

2.9.6.3 The meetings will be held at the address indicated in the Particular Conditions.

2.10 Negotiations

2.10.1. The successful consultant will then be invited for further negotiations. The Client and consultant will work out the final Terms of Reference, staffing, and bar charts indicating activities, staff, periods in the field and in the home office, staff-months, logistics, and reporting. The agreed work plan and final Terms of Reference will then be incorporated in the "Description of Services" and form part of the Contract.

2.10.2. The financial negotiations will include a clarification (if any) of the firm's tax liability in the Client's country, and the manner in which it will be reflected in the contract; and will reflect the agreed technical modifications in the cost of the services. Unless

there are exceptional reasons, the financial negotiations will involve neither the remuneration rates for staff (no breakdown of fees) nor other proposed unit rates.

- 2.10.3. Having selected the firm on the basis of, among other things, an evaluation of proposed key professional staff, the Client expects to negotiate a contract on the basis of the experts named in the proposal. Before contract negotiations, the Client will require assurances that the experts will be actually available. The Client will not consider substitutions during contract negotiations unless both parties agree that undue delay in the selection process makes such substitution unavoidable or that such changes are critical to meet the objectives of the assignment. If this is not the case and if it is established that key staff were offered in the proposal without confirming their availability, the firm will be disqualified.
- 2.10.4. The negotiations will conclude with a review of the draft form of the contract. To complete negotiations the Client and the firm will initial the agreed contract. If negotiations fail, the Client will invite the firm whose proposal received the second highest score to negotiate a Contract.

2.11 Award of Contract

- 2.12.1. The contract will be awarded following negotiations and approval of the Contract by the NamPower Board. After the award of the Contract, the Client will promptly notify other consultants that they were unsuccessful.
- 2.12.2. The consultant is expected to commence the assignment on the date and at the location specified in the Particular Conditions.

2.12 Confidentiality

Information relating to evaluation of proposals and recommendations concerning awards shall not be disclosed to the consultants who submitted the proposals or to other persons not officially concerned with the process, until the winning firm has been notified that it has been awarded the contract.

SECTION 3

CONDITIONS OF CONTRACT

3. CONDITIONS OF CONTRACT

3.1 General Conditions

The Conditions of Contract comprise the General Conditions, which form part of the "Client/Consultant Model Services Agreement 4th Ed (2006)" published by the International Federation of Consulting Engineers (FIDIC), and the following Particular Conditions, which include amendments and additions to the General Conditions.

3.2 Particular Conditions

3.2.1 Part A - References from Clauses in the General Conditions

SUB- CLAUSE	SUBJECT	DATA
1.1	Definitions	
1.1.2	Project	Geotechnical Services on the Erongo Power Station Project: NP/RFP/2012/02
1.1.10	Commencement Date	Date stated in the Notice to Commence
1.1.11	Time for Completion	40 days from the Commencement Date
1.3.1	Language for Communications	English
1.4.1	Language of the Agreement:	English
	Ruling language	English
	Governing Law	Laws of the Republic of Namibia
1.8.1	Notices	

Client's address: NamPower Centre
15 Luther Street
Windhoek
Republic of Namibia

Email: paul.bosman@nampower.com.na

Telephone number: +264 61 205 2737

Facsimile number: +264 61 205 2352

Consultant's address: [•]

Email: [•]

Telephone number: [•]

Facsimile number: [•]

5.2.2 Agreed Compensation Rate 5 present per annum

6.2.1 Duration of Liability 3 years from the date of the cause of action arose or the claiming Party became aware or ought to have become aware of such cause of action.

6.3.1 Limit of Compensation 3 times the total of the Contract Sum

8.2.1 Named Mediator Professional Arbitration and Mediation Association of

Namibia (PAMAN)

- | | | |
|-------|-------------------------|---|
| 8.2.3 | Mediation
Procedures | The procedures to be followed are those of PAMAN. |
| 8.3.2 | Rules of
Arbitration | Arbitration Foundation of Southern Africa (AFSA) |

3.2.2 Part B - Schedule of Amendments to the General Conditions

The following schedule of amendments to the General Conditions together with the Particular Conditions are to be read together with and integrated with the General Conditions to reflect the conditions of contract between the Client and the Consultant.

CLAUSE	TITLE	AMENDMENT
1.1	Definitions	
1.1.1	Agreement	Delete the contents herein and replace with: ““Agreement” means the Contract Agreement, the Conditions of the Client/Consultant Model Services Agreement comprising the Part B -Schedule of Amendments to the General Conditions, Part A - Particular Conditions and the General Conditions construed together and collectively defined as the “Conditions of Contract”, together with the Appendix 1 [<i>Scope of Services</i>], Appendix 3 [<i>Remuneration and Payment</i>], Appendix 4 [<i>Time Schedule for Services</i>].”
1.1.5	Country	Delete “the country to which the Project (or most of it) relates”, and replace with: “the Republic of Namibia”
1.1.7	Client	Delete “Party named in the” and replace with: “Namibia Power Corporation (Pty) Ltd, as further defined in the Contract”
1.1.8	Consultant	Delete “the professional firm or individual named in the” and replace with: “[•], as further defined in the Contract”
1.1.16	New Definition: “Contract Agreement”	Insert new definition: ““Contract Agreement” means the executed agreement forming the contract between the Parties after issue of the

- Letter of Acceptance, and detailing the documents forming the complete contract.”
- 1.1.17 New Definition: Insert new definition:
“Contract Sum”
“Contract Sum” means the total amount inclusive of disbursements and taxes but exclusive of Value Added Tax (VAT) for the rendering of Services as per the Consultant’s Financial Proposal contained in the Tender.”
- 1.1.18 New Definition: Insert new definition:
“Letter of Acceptance and Commencement”
““Letter of Acceptance and Commencement” means the letter from the Client addressed to the Consultant wherein the Client formally accepts the Consultant’s Proposal to the Request for Proposal as revised and amplified by any clarifications post submission of the Proposal and minutes of negotiations resulting in the award of contract to the Consultant subject to the execution of the Contract Agreement.”
- 1.1.20 New Definition: Insert new definition:
“Milestone Invoice”
““Milestone Invoice” means a due and payable invoice submitted by the Consultant to the Client for payment upon completion of a consecutive milestone according to the agreed schedule for milestone deliverables contemplated by the Services. Such invoice shall be itemised in detail in respect of the disbursements incurred in the execution of the Services together with legible copies for the Client of such disbursements, the detail in respect of the Consultant’s personnel and sub-consultants (if any) utilised and the applicable tariffs, as well as the detail in respect of the deliverables completed for the respective Milestone invoice. Milestone Invoices must be issued consecutively as per the agreed schedule unless otherwise agreed by the Parties. For purposes herein, a deliverable in terms of the Scope of

Services is defined without limitation as the final or interim document, model or presentation (as the case may be) as reviewed and commented upon by the Client, and which review and/or comments require changes and/or amendments to be incorporated in the deliverable to constitute a valid milestone deliverable.”

- 1.1.21 New Definition: Insert new definition:
“Request for Proposal”
““Request for Proposal (RfP)” means the Client’s Request for Proposal for Geotechnical Services Tender No. NP/RFP/2012/02 document inclusive of all its constituent volumes.”
- 1.1.22 New Definition: Insert new definition:
“Proposal”
““Proposal” means the Consultant’s submission in response to the Request for Proposal, inclusive of all clarifications and negotiated amendments between the Parties resulting in the award of contract to the Consultant.
- 1.2 Interpretation
- 1.2.3 Delete the second sentence “If there is.....Particular Conditions”, and replace with the following:

“For the purposes of interpretation, the priority of the documents will be in the sequence stated in the Contract Agreement, with the Contract Agreement itself to take the highest priority.”
- 1.2.5 Insert after the words “or agreement” the words “or consent”, and insert after the word “agreement” the words “or consent”.
- 1.6 Assignments and Sub-Contracts
- 1.6.3 Add the following sentence at the end of the first sentence:

“The Consultant shall not terminate any sub-contract or sub-

consultant presented to the Client as part of its Tender and upon which basis the Client evaluated, negotiated and awarded the contract to the Consultant.”

1.7 Copyright

1.7.1 The entire Sub-Clause herein is to be deleted and replaced with the following:

“The Client shall retain the design rights and other intellectual property rights and copyright on all documents or models prepared by the Consultant. The Client shall be entitled to use such documents or models in any manner or for any purpose he may deem fit. The Client shall not be liable for any royalty and/or licence payments in respect of the design rights and other intellectual property rights and copyright in respect of such documents or models prepared by the Consultant.”

1.9 Publication

1.9.1 The entire Sub-Clause herein is to be deleted and replaced with the following:

“During the execution of the Services, the Consultant may only publish that information which is required for the public domain for the purposes of the Project and information that already exists in such public domain. The Consultant may publish any non-confidential material relating to the Services or the Project in the public domain after the Time for Completion or termination of the Agreement solely for the intent of marketing itself or in furtherance of its business activities or as required by a regulatory authority. The Client’s consent shall be obtained by the Consultant to publish any confidential material relating to the Services at any time prior to or after the Time for Completion or termination of the Agreement, or during the Project construction and/or

execution, and which consent shall not be unreasonably withheld.”

1.11 Insert new Sub-Clause 1.11:

Severability If and to the extent any of the provisions of this Agreement is void or unenforceable under the laws governing this Agreement, the Parties agree that such void or unenforceable provision shall not affect the remainder of the Agreement and that such void or unenforceable provision shall be replaced by one that as closely as possible reflects the commercial intent of the Parties as expressed in such void or unenforceable provision.”

1.12 New Sub-Clause: Insert new sub-clause 1.12:

Entire Agreement This Agreement contains the entire agreement between the Parties, to the exclusion of any terms that may be implied by law which may be excluded by contract, and supersedes any and all written and oral agreements, proposals, negotiations, understandings and representations relating to or connected with the subject matter of this Agreement made or date prior to the date hereof

1.13 New Sub-Clause: Insert new sub-clause 1.13:

Amendments Any amendments to this Agreement (including the requirement of amendments having to be in writing) to be valid shall be required to be made in writing.

1.14 New Sub-Clause: Insert new sub-clause 1.14:

Waiver It is understood and agreed that any delay, waiver or omission by a Party to exercise any right or power arising from any breach or default by the other Party in any of the terms, provisions or covenants of this Agreement shall not be construed to be a waiver by the first Party of any such breach

or default and subsequent breach or default of the same or other terms, provisions or covenants on the part of the other Party

1.15 New Sub-Clause: Insert new sub-clause 1.15:

Survival All provisions of this Agreement which are expressly or by implication to come into or continue in force and effect after the expiration or termination of this Agreement shall remain in effect and be enforceable following such expiration or termination, subject to the applicable statute of limitation.

1.16 New Sub-Clause: Insert new sub-clause 1.16:

Own Costs Each Party shall bear its own costs incurred in connection with the negotiation, drafting and execution of this Agreement.

1.17 New Sub-Clause: Insert new sub-clause 1.17:

No Third Party Rights "This Agreement and all rights hereunder are intended for the sole benefit of the Parties and shall not imply or create any rights on the part of, or obligations to, any other person."

2.3 Assistance

2.3.1 Delete sub-paragraphs (c), (d) and (e).

2.4 Client's Financial Arrangements

2.4.1 This entire Sub-Clause is deleted and inapplicable.

2.5 Equipment and Facilities

2.5.1 This entire Sub-Clause is deleted and inapplicable.

2.6 Supply of Client's Personnel

2.6.1 This entire Sub-Clause is deleted and inapplicable.

- 2.6.2 This entire Sub-Clause is deleted and inapplicable.
- 2.6.3 This entire Sub-Clause is deleted and inapplicable.
- 2.8 Service of Others
- 2.8.1 This entire Sub-Clause is deleted and inapplicable.
- 3.3 Duty of Care and Exercise of Authority
- 3.3.2 This entire Sub-Clause is deleted and inapplicable.
- 3.5 Supply of Personnel
- 3.5.1 Add the following sentence at the end of the first sentence:

“The Client shall not be charged remuneration or disbursements incurred by junior personnel of the Consultant acquiring on-the-job training or skills development.”
- 3.7 Changes in Personnel
- 3.7.1 Add the following paragraph at the end of the first paragraph:

“The Consultant shall obtain the Client’s consent to the proposed replacement of its personnel and provide a reasonable explanation for such replacement. The Consultant shall not charge the Client any remuneration or disbursements for time spent by the replacement personnel in familiarizing and reviewing the work performed till date of replacement.”
- 4.1
- Agreement Effective
- Replace the words “letter of acceptance” with “Letter of Acceptance”, and replace the word “proposal” with “Proposal”. After the word “formal” insert “Contract”.
- 4.1.1

4.3 Variations

4.3.3 Add the following paragraph at the end of the first paragraph:

“The Parties shall agree a schedule of remuneration for all the Consultant’s personnel to be involved in the provision of the Services, together with a rate of escalation of such schedule of remuneration should the Agreement extend for one year from the Time for Completion. The schedule of remuneration shall also be applicable to Additional or Exceptional Services beyond the Scope of Services.”

4.6 Abandonment, Suspension or Termination

4.6.3 Sub-Clause (a) herein shall be amended to delete the “28 days” and replaced with “30 days”.

5.1 Payment to Consultants

5.1.3 After the first occurrence of the word “sub-consultants” insert:

“or the Consultant contracts sub-consultants as he may require from time to time with the consent of the Client”.

At the end of the sentence add the following sentence:

“The Client shall not be directly liable to any sub-consultants for any fees or disbursements, and shall only be liable for Milestone Invoices issued by the Consultant.”

5.2 Time for Payment

5.2.1 After the word “due” insert “ and payable”

Replace “28” with “30”

Delete the word “invoice” and replace with “Milestone Invoice received by the Client”

5.2.2 Delete the contents herein and replace with the following:

“If the Consultant does not receive payment within the time stated in Clause 5.2.1 he shall be paid an additional 5% simple interest (calculated annually) on the amount of the Milestone Invoice not paid.”

6.1 Liability and Compensation between the Parties

6.1.1 The entire Sub Clause herein is to be deleted and replaced with the following:

“The Consultant shall be liable to pay compensation to the Client arising out of or in connection with the Agreement if a breach of Clause 3.3.1 is established against him or his sub-consultants. If the Client has to contract a third party to execute or finalize a deliverable (as defined in Sub-Clause 1.1.20) not delivered within the contracted time of the respective Milestone Invoice or the Time Schedule for Services, or to perform an obligation of the Consultant in terms of the Scope of Services due to the failure of the Consultant to rectify its breach, then the Consultant shall reimburse the Client for the full costs of contracting such third party provided that the Consultant shall be entitled to rectify its breach by contracting a third party at his expense to perform such obligation. The Client shall be entitled to deduct the full costs of such third party from any amount due to the Consultant under this Agreement, and shall account to the Consultant accordingly.”

6.1.3(c) Delete the contents of sub-paragraph (c) and replace with the following:

“The Consultant and his sub-consultants shall be jointly and severally liable to the Client, and the Consultant shall bear total liability for all actions or omissions of his sub-

consultants.”

6.4 Indemnity

6.4.1 Replace the word “Client” with “Consultant”, and replace the word “Consultant” with “Client”.

8.1 Amicable Dispute Resolution

8.1.1 Delete the contents herein and replace with the following:

“Any disputes (whether formally declared or not) arising out of or in connection with the Agreement shall be settled through amicable discussion between the Chief Executive Officers or their delegates of the respective Parties, and which discussion must take place within seven (7) working days of either Party declaring a dispute in terms of this Agreement. In the dispute is not resolved at such meeting then within five (5) working days of such meeting, the Parties shall agree upon a neutral mediator and attempt to resolve their dispute by mediation in accordance with Clause 8.2.”

8.2 Mediation

8.2.1 Replace the word “FIDIC” with “the Law Society of Namibia”

8.3 Arbitration

8.3.1 The contents of this Sub-Clause is deleted and inapplicable.

8.4 New Sub-Clause: Insert new sub-clause 8.4:

“Performance to Continue” “Performance of this Agreement shall continue during negotiations of any dispute (whether formally declared or not), or arbitration proceedings and during any litigation relating to the enforcement of arbitral judgements. For the avoidance of any doubt, the dispute shall not prevent either party from performing its obligations in terms of the Agreement and the specific issue(s) in dispute shall be narrowly interpreted to enable all other performance (including where possible related obligations) to continue, however the Party claiming the dispute shall not be forced to perform the disputed obligation.”

8.5 New Sub-Clause: Insert new Sub-Clause 8.5:

“Survival” “The provisions of this Clause 8: Disputes and Arbitration shall survive the expiration or earlier termination of this Agreement.”

SECTION 4

STANDARD FORMS

4. STANDARD FORMS

4.1 Form of Contract Agreement (to be drafted in detail upon award of contract)

CONTRACT AGREEMENT

This Agreement dated this day of: [Day and Month]

of: [Year]

Between Name of Client: Namibia Power Corporation (Pty) Ltd

of Address of Client : NamPower Centre
15 Luther Street
Windhoek
Republic of Namibia

(hereinafter called "the Client") of the one part

and [Name of Consultant] [Consultant's Name]

of Address of Consultant [Consultant's Address]

(hereinafter called "the Consultant") of the other part

WHEREAS, the Client desires that certain Services Geo-technical Services should be performed by the Consultant, namely

and has accepted a proposal by the Consultant for the performance of such Services.

THE CLIENT AND THE CONSULTANT AGREE AS FOLLOWS:

- 1 In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in Clause 1.1 of the Conditions of Contract.
- 2 The following documents shall be deemed to form and be read and construed as part of the Agreement in descending order of priority with the Contract Agreement to take the highest priority:
 - (a) [●];
 - (b) [●];
 - (c) [●];

(d) the Appendices, namely:

Appendix 1: Scope of Services

Appendix 3: Remuneration and Payment

Appendix 4: Time Schedule for Services.

3 In consideration of the payments to be made by the Client to the Consultant under this Agreement, the Consultant hereby agrees with the Client to perform the Services in conformity with the provisions of the Agreement.

The Client hereby agrees to pay the Consultant in consideration of the performance of the Services such amounts as may become payable under the provisions of the Agreement at the times and in the manner prescribed by the Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed the day and year stated above in accordance with their respective laws.

AUTHORISED SIGNATURE(S) OF CLIENT

Signature:

In the presence of:

Name: [Person Name]

Signature:

Address: NamPower Centre
15 Luther Street
Windhoek
Republic of Namibia

AUTHORISED SIGNATURE(S) OF CONSULTANT

Signature:

In the presence of:

Name: [Person Name]

Signature:

Address:

[Address]

4.2 Technical Proposal

4.2.1 Form A1 - Technical Proposal Submission Form

NAME OF CONTRACT: _____ **[PROJECT NAME]**

[DATE]

To: The Managing Director

NamPower

15 Luther Street

PO Box 2864

Windhoek

Namibia

Ladies/Gentlemen:

We, the undersigned, offer to provide the consulting services for Geotechnical Services on the Erongo Power Station Project in accordance with your Request for Proposal dated **[DATE]** and our proposal. We are hereby submitting our proposal, which includes this Technical Proposal, and a Financial Proposal.

If negotiations are held during the period of validity of the proposal, i.e., before **[DATE]** we undertake to negotiate on the basis of the proposed staff. Our proposal is binding upon us and subject to the modifications resulting from Contract negotiations.

We understand you are not bound to accept any proposal you receive.

We remain,

Yours sincerely,

Authorized Signature:

Name and Title of Signatory:

Name of Firm:

Address:

4.2.2 Form A2 - Power of Attorney

- a) Mr. _____
Signature _____
- b) Mr. _____
Signature _____
- c) Mr. _____
Signature _____

The above persons are authorised to act on our behalf and in our name in all matters relating to the Project and to sign all necessary documents in connection therewith.

Place

Date

Mr

Signatures and Stamp

4.2.3 Form A3 - Minimum Criteria for Qualification Questionnaire

Please confirm the following by answering “YES” in the relevant boxes against each question in the table below. Companies unable to answer “YES” to all of the questions will not be qualified and should not consider submitting a proposal:

1.	Do you have the ability to conduct the geotechnical investigations as per the ToR?	
2.	Do you have the required equipment to conduct the required boreholes (equipment list to be provided)?	
3.	Do you have the access to the laboratory facilities to conduct the required laboratory tests (details of the laboratory facilities to be provided):	
4.	Do you have the required equipment and ability to conduct the Electrical Resistivity Tests (details of the equipment and methodology to be provided)?	
5.	Can you adhere to the stipulated time frame of 40 days to complete the investigation?	
6.	Do you have the required skills and experience to provide an Interpretive report based on the factual information and findings of the survey/investigation?	

4.2.4 Form A4 - Covenant of Integrity

[Letterhead of the Applicant, or partner responsible for a joint venture, including full postal address, telephone no., fax no., and e-mail address]

Date:

To:
Managing Director
NamPower
15 Luther Street
PO Box 2864
Windhoek
Namibia

Dear Sir,

Geotechnical Services on the Erongo Power Station Project. We declare and covenant that neither we nor anyone, including any of our directors, employees or agents, acting on our behalf with due authority or with our knowledge or consent, or facilitated by us, has engaged, or will engage, in any corrupt or fraudulent practices in connection with the tendering process or in the execution or supply of any works, goods or services for the Geotechnical Services on the Erongo Power Station Project(the "Contract") and covenant to so inform you if any instance of any such corrupt or fraudulent practices should come to the attention of any person in our organisation having responsibility for ensuring compliance with this Covenant.

We shall, for the duration of the tender process and, if we are successful in our tender, for the duration of the Contract, appoint and maintain in office an officer, who shall be a person reasonably satisfactory to you and to whom you shall have full and immediate access, having the duty, and the necessary powers, to ensure compliance with this Covenant.

If (i) we have been, or any such director, employee or agent acting as aforesaid has been, convicted in any court of any offence involving a corrupt or fraudulent practice in connection with any tendering process or provision of works, goods or services during the five years immediately preceding the date of this Covenant, or (ii) any such director, employee or agent

has been dismissed or has resigned from any employment on the grounds of being implicated in any corrupt or fraudulent practice, we give details of that conviction, dismissal or resignation below, together with details of the measures that we have taken, or shall take, to ensure that neither this company nor any of our directors, employees or agents commits any corrupt or fraudulent practices in connection with the Contract [give details if necessary] .

In the event that we are awarded the Contract, we grant the Client and auditors appointed, the right of inspection of our records. We accept to preserve these records generally in accordance with applicable law but in any case for at least six years from the date of substantial performance of the Contract.

For and behalf of: _____ [Name of Applicant]

Name: _____ [with company stamp]

Signed: _____ Date _____

For and behalf of: _____ [Name of Partner]

Name: _____ [with company stamp]

Signed: _____ Date _____

4.2.5 Form A5 - Tax Certificate of Good Standing for Tender Purposes

MINISTRY OF FINANCE

PRESS STATEMENT

TAX CERTIFICATE OF GOOD STANDING FOR TENDER PURPOSES


THE MINISTRY OF FINANCE – DIRECTORATE OF INLAND REVENUE - HEREBY WISH TO REMIND ALL TENDERERS THAT IT IS A CONDITION OF THE TENDERING PROCESS FOR THEM TO SUBMIT AN ORIGINAL CERTIFICATE OF GOOD STANDING FOR TAX PURPOSES ISSUED BY THE DIRECTORATE OF INLAND REVENUE.

THE MINISTRY OF FINANCE - DIRECTORATE OF INLAND REVENUE - UNDERTAKES TO ISSUE THE CERTIFICATE OF GOOD STANDING WITHIN SEVEN (7) DAYS OF THE REQUEST BY PROSPECTIVE TENDERERS. IT IS THEREFORE IMPORTANT THAT PROSPECTIVE TENDERERS APPLY FOR THE CERTIFICATE OF GOOD STANDING WELL IN ADVANCE OF THE CLOSURE OF THE RESPECTIVE TENDER IN ORDER TO AVOID DELAYS IN THE SUBMISSION OF TENDERS.

THE DIRECTORATE OF INLAND REVENUE HAS OFFICES IN WINDHOEK, WALVISBAY, OSHAKATI, RUNDU, OTJIWARONGO AND KEETMANSHOOP. PROSPECTIVE TENDERERS MAY APPROACH ANY OFFICE OF THE DIRECTORATE OF INLAND REVENUE TO REQUEST FOR THE CERTIFICATE OF GOOD STANDING. TO AVOID DELAYS, IT IS SUGGESTED THAT APPLICATIONS BE HANDED IN AT THE REVENUE OFFICE WHERE THE PROSPECTIVE TENDERER IS REGISTERED AS A TAXPAYER.

IN ORDER TO HELP SPEED UP THE ISSUANCE OF CERTIFICATES OF GOOD STANDING, PROSPECTIVE TENDERERS SHOULD MAKE SURE THAT THEY HAVE NO TAX LIABILITY WITH THE DIRECTORATE OF INLAND REVENUE PRIOR TO THEM APPLYING FOR THE CERTIFICATES. THIS ESPECIALLY INCLUDES TAXES DUE TO THE STATE, OUTSTANDING TAX RETURNS AND NON-COMPLIANCE WITH THE DIFFERENT TAX LAWS OF THE COUNTRY.

PLEASE NOTE THAT AN ORIGINAL CERTIFICATE – SIGNED AND STAMPED BY THE DIRECTORATE OF INLAND REVENUE – IS REQUIRED WITH EVERY TENDER.


C. SCHLETTWEIN
PERMANENT SECRETARY: FINANCE



REPUBLIC OF NAMIBIA

MINISTRY OF FINANCE
DIRECTORATE: INLAND REVENUE

CERTIFICATE OF GOOD STANDING FOR TENDER PURPOSES

NAME and ADDRESS of TENDERER

OFFICIAL DATE STAMP

.....
.....
.....
.....
.....

.....

CONFIRMATION OF GOOD STANDING AS AT:

INCOME TAX NUMBER:

.....

REGISTERED for VAT: YES/NO

NO:

REGISTERED for PAYE: YES/NO

NO:

It is herewith confirmed that the above-named taxpayer is in good standing with the Directorate Inland Revenue regarding all tax obligations in Namibia. (I.e. rendition of returns, payments and other tax related issues.)

.....
AUTHORISED OFFICIAL

Name:.....

Tel. No:.....

THIS CERTIFICATE IS VALID FOR A PERIOD OF 30 DAYS

4.2.6 Form A6 – General Company Information

Complete for each known company in any consortium/ JV/ partnership/ grouping

4.2.6.1 Organisation Details

Company Name:

Registered Office:

Registered Number:

Legal Form of Organisation:

Country of Incorporation:

Date of Incorporation:

Parent Company Name:

Registered Office of Parent Company:

Are you part of a Group of Companies?

Yes

No

If yes, please enclose an organisation chart of the group.

4.2.6.2 Contact Details

Address to which any correspondence / documentation should be sent:

Address:

Post Code:

Telephone No.:

Facsimile No.:

e-mail Address:

Company Official to whom any query regarding questionnaire should be directed:

Name:

Position:

Telephone:

e-mail Address:

4.2.6.3 Financial Details

- (a) Please enclose a statement from your external auditors certifying that the company is a going concern.

Statement enclosed:

Yes No

- (b) Please enclose one copy of your audited accounts in English for each of the last three financial years.

Accounts enclosed:

Yes No

- (c) Please confirm that the company has a liquidity ratio (current assets/current liabilities) of not less than 1.

Yes No

- (d) Please indicate the annual turn-over for the last three years for services/works of a similar nature to your potential supply in this tender (NAD million).

2010 2011 2012

- (e) Companies should advise their financial rating as rated by Standard & Poor, Moody's or other internationally recognised rating agencies or produce similar evidence of their financial strength and nature of their credit standing.

Documentary evidence of financial standing enclosed:

Yes No

- (f) Has your company fulfilled its obligations in relation to payment of taxes in Namibia (if applicable) and country of registration? Please provide certificate of good standing from the Receiver of Revenue (Form A5 or equivalent).

Yes No

(g) Has your company fulfilled its obligations in relation to social security (if applicable) and country of registration? Please provide certificate of good standing from the Social Security Office.

Yes No

4.2.6.4 Quality Assurance

(a) Do you have ISO 9000/EN29000 certification (or equivalent)

Yes No

(b) Do you have ISO 14000 certification (or equivalent)

Yes No

(c) If yes, have your systems been assessed by an accredited independent organisation?

Yes No

(d) If yes, please attach copies of current certificates.

(e) If you are in the process of gaining certification please state:

(i) Quality Standards sought:

- (ii) Expected date for certification:
- (f) If you do not have a current ISO 9000/EN29000 or ISO 14000 certification, please provide details of comparable standard quality systems, to enable your systems to be assessed.

4.2.7 Form A7 - Consultant's References

Using the format below, provide information on each assignment for which your firm/entity, either individually as a corporate entity or as one of the major companies within an association, was legally contracted.

Only references where the proposed resources were utilised should be presented.

Assignment Name:		Country:
Location within Country:		Professional Staff Provided by Your Firm/Entity(profiles):
Name of Client:		Nº of Staff:
Address of the Client(Including names and telephone and email):		Nº of Staff-Months; Duration of Assignment:
Start Date (Month/Year):	Contractual Completion Date (Month/Year):	Approx. Value of Services (in Current US\$):
Actual Completion Date(Month/Year):	Name of Associated Consultants, If Any:	Nº of Months of Professional Staff Provided by Associated Consultants:
Name of Senior Staff (Project Director/Coordinator, Team Leader) Involved and Functions Performed(only projects where proposed staff were utilised will be considered):		
Narrative Description of Project:		
Description of Actual Services Provided by Your Staff:		

4.2.8 Form A8 - Comments and Suggestions of consultants on the Terms of Reference and on Data, Services, and Facilities to be provided by the Client.

On the Terms of Reference:

- 1.
- 2.
- 3.
- 4.
- 5.

On the data, services, and facilities to be provided by the Client:

- 1.
- 2.
- 3.
- 4.
- 5.

4.2.9 Form A9 - Description of the Methodology and Work Plan for the Execution of the assignment

4.2.10 Form A10 - Team Composition and Task Assignments

1. Technical/Managerial Staff		
Name	Position	Task

1. Technical/Managerial Staff		
Name	Position	Task

4.2.11 Form A11 - Format of Curriculum Vitae (CV) for Proposed Professional Staff

Proposed Position:

Name of Firm:

Name of Staff:

Profession:

Date of Birth:

Years with Firm/Entity: Nationality:

Membership in Professional Societies:

Detailed Tasks Assigned:

Key Qualifications:

[Give an outline of staff member's experience and training most pertinent to tasks on assignment. Describe degree of responsibility held by staff member on relevant previous assignments and give dates and locations. Use about half a page.]

Education:

[Summarize college/university and other specialized education of staff member, giving names of schools, dates attended, and degrees obtained. Use about one quarter of a page.]

Employment Record:

[Starting with present position, list in reverse order every employment held. List all positions held by staff member since graduation, giving dates, names of employing organizations, titles of positions held, and locations of assignments. For experience in last ten years, also give types of activities performed and client references, where appropriate. Use about two pages.]

Languages:

[For each language indicate proficiency: excellent, good, fair, or poor in speaking, reading, and writing.]

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and my experience.

Date: [Day/Month/Year]

[Signature of staff member and authorized representative of the firm]

Full name of staff member: _____

Full name of authorized representative: _____

4.2.12 Form A12 - Time Schedule for Professional Personnel

			Months (in the Form of a Bar Chart)												
Name	Position	Reports Due/Activities	1	2	3	4	5	6	7	8	9	10	11	12	Number of Months
															Subtotal (1)
															Subtotal (2)
															Subtotal (3)
															Subtotal (4)

4.2.13 Form A13 - Activity (Work) Schedule

This form may alternatively be submitted in a MS Project Gantt chart (or equivalent)

4.2.13.1 Field Investigation and Study Items

	<i>[1st, 2nd, etc. are months from the start of assignment.]</i>												
Activity (Work)	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	

4.2.13.2 Completion and Submission of Reports

Reports	Date
1. Intermediate Reports: (a) (b)	Submitted Weekly
2. Preliminary Report: (a) (b)	
3. Final Report: (a) (b)	10 calendar days after receipt of the Client's comments

4.3 Financial Proposal

4.3.1 Form B1 - Financial Proposal Submission Form

NAME OF CONTRACT: _____ **[PROJECT NAME]**
[DATE]

To: The Managing Director

NamPower

15 Luther Street

PO Box 2864

Windhoek

Namibia

Ladies/Gentlemen:

We, the undersigned, offer to provide the consulting services for Geotechnical Services on the Erongo Power Station Project in accordance with your Request for Proposal dated **[DATE]** and our Proposal (Technical and Financial Proposals). Our attached Financial Proposal is for the sum of **[Amount in words and figures]**. This amount is exclusive of the local taxes, which we have estimated at **[Amount(s) in words and figures]**.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the proposal, i.e., **[DATE]**

Commissions and gratuities, if any, paid or to be paid by us to agents relating to this proposal and Contract execution, if we are awarded the Contract, are listed below:

Name and Address of Agents	Amount and Currency	Purpose of Commission or Gratuity
_____	_____	_____
_____	_____	_____
_____	_____	_____

We understand you are not bound to accept any proposal you receive.

We remain,

Yours sincerely,

Authorized Signature:

Name and Title of Signatory:

Name of Firm:

Address:

4.3.2 Form B2 - Summary of Costs

Costs	Currency(ies)	Amount(s)
Subtotal (Lump Sum)		
Local Taxes		
Total Amount of Financial Proposal		<hr style="width: 100%;"/>

Annual rate of escalation applicable: _____

4.3.3 Form B3 – Price Schedule

	Unit	Price (N\$)
<p>The package prices shall be entered in the below list. The prices shall comprise all labor, material, services, taxes, charges etc.</p>		
1. Geotechnical investigations	Lump sum	
2. Reporting on geotechnical investigations	Lump sum	
3. Topographic Survey	Lump sum	
Total sum of prices	Lump sum	

4.3.4 Form B4 – Unit Rate for Labour and Works

	Unit	Price (N\$)
<p>The Consultant is required to give unit rates for the items below for any case where additional works are required or parts of the scope of works need to be deducted.</p>		
1. Labor and staff		
1.1 Chief surveyor	per hour	
1.2 Surveyor	per hour	
1.3. Technician	per hour	
1.4 Driver	per hour	
1.5 Helper	per hour	
1.6 Geotechnical engineer /Geologist	per hour	
1.7 Drilling operator/technician	per hour	
2. Works		
2.1 Site installation	sum.	
2.2 Exploratory boring incl. all logs and sampling	per meter	
2.3 Rock coring	per meter	
2.4 Cone penetration test	each	
2.5 Cross-hole Seismic testing	each	
2.6 Test (trial) pit 1.5 m depth, hand made	each	
2.7 Test (trial) pit 3.0 m machine made	each	
2.8 Field density test	each	
2.9 Lab test for density	each	
2.10 Lab test for natural moisture content	each	
2.11 Lab test for Atterberg limits	each	

	Unit	Price (N\$)
2.12 Lab test for grain size distribution	each	
2.13 Lab test for unconfined compression test	each	
2.14 Lab test for consolidation tests	each	
2.15 Lab test for chemical analysis	each	
2.16 Electrical resistivity test	each	

SECTION 5

TERMS OF REFERENCE

5. TERMS OF REFERENCE

5.1 Overview of the Project

5.1.1 Project Background

Namibia Power Corporation (Pty) Ltd (NamPower) intends to develop a new power plant near Arandis, Erongo Province, Namibia. This document refers to the Erongo Coal-Fired Power Plant with an capacity between 300 MW, upgradeable to 800 MW.

5.1.2 Site Location

The planned project site (Arandis East) is located near Arandis community in the constituency of the same name in western Erongo region, about 65 km (airline linear distance) north-east of the town of Swakopmund, 85 km north-east (airline linear distance) of Walvis Bay and some 200 km west of Windhoek.

Arandis is a town with some 8,000 inhabitants, mostly connected to the mining industry in the region, especially the Rössing Mine, which is approx. 13 km south of the project site.



Figure 1: Site Location

5.1.3 Site Description

The site is located within the Namib Desert at around 700 m in altitude.

The coordinates of the envisaged site location are around 22°21'32.16"S and 15° 3'26.37"E, the overall site area is approximately 600 ha.

Approximate co-ordinates for the envisaged site will be provided by the Client to the appointed Consultant.

The area reserved for the Erongo Coal-Fired Power Plant Project and Transmission Substation is envisaged to be within the area defined by the points ABCDQRSUGHJ: see Annex 1 (Site Investigation; Plot Plan).

The available plot is not developed yet. The precise UTM coordinates (including UTM zone) should be determined from the topographic survey.

5.1.3.1 Proposed Area of the Power Plant

The Power Plant is envisaged to be in the area between the Points K; L; P; G; H and J see Annex 1 (Site Investigation; Plot Plan)

5.1.3.2 Proposed Area of the Coal Storage for the Power Plant

The Coal Storage for the Power Plant is envisaged to be in the area between Points P; O; U and G see Annex 1 (Site Investigation; Plot Plan)

5.1.3.3 Proposed Area of Substation

The Coal Storage for the Power Plant is envisaged to be in the area between Points A; B; C and J see Annex 1 (Site Investigation; Plot Plan)

5.2 Scope of Works

5.2.1 Objective

The primary objective of the geotechnical surveys is to carry out a comprehensive site investigation to assess the soil and rock profile throughout the site and obtain engineering parameters for the detailed design (design life 25 years) of the several foundations and structures for heavy rotating plant equipment, tanks, pipe-lines, roads, temporary works and construction activities, etc. associated with a coal-fire power plant and transmission substation. The geotechnical surveys will also include investigation of the groundwater condition and provision of information on the aggressiveness of subsurface ground and groundwater. In addition, as an option, the services might include the execution of a topography survey.

5.2.2 General

The scope of the investigation work includes fieldwork, laboratory testing and reporting for the site investigations necessary to make accurate conceptual design recommendations for all foundation systems and materials of construction. Geotechnical information is required to establish foundation systems and construction methods for, but not limited to, the following:

1. Two 300MW_{net} steam turbine and generator foundations for which the foundation loadings are large and settlement tolerances are extremely low.
2. Two CFB boilers foundations for which the foundation loadings are large and settlement tolerances are extremely low.
3. Foundations for the flue gas stack for which loadings are onerous and concentrated.
4. Two generator transformer foundations where loadings are high and settlement tolerances are low.
5. Large volume liquid retaining tank foundations.
6. Pipe-rack structures.
7. Conveyor belt systems.
8. Industrial type buildings such as administration building, water treatment plant, workshops and stores.
9. Temporary and permanent access roads which are required to support general industrial vehicle loading but also abnormal loading transportation vehicle moving heavy generation plant during the construction phase and also during maintenance in the operations phase.
10. Transmission Substation and interconnection to transmission lines

The investigations shall include, but not be limited to:

- Desk study, including information search, of regional and local geology.
- Topographical survey and establishment of grid reference system (including elevation) which would be referenced and relative to fixed datum points to be supplied by the Client.
- Geophysical seismic refraction surveys of the sites.
- Engineering, geological and structural mapping of rock types and rock geological structure based on exposed bedrock in trial pits excavated to a depth of 3.5m (battered to ensure safe working environment).
- Open augur hole drilling through overburden and diamond core drilling to depths (25-30m) to recover rock cores; to include material description logging, geo-mechanical

testing, recovery of samples and rock cores for laboratory testing and groundwater recording, bulk sampling and undisturbed sampling.

- Laboratory testing of soil, rock and water samples.
- Production of interim and final reports on site investigations.
- Re-instatement of boreholes.

The site investigation shall follow the Site Investigation Plot Plan see Annex 1 (Soil Investigation Plot Plan) and therefore focus on the areas supposed to be developed for the power plant itself, for the coal storage area as well as the substation area.

The extent of the geotechnical investigation shall be such as to permit the satisfactory determination of the geotechnical conditions and to establish reasonable foundation proposals and further recommendations for the execution of the works.

For tender and execution purposes the subsoil investigation program shall be carried out as a prerequisite for the basic design of the foundations of all building/structures/plants/etc. of the Project.

Before starting the investigation work the Consultant shall submit the subsoil investigation program (i.e. the extent of the work based on the general layout, methods and procedures, target, dates, etc.) to the Client for approval.

The subsoil investigation work shall be allowed to start on site only after the approval of Client has been obtained.

During execution of the work, the Client may ask for the increase or decrease of the number of boreholes, CPTs and TPs, according to the results of the investigations respectively after recognising a uniformity or contrary of divergences between the different locations fixed on the attached Annex 2 (Soil Investigation Points Power Plant Area) and Annex 3 (Soil Investigation Points Coal Storage Area). In this case the costs shall be settled in accordance with the unit prices given in Schedule 2. Requirements for TPs in the allocated substation area has been indicated in Annex 1 (Soil Investigation Plot Plan).

The services shall be executed in two phases: the first to get an overview of the complete proposed site in order to confirm/optimize proposed layout, and then the detail on each sub section of the site to allow input into detailed specification for founding.

5.3 Site Supervision

The Consultant's agent shall be experienced in this type of work. The Consultant's agent, who shall be **full time on site**, shall be a qualified Geotechnical Engineer / Engineering

Geologist with a minimum of ten years relevant site experience in the type of work to be carried out under this contract. The Consultant shall supply adequate supervision to ensure satisfactory standards of work and to participate in the pre-planning of the work.

The Consultant shall submit with his Tender a Curriculum Vita of his Agent on site.

5.4 Specific

5.4.1 Codes and Standards

The Consultant shall comply with all local laws, rules and regulations applicable to the works. The investigation procedure shall be governed by international standards and codes, in the latest edition thereof (valid in listed order):

Site investigations work shall conform to the current recommendations of:

BS 1377	Test methods for soil for civil engineering purposes
BS 3882	Recommendations and classifications for topsoil
BS 4019	Core drilling equipment
BS 5930	Code of practice for site investigations
BS 6031	Code of practice for earthworks
DIN 1054	Subsoil, permissible loading of subsoil
DIN 4017	Subsoil
	Part 1: Analysis of bearing capacity for footing with vertical and central loading
	Part 2: Bearing capacity calculations of spread foundations in the case of eccentric and inclined application of the load; recommendations
DIN 4019	Subsoil
	Part 1: Analysis of settlement for vertical and central loading
	Part 2: Settlement calculations in the case of inclined and eccentric application of the load

DIN 4020	Geotechnical investigations for civil engineering purposes
DIN 4021	Subsoil
	Part 1: Exploration by trial pits and borings as well as sampling; investigation in soil
	Part 2: As above; investigation in rock
	Part 3: As above; investigation of ground water
DIN 4022	Part 1: Subsoil and groundwater, designation and description of soil types and rocky soil; list of soil courses for testing and boring without continuously gaining core samples
	Part 2: As above; list of soil courses for investigations and boring in rocky soil
	Part 3: Subsoil and groundwater; designation and description of soil types and rock; borehole log for boring in soil (loose rock) by continuous extraction of cores
DIN 4023	Subsoil and water drilling; graphical representation of results
DIN 4030	Evaluation of liquids, soils and gases aggressive to concrete
DIN 4094	Part 1: Subsoil; equipment for dynamic and static subsoil soundings; dimensions of apparatus and process
	Part 2: Subsoil; dynamic and static penetrometer; application and evaluation of results
DIN 18196	Earthworks, soil classification for civil engineering purposes and method of identification of soil groups

The use of DIN Standards for geotechnical investigations is not mandatory. The equivalent British Standards may be used instead.

5.4.2 Desk study

Information and data search shall be conducted to obtain relevant regional and local geological information. This shall include research of Geological Survey of Namibia publications including maps and reports, information from Namdeb Mineral Resources Department and other literature, both private and public, the existence of which the Consultant should establish.

5.4.3 Topographical Survey and Grid Reference System

A topographical survey based on minimum of 50m grid spacing shall be carried out by the Consultant. Preference shall be a LIDAR topographical survey.

A system of grid referencing (including topographical information) shall be established based on reference datum points supplied by a topography survey. All exploratory holes , etc. shall be referenced to this grid system by location and elevation.

Setting out of exploratory boreholes, trial pits and boreholes shall be by means of GPS, or similar, to give a better than 1m positional accuracy. Following completion of exploratory boreholes and trial pits, levels at each location shall be accurately surveyed to the reference grid system to give a better than 0.1m positional accuracy.

5.4.4 Geophysical Surveys

A seismic refraction survey (conventional seismic reflection or MASW (Multiple Analyses of Surface Waves)-seismic) shall be carried out with a line spacing of 5 m to provide interpretative information on depth to bedrock, stratigraphy, structural zone, fault development, cavities, rippability, etc.

Any defects or anomalies shall be investigated in detail with refined techniques.

5.5 Fieldwork

5.5.1 Boreholes

Exploratory boreholes shall be sunk at the locations given by NamPower.

The boring method shall be:

- a) In soils:

Continuous recovery of soil samples with single tube core barrel or equivalent equipment with inner diameter of ~ 101 mm leaving a borehole of approximately 116 mm width. If the borehole is supposed to be unstable a casing of size 132 shall be used. The outer diameter, i.e. the borehole size will be 128 mm.

The cores shall be laid down in wooden core boxes of 1 m length. Beginning and end of the box length shall be indicated with the actual drilling depth.

It is important to examine each fresh core at once, e.g. preparing the log, taking disturbed samples of at least 2 kg each as a represented sample of the total core length.

Undisturbed samples must be unaltered in grain size distribution and moisture content.

Open core samples must be protected from sunshine and shall be photographed (max. 5MB per picture) by a digital camera with a minimum resolution of 1,600 pixel by 1,200 pixel (2 Mega pixel camera)

b) In rock:

Continuous recovery of rock samples with double tube core barrel with an inner diameter of 93 mm.

The depth of boreholes shall not be less than 20 m unless rock is encountered, in which case the thickness shall be proved to be greater than 1.5 m. Where weak soils are encountered, boreholes shall be continued down to a load bearing stratum with a minimum thickness of 3 m proved by examining at least two (2) boreholes in the vicinity of the location. A load bearing stratum below 20 m is reached if SPT values exceeding 30 within a consecutive length of 5 m (without any SPT value below 30 in this area). In any case the boreholes shall not exceed depths of 40 m.

The boreholes shall be drilled by well-trained drillers under the direct supervision of the Consultant, according to the established instructions and specifications. Casings shall be used where necessary to prevent the collapse of the borehole wall.

The boreholes should preferably be dry-sunk, so that the sequence and depth of each soil layer can be easily identified from the soil samples.

Disturbed and undisturbed samples shall be collected for visual examination and laboratory testing.

The use of bentonite / clay slurry as drilling fluid shall be avoided as far as possible. To get best results and genuine soil samples casing and flushing with portable water instead of Bentonite shall be used.

The soil stratifications encountered in the boreholes shall be logged during drilling and the borehole logs shall include at least the following information:

- the soil stratification
- the number, depth and type of soil samples
- the corrected penetration resistance
- the groundwater level
- the grain size distribution
- the index and engineering properties of representative samples collected from different strata
- the SPT values
- the drilling method, coring, casing.

The evaluation of the investigation points must be referred to the Vertical Reference Datum.

5.5.2 Standard Penetration Tests (SPT)

In all boreholes, standard penetration tests shall be performed in soil at depths of 0.15, 0.75, 1.5, 2.25, 3.0, 3.75, 4.5m and at 1.5 meter intervals thereafter, and at changes in soil strata. If the soil is cohesive then undisturbed thick wall samples shall be obtained. Double-tube core barrels shall be used for rock coring.

A standard split spoon sampler (5.08 cm O.D) shall be driven into the bottom of a properly cleaned hole by a 63.65 kg hammer falling from a height of 76.2 cm, to ensure the desired 450 mm sampler penetration or a maximum of 50 blows. The penetration resistance (i.e. the number of blows) for the first 150 mm penetration shall be recorded for reference and the subsequent second and third 150 mm penetrations shall be recorded as apparent N-values.

After any necessary correction according to the groundwater table, the corrected N-values (N') shall be entered in the borehole log.

5.5.3 Sampling

During SPT disturbed samples shall be collected with the standard spoon and immediately submitted in polyethylene bags with proper identification.

Undisturbed samples shall be collected for cohesive soils at 1.5 m intervals. A thin-walled sample tube of 63.5 m ID and 610 mm in length shall be pressed into the cohesive soils by means of hydraulic pressure produced by the drilling rig. The undisturbed samples shall be trimmed and sealed with non-shrinkage wax at both ends and clearly labelled. Undisturbed samples shall be documented also through pictures.

Disturbed and undisturbed soil samples shall be sent for laboratory testing.

5.5.4 Rock Coring

When rock is encountered, it shall be cored into using a core barrel with a diamond bit and a reamer, which is to be fitted onto the lower end of the drilling rods. The core diameter shall not be less than 93 mm. The rock sample shall be examined, classified and kept in clearly labelled core boxes for further examination, to determine, for example, the core recovery and rock quality designation (RQD) and fracture index. The rock strength shall be classified by means of unconfined compression tests. The coring results shall be entered in the borehole logs.

5.5.5 Ground Water Level Measurement

The water level in each borehole shall be recorded with date and time before commencement and after completion of drilling when the water level has settled. The depth of the borehole and the casing (if any) shall be recorded also. The results shall be listed in the report referring to BGL and SAVD.

5.5.6 Cone Penetration Tests (CPT)

CPTs shall also be carried out as a second method of soil investigation (after borehole sinking) at the locations as given by NamPower.

The CPTs shall be carried out using a heavy static penetrometer (Dutch cone apparatus with minimum 20 to dead weight) to be capable to achieve base resistances of at least 50 MPa for determination of the soil type, density and consistency.

CPTs shall measure both, skin friction and base resistance. Doing so, a continuous profile of the ratio of frictional and cone resistance shall be plotted, which is essential for design of any vibro replacement as cohesive soils can be distinguished from non-cohesive soils.

This test method shall also be used to determine porewater pressures developed during the penetration, thus termed piezocone. Porewater pressure dissipation, after a push, shall also

be monitored for correlation to time rate of consolidation and permeability. Where stiff/dense soils are encountered, the Piezocone should be replaced with a higher capacity electronic cone.

CPTs shall reach 20 m depth at least. If firm soil encounters, which cannot be penetrated by a base resistances of 50 MPa.

The results of the CPT shall be presented in CPT logs as specified in Clause "Reporting" here after.

5.5.7 Trial Pits (TP)

Test or trial pits shall be excavated by a hydraulic excavator as a third method of soil investigation in order to visually identify the top strata and its sequence. The minimum depth shall be 3m or reaching freatic water table or hard rock whatever comes first. TPs shall be placed in-between Drillings and CPTs.

The Consultant shall obtain at least one undisturbed sample every meter of depth or of each stratum encountered. The samples shall be sent for laboratory testing. Each sample shall be tested for bulk density, moisture content and sieve analysis. Every third sample shall be tested for specific gravity, Proctor density, and CBR-value.

The description of the encountered strata, the strata sequence, and its firmness due to hand digging accompanied by coloured photographs, shall be submitted in the soil investigation report.

5.5.8 General Soil Characteristics

A general soil/subsoil description shall be made for all investigation sites, comprising:

- Soil conditions at the surface
- Expected soil conditions below the surface (slopes, etc.)
- Inclination of the ground surface, inclination and orientation of cracks and fissures as well as their stratification, evaluation of slope stability, in case there is a potential for sliding.
- Soil design parameters

This information shall be provided to NamPower / through intermediate reports, to enable him to give instructions for more intensive or additional investigations, if necessary.

5.6 Laboratory Tests

The selected disturbed and undisturbed samples from various boreholes and depths as well as from trial pits shall be sent for laboratory tests, which are specified below.

5.6.1 Natural Moisture Content

Tests to determine the natural moisture content (natural water content), assumed 50 pcs.

5.6.2 Density Tests

Density testing should be performed on the undisturbed soils.

Bulk density test to determine the in-situ wet and dry densities shall be performed on undisturbed samples, assumed 10 pcs.

5.6.3 Atterberg Limit Tests

Tests to determine the liquid limit and the plastic limit shall be performed on representative cohesive soil samples collected from different strata. The Liquidity Index/Consistency Index shall be determined, assumed 10 pcs.

5.6.4 Grain Size Distribution Tests

The grain size distribution of representative soil samples collected from different strata shall be determined with standard sieves. Hydrometer test shall be performed if more than 20% passes the #200 sieve. Representative samples are the coarsest and the finest parts of a stratum, assumed 30 pcs.

Grain size distribution curves with USCS classification of representative samples shall be submitted in the soil investigation report.

5.6.5 Unconfined Compression Tests

Unconfined compression tests on rock samples or very hard soil samples shall be performed with a constant strain rate on representative undisturbed specimens with a diameter of 3.56 cm. Stress-strain diagrams of these shall be attached to the soil investigation report, assumed 3 pcs.

5.6.6 Consolidation Tests

With a 1:1 load increment ratio and 24 hour duration for each increment, standard consolidation tests shall be performed on 2.54 cm thick, representative undisturbed specimens with a diameter of 5.08 cm, assumed 2pcs..

5.7 Chemical Analyses

The groundwater and the soil shall be analyzed and classified with regard to their aggressive action on concrete. The classification shall comply with DIN 4030 or recognized standards, e.g. "Building Research Establishment Digest No. 363"

The chemical analyses shall determine the sulfate and chloride contents as a minimum as well as the pH value. The results and recommendations shall be part of the soil test report, assumed 3 pcs.

5.8 Electrical Resistivity Tests

In order to obtain information for the design of the earthing grid as a means to protect persons and equipment effectively against too high touch voltages respectively over voltages, the specific soil resistivity shall be measured under consideration of the various different soil layers (e.g. Wenner method with 4 electrodes or similar). At least 2 tests shall be carried out.

According to the guide for Substation Earthing certain limits of earth potential rise or touch voltages must not be exceeded (Bull. of the American Bureau of Standards Report 258, 1915).

References:

- ANSI / IEEE 80 – 2000 Guide for Safety in AC Substation Grounding
- DIN VDE 0101 / 1.00 Power Installations Exceeding 1 kV AC

5.9 Geotechnical Investigation Results

The reports shall be complete and shall contain, but not be limited to, the information specified below.

5.9.1 Description of the scope of the work carried out, showing:

- follow-up work program

- methods and systems (equipment) used
- works carried out (field investigations and laboratory tests)
- conclusions and recommendations.

Conclusions shall be formulated regarding the position of the bearing layers as well as the bearing capacity.

Admissible bearing pressures of different types and dimensions of foundations, offshore risers and intake pipes shall be advised. Explanation of recommended soil improvement methods (if required) shall be made. Geotechnical restrictions of earth works (cut and fill, etc.) shall be advised.

Recommendations for foundations shall be derived from the in-situ investigations and from the laboratory tests.

The highest expected ground water table over the next 30 years shall be assessed based on actual water levels, measurements in the vicinity and theoretical consideration.

The Geotechnical Report shall include site-specific geotechnical information which is required for all structures, prior to the commencement of detailed design including all engineering calculations of soil properties, factors of safety and assumptions used in the analyses, significant earthworks such as fills, earth or rock, information and recommendations on the site surface and subsurface conditions, field investigation, laboratory tests, soil and groundwater properties, principle foundation recommendations, earthwork excavation considerations rock excavation, foundation protection, underground cavity risk assessment and cavity probing

5.9.2 Layout location plan of soil investigations, showing:

- the area of the proposed Plant
- the general layout plan
- locations of boreholes, soundings, trial pits, CPTs, etc. carried out
- comprehensive map surrounds.

5.9.3 Logs, tables

The subsurface conditions, for example the sequence of the strata, the nature and properties of the individual strata as well as the groundwater conditions shall be determined and described in the borehole logs. The results of the laboratory tests and the diagrams of the test results shall be included in the report.

Borehole logs shall include:

- actual ground level and reference to the Vertical Reference Datum (installed by Consultant for topography survey)
- description and limits of various soil layers
- samples taken
- SPT results
- Water levels
- Depth of boreholes/pit/soundings related to Vertical Reference Datum.

A summary of the laboratory test results (table) shall be presented. The design of observation wells shall be explained by a sketch.

5.9.4 Soil profiles (cross-sections)

The results of the subsoil investigations shall (in addition to the borehole logs) also be shown in the form of cross-sectional drawings with a vertical scale of 1:100 showing, e.g.:

- actual ground level and Vertical Reference Datum at the points of investigations
- results of boreholes including standard penetration test (SPT) graphs
- trial pit profiles
- CPT diagrams
- limit lines of soil layers (soil strata)
- groundwater level
- legend (key).

5.9.5 Soil classification

The soils shall be classified according to British standard BS 3882, USCS or to the German DIN 18196 standard. Engineering characteristics of the soils shall be evaluated and preliminary soil design parameters derived.

5.9.6 Groundwater classification

After the chemical analysis, the groundwater shall be classified according to its aggressive action on concrete. The classification shall comply with recognized standards, e.g. "Building Research Establishment Digest No. 363" ,DIN 4030 or any other agreed standard.

5.9.7 Picture documentation

Picture documentation of undisturbed samples, core boxes, and trial pits.

5.10 Reporting

All drawings shall be prepared for a CAD system. The files shall be in AUTOCAD - format (preferably AUTOCAD 2010) for easy editing, plotting and converting. If another system shall be applied the Consultant shall also provide the software necessary to gain access to the data in digital format as well as the specifications for the computer work station to be used.

In addition to the required number of hard copies all documents (other than drawings) shall likewise be supplied on compact disks in such format as will enable the Client to edit the documents on his own word processing system (MS Word).

5.10.1 Intermediate Reports

Brief intermediate reports shall be submitted weekly (submitted on Thursday by fax or email) to NamPower in order to:

- show the work progress
- describe the constraints encountered, if any
- propose improvements, if any.

5.10.2 Preliminary Report

Within 5 days of completion of the laboratory testing, the Consultant shall supply a draft report in 2 hard copies and one electronic copy comprising the results of the geotechnical investigations for review and comment by the Client. The report shall include as a minimum:

- Preliminary conclusions and recommendations including the interpretation of field test results,
- Drawing showing locations of exploratory holes, geophysical testing, monitoring points, etc.
- Site geology (subsoil profiles and cross-sections)
- Factual data comprising (borehole logs , in-situ and laboratory test results)
- Soil and rock classification in accordance with BS5930 (1999) and ISRM
- Groundwater levels and its impact on proposed construction

- Comments on any potential geotechnical problems affecting construction with unusual results highlighted
- Recommended shallow foundation types and design parameters
- Recommended allowable bearing pressures and predicted range of short and long-term settlements as a function of shape, size and depth of foundation embedment
- Recommended type of deep foundations as required
- Recommended ground improvement methods, as required to facilitate construction of embankments
- Corrosion protection requirements.

5.10.3 Final Report

The Client shall issue a Final Report for review by the Client within two weeks of completion of all laboratory tests after approval and / or comment on the repliminary report. The final report shall comprise of the complete report of the soil investigation results including the laboratory tests.

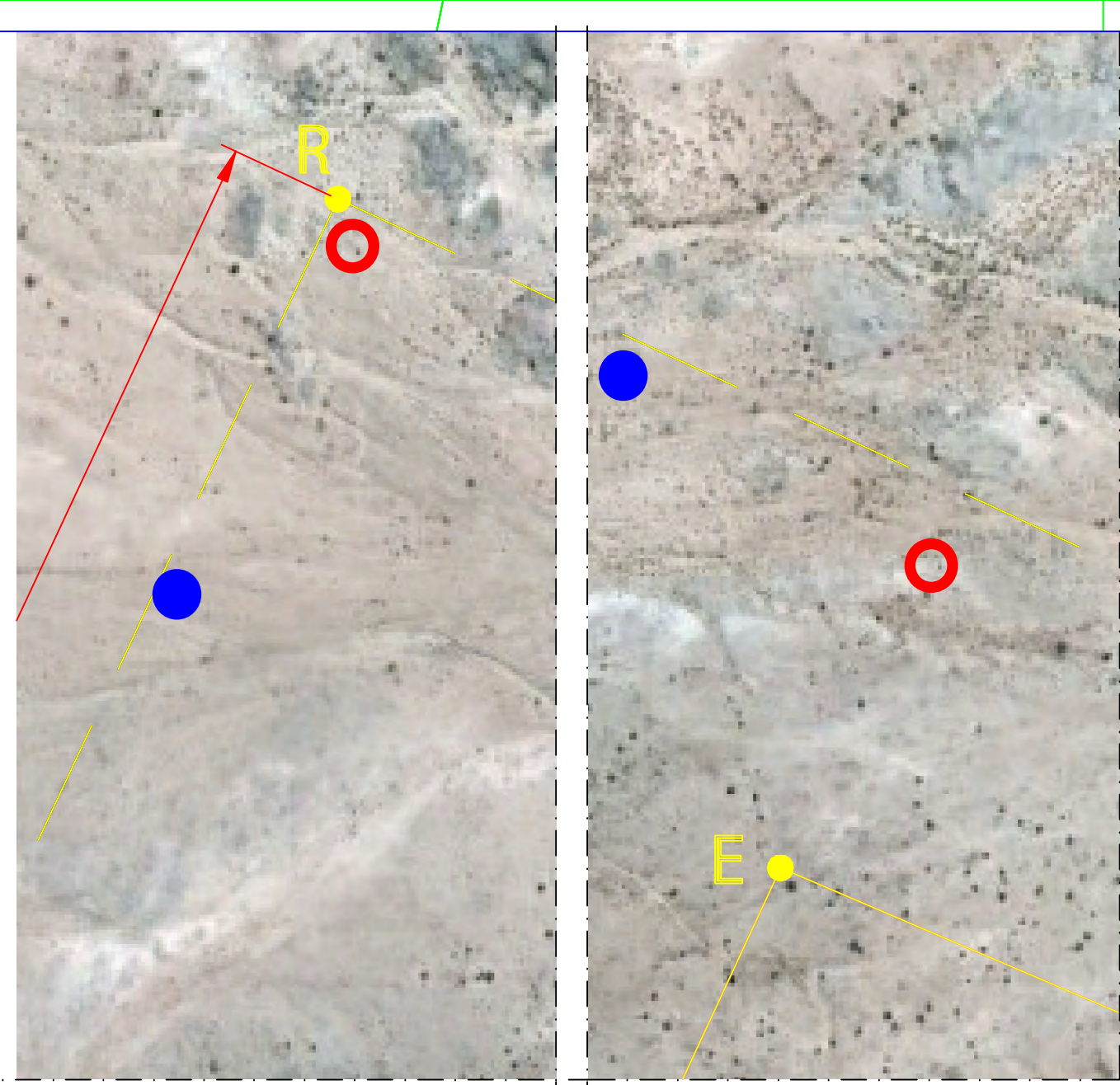
On receipt of the Client's comments and conditional approval to the preliminary report, the Consultant shall undertake the necessary amendments and prepare and submit, within the specified periods the Final Report.

Upon approval of check prints by the Client, two hard copies of the final report comprising all maps in original size together with two soft copies on CD with the complete report shall be handed over to the Client.

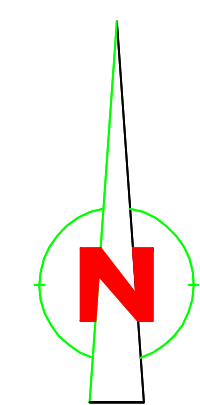
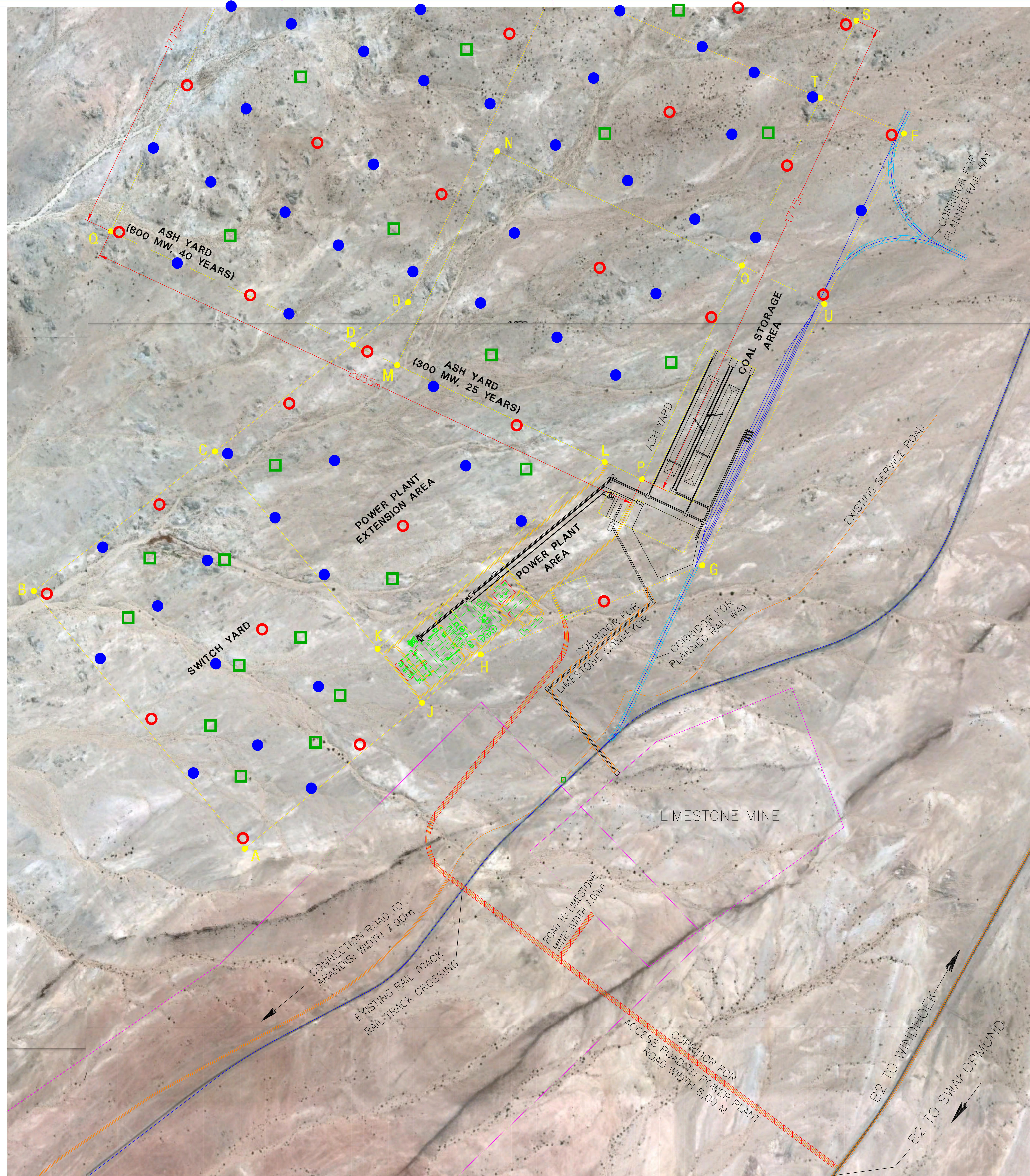
The Consultant shall issue a Final Report for review by the Client within two weeks of completion of all laboratory tests after approval and / or comment on the interim report and shall include as a minimum:

- Summary, conclusions and recommendations
- Site geology
- Grading curves
- Borehole logs and SPT and CPT results
- Groundwater levels
- Laboratory test results
- Angles of internal friction and cohesion values

- Active, passive and at rest soil pressure coefficients, with design recommendations for retaining walls and other earth retaining structures
- Discussion of results of investigation with relevance to foundation design and construction
- Recommended net allowable bearing pressures and expected settlement values, based on different depths / widths of footings (including allowable increases for wind loads)
- Recommendations regarding pile capacities and types
- Recommendations regarding ground improvements, if this is likely to be an economic option
- Dynamic modules of elasticity and Poisson's ratio for vibrating equipment foundation design
- Comments and recommendations regarding use of on-site excavated material for structural fill, including lift thicknesses and methods of compaction
- Recommendations for side slopes to embankments, cut faces and any relevant erosion protection
- Permeability of surface soakways
- Electrical resistivity of the soils in ohm centimetres, for calculating resistance to soil for equipment earthing and buried services cathodic protection
- Thermal resistivity of the soils in °C metre per watt, to be used to determine ampacity derating factors for underground power cables
- Sulphate, chloride and other chemical aggressivity of soil / groundwater concrete and buried services.

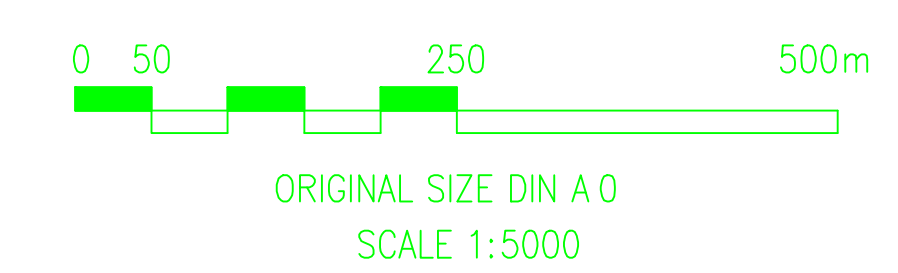


UPPER COORDINATE POINTS OF ASH YARD



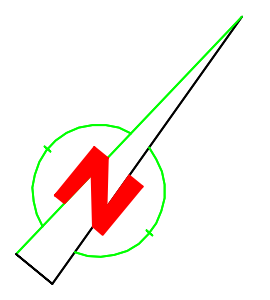
Legend for Geotechnical Investigation:

- TP (Trial Pit)
- BH (Bore Hole)
- CPT (Cone Penetration Test)



ANNEX-1

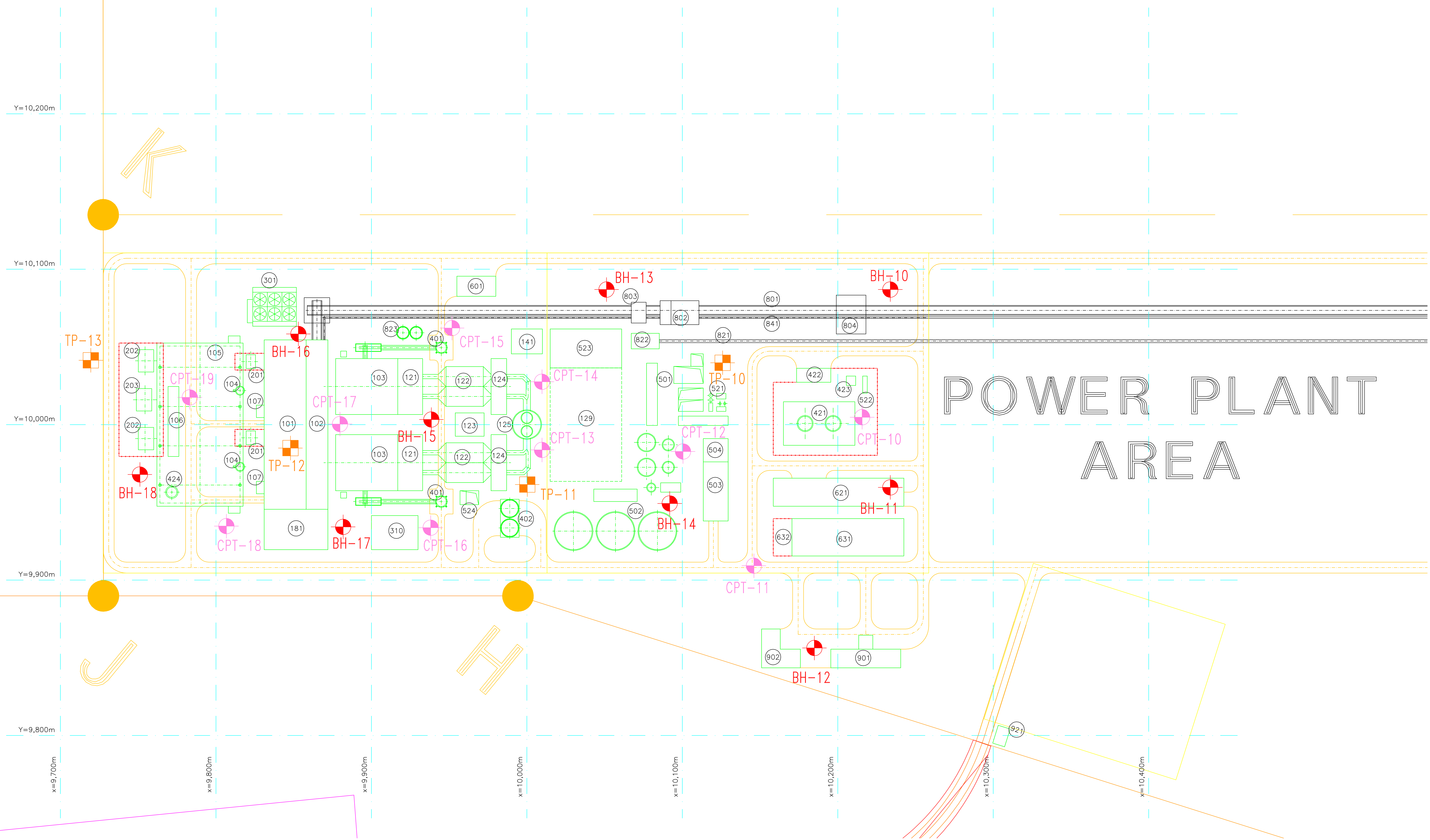
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C				
B				
A				
Date	Name	Note		
FICHTNER		NamPower		
Drawn:	06.02.2012	Name: Holikiewicz	Scale:	1:5000
Checked:	06.02.2012	Name: I	Sheet:	1 of 3
Superseded by:			Project No.:	6850A01
System:	ACAD 2010	Annex:	File:	FIACAD_002
THIS CAD DRAWING MAY ONLY BE ALTERED WITH A CAD SYSTEM		Drawing No.:		



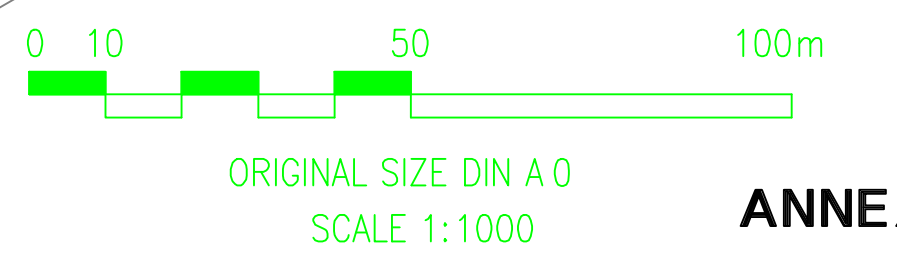
LIST OF BUILDING AND STRUCTURE

- (101) STEAM TURBINE BUILDING
- (102) COAL BUNKER BAY
- (103) BOILER HOUSE
- (104) CONDENSATE TANK
- (105) ACC PLATFORM
- (106) ACC DISTRIBUTION HOUSE
- (107) OIL STORAGE TANK
- (121) FORCED DRAFT FAN HOUSE
- (122) DUST FILTER
- (123) FILTER DISTRIBUTION HOUSE
- (124) INDUCED DRAFT FAN
- (125) STACK
- (129) FGD AREA (FUTURE)
- (141) AUXILIARY BOILER
- (181) CENTRAL CONTROL BUILDING
- (201) HV. UNIT TRANSFORMER
- (202) HV. STEP-UP TRANSFORMER
- (203) HV. STATION TRANSFORMER
- (301) COOLING CELLS
- (310) COMPRESSED AIR HOUSE
- (401) BED ASH SILO A
- (402) FLY ASH SILO
- (421) OIL TANK
- (422) OIL PUMP HOUSE
- (423) FOAM ROOM
- (424) EMERGENCY OIL POND
- (501) WATER PUMP HOUSE
- (502) RAW WATER STORAGE
- (503) DEMIN WATER TREATMENT PLANT
- (504) SANITARY WASTE WATER TREATMENT PLANT
- (521) INDUSTRIAL WASTE WATER TREATMENT PLANT
- (522) OILY WASTE WATER TREATMENT
- (523) REUSE WATER BASIN
- (524) UNIT DRAINAGE PIT
- (601) FIRE FIGHTING BRIGADE
- (621) WORKSHOP
- (631) WAREHOUSE
- (632) STORAGE YARD
- (801) COAL CONVEYOR
- (802) COAL CRUSHER
- (803) COAL SAMPLING
- (804) COAL HANDLING CONTROL ROOM
- (821) LIMESTONE CONVEYOR
- (822) LIMESTONE CRUSHER
- (823) LIMESTONE POWDER SILO
- (841) BIOMASS CONVEYOR
- (901) ADMINISTRATION
- (902) CANTEEN
- (921) GATE

POWER PLANT AREA



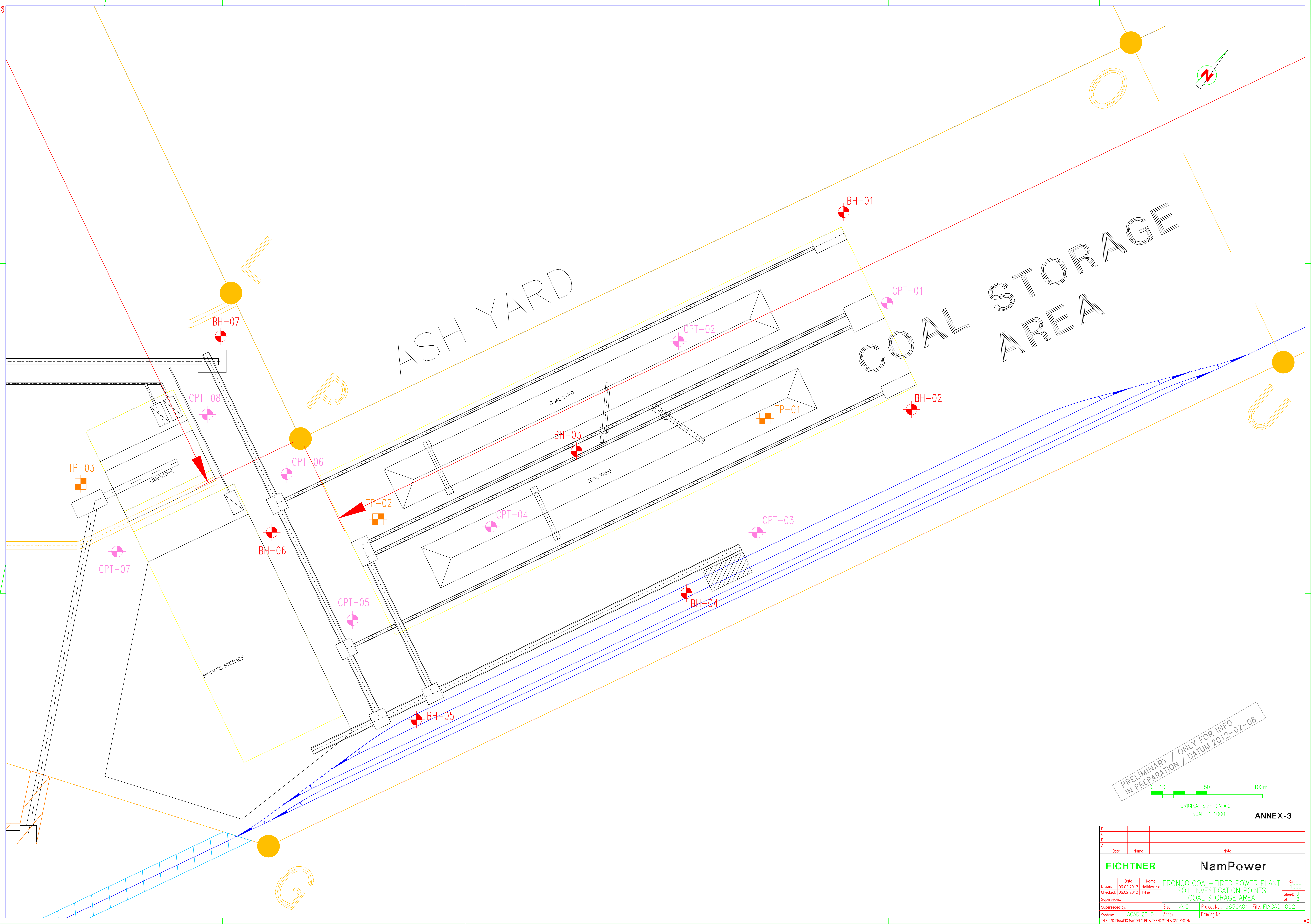
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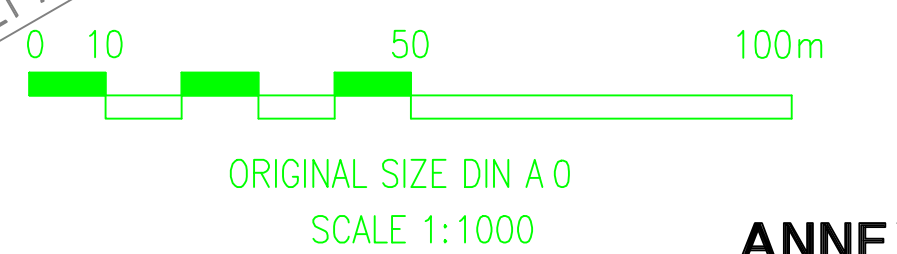
ANNEX-2

Date	Name	Note

FICHTNER		NamPower	
Drawn: 06.02.2012	Name: Halkiewicz	ERONGO COAL-FIRED POWER PLANT	Scale: 1:1000
Checked: 06.02.2012	Name: N. H. I.	SOIL INVESTIGATION POINTS	Sheet: 2 of 3
Superseded by:		POWER PLANT AREA	
System: ACAD 2010	Annex:	Project No.: 6850A01	File: FIACAD_002
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 IN PREPARATION / DATUM 2012-02-08



ANNEX-3

D	C	B	A
Date	Name	Note	
FICHTNER		NamPower	
Drawn:	06.02.2012	ERONGO COAL-FIRED POWER PLANT	
Checked:	06.02.2012	SOIL INVESTIGATION POINTS	
Superseded:		COAL STORAGE AREA	
System:	ACAD 2010	Project No.:	6850A01
		Annex:	Drawing No.:
Date:		Scale:	1:1000
Name:		Sheet:	3
		of:	3
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