



National Competitive Tendering (NCT)

**TENDER DOSSIER FOR CONSTRUCTION OF WATER SUPPLY SYSTEM AT PAWOR SUBCOUNTY,
ARUA DISTRICT**

Publication reference:

TD 19/ 001/ ARU-UG

Table of Contents

1	Section I: Instructions to Bidders (ITB)	3
2	Section II. Bid Data Sheet	17
3	Section III. Evaluation and Qualification Criteria	22
4	Section IV. Checklist, Forms of Bid and other bidding and qualification forms.....	25
4.1	Contractor's Bid.....	25
4.2	Documents Checklist	26
4.3	Other forms	28
5	Section V Other forms and documents	7
5.1	Letter of Acceptance	8
5.2	Specifications for Environmental, Social, Health and Safety Management (ESHS) of the Works	9
5.3	Oxfam: ETHICAL AND ENVIRONMENTAL POLICY	29
5.4	Agreement.....	35
6	Section VI. General Conditions of Contract.....	37
	Table of Clauses.....	37
7	Section VII. Special Conditions of Contract.....	55
8	Section VIII. Technical Specifications	57
10	Section IX. Drawings	108
11	Section X. Bill of Quantities	120
12	Section XI. Security Forms	122
12.1	Bid-Securing Declaration.....	123
12.2	Performance Bank Guarantee	124
12.3	Declaration of Undertaking.....	123
12.4	Bank Guarantee for Advance Payment.....	126

1 Section I: Instructions to Bidders (ITB)

A. General

1. **Scope of Bid**
 - 1.1 The Employer **as defined in Section II “Bidding Data Sheet” (BDS)** invites bids for the construction of Works, as described in the **BDS** and Section V, “Special Conditions of Contract” (SCC). The name and identification number of the Contract are provided in the **BDS** and the SCC.
 - 1.2 The successful Bidder shall be expected to complete the Works by the Intended Completion Date specified in the **BDS** and SCC 1.1 (p).
 - 1.3 Throughout these Bidding Documents:
 - (a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, telex,) with proof of receipt;
 - (b) if the context so requires, “singular” means “plural” and vice versa; and
 - (c) “day” means calendar day.
2. **Source of Funds**
 - 2.1 The Works shall be funded by KFW through the Office of the Prime Minister’s Refugee Respond fund programme.
3. **Fraud and Corruption**

All bidders, government and Implementing Agency officials should guard against any form of corrupt and fraudulent practices during the procurement and contract execution process. Oxfam will reject a bid if it determines that the Bidder has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question.
4. **Eligible Bidders**
 - 4.1 A Bidder, and all parties constituting the Bidder, may have the nationality of any country. Bidders shall be legally registered or incorporated within the Ugandan Law (if a bidder is not registered already at the time of bidding, efforts must be made to have the bidder registered at the shortest time possible if awarded contract). Government-owned enterprises may participate only if they are independent and operate under commercial law.
 - 4.2 A Bidder shall not have a conflict of interest. All Bidders found to

have conflict of interest shall be disqualified. Bidders may be considered to have a conflict of interest with one or more parties in this bidding process, if they are associated, or has been associated in the past, directly or indirectly, with any other entity that has prepared the design, specifications, and other documents for the Project or being proposed as Project Manager for the Contract.

5. Qualifications of the Bidder

5.1 All bidders shall provide in Section III, "Form of Bid, Letter of Acceptance, and Agreement," a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.

5.2 All bidders shall include the following information and documents with their bids, unless otherwise **stated in the BDS**:

- (a) copies of original documents defining the constitution or legal status, place of registration, and principal place of business of the Bidder; written power of attorney of the signatory of the Bid to commit the Bidder;
- (b) total monetary value of construction works performed for each of the last five years;
- (c) experience in works of a similar nature and size for each of the last five years, and details of work under way or contractually committed; and clients who may be contacted for further information on those contracts;
- (d) major items of construction equipment proposed to carry out the Contract
- (e) qualifications and experience of key site management and technical personnel proposed for the Contract
- (f) reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past five years;
- (g) evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources);
- (h) authority to seek references from the Bidder's bankers;
- (i) information regarding any litigation, current or during the last five years, in which the Bidder was/is involved, the parties concerned, and the disputed amounts; and awards;
- (j) proposals for subcontracting components of the Works

amounting to more than 10 percent of the Contract Price. The ceiling for sub contractor's participation is **stated in the BDS**.

5.3 Bids submitted by a joint venture of two or more firms as partners shall comply with the following requirements, unless otherwise **stated in the BDS**:

- (a) the Bid shall include all the information listed in ITB Sub-Clause 5.2 above for each joint venture partner;
- (b) the Bid shall be signed so as to be legally binding on all partners;
- (c) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;
- (d) one of the partners shall be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and
- (e) the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.
- (f) a copy of the Joint venture Agreement entered into by the partners shall be submitted with the bid; or a Letter of Intent to execute a joint venture agreement in the event of a successful bid shall be signed by all partners and submitted with the bid, together with a copy of the proposed Agreement.

5.4 To qualify for award of the Contract, bidders shall meet the following minimum qualifying criteria

- (a) an average annual financial amount of construction work over the period specified in the **BDS** of at least the multiple indicated in the **BDS**
- (b) experience as prime contractor in the construction of at least the number of works of a nature and complexity equivalent to the Works over the period **specified in the BDS** (to comply with this requirement, works cited should be at least 70 percent complete);
- (c) proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment **listed in the BDS**;
- (d) a Contract Manager with five years' experience in works of

an equivalent nature and volume, including no less than three years as Manager; and

- (e) liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than the amount **specified in the BDS**.

A consistent history of litigation or arbitration awards against the Applicant or any partner of a Joint Venture may result in disqualification.

- 5.5 The figures for each of the partners of a joint venture shall be added together to determine the Bidder's compliance with the minimum qualifying criteria of ITB Sub-Clauses 5.4 (a) and (e); however, for a joint venture to qualify, each of its partners must meet at least 25 percent of minimum criteria of ITB Sub-Clauses 5.4 (a), (b), and (e) for an individual Bidder, and the partner in charge at least 40 percent of those minimum criteria. Failure to comply with this requirement shall result in rejection of the joint venture's Bid. Subcontractors' experiences and resources shall not be taken into account in determining the Bidder's compliance with the qualifying criteria, unless otherwise **stated in the BDS**.

- 6. **One Bid per Bidder** 6.1 Each Bidder shall submit only one Bid, either individually or as a partner in a joint venture. A Bidder who submits or participates in more than one Bid (other than as a subcontractor or in cases of alternatives that have been permitted or requested) shall cause all the proposals with the Bidder's participation to be disqualified.
- 7. **Cost of Bidding** 7.1 The Bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer shall in no case be responsible or liable for those costs.
- 8. **Site Visit** 8.1 A site visit and meeting shall be conducted at date and venue provided in the **BDS**.

B. Bidding Documents

- 9. **Contents of Bidding Documents** 9.1 The set of Bidding Documents comprises the documents listed below and addenda issued in accordance with ITB Clause 11:
 - Invitation for Bids
 - Section I Instructions to Bidders

Section II	Bidding Data Sheet
Section III	Evaluation and Qualification criteria
Section IV	Checklist, Forms of Bid, other bidding and qualification forms,
Section V	Letter of acceptance, Agreement, Oxfam Environment social Policy (ESMP), Environment social Management Plan
Section VI	General Conditions of Contract
Section VII	Special Conditions of Contract
Section VIII	Technical specifications
Section IX	Drawings
Section X	Bill of Quantities
Section XI	Forms of Securities

10. Clarification of Bidding Documents A prospective Bidder requiring any clarification of the Bidding Documents may notify Oxfam in writing at Oxfam address indicated in the **BDS**. Oxfam shall respond to any request for clarification received earlier than 21 days prior to the deadline for submission of bids. Copies of Oxfam's response shall be forwarded to all purchasers of the Bidding Documents, including a description of the inquiry, but without identifying its source.

11. Amendment of Bidding Documents

11.1 Before the deadline for submission of bids, Oxfam may modify the Bidding Documents by issuing addenda.

11.2 Any addendum thus issued shall be part of the Bidding Documents and shall be communicated in writing to all purchasers of the Bidding Documents. Prospective bidders shall acknowledge receipt of each addendum in writing to Oxfam.

11.3 To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, Oxfam shall extend, as necessary, the deadline for submission of bids, in accordance with ITB Sub-Clause 21.2 below.

C. Preparation of Bids

12. Language of Bid 12.1 All documents relating to the Bid shall be in the language specified in the **BDS**.

13. Documents 13.1 The Bid submitted by the Bidder shall comprise the following:

**Comprising
the Bid**

- (a) The Bid (in the format indicated in Section III);
- (b) Bid-Securing Declaration, in accordance with ITB Clause 17, if required;
- (c) priced Bill of Quantities;
- (d) Qualification Information Form and Documents;
- (e) Alternative offers where invited;

and any other materials required to be completed and submitted by bidders, as **specified in the BDS**.

14. Bid Prices

- 14.1 The Contract shall be for the whole Works, as described in ITB Sub-Clause 1.1, based on the priced Bill of Quantities submitted by the Bidder.
- 14.2 The Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items for which no rate or price is entered by the Bidder shall not be paid for by Oxfam when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities. Corrections, if any, shall be made by crossing out, initialing, dating and rewriting.
- 14.3 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of bids, shall be included in the rates, prices, and total Bid price submitted by the Bidder.

**15. Currencies of
Bid and
Payment**

- 15.1 All prices shall be expressed in Uganda shillings not including VAT. This is to allow for a fair comparison of prices, following the award of the contract; the working currency will be decided between Oxfam and the contracted party.

16. Bid Validity

- 16.1 Bids shall remain valid for the period as **specified in the BDS**.
- 16.2 In exceptional circumstances, Oxfam may request that the bidders extend the period of validity for a specified additional period.
- 16.3 In the case of contracts in which the Contract Price is fixed (not subject to price adjustment), if the period of bid validity is extended beyond 56 days, the amounts payable in local and

foreign currency to the Bidder selected for award, shall be adjusted as specified in the request for extension. Bid evaluation shall be based on the Bid Price without taking the above correction into consideration.

17. Bid-Securing Declaration

17.1 The Bidder shall furnish as part of its Bid, a Bid-Securing Declaration in original form as specified in the **BDS**. Any bid not accompanied by a substantially responsive Bid-Securing Declaration shall be rejected by Oxfam as non-responsive.

17.2 The Bid-Securing Declaration shall be executed:

- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Submission Sheet, except as provided in ITB Sub-Clause 16.2; or
- (b) if the Bidder does not accept the correction of its Bid Price pursuant to ITB Sub-Clause 28.
- (c) if the successful Bidder fails within the specified time to:
 - (i) sign the Contract; or
 - (ii) furnish the required performance security.

17.3 The Bid Securing Declaration of a JV must be in the name of the JV that submits the bid. If the JV has not been legally constituted at the time of bidding, the Bid-Securing Declaration shall be in the names of all future partners as named in the letter of intent.

18. Alternative Proposals by Bidders

18.1 Alternatives shall not be considered.

19. Format and Signing of Bid

19.1 The Bidder shall prepare one original of the documents comprising the Bid as described in ITB Clause 13, bound with the volume containing the Form of Bid, and clearly marked "ORIGINAL." In addition, the Bidder shall submit copies of the Bid, in the number **specified in the BDS**, and clearly marked as "COPIES." In the event of discrepancy between them, the original shall prevail.

19.2 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the Bidder, pursuant to ITB Sub-Clause 5.2 (a). All pages of the Bid where entries or amendments have been made shall be initialed by the person or persons signing the Bid.

19.3 The Bid shall contain no alterations or additions, except those to comply with instructions issued by Oxfam, or as necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person or persons signing the Bid.

D. Submission of Bids

20. Submission, Sealing and Marking of Bids

20.1 Bidders may always submit their bids by mail or by hand. The Bidder shall seal the original and all copies of the Bid in two inner envelopes and one outer envelope, duly marking the inner envelopes as "ORIGINAL" and "COPIES."

20.2 The inner and outer envelopes shall

- (a) be addressed to the Employer at the address **provided in the BDS**;
- (b) bear the name and identification number of the Contract as **defined in the BDS** and SCC; and
- (c) provide a warning not to open before the specified time and date for Bid opening as **defined in the BDS**.

20.3 In addition to the identification required in ITB Sub-Clause 20.2, the inner envelopes shall indicate the name and address of the Bidder to enable the Bid to be returned unopened in case it is declared late, pursuant to ITB Clause 22.

20.4 If the outer envelope is not sealed and marked as above, Oxfam shall assume no responsibility for the misplacement or

premature opening of the Bid.

- | | |
|--|--|
| 21. Deadline for Sub-mission of Bids | <p>21.1 Bids shall be delivered to Oxfam at the address specified above no later than the time and date specified in the BDS.</p> <p>21.2 Oxfam may extend the deadline for submission of bids by issuing an amendment in accordance with ITB Clause 11, in which case all rights and obligations of Oxfam and the bidders previously subject to the original deadline shall then be subject to the new deadline.</p> |
| 22. Late Bids | <p>22.1 Any Bid received by Oxfam after the deadline prescribed in ITB Clause 21 shall be returned unopened to the Bidder.</p> |
| 23. Withdrawal, Substitution and Modification of Bids | <p>23.1 Bidders may withdraw, substitute or modify their Bids by giving notice in writing before the deadline prescribed in ITB Clause 21.</p> <p>23.2 Each Bidder's withdrawal, substitution or modification notice shall be prepared, sealed, marked, and delivered in accordance with ITB Clauses 19 and 20, with the outer and inner envelopes additionally marked or "WITHDRAWAL," "SUBSTITUTION," OR "MODIFICATION" as appropriate.</p> <p>23.3 No Bid may be substituted or modified after the deadline for submission of Bids.</p> <p>23.4 Withdrawal of a Bid between the deadline for submission of bids and the expiration of the period of Bid validity specified in the Bidding Data or as extended pursuant to ITB Sub-Clause 16.2 may result in the execution of the Bid - Securing Declaration pursuant to ITB Clause 17.</p> <p>23.5 Bidders may only offer discounts to, or otherwise modify the prices of their bids, by submitting Bid modifications in accordance with this clause or included in the initial Bid</p> |

E. Bid Opening and Evaluation

- | | |
|------------------------|---|
| 24. Bid Opening | <p>24.1 Oxfam shall open the bids, including modifications made pursuant to Clause 23, in the presence of the bidders' representatives who choose to attend at the time and in the place specified in the BDS.</p> <p>24.2 Envelopes marked "WITHDRAWAL" shall be opened and read out first. Bids for which an acceptable notice of withdrawal has been submitted pursuant to ITB Clause 23 shall not be opened.</p> |
|------------------------|---|

24.3 The bidders' names, the Bid prices, the total amount of each Bid any discounts, Bid withdrawals, substitutions, or modifications, the presence or absence of Bid-Securing Declaration, and such other details as Oxfam may consider appropriate, shall be announced by Oxfam at the opening. No bid shall be rejected at bid opening except for the late bids pursuant to ITB Clause 22. Substitution Bids and modifications submitted pursuant to ITB Clause 23 that are not opened and read out at bid opening shall not be considered for further evaluation regardless of the circumstances. Late, withdrawn and substituted bids shall be returned un-opened to bidders

24.4 Oxfam shall prepare Minutes of the Bid Opening, including the information disclosed, to those present, in accordance with ITB Sub-Clause 24.3.

25. Confidentiality 25.1 Information relating to the Examination, Clarification, Evaluation, and Comparison of Bids and Recommendations for the Award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process until publication of the award to the successful Bidder has been announced pursuant to ITB Sub-Clause 34.4. Any effort by a Bidder to influence Oxfam's processing of bids or award decisions may result in the rejection of its Bid. Notwithstanding the above, from the time of bid opening to the time of Contract award, if any Bidder wishes to contact Oxfam on any matter related to the bidding process, it should do so in writing.

26. Clarification of Bids 26.1 To assist in the examination, evaluation, and comparison of Bids, Oxfam may, at their discretion, ask any Bidder for clarification of the Bidder's Bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by Oxfam in the evaluation of the Bids in accordance with ITB Clause 28.

27. Examination of Bids and Determination of Responsiveness 27.1 Prior to the detailed evaluation of Bids, Oxfam shall determine whether each Bid (a) meets the eligibility criteria defined in ITB Clause 4; (b) has been properly signed; (c) is accompanied by the Bid Securing Declaration, and (d) is substantially responsive to the requirements of the Bidding Documents.

27.2 A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the Bidding Documents, without material deviation or reservation. A material deviation or

reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the Bidding Documents, Oxfam's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

27.3 If a Bid is not substantially responsive, it shall be rejected by Oxfam, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

28. Correction of Errors

28.1 Bids determined to be substantially responsive shall be checked by Oxfam for any arithmetic errors. Errors shall be corrected by Oxfam as follows:

- (a) where there is a discrepancy between the amounts in figures and in words, the amount in words shall govern; and
- (b) where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted shall govern, unless in the opinion of Oxfam there is an obviously gross misplacement of the decimal point in the unit rate, in which case the line item total as quoted shall govern, and the unit rate shall be corrected.

28.2 The amount stated in the Bid shall be adjusted by Oxfam in accordance with the above procedure for the correction of errors and, with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, the Bid shall be rejected, and the Bid-Securing Declaration executed in accordance with ITB Sub-Clause 17.2 (b).

29. Currency for Bid Evaluation

29.1 Bids shall be evaluated as quoted in Uganda shillings.

30. Evaluation and Comparison of Bids

30.1 Oxfam shall evaluate and compare only the bids determined to be substantially responsive in accordance with ITB Clause 27.

30.2 In evaluating the bids, Oxfam shall determine for each Bid the evaluated Bid price by adjusting the Bid price as follows:

- (a) making any correction for errors pursuant to ITB Clause

28;

- (b) excluding provisional sums and the provision, if any, for contingencies in the Bill of Quantities, but including Daywork, where priced competitively;
- (c) making an appropriate adjustment for any other acceptable variations and deviations; and
- (d) making appropriate adjustments to reflect discounts or other price modifications offered in accordance with ITB Sub-Clause 23.5.

30.3 Oxfam reserves the right to accept or reject any variation and deviation. Variations and deviations and other factors which are in excess of the requirements of the Bidding Documents or otherwise result in unsolicited benefits for Oxfam shall not be taken into account in Bid evaluation.

30.4 The estimated effect of any price adjustment conditions under GCC Clause 47, during the period of implementation of the Contract, shall not be taken into account in Bid evaluation.

F. Award of Contract

31. Award Criteria 31.1 Subject to ITB Clause 32, Oxfam shall award the Contract to the Bidder whose Bid has been determined to be substantially responsive to the Bidding Documents and who has offered the lowest evaluated Bid price, provided that such Bidder has been determined to be (a) eligible in accordance with the provisions of ITB Clause 4, and (b) qualified in accordance with the provisions of ITB Clause 5.

32. Employer's Right to Accept any Bid and to Reject any or all Bids 32.1 Notwithstanding ITB Clause 31, Oxfam reserves the right to accept or reject any Bid, and to cancel the bidding process and reject all bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for Oxfam's action.

33. Notification of Award and Signing of Agreement 33.1 The Bidder whose Bid has been accepted shall be notified of the award by Oxfam prior to expiration of the Bid validity period in writing via the Letter of Acceptance, at the same time Oxfam shall also notify all other bidders of the result of the bidding. This

letter (hereinafter and in the GCC called the “Letter of Acceptance”) shall state the sum that Oxfam shall pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the “Contract Price”).

33.2 The Letter of Acceptance shall constitute the formation of the Contract, subject to the Bidder furnishing the Performance Security in accordance with ITB Clause 34 and signing the Agreement in accordance with ITB Sub-Clause 33.4.

33.3 If so required, The draft contract will be forwarded to the Ministry of Justice for Authentication. The successful bidder will be required to pay the applicable contract authentication fee to the Ministry of Justice.

33.4 The Agreement shall incorporate all agreements between Oxfam and the successful Bidder. It shall be signed by Oxfam and the successful Bidder, within 30 working days following the Letter of Acceptance’s date.

34. Performance Security

34.1 Within 30 working days after receipt of the Letter of Acceptance, the successful Bidder shall sign the contract and deliver to Oxfam a Performance Security in the amount stipulated in the GCC and in the form (Bank Guarantee or Bond) **stipulated in the BDS**, denominated in the type and proportions of currencies in the Letter of Acceptance and in accordance with the GCC.

34.2 If the Performance Security is provided by the successful Bidder in the form of a Bank Guarantee, it shall be issued at the Bidder’s option, by a bank located in the country of Oxfam, or by a foreign bank acceptable to Oxfam through a correspondent bank located in Uganda.

34.3 Failure of the successful Bidder to comply with the requirements of ITB Sub-Clauses 34.1 and 33.4 shall constitute sufficient grounds for cancellation of the award and execution of the Bid-Securing Declaration. Upon the successful Bidder’s, signing of the Agreement and furnishing of the Performance Security pursuant to ITB Clause 34.1, Oxfam shall promptly notify the name of the winning bidder to each unsuccessful bidder.

35. Advance Payment and Security

35.1 Oxfam shall provide an Advance Payment on the Contract Price as stipulated in the GCC, subject to a maximum amount, as **stated in the BDS**. The Advance Payment shall be guaranteed

by a Security. Section XI “Security Forms” provides a Bank Guarantee format.

2 Section II. Bid Data Sheet

A. Introduction																				
ITB 1.1	<p>The Employer is: OXFAM-UGANDA</p> <p>The Work are: Construction of Pawor Host Community Water Supply System in Arua District</p> <p>The name and identification of the contract is: TD 19/ 001 / ARU-UG</p>																			
I.TB 1.2	The Intended Completion Period is 4 months from start date.																			
5.2 (j)	The ceiling for sub contractor's participation is: 25% (Twenty five) percent																			
ITB 5.4 (a)	<p>The Sub- Clause 5.4 (a) is modified to read as follows:</p> <p>“The evarage annual volume of construction work for the successful bidder in the last three years shall be:</p> <p style="text-align: center;">Uganda shillings 1.5 billion shillings</p>																			
ITB 5.4 (b)	<p>Replace 5.4(b) with the following:</p> <p>“participation as contractor, management contractor, or subcontractor, in at least one contract of a nature and complexity equivalent to the Works, with a value 800 million of similar nature (water distribution network and reservoir construction) within a period of last three years (to comply with this requirement, works cited should be at least 70 percent complete) by the firm</p>																			
ITB 5.4 (c)	<p>The essential equipment to be made available for the Contract by the successful Bidder shall be:</p> <table border="1"> <thead> <tr> <th>Sr. No</th><th>Equipment</th><th>Qty</th></tr> </thead> <tbody> <tr> <td>1</td><td>Supply Truck 4- 10 ton capacity</td><td>1</td></tr> <tr> <td>2</td><td>Concrete mixer with poker vibrator</td><td>1</td></tr> <tr> <td>3</td><td>Service Van</td><td>1</td></tr> <tr> <td></td><td></td><td></td></tr> <tr> <td></td><td></td><td></td></tr> </tbody> </table>		Sr. No	Equipment	Qty	1	Supply Truck 4- 10 ton capacity	1	2	Concrete mixer with poker vibrator	1	3	Service Van	1						
Sr. No	Equipment	Qty																		
1	Supply Truck 4- 10 ton capacity	1																		
2	Concrete mixer with poker vibrator	1																		
3	Service Van	1																		

ITB 5.4 (d)	<p>Replace 5.4 (d) with the following:</p> <p>The list of key personnel as follows:</p> <ol style="list-style-type: none"> 1. Civil engineer Contract Manager/team leader (Bachelor's Degree in Civil Engineering with 10 years' experience in water system designs, project management and contract management) 2. Site Engineer (Bachelor's Degree in Civil Engineering with 05 years' experience in water system designs, project management and contract management)
ITB 5.4 (e)	<p>The minimum amount of liquid assets and/or credit facilities net of other contractual commitments of the successful Bidder shall be:</p> <p style="text-align: center;">Uganda shillings 250 million</p> <p>The availability of liquid cash evidence for evaluation purpose should be consistent bank balance (provide banks statement for the last six months). Or Unconditional letter of loan from a reputable bank.</p>
ITB 5.4 (f)	<p>"Misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements will also be considered as fraudulent practice as per ITB 3."</p>
ITB 5.5	<p>"The figures for each of the partners of a joint venture shall be added together to determine the Bidder's compliance with the minimum qualifying criteria of ITB Sub-Clauses 5.4 (a) and (e). Subcontractors' experiences and resources shall not be taken into account in determining the Bidder's compliance with the qualifying criteria."</p>
ITB 8.1	<p>A site visit and pre-bid meeting shall take place at the following date, time and venue</p> <p>Date: 10th – 17th July 2019</p> <p>Time: from 9:00 Am to 4:30 Pm</p> <p>Place: Oxfam Arua Offices</p> <p>Each bidder who participates in the pre-bid site visit and meeting should ensure they obtain a signed site visit certificate from Oxfam. Copy of the certificate should be submitted together with the bid.</p>
ITB 9.2	<p>"The bidding document and any addenda thereof is being provided in the Soft Copy."</p>

B. Bidding Documents	
ITB 10.1	For <u>clarification purposes</u> only, the Oxfam's address is: Attention: David Tumusiime Address: OXFAM- UGANDA PLOT 3459, Tank-Hill Road, Muyenga, P.O. Box 6228 Kampala, Fax: +256 414 510 242 Electronic mail address: david.tumusiime@Oxfam.org
C. Preparation of Bids	
ITB 12.1	The language of the Bid is English
ITB 13.1	<ol style="list-style-type: none"> 1. A signed specification for Environmental, Social, Health and Safety Management (ESHS) of the Works 2. Signed Oxfam Ethical and Environmental Policy 3. Signed code of conduct for Non Oxfam Novib staff. 4. Signed speak Up protocol 5. Signed Oxfam Anti-Corruption Policy 6. Signed Oxfam child protection Policy <p>Any other document document listed in the checklist in Section III.</p>
ITB 16.1	The Bid shall be valid for 90 days .
ITB 17.1	Bid shall include a Bid Securing Declaration included in Section XI form of securities.
ITB 17.2	If the Bidder incurs any of the actions prescribed in subparagraphs (a) (b) or (c) of this provision, the Recipient will declare the Bidder ineligible to be awarded contracts by the Employer for a period of two (2) years from the date of notification by the Employer in this respect .
ITB 19.1	The number of copies of the Bid to be completed and returned shall be One (1) Original and two (2) copies (comprising all relevant sections of the Bid).
D. Submission of Bids	
ITB 20.2 (a)	The Employer's address for the purpose of Bid submission is:

	<p>Attention: <i>David Tumusiime; Logistics Office</i></p> <p>Address: PLOT 3459, Tank-Hill Road, Muyenga, P.O. Box 6228 Kampala, Uganda</p> <p>City: <i>Kampala</i></p> <p>ZIP Code: +256 (0) 414-390500</p> <p>Country: <i>Uganda</i></p> <p>Electronic mail address:</p>
ITB 20.2 (b)	Name and Identification number of the contract as given in ITB 1.1 above in this sheet.
ITB 20.2 (c)	The warning should read “DO NOT OPEN BEFORE <i>29th July 2019 12:00 Hrs.(Ugandan Time)</i> ”
ITB 21.1	The deadline for submission of bids shall be <i>26th July 2019 2:00Pm.(Ugandan Time)</i> In case the deadline date of bid submission is declared a public holiday for the purchaser, the bids may be submitted up to the specified time on the next working day.
E. Bid Opening and Evaluation	
ITB 24.1	The bids will be opened on 29th July 2019 at the same place of bid submission, in the presence of the bidders or their representatives who choose to attend.
ITB 29.1	“Bids shall be evaluated in Uganda shillings
ITB 31.2	All firms will be subjected to administrative checks compliance (ensure that compliant documents as listed in document checklist in Section III are submitted and administratively compliant). This will be either pass/fail. Only those that pass will be subjected to Technical and Financial evaluation. The pass/fail principle will apply and the bidder with the most responsive bid will be awarded.
F. Award of Contract	
ITB 34.1	The Standard Form of Performance Security acceptable to the Employer shall be an Unconditional Bank Guarantee in the format provided in <i>Section XI-Security Forms</i> . Successful bidders will submit a performance bond worth 10% of total contract value on signing of contract.
ITB 35.1	Advance Payment may be provided to the contractor as per the conditions provided under instruction to bidders F (35 Advance

	Payment and Security)
--	-----------------------

3 Section III. Evaluation and Qualification Criteria

This Section contains all the criteria that Oxfam shall use to evaluate the Bids and to determine the qualification of Bidders. In accordance with ITB 5 and ITB 31, no other factors, methods or criteria shall be used. The Bidder shall provide all the information requested in the forms included in Section IV, Checklist, forms of bid and other Bidding and Qualification Forms.

1. Evaluation of Bids

In addition to the criteria listed in ITB 5 (a) – (e) the following criteria shall apply:

1.1 Assessment of adequacy of Technical Proposal with Requirements

The assessment of the Technical Proposal submitted by a Bidder shall comprise (a) evaluation of the Bidder's plan to mobilize key equipment and key personnel to carry out the works, (b) construction method, (c) construction schedule and (d) sufficiently detailed supply sources, in accordance with requirements specified in Section VIII, IX and X-Works Requirements. A Bid not comprising Technical Proposal or a Bid for which the Technical Proposal is not substantially responsive (i.e. with material deviation, reservation or omission) shall be rejected.

1.2 Assessment of adequacy of the Environmental, Social, Health and Safety (ESHS) Methodology

The signed ESHS General and Specific Requirements submitted by the Bidder shall be evaluated to determine whether they are substantially responsive (i.e. without material deviation, reservation or omission) to the requirements specified in Section VIII, IX and X, Works Requirements - ESHS Specifications. A Bid which is not substantially responsive (i.e. with material deviation, reservation or omission) shall be rejected.

2. Evaluation of Eligibility and Qualification

2.1 Eligibility

This Bidding is open to all bidders from eligible countries as defined in ITB 4

2.2 Qualification

To qualify for award of the Contract, bidders shall meet the following minimum qualifying criteria

- (a) an average annual financial amount of construction work over the period specified in the **BDS** of at least the multiple indicated in the **BDS**
- (b) experience as prime contractor in the construction of at least the number of works of a nature and complexity equivalent to the Works over the period **specified in the BDS** (to comply with this requirement, works cited should be at least 70 percent

complete); for instance, Provide Completion certificates and award letters of previous works completed and contacts of previous employers

- (c) proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment **listed in the BDS**;
- (d) Name(s) and CVs or summary of professional background of key personnel be involved in implementation of the Contract as listed in **BDS**
- (e) liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than the amount **specified in the BDS**.¹
- (f) A copy of Oxfam site visit certificate signed by Oxfam representative
- (g) Proof of Company Registration in Uganda
- (h) Powers of attorney
- (i) Active VAT registration certificate
- (j) Certificate from Uganda Revenue Authority of tax clearance for the financial year 2018/2019. Addressed to Oxfam NOVIB (**Oxfam NOVIB TIN 1001527796**)
- (k) Copy of insurance policy (legal liability at a minimum).
- (l) A copy of the audited books of accounts for the past three years
- (m) A letter of the tenderer's bank to guarantee the tenderer's solvency
- (n) A bid securing declaration as provided in ITB 17
- (o) 1. A signed Specifications for Environmental, Social, Health and Safety Management (ESHS) of the Works
2. A signed Oxfam Ethical and Environmental Policy
3. Signed code of conduct for Non Oxfam Novib staff.
4. A signed speak Up protocol
5. A signed Oxfam Anti-Corruption Policy
6. A signed Oxfam child protection Policy
- (p) Declaration of undertaking
- (q) Litigation history

In the interests of transparency and equal treatment and without being able to modify their tenders, tenderers may be required, at the sole written request of the evaluation committee, to

¹ Usually the equivalent of the estimated payments flow over 4-6 months at the average (straight line distribution) construction rate. The actual period of reference shall depend on the speed with which the Employer shall pay the Contractor's monthly certificates.

provide clarifications within 48 hours. These requests can only be for clarification purposes, not for the correction of major details.

Any attempt by a tenderer to influence the evaluation committee in the process of examination, clarification, evaluation and comparison of tenders, to obtain information on how the procedure is progressing or to influence Oxfam in its decision concerning the award of the contract will result in the immediate rejection of his tender.

4 Section IV. Checklist, Forms of Bid and other bidding and qualification forms

4.1 Contractor's Bid

The **Bidder** shall fill in and submit this Bid form with the Bid.

[date]

Identification No and Title of Contract: *[insert identification number and title of the Contract]*

To: *[name and address of Employer]*

Having examined the Bidding Documents, including addenda *[insert list]*, we offer to execute the *[name and identification number of Contract]* in accordance with the GCC accompanying this Bid for the Contract Price of *[insert amount in numbers]*, *[insert amount in words]* *[insert name of currency]*.

The advance payment required is:

Amount	Currency
	Ugandan Shillings

This Bid and your written acceptance of it shall constitute a binding Contract between us. We understand that you are not bound to accept the lowest or any Bid you receive.

We hereby confirm that this Bid complies with the Bid validity and, Bid-Securing Declaration as required by the Bidding Documents and specified in the BDS.

We have no conflict of interest in accordance with ITB Sub-Clause 4.2;

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Bidder: _____

Address: _____

4.2 Documents Checklist

S. No	Document	Clause reference	Template	Provided	Not Provided
1	Annual volume of construction	Section III 2.2 a			
2	Experience in similar works	Section III 2.2 b			
3	Essential equipment's	Section III 2.2 c			
4	Key personell	Section III 2.2 d			
5	Liquid assets-Bidders bank statements for the last six months.	Section III 2.2 e			
6	Site visit certificate	Section III 2.2 f			
7	Company Registration certificate	Section III 2.2 g			
8	Power of attorney	Section III 2.2 h			
9	Active VAT registration certificate	Section III 2.2 i			
10	URA certificate of tax clearance	Section III 2.2 j			
11	Copy of insurance policy (legal liability at a minimum).	Section III 2.2 k			
12	Audited books of accounts	Section III 2.2 i			
13	A letter of the tenderer's bank to guarantee the tenderer's solvency	Section III 2.2 m			
14	A bid securing declaration as provided in ITB 17	Section III 2.2 n			
15	A signed Specifications for Environmental, Social, Health and Safety Management (ESHS) of the Works	Section III 2.2 o			
16	A signed Oxfam Ethical and Environmental Policy	Section III 2.2 o			
17	Signed code of conduct for Non Oxfam Novib staff.	Section III 2.2 o			
18	A signed Oxfam Anti-	Section III 2.2 o			

	Corruption Policy				
19	A signed Oxfam child protection Policy	Section III 2.2 o			
20	Signed Declaration of undertaking	Section III 2.2 p			
21	Litigation history	Section III 2.2 p			
21	Workplan and programme	Section III 1.1			
22	Site organization, construction method statement, plan of personell and equipment mobilization including sufficiently detailed material supply sources	Section III 1.1			
23	Priced bills of quantities	Section X			
24	Contractor's bid	Section IV 4.1			
25	Bidders quality assurance systems				
26	proposals for subcontracting components of the Works amounting to more than 10 percent of the Contract Price.				

4.3 Other forms (including templates to be used)

FORM 4.12.1.2: STAFF TO BE EMPLOYED ON THE CONTRACT

Position/Name	Nationality	Age	Education	Years of experience (with the company/in	Major works for which responsible
Quality control				/	
Others responsible for				/	
Others responsible for				/	

Signature

(person(s) authorised to sign on behalf of the tenderer) Date.....

FORM 4.12.1.3: PROFESSIONAL EXPERIENCE OF KEY STAFF

CURRICULUM VITAE

(Maximum 3 pages + 3 pages of annexes)

Proposed position in the contract:

1. Surname:
2. Name:
3. Date and place of birth:
4. Nationality:
5. Civil status:
Address (phone/fax/e-mail):
6. Education:

<i>Institutions:</i>	
<i>Date:</i> <i>From</i> <i>(month/year) To</i> <i>Degree or qualification:</i>	

7. Language skills

Indicate on a scale of 1 to 5 (1 — excellent; 5 — basic):

<i>Language</i>	<i>Level</i>	<i>Passive</i>	<i>Spoken</i>	<i>Written</i>
	<i>Mother tongue</i>			

8. Membership of professional bodies:
9. Other skills (e.g. computer literacy):
10. Current position:
11. Years of professional experience:
12. Key qualifications:
13. Specific experience in non-industrialized countries:

<i>Country</i>	<i>Date: from (month/year) to (month/year)</i>	<i>Name and brief description of the</i>

14. Professional experience:

<i>Date: from (month/year) to (month/year)</i>	
<i>Place</i>	
<i>Company/organization</i>	
<i>Position</i>	
<i>Job description</i>	

Signature

*(person(s) authorised to sign on behalf of the
tenderer)*

FORM 4.12.2: PLANT/ Equipment

Plant proposed and available for implementation of the contract⁴

	DESCRIPTION (type/make/model)	Power/ capacity	No of units	Age (years)	Owned (O) or hired (H)/ and percentage of ownership	Origin (country)	Current approximate value in euro or national currency
A)	CONSTRUCTION						
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		

	DESCRIPTION (type/make/model)	Power/ capacity	No of units	Age (years)	Owned (O) or hired (H)/ and percentage of ownership	Origin (country)	Current approximate value in euro or national currency
B)	VEHICLES						
					/		
					/		
					/		
					/		
					/		
C)	OTHER PLANT				/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		
					/		

Signature

(person(s) authorised to sign on behalf of the tenderer)

Date.....

FORM 4.12.3: WORK PLAN AND PROGRAMME

4.12.3.1 State the proposed location of your main office on the site, stations (steel/concrete/asphalt structures), warehouses, laboratories, accommodation, etc. (sketches to be attached as required).

4.12.3.2 Give a brief outline of your programme for completing the works in accordance with the required method of construction and stated time of completion.

4.12.3.3 Attach a critical milestone bar chart (schedule of execution) representing the construction programme and detailing relevant activities, dates, allocation of labour and plant resources, etc.

4.12.3.4 If the tenderer plans to subcontract part of the works, he must provide the following details:

Work intended to be	Name and details of	Value of subcontracting	as	Experience in similar work

Signature

(person(s) authorised to sign on behalf of the tenderer) Date

FORM 4.12.4: EXPERIENCE AS CONTRACTOR

4.12.4.1 List of contracts of similar nature and scale performed during the past 3 years

[illegible]

Name of project/type of works	Total value of works the Contractor was responsible for	Period of contract	Start date	Percentage of works completed	Contracting authority and place	Prime contractor (P) or subcontractor (S)	Final acceptance issued? - Yes - Not yet
B) Abroad							

Please attach here available references and certificates from the relevant Contracting Authorities

Signature

.....
(person(s) authorised to sign on behalf of the tenderer)

Date

FORM 4.12.6: LITIGATION HISTORY

Please provide information on any history of litigation or arbitration resulting from contracts executed during the last 5 years or currently under execution.

A separate sheet should be used for each partner of a joint venture/consortium.

Year	Ruling FOR or AGAINST	Name of client, cause of litigation, and	Disputed amount (current value in euro)

Signature

.....

(person(s) authorised to sign on behalf of the tenderer)

Date

FORM 4.12.7: QUALITY ASSURANCE SYSTEM(S)

Please provide details of the quality assurance system(s) you propose using to ensure successful completion of the works.

Signature

(person(s) authorised to sign on behalf of the tenderer)

Date

FORM 4.12.9: Technical Proposal

- Site Organization and Method Statement
- Construction Schedule
- Personnel proposed
- Equipment proposed

Signature

(person(s) authorised to sign on behalf of the tenderer)

Date

5 Section V Other forms and documents

1. Letter of acceptance,
2. Agreement,
3. Specifications for Environmental, Social, Health and Safety Management (ESHS) of the Works
4. Oxfam Ethical and Environmental Policy
5. Oxfam conduct for Non Oxfam Novib staff.
6. Oxfam Speak Up protocol
7. Oxfam Anti-Corruption Policy
8. Oxfam child protection Policy

5.1 . Letter of Acceptance

[letterhead paper of the Employer]

[The Letter of Acceptance shall be the basis for formation of the Contract as described in ITB Clauses 33 and 34. This Standard Form of Letter of Acceptance shall be filled in and sent to the successful Bidder only after evaluation of bids has been completed, subject to any review by Oxfam required under the funding Agreement.]

[insert date]

Identification No and Title of Contract: *[insert identification number and title of the Contract]*

To: *[insert name and address of the Contractor]*

This is to notify you that your Bid dated *[insert date]* for execution of the *[insert name of the Contract and identification number, as given in the SCC]* for the Contract Price of the equivalent of *[insert amount in numbers and words]* *[insert name of currency]*, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are hereby instructed to (a) proceed with the execution of the said Works in accordance with the Bid Documents, and (b) forward the performance security pursuant to ITB Sub-Clause 33.1, i.e., within 30 working days after receipt of this Letter of Acceptance, and pursuant to GCC Sub-Clause 46.1

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

1

5.2 Specifications for Environmental, Social, Health and Safety Management (ESHS) of the Works

Projects financed in whole in the framework of Financial Cooperation have to ensure compliance with international Environmental, Social, Health and Safety (ESHS) standards (including issues of sexual exploitation and abuse and gender based violence) Contractors in KfW-financed projects shall consequently undertake in the respective Contracts to:

- (a) comply with and ensure that all their Subcontractors and major suppliers, i.e. for major supply items comply with international environmental and labour standards, consistent with applicable law and regulations in the country of implementation of the respective Contract and the fundamental conventions of the International Labour Organisation² (ILO) and international environmental treaties and;
- (b) implement any environmental and social risks mitigation measures, as identified in the environmental and social impact assessment (ESIA) and further detailed in the environmental and social management plan (ESMP) as far as these measures are relevant to the Contract and implement measures for the prevention of sexual exploitation and abuse and gender-based violence.

In Specific Requirements, the Bidder is required to enter “Yes” in the space provided if he is compliant and committed to implement the requirements. In case the Bidder enters “No” he should explain his reason for doing so

Attached is the required ESHS for all water supply works

²In case ILO conventions have not been fully ratified or implemented in the Employer's country the Applicant/Bidder/Contractor shall, to the satisfaction of the Employer and KfW, propose and implement appropriate measures in the spirit of the said ILO conventions with respect to a) workers grievances on working conditions and terms of employment, b) child labour, c) forced labour, d) worker's organisations and e) non-discrimination.



Refugee Response Fund Uganda

Office of the Prime Minister

ESMP Oxfam

Version 1.0

11/10/2017

A. General Requirements for ESHS Management <i>[Employer: Please do not delete]</i>		
Topic / Potential Impact	Requirements for Mitigation, Management and Enhancement	Bidder's signature
1. Responsibilities and liabilities	1.1. In conjunction with his obligations defined under the Contract, the Contractor will plan, execute and document construction works pursuant to the present Environment, Social, Health and Safety specifications (ESHS).	
	1.2. The Contractor is liable for all damages to the environment and people caused by the execution of the works or the methods used for execution, unless it is established that the execution or methods were necessary, according to the provisions of the Contract or an Engineer's instruction.	
	<p>1.3. Under the Contract and as introduced by the present ESHS Specifications, the term "Project Area" means:</p> <ul style="list-style-type: none"> a) The land where work will be carried out; or b) The land necessary for the implantation of construction facilities (work camp, workshops, offices, storage areas, concrete production plants) and including special access roads; or c) Quarries for aggregates, rock material and riprap; or d) Borrow areas for sand and other selected material; or e) Stockpiling areas for backfill material or other demolition rubble; or f) Any other location, specifically designated in the Contract as a Project Area. <p>The term "Project Area" encompasses any individual Project Area or all Project Areas.</p> <p>For the sake of clarity, Project Area is a different concept than Site under CC Sub-Clause 1.1.17.</p> <p>Project Area defines an area within which the Contractor is to comply with environmental, social, health and safety obligations defined in the present ESHS Specifications.</p> <p>Site is the places where the Permanent Works</p>	

A. General Requirements for ESHS Management		
<i>[Employer: Please do not delete]</i>		
Topic / Potential Impact	Requirements for Mitigation, Management and Enhancement	Bidder's signature
	<p>are to be executed and to which Plant and Materials are to be delivered, and where right of access to, and possession of, is to be given by the Employer to the Contractor. The Employer is under no similar obligation for any area located outside the Site, even if within the Project Area, where access is at Contractor's risk.</p> <p>In term of physical footprint, the CC Sub-Clause 1.1.17 Site is included in the Project Area. The Project Area is then of greater geographical extent than the Site.</p>	
	<p>1.4. The ESHS Specifications refer to:</p> <ul style="list-style-type: none"> a) Protection of the natural environment (water, air, soil, vegetation, biological diversity) in areas within any Project Area and its surroundings, i.e. including but not limited to access roads, quarries, borrow areas, stockpiling of backfill material, camps or storage areas; b) Health and safety conditions to be maintained for the Contractor's personnel and any other person present on the Project Areas, or along access routes; c) Working practices and the protection of people and populations living near the Project Area but exposed to the general disturbance caused by works. 	
	<p>1.5. Subcontractors</p> <p>The Contractor shall ensure that all Subcontractors and Suppliers (in particular those for major supply items) are familiar with the ESHS requirements and guidelines valid on Site and Project Area.</p>	
	<p>1.6. Applicable regulations</p> <p>The Contractor must comply with all applicable national laws, permits and regulations and the World Bank Group's Environmental and Social Health and Safety Standards in relation to the protection of the environment and people during</p>	

A. General Requirements for ESHS Management		
<i>[Employer: Please do not delete]</i>		
Topic / Potential Impact	Requirements for Mitigation, Management and Enhancement	Bidder's signature
	construction (e.g. management of impacts and disturbances related to water, air, soils, noise, vibration, vegetation, fauna, flora, waste, groundwater, national labour standards, if relevant indigenous populations, standards on occupational exposure, other). For identifying the applicable regulations, the Contractor may seek external support from a specialist.	
	1.7 Notwithstanding the Contractor's obligation under the above clauses, the Contractor shall implement all measures necessary to avoid undesirable adverse environmental and social impacts wherever possible, restore work sites to acceptable standards, and abide by any environmental performance requirements.	
3. Management of Non-conformities	3.1 Non-conformities detected during inspections carried out by the Supervisor, shall be addressed through measures adapted to the severity of the situation and which may include deductions from Interim Payments in accordance with GC 11.3.	
4. Resources allocated to ESHS management	<p>4.1 Environment, Social, Health and Safety Officer</p> <p>4.1.1 The Contractor appoints at least one or several Environment, Social, Health and Safety persons in charge, who is/are fully or in part, time in charge of implementing the ESHS requirements. The ESHS person in charge speaks fluently the language of communication of the Contract. The Contractor informs all staff and workers of the name and authority of the ESHS person in charge.</p> <p>4.1.2 The ESHS person in charge holds the power within the Contractor's organization to escalate non-conformities, and in the event of severe ESHS non-conformities and in agreement with the Employer, suspend the works if considered necessary, and allocate all resources, personnel and equipment required to take any corrective action considered necessary.</p>	

A. General Requirements for ESHS Management		
<i>[Employer: Please do not delete]</i>		
Topic / Potential Impact	Requirements for Mitigation, Management and Enhancement	Bidder's signature
	<p>4.2 Personnel in charge of relations with stakeholders</p> <p>4.2.1 If applicable, the Contractor nominates a Stakeholders Relations Officer (or Community Liaison Officer if appropriate) who is responsible for relations and engagement with local communities, administrative authorities, and other stakeholders and representatives of economic activities. For contracts with a low level of ESHS risks and impacts, this could also be the Contractors site staff. The Community Liaison Officer must speak the language of the local population in the Project Area. The Stakeholder Relation Officer speaks fluently the language of the local population.</p> <p>4.2.2 The Stakeholders Relations Officer will be located onsite or within reasonable travelling time from the Project Area.</p> <p>4.2.3 Local authorities will be informed of the existence of this person as of the start of works and will be provided with telephone contact details so as to be able to contact this person if a problem arises during the execution of works, or concerning the behaviour of the Contractor's Personnel, inside or outside the Project Area or any other public disturbances caused by the works.</p>	
	4.3 Both the ESHS and Stakeholder Relations Officer [Community Liaison Officer] will be equipped with the necessary resources to operate independently and get to all location of the Project Area without delay.	
5. Inspections	5.1 The Employer will regularly inspect the Project Area and Project sites for adherence to the contract conditions including the ESHS requirements. State environmental authorities may carry out similar inspection duties. The Contractor shall comply with directives from such inspectors to implement the required measures.	

A. General Requirements for ESHS Management		
<i>[Employer: Please do not delete]</i>		
Topic / Potential Impact	Requirements for Mitigation, Management and Enhancement	Bidder's signature
6. Reporting	6.1 The Contractor prepares regular ESHS progress reports as part of the contractually agreed reporting requirements to the Employer. This will include reporting of accidents and incidents in line with Paragraph 24.	
7. Code of Conduct	<p>7.1. The Contractor establishes a Code of Conduct and displays it clearly within the Project Area. The Contractor will regularly make personnel and workers aware of the Code of Conduct and the associated provisions.</p> <p>The Code of Conduct addresses the following issues:</p> <ol style="list-style-type: none"> 1. Compliance with applicable laws, rules, and regulations 2. Compliance with applicable health and safety requirements to protect the local community (including vulnerable and disadvantaged groups), the Employer's personnel and the Contractor's personnel, including sub-contractors and day workers (including wearing prescribed personal protective equipment, preventing avoidable accidents and a duty to report conditions or practices that pose a safety hazard or threaten the environment) 3. The use of illegal substances 4. Non-Discrimination in dealing with the local community (including vulnerable and disadvantaged groups), the Employer's personnel and the Contractor's personnel, including sub-contractors and day workers (for example on the basis of family status, ethnicity, race, gender, religion, language, marital status, age, disability (physical and mental), sexual orientation, gender identity, political conviction or social, civic, or health status) 5. Interactions with the local community(ies), members of the local community(ies), and any affected person(s) (for example to convey an attitude of respect, including to their culture 	

A. General Requirements for ESHS Management		
<i>[Employer: Please do not delete]</i>		
Topic / Potential Impact	Requirements for Mitigation, Management and Enhancement	Bidder's signature
	<p>and traditions)</p> <p>6. Sexual harassment</p> <p>7. Violence including sexual and/or gender-based violence</p> <p>8. Exploitation including sexual exploitation and abuse</p> <p>9. Protection of children (including prohibitions against sexual activity or abuse, or otherwise unacceptable behavior towards children, limiting interactions with children, and ensuring their safety in the Project Area).</p> <p>10. Sanitation requirements (for example, to ensure workers use specified sanitary facilities provided by their employer and not open areas)</p> <p>11. Avoidance of conflicts of interest</p> <p>12. Respecting reasonable work instructions (including regarding environmental and social norms)</p> <p>13. Protection and proper use of property (for example, to prohibit theft, carelessness or waste)</p> <p>14. Duty to report violations of this Code</p> <p>15. Non-retaliation against workers who report violations of the Code, if that report is made in good faith.</p>	
8. ESHS training	The Contractor provides ESHS inductions and trainings to the workforce, in particular regarding Health and Safety risks and mitigation measures tailored to the project scope. The Contractor makes personnel aware about the importance to protect species, habitats, fauna and flora and the safety and rights of neighbouring communities.	
9. Standards	The Contractor complies with all applicable national norms, standards and discharge, emission etc. limit values defined in the national regulations.	

Specific Requirements for ESHS Management

[Employer: Please adjust to the specific ESHS requirements of the works].

B 1 Protection of the Environment and People

Topic/ Potential Impact	Requirements for Mitigation, Management and Enhancement	Com- pliance Yes/No	Please explain in case of No
10. Protection of adjacent areas	10.1 Establish means of protection to avoid or minimise adverse effects on vegetation, soils, groundwater and surface water, biodiversity, natural drainage and the water quality within the works area. Use construction methods to minimise impacts to the extent possible.		
	10.2 Restrict excavation activities during periods of intense rainfall. Use temporary bunding to reduce the risk of sediment, oil or chemical spills to the receiving waters.		
	10.3. Carry out excavation works in cut off ditches to prevent water from entering excavations.		
	10.4 Bring work site boundaries and limits in accordance with plans agreed upon in advance. All construction activities should be carried out within boundaries.		
	10.5 Stay out of surrounding wetland areas.		
	10.6 Keep distances in compliance with national regulations and as appropriate: a) from any permanent water course and outside of floodable areas; b) from sensitive urban services and buildings (health centre, school, water supply for populations); c) from any housing; cultural sites, archaeological areas, sensitive wetlands, forest reserves or any other valued ecosystem component, or on high or steep ground or in areas of high scenic value. d) Where it is not possible to keep distances, permission shall be obtained from the appropriate authorities.		

B 1 Protection of the Environment and People			
Topic/ Potential Impact	Requirements for Mitigation, Management and Enhancement	Com- pliance Yes/No	Please explain in case of No
	10.7 Discourage construction workers from engaging in the exploitation of natural resources such as hunting, fishing, and collection of forest products or any other activity that might have a negative impact on the social and economic welfare of the local communities.		
	10.8 After construction, form reshaped land so that it is inherently stable, adequately drained and suitable for the desired long-term land use and allows natural regeneration of vegetation.		
	10.9 Minimize long-term visual impacts.		
11. Selection of borrow areas, backfill material stockpile sites and access road	11.1 Prevent and minimize the impacts of borrow areas or areas to be excavated, backfill material stockpile locations and access roads, quarrying, earth borrowing, piling and building of temporary construction camps and access roads on the biophysical environment including protected areas and arable lands; local communities and their settlements. After termination of the works, in as much as possible restore/rehabilitate all sites to acceptable standards.		
	11.2 Locate stockpile areas in areas where trees can act as buffers to prevent dust pollution. Build perimeter drains around stockpile areas. Locate sediment and other pollutant traps at drainage exits.		
	11.3 Obtain appropriate licenses/permits from relevant authorities, including traditional authorities if appropriate, to operate quarries or borrow areas.		
	11.4 Deposit any excess material in areas approved by local authorities.		
	11.5 Take measures to avoid that stagnant water in uncovered borrow pits creates breeding grounds for mosquitoes.		
	11.6 If disposal sites for clean spoil are necessary, locate them in areas approved by the Employer, of low land use value and where they will not result in material being easily washed into drainage channels. Whenever possible, place spoil materials in low-lying areas, compact and plant		

B 1 Protection of the Environment and People			
Topic/ Potential Impact	Requirements for Mitigation, Management and Enhancement	Com- pliance Yes/No	Please explain in case of No
	with species indigenous to the locality.		
12. Pollution prevention	12.1 For all works minimize pollution risk (e.g. liquid effluents; air emissions; noise and vibration management; vehicle and equipment maintenance and selection; fuel, oil and chemical storage and handling).		
	12.2 Identify potentially toxic overburden and screen with suitable material to prevent mobilization of toxins.		
	12.3 Use in as much as possible, local materials to avoid importation of foreign material and long-distance transportation.		
13. Effluents	13.1 Contain and store construction wastewater appropriately, including sanitary water. Do not discharge untreated effluents.		
14. Emissions and dust	14.1 Comply with national requirements for emissions.		
	14.2 Minimise the effect of dust on the surrounding environment resulting from earth mixing sites, asphalt mixing sites, dispersing coal ashes, vibrating equipment, temporary access roads, etc. to ensure safety, health and the protection of workers and communities living in the vicinity of dust producing activities. Use best practice to ensure minimisation of dust emissions (e.g. proper stockpiling, watering etc.) during dry and windy conditions and transportation.		
	14.3 Use vehicles in appropriate technical conditions and provide emissions control equipment where applicable (e.g. filters).		
	14.4 Switch off vehicles when not in use.		
	14.5 Keep speed limits on site.		
	14.6 Sensitise drivers with regards to all measures with regards to avoiding dust and emissions and safe driving.		
15. Noise and vibration	15.1 Avoid operations and vehicle movements at night. Sensitise drivers.		

B 1 Protection of the Environment and People			
Topic/ Potential Impact	Requirements for Mitigation, Management and Enhancement	Com- pliance Yes/No	Please explain in case of No
	15.2 Set traffic speed limits. Sensitise drivers.		
	15.3 Locate stationary equipment (such as power generators) as far as possible from nearby receptors (e.g. worker resting areas, populated areas and environmentally sensitive areas).		
	15.4 Keep noise levels emanating from machinery, vehicles and noisy construction activities (e.g. excavation, blasting) at a minimum for the safety, health and protection of workers within the vicinity of high noise levels and nearby communities.		
16. Waste	16.1 If not otherwise instructed by the Employer, identify waste management facilities and waste management contractors. Ensure disposal through waste contractors, licensed for treatment/removal/recycling of each of the waste types, if existent.		
	16.2 Properly collect all wastes produced including containers, litter and any other waste generated during the construction and dispose and segregate at designated disposal sites in line with applicable government waste management regulations.		
	16.3 Minimise the waste production to the extent possible.		
	16.4 Check that areas for depositing hazardous materials such as contaminated liquid and solid materials are approved by the Employer and appropriate local and/or national authorities before the commencement of work. Use existing, approved sites over the establishment of new sites.		
	16.5 Bund all vessels (drums, containers, bags, etc.) containing oil/fuel/surfacing materials and other hazardous chemicals in order to contain spillage.		
	16.6 Remove construction waste left in stockpiles along the road, and reuse or dispose of on a daily basis.		

B 1 Protection of the Environment and People			
Topic/ Potential Impact	Requirements for Mitigation, Management and Enhancement	Com- pliance Yes/No	Please explain in case of No
17. Vegetation clearing	17.1 Limit vegetation clearing to areas within the site boundary where it is strictly necessary.		
	17.2 Avoid clearing mature trees and endangered species.		
	17.3 Do not clear vegetation more than two months in advance of operations.		
18. Biodiversity management	18.1 Avoid to the extent possible areas of ecological value.		
	18.2 Avoid disturbances on flora and fauna and natural habitats.		
	18.3 Avoid forest fires.		
19. Erosion and sediment transport	19.1 If construction takes place on inclined surfaces/slopes, take appropriate erosion control measures (e.g. retain trees and other vegetation, use of natural contours for roads and drainage networks, excavated drainage channels).		
	19.2 Appropriately store removed topsoil. After construction, use topsoil as backfill for restoration of the area.		
	19.3 Topsoil shall not be stored in large heaps. Low mounds of no more than 1 to 2 m high are recommended.		
	19.4 Soils shall not be stripped when they are wet as this can lead to soil compaction and loss of structure.		
	19.5 Re-vegetate stockpiles to protect the soil from erosion, discourage weeds and maintain an active population of beneficial soil microbes.		
20. Site rehabilitation	20.1 To the extent practicable, reinstate construction working areas and natural drainage patterns where they have been altered or impaired after construction activities are completed. Rehabilitate the site progressively so that the rate of rehabilitation is similar to the rate of construction. Revegetate with plant species that will control erosion, provide vegetative diversity and, through succession, contribute to a resilient		

B 1 Protection of the Environment and People			
Topic/ Potential Impact	Requirements for Mitigation, Management and Enhancement	Comp- liance Yes/No	Please explain in case of No
	ecosystem. If appropriate, for larger revegetation areas consult experts.		
	20.2 Avoid that rehabilitated areas pose health and safety risks (such as holes, ponds).		
	20.3 Rehabilitate borrow areas, backfill material stockpile sites and access roads, where applicable.		
	20.4 Re-establish existing water flow regimes in rivers, streams and other natural or irrigation channels where they have been disrupted due to works being carried out.		

B 2 Health and Safety			
Topic/ Potential Impact	Requirements for Mitigation, Management and Enhancement	Comp- liance Yes/No	Please explain in case of No
22. Health and safety plan	<p>22.1 Develop an Occupational Health and Safety (OHS) Plan, appropriate to the ESHS impacts and risks level of the works to be carried out. Set a minimum of OHS Standards for each task. Implement prevention, protection and monitoring measures as described in the OHS Plan.</p> <p>The OHS Plan shall include at least:</p> <ul style="list-style-type: none"> • Provisions to guarantee a safe and healthy work environment, taking into account inherent risks in its particular sector and specific classes of hazards in the work areas, including physical, chemical, biological, and radiological hazards; • Provisions of preventive and protective measures, including management and safety of hazardous materials; • Training of workers; • Documentation and reporting of occupational accidents, diseases, and incidents; • Emergency preparedness and response arrangements; • Provisions for appropriate securing of the sites 		

B 2 Health and Safety			
Topic/ Potential Impact	Requirements for Mitigation, Management and Enhancement	Comp- liance Yes/No	Please explain in case of No
	<p>and work-places (e.g. fencing, signage);</p> <ul style="list-style-type: none"> • If appropriate: Appointment of site security personnel; • Road safety measures; • First aid and medical assistance; • ESHS measure at community level to avoid community exposure to health issues (see also Paragraph 47). 		
23. Occupa- tional Health and Safety (OHS) Reporting	23.1 Document in a structured and transparent system, (e.g. a Site Accident record sheet) all accidents, dangerous occurrences and investigations.		
	23.2 Produce an OHS report documenting OHS performance and progress (e.g. statistics: month, number of workers, number of health and safety staff on site, number/type of OHS trainings); number of near misses, first aid cases, incidents with more than three days of absence, fatalities; summary of all accidents resulting in more than three days of absence (accident details to be enclosed in the Annex); third party incidents (e.g. community members, road traffic etc.)..		
24. Accident reporting procedure	24.1 Record all health and safety related incidents (e.g. observations, accidents, witness statements) on site and follow up immediately and properly. A reportable incident includes any accident to any person on site requiring medical attention or resulting in the loss of working hours or that resulted, or could have resulted in injury, damage or a danger to the works, persons, property or the environment. If applicable, the Contractor will also notify and report of incidents of subcontractors and suppliers (in particular those for major supply items).		
	24.2 Inform the Employer immediately of any accident involving serious bodily injury to a member of personnel, a visitor or any other third party, caused by the execution of the works or the behaviour of the personnel of the Contractor.		

B 2 Health and Safety			
Topic/ Potential Impact	Requirements for Mitigation, Management and Enhancement	Comp- liance Yes/No	Please explain in case of No
	24.3 Inform the Employer as soon as possible of any near-accident (or near misses) relating to the execution of the works, which, in slightly different conditions, could have led to bodily injury to people, or damage to private property or the environment.		
28. Personal protective equipment	28.1 Make sure that all workers wear Personal Protective Equipment (PPE) (hardhats, masks, safety glasses, safety boots etc. depending on project type).		
31. Emergency scenarios prevention	31.1 Provide necessary prevention equipment on site in line with applicable regulations to respond to emergency scenarios, e.g. fire, explosion, floods, natural hazards, etc.		
	31.2 Immediately clean any spills and remediate contaminated areas.		
	31.3 Maintain high standard in housekeeping on site to avoid emergencies. Properly store construction materials and light equipment.		
	31.4 Train the workers to handle emergency situations.		
33. First-aid	33.1 Keep minimum first aid equipment and provisions on site (e.g. suitably stocked first-aid kits; a person, respectively an adequate number of trained first-aid helpers, inform staff and workers about first-aid arrangements).		
37. Access to health care and training	37.1 Organize for the workforce access to medical treatment within or in the vicinity of the Project Area.		
	37.2 Make contingency arrangements for transporting injured persons to a hospital as quickly as possible.		
40. Hygiene, accommodation and food	40.1 Provide clean and functional hygienic and sanitary facilities and, if applicable accommodation and food, at the site, including shaded welfare areas, bathrooms, toilets, changing rooms and potable water. Ensure toilets and changing rooms are separated between male and female employees.		

B 2 Health and Safety			
Topic/ Potential Impact	Requirements for Mitigation, Management and Enhancement	Comp- liance Yes/No	Please explain in case of No
	40.2 Organize for the workforce adequate accommodation if applicable, supply of water, adequate sewage and garbage disposal system, appropriate protection against heat, cold, damp, fire and disease-carrying animals, adequate sanitary and washing facilities, adequate lighting, and basic medical services, in accordance with all applicable health and safety regulations and norms.		
B 3 Local labour and relations with local communities			
Topic/ Potential Impact	Requirements for Mitigation, Management and Enhancement	Comp- liance Yes/No	Please explain in case of No
42. Labour conditions	42.1 The Contractor complies with labour standards as both per national laws and ILO Fundamental Conventions (e.g. prohibit child labour under minimum age; forced labour; sexual assault; discrimination; ensure non-discrimination and equal opportunities of workers; provide information to workers that is clear and understandable regarding their terms and conditions of employment; respect their rights related to hours of work, wages, overtime, benefits at the beginning of the work; ensure payment on a regular basis etc.). Grant the same rights to contracted workers, community workers and primary supply workers.		
	42.2 Develop and implement labour management procedures which set out the way workers will be managed in accordance with the standards mentioned above in Paragraph 42.		
	42.3 Establish a simple but functional complaints mechanism that all workers have access to (e.g. letter boxes which are emptied regularly) and are aware of so that they can raise workplace relevant complaints anonymously (e.g. about unfair treatment, unsafe driving).		

B 2 Health and Safety			
Topic/ Potential Impact	Requirements for Mitigation, Management and Enhancement	Comp- liance Yes/No	Please explain in case of No
43. Local recruitment	43.1 Prioritise local employment and staff from local communities for the supply of goods and services to the works and local workforce, where appropriate.		
	43.2 Provide additional specialised training to local workforce in skills required by contractor (i.e. administrator, driving etc.).		
44. Transport	44.1 Organise carpools/buses for worker transportation where needed.		
45. Workers accommo- dation	45.1 If workers campsites need to be installed, ensure that accommodations provide separate toilets and locker rooms for women and men; hygiene and electrical/fire safety standards are maintained; workers have access to an adequate and convenient supply of free potable water; there are no triple deck bunks; mattresses and linens are provided.		
46. Meals	46.1 If applicable, provide for at least two meals per shift to local personnel pursuant to proper hygiene conditions. If no canteen is available, pay workers at least for a minimum of 2 meals per day per shift.		
47. Community interaction and safety	47.1 Engage, communicate with and inform communities and local authorities about the works. Obtain local knowledge regarding chance finds and land acquisition matters.		
	47.2 Initiate an efficient grievance mechanism and timely grievance redress to allow potentially affected individuals to raise their concerns regarding damages and disturbances caused by the Contractor or sub-contractors.		
	47.3 Undertake all measures necessary to avoid conflicts with local communities regarding water demands.		
	47.4 Abstract both surface and underground water only after consultation with the local communities and after obtaining a permit from the relevant water authority.		

B 2 Health and Safety			
Topic/ Potential Impact	Requirements for Mitigation, Management and Enhancement	Comp- liance Yes/No	Please explain in case of No
	<p>47.5 In order to avoid accidents in particular related to the creation of water reservoirs/ ponds or construction site dumps, excavation areas:</p> <ul style="list-style-type: none"> • Take necessary precaution measures to protect children/residents/workers from falling into ponds, excavation areas, etc. • Restrict access to these areas; install climbing ladders in ponds; install signs and rescue ropes and lifebuoys. • Prepare for emergencies and response arrangements. • Sensitise the population including local primary schools 		
48. Damage to people and property	48.1 Train workers and drivers to respect the safety and rights of neighbouring people, communities and their properties to avoid disturbances. Supervise that they respect communities' houses, cultures, animals, properties, customs and practices.		
	48.2 Appropriately fence, protect, light and sign-post site areas. Use hazard notices/signs/barriers to protect children and other vulnerable people from harm and prevent access to the sites to non-workers.		
49. Land acquisition and land take	49.1 Check if permissions for building or storing/stocking material have been obtained, including if relevant from local authorities or private landholders. Obtain confirmation that in case of necessary resettlements, people have been compensated and if applicable, have been resettled.		
50. Traffic management	50.1 Establish signage and create public awareness of increased traffic and of potential hazards caused by construction equipment near the Project Area and laydown areas.		
	50.2 Reduce accidents, by minimizing vehicle movements; train drivers for driving and security and check that they have the appropriate permits for driving vehicles.		

B 2 Health and Safety			
Topic/ Potential Impact	Requirements for Mitigation, Management and Enhancement	Comp- liance Yes/No	Please explain in case of No
51. Fossils/ Archaeolo- gical Chance Finds	51.1 If applicable, establish specific procedures to manage the protection of archaeological and historical sites, chance finds and fossils.		
	51.2 Report all finds of cultural heritage (e.g. graves, old ceramic, old building fragments) immediately to the relevant authority and avoid construction in the vicinity of a chance find, fence the chance find and await instructions from the competent authority.		

5.3 Oxfam: ETHICAL AND ENVIRONMENTAL POLICY

Section 1: Policy Statement

Oxfam recognises the importance of sustainable development for people living in poverty, and the long term benefits of becoming a more sustainable organisation. Oxfam takes responsibility for and is committed to managing the labour and environmental standards in its operations and supply chains. In order to embed appropriate management of these standards, the associated framework must be adopted.

Qualifications to the policy

The humanitarian imperative is paramount. Where speed of deployment is essential in saving lives, Oxfam will purchase necessary goods and services from the most appropriate available source.

Section 2: Policy Details

2.1 Labour and Environmental Standards

Oxfam is committed as a minimum to complying with all applicable labour and environmental legal requirements in its both operations and supply chains.

In addition, Oxfam is committed to meeting the labour and environmental standards below and applying a continuous improvement approach within an agreed timeframe where it is known that standards are not met.

When Oxfam sources from small producer groups, it applies the principles of Oxfam International's Values Based Approach to Fair-Trade.

Labour Standards

Oxfam has adopted the [Ethical Trading Initiative Base Code](#) for its labour standards

Employment is freely chosen:

- There is no forced, bonded or involuntary prison labour.
- Workers are not required to lodge "deposits" or their identity papers with the employer and are free to leave their employer after reasonable notice.

Freedom of association and the right to collective bargaining are respected:

- Workers, without distinction, have the right to join or form trade unions of their own choosing and to bargain collectively.
- The employer adopts an open attitude towards the legitimate activities of trade unions.
- Workers representatives are not discriminated against and have access to carry out their representative functions in the workplace.
- Where the right to freedom of association and collective bargaining is restricted under law, the employer facilitates, and does not hinder, the development of parallel means for independent and free association and bargaining.

Working conditions are safe and hygienic:

- A safe and hygienic working environment shall be provided, bearing in mind the prevailing knowledge of the industry and of any specific hazards. Adequate steps shall be taken to prevent accidents and injury to health arising out of, associated with, or occurring in the course of work, by minimising, so far as is reasonably practicable, the causes of hazards inherent in the working environment.
- Workers shall receive regular and recorded health and safety training, and such training shall be repeated for new or reassigned workers.
- Access to clean toilet facilities and potable water, and, if appropriate, sanitary facilities for food storage shall be provided.
- Accommodation, where provided, shall be clean, safe, and meet the basic needs of the workers.
- The company observing the standards shall assign responsibility for health and safety to a senior management representative.

Child Labour shall not be used:

- There shall be no new recruitment of child labour.
- Companies shall develop or participate in and contribute to policies and programmes, which provide for the transition of any child found to be performing child labour to enable her/him to attend and remain in quality education until no longer a child.
- Children and young people under 18 years of age shall not be employed at night or in hazardous conditions.
- These policies and procedures shall conform to the provisions of the relevant International Labour Organisation (ILO) standards.

Living wages are paid:

- Wages and benefits paid for a standard working week meet, at a minimum, national legal standards or industry benchmarks, whichever is higher. In any event wages should always be high enough to meet basic needs and to provide some discretionary income.
- All workers shall be provided with written and understandable information about their employment conditions in respect to wages before they enter employment, and about the particulars of their wages for the pay period concerned each time that they are paid.
- Deductions from wages as a disciplinary measure shall not be permitted nor shall any deductions from wages not provided for by national law be permitted without the express and informed permission of the worker concerned. All disciplinary measures should be recorded.

Working hours are not excessive:

- Working hours comply with national laws and benchmark industry standards, whichever affords greater protection.
- In any event, workers shall not on a regular basis be required to work in excess of 48 hours per week and shall be provided with at least one day off for every 7 day period on

average. Overtime shall be voluntary, shall not exceed 12 hours per week, shall not be demanded on a regular basis and shall always be compensated at a premium rate.

No discrimination is practised:

- There is no discrimination in hiring, compensation, access to training, promotion, termination or retirement based on race, caste, national origin, religion, age, disability, gender, marital status, sexual orientation, union membership or political affiliation.

Regular employment is provided:

- To every extent possible work performed must be on the basis of a recognised employment relationship established through national law and practice.
- Obligations to employees under labour or social security laws and regulations arising from the regular employment relationship shall not be avoided through the use of labour-only contracting, sub-contracting or home-working arrangements, or through apprenticeship schemes where there is no real intent to impart skills or provide regular employment, nor shall any such obligations be avoided through the excessive use of fixed-term contracts of employment.

No harsh or inhumane treatment is allowed:

- Physical abuse or discipline, the threat of physical abuse, sexual or other harassment and verbal abuse or other forms of intimidation shall be prohibited.

Environmental Standards

Oxfam is committed to reduce its reliance on finite/scarcce resources and to minimise the environmental impact of its operations including its supply chain, and will work to achieve the standards listed in this section.

Climate change:

Monitor and actively seek to reduce the Greenhouse Gas (GHG) emissions associated with its operations and:

- Set absolute GHG reduction targets for operations in industrialised countries or Economies in Transition, such as those identified in Annex I of the United Nations Framework Convention on Climate Change below
- Set and report on targets for improved efficiency in countries where Oxfam runs programmes, such as those that may be regarded as non-Annex I countries under the UNFCCC

Waste:

- Reduce waste to landfill.
- Monitor operations, including procurement, to ensure waste minimisation and high product and process efficiency.
- Effective controls of waste in respect of ground, air, and water pollution are adopted.

Materials:

- Reuse, recycling and the use of recycled and recyclable materials are strongly encouraged.

- Avoid where practicable reliance on materials that are heavily dependent on finite resources.

Packaging:

- Actively avoid undue and unnecessary packaging wherever practicable and use recycled and recyclable materials wherever appropriate.

Wood and forest products:

- Ensure that all forest products purchased are as a minimum legal in origin and provide evidence of due diligence to ensure this if requested by Oxfam
- Suppliers of paper products sourced from Oxfam affiliate home country offices and retail products carrying the Oxfam Brand must source forest products from recycled sources or well managed forests which have been certified to a credible standard. Exceptions will be made for products which are Fairtrade marked or produced by members of the World Fair Trade Organisation as appropriate. Oxfam views the Forestry Stewardship Council (FSC) as the most credible certification for the sustainable sourcing of wood and forest products.
- Suppliers must never knowingly become involved in, collude with or purchase timber from illegal logging operations.

Energy:

- Work to reduce energy consumption and where practicable use energy from renewable resources.
-

Transport and travel:

- Reduce staff travel wherever practicable.
- Monitor and reduce transport logistics to ensure efficient distribution and delivery of products and services.

Conservation of biodiversity:

- Seek to minimise the impact of operations on fauna, flora and land to ensure the conservation of biodiversity and habitats.

Water:

- Develop a better understanding of its impact on water use and develop management processes where appropriate

Annex I countries, United Nations Framework Convention on Climate Change

Australia, Austria, Belarus, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, European Union, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Monaco, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America.

2.2 Oxfam Procurement Integrity Principles

Oxfam is committed to ensure that its procurement processes are run with integrity and to further this commitment Oxfam actively promotes principles for suppliers and staff as detailed below.

Procurement Integrity Principles for Oxfam Suppliers

Oxfam expects suppliers as a minimum, to follow the below-mentioned principles:

- Accept responsibility for labour and environmental conditions under which products are made and services provided. This includes all work contracted or sub-contracted and that conducted by home or other out-workers.
- Be open and transparent about the labour and environmental standards in their supply chains. To provide information requested by Oxfam to enable our assessment of labour and environmental standards in their supply chains.
- Support workers to realise their rights and minimise the barriers which prevent workers from achieving them.
- Demonstrate ability to meet local labour and environmental laws.
- Demonstrate commitment to achieve conformance with the Labour and Environmental Standards in section 2.1 above and commitment to continuous improvement of their labour and environmental standards as agreed with Oxfam.
- Suppliers importing from small scale producer groups facilitate trade in-line with Oxfam's values based approach.

Oxfam will seek alternative sources where the conduct of suppliers demonstrably violates the basic rights of Oxfam's intended beneficiaries, and there is no willingness to address the situation within a reasonable time period.

Oxfam will not knowingly enter into contract or partnership with suppliers that participate in the activities outlined below:

List of activities that Oxfam suppliers should not be involved in:

Oxfam will seek alternative suppliers if we identify the following activities:

- Actively lobby to undermine public policies to tackle climate change or push for continued expansion of fossil fuel use
- Arms manufacture;
- The sale or export of arms or strategic services to governments which systematically violate the human rights of their citizens, or where there is internal armed conflict or major tensions, or where the sale of arms may jeopardise regional peace and security.
- Tobacco production and sale;
- The sale of baby milk outside the World Health Organisation (WHO) Code of Conduct;
- Pesticide sales outside the Food and Agriculture Organisation (FAO) guidelines for pesticide retailing
- Extractive industries
- Production or publication or broadcast of adult entertainment

- Knowingly become involved in, collude with or purchase timber from illegal logging operations.
- Any other activities which violate the basic rights of Oxfam's intended beneficiaries.
- Activities which contravene the Procurement Integrity Principles listed in section 2.2

Suppliers must declare any formal party political involvement or activity.

Procurement Integrity Principles for Oxfam Staff

To ensure we procure with Integrity, Oxfam staff will:

- Recognise that our suppliers may not be able to achieve all the labour and environmental standards laid out in sections 2.1 immediately and we will support suppliers to work toward conformance within a reasonable timeframe.
- Recognise the impact of all supply decisions on meeting the labour and environmental standards outlined in section 2.1 of this policy. We will involve our suppliers in addressing issues that may arise and expect them to assist us in minimising any negative effects.
- Ensure that our supply requirements are adequately defined and specified in sufficient time to allow the supply market to react to our demand.
- Ensure that our supply activities comply with all applicable international and national laws, regulations, conventions and agreements that are in force in the countries from where our requirements are being procured, and ensure that the specific supply related requirements of our donors are adhered to.
- Not engage in any activity with suppliers, or buyers from other organisations, which might be deemed to be anti-competitive or in breach of any statutory requirements in any country or trading region.
- Not terminate purchase arrangements or relationships without due regard to all material circumstances, appropriate communication and notification to the supplier. We will however terminate supplier relationships where serious breaches of Oxfam's labour and environmental standards persist after reasonable attempts have been made to work with the supplier to implement improvements, and where there is no reasonable prospect of securing improvements. Such terminations will be carried out in a responsible way.
- Act impartially and objectively in all their purchasing activities and to keep written records where appropriate to demonstrate that their actions have been fair and above reproach.
- Declare in advance any interest commercial or otherwise, they may have with a supplier to Oxfam and to be prepared to withdraw from those dealings if required.
- Maintain an unimpeachable standard of integrity in all their business relationships and to foster the highest possible standards of professional competence in all their supply activities.
- Not accept any personal gifts or other inducements, as individually or cumulatively these will be adjudged as an attempt to influence a purchasing decision.

- Seek the views of its suppliers over their ability to meet Oxfam's labour and environmental standards given existing buying practices, and assists them to meet their concerns.
- Recognise the contribution that stable business relationships can make to the observance of the labour and environmental standards, and endeavour to establish long-term relationships with its suppliers.

5.4 Agreement

[The Agreement shall incorporate any corrections or modifications to the Bid resulting from corrections of errors (ITB Clause 28), price adjustment during the evaluation process (ITB Sub-Clause 16.3, acceptable deviations (ITB Clause 28), or any other mutually-agreeable changes allowed for in the Conditions of Contract, such as changes in key personnel, subcontractors, scheduling, and the like.]

This Agreement, made the *[insert day]* day of *[insert month]*, *[insert year]* between *[insert name and address of Employer]* (hereinafter called "the Employer") and *[insert name and address of Contractor]* (hereinafter called "the Contractor") of the other part.

Whereas the Employer is desirous that the Contractor execute *[insert name and identification number of Contract]* (hereinafter called "the Works") and the Employer has accepted the Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

Now this Agreement witnesseth as follows:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

In Witness whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

The Common Seal of *[Witness entity]* _____
was hereunto affixed in the presence of: _____

Signed, Sealed, and Delivered by the said _____
in the presence of: _____

Binding Signature of Employer [*signature of an authorized representative of the Employer*]

Binding Signature of Contractor [*signature of an authorized representative of the Contractor*]

6 Section VI. General Conditions of Contract

Table of Contents

A. General	39
1. Definitions	39
2. Interpretation	41
3. Language and Law.....	41
4. Project Manager's Decisions	42
5. Delegation.....	42
6. Communications	42
7. Subcontracting	42
8. Other Contractors.....	42
9. Personnel.....	42
10. Employer's and Contractor's Risks.....	42
11. Employer's Risks.....	43
12. Contractor's Risks	43
13. Insurance	43
14. Site Investigation Reports	44
15. Queries about the Special Conditions of Contract	44
16. Contractor to Construct the Works	44
17. The Works to Be Completed by the Intended Completion Date.....	44
18. Approval by the Project Manager	45
19. Safety.....	45
20. Discoveries	45
21. Possession of the Site.....	45
22. Access to the Site	45
23. Instructions, Inspections.....	45
24. Disputes	45
B. Time Control	46
25. Program	46
26. Extension of the Intended Completion Date	46
27. Delays Ordered by the Project Manager	47
28. Management Meetings.....	47
29. Early Warning	47
C. Quality Control.....	47
30. Identifying Defects.....	47
31. Tests	48
32. Correction of Defects	48
33. Uncorrected Defects	48

D. Cost Control	48
34. Bill of Quantities	48
35. Changes in the Quantities	48
36. Variations	48
37. Payments for Variations	49
38. Cash Flow Forecasts	49
39. Payment Certificates	49
40. Payments	50
41. Tax	50
42. Currencies	50
43. Retention	50
44. Liquidated Damages	51
45. Advance Payment	51
46. Securities	51
47. Dayworks	51
48. Cost of Repairs	52
E. Finishing the Contract	52
49. Completion	52
50. Taking Over	52
51. Final Account	52
52. Operating and Maintenance Manuals	52
53. Termination	53
54. Payment upon Termination	54
55. Property	54
56. Release from Performance	54

A. General

1. Definitions

1.1 Boldface type is used to identify defined terms.

- (a) **Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Bid.
- (b) The **Completion Date** is the date of completion of the Works as certified by the Project Manager, in accordance with GCC Sub-Clause 49.1.
- (c) The **Contract** is the Contract between Oxfam and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC Clause 2.3 below.
- (d) The **Contractor** is a person or corporate body whose Bid to carry out the Works has been accepted by Oxfam.
- (e) The **Contractor's Bid** is the completed bidding document submitted by the Contractor to Oxfam.
- (f) The **Contract Price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.
- (g) **Days** are calendar days; months are calendar months.
- (h) **Dayworks** are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.
- (i) A **Defect** is any part of the Works not completed in accordance with the Contract.
- (j) The **Defects Liability Certificate** is the certificate issued by Project Manager upon correction of defects by the Contractor.
- (k) The **Defects Liability Period** is the period **named in the SCC** Sub-Clause 32.1 and calculated from the Completion Date.
- (l) **Drawings** include calculations and other information provided or approved by the Project Manager for the

execution of the Contract.

- (m) The **Employer** is the party who employs the Contractor to carry out the Works, **as specified in the SCC.**
- (n) **Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.
- (o) The **Initial Contract Price** is the Contract Price listed in the Employer's Letter of Acceptance.
- (p) The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is **specified in the SCC.** The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.
- (q) **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- (r) **Plant** is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.
- (s) The **Project Manager** is the person **named in the SCC** (or any other competent person appointed by Oxfam and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract.
- (t) **SCC** means Special Conditions of Contract
- (u) The **Site** is the area **defined as such in the SCC.**
- (v) **Site Investigation Reports** are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.
- (w) **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.
- (x) The **Start Date** is **given in the SCC.** It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.
- (y) A **Subcontractor** is a person or corporate body who has

a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.

- (z) **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.
- (aa) A **Variation** is an instruction given by the Project Manager which varies the Works.
- (bb) The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, **as defined in the SCC**.

2. Interpretation

- 2.1 In interpreting these GCC, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.
- 2.2 If sectional completion is **specified in the SCC**, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).
- 2.3 The documents forming the Contract shall be interpreted in the following order of priority:
 - (a) Agreement,
 - (b) Letter of Acceptance,
 - (c) Contractor's Bid,
 - (d) Special Conditions of Contract,
 - (e) General Conditions of Contract,
 - (f) Specifications,
 - (g) Drawings,
 - (h) Bill of Quantities, and
 - (i) any other document **listed in the SCC** as forming part of the Contract.

3. Language and

- 3.1 The language of the Contract and the law governing the

Law	Contract are stated in the SCC .	
4. Project Manager's Decisions	4.1	Except where otherwise specifically stated, the Project Manager shall decide contractual matters between Oxfam and the Contractor in the role representing the Employer.
5. Delegation	5.1	The Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may cancel any delegation after notifying the Contractor.
6. Communications	6.1	Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered.
7. Subcontracting	7.1	The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of Oxfam in writing. Subcontracting shall not alter the Contractor's obligations.
8. Other Contractors	8.1	The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and Oxfam between the dates given in the Schedule of Other Contractors, as referred to in the SCC . The Contractor shall also provide facilities and services for them as described in the Schedule. Oxfam may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.
9. Personnel	9.1	The Contractor shall employ the key personnel named in the Schedule of Key Personnel, as referred to in the SCC , to carry out the functions stated in the Schedule or other personnel approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel only if their relevant qualifications and abilities are substantially equal to or better than those of the personnel listed in the Schedule.
	9.2	If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.
10. Employer's and Contractor's	10.1	Oxfam carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

Risks

11. Employer's Risks

11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks:

- (a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to
 - (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or
 - (ii) negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.
- (b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in Oxfam's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an Employer's risk except loss or damage due to

- (a) a Defect which existed on the Completion Date,
- (b) an event occurring before the Completion Date, which was not itself an Employer's risk, or
- (c) the activities of the Contractor on the Site after the Completion Date.

12. Contractor's Risks

12.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Oxfam's risks are Contractor's risks.

13. Insurance

13.1 The Contractor shall provide, in the joint names of Oxfam and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles **stated in the SCC** for the following events which are due to the

Contractor's risks:

- (a) loss of or damage to the Works, Plant, and Materials;
- (b) loss of or damage to Equipment;
- (c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and
- (d) personal injury or death.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in Ugandan Shillings to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, Oxfam may effect the insurance which the Contractor should have provided and recover the premiums Oxfam has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

13.4 Alterations to the terms of an insurance shall not be made without the approval of the Project Manager.

13.5 Both parties shall comply with any conditions of the insurance policies.

14. Site Investigation Reports

14.1 The Contractor, in preparing the Bid, shall rely on any Site Investigation Reports **referred to in the SCC**, supplemented by any information available to the Bidder.

15. Queries about the Special Conditions of Contract

15.1 The Project Manager shall clarify queries on the **SCC**.

16. Contractor to Construct the Works

16.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.

17. The Works to Be Completed by the Intended

17.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the

Completion Date	Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.
18. Approval by the Project Manager	<p>18.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, who is to approve them if they comply with the Specifications and Drawings.</p> <p>18.2 The Contractor shall be responsible for design of Temporary Works.</p> <p>18.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.</p> <p>18.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.</p> <p>18.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.</p>
19. Safety	19.1 The Contractor shall be responsible for the safety of all activities on the Site.
20. Discoveries	20.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of Oxfam. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.
21. Possession of the Site	21.1 Oxfam shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the SCC , Oxfam shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.
22. Access to the Site	22.1 The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.
23. Instructions, Inspections	23.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws.
24. Disputes	24.1 All disputes arising out or in connection to this contract shall first

be resolved amicably by the parties. Failure to reach an amicable solution, then the dispute shall be referred to arbitration by the Ministry of Justice.

B. Time Control

25. Program

- 25.1 Within the time **stated in the SCC**, after the date of the Letter of Acceptance, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works.
- 25.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.
- 25.3 The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period **stated in the SCC**. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount **stated in the SCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted.
- 25.4 The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.

26. Extension of the Intended Completion Date

- 26.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.
- 26.2 The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a

delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

**27. Delays
Ordered by the
Project
Manager**

27.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.

**28. Management
Meetings**

28.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

28.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

29. Early Warning

29.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.

29.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager.

C. Quality Control

**30. Identifying
Defects**

30.1 The Project Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project

Manager considers may have a Defect.

- | | |
|----------------------------------|--|
| 31. Tests | 31.1 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event. |
| 32. Correction of Defects | <p>32.1 The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the SCC. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.</p> <p>32.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.</p> |
| 33. Uncorrected Defects | 33.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount. |

D. Cost Control

- | | |
|--------------------------------------|--|
| 34. Bill of Quantities | <p>34.1 The Bill of Quantities shall contain items for the construction, installation, testing, and commissioning work to be done by the Contractor.</p> <p>34.2 The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done on lumpsum basis.</p> |
| 35. Changes in the Quantities | <p>35.1 The contract shall be a lumpsum contract, therefore all works to be done shall be as provided in the BoQs, specifications and no remeasurements shall be done.</p> <p>35.2 The Project Manager shall not adjust rates and quantities in the BOQs.</p> <p>35.3 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.</p> |
| 36. Variations | 36.1 No variations shall be considered unless with prior approval of the Project Manager. |

-
- 37. Payments for Variations**
- 37.1 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.
- 37.2 If the work in the Variation corresponds with an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in Sub-Clause 38.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work.
- 37.3 If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs.
- 37.4 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.
- 37.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.
- 38. Cash Flow Forecasts**
- 38.1 When the Program is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.
- 39. Payment Certificates**
- 39.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously.
- 39.2 The Project Manager shall check and verify the Contractor's monthly statement.
- 39.3 The value of work executed shall be determined by the Project

Manager.

39.4 The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.

39.5 The value of work executed shall include the valuation of Variations and Compensation Events.

39.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

40. Payments

40.1 Payments shall be adjusted for deductions for works completed and retention. Oxfam shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of each certificate. Payments will be made by the Client to the Contractor in accordance with the following schedule:

- i.) Three staged payment shall be done at 30% payment upon completion of works worth 33.3% of the contract sum.
- ii.) 10% shall be paid as retention in line with provisions for retention payment in GCC 43.2 below.

40.2 Unless otherwise stated, all payments and deductions shall be paid or charged in Ugandan shillings.

40.3 Items of the Works for which no rate or price has been entered in shall not be paid for by Oxfam and shall be deemed covered by other rates and prices in the Contract.

41. Tax

41.1 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the date 28 days before the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor

42. Currencies

42.1 Where payments are made in currencies other than the currency of Oxfam's country **in this Particular case it will be Uganda shillings**

43. Retention

43.1 Oxfam shall retain from each payment due to the Contractor the proportion **stated in the SCC** until Completion of the whole of

the Works.

43.2 On completion of the whole of the Works, half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected.

43.3 On completion of the whole Works, the Contractor may substitute retention money with an “on demand” Bank guarantee.

44. Liquidated Damages

44.1 The Contractor shall pay liquidated damages to Oxfam at the rate per day **stated in the SCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount **defined in the SCC**. Oxfam may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor’s liabilities.

44.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Sub-Clause 40.1.

45. Advance Payment

45.1 Oxfam may provide advance payment to the Contractor at the beginning of the construction as per ITB 35.1

46. Securities

46.1 The Performance Security shall be provided to Oxfam no later than the date specified in the Letter of Acceptance and shall be issued in an amount **specified in the SCC**, by a bank or surety acceptable to the Employer, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance Security shall be valid until a date 30 days from the date of issue of the Certificate of Completion in the case of a Bank Guarantee, and until one year from the date of issue of the Completion Certificate in the case of a Performance Bond.

47. Dayworks

47.1 If applicable, the Dayworks rates in the Contractor’s Bid shall be used for small additional amounts of work only when the Project

Manager has given written instructions in advance for additional work to be paid for in that way.

47.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within two days of the work being done.

47.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

48. Cost of Repairs 48.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

49. Completion 49.1 The Contractor shall request the Project Manager to issue a certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the work is completed.

50 Taking Over 50.1 Oxfam shall take over the Site and the Works within seven days of the Project Manager's issuing a certificate of Completion.

51. Final Account 51.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.

52. Operating and Maintenance Manuals 52.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates **stated in the SCC**.

52.2 If the Contractor does not supply the Drawings and/or manuals by the dates **stated in the SCC**, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount **stated in the SCC** from payments due to the

Contractor.

53. Termination

53.1 Oxfam or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

53.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:

- (a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager;
- (b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 28 days;
- (c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 84 days of the date of the Project Manager's certificate;
- (e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;
- (f) the Contractor does not maintain a Security, which is required; and
- (g) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as **defined in the SCC**.
- (h) if the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

53.3 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC Sub-Clause 53.2 above, the Project Manager shall decide whether the breach is fundamental or not.

53.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.

53.5 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

54. Payment upon Termination

54.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as **indicated in the SCC**. Additional Liquidated Damages shall not apply. If the total amount due to Oxfam exceeds any payment due to the Contractor, the difference shall be a debt payable to Oxfam.

54.2 If the Contract is terminated for Oxfam's convenience or because of a fundamental breach of Contract by Oxfam, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

55. Property

55.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of Oxfam if the Contract is terminated because of the Contractor's default.

56. Release from Performance

56.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either Oxfam or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.

7 Section VII. Special Conditions of Contract

A. General								
GCC 1.1 (m)	The Employer is: Oxfam-Uganda							
GCC 1.1 (p)	The Intended Completion Period for the whole of the Works shall be 04 months from the Start Day of the work.							
GCC 1.1 (s)	The Project Manager is: Emanu Theophilus							
GCC 1.1 (u)	The Site is located at: Pawor Village, Rhino Camp-Arua District							
GCC 1.1 (x)	The Start Date shall be the Date of contract signature							
GCC 1.1 (bb)	<p>The Works consist of CONSTRUCTION OF 01 PAWOR HOST COMMUNITY WATER SUPPLY SYSTEM IN ARUA DISTRICT.</p> <table border="1"> <thead> <tr> <th></th><th>Description of Works</th><th>Quantity</th></tr> </thead> <tbody> <tr> <td>1</td><td>Construction of 01 Pawor Host community water supply system</td><td>1</td></tr> </tbody> </table>			Description of Works	Quantity	1	Construction of 01 Pawor Host community water supply system	1
	Description of Works	Quantity						
1	Construction of 01 Pawor Host community water supply system	1						
GCC 2.2	Sectional Completions are: Not applicable							
GCC 2.3(i)	The following documents also form part of the Contract: None							
GCC 3.1	<p>The language of the contract is English</p> <p>The law that applies to the Contract is the Laws of Uganda</p>							
GCC 8.1	Schedule of other contractors: Not applicable							
GCC 9.1	<p>Key Personnel:</p> <ul style="list-style-type: none"> Contract Manager Site Engineer 							
GCC 13.1	<p>The minimum insurance amounts and deductibles shall be:</p> <p>(a) The deductible is Nil and minimum cover 110 % of the contract price for insurance of the Works and of Plant and Materials.</p> <p>(b) The deductible is Nil and minimum insurance cover the replacement value of the proposed equipment for loss or damage to Equipment.</p> <p>(c) The deductible is Nil and minimum insurance cover 100% of the contract price for loss or damage to property (except the works, plant, materials and equipment) in connection with the contract.</p> <p>(d) The minimum cover for personal injury or death insurance:</p> <p>(i) of the Contractor's employees: UGX 5,000,000</p> <p>(ii) of other people: UGX 4,000,000</p>							
GCC 14.1	Site Investigation Reports are: Nil							

GCC 15.1	The Project Manager shall clarify queries on Conditions of Contract, Drawings, Bill of Quantity, and Specification.
GCC 21.1	The Site Possession Date(s) shall be: Date of contract signature
B. Time Control	
GCC 25.1	The Contractor shall submit for approval a Program for the Works within 14 days from the date of Letter of Acceptance.
GCC 25.3	The period between Program updates is 30 days . The amount to be withheld for late submission of an updated Program is UGX 500,000
C. Quality Control	
GCC 32.1	The Defects Liability Period is: 6 months from completion .
D. Cost Control	
GCC 42.1	Replace GCC 42.1 with the following: "The payment will be made in Ugandan Shillings (refer to Bidding Data Sheet to ITB 15.1)".
GCC 43.1	The proportion of payments retained is: Ten (10) percent .
GCC 44.1	The liquidated damages for the whole of the Works are 0.1 % of the Contract Price per day. The maximum amount of liquidated damages for the whole of the Works is 10% of the final Contract Price.
GCC 45.1	Advance Payments may be provided to the contractor not more than 20% of contract sum
GCC 46.1	The performance security amount is 10% of the Contract Price. Performance Securities will be in the form of Unconditional Bank Guarantee (see Section IX – Security Forms for standard format).
E. Finishing the Contract	
GCC 52.1	Operating and maintenance manual required: Yes As built drawings required: Yes The date by which "as built" drawings are required is 30 days after issue of certificate of completion of works. "As built" drawings shall be provided in Auto Cad format and A3 hard copy .
GCC 52.2	Replace 52.2 as given below: "52.2 If the Contractor does not supply the Drawings and/or manuals (if required as per GCC and SCC 52.1) by 30 days after issue of certificate of completion of works, or they do not receive the Project Manager's approval, the Project Manager shall withhold (3) percent of the final contract price from payments due to the Contractor. If the contractor fails to submit Drawings and/or manuals duly approved by the Project Manager within 90 days after issue of certificate of completion of works, the withheld money will be forfeited. "

GCC 53.2 (g)	The maximum number of days is: 120 Days.
GCC 53.2	Add the following sentence: If any of the termination events mentioned in the declaration of undertaking occurs, Oxfam will terminate the contract immediately and no further payments shall be made to the contractor from the date of termination.
GCC 54.1	The percentage to apply to the value of the work not completed, representing Oxfam's additional cost for completing the Works, is Thirty (30) percent.

8 Section VIII. Technical Specifications

PIPED WATER SUPPLY CONSTRUCTION TECHNICAL SPECIFICATIONS: ADOPTED FROM DIRECTORATE OF WATER DEVELOPMENT SPECIFICATIONS

1 GENERAL SPECIFICATIONS

Clauses refer to all parts of the works unless specified otherwise.

1.1 Location and Purpose of the Works

Location: Pawor trading Center and Rhino Camp, Arua District

Purpose of the Works

The purpose of the works is to construct the piped water supply system for host community and People of Concern (POC) in Rhino Camp.

1.2 Design Life

All works constructed or placed shall be designed for long life and continuous operation during prolonged periods with minimum maintenance and the contractor may be called upon to demonstrate this for any component either by the service records or similar equipment elsewhere by records of extensive type tests.

Routine maintenance and repair shall, as far as possible, not require the services of highly skilled personnel. The works have been designed over a design horizon of 20 years.

1.3 Regulations, Standards, Codes and Standard Specifications

Wherever reference is made in the Contract to specific standards and codes to be met by the materials, plant, and other supplies to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in

effect shall apply, unless otherwise stated in the contract. Where such standards are national or relate to a particular country or region, other authoritative standards which ensure a substantially equal or higher performance than the standards and codes specified will be accepted subject to the Project Manager's prior review and written approval. Differences between the standards specified and the proposed alternative standards must be fully described in writing by the Contractor and submitted to the Project Manager at least 28 days prior to the date when the Contractor desires the Project Manager's approval. In the event that the Project Manager determines that such proposed deviations do not ensure equal or higher quality, the Contractor shall comply with the standards specified in the documents.

All standards used will be the current version. A contractor proposing to use alternative versions of specified standards and codes shall submit the alternative version to the Project Manager for approval in accordance with the requirements outlined in the above paragraphs.

All materials and workmanship not fully specified herein or covered by an approved standard shall be such kind as is used in first class work and suitable to the climate in the project area. "Where the requirements of any such standard specification or regulation conflict with the requirements of this specification or any item of the drawings, then the contractor should refer to the Project Manager for clarification before proceeding with that section of the works".

Except where otherwise specified, all materials and workmanship shall comply with current national standards provided that those standards are not stringent than the equivalent European Union, British Standards or Codes of Practice or provided that they comply with the requirements of the International Organisation for Standardization (ISO) etc as appropriate.

1.4 Drawings

The drawings comprise the following:

Issued drawings

Engineer's Drawings

Record drawings

Electrical Drawings

Issued Drawings

These are drawings issued to the contractor with the Bid Documents for the purposes of preparing a bid. These are attached as a separate volume to the bid document.

Engineer's Drawings

These are drawings issued from time to time by the Engineer.

Record Drawings

The contractor shall provide a set of as-built drawings for the works. He shall submit five hard copies and one electronic copy of the drawings. The electronic copy shall be readable by AutoCAD 2007. Details on preparation of record drawings are discussed on section 6.19.2.

Electrical Drawings

The Contractor shall submit to the Engineer in triplicate the following drawings for approval:

Electrical Drawings: On the basis of the simplified documents, the Contractor shall prepare the following planning records as supplements to the VOB DIN 18382 Standards:

Wiring diagram and construction plans and drawings, installation plans; complete cable lists, clamping plans, etc. as well as lists of parts, clearly indicating material and type of proposed equipment. This also applies to the control and signal circuits as well as interlocking and interrelated control of other technical sectors. A clear illustration according to pertinent standards is imperative.

A complete documentation (lists of parts, descriptions, maintenance and operating instructions, test reports and certificates, etc.) shall be submitted, in five copies each, prior to the commencement of installation.

Copies of proposed panel layouts: two copies will be retained for record purposes whilst one copy will be returned to the Contractor stamped "APPROVED" and/or supplement with any necessary modifications or revisions. The Contractor shall provide four further copies of finally approved drawings.

1.5 Programme

Before commencing the Works, the contractor shall submit to the Project Manager for his approval a programme showing the order in which he proposes to carry out the Works. The programme shall be in form of a Bar chart, or any other form as may be agreed by the Project Manager, and shall be co-coordinated to take into account transportation and delivery times for the materials and for climatic and other conditions to provide for the completions of the works in accordance of the Contract. The programme shall be updated on a monthly basis throughout the construction period.

The programme shall clearly indicate the following:

The sequence of each activity, the proposed start and completion dates of each activity, the rate of progress and the cumulative quantity of percentage of work expected to be achieved on each activity by the end of each month;

Dates by which major drawings requiring the Project Manager's approval will be submitted (a period of three weeks shall be allowed from date of receipt of these drawings for such approval);

The time allocated for work by others, including those of the Employer and by utility undertakings.

Sufficient space should be provided in the programme for recording the actual progress against the programmed progress for each activity.

The programme shall be submitted with details of the following:

A statement giving the numbers and categories of supervisory and technical staff and skilled and unskilled workers to be employed on the works;

A list and type details of major Construction Plant (including vehicles) which the contractor proposes to employ on the works;

Details of the contractors methods of working for all operations

Details of the programme for the works from the date of receipt of the Project Manager's order to commence the works including a complete resource allocation

showing the number of units and allotted times for each unit of Constructional Plant, materials and labour allocated to each part of the works.

1.6 Progress Meetings and Reports

During the period of the Contract, the Contractor shall allow for all consultations with the Employer and the Project Manager and his staff wherever they may be.

From the commencement of the works on site, there will be a series of monthly site progress meetings to co-ordinate the civil and plant works. Representatives of the contractor in attending all the monthly progress meetings shall be the person holding powers of Attorney. The meetings shall be on site or at the offices of the Employer. In addition, the Person holding powers of Attorney shall represent the Contractor in attending further meetings in cases of emergencies or for other reasons when called upon by the Employer.

The Contractor shall submit to the Project Manager each month a report on his progress in the performance of the Contract. The report shall include a copy of the approved programme with the current progress for each activity shown.

1.7 Notice of Operations

The Contractor shall give full and complete written notice of all important operations to the Engineer sufficiently in advance to enable the Engineer to make such arrangements as he may consider necessary for inspection or for any other purpose. The Contractor shall not commence any important operation without the written approval of the Engineer.

Important works shall include all operations occurring on the site outside the following hours:

Monday to Friday: 8:00 am to 5:00 p.m.

1.8 Packing and Protection

Before any item is dispatched from a manufacturer's factory it shall be adequately protected and packed so as to arrive at the Site intact and undamaged. The Engineer shall be given at least 14 days' notice that packing will commence. The method of protection and packing must be suitable to withstand the conditions, which may be experienced in shipment and delivery to the Site. It should also be suitable to withstand long periods of storage out of doors.

No one crate or package shall contain items of Plant intended for incorporation in more than one part of the Works.

All items shall be clearly marked for identification against the packing list, which shall be placed in every crate or package and protected in a waterproof envelope.

All crates and packages shall be clearly marked with a waterproof pen and weatherproof material to show the weight and where the weight is bearing, and where the sling should be attached. They shall also be marked to identify the packing lists.

Bright parts and bearing surfaces shall be protected from corrosion by the application of a rust-preventive lacquer, high melting point grease or similar. A sufficient quantity of appropriate solvent shall be supplied with the Plant for the removal of this protection.

Each crate or package shall have a clear indelible and, as far as possible, indestructible unique identification cypher, also quoted on the packing list inside it. Three copies of the packing list shall be posted separately to the Engineer at the time of shipment.

All flanges and mating surfaces shall be protected by means of a wooden template or similar. The bolts for securing this template shall not be secured by the bolts, screws etc, which form part of the final installation.

1.9 Technical Commissioning

Technical handover of the works shall be done after 90 days testing running of the system involving full operations of the water supply system without breakdowns for a maximum of 2

consecutive days, preparation of daily reports on the operations that comprise of the amount of water pumped, quantity of chemicals utilized, hours of pumping, energy consumed, amount of water distributed, at least 6no off-site detailed water quality tests, etc as directed by the Engineer. These reports shall be part of the Documents submitted including Operation and Maintenance manuals, As-Built drawings and Asset Register that shall be submitted to the Employer. In addition these documents shall be submitted before testing starts. The 90-day test running period is part of the contract period and the consumables used during this period are not included in those to be supplied by the contractor at handover as provided in the contract.

The contractor is required to provide suitable personnel, to be approved by the Project Manager, to operate each section of the Works during commissioning, i.e. the setting to work and testing of individual components of the works or the complete works.

This shall include tests on Completion as more fully defined in the “testing chapter”. Commencing during the test running period the Contractor shall instruct the Employer’s staff in the operation and maintenance of each section of the Works.

1.10 Operating Instructions

Comprehensive operating and maintenance manual in English language covering all items of Plant and including all manufacturers’ instruction, references, lists, etc. shall be compiled. The manual has to cover the pumping station and the treatment plant.

The Contractor shall provide five sets of instruction manuals including soft copies for each of the sections of the Works to cover all items of the Plant and process. The manuals shall describe the installation and operation as a whole and give step by step procedures to enable the Employer to carry out any operations likely to be required during the life of the Plant including erection, commissioning, testing, operation, maintenance, dismantling and repairs. The instructions shall include the operation of valves, penstocks, stop logs, etc existing or provided by others where the operation of these items is part of or associated with any aspect of the Plant operation. The manufacturer’s manuals must be scanned and submitted as part of the operation’s manual.

The maintenance instructions shall include lubrication charts, testing and replacement procedures to be carried out daily, weekly, and monthly and at other intervals to ensure trouble-free operation. Where applicable, fault location charts should be included to facilitate finding the cause of imperfect operation or breakdown.

Sections of the manuals shall be devoted to each size and type of equipment with relevant detailed descriptions of construction, maintenance and operation with lists of parts and procedures for ordering spares and locally available service providers to undertake repairs.

The Contractor shall supply five sets of manuals and record drawings including soft copies for each section of the Works to the Engineer two months before starting the tests on completed plant systems. Where appropriate preliminary draft copies of instructions shall be submitted during erection to facilitate erection and testing of equipment prior to Plant commissioning. Two complete sets of manuals shall be submitted to the Engineer for approval, three months before the final submission described above.

The structure for preparation of the operation and maintenance manual is as indicated below but is subject to changes on advice of the Project Manager, and that for the asset register will be agreed upon. The register for assets installed shall be attached as an annex to operations and maintenance manual. The information that should be included in the asset register should be; Location, name of the asset, serial number, the make, date of installation, manufacturer, manufacture's service period, etc.

Structure of the operations and maintenance manual subject to change on advice of Project Engineer.

Introduction

1 Scope

2 Contractual and legal background

Description of facilities – from source to tap

Operation

3.1 Controls

3.2 Start - up procedure

3.3 Operation under standard conditions

3.4 Operation status sheet (max. and min. values for standard conditions)^

3.5 Operation under emergency conditions

3.6 Trouble shooting

3.7 Routine water quality monitoring and sanitary inspection

3.8 Record keeping

Maintenance

1 Equipment

2 Preventive maintenance (procedures and checklist)

3 Corrective maintenance (procedure and checklist)

Safety

5.1 Identification and description of hazards

5.2 Description of safety equipment and handling

Emergency response plan

Staffing and training

7.1 Organizational chart

7.2 Job descriptions

7.3 Training Measures

8. Annexes

8.1 Scanned copies of manufacture's manuals;

8.1.2 Pumps

8.1.3 Electrolytic Chlorine Generation System.

8.2 Register of Assets.

The manuals shall be fully bound and indexed to A4 size with the name of the Employer, Contractor, the Contract number and name of the scheme clearly marked. A collection of manufacturer's descriptive leaflets will not be acceptable as an instruction manual.

1.11 Operating and Maintenance Manuals

The greatest importance shall be drawn to the completeness and clearness of presentation.

It is emphasized that a collection of standard pamphlets of general nature unaccompanied by drawings and descriptive matter will not be acceptable. In particular, information supplied

by Sub-Contractors and manufacturers employed by a Contractor shall be coordinated in the comprehensive manual. Cross-references of descriptive texts, drawings and spare part lists must be complete.

The Contractor shall deliver to the Engineer in duplicate loose leaf copies of draft operational and maintenance manuals for the Plant two months before start-up of the works. The manuals shall be divided into several volumes (e.g. function, operation, maintenance, and overhaul) and shall fully and clearly set out the Contractor's own recommendations and instructions for the satisfactory operation, maintenance and overhaul of the Plant as applicable to each of the installations and devices supplied.

Draft manuals shall, during the testing and commissioning of the Works, be carefully checked by the Contractor and updated and modified to ensure that they are fully descriptive and applicable to the final lay-out of plant and process under operational conditions.

The draft manuals may include manufacturer's standard literature but the Contractor shall fully supplement the literature by his own descriptive text, drawings, tables, figures, characteristic curves and the like.

The final approved manuals for the Works shall be submitted prior to the commencement of the Period of Maintenance. They shall be securely bound in A4 sized loose-leaf binders, clearly titled, index linked and cross-referenced.

If during the Period of Maintenance, the Contractor or the Engineer has found that the manual should require modification or enlargement as a result of subsequent operational and maintenance experience in the Works, the Contractor shall provide the approved modification for each manual.

The manuals shall include explanations of the function and purpose of each item supplied.

1.12 Water and Electricity

The contractor shall make his own arrangements for the supply of water and electricity for the purposes of the Works.

Water and wastewater derived from the construction, testing and completion of the works shall be disposed of to the satisfaction of the Project Manager so as to cause no damage or complaint.

1.13 Contractor's Facilities

The Contractor shall provide all site facilities including offices, workshops, stores, accommodation, washing, sanitation etc. necessary for use by his own staff, for the execution of the Works. Related costs are deemed to be included in the contractor's rates.

The Contractor shall be responsible for making all arrangements for drainage from his site facilities and shall be responsible for payment of all charges in connection therewith.

1.14 Storage of Plant

The Contractor shall be responsible for and bear all costs of securely storing the Plant and Equipment, both on and off site, in suitable environmental conditions to prevent deterioration of the Plant and Equipment until they are incorporated into the Works.

The standard of storage to be provided by the Contractor for the Plant and Equipment shall be as follows:

All electrical Plant and Equipment and moving mechanical Plant and Equipment shall be stored by the Contractor in suitable wind and watertight buildings to be provided by the Contractor at his own expense. The stores shall be dust free and shall be adequately ventilated and heated by the Contractor at his own expense, to prevent condensation and deterioration of the Plant and Equipment. The heating shall be provided by thermostatically controlled heating systems. The stores shall also be adequately lit. The stores and their services shall be approved by the Engineer. The giving of such approval shall not relieve the Contractor of his liabilities for the safe and proper storage of the Plant and Equipment under the Contract.

All other Plant and Equipment shall be stored by the Contractor in secure compounds to be provided by the Contractor at his own expense. Such Plant and Equipment shall be protected as appropriate to prevent their deterioration while in store.

While the Plant and Equipment are in store the Contractor shall take all necessary precautions to maintain them in a serviceable condition and these precautions shall be to the approval of the Engineer. Such minimum precautions shall include, but not be limited to, the measures described below:

Motors shall be stored under polythene with their heaters energized at all times. Packing strips shall be inserted in the air gaps to prevent rotors from resting on stator cores and bearings shall be removed. Circuit breaker panels, motor control centers and switchboards shall be stored under polythene and the heaters shall be energized at all times. Oil-filled transformers shall be pressurised with an inert gas.

All flanges shall be closed off with metal caps and all small openings shall be stopped with plastic plugs or caps.

All shaft exits from casing and bearing housings shall be sealed with Denso tape molded into place. All closures shall be taped over and the tape painted with three coats of tretoplast sac to form a complete seal.

All exposed ferrous non-stainless machined surfaces shall be coated with a bitumen solution.

Thrust and journal bearings shall be removed from the pump and packed in the pump. Journal bearings shall be stored as a matched pair.

Plant and Equipment shall be inspected every three months to ensure that the packing is intact and that the Plant has not been contaminated by the ingress of moisture.

The Plant and Equipment shall be examined every six months and desiccants replaced.

All rolling elements of Plant and Equipment shall be given 1.25 turns at each inspection.

Notwithstanding the above requirements, the Contractor shall be liable for the safe and proper storage of all Plant and Equipment under the Contract.

1.15 Climatic Data

The contractor shall take account of the site climatic conditions at the site of the works both in the design and selection of all plant and equipment and the construction of the works.

1.16 Contamination of Water Supplies

Before any person is engaged on work involving a risk to the purity of potable water supplies or deemed to involve such a risk by the Project Manager, he shall be tested to indicate that he is not a carrier of typhoid, cholera or any other water borne disease and he shall be informed of the dangers of contamination. The contractor shall notify the Project Manager of any person suffering from an illness associate with looseness of the bowels, and no such person shall be employed on such work until the employer's medical adviser is satisfied that it is safe for him to be so employed.

The contractor shall comply with the provisions of "Safeguards to be Adopted in the Operation and Management of Waterworks" published by HMSO (UK), Uganda Standard on Occupational Health and Safety, 2003 issued by UNBS and the relevant sector guidelines for gender (Uganda Gender Policy, 1997), HIV/AIDS and equal opportunity employment for both sexes. The Contractor shall also adhere to NEMA guidelines with regard to Environmental protection.

1.17 Site Access and Boundary

It is the Contractor's responsibility to make provision for any additional accommodation, any special or temporary way leave, or any tip for the disposal of surplus materials, or any borrow pit or quarry required by him outside the Working Areas to carry out the Works.

For the purposes of this Clause, 'accommodation' shall be deemed to include housing, offices, workshops, warehouses, and storage areas.

In the event of the Contractor making use of any special or temporary way leave or additional accommodation required by him or any tip for the disposal of surplus materials, or any borrow pit or quarry, he shall obtain the written consent of the owner, occupier or authority having charge of the land in which such way leave, accommodation or tip is situated and shall make a record agreed by the owner, occupier or authority as aforesaid of the condition of the surface of that land before entering thereon.

The Contractor shall permit the Engineer and any person authorized by the Engineer access to the purposes of the Contract to any such special or temporary way leave or additional accommodation.

In the event of the Contractor making use of any special or temporary way leave or additional accommodation made available to him for the purpose of the Contract, the land in which such way leave or accommodation is situated shall be deemed to be part of the Site.

The Contractor shall be aware that part of the Works (pipe laying) may be in a restricted area (a prisons complex). Access to these sites could be restricted to normal working hours (See Clause 2.9) and only the registered and expected labour will be allowed access. The Contractor shall be fully responsible for acquiring work permits, etc for these workers.

The Contractor shall apply to the Engineer in writing at least 14 days before starting any work which involves interference with existing structures, equipment, etc. or otherwise interferes with or interrupts the Employer's normal operation. The Contractor shall not execute such work until he has received permission to proceed in writing from the Engineer.

The extent of the site is indicated below. The Contractor shall not use the site for any purpose not required by the Contract.

1.18 Pipelines

The site generally comprises Working Areas in each street or field sections where the various Works are to be constructed. Working Area boundaries will be as directed by the Engineer and will generally compose a strip extending not more than 2 meters from either side of the center line of the excavations under the Contract.

1.19 Intake work and Reservoirs

The Contractor shall at all times confine his operations to those areas identified on the Issued Drawings as within the Site boundaries.

The Contractor shall execute the Works in such manner as to minimize interruption and interference with the operation of the existing facilities. Access to the existing facilities shall be maintained to the satisfaction of the Engineer at all times.

The Contractor shall execute the Works in such a manner as to minimize the deterioration of the raw water quality.

1.20 Use of Public Highways

The Contractor shall ensure that roads and thoroughfares used by him in any way are not dirtied as a result of such use and in the event of their becoming thus dirtied in the opinion of the Engineer, the Contractor shall take all necessary steps to clean them, at no extra cost to the Employer. The Contractor shall obtain all permits required for carrying out the Works on public roads and shall liaise with the appropriate authorities with regard to the timing and execution of the road works.

The Contractor shall be responsible for establishing and maintaining temporary road diversions for the duration of the roadwork. The road shall be kept open at all times during the road works period, and the work shall be carried out in such a manner as to minimize the disruption to traffic.

1.21 Private Property

The Contractor shall make a record, to be agreed by the Engineer, of the condition of the surfaces of any private property, private lands or of any public cultivated or maintained lands over which access to the Site lies before any work is commenced, to make them suitable for access. He shall keep such surfaces in a reasonable state of cleanliness and repair during the execution of the Works. On the termination of the Contractor's use of such access he shall restore the surfaces to a condition at least equal to that existing before his first entry on them. The record shall be witnessed by both the owner and local authority preferably the LC1 chairman.

The Contractor shall not first enter any part of the Site in private lands without the prior permission of the Engineer and without first having obtained the consent of the owner of such lands. The Contractor shall give a minimum of two weeks' notice to the Engineer of his intention to begin works in any area.

The Contractor shall provide and maintain at all times, vehicular and pedestrian access to all properties, private and public, to the satisfaction of the Engineer, and not impede access to any properties.

1.22 Clearance of the Site

The Contractor shall clear the Site to the extent required by the Engineer for checking the setting out. Clearance of the Site shall also include the demolition and removal of all articles, objects and obstructions, which are expressly required to be cleared. The Contractor shall not clear the Site of any structure without the prior written permission of the Engineer. The Contractor shall remove the material arising from such clearance and dispose of it in a manner and at a location, on or off the Site, to the approval of the Engineer.

The Contractor shall fill and make good with appropriate materials those cavities and losses of soil, which result from clearing the parts of the Site not subsequently to be occupied by the Permanent Works.

1.23 Condition of the Site

The Contractor shall maintain the Site in a clean, tidy and healthy condition for the whole of such time as he is responsible for the care of the Works.

The Works shall be kept in a dry state and any water entering the Works from any source shall be collected and discharged in a safe manner approved by the Engineer at no extra cost.

1.24 Access for the Employer and Engineer

The Contractor shall permit the Employer and the Engineer and any person authorised by the Employer or the Engineer, including workmen of the employer, other contractors or utility undertakings, access for the purposes of the Contract, or performing their normal duties, to all areas of the Site and to any additional accommodation or temporary way leave for the duration of the contract period.

1.25 Noise

The background sound level at any point along the boundary of the Site or Working Areas, arising from the operation of any mechanical equipment, with the exception of the diesel generators, shall not exceed 70 dB(A). The background sound level at any point along the boundary of the Site, arising from the operation of the diesel generators for standby generation shall not exceed 80 dB(A).

No item of Plant and Equipment, shall produce a sound pressure level exceeding 85 dB(A) when measured at a distance of 1 m from the reference surface of that item requirement of ISO 3746 'Acoustic Determination of Sound Power Levels of Noise Services - Survey Methods' or the equivalent ANSI S1.36.

Sound pressure levels shall be measured in dB(A), using a calibrated sound meter meeting the requirements of BS 5969 with the responses speed set to 'slow'. The background noise level shall be at least 10 dB(A) below the operating noise level of the machine or other item of Plant and Equipment.

The Contractor shall produce certified evidence from the manufacturer that the appropriate tests have been carried out on all items of the same type which is in all relevant respects similar to the item to be supplied. Such relevant respects would include the running speeds, the power input under the loading conditions which would produce the most noise, the power input under normal operating conditions (if different from the foregoing), the number of stages (for rotary machines) or the number of cylinders (for reciprocating machines).

If an item in its standard build does not comply with the above requirement, the Contractor shall be required to reduce the sound pressure level by providing improved or additional silencers or fitting sound insulating materials to the item.

1.26 Temporary Works

The Contractor shall submit to the Engineer for approval full details of his proposals for temporary works at the Site, at least 14 days prior to the intended start of such work.

The Contractor shall not proceed with such work until he has received the Engineer's written approval of his proposals for the temporary works. Such approval shall not relieve the Contractor of his obligations and liabilities under the Contract.

1.27 Latrines

Throughout the period of construction of the Works the Contractor shall provide, maintain and clean suitable and sufficient latrines for use by his employees. He shall ensure that his employees do not foul the site but make proper use of the latrines. Cost for the provision and maintenance thereof shall be included in the contract rates.

6.3.28 Photographs

The contractor shall supply digital copies of photographs and unmounted positive prints not less than 250 x 200 mm of such portions of the works, in progress and completed, as may be directed by the Project Manager and specified herein. The digital copies and prints shall not be retouched. The digital copies of each photograph shall be the property of the Employer and shall be delivered to the Project Manager with the prints. No prints or digital shall be supplied to any other person without the written permission of the Project Manager.

If so directed by the Project Manager, the contractor shall supply transparencies and colour prints in lieu of black and white copies and prints.

Photographs taken for record purposes as ordered by the Project Manager or as specified herein shall be supplied with three prints, having the reverse of one subscribed with the signatures of the contractor and the Project Manager (or their authorized representatives) for attestation. If required, the Contractor may at his own cost have an additional print similarly attested for his retention.

The contractor shall supply three CDs/DVDs containing the digital copies and three prints of each progress/record photograph ordered by the Engineer. He shall supply two sets of albums, mount the prints, and title the prints and albums all to the approval of the Project Manager.

The taking of photographs of the works by the contractor for any other purpose whether for use in Uganda or any other country shall not be carried out without written approval from the Project Manager.

1.28 Setting out

Final horizontal and vertical alignment of all pipelines shall be agreed with the Engineer prior to the commencement of works.

1.29 Languages

All drawings, instructions, signs, notices, name-plates etc. for use in the operation and maintenance of the completed works shall be in English or in the local languages in case of warning signs and notices. Warning signs shall be in English.

1.30 Contract Signboard

The Contractor shall supply and erect one or more contract signboards at locations to be specified by the Engineer. The signboards shall be of substantial construction to the approval of the Engineer and the lettering shall be black on a white background. The layout and dimensions of the signboards shall be approved by the Engineer.

1.31 Safety Regulations on site

The contractor shall comply with all statutory and other regulations concerning the safety of his site staff, operatives, staff of the Employer and Project Manager and members of the public, as a result of his operations.

He shall obtain copies of all regulations and shall make them available on site for inspection by the Project Manager.

Notwithstanding the above, the contractor shall ensure that the following primary safety rules are adhered to at all times.

All open excavations shall be fenced off with temporary fencing at all times and shall be adequately lit at night.

Excavating and earth moving plant and equipment must not encroach on live carriage ways at any time. The contractor shall ensure that at all items of plant workings adjacent to live carriageways are accompanied by a Banks man at all times.

Construction materials, bedding material and excavated material stored adjacent to the pipe trench must be safely and securely stored, and must not encroach onto the live carriage ways, pedestrian foot paths, private or public access ways or water courses, unless prior approval is given by the Project Manager.

1.32 Protection of Existing Public and Private Services

The contractor shall notify all public authorities, utility companies and private owners of proposed works that will affect them not less than one week before commencing the Works.

The contractor shall adequately protect, uphold, maintain and prevent damage to all services and shall not interfere with their operation without the prior consent of the public authorities, utilities, utility companies, private owners, or the Project Manager as appropriate.

If any damage to services results from the execution of the Works, the Contractor shall immediately carry out the following:

Notify the Project Manager and appropriate public authority, utility company or private owner
Make arrangements for the damage to be made good without delay to the satisfaction of the public authorities, utility companies or private owners as appropriate. The contractor shall be liable for all for making good such damage.

The Project Manager may issue instructions or make other such arrangements as he deems necessary, to repair rapidly any essential services damaged during the execution of the contract. Such arrangements shall not affect any liability to pay for making good the damage.

1.33 Permits

The contractor shall be fully responsible for obtaining all necessary permits, licenses and permissions required for the execution of the Works, prior to the commencement of the Works at no cost to the employer.

1.34 Insurance

The contractor is required to maintain insurance for the works in accordance with the conditions of contract, including insurance of all pipe work, fixtures, fittings, valves and

meters etc. supplied by others, for which the contractor is solely responsible. In addition, the Contractor is required to maintain the value of his insurance cover and performance Security in respect of the rise and fall of costs, in accordance with the Conditions of contract.

1.35 Environmental Protection

The Contractor shall enforce environmental mitigation measures, as per the ESMP

1.36 Appurtenances and Accessories

Standards

The latest edition of the following Standards shall apply: DIN 1952, DIN 3202, DIN 3230, DIN 3352, and ISO 2441.

1.37 Factory Tests and markings

All items shall be duly factory – tested prior to deliver according to DIN 3230, Parts 3 and 4. Test certificates shall be submitted with each set of delivery.

All items shall be duly marked as follows: Nominal diameter, Nominal pressure, Material of Body, Direction of flow, Manufacturer's trade mark, Maximum temperature of liquid, Permissible working pressure, Quality control mark, Serial number, Year of manufacture, Stamp of acceptance, Hydraulic coefficients, Number of standard.

1.38 Coating

Protective coatings for appurtenances and accessories shall, if not otherwise mentioned, be as follows:

For buried items:

Internal: Approved epoxy-resin coating of minimum thickness 300 micron
External: Same as internal

For items installed in manholes or valve chambers or in plants:

Internal: Approved epoxy-resin coating of minimum thickness of 300 micron
External: 1 primer and 2 finish coats of approved epoxy-resin

Pigments shall be to the approval of the Engineer. Colours according to the Engineer's instruction.

1.39 Survey of Highways, Property, Lands and Crops

The Contractor shall provide the Engineer with the details of all the property that may be destroyed in the course of the execution of the works, four weeks prior to commencing works in the affected areas. This will allow adequate time for arrangement for compensation before the works commence. The Employer shall not be held liable for any delays in the

works arising from late presentation of this information to the Engineer or delays arising out of inaccuracies of the information presented by the Contractor to the Engineer.

1.40 Surface Boxes and Guards

All valves, unless otherwise stated, shall be provided with surface boxes. The surface boxes shall be of the type given in the Standard Details Drawings. The Contractor shall be deemed to have included the following in his rates for installation of surface boxes:

Extension spindle

uPVC pipe sleeve

Concrete seat for the surface box.

1.41 Marker and Indicator Posts

Marker posts for fittings and pipeline structures shall be of design as shown in the drawings, and shall be located within 3 m of the fittings, and to minimize the possibility of traffic/pedestrian damage, and damage from future pipe laying/fitting repair operations. Marker plaques shall be aluminum plates 150 x 150 x 3 mm or the markings shall be formed in the concrete at the time of casting the marker posts. They shall be engraved with the pipeline diameter and offset distance prior to installation.

1.42 Units of Measurement

All designs, drawings, specifications and manuals shall use SI (Kg m s) units and all measurements, dimensions and performance data shall be quoted in those unit

1.43 Advertising

The Contractor shall not use any part of the Site for any form of advertising without the prior written approval of the Engineer.

2 PIPE WORK SPECIFICATIONS

2.1 General

The pipe-work shall be laid out and designed so as to facilitate its erection, painting in situ, dismantling of any section for maintenance and to give a constant and uniform flow of working fluid with a minimum loss in head.

2.2 Marking and Protection of Pipes and Fittings for shipment

Except where otherwise specified all items shall have received their complete protective coatings before dispatch from the manufacturers' works and shall be additionally protected by approved means for the period of transit, storage and erection, against corrosion and accidental damage.

For the protection of pipe linings and in particular for protecting cement mortar linings from drying out, protective metal or timber discs shall be fitted over the ends of pipes and fittings. Similar timber protective discs shall be attached to all flanges of pipes and fittings, by means of bolts specifically provided for the purpose and which shall be discarded when the item is incorporated in the works. The sleeves and flanges of flexible joints shall be wired together in suitable bundles.

2.3 Storage of Pipeline Materials

Pipes and fittings shall be stored raised off the ground, and shall be carefully supported, cushioned and wedged. Pipes shall not rest directly on one another and shall not be stacked more than four pipes high or two pipes high in the case of pipes of 500mm diameter or over. Special care shall be taken to ensure that flexible pipes are cradled and supported in a manner that prevents any distortion of the pipes.

Coupling and joints (and all components thereof) and other similar items shall be stored in dry conditions, raised from the ground in sheds or covered areas.

Storage areas shall be carefully set out to facilitate unloading, and checking of materials with different consignments stacked or stored separately with identification marks clearly visible. Where items to be stored have a limited shelf life or require special storage arrangements, the method of storage shall be the approval of the engineer and in accordance with the manufacturer's instructions.

All pipes and fittings supplied as spares shall have end covers which are proof against the entry of sand and vermin. Mortar lined pipes and fittings shall have end covers which form a complete seal, provision being made to accommodate the effects of temperature changes. Pipes and fittings supplied as spares shall have a temporary white external finish and shall be stored sheltered from the direct rays of the sun.

End covers and protection shall be removed until the pipes and fittings into the works.

2.4 Transportation of pipes and fittings

Any vehicle on which pipes are transported shall have a body of such length that the pipes do not overhang. Large pipes shall be placed on cradles and the loads properly secured during transit. The pipes shall be handled in accordance with the manufacture's recommendations.

Approved slings shall be used, and all hooks and dogs and other metal devices shall be well padded. Hooks engaged on the inner wall surface at pipe ends shall not be used. Steadying ropes shall be employed. The positions of lifting slings shall ensure that stresses and tendency towards deformation in the pipes are kept at a minimum.

Pipe handling equipment shall be maintained in good repair any equipment, which in the opinion of the engineer any cause damage to the pipes shall be discarded.

Under no circumstances shall pipes be dropped, be allowed to strike one another, be rolled freely or dragged along the ground.

2.5 Inspection of pipes and fittings

Before incorporation into the works each pipe shall be brushed out and carefully examined for soundness. Damaged pipes, which in the opinion of the engineers cannot be satisfactorily repaired, shall be rejected and removed from site. Damage to pipe coatings or linings shall be repaired to the satisfaction of the engineer.

2.6 Built-in Pipe work and other plant

The pipes and other plant in water retaining structures shall ensure that delivery of the requisite pipe-work and other plant is in accordance with the requirements of the program.

Where a pipe subject to thrust passes through a concrete structure or where an external seal is required, a puddle flange shall be cement washed symmetrically about the puddle flange by the manufacturer for a length at least equivalent to the thickness of the wall through which it passes.

The contractor shall be responsible through every stage of the works for checking the correctness of the setting of built-in plant and shall satisfy himself they are positioned in accordance with his approved drawings.

2.7 Materials

Each pipeline shall be constructed in a material compatible with the fluid conveyed through that pipeline, i.e. the materials used in the pipes which are or can be in contact with the untreated water, shall not contain any matter which could impart taste or odor or toxicity or otherwise be harmful to health or adversely affect the water conveyed. Nor shall any pipe be adversely affected by the fluid being conveyed through that pipe.

2.8 Traffic Requirements

The Contractor shall comply with the provisions of the highway and road safety codes issued by the government of the Republic of Uganda.

2.9 Excavation

Trenches for uPVC pipes laid in the road reserves or underneath roads shall have a minimum cover of 1.2m over the crown of the pipe. Trenches for ductile iron pipes, or steel pipes of uPVC pipes laid in open fields not subject traffic loading shall have a minimum cover of 0.90m above the crown of the pipe.

Scrub, hedges, debris and other obstacles such as huts, trees, etc. along the routes of the pipelines shall be cleared to the satisfaction of the engineer. The engineer reserves the right to restrict the width of clearance due to the proximity of roots, houses, public utilities or other such permanent obstructions. All trees within 2m of the pipeline centre lines shall be felled and the roots grubbed up. Trees with a girth of less than 0.5m shall be deemed to be included in the clearance of scrub etc. and shall not be paid for separately.

Before excavating across any public road, the Contractor shall give 10 days' notice in writing of his intention to excavate, shall satisfy the Engineer, the police and other traffic authorities, as to the precautions he proposes to take and signs and lights to be provided and operated. The contractor shall further give the Engineer 24 hours' notice before excavating across any private road or track. The cost of providing all diversions, flagmen and the like will be at the Contractor's expense and shall be deemed to be included in the contract, whether these are expressly billed or not.

All surfaces of roads, paths, gardens, verges etc whether public or private, which are disturbed during the execution of the contract, shall be initially restored on a temporary basis by the contractor. Permanent restoration shall not commence until the engineer has given written permission to proceed. It shall be carried out with materials similar to those which were used in the original surface and to the satisfaction of the Engineer and/or the responsible owner or authority. The cost of restoration shall be deemed to be included in the contract whether these have been expressible billed or not.

Trenches, channels, and kerbs shall be reinstated to the condition in which they were before excavation was commanded. The final surface of the trench shall be flush with surrounding ground. The width of reinstated surfaces due to be measured for payments, shall correspond to the specified width at that location.

For the purposes of the 3rd edition of the civil engineering Standard Method of measurement, hereinafter referred to as CESSM3, the classification of excavation shall be as follows;

Topsoil shall be regarded as any soil which, on visual examination, can be seen to have been broken down by agricultural cultivation, and/or is capable of supporting plant growth.

Rock shall include any material which, in the opinion of the Engineer, requires for its removal the use of explosives, sledgehammers and wedges, breaking tools or which cannot be removed by a 145kW tractor with rear mounted heavy duty ripper.

Individual boulders, each greater than 0.2 m³ in volume shall be included in this class when their nature and size are such that they cannot be removed without recourse to the stated methods. Where their aggregate volume is 50% or more of the total volume of material removed it shall be measured as rock throughout.

2.10 Concrete Protection to Pipes

All Pipes at public road crossings shall be provided with a class C15 concrete surround. All pipes where the cover stipulated in clause 3.10 of the specifications is not achievable shall be provided with a class C15 concrete surround.

2.11 Pipe Surround

The Contractor shall give the Engineer after completion of trenching of his intention to lay the pipe. The Engineer will jointly with the contractor inspect the trenches, and determine the type of pipe surrounds required for different sections of the trenches. The types of surrounds will be as follows;

Non-selected excavated material other than the topsoil, rock or artificial hard material;

Selected excavated material

Imported granular material

Indicative quantities of surrounds in the various categories have been included in the Contract.

The final quantities shall be as determined on site.

2.12 Protection of Ferrous Pipes, Joints and fittings

An external painting of pipe fittings is not deemed adequate protection, and therefore shall not be permitted. The Contractor shall present to the Engineer a sample of the material he intends to use for approval, prior to ordering fittings. Protections shall be provided to all fittings falling in this category, and the cost of so doing shall be deemed to be included in the contract.

2.13 Testing of pressure pipelines

The pipelines shall be subjected to a hydrostatic testing prior to the 90 days test running of the system.

For concrete or cement – mortar lined pipelines; the section under test shall be filled with water to the required pressure and allowed to stand for 24 hours before the test procedure commences.

The lengths of pipelines to be tested shall not exceed 0.5km. At the discretion of the Engineer this length may be extended to a maximum of 1.5km.

Before testing commences, all anchorages shall be in position; all concrete thrust blocks shall have attained their required strength and, where pipe joints are deflected to produce large radius curves, the backfill between the pipe body and the side shall be compacted to the final requirements. The contractor shall provide for transmitting the unsupported end thrusts to solid ground.

2.14 Preparation for Testing

All pipes shall be hydrostatically tested in the presence of the Supervisor's representative after laying. The Contractor shall give the Supervisor not less than 48 hours' notice of his intention to carrying out a pressure test.

Before any pressure is applied to any pipeline each pipe shall be securely anchored and when in trench shall be compacted for at least two-thirds of its length with not less than 500mm of backfill materials leaving the joints exposed.

No joint shall be backfilled or moulded or covered in any way until after the satisfactory completion of the pressure test.

Pressure testing shall be carried out as the work proceeds in such lengths, generally not exceeding 1 km, as are convenient and meet the approval of the Supervisor. When splitting up the pipeline for testing, due regard shall be taken of sections laid with pipe of different pressure ratings.

If possible, lengths containing only one class of pipe shall be tested in one section, and the point of application and monitoring of the test pressure shall be at the lowest point of the section under test.

The ends of the length of pipeline under test shall be closed by means of caps or blank flanges. Pipeline valves shall not be used for this purpose. All washout valves shall be fitted with blank flanges and valves opened before the commencement of any pressure test.

2.15 Method of Testing

The pipe shall be slowly filled with clean water and allowed to stand for reasonable time. Care shall be taken to expel all air as far as is practicable.

The water pressure shall then be raised by means of a metering test pump, to a pressure equal to 1.5 times the static pressure of the pipe, at the point where pressure is being monitored.

Any fall in pressure after the pipeline has been isolated from the test pump for 1 hour shall be made good by further pumping. The amount of water required shall confirm to the formula: -

3 litres per km of pipe, per 25mm nominal bore, per 3 bar of test pressure, per 24 hours.

This is as per CP 312 - Part 2 - 1973. The pipeline shall be brought up to the required test pressure every hour and amount of water noted for a total time of 4 hours. During the progress of the test, the pipeline shall be visually inspected and any signs of leakage or faults shall be remedied, whether the total leakage from the pipeline under test is less than the allowable leakage or not. Should any length of pipeline fail to pass the pressure test, the Contractor shall, at his own expense, carry out all work necessary to locate and remedy the faults and to retest the pipeline until it satisfactorily passes the test.

If leakage is within the allowable limit and no "sweating" joints can be found, the second test time may be reduced to 2 hrs. Leakage tests shall run from an air valve at the top end to a test plug or section valve at lower end. To avoid leaving long sections of trench open for a long time and for making "temporary connections" to the main, a special test plug shall be prepared by the Contractor and the line shall be tested every 2-3 days. The joints should not be wrapped until tested and approved.

The Contractor shall provide all pumps, gauges, water, labour, drains, stoppers, caps, bends, thrust blocks and other needful appliances for carrying out tests and no pipelines or other work shall be covered up until they have been seen and passed by the Supervisor.

The Contractor shall allow for the cost of testing in his rates for main laying.

2.16 Precautions Prior to Testing Pipelines

Pressure testing of pipelines against a closed valve shall be avoided. If the circumstances are such this is not avoidable, the Contractor shall seek the approval of the Engineer prior to undertaking such a test.

2.17 Survey of Pipeline Routes

The Engineer has carried out a preliminary survey of pipeline and fixed the appropriate route as indicated on the drawings. The contractor, in conjunction with the Engineer, shall set out and agree the final pipeline route as indicated on the drawings.

The contractor, in conjunction with the Engineer, shall set out and agree the final pipeline route and shall undertake a detailed survey of the agreed route prior to the commencement of construction work. The contractor shall submit the results of the survey to the engineer in the form of longitudinal sections and plans drawn to a scale to be decided by the engineer. They shall conform to the following;

The length of the route shall be accurately measured and chainage markers (50mmx50mm timber pegs or similar approval) fixed at 50m intervals and clearly marked with the chainage at that point.

Using modern survey equipment approved by the engineer, ground levels shall be taken at intervals agreed with the project manager. Generally, a 25 m interval will be acceptable though this is to be reduced as necessary to ensure any abrupt changes in level are recorded.

Levels shall relate to the given in chapter 1 of this specification, and permanent benchmarks shall be established, clear of the proposed pipeline, at intervals along the pipeline route.

The engineer will review the pipeline profile and amend it where necessary including any revisions to the number and pipe laying begin.

2.18 Pipe laying-controlled and Non-controlled sections

The criteria for the level and gradient to which pipe shall be laid are divided into two categories as follows.

“Controlled Sections” comprise those sections of the pipeline where pipe gradients will be subject to the following.

The cover above the crown of the pipe to ground level shall be a minimum of that stated in Clause 3.10.

The upward gradient shall be steeper than 1 in 500 with flow, or steeper than 1 in 300 against the flow.

The positions of the high and low points shall be determined from the Contractor’s detailed route survey and shall be as far apart as ground levels permit, with the depth of the pipe being increased from the minimum by as much as 1000 mm to avoid high points at small undulations.

The Contractor shall ensure that the required pipe levels and gradients along “controlled” sections comply with the above criteria.

“Non-Controlled Sections” shall comprise the remaining sections of the pipeline, which shall be laid to stipulated cover as specified in Clause 3.10.

2.19 Service Pipes

The Contractor shall supply and lay service lines to all properties that shall be shown to the Contractor by the Project Manager on site and to the alignment as directed by the Project Manager.

The contractor shall hold in his stores all the materials for the service connections as billed, and lay them to the alignment as directed by the Project Manager. The size distribution of the service pipes shall also be as directed by the Project Manager on site. All the un-used service connection materials shall be handed over to the Employer at the time of substantial completion.

The service pipes shall be HDPE or similar approved material, and shall be laid as per the manufacturer's instructions. The lines shall be rated at PN 6 or as directed by the Engineer. The valves and fittings shall be equally rated. The fittings, including bends, junctions, adaptors, connectors to valves, etc shall all be as per the manufacturer's standard types and connected to the lines as per the manufacturer's instructions.

The Contractor shall not place orders for the materials for service pipes until the layouts have been determined by the Project Manager and he receives an instruction from the Project Manager to that effect

Where directed by the Project Manager, the Contractor shall lay intensification pipelines to densify the distribution network.

The other intensification lines are in areas of anticipated demand, and the decision as to whether they shall be laid or not is demand driven, and shall be made by the Engineer on site against proven demand (i.e. applications for new connections or existing areas with excessively long service pipes). The final required fittings for the lines are therefore not precisely known, and shall be determined on site. The bill of quantities contains a provisional sum for purchase of additional materials for this and items for pipework, connection and meters have been billed but with no quantities. The Project Manager will determine the final quantities required and direct the Contractor to order them. The Contractor shall therefore not order these materials without approval from the Project Manager.

The Project Manager will issue a list of properties requiring consumer water connections to be made. The Contractor shall install these consumer connections complete with consumer meters, and including tapping the main lines and laying of the service pipes, on all these properties. The details of the meter installation shall be as given in the standard drawings.

The bill of quantities contains provisional quantities of materials for service connections, as well as provisional sums for purchase of additional materials. The Project Manager will determine the final quantities required and direct the Contractor to order them. The Contractor shall therefore not order these materials without approval from the Project Manager.

2.20 Disinfection to Water Mains

The Contractor shall disinfect all new mains intended for conveyance of potable water before they are put into service.

Pipelines that are to convey potable water and have successfully passed the hydrostatic test shall be scoured out until the wash water runs clear. They shall then be recharged with potable water containing at least 50 mg/l of free chlorine. The chlorine shall be derived from a 1% solution of calcium hypochlorite in water. The solution shall be added in a manner and rate approved by the Engineer.

The pipeline shall then be allowed to stand for a period of at least 24 hours during which period all intermediate in-line valves shall be operated at least once. After this period, the residual free chlorine shall be measured at the end of the pipeline furthest from the point of injection of the chlorine solution. If the free residual chlorine is less than 10mg/l, the sterilisation process shall be repeated until this value is achieved.

The Employer will supply, free of charge, sufficient potable water for one sequence only of the scouring, sterilising, re-charging and commissioning procedures as defined. The Contractor shall be deemed to have allowed in his rates, for any re-sterilisation including the cost of potable water, deemed necessary by the Engineer.

3 STEEL REINFORCEMENT

3.1 General

Steel reinforcement for concrete work shall be round, square twisted or high-yield steel bars or other reinforcement as billed, of the sizes required by the Drawings or as detailed in the Bending Schedules of reinforcing steel to be supplied to the Contractor. All reinforcement shall be specified according to BS. 4449

Steel mesh or fabric reinforcement shall be as specified in B.S. 4483 'Steel Fabric for the Reinforcement of Concrete'.

Only reinforcement from approved or nominated suppliers shall be used and the Contractor shall produce Certificates of Manufacture and Compliance with the relevant British Standards to the Supervisor.

The Contractor may be required to submit certified test data of the following characteristics:

Ultimate tensile stress

Yield point stress

Cold bend test

Should such certificates not be available from the manufacturers, the Contractor shall have the requisite tests made at his own expense.

The criteria for acceptance of the above tests shall be as in B.S. 4449, except that the yield point stress for mild steel shall be a minimum of 250 N/mm².

All steel shall be clean and free from loose rust, mill scale or other substances, which might prevent proper adhesion to the concrete. If directed by the Supervisor, the steel shall be brushed or otherwise cleaned before concrete is deposited round it. Material, which is found to have developed brittleness cracks, or other imperfections shall be rejected and removed from the Site without delay.

3.2 Bending Reinforcement

Steel rods shall be shaped as shown on the Drawings and shall comply with the bending dimensions and tolerances laid down in B.S. 4466: "Bending Dimensions of Bars for Concrete Reinforcement" and shall be shaped cold round a former having a diameter of not less than four times the diameter of the rod.

No reinforcement shall be bent when in position in the Works without approval, whether or not it is partially embedded in hardened concrete.

Bending schedules supplied to the Contractor and given on the Drawings are as accurately as possible but the Contractor shall check the bending schedules shown before cutting the bars and placing them in the Works.

3.3 Fixing reinforcement

Steel reinforcement shall be accurately fixed and maintained in the positions as shown on the Drawings. Intersecting bars shall be securely wired together with No. 16 gauge annealed soft iron tying wire, with the ends of the wire turned into the main body of the concrete. Binders or links shall make close contact with longitudinal bars and shall be securely wired thereto.

Reinforcement projecting from work being concreted or already concreted shall not be bent out of its correct position for any reason unless approved and shall be protected from deformation or other

damage. The vertical distances required between successive layers of bars in beams or similar members shall be maintained by the provision of mild steel spacer bars inserted at such intervals that the main bars do not perceptibly sag between adjacent spacer bars.

Bars shall lap a minimum of 51 bar diameters. Adjacent sheets of steel mesh shall overlap at least one and one-half squares.

Every precaution shall be taken to ensure that no movement takes place whilst the concrete is being deposited and compacted, that the rods or fabric remains in their correct positions and that they are properly surrounded with concrete. No loose rods or small pieces of fabric shall be permitted to be used in any portion of the work.

Welding of reinforcement shall not be allowed except in factory conditions during the fabrication of steel mesh.

3.4 Cover to Reinforcement

The concrete cover to reinforcement shall be as indicated on the Drawings.

The specified cover shall be provided and maintained with a tolerance of 5-mm under or over (except where specified as a minimum) by means of accurately made cement mortar or other approved non-corrosive distance pieces tied securely to the reinforcement.

3.5 Measurement and Payment for Reinforcement

Reinforcing bars shall be measured and paid for per kilogram or tonne for the net calculated weight unless included as a lump sum item in the Bills of Quantities. No payment shall be made for rolling margins, binder wire, splices or spacers.

The weights of mild steel bars used in the Works shall be calculated by measurement of their lengths, and the weights of bars, assuming that steel weighs 0.00785 kg per sq. -mm of nominal cross-sectional area per metre run, shall be taken as follows:

Nominal Bar Size -mm	Cross-sectional Area Sq. -mm.	Weight per metre run kg
8	50.3	0.395
10	78.5	0.616
12	113.1	0.888
16	201.0	1.58

Steel fabric or mesh shall be measured and paid for net per square metre. The Contractor shall allow in his rates for overlaps in joints in mesh reinforcement.

3.6 CEMENT MORTAR

Cement mortar shall consist of one part by volume of Portland Cement to four parts by volume or as otherwise specified or shown on the Drawings, of natural sand, crushed stone sand or a combination of both as specified in B.S.S. 1200 - 'Natural Sand and Crushed Natural Stone Sand for Brickwork (plain and reinforced) and for Masonry'.

The constituent materials shall be accurately gauged and mixed in an approved manner.

Cement mortar shall be made in suitably small quantities only as and when required, and any mortar which has begun to set or which has been mixed for a period of more than one hour shall be rejected. The mix shall be carefully gauged with water and the water/cement ratio shall be kept a minimum consistent with workability.

3.7 CONCRETE CLASSES

Classes of concrete to be used on the Works are as specified herein, and shown on the Drawings and described in the Bills of Quantities.

As a general guide only, concrete classes will be used as follows:

Class 25: Reinforced concrete for precast fence posts, marker posts, paving slabs, etc. Intake Structure (water sump) and storage tanks.

Class 20: Reinforced and structural concrete for other structures than the above. Support and thrust blocks, plinths and other mass concrete in buildings and structures generally. Anchor and thrust blocks on the intake line.

Class 15: Bedding and surrounds to pipes where subject to dynamic loading (e.g. road crossings) or erosions.

Class 10:

Thrust blocks and concrete for bedding and surrounding pipes.

Lean Mix: Backfill to excavations subject to scour, or as replacement of bad ground

3.8 PROPORTIONS OF CONCRETE MIXES

3.8.1 General

Classes of concrete referred to are nominal only. In all cases the specific requirements of this Specification shall take precedence.

All structural concrete shall contain a minimum cement content of 300 kg/m³, and all concrete shall comply with the strength requirements detailed below.

3.8.2 Water Content

The quantity of water used in mixing concrete shall be carefully measured for each batch and shall be controlled by maintaining a water/cement ratio just sufficient to produce a dense concrete of adequate workability suited to the conditions of placing. In no case shall concrete with a slump greater than 75-mm be accepted, and the Contractor shall accordingly provide suitable plant for the handling and compacting of concrete.

As the quantity of water used will vary with the aggregates used, their moisture content and the water/cement ratio for each mix, the quantity of water added to each batch shall be predetermined experimentally before any permanent work is commenced and subsequently whenever, in the opinion of the Supervisor, the nature or the moisture content of the aggregates has changed. The Supervisor will decide the optimum value of the water/cement ratio for mix, dependent on the nominal mix and the position where the mix will be placed.

The Contractor shall carry out compacting factor and slump tests as frequently as the Supervisor deems necessary at no extra cost. Provision of all equipment for the necessary tests to be carried out, shall be included in the rates for concrete.

3.8.3 Mixes

The proportions of concrete materials in the various concrete mixes shall be given below for nominal volume-based mixes. As a temporary expedient while trials of the nominal mixes are being prepared and tested, corresponding standard mixes may be used, but volume-based mixes shall replace standard mixes once these have been tried and approved. Standard mixes shall be in accordance with B.S. Code of Practice CP 114.

The Supervisor reserves the right to vary from time to time without extra charges the proportions of coarse aggregate to fine aggregate to obtain satisfactory mixes. The aggregate: cement ratio will remain unchanged. All mixes shall be to the satisfaction of the Supervisor.

Class	Portland Cement kg		Fine Aggregates cu m	Coarse Aggregates cu m	Nominal Mix Proportions
25	50	0.05	0.10	1	: 1.5 : 3
20	50	0.07	0.14	1	: 2 : 4
15	50	0.085	0.17	1	: 2.5 : 5

10	50	0.10	0.20	1 : 3 : 6
Lean Mix	50	0.05	0.10	1 : 18

For lean mix an 'all in' aggregate may be used. The Supervisor may direct that it be mixed and placed dry.

Corresponding standard mixes shall be as given in Table 5 of CP 114 for concrete of 19-mm maximum size and medium workability, with a slump not exceeding 50-mm. Mix proportions shall then be shown below:

Class of Concrete	Weight of aggregate in kg per 50kg of Cement	
	Dry Sand	Coarse Aggregate
25	80	135
20	90	155

The above mixes are based on the use of fine aggregate complying with Zone 2, Table 2 of B.S.

Fine aggregate complying with Zones 1 or 3 may be used but the proportion of coarse aggregate to fine aggregate will be subject to alteration. The aggregate: cement ratio will remain unchanged. Such alterations in the proportion of coarse aggregate to fine aggregate shall not constitute a variation to the Contract and no extra charge will be allowed on this account.

3.8.4 MIXING CONCRETE

3.8.5 Batching

Proportions of aggregate shall be determined initially by volume. Equivalent weights of aggregate may then be determined for batching by weight, due allowance being made for the water content of aggregates.

3.8.6 Mixing

All concrete shall normally be mixed on Site and complying with B.S. 1305. The concrete shall be mixed until there is a thorough distribution of the materials and the mass is of uniform colour and consistency.

The mixing shall be done on a clean, watertight, non-absorbent platform/ground surface. The cement and fine aggregate shall be mixed dry until the mixture is thoroughly blended and uniform in colour. The coarse aggregate shall then be added and mixed until the coarse aggregate is uniformly distributed throughout the batch. The correct quantity of water shall be added using a calibrated water container and the mixing continued until the entire batch of concrete appears to be homogeneous and has the desired consistency. Mixing shall be

carried out until the whole batch has been turned at least three times dry and three times wet.

The platform shall be emptied before a subsequent batch is mixed, and thoroughly cleaned if not in use for more than 20 minutes before the next batch is mixed.

3.8.7 PLACING CONCRETE

3.8.7.1 Inspection

The Supervisor may order the postponement of concreting work if, in his opinion, the formwork, reinforcement or suchlike is not suitably prepared, or if the mixing is inadequate, unsuitable, or if the Contractor has not made adequate arrangements to complete the work satisfactorily.

Any delay shall be at the Contractor's expense, and no claim will be considered which arises as a result of the enforcement of this clause.

3.8.7.2 Unsuitable Weather for Concreting

No concreting will be allowed in the open during storms or heavy rains. When extremely hot and windy weather is probable or at such times as the Supervisor may direct, the Contractor shall take proper protective measures to prevent overheating or drying of concrete while it is being placed and during its subsequent curing. If directed by the Supervisor, sun and windshields shall be erected.

3.8.8 CONCRETE BLINDING

Concrete blinding shall consist of a 100-mm layer of Class 15 concrete. The concrete shall be as dry as possible and shall be well compacted by tamping or rolling, and finished to a smooth level surface as a suitable formation for subsequent work. Where blinding is to be placed directly on an excavated surface, it shall be done immediately after the final trimming, as specified elsewhere.

3.8.9 TESTING OF MATERIALS-CONCRETE CUBES

The Contractor shall perform a compressive strength test for concrete used on sump slab, tank foundations and foundations for treatment plants in a reputable laboratory. The concrete cubes shall be cured for a period of 7 days, 14 days and 28 days using cubical moulds of size 10cm X 10 cm X 10cm or 15 cm X 15 cm X 15 cm depending on the aggregate size used.

Following are the procedure for Compressive strength test of Concrete Cubes;
Apparatus

Compression testing machine

Preparation of Cube Specimens

The proportion and material for making these test specimens are from the same concrete used in the field.

Specimens

The specimen is 9 cubes of either 10 or 15 cm size mix obtained for each component, sump slab, tank foundations and water treatment plant foundations.

Hand Mixing

- Mix the cement and fine aggregate on a water tight none-absorbent platform until the mixture is thoroughly blended and is of uniform color
- Add the coarse aggregate and mix with cement and fine aggregate until the coarse aggregate is uniformly distributed throughout the batch
- Add water and mix it until the concrete appears to be homogeneous and of the desired consistency

Sampling

- Clean the moulds and apply oil
- Fill the concrete in the moulds in layers approximately 5cm thick
- Compact each layer with not less than 35 strokes per layer using a tamping rod (steel bar 16mm diameter and 60cm long, bullet pointed at lower end)
- Level the top surface and smoothen it with a trowel

3.8.10 Curing

The test specimens are stored in moist air for 24 hours and after this period the specimens are marked and removed from the moulds and kept submerged in clear fresh water for 7 days, 14 days and 28 days and taken out prior to test.

Precautions

- i. The water for curing should be tested every 7 days and the temperature of water must be at $27 \pm 2^\circ\text{C}$.
- ii. Procedure

- iii. Remove the specimen from water after specified curing time and wipe out excess water from the surface.
- iv. Take the dimension of the specimen to the nearest 0.2m
- v. Clean the bearing surface of the testing machine
- vi. Place the specimen in the machine in such a manner that the load shall be applied to the opposite sides of the cube cast.
- vii. Align the specimen centrally on the base plate of the machine.
- viii. Rotate the movable portion gently by hand so that it touches the top surface of the specimen.
- ix. Apply the load gradually without shock and continuously at the rate of 140kg/cm²/minute till the specimen fails. Record the maximum load and note any unusual features in the type of failure.

NOTE

Minimum three specimens should be tested at each selected age. If strength of any specimen varies by more than 15 per cent of average strength, results of such specimen should be rejected. Average of the specimens gives the crushing strength of concrete.

Report

The report shall be presented using the structure below;

- i. Identification mark
- ii. Date of test
- iii. Age of specimen
- iv. Curing conditions, including date of manufacture of specimen
- v. Appearance of fractured faces of concrete and the type of fracture if they are unusual
- vi. The results shall be presented for;
 Average compressive strength of the concrete cube =N/ mm² (at 7 days)
 Average compressive strength of the concrete cube =N/ mm² (at 14 days)
 Average compressive strength of the concrete cube = N/mm² (at 28 days)

4 WALLING

4.1 General

Walls to manholes and other relevant places shall be of approved blocks. Qualified and experienced stone masons shall construct all walling.

4.1.1 Blocks

Blocks shall be machine made solid concrete blocks made from Ordinary Portland Cement and natural aggregates as specified in Section 4 or equivalent solid stone blocks. They shall have a minimum average crushing strength of 2.8 N/mm² and an individual strength not less than 2.25 N/mm², and comply with the requirements of BS 2028, and generally be equivalent to Type B(2.8) blocks specified therein.

The Contractor shall be solely responsible for making test blocks and experimenting with available materials to ascertain what mix will be necessary to attain the required strengths. If suitable materials are not obtainable locally, the Contractor shall obtain them from such other sources as he considers most convenient. In no case shall blocks contain less than 8% of cement by weight.

Manufacture shall be carried out under shelter and, after casting; the blocks shall be stacked under shelter to protect them from sun and weather, and properly cured by covering with sand or sacks kept permanently moist for 14 days.

All blocks shall be left with good sharp edges. The standard size of blocks for use in the works shall be 225 or 150 -mm and this size of blocks shall be used wherever practicable. Blocks of other shapes and sizes will, however, be required to form proper bonding at corners, round openings, cills, lintels, beams, etc., and such like positions and the Contractor shall make or cut blocks to all varying sizes required for these purposes.

Should the Contractor obtain blocks from local manufacturers or suppliers, he shall be responsible for ensuring that the blocks supplied meet the above requirements.

Test samples shall be selected by random from the Site or supplier by the Supervisor's Representative. No work with blocks shall commence prior to a test report being presented to and accepted by the Supervisor.

4.2 Mortar

Mortar used for bonding block work shall consist of one-part Ordinary Portland cement and four parts sand. Sand shall be fine building sand, complying otherwise with the requirements.

4.3 Bonding Walling

All blocks shall be properly bonded together and in such a manner that no vertical joint in any one course shall be within 100 -mm of a similar joint in the courses immediately above and below. Alternate courses of walling at all angles and intersection shall be carried through the full thickness of the adjoining walls.

All perpend, reveals, quoins and other angles of the walls, etc., shall be built strictly true and square

4.4 Laying and Jointing

All blocks are to be well wetted before use and tops of walls where left off shall be well wetted before commencing building. All joints are to be minimum 10-mm thick and flushed up and grouted in solid as the work proceeds.

All exposed faces of walls for plastering are to be left rough and the joints raked out whilst mortar is green to form an adequate key.

All other faces shall be cleaned on completion with a wire brush and mortar droppings, smear marks, etc., remove and rates must include for this.

4.5 RENDERING AND PLASTER

Except where specified otherwise or differently described on the Drawings or in the Bills of Quantities, mixes shall be as follows:

Cement mortar for rendering internal faces of water-retaining structures shall be 3:1 Sand/cement mortar waterproofed with 'Febproof' integral liquid waterproofed or similar Proprietary product as an additive to the mortar, as approved by the Supervisor.

Only approved additives shall be added to mortar, rendering or plaster, and such approval shall be in writing by the Supervisor.

The ingredients of mortar, rendering or plaster shall be measured in proper gauge boxes or a boarded platform, the ingredients being thoroughly mixed dry, and again whilst adding water. All mortar etc., is to be thoroughly mixed to a uniform consistency with only sufficient water to obtain a plastic condition suitable for trowelling. No mortar etc., that has commenced to set is to be used, or knocked up again for use.

Cement and sand shall be as for mortar for block work joints. Lime shall be best quality hydrated lime from an approved source and shall conform with B.S. 890, Class 8.

Prices for rendering and plaster shall include for preparation of surfaces. Block work joints shall be raked out whilst still green, and faces of lintels hammered to provide a key.

In water retaining structures, a small quantity of water shall be allowed to stand on the floor of the tank to provide a damp atmosphere while the mortar render cures.

4.6 TESTING OF WATER RETAINING STRUCTURES

All water retaining structures shall be tested for water tightness. The Contractor shall provide and install a hook gauge to measure any variations in water level during the tests. The Contractor shall be responsible for ensuring that all pipe work associated with the structure is water-tight and such pipe work, if not tested hydraulically as part of a pipeline, shall be deemed to be part of the structure for the purposes of this clause. The Contractor shall isolate the structure by closing valves or blanking off pipe work as necessary. The Contractor shall fill the structure to top water level with clean water. The water level shall be measured at the start of the test, and again at the end of the 24-hour test period. No structure intended to be watertight shall show a fall in level over the 24-hour test period, in excess of 0.2 -mm per metre depth of water. For structures open to the atmosphere, the tests shall be conducted on rainless days. The Contractor at his cost to determine losses, which may be due to evaporation, shall provide a control water vessel, in which the water shall be maintained at ambient air temperature.

4.7 PROTECTION WORK

- i. Protection work in connection with the intake works, storage tanks, washout manholes etc. will consist generally of stone pitching.
- ii. Typical details are shown on the Drawings but working details will be issued by the Supervisor from time to time during the period of the Contract.
- iii. Stone pitching shall be constructed in accordance with Section 4.22 and 4.23 of this Specification.

4.8 STONE PITCHING

Stone pitching shall be formed of hard stone, roughly dressed square. The least dimension of any stone shall not be less than 200-mm, and the volume not less than 0.01 m³. No rounded boulders shall be used.

The stones shall be set on edge and secured bedded with the largest dimensions at right angles to the flow of water, fitted closely together so as to leave only a minimum of voids between the stones which shall be filled in with suitably shaped and tightly wedged spalls. The top of the pitching shall be finished flush with the adjacent material.

Where grout is specified, 1:4 cement: sand mortar shall be rammed into the wetted interstices and smoothed off flush with the pitched face.

4.9 PIPELINE MATERIALS

All pipelines of size equal to or bigger than DN 100 shall be in uPVC or equivalent quality material in the distribution network. Pipes of smaller size have been specified as HDPE. However, any pipeline of equal or better quality will be acceptable. House connections shall be in PE.

The transmission pipeline shall be in uPVC according to the Contract agreement. Material specifications are given below:

Steel Pipes

Standard of Manufacture: Steel water pipes will be delivered in accordance to the requirements of DIN 2460 (Specification for Steel water pipe). Pipes themselves will be manufactured and tested according to DIN 1626. Selection of Steel Grade, Minimum Thickness and Working Pressure

The nominal pressure of the pipeline, trench depth, type of pressure loading (static or pulsating) shall be advised to the manufacturer. The wall thickness and steel grades for steel pipes shall be selected from Table 3 of DIN 2460 reproduced below to suit the working requirements of the system if the following conditions apply:

- Trench depth does not exceed 6m for DN 500 and below, and 4m for above DN 500
- Vehicle loading imposed by SLW 60 load according DIN 1072
- Internal pressure is predominantly static (not pulsating)

Pipeline Pressure Rating PN (bars)

Size DN	Outside	Thickness	St37.0	St37.0	St52.0	St37.0	St52.0
Dia., da		Vn=0.9	Vn=0.9	Vn=0.9	Vn=1.0	Vn=1.0	
Mm	mm	mm	Test	Cert.	Cert.	Cert.	Cert.
			Report 3.1B	3.1B	3.1B	3.1B	3.1B
			2.2				
80	88.90	3.2	63	80	125	100	125
100	114.3	3.2	50	63	100	63	100
125	139.7	3.6	50	63	80	63	100
150	168.3	3.6	40	50	63	50	80
200	219.1	3.6	32	40	50	40	63
250	273.0	4	25	32	50	40	50
300	232.9	4.5	25	32	50	32	50
350	355.6	4.5	25	32	40	32	50
400	406.4	5	25	32	40	32	50

500	508.0	5.6	25	25	40	25	40
600	610.0	6.3	20	25	32	25	40
700	711.0	6.3	16	20	32	20	32

Should the trench depth exceed the above values, or the internal pressure is fluctuating than wall thickness should be checked according to DIN2413 for suitability and adjusted if necessary.

External Coatings of Pipes and Fittings

Pipes and fittings will be coated externally in fusion bonded epoxy powder (EP Powder) to DIN 30671 (Specification for Thermo set plastic coatings for buried steel pipes) to a minimum thickness of 350 microns. Pipes and fittings will be coated only in factory conditions.

Prior to external and internal lining, all Pipes and Fittings will be blast cleaned to DIN 55928 Part SA 2.5 quality with a surface profile of 38 – 102 microns. All blasting cleaning machines will be fitted with air-wash systems to remove dust and fines from the surfaces during grit blasting. All surfaces will be cleaned of dust by compressed air prior to coating.

The epoxy powder used will be Base pox PE50 – 1080 manufactured by BASF AG.

For small pipes (DN < 100 mm), galvanizing protection will be permitted.

Cement Mortar Linings for Pipes and Fittings

All pipes and fittings will be lined internally in cement mortar to DIN 2614 Type N.

Lining thickness of pipes shall be in accordance with DIN 2614 below.

Pipe DN	Min. Single Value	Max. Single Value
< & = 150	3	6
200 – 300	4	7
350 – 600	5	8
700 - 900	6	9
1000 – 1200	8	11
> 1200	12	15

Lining thickness of fittings shall be in accordance with DIN 2614 as below

Pipe DN	Nominal	Min. Single Value	Max. Single Value
< & = 300	5	3	10
350 – 600	7	5	10
700 – 900	10	8	12

1000 – 1200	12	10	15
> 1200	15	12	19

Cracks in Linings DIN 1624 Clause 6.5: Single cracks shall not exceed 2.5 mm. Expansion cracks as a result of transport or in service use wider than 1.5 mm shall be repaired unless it can be demonstrated to the satisfaction of the purchaser that cracks will heal autogenously under constant soaking of water.

Condition of Linings (DIN 2614 Clause 6.5): Linings of pipes shall be as smooth as possible without surface irregularities exceeding 1 mm in depth determined by measuring the distance from a 30-mm straight edge placed on the lining in the direction of the pipe axis. Localised irregularities of up to 2.5 mm in depth are allowed on fittings.

Cured linings shall not have loose sand particles. Protruding, firmly embedded sand grains shall be permitted.

Hydraulic roughness, KS, shall not exceed 0.1 mm.

For small diameter pipes (DN < 100 mm), galvanised protection will be permitted.

Pipes of Unplasticised Polyvinyl Chloride For Pressure Systems Standards

The latest editions of the following Standards and Codes of Practice shall apply:

Standards:

ISO	161
ISO	2441
DIN	8061
DIN	8062
DIN	8063
DIN	16451
DIN	16929
DIN	19532

Codes of Practice:

DVGW W 320
DVGW W 323/1
DVGW W 325

Descriptions for Straight Pipes

Geometric properties shall be as follows (for PN 10):

DN(mm)	D External (mm)	Thickness (mm)	Chamfer Length (mm)
50	63	3.0	4.5
80	90	4.3	6.5
100	110	5.3	8.0
150	160	7.7	11.5
200	225	10.8	16.0

Wall thickness of pipes shall not be less than above-mentioned figures.

Pipes shall be manufactured by extrusion method.

Permissible working pressure at different temperatures shall be acc. To DIN 8062 as follows:

Class No.	PN	Permissible working pressure [bar] at		
		20oC	40oC	60oC
3	6	6	4	-
4	10	10	6	1
5	16	16	10	2.5

Colour shall be blue

Pipe materials shall conform to the following data:

Specific weight 1.40g/cm³

Tensile strength not less than 50 N/mm² 80 x 10-

Coefficient for thermal expansion approx.
6/K

Modules of elasticity 3000 N/mm²

Thermal conductivity approx. 0.15 W/m. K

Chemical resistance acc. to DIN 16929

Impact strength acc. to DIN 8061

Pipes shall have automatic socket and spigot joints with synthetic ring seal, spigot ends shall be chamfered as mentioned above.

The pipes shall be designed so as to withstand the load of a heavy truck (load of axle 140 kN) at 0.80 m soil cover under specified bedding conditions.

Flanges

Dimensions shall be acc. ISO 2441.

Standard Fittings and Specials

Specials and fittings shall be of uPVC acc. to DIN 8063 or of PVC-coated cast iron acc. to DIN 16451, and form part of the pipe manufacturer's original program.

Pipes Of Un-plasticised Polyethylene for Pressure Systems Standards

The latest editions of the following Standards and Codes of Practice shall be apply:

Standards:

ISO 161
 ISO 3607
 DIN 8074
 DIN 8075
 DIN 16932
 DIN 16933
 DIN 16934
 DIN 19533

Codes of Practice:

DVGW W 320
 DVGW W 323/1
 DVGW W 325

Descriptions for Straight Pipes

Geometric properties shall be as follows (for PN 16)

DN (mm)	D external (mm)	Thickness (mm)
50	63	5.8

Straight pipes of standard lengths or

DN (mm)	D external (mm)	Thickness (mm)
80	90	8.2
100	125	11.4
150	180	16.4
200	225	20.5
300	235	32.3

Straight pipes of standard lengths

Pipes shall be manufactured by extrusion method.

Nominal pressure shall be defined at 20°C. Permissible working pressures shall be according to the table listed below.

Colour shall be black

Pipe material shall conform to the following data:

Specific weight 0.95 g/cm³

Coefficient of thermal expansion $2 \times 10^{-4}/K$

Modulus of elasticity 900 N/mm²

Thermal conductivity 0.41 W/(m. K)

Chemical resistance acc. to DIN 16934

Permissible working pressure at different temperatures shall be according to DIN 8074, Part 1 as follows:

Class No.		Permissible working pressure [bar] at temperatures equal or lower than		
		PN	20oC	30oC 40oC
3	4	4	2.5	1.6
4	6	6	3.2	2.0
5	10	10	6.0	4.0

Pipe joints shall be for butt-end-welding for pipes of sizes equal to or greater than DN 80 and screwed quick-release couplings for pipes of sizes equal to or less than DN50.

The pipes shall be designed to withstand the load of a heavy truck (load of axle 140 kN) at 0.80 m soil cover at specified bedding conditions.

Flanges

Dimensions acc. to ISO 2441, Welding necks shall be of UPE. Counter-flanges shall be of UPE.

Standard Fittings and Specials

Specials and fittings shall be of UPE acc. to DIN 19533 and form part of one supplier's original program

Connections of Existing Water Supply

When the Contractor is instructed to work on an existing main, he shall give at least two weeks' notice of his intention to start the work, and obtain the agreement of the Engineer to his proposed programme of work. In formulating his programme, the Contractor shall take into account the desirability of reducing to a minimum the time during which the existing main is shut down and the existing supply interrupted. During this time the Contractor shall supply the population at selected points indicated by the Engineer.

The Contractor shall make all necessary arrangements to deal with any discharge of water from the existing mains when exiting the Works. Any tees, valves and other pipework used

to make the connection shall be sterilised to the satisfaction of the Engineer. Pipes, which have been emptied during the execution of the Works, shall only be refilled under the supervision of the Engineer.

Consumer Meters

All consumer meters shall be Kent PSM or similar approved by the Engineer and to BS 5728.

Installation of Gate Valves

New gate valves shall be installed at locations specified in the drawings or as directed by the Engineer. The Contractor shall install gate valves, complete with chambers and their associated pipework and fittings, in accordance with Standard Detailed Drawings.

Installation of New Hydrants

New hydrants shall be installed at locations as in the drawings complete with chambers and their associated pipework and fittings, in accordance with Standard Detail SD113.

Appurtenances and Accessories for Pressure Mains

Standards

The latest edition of the following Standards shall apply:

DIN 1952
DIN 3202
DIN 3230
DIN 3352
ISO 2441

Factory-Tests and Markings

All items shall be duly factory-tested prior to delivery according to DIN 3230, Parts 3 and 4 or similar test. Test-certificates shall be submitted with each set of delivery.

All items shall be duly marked as follows: -

- Nominal diameter
- Nominal pressure
- Material of body

- Direction of flow
- Manufacturer's trade mark
- Maximum temperature of liquid
- Permissible working pressure
- Quality control mark
- Serial number
- Year of manufacture
- Date of acceptance
- Hydraulic coefficients
- Number of standard

Flanges

Flanges acc. to ISO 2441 or equivalent standard

Coating

Protective coatings for appurtenances and accessories shall, if not otherwise mentioned, be as follows:

For buried items:

Internal: Approved epoxy-resin coating of minimum thickness 300 micron

o

External: Same as internal for item installed in manhole or valve Chambers or plants .

For items installed in manholes or valve chambers or in plants:

o Internal: Approved epoxy-resin coating of minimum thickness of 300 Micron

Pigments shall be to the approval of the Engineer. Colours according to the Engineer's instruction

Manufacturer

All valves and accessories except for fire hydrants shall be from the same manufacturer. All valves and accessories shall be used for transmission mains and distribution mains as well as for central works, such as tanks, pumping plant, etc.

Gate Valves

Gate valves shall be of advanced design according to DIN 3202 and DIN 3352, Parts 1 and 4, or equivalent standard for free flow with rubber-coated wedge. Nominal pressure shall be as indicated. Valves shall close clockwise with non-raising spindle and shall be provided with maintenance-free stuffing-box. Design shall be such as to allow buried installation. Drive nut shall be square of size 27 x 27 mm. Body and wedge shall be of nodular cast iron, spindle of stainless steel, rolled thread, roll-polished shaft, and spindle nut of brass or nodular cast, stuffing-box seal of approved plastic.

Butterfly Valves

Butterfly valves shall be such that the basic body (a) can be equipped with different elements as follows:-

Standard spindle gear

Standard spindle extension

Standard hand wheel

Standard electric servo-motor

Standard gravity drive with standard hydraulic lift cylinder and attenuation (incl. Oil tank)

Flow interceptor with mercury balance and trigger mechanism.

Hence, the family of butterfly valves shall be worked out such as to minimize variety of types and spares to be held.

The elements are specified as follows: -

Butterfly valve

Shall be of advanced design with eccentric shaft and continuous ring seal. Design shall permit adjustment of seal without dismantling the disk. Flanges shall be provided for the drive mechanism. Design must be such as to allow buried installations.

Body and disk shall be of nodular cast iron, seat in body shall be of nickel built-up welding, seal ring of approved synthetic rubber, clamping segments shall be of nodular cast iron and screws of stainless steel, shafts shall be of stainless steel and bushings of nodular cast alloy, ring seals of synthetics and screws of stainless steel.

Standard spindle gear

Spindle thread shall be rolled -on, close clockwise, non-rising. Design shall be such as to allow installation of approved spindle extension of Subsection 10. Drive nut shall be of size 27 x 27 mm for DN up to 400. Gear box shall be watertight with annular gaskets, O-rings shall tighten the drive-end bushing. Axial drive-end bearing shall be self-lubricating ball-bearing.

Gearbox shall be of cast iron, spindle of stainless steel with rolled-on thread, spindle-nut of nodular alloy cast.

Spindle Extensions and Surface Boxes for Gate Valves

Spindle extension for buried valves shall be made up of the following parts:

1 drive nut 27 x 27 mm of nodular cast or steel

1 shaft extension, of carbon steel

1 coupling, of nodular cast

1 protective pipe, of PVC or equivalent

1 surface box

All parts to receive one primer bituminous coat.

One key shall be supplied for every 50 units, but 5 keys at least per contract.

Spindle Extension and Surface boxes For Butterfly Valves Same as Sub-section 9, but including:

1 indicator, of nodular cast or brass or stainless steel or approved synthetics

1 protective pipe, of ductile cast

One key shall be supplied for every 25 units, but 5 keys at least per contract.

Hand Wheels

Hand wheel shall have dimensions as follows:

For Gate Valves:

Of DN Diameter (mm)			Square Nut (mm)
50	165	14	
80	200	17	
100	220	19	
Of DN Diameter (mm)			Square Nut (mm)
150	285	19	
200	340	24	
300	445	27	

Hand wheel of nodular cast with approved plastic coating.

Check Valve of Butterfly Type

Basic design criteria of this valve shall be same as of Sub -section 8 above, but eccentric position of shafts relative to pipe centre-line and metallic sealing surfaces. This check valve shall only be for installation and manholes and shall be equipped with a drive weight fixed to a lever, adjustable position.

Materials as per Sub-section 8 above, except metallic seal surfaces, all nickel-plated, lever of welded carbon steel, drive weight of nodular cast.

Air Vents

Air vents shall have 2 chambers, the bigger one shall act when the pipeline is filled or blown off, the smaller one during normal operation. A stop valve incorporated in the body shall permit easy maintenance.

Body shall be of nodular cast, gaskets, of approved synthetics, bolts and nuts of cadmium-plated steel.

Inlet Strainers

Strainers shall have flanges and a net inlet area of at least 3 x area of DN. The strainer shall be fixed to the flange by bolts.

Body of nodular cast iron strainer of stained copperplate, bolts of stainless steel. Flap Valves

Flap valves for outlets shall be with flange PN 10 or socket as required. Body, flap of nodular cast, axle of bronze, bolt of steel or bronze; seal of rubber.

9**10 Section VII. Drawings**

(Attached Separately)

5 DRAWINGS**5.1 Contract Drawings**

The Contractor shall submit to the Engineer in triplicate the following drawings for approval:

Electrical Drawings: On the basis of the simplified documents, the Contractor shall prepare the following planning records as supplements to the VOB DIN 18382 Standards:

Wiring diagram and construction plans and drawings, installation plans, complete cable lists, clamping plans, etc. as well as lists of parts, clearly indicating material and type of proposed equipment. This also applies to the control and signal circuits as well as interlocking and interrelated control of other technical sectors. A clear illustration according to pertinent standards is imperative. A complete documentation (lists of parts, descriptions, maintenance and operating instructions, test reports and certificates, etc.) shall be submitted, in five copies each, prior to the commencement of installation.

Copies of proposed panel layouts.

Two copies will be retained for record purposes whilst one copy will be returned to the Contractor stamped "APPROVED" and/or supplement with any necessary modifications or revisions. The Contractor shall provide four further copies of finally approved drawings.

As-Built Drawings and Guide

As-Built Drawings shall be prepared and submitted to the Project Manager before handover of the system.

This As-Built Drawings guide will be used to enable the contractors and supervisors come up with useful as-built drawings. The guide will also be part of the contract document for reference.

The attached checklist shall be utilized /referred to prior to submittal of any As-Built Drawing for approval by the Manager. Please note that this checklist is not to be considered a complete specification, but rather as a guideline. The checklist may not reflect all conditions for all types of As-Built but should provide guidance in their preparation.

As-Built drawings should not be submitted for review until all construction items are in place and complete.

Terms and Definitions:

As-Built Drawing

As-Built Drawing is a revised set of drawings submitted by the contractor upon completion of a project or a particular job. They reflect all changes made in the specifications and working drawings during the construction process, and show the exact dimensions, geometry and location of all elements of the work completed under the contract. As-built drawings are a true representation of elements that exist as a result of a completed constructed project.

The original “as-designed” contract drawings and specifications are modified to show all additions, deletions and other changes made during construction. Accurate as-built drawings are very important for the project operation and maintenance, and future modifications, particularly for scheme extensions, plumbing and electrical systems, which are hidden from view.

As-Built Designer/Drafts Person

The production of the As-Built drawings is the responsibility of the contractor and therefore the contractor shall have as part of the key personnel, As-Built Designer. This person shall be in charge of the As-Built plans for the project and will ensure that the Field Red-Line plans are transferred accurately to the As-Built plans.

As required in the contract, the contractor shall prepare and submit As-Built plans to the Water and Sanitation Development Facility-East for review and approval.

The As-built plans shall confirm to the “as-built” checklist and shall be of two formats: Record Drawing and Digital Formats.

Record Drawings

These reflect the onsite changes, the contractor noted in the as-built drawings. They are often compiled as a set of onsite changes made for the owner.

Digital Format:

Digital “as-built” format shall be provided together with the record formats (Hard copies), in AutoCAD format using versions not below that 2008 and shall include all information required on the “as-built” drawings. No other format shall be accepted.

Working As-Built

The Contractor shall maintain 2 sets of paper drawings and specifications (marked -up prints) to track changes, additions or deletions from the original design during construction. Working as-built drawings shall be kept current on a weekly basis and at least one paper set of as-built drawings shall be available on the site all the time.

Final As-built Drawings

The contractor will transfer the changes from the working as-built marked prints to the original electronic CADD (Computer Aided Designs & Drafting) files. Final as-built drawings shall be prepared after the completion of each definable feature of work. The project Engineer and the site Engineer and the contractor will jointly review the working as-built marked prints, printouts from working as-built CADD file drawings, and final as-built drawings for accuracy and completeness, prior to submission of each monthly pay estimate. All completed facilities or structures above ground shall also have photographic elevations annexed to the main documents. These photos shall be well labelled and in colored print. As-built drawings shall have a narrative summary as the introduction. The scheme layout shall be presented on A-0 (841X1189mm) indicating all features of the scheme. The profiles shall be presented on A-1 (841x594mm).

Please note that only acceptable Engineering symbols abbreviations are recommended.

For pump stations, as-built plans shall include accurate information regarding interior and exterior pipe sizes, material, length, as well as all structural dimensions of the pump station, all electrical equipment (make and model), pump information (make and model, and the impeller number and size), and site layout information. Both top view and side view drawings are required on the “as-built” plans.

For Water projects, the “as-built” plans shall include accurate information regarding pipe size, pipe material, pipe length, valve locations (and turn directions), hydrant locations, fitting locations, services, and blow-off locations along with any relevant rights-of-way, property boundaries and easements.

Process of Submitting As-Built Docs

Submit all as-built to the Facility through the Project Engineer including;

Blue line (for review only). This may be sent for approval prior to submitting the final.

Digital CD

Completed and sealed as-built checklist

Town layout plan showing streets, waterlines (pipeline mains) and other underground utilities like sewer lines, electric and telephone cables that is approved by the urban planning unit.

The number of as-built documents is as follows;

Three (3) hard copies of overall as-built in A-3 paper (This shall include all the project drawings, layout plans, profiles, photos, and narrative summary)

Three (3) hard copies of scheme layout plan on A-0 paper

Three (3) hard copies of the pipeline profiles on A-1 paper.

Note:

All completed facilities or structures above ground shall also have photographic elevations annexed to the main documents. These photos shall be well labelled and in colored print. As-built drawings shall have a narrative summary as the introduction. The scheme layout shall be presented on A-0 (841X1189mm) indication all features of the scheme. The profiles shall be presented on A-1 (841x594mm).

6.20 GABIONS

Materials for gabions and mattresses

All units shall consist of woven steel wire, mesh boxes, wire of size greater than 1.5 mm and be of the sizes stated on the Drawings or in the Bills of Quantities, and shall have the following:

Mesh: mesh openings shall be hexagonal in shape.

Mesh joints: all joints shall be flexible and consist of not less than one and one half full turns.

Galvanising: all wire used shall be galvanised to BS 443, or equivalent, prior to weaving of the mesh.

Binding wire: 3.4 mm diameter selvedge shall be incorporated along the edges of the wire mesh.

Stone Filling: Filling material shall be selected rock fill graded between 100 mm and 250 mm.

Construction of Gabions and Mattresses

Prior to assembly, the units shall be opened out flat on the ground and stretched to remove all kinks and bends. The units shall then be assembled individually, by raising the sides, ends and diaphragms, ensuring that all creases are in the correct position and that the tops of all four sides are even. The four corners shall be laced first, followed by the edges of the internal diaphragms to the sides.

In all cases lacing shall commence at the top of the unit by twisting the end of the lacing wire around the selvedge. It shall then be passed round the two edges being joined, through each mesh in turn and securely tied off the bottom.

The end of all lacing wires shall be turned to inside of the unit on completion of each lacing operation.

Only assembled units or groups of units shall be positioned in the structure. The side or end from which work is to proceed shall be secured either to completed work, or by rods or stakes driven into the ground at the corners. These shall be secured and reach at least to the top of the unit. Further units shall then be positioned in the structures as required, each being securely laced to the preceding one at all corners, and diaphragm points.

Final stretching of gabion boxes shall be carried out using a wire strainer or winch of at least one tonne capacity firmly secured to the free end of the assembled gabion boxes which shall be securely laced along all edges (top, bottom and sides) and at diaphragm points to all adjacent units).

Filling shall be carried out only whilst the units are under tension. Filling shall be placed by hand to produce a net face and line, with a minimum of voids. Vertical bracing wires at 500 mm horizontal centres shall be used in the top layer of unit. These bracing wires shall be wrapped around two mesh wires and extend from top to bottom, so positioned to ensure a neat face and line free of bulges and depressions on completion to the satisfaction of the Project Manager.

Tension on the units shall be released only when sufficiently full to prevent the mesh from slackening. Units shall be overfilled by 20 to 50 mm above their tops to allow for subsequent settlement; 100 mm filling materials may be used for this purpose.

Closing and wiring down of lids shall proceed immediately after filling operations. Lids shall be stretched tight over the filling with bars and wired down securely through each mesh along all edges, ends and diaphragms. The end of all tying and bracing shall be turned into the unit on completion of all lacing operations.

Particular care shall be exercised throughout construction to ensure tightness of mesh, well packed stones with minimum of voids and secure lacing. The exposed faces of completed work shall present a neat face and line free of bulges and depressions.

6.21 TESTING

General

The following tests shall be carried out on the works:

Water retaining structures leakage tests.

Tests on completed system.

These tests are described below:

Test on completion

Test on site Erection

Tests shall be carried out on individual items of plant and equipment during erection on site in order to confirm their suitability for the intended purpose. These tests shall include but not be restricted to the following.

Pressure Components

Pressure testing of pipelines against a closed valve shall be avoided. If the circumstances are such this is not avoidable, the Contractor shall seek the approval of the Project Manager / Resident Engineer prior to undertaking such a test.

Gauges used for testing pressure pipelines shall either be of the conventional circular type, not less than 300 mm diameter, calibrated in metres head of water or shall have a digital indicator capable of reading increments of 0.1 metres head. Before any gauge is used, the Contractor shall arrange for it to be checked independently and a dated certificate of its accuracy shall be provided.

Thermoplastic pipes shall be tested by procedures as required by the manufacturers or according to DIN V 4279-7. Rigid pipes shall be tested as follows:

The pipelines shall be subjected to a hydrostatic testing prior to commissioning. The test pressure shall be:

Transmission pumping line: - Operation pressure or static pressure plus 5 bar, whichever is greater.

The operation pressure includes the pressure of surge effects.

For concrete or cement - mortar lined pipelines; the section under test shall be filled with water to the required pressure and allowed to stand for 24 hours before the test procedure commences.

For the initial construction period the lengths of pipelines to be tested shall not exceed 0.5 km. At the discretion of the Engineer this length may, as the Contract proceeds, be extended to a maximum of 1.5 km.

Before testing commences, all anchorages shall be in position, all concrete thrust blocks shall have attained their required strength and, where pipe joints are deflected to produce large radius curves, the backfill between the pipe body and the trench side shall be compacted to the final requirements. The Contractor shall provide for transmitting the unsupported end thrusts to solid ground.

The Contractor shall fill the pipe with water and shall steadily increase the pressure to the working pressure of the main. The pressure shall then be increased in increments of 1.0 bar, with a pause of one (1) minute between each increment until the specified test pressure is achieved. After a period of thirty (30) minutes, the quantity of water required to restore the pressure back to the test pressure shall be measured.

This process shall continue for a minimum period of three (3) hours.

If the amount of make-up water in the three hours test exceeds the specified quantity, the Contractor shall locate and repair the leaks, then repeat the test all at his own expense. The test on each section shall be repeated until the specified degree of water tightness has been obtained.

Unpressurised Containers

Tanks and other liquid containers not to be subjected to pressure shall be tested for leakage after installation. Any leakage shall be rectified by the Contractor at his own expense and the tank or container retested by the Contractor at his own expense.

Such testing shall not begin until the structure has been fully completed and all concrete has reached its specified strength. The Contractor shall make preparations to begin testing as soon as possible after each main structure has been completed. Costs associated with tests are to be borne by the Contractor.

After cleaning to the satisfaction of the Project Manager / Resident Engineer, the structure shall be filled at an approximately uniform rate of increase of water level of not more than 2m in 24 hours, to the intended top water level. The water shall be allowed to stand in the structure for a period of 7 days after which time the level shall be recorded and further measurements made at intervals of 24 hours for 7 days. The structure may be deemed to be watertight if the total drop in surface level does not exceed 10mm in 7 days, taking into account the losses by evaporation and recharge through rainfall, the Contractor shall install an evaporation pan and a rain gauge of specification acceptable to the local meteorology authorities at the site of the structure to be tested. The cost of these shall be included in the Contractor's rates. If the total loss is greater than 10 mm, the Contractor shall at once investigate the cause, and shall determine the point or points of leakage the water level being lowered in stages as required. The level measurements shall be carried out using a hook gauge. The contractor shall carry out any further remedial work necessary to stop such leakage in a manner directed by the Project Manager / Resident Engineer. The structure shall subsequently be re-cleaned and testing repeated. All investigation, remedial, re-cleaning and re-testing work shall be at the Contractor's expense.

If the structure does not satisfy the conditions of the test, and the daily drop in water level is decreasing, the period of test may be extended for a further 7 days and, if the specified limit

is then not exceeded, the structure may be considered as satisfactory. Where internal division walls occur in the structure, each compartment shall be individually similarly tested.

The structures will not be accepted by the Project Manager / Resident Engineer until they have been ascertained to be in a perfectly usable and watertight condition.

No claim for extra payment to the Contractor shall be allowed if for any reason the Project Manager / Resident Engineer is unable to allow filling or emptying to be carried out at the time requested by the Contractor.

On completion of the test for water tightness, the Contractor shall thoroughly clean the interior of the reservoir or tank by hosing down the roof, walls, columns, battle walls and floor, as applicable, with clean, potable water from an approved source and remove all debris, soil silt or other material.

After the reservoir or tank has been cleaned as described, the Contractor shall, when instructed by the Project Manager / Resident Engineer and under his direction disinfect the reservoir or tank by chlorination as described below.

The Contractor shall provide a suitable chlorinator (including the provision of the chlorine), which shall be capable of injecting the required concentration of chlorine solution at a steady rate into the reservoir or tank.

The Contractor shall introduce at least 30 parts per million of free chlorine whilst filling the reservoir or tank to a minimum depth of 100mm. The Contractor shall then spray all surface areas to the underside of the roof, wall, columns and water tightness with the heavily chlorinated water by means of a stirrup pump or similar appliance. No pump which requires petrol or fuel oil for its prime mover shall be used inside the reservoir or tank, but at the Project Manager / Resident Engineer's discretion an electrically driven pump may be used.

On completion of the spraying to the Project Manager / Resident Engineer's satisfaction, the heavily chlorinated water shall be drained out of the reservoir or tank and filled with potable water, from an approved source to a minimum depth of 200mm. This water shall then be drained out and the reservoir or tank filled with potable water to overflow level.

Samples shall be taken as directed by the Project Manager / Resident Engineer after the reservoir or tank has been full for a period of at least two hours and shall be sent to a qualified Laboratory for analysis. If the results of the tests show that the water contains any presumptive or typical coliform organisms in a 100-ml water sample then disinfection shall be repeated until the tests show that all pollution has been eliminated. If it proves necessary to repeat the disinfection procedure, the cost of water and bacteriological examination of water shall be at the Contractor's expense.

On completion of disinfection the Contractor shall close off access to the reservoir or tank to all personnel and no further work shall be permitted in areas allowing direct access to the interior of the reservoir. Should any unauthorised access occur, and if the Project Manager / Resident Engineer rules that contamination may have resulted, the Contractor shall carry out at his own expense such tests, as the Project Manager / Resident Engineer may require determining the extent of the contamination and shall also carry out and bear the cost of any additional disinfection measures required by the Project Manager / Resident Engineer.

The safe disposal of the heavily chlorinated water shall be included in the rates for disinfection. Tests on completed plant systems

Following the successful completion of individual components of the works each component shall be tested for satisfactory operation through the full range of service duties. Tests shall include all anticipated duty.

90-day operation Test

When all testing under have been completed and accepted by the engineer, the contractor shall operate each section of the works as a whole for a minimum period of 90 days. This operation shall be at the maximum capacity of the section of the Works, or lesser rate if required by the engineer for certain periods.

Training of the employer's staff shall take place during this operation period.

During the 90 days described above, the contractor shall demonstrate that the plant can produce consistently the specified quality of water at the design range of outputs. A comprehensive record shall be made of all aspects of the plant operation during this time and the results provided to the engineer in the form of a commissioning report. This report shall include, but not limited to, records of all laboratory tests on raw demonstrating the performance of the plant, flow data, performance of prepay waters, management system, start-up of credit loading to consumers, water audits, financial audits, etc.

5.2 TRAINING OF THE EMPLOYER'S STAFF

The Employer will provide all the necessary operating staff to be trained during the 90-day test operation under the Contractor's direction and to take over the water system operation on completion of the 90 days operation.

Training in the maintenance, installation and operation of the following categories of plant and equipment is to be given to the Employer's staff prior to the hands-on training during the 90 day operation period for each of the sections of the Works:

Pump operation

Operation of the Dayliff WP water treatment plants

Operation of the Electrolytic Disinfection Machine and chlorination Plant

Gate valves and control devices at intake and water treatment plant.

5.3 REPORTS

Work Approval Form

When in the Contractor's opinion, any work is ready for inspection by the Project Manager / Resident Engineer, the Contractor shall prepare and submit this form to the Project Manager / Resident Engineer's Representative, giving details of the work to be checked. The Project Manager / Resident Engineer's Representative shall check the work as early as possible and shall endorse his approval or otherwise on the form giving reasons if the work is not approved.

Day work Report Form

This form shall be prepared separately for each day of the Day works. It shall record details of staff, work force and plant engaged, materials used details of the work done, and other such relevant information.

5.4 Pipeline Testing Report

This report shall be prepared separately for each test carried out and shall record all the data required to be recorded as per the Specification

6 ACTIVITY SCHEDULE/ BILLS OF QUANTITIES

Bills of Quantities are contained in the tender document.

6.1 SUB CONTRACTORS

6.1.1 Incorporation into Programme

The Contractor shall be responsible for incorporating his sub-Contractors' work into his programme and shall maintain a close liaison with the sub-Contractors so that timing of the various works can be arranged to the best mutual advantage and to ensure completion of the Works in the required time.

The Contractor shall require the sub-Contractor to provide all necessary details and/or drawings which are not specifically detailed on the Drawings or which may require alterations to the details as shown on the Drawings. The Supervisor shall approve such details and the necessary work done by the Contractor or sub-Contractor within the time allowed in the Contractor's programme.

6.2 Quality of Work and Materials

The Contractor shall be responsible for ensuring completion of the sub-Contractors' work in accordance with the Conditions of this Contract. All sub-Contractors and suppliers shall be bound by the Conditions of this Contract so far as they relate to the quality and workmanship required and otherwise as specified. Copies of the relevant Clauses, Bills and such like shall be sent to them by the Contractor, and shall be incorporated in the terms of the sub-Contracts.

6.3 Attendance

The Contractor shall, by way of attendance, carefully unload, handle and store any items required, and provide the sub-Contractors with all necessary resources and assistance. The Contractor shall arrange with the sub-Contractors for the supply of materials and for the use of scaffolding or other tools and plant whether of a general or specialized nature, and shall allow such access, storage and working space as is reasonable for the efficient execution of the sub-Contractors' work.

6.4 SOURCE OF KEY MATERIALS

The Contractor shall provide the Project Engineer with information regarding the proposed source and origin of key materials and Equipment such as Electro mechanicals, pipes, fittings, water balance tank, water reservoir, water treatment plants/units to ensure they are in line with EU regulations. All the materials used in execution of the Contract shall be obtained from Eligible Countries mentioned in Section 5 and availability of after-sales services in Uganda is a must.

6.5 PROCEDURE FOR APPROVAL OF GOODS AND SERVICES

The Contractor shall provide the Project Manager with a notice of intent to procure goods and services indicating the proposed source and origin of the goods or services for approval before procuring such goods or services.

11 Section IX: Drawings (attached separately)



LAYOUT OF SYSTEM
DRAWINGS.zip

12 Section X. Bill of Quantities

(Attached Separately)



Bills of Quantities
for Pawor Water Su

1. General

1.1 The Bill of Quantities is the document containing an itemised breakdown of the works to be carried out in a unit price contract, indicating a quantity for each item and the corresponding unit price. The quantities set out in the Bill of Quantities are estimated quantities. Each price for each item of the Bill of Quantities is detailed in the Price Schedule

The amounts due will be calculated by measuring the actual quantities of the works executed and by applying the unit rates to the quantities actually executed for each item.

1.2 The Detailed Breakdown of Prices (Volume 4.3.5) is the list containing the basic costs, net costs and mark-ups from which each price on the Bill of Quantities and the Price Schedule and on the Daywork Schedule results.

The Detailed Breakdown of Prices provides the coefficients for applying the price revision formula referred to in Article 48.2 of the Special Conditions and can provide the basis for valuation of additional work ordered referred to in article 37.5 of the General Conditions.

1.3 Provisional sums for use when works are to be executed on a daily work basis (Volume 4.3.4) can only be executed by administrative order of the Supervisor in accordance with the terms of the Contract.

2. Specific to Volumes

2.1 The prices inserted in the Bill of Quantities and Price Schedule are to be the full inclusive values of the works described under the items, including all costs and expenses that may be required in and for the construction of the works described, together with any temporary works and installations which may be necessary and all general risks, liabilities and obligations specified or implied in the documents on which the tender is based. It will be assumed that establishment charges, profit and allowances for all obligations are spread evenly over all unit rates.

2.2 Save where the technical specifications or the Bill of Quantities and the Price Schedule specifically and expressly state otherwise, only permanent works are to be measured.

2.3 No allowance will be made for loss of materials or volume thereof during transport or compaction.

2.4 The prices do not include taxes and fiscal duties, as exoneration is explicitly given for the contract. Non-exonerated taxes and fiscal duties are covered in the prices of the Bill of Quantities, Price Schedule and Daily work Schedule, apart from those stated separately in the financial offer templates.

2.5 The units of measurement used in the annexed technical documentation are those of the International System of Units (SI). No other units may be used for measurements, pricing, detail drawings etc. (Any units not mentioned in the technical documentation must also be expressed in terms of the SI.) Abbreviations used in the bill of quantities are to be interpreted as follows:

mm	means millimetre
m	means metre
mm ²	means square millimetre
m ²	means square metre
m ³	means cubic metre
kg	means kilogram
to	means tonne (1000 kg)
pcs	means pieces
h	means hour
L.s.	means Lump sum
km	means kilometre
l	means litre
%	means per cent
N.d	means nominal diameter
m/m	means man-month
m/d	means man-day

13 Section XI Security Forms

1. Bid Securing Declaration
2. Performance bank guarantee
3. Declaration of undertaking
4. Bank Guarantee for advance payment

5.

13.1 Bid-Securing Declaration

Date: _____

Invitation for Bid No: 19/ 001 / ARU-UG

To: **Oxfam-Uganda**

We, the undersigned, declare that:

We understand that, according to your conditions, bids must be supported by a Bid-Securing Declaration.

We accept that we will automatically be suspended from being eligible for bidding in any contract with Oxfam for the period of time of **two (2) years** starting on the **date of notification by the Employer in this respect**, if we are in breach of our obligation(s) under the bid conditions, because we:

- (a) have withdrawn our Bid during the period of bid validity specified in the Form of Bid; or
- (b) having been notified of the acceptance of our Bid by the Employer during the period of bid validity, (i) fail or refuse to execute the Contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the ITB.

We understand this Bid Securing Declaration shall expire if we are not the successful Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) twenty-eight days after the expiration of our Bid.

Signed: *[insert signature of person whose name and capacity are shown]* In the capacity of *[insert legal capacity of person signing the Bid Securing Declaration]*

Name: *[insert complete name of person signing the Bid Securing Declaration]*

Duly authorized to sign the bid for and on behalf of: *[insert complete name of Bidder]*

Dated on _____ day of _____, _____ *[insert date of signing]*

Corporate Seal (where appropriate)

[Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid]

13.2 Performance Bank Guarantee

(Unconditional)

*[The **bank/successful Bidder** providing the Guarantee shall fill in this form in accordance with the instructions indicated in brackets, if the Employer requires this type of security.]*

[insert bank's name, and address of issuing branch or office]

Beneficiary: *[insert name and address of Employer]*

Date: *[insert date]*

PERFORMANCE GUARANTEE No.: *[insert Performance Guarantee number]*

We have been informed that *[insert name of Contractor]* (hereinafter called "the Contractor") has entered into Contract No. *[insert reference number of the Contract]* dated with you, for the execution of *[insert name of Contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Contractor, we *[insert name of Bank]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[insert amount in figures]* (*[insert amount in words]*),³ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire no later than twenty-eight days from the date of issuance of the Taking-Over Certificate, calculated based on a copy of such Certificate which shall be provided to us, or on the *[insert number day of [insert month], [insert year]]*,⁴ whichever

³ *The Guarantor (bank) shall insert an amount representing the percentage of the Contract Price specified in the Contract and denominated either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Employer.*

⁴ *Insert the date twenty-eight days after the expected Completion date. The Employer should note that in the event of an extension of the time for completion of the Contract, the Employer would need to request an extension of this Guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the Guarantee. In preparing this Guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this Guarantee for a period not to exceed [six months][one year], in*

occurs first. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458, except that subparagraph (ii) of Sub-article 20(a) is hereby excluded.

[signature(s) of an authorized representative(s) of the Bank]

response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the Guarantee."

13.3 Declaration of Undertaking

Reference name of the Application/Offer/Contract: ("Contract")

To: ("Project Executing Agency")

1. We recognise and accept that KfW only finances projects of the Project Executing Agency ("PEA") subject to its own conditions which are set out in the Funding Agreement it has entered into with the PEA. As a matter of consequence, no legal relationship exists between KfW and our company, our Joint Venture or our Subcontractors under the Contract. The PEA retains exclusive responsibility for the preparation and implementation of the Tender Process and the performance of the Contract.

2. We hereby certify that neither we nor any of our board members or legal representatives nor any other member of our Joint Venture including Subcontractors under the Contract are in any of the following situations:

2.1) being bankrupt, wound up or ceasing our activities, having our activities administered by courts, having entered into receivership, reorganisation or being in any analogous situation;

2.2) convicted by a final judgement or a final administrative decision or subject to financial sanctions by the United Nations, the European Union or Germany for involvement in a criminal organisation, money laundering, terrorist-related offences, child labour or trafficking in human beings; this criterion of exclusion is also applicable to legal Persons, whose majority of shares are held or factually controlled by natural or legal Persons which themselves are subject to such convictions or sanctions;

2.3) having been convicted by a final court decision or a final administrative decision by a court, the European Union, national authorities in the Partner Country or in Germany for Sanctionable Practice in connection with a Tender Process or the performance of a Contract or for an irregularity affecting the EU's financial interests (in the event of such a conviction, the Applicant or Bidder shall attach to this Declaration of Undertaking supporting information showing that this conviction is not relevant in the context of this Contract and that adequate compliance measures have been taken in reaction);

2.4) having been subject, within the past five years to a contract termination fully settled against us for significant or persistent failure to comply with our contractual obligations during such Contract performance, unless this termination was challenged and dispute resolution is still pending or has not confirmed a full settlement against us;

2.5) not having fulfilled applicable fiscal obligations regarding payments of taxes either in the country where we are constituted or the PEA's country;

2.6) being subject to an exclusion decision of the World Bank or any other multilateral development bank and being listed on the website <http://www.worldbank.org/debarr> or respectively on the relevant list of any other multilateral development bank (in the event of such exclusion, the Applicant or Bidder shall attach to this Declaration of Undertaking supporting information showing that this exclusion is not relevant in the context of this Contract and that adequate compliance measures have been taken in reaction); or

2.7) being guilty of misrepresentation in supplying the information required as condition to participation in this Tender Procedure.

3. We hereby certify that neither we, nor any of the members of our Joint Venture or any of our Subcontractors under the Contract are in any of the following situations of conflict of interest:

3.1) being an affiliate controlled by the PEA or a shareholder controlling the PEA, unless the stemming conflict of interest has been brought to the attention of KfW and resolved to its satisfaction;

3.2) having a business or family relationship with a PEA's staff involved in the Tender Process or the supervision of the resulting Contract, unless the stemming conflict of interest has been brought to the attention of KfW and resolved to its satisfaction;

3.3) being controlled by or controlling another Applicant or Bidder, or being under common control with another Applicant or Bidder, or receiving from or granting subsidies directly or indirectly to another Applicant or Bidder, having the same legal representative as another Applicant or Bidder, maintaining direct or indirect contacts with another Applicant or Bidder which allows us to have or give access to information contained in the respective Applications or Offers, influencing them or influencing decisions of the PEA;

3.4) being engaged in a Consulting Services activity, which, by its nature, may be in conflict with the assignments that we would carry out for the PEA;

3.5) in the case of procurement of Works, Plant or Goods:

i. having prepared or having been associated with a Person who prepared specifications, drawings, calculations and other documentation to be used in the Tender Process of this Contract;

ii. having been recruited (or being proposed to be recruited) ourselves or any of our affiliates, to carry out works supervision or inspection for this Contract;

4. If we are a state-owned entity, and compete in a Tender Process, we certify that we have legal and financial autonomy and that we operate under commercial laws and regulations.

5. We undertake to bring to the attention of the PEA, which will inform KfW, any change in situation with regard to points 2 to 4 here above.

6. In the context of the Tender Process and performance of the corresponding Contract:

6.1) neither we nor any of the members of our Joint Venture nor any of our Subcontractors under the Contract have engaged or will engage in any Sanctionable Practice during the Tender Process and in the case of being awarded a Contract will engage in any Sanctionable Practice during the performance of the Contract;

6.2) neither we nor any of the members of our Joint Venture or any of our Subcontractors under the Contract shall acquire or supply any equipment nor operate in any sectors under an embargo of the United Nations, the European Union or Germany; and

6.3) we commit ourselves to complying with and ensuring that our Subcontractors and major suppliers under the Contract comply with international environmental and labour standards, consistent with laws and regulations applicable in the country of implementation of the Contract and the fundamental conventions of the International Labour Organisation (ILO) and international environmental treaties. Moreover, we shall implement environmental and

social risks mitigation measures when specified in the relevant environmental and social management plans or other similar documents provided by the PEA and, in any case, implement measures to prevent sexual exploitation and abuse and gender based violence.

7. In the case of being awarded a Contract, we, as well as all members of our Joint Venture partners and Subcontractors under the Contract will, (i) upon request, provide information relating to the Tender Process and the performance of the Contract and (ii) permit the PEA and KfW or an auditor appointed by either of them, and in the case of financing by the European Union also to European institutions having competence under European Union law, to inspect the respective accounts, records and documents, to permit on the spot checks and to ensure access to sites and the respective project.

8. In the case of being awarded a Contract, we, as well as all our Joint Venture partners and Subcontractors under the Contract undertake to preserve above mentioned records and documents in accordance with applicable law, but in any case for at least six years from the date of fulfillment or termination of the Contract. Our financial transactions and financial statements shall be subject to auditing procedures in accordance with applicable law. Furthermore, we accept that our data (including personal data) generated in connection with the preparation and implementation of the Tender Process and the performance of the Contract are stored and processed according to the applicable law by the PEA and KfW.

Name: _____ In the capacity of:
Duly empowered to sign in the name and on behalf of :

Signature: _____

Dated: _____

13.4 Bank Guarantee for Advance Payment

The **bank/successful bidder** providing the Guarantee shall fill in this form in accordance with the instructions indicated in brackets, if an Advance Payment is to be provided under the Contract

[insert Bank's name, and address of issuing branch or office]

Beneficiary: *[insert name and address of Employer]*

Date: *[insert date]*

ADVANCE PAYMENT GUARANTEE No.: *[insert number]*

We have been informed that *[insert name of Contractor]* (hereinafter called "the Contractor") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with you, for the execution of *[insert name of contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment is to be made against an advance payment guarantee in the sum or sums indicated below.

At the request of the Contractor, we *[insert name of Bank]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[insert amount in figures]* (*[insert amount in words]*⁵) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor used the Advance Payment for purposes other than the costs of mobilization in respect of the Works.

It is a condition for any claim and payment under this guarantee to be made that the Advance Payment referred to above must have been received by the Contractor on its account number *[insert account number]* at *[insert name and address of Bank]*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the Advance Payment repaid by the Contractor as indicated in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the Interim Payment Certificate indicating that eighty (80) percent of the Contract Price has been certified for payment, or on the *[insert number]* day of *[insert month]*, *[insert year]*,⁶ whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

⁵ The Guarantor shall insert an amount representing the amount of the Advance Payment and denominated either in the currency(ies) of the Advance Payment as specified in the Contract, or in a freely convertible currency acceptable to the Employer.

⁶ Insert the expected expiration date of the Time For Completion. The Employer should note that in the event of an extension of the Time For Completion of the Contract, the Employer would need to request an

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458.

[insert signature(s)) of authorized representative(s) of bank]

extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: “ We agree to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the - Employer’s written request for such extension, such request to be presented to us before the expiry of the guarantee.”

