

Water Authority of the Cayman Islands

Cayman Brac & Little Cayman Exploratory Drilling Contract

PLEASE READ THIS IMPORTANT NOTE

The Tender Documents for the above project can be obtained from the Deputy Director, Water Authority, 13G Red Gate Road, George Town.

The Tender Documents can also be downloaded directly from the Water Authority's website at www.waterauthority.ky.

All companies who obtain a set of the Tender Documents from the above website must immediately acknowledge receipt of these documents by sending an e-mail to ContractReview@waterauthority.ky, and include the company name, company physical address and contact e-mail address.

This acknowledgement is essential in order to be able to provide potential tenderers with Tender Addenda when issued.

For additional information contact ContractReview@waterauthority.ky



Water Authority of the Cayman Islands

Cayman Brac & Little Cayman Exploratory Drilling Contract

Tender Documents

INDEX

	Page
Index	2
Introduction, Brief Description of the Works	3
Instructions for Tendering	4
Conditions of Contract	9
Agreement	11
Offer	11
Acceptance	12
Appendix	13
Schedule of Rates	15
Brief Description of the Works	15
Programme of Works	15
Preamble to Schedule of Rates	15
List of Drawings	18
Schedule of Rates	19
Specifications	20
Appendix A; Background Information	28
Drawings	attached
FIDIC Short Form of Contract	attached

INTRODUCTION

This document is the standard document for the construction of civil engineering works used by the Water Authority of the Cayman Islands, in connection with the Cayman Brac & Little Cayman Exploratory Drilling Contract.

It is based on, and should be read in conjunction with the "Short Form of Contract, First Edition (1999)", as prepared by the Federation Internationale Des Ingenieurs Conseils (FIDIC), modified and added to as indicated. (A copy of these conditions is attached to this document),

BRIEF DESCRIPTION OF THE WORKS

The objective of this contract is:

- to obtain site specific geological information, which is necessary for the design of the abstraction and disposal wells at the future Reverse Osmosis plant at the Cayman Brac Water Works and
- (ii) to obtain more information on the Little Cayman geology.

The work under this Contract consists of securing intact samples of rock from borings by diamond core drilling to determine the true nature, arrangement and thickness of rock strata and discontinuities as they exist in the ground and more specifically:

- The construction of two (2) boreholes and the collection of continuous rock cores, using wireline coring equipment, each up to approximately 450 feet in depth, at the Water Authority's future Cayman Brac Water Works, located on the Bluff on Block 104A Parcel 288.
- The construction of one (1) borehole and the collection of continuous rock cores, using wireline coring equipment, up to approximately 300 feet in depth at a location on Little Cayman

The work must be executed using wireline core-drilling equipment of high quality with utmost care, as high core recovery is essential to the success of this contract. The Water Authority ("Authority") shall have the right to inspect the equipment before mobilization and to obtain assurance from the Contractor regarding the quality of work.

If the Contractor himself cannot provide the wireline coring services that are required, he is encouraged to use, as sub-contractor, an overseas drilling company experienced with wireline coring to provide the specific equipment and expertise.

The Contractor shall provide the core boxes in sufficient quantities to store all cores collected under this contract.

The Authority shall be responsible to record all relevant information related to the drilling and coring operation. The Contractor shall allow sufficient time for the Authority's representative to record all relevant information during coring operations and before coring resumes after retrieval of a core.

The Authority shall be responsible for the correct storage of the cores in the core boxes and labelling of the cores in the core boxes.

The Authority shall be responsible for the transport of the filled core boxes from the work site to the testing site for geologic interpretation.

INSTRUCTIONS FOR TENDERING

Introduction

1. These instructions for Tendering are to be used as a guide to Tendering for this project. Failure to comply with any of these Instructions may result in the rejection of the Tender.

Eligibility Criteria

- 2. Tenderers shall meet the following eligibility criteria in order to be considered and evaluated:
 - a. Companies must comply with the latest revisions of all applicable Cayman Islands laws including, but not limited to, the Labour Law, Pensions Law and the Immigration Law.
 - b. Companies must satisfy all insurance, financial, and bonding requirements as specified in the Tender Documents.
 - c. Companies must provide references that will confirm the company's performance and quality on five (5) separate completed and similar sized projects.
 - d. The job superintendent/foreman for this project shall have at least five (5) years of documented experience with diamond core drilling and retrieving continuous cores of bedrock similar to that required for this project. Companies must provide a resume of the job superintendent/foreman that will confirm the individual's performance on previously completed projects.

Relevant Documents

- Tenderers shall study all the "Tender Documents" comprising the Conditions of Contract, Agreement (comprising Offer, Acceptance and Appendix), Schedule of Rates, Specifications, and Drawings. The whole of the Tender Documents shall be read and their true intent and meaning ascertained before the Schedule of Rates is priced.
- 4. No unauthorised alteration or addition is to be made to the Tender Documents. Any qualification made to a Tender may result in the Tender being rejected.
- 5. Except in so far as may be directed by the Authority in writing neither the Authority, nor any agent or servant in their employment has any authority to make any representation or explanation to Tenderers as to the meaning of these Tender Documents, or as to anything to be done or not to be done, or as to these instructions, or as to any other thing or matter, so as to bind the Authority as to the execution of these proposals.
- 6. Should any alteration or addition to the Tender Documents be deemed necessary prior to the date for submission of Tenders, these shall be issued by e-mail by the Director of the Water Authority to Tenderers in the form of a Tender Addendum.

If a Tenderer is in doubt about the meaning of any item in the Tender Documents, or if a Tenderer discovers any discrepancy between the Work as shown on the Drawings and the Schedule of Rates he shall notify the Authority by e-mail not later than 14 days before the due date for tender submission. (ContractReview@waterauthority.ky).

The Director of the Water Authority shall then issue to **all** Tenderers an **explanation and/or correction** in the form of a Tender Addendum.

Each Tender Addendum shall have a serial number and Tenderers shall acknowledge receipt of each Tender Addendum by e-mail to ContractReview@waterauthority.ky Failure to acknowledge may result in a Tender being rejected. All Tender Addenda so issued become a part of the Tender Documents.

- 7. The Contract shall be carried out on a Fixed Rate basis and no adjustment shall be made to any amounts payable by the Authority to the Contractor as a consequence of any variations in the cost of labour, plant, materials or transport.
 - The amount of the awarded Contract shall be a price obtained by applying fixed unit rates to estimated quantities, which are subject to adjustment at completion of the work to reflect actual quantities involved. The quantities appearing in the Schedule of Rates, although stated with as much accuracy as possible, are approximate only and are prepared for the comparison of tenders.
- 8. Tenders shall only be accepted for the whole of the Works.
- 9. Tenderers shall treat the Tender Documents and all details contained therein as private and confidential.

Rates to be Inclusive

- 10. The prices to be inserted in the Schedule of Rates are to be the full inclusive value of the work described in the Specification and under the several items, including all costs and expenses which may be required in and for the construction of the work described, together with all general risks, liabilities and obligations set forth or implied in the documents on which the tender is based, and including all allowances for overhead and profit.
- 11. To avoid unnecessary length, item descriptions in the Schedule of Rates shall generally identify the component of the Works and not the tasks to be carried out by the Contractor. The exact nature and extent of the work is to be ascertained from the Tender Documents.
- 12. Persons tendering are cautioned that no variations or extras whatsoever shall be acknowledged or paid for by the Authority unless an order in writing signed by the Authority's Representative and specifying the nature, extent and character of each particular item or items to be paid for as an extra has been obtained by the Contractor before such work has been carried out.
- 13. All measurements shall be as indicated in the contract.

Rates to be Entered

- 14. All items in the Schedule of Rates shall either be priced or alternatively the word "included" should be entered in the rate column, whether quantities are stated or not. If neither of these two alternatives are adopted the Tenderer shall be held to have included for any such item left blank in his other prices or rates in the Schedule of Rates, and, although the quantity may be increased, such work will not be measured or paid for.
- 15. All rates and prices submitted shall be in Cayman Islands Dollars (CI\$).

Time for Completion

16. Attention is directed to the fact that if the Contractor shall fail or neglect to complete the works within the time specified in the Appendix he shall pay to the Authority as liquidated and ascertained damages and not by way of penalty a sum detailed in the Appendix for each day during which any part of the work shall, by the Contractor's default, remain unfinished after the expiration of the period for completion. If in the opinion of the Authority the work has been delayed owing to abnormally bad weather, the Authority may extend the time for completion of the work as it may consider fair and reasonable.

Preparing Tender

17. Companies who submit a Tender shall be held to have by their own independent observations and enquiries fully informed and satisfied themselves as to the nature, extent and practicability of the works, the means of access to the works, the places where materials can be obtained and disposed of, the levels of the ground water and seasonal/tidal variation thereof, the character of soil and strata in or on which the works are to be constructed, and all other points which can in any way affect the rates inserted in the Schedule of Rates.

It is strongly recommended that Tenderers arrange a visit to the site(s) to familiarize themselves regarding the site conditions, the extent of the work, activity involved, etc. Please make any request for a site visit by e-mail (ContractReview@waterauthority.ky).

- 18. The Authority shall not be responsible for any costs or expenses incurred in the preparation and submission of the Tender.
- 19. The Authority shall not be responsible for the omission, by the Tenderer, of any items where such omission would be detrimental to the successful completion of the Works.

Return of Tenders

20. Tenderers shall be supplied with an electronic copy of the Tender Documents.

One copy of the Tender Documents, which for the purpose of identification shall have each page signed by the Contractor, shall be duly completed, and sealed in an envelope. On the outside of the envelope or courier box the tender # and title ("P116-1 Cayman Brac & Little Cayman Exploratory Drilling Contract") shall be clearly written as the first lines of the address.

The sealed envelope or package shall be delivered, no later than 12:00 p.m. on Friday 19 October 2018, to:

Deputy Director Water Authority - Cayman PO Box 1104 13G Red Gate Road, George Town Grand Cayman KY1-1102

- 21. Only tenders received on time will be accepted. Tenders received after the aforementioned deadline will be returned unopened. No Tenderer shall withdraw his tender after the opening time unless a period of 60 days has elapsed without any tender being accepted. Faxed or emailed summaries of tenders shall not be accepted as a substitute. Tenders may be delivered by courier service, but the Authority shall not be responsible for the failure of any courier service to deliver on time and any such late tender shall not be accepted.
- 22. The opening of the sealed offers will take place on Friday 19 October 2018.
- 23. All entries and signatures shall be in indelible ink. No tender may be altered or amended after having been opened other than those alterations necessary to correct any arithmetic errors. Rates shall prevail where there is an arithmetic error in extension. Discrepancies in the quantity multiplied by unit price and the extended total amount will be resolved in favour of the quantity multiplied by unit price. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favour of the correct sum.

Information to be submitted by the Tenderer.

- 24. The Tenderer shall submit with his tender the following information:
 - a. A detailed Schedule (Programme) indicating the proposed start and end dates of the principal tasks required for completion of the Works.
 - b. Description of company's personnel (e.g., number of expatriate staff, qualifications, experience, etc.) and details on the wireline core-drilling rig and other equipment that the Tenderer intends to use for the various components of the Works
 - c. Description of the drilling method that will be employed, including references to similar projects carried out in the Cayman Islands or elsewhere. The description of the drilling method shall include, but shall not be limited to, specifics on:
 - expected core recoveries;
 - · core sizes;
 - method to protect the fresh water lens.
 - d. A list of Sub-Contractors that the Tenderer proposes to use on the Works and the activities that each of the Sub-Contractors is to carry out. Tenderer shall submit with the Tender an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Sub-Contractor.
 - i. Any Sub-Contractor listed and to whom the Authority makes written objection prior to the giving of the Letter of Acceptance shall be deemed unacceptable to the Authority and shall be substituted with a Sub-Contractor acceptable to the Authority. If the Successful Tenderer declines to make a substitution of the Sub-Contractor to one acceptable to the Authority, the Authority may award the contract to the next lowest responsible Tenderer that proposes to use an acceptable Sub-Contractor.
- 25. The Authority shall not be seen to have approved all or any part of the information submitted by the Tenderer unless the Tenderer is so notified in writing.

Award of Contract

- 26. Tender Evaluation Criteria: Certain elements of the Tender are mandatory, the submission of these will determine whether a Tender is "compliant or not", failure to submit any mandatory items will result in a "failed" Tender and will not be assessed further.
 - a. Mandatory items (Pass or Fail):
 - (1) Completed Agreement and Offer (see page 11)
 - (2) Cost proposal (completed Schedule of Rates (see page 19))
 - (3) Acknowledgement of receipt of Tender Addenda (if any).
 - (4) Company and Sub-Contractor Information (i.e., experience, references, etc.).
 - (5) Other required information (see Item 24 of these Instructions).
 - (6) A copy of the e-mail sent to <u>ContractReview@waterauthority.ky</u> acknowledging receipt of the Tender Documents in order to be a registered potential Tenderer (*).

Note*: This only applies to those Tenderers who downloaded the Tender Documents directly from the Water Authority's website.

b. Costing Analysis

Note: The Company and Sub-Contractor Information referred to in this item should be relevant to this contract

- 27. The Authority shall not be bound to accept the lowest or any of the Tenders. The Authority reserves its right to reject any or all Tenders, including without limitation the right to reject any or all non-conforming, non-responsive, unbalanced or conditional Tenders, and to reject the Tender of any Tenderer if the Authority believes that it would not be in its best interest to make an award to that Tenderer, whether because the Tender is not responsive or fails to meet any other pertinent standard or criteria established by the Authority.
- 28. The award will be made on the basis of that Tender from the lowest responsive, responsible Tenderer which, in the Authority's sole and absolute judgment, will best serve the interest of the Authority.
- 29. The Authority will give the Successful Tenderer a Letter of Acceptance within sixty (60) days after the Tender Opening.
- 30. Failure by the Successful Tenderer to provide any required documents (e.g., Trade and Business license, insurance certificate(s), information of Sub-Contractors) within fifteen (15) days after notice of award shall be just cause for the annulment of the award, and the Authority may award the Contract to the next lowest responsive, responsible Tenderer
- 31. All Tenders will be evaluated and all tenderers will be notified by e-mail of the outcome of the evaluation within sixty (60) days after the Tender Opening.

CONDITIONS OF CONTRACT

Conditions of Contract

The Conditions of Contract shall be Clauses 1 through 15 of "Short Form of Contract, First Edition (1999)", as prepared by the Federation Internationale Des Ingenieurs Conseils (FIDIC), modified and added to as shown below. A copy of the Conditions of Contract is attached to this Document.

Modifications and additions to Clauses

PARTICULAR CONDITIONS

Clause 1 General Provisions

Add Sub-Clause 1.6.a: Labour

- i. The Contractor shall comply with all applicable Cayman Islands laws relating to employment including the Labour Law (latest revision) and the Immigration Law (latest revision).
- ii. The Contractor shall pay rates of wages and observe conditions of labour not less favourable than those established by the Labour Law (latest revision).
- iii. The Contractor shall be responsible for the cost of return of all expatriate personnel employed, contracted or otherwise retained for completion of or in connection with the Contract and their respective family members (if applicable), to the place from where they were recruited, or to their country of domicile.
- iv. The Contractor shall provide suitable housing in the Cayman Islands for all expatriate personnel and their respective family members residing in the Cayman Islands, until their repatriation in accordance with the above.
- v. For the purposes of this Sub-Clause, the term "expatriate personnel" shall not include any person with Caymanian nationality or holding legal residence status in the Cayman Islands.

Clause 7 Time for Completion

Add the following at the end of sub-clause 7.2

"The Contractor shall maintain adequate staff and plant to comply with the approved Programme for the Works.

Add Sub-Clause 7.5 Restriction on Working Hours

Subject to any provision to the contrary contained in the Contract, none of the Works shall, save as hereinafter provided, be carried out during the night or on locally recognized days of rest without the prior consent of the Engineer, except when work is unavoidable or absolutely necessary for the saving of life or property of for the safety of the Works, in which case the Contractor shall immediately advise the Engineer.

Clause 11 Contract Price and Payment

Add the following at the end of sub-clause 11.3:

"The Employer may withhold interim payments until he has received and approved a current and valid programme for the Works, as per sub-clause 7.2."

Delete sub-clause 11.8 and substitute with:

"In the event of the failure of the Employer to make payment within the times stated, the Employer shall pay to the Contractor interest upon all sums unpaid at a rate per annum equivalent to the interest rate at which the Cayman National Bank and Trust Company Limited would pay for such a deposit on the date upon which such payment first becomes overdue. In the event of any variation in the said Bank Rate being announced whilst such payment remains overdue the interest payable to the Contractor for the period that such payment remains overdue shall be correspondingly varied from the date of each such variation."

Clause 15 Resolution of Disputes

Delete the entire clause and replace with the following:

"Unless settled amicably, any dispute, difference or question which may arise between the Contractor and the Employer out of or in connection with the Contract shall be settled by arbitration in accordance with the Cayman Islands Arbitration Law (Latest Revision)" The model clause of the said law shall apply."

Note: The "Engineer" as referred to in the various sections of the Specifications shall be deemed to mean the "Employer's Representative", as defined in the Contract.

AGREEMENT

	e Employer is The Water Authority of the Cayma orge Town, Grand Cayman KY1-1102, Cayman	
	e Contractor is	
	e Employer desires the execution of certain Wo	rks known as Cayman Brac & Little Cayman
	OFFE	ER .
	e Contractor has examined the documents lis reement, and offers to execute the Works in	·
		_ (in figures)
or su	such other sum as may be ascertained under th	e Contract.
The	aployer by signing and returning it to the Contractor understands that the Employer is beived for the Works.	
Sign	nature: D	ate:
Nam	me:	Authorized to sign on behalf of: (organization name)
Capa	pacity:	
		Contractor's Initials or Stamp :

ACCEPTANCE

The Employer has, by signing below, accepted the Contractor's offer and agrees that in consideration for the execution of the Works by the Contractor, the Employer shall pay the Contractor in accordance with the Contract. This Agreement comes into effect on the date when the Contractor receives a copy of this document signed by the Employer.

Signature:	Date:
Name:	Authorized to sign on behalf of the
	Water Authority of the Cayman Islands
Capacity:	
In the presence of:	
Name:	
Capacity:	

APPENDIX

This Appendix forms part of the Agreement.

<u>Item</u>	Sub-Clause	<u>Data</u>
Documents forming the Contract listed in the order of priority	1.1.1	
The Agreement		
Conditions of Contract		
The Specification		
The Drawings		See Attached List
The Schedule of Rates		
Time for Completion	1.1.9	98 days
Law of the Contract	1.4	Cayman Islands Law
Language	1.5	English
Provision of Site	2.1	14 days after the Commencement Date
Authorized person	3.1	Director of the Water Authority
Name and address of Employer's representative	3.2	Deputy Director Water Authority - Cayman PO Box 1104 Grand Cayman KY1-1102
Performance security	4.4	None
Requirements for Contractor's design	5.1	None
Programme:		
Time for submission	7.2	Within 14 days of the Commencement Date
Form of programme	7.2	Gantt Chart with (as a minimum) detailed information on the activities identified in the Schedule of Rates
Amount payable due to failure to complete	7.4	CI\$ 300.00 per day up to a maximum of 10% of the sum stated in the Agreement
Period for notifying defects	9.1 & 11.5	Not Applicable

Continued on next page

<u>Item</u>		Sub-Cl	<u>ause</u>	<u>Data</u>
Valua	tion of the Works			
	Lump sum price with schedule of rates	11.1		As per completed Schedule of Rates
Perce Plant	entage of value of materials and	11.2		Not Applicable
Perce	entage of retention	11.3		10% of Total Work Done
Limit	of Retention	11.3		10% of Tender Amount
Curre	ncy of payment	11.7		Cayman Islands Dollars (CI\$)
Insura	ances	14.1		
Type of Cover		Amount of Cover		
	The Works, Materials, Plant and fees		The sum stated in the Agreement plus 15%	
Third Party injury to persons and damage to property		CI\$ 500,000 for any one incident, and unlimited number of incidents		

SCHEDULE OF RATES

Brief Description of the Works

The work under this Contract consists of securing intact samples of rock from borings by diamond core drilling to determine the true nature, arrangement and thickness of rock strata and discontinuities as they exist in the ground and more specifically:

- The construction of two (2) boreholes and the collection of continuous rock cores, using wireline coring equipment, each up to approximately 450 feet in depth, at the Authority's future Cayman Brac Water Works, located on the Bluff on Block 104A Parcel 288.
- The construction of one (1) borehole and the collection of continuous rock cores, using wireline coring equipment, up to approximately 300 feet in depth at a location on Little Cayman

Note: Notwithstanding the above, the Contractor shall have adequate equipment (e.g., drill rods, casing etc.) readily available to construct boreholes and collect continuous rock cores up to a depth of 550 feet, if so directed by the Engineer.

The drilling shall be conducted so as to provide maximum core recovery with every reasonable precaution taken to prevent crushing or grinding of core

The Contractor shall construct the Works as detailed on the Drawings, and in strict compliance with the Specifications.

Programme of Works

The Contract shall be completed in 98 days, or 14 weeks.

This estimate is based on the following break-down, and is provided for information purposes only:

Transportation of wireline equipment from USA to Grand Cayman	3 weeks
Transportation of wireline equipment from GCM to CYB	2 weeks
Mobilization of equipment to Bluff Site	1 week
Coring Activities on Bluff Site	2 weeks
Clean-up activities at and demobilization of equipment from Bluff Site	1 week
Transportation of wireline equipment from CYB to LCM	1 week
Mobilization of equipment to LCM Site	1 week
Coring Activities on LCM Site	1 week
Clean-up activities at and demobilization of equipment from LCM Site	1 week
Transportation of wireline equipment from LCM to GCM	1 week
Total time allowed:	14 weeks

Preamble to Schedule of Rates

Introduction

This Preamble has been provided to clarify the intent that the Water Authority ("Authority") had in the preparation of the Schedule of Rates and to clarify the method of measurement and the work that each billed item covers. This intent is to provide clearly such information as shall enable Tenderers to submit bids that are readily comparable.

Items in the Schedule of Rates shall be measured as set forth herein.

To avoid unnecessary length, item descriptions in the Schedule of Rates generally identify the component of the Works and not the tasks to be carried out by the Contractor. The exact nature and extent of the work is to be ascertained from the Tender Documents (i.e., Conditions of Contract, Agreement (comprising Offer, Acceptance and Appendix), Schedule of Rates, Specifications, and Drawings).

All items required to complete the works specified or shown on the Drawings but not included in the Schedule of Rates shall be considered incidental to those set forth in the Schedule of Rates.

The Contractor shall provide all necessary labour, technical assistance, materials, tools, supplies, equipment, transportation, and other incidental items necessary and proper for the expeditious completion of the Works; all in accordance with this Contract, including Specifications and Drawings.

All costs and expenses which may be required by the Contractor (including, if applicable, his sub-contractor) in and for the construction of the Works, together with all general risks, liabilities and obligations set forth or implied in the Contract Documents, including all allowances for overhead and profit, shall be included in the Contractor's rates

The Schedule of Rates shall be used for the preparation of Interim Certificates of Payment. The Contractor shall submit with each interim payment request, a revised Schedule of Rates that shows the percentage of each pay item completed as of the submission date.

All Insurances

This item is to cover all the costs of providing and maintaining all the insurances required by the Contract (see Clause 14 of the Conditions of Contract). The Contractor shall not be allowed to proceed without proof of the insurances being submitted and approved by the Engineer.

The Contractor shall include for this item on his first Monthly Statement.

Mobilization/ Demobilization

This lump sum item is to cover all the costs associated with the Contractor providing his crew and other staff (including, if applicable, those of his sub-contractor), equipment, plant and other resources that he may require to satisfactorily carry out the Works: This item shall include movement of drill rigs, tools, materials etc. to the work site ("Site" as defined in the Conditions of Contract) to carry out the work, and the removal of equipment from the Site. This item is also to cover the cost of returning all expatriate staff, and any leased/rented wireline coring equipment from Grand Cayman back to its place of origin.

The Contractor shall include in his price the cost of any items that he may rightfully incur in this matter, including the cost of freight, brokerage fees, Port Authority fees, inland transportation and any other cost that he may rightfully incur in this matter. There are no special duties or licenses for equipment that is temporarily imported, nor is it likely that a Customs Bond will be required for equipment that is to be re-exported upon completion of work. The Contractor is encouraged to use as much local labour and equipment as possible.

The Mobilization/Demobilization item shall not exceed fifteen percent (15%) of the Total Tender Amount. Seventy percent (70%) of this item shall be included in the first Monthly Statement after the Contractor has fully mobilized his equipment and work force to Cayman Brac. The remaining thirty percent (30%) shall be paid once all field activities have been successfully completed and approved by the Engineer.

Work Permits

This item is to cover all the costs of obtaining the necessary temporary work permits for the Contractor's expatriate staff. Information on the above can be found at the Cayman Islands Immigration website (www.immigration.gov.ky), more specifically in the "work permits" section.

It should be noted that only a Contractor who has a Trade and Business license, and complies with the Local Companies (Control) Law (latest revision) and the Companies Law (latest revision) can apply for the work permits for expatriate personnel. For the avoidance of any doubt, the Water Authority will NOT apply for and/or obtain any work permits for the Contractor's expatriate personnel.

The Contractor shall include for this item on his first Monthly Statement.

Accommodation and transportation

This item is to cover all costs of providing adequate accommodation in, and transportation for the Contractor's staff to, Cayman Brac and Little Cayman. Any costs of providing staff with subsistence, and any other cost considered necessary as a result of staff being away from their normal place of residency, will be deemed to have been included by the Contractor in his rates.

Payment of this item shall be pro-rated over the estimated time for completion for this phase of the works (i.e., 8 weeks), However, no payment shall be due until the Contractor has fully mobilized his equipment and work force on Cayman Brac and has actually started drilling.

Core Borings

This work shall be paid for at the contract unit price per linear foot for advancing the core borings, and shall include all material, tools, labour, and all other expenses of the Contractor incurred in complying with all the requirements of the Contract Documents. This item shall also include all costs associated with any movement of equipment between bore holes, any work associated with accessing bore holes (e.g., vegetation clearing, site levelling etc.), and all work necessary for site restoration and clean up, and any other items required to complete the work.

The depth paid for shall be taken from ground elevation at the borehole to the lowest elevation penetrated.

Note: Core Borings shall be made to the specified depth through whatever type of material is encountered, including boulders, fill, and other types of obstructions. No payment will be made for borings abandoned or lost before reaching the specified depth except as otherwise provided hereinafter:

If the Contractor is unable to complete any boring because obstacles or obstructions are encountered which are considered by the Engineer to be of an unusual nature and that failure to penetrate them is not the fault of the Contractor's methods or equipment, the boring will be dealt with as follows:

- No payment will be made for any boring which has advanced for less than 50% of the specified depth.
- Payment for any boring which has advanced more than 50%, but less than 80% of the depth specified by the Engineer, will be paid for as follows: The length of the boring

- will be measured and paid for at 80% of the Contract unit price per linear foot for the boring.
- Payment for any boring which has advanced more than 80% of the specified depth will be paid for as follows: The length of the boring will be measured and paid for at 100% of the Contract unit price per linear foot for the boring.

Miscellaneous

There is no readily available source of water at the Site (for drilling purposes or otherwise).

For Cayman Brac only: The Authority will, if requested, provide up to 2,000 US gallons of potable water by truck each day, at no cost to the Contractor, for use by the Contractor on the Site, subject to the Contractor having provided adequate potable water storage on-site (e.g., polyethylene storage tank with easily accessible, and suitable, fill openings). Truck water deliveries will be made either at the start of the day or at the end of the day. Additional trucked water can be provided at normal commercial rates and without priority over other trucked water customers (i.e., all trucked water deliveries are made on a "first come, first served" basis and depending on workload may result in water being delivered the following day, or later).

List of Drawings

Drawing #	Drawing Title
ED-01	Cayman Brac Site
ED-02	Little Cayman Site

SCHEDULE OF RATES

Item	Description	Unit	Quantity	Rate	Total
				(CI\$)	(CI\$)
1. PR	ELIMINARIES				
1.1	Provide all insurances as required	Sum	1		
1.2	Mobilization and demobilization (not to exceed 15% of Total Tender Amount)	Sum	1		
1.3	Work permits for expatriate staff	Sum	1	 	
1.4	Accommodation and transportation	Sum	1		
SUB-TOTAL (Part 1):					
2. CORE BORINGS					
2.1	Wireline Core Drilling and Collection of Continuous Rock Cores at CYB-1	Feet	450		
2.2	Wireline Core Drilling and Collection of Continuous Rock Cores at CYB-2	Feet	450		
2.3	Wireline Core Drilling and Collection of Continuous Rock Cores at LCM-1	Feet	300		
SUB-TOTAL (Part 2):					
TOTAL TENDER AMOUNT					
(SUB-TOTAL (Part 1)+ SUB-TOTAL (Part 2)):					
	(to page 11)				

Contractor's Initials or Stamp :

SPECIFICATIONS

1. GENERAL

The Contractor shall at all times employ sufficient labour and equipment for performing the work to full completion in the manner required by these Specifications, and as detailed in the Contractor's Programme of Works. All workmen shall have sufficient skill and experience to properly perform the work assigned to them.

The approved Programme of Works shall be used as the basis for establishing operations and as a check on the progress of the work. The Contractor shall provide sufficient materials, equipment, and labour to guarantee the completion of the Project in accordance with the Programme of Works.

At all times the Contractor shall have a competent Superintendent on the Site who understands the Specifications, and who is thoroughly experienced in the type of work being performed.

The Contractor shall furnish, to the Engineer, a list of addresses and telephone numbers of his personnel who may be reached in case of emergency during hours when no work is being performed. On weekends and during storms the Contractor shall alert certain members of his personnel to stand by and shall inform the Engineer of arrangements so made.

All equipment shall meet the requirements of ASTM D 2113, Standard Practice for Rock Core Drilling and Sampling of Rock for Site Exploration, unless otherwise specified. All equipment used on the Works shall be of sufficient size and in such mechanical condition to produce a satisfactory quality of work. All equipment and tools shall be subject to the approval of the Engineer.

2. SITE

2.1 Site Clearance

The Contractor shall perform such clearing as may be necessary to provide access and working space at the Site; and do all other work which may be necessary to move his equipment around or between borehole locations. All such work shall be performed in accordance with any local laws, and property owner(s) requirements.

2.2 Site Safety and Traffic Management

The Contractor shall at all times conduct his work in such a manner to cause the least possible obstruction to traffic and to ensure public safety. The Contractor shall provide, erect, and maintain all necessary barricades, suitable and sufficient lights, danger signals, signs, and other traffic control devices, and shall take all necessary precautions to prevent inadvertent access by the general public to the Site.

2.3 Utility Services and Property

The locations of all underground utilities and structures in the vicinity of the boreholes have been obtained by diligent field checks and searches of available records. The Contractor shall not be liable for damage to underground pipes, utilities or structures due to a borehole location determined by the Engineer.

The Contractor' shall provide the necessary protection to avoid damage to utilities and property. When the Contractor's operations are adjacent to utilities or other property, the Contractor shall

inform the relevant parties of the intended work and the work shall not be commenced until all arrangements necessary for the protection thereof have been made.

In the event of interruption to utility services as a result of accidental breakage, the Contractor shall promptly notify the Engineer and the proper authority and shall cooperate with the said authority in the restoration of services

2.4 Site Clean-Up

Upon completion of the work, the Contractor shall promptly remove from the Site all of his equipment, including all markers, ranges, and stakes placed by him, and other debris and surplus materials which resulted from his operations, and shall leave the site in a clean and presentable condition, satisfactory to the Engineer and the property owners involved.

3. BOREHOLE LOCATIONS AND DEPTH

The Engineer shall designate, by means of stakes or other marks, the locations of all bore holes.

The Contractor shall not proceed with any borehole until the location has been marked in the field by the Engineer.

A continuous rock core shall be recovered to the depth specified, or directed by the Engineer.

4. CORE BORINGS

4.1 General

Rock coring shall be performed in accordance with ASTM D 2113, Standard Practice for Rock Core Drilling and Sampling of Rock for Site Investigation, except as modified by these Specifications, to obtain **rock cores with a diameter of no less than 1.433 inches** (36.4mm) equivalent to the BQ wireline core barrel, using the wireline core drilling method. However, larger **core diameters, up to 2.500 inches** (63.5mm), equivalent to the HQ wireline core barrel, are preferred.

Cores shall be drilled in such a manner as to assure maximum percentage of recovery of each core.

4.2 Casing

4.2.1 General

The Contractor shall install a casing to ensure that the rock coring can be accomplished without danger of any unconsolidated material caving or falling into the hole. The casing shall be installed through any unconsolidated material and set at least a few feet into solid rock.

4.2.2. Surface Casing

The Contractor shall provide an open hole before beginning rock coring: A surface casing shall be properly set into the rock to prevent seepage of overburden material into the hole from which the core is to be taken.

The surface casing shall be of such size that subsequent rock cores of the required diameter can be recovered.

4.2.3 Maintaining an Open Bore Hole

An open borehole shall be maintained at all times through the use of casing.

In the event soft or broken rock is encountered that cause broken pieces of rock to fall into the hole and cause unsatisfactory coring, or if voids of any type (including caverns) are encountered that endanger the continued downward progress of the boring (e.g., due to lost circulation), a casing shall be installed to a point below the broken or open zone.

A casing shall be installed through the cavernous zone, so that rock cores can be taken from the underlying rock stratum. This casing shall be of such size that subsequent rock cores of the required diameter can be recovered. This shall be accomplished by one of the two following methods:

- The Contractor shall drill and ream through the section of rock previously cored, and a flush-joint casing installed into the rock past the cavity; or
- The Contractor shall install the next smallest size flush-joint casing, with necessary clearances for circulation of fluid, and telescoping it through the existing casing and set through the lost-circulation zone. (Note: This will require that a smaller core barrel be used when coring operations are resumed, which must still comply with these Specifications).

The operation of reaming and installation of casing, or telescoping smaller casing into the existing casing, shall be repeated as many times as necessary to obtain the required rock cores.

4.2.4 Core Barrel

Core drilling shall be accomplished in accordance with AASHTO Designation T-225, subject to the following:

- a) All wireline core drilling shall be done using a diamond core barrel, consisting of a swivel-type (non-rotating), double-tube or triple-tube inner barrel, a diamond-set reaming shell and a diamond cutting bit.
 - Single tube core barrels and/or rigid type inner barrels are not acceptable and shall not be used.
- b) A core barrel shall be used which will yield the size core as specified.
 - A split inner barrel shall be used in all borings. Inner barrels shall be split longitudinally in half (to allow observation and removal of the core with reduced disturbance), and shall be held together with special tape at numerous locations along the barrel.
 - Solid inner barrels are not acceptable and shall not be used.

4.2.5 Drill Rods

Provide drill rods having an inside diameter that will permit flow of drilling fluid through the rods in a quantity sufficient to provide an upward velocity of the fluid between the rod and the bore hole wall to remove the cuttings effectively.

Do not drill with drill rods that are not straight.

4.3 Rock Coring Procedure

At all times verify that the core barrel, coring bit and other equipment are in satisfactory operating condition.

Unless otherwise directed by the Engineer, the core barrel shall be pulled at intervals not exceeding five (5) feet, or such shorter coring run length as determined by the core box dimensions, and the core recovered.

 Where soft or broken rocks are encountered or anticipated, reduce the length of runs as directed by the Engineer, to reduce the core loss and keep core disturbance to a minimum.

The speed of the drill and the drilling pressure shall be controlled to obtain the maximum possible recovery from the rock being drilled.

- Do not permit grinding of the core.
- Maintain and observe pressure gauges to detect any blocking of core in the barrel, and if so, immediately cease drilling, remove the barrel from the hole and remove the core.
- In fractured rock, decrease rotational speed and down pressure to maintain smooth running of the drill pipe. If the coring bit penetrates these materials too fast, it overdrills, which breaks out pieces of rock and may result in bit blockage and poor core recovery.

Poor core recovery due to failure to comply with the foregoing procedures when ample warning of unusual subsurface conditions has been received in advance, shall constitute justification for the Engineer to require re-drilling of any boring from which core recovery is unsatisfactory, at no additional cost.

4.4 Additional Requirements for Hydraulic-Rotary Coring

Fresh water shall be used as the drilling fluid in hydraulic-rotary rock coring.

Drilling fluid shall be contained in a settling basin to remove drill cuttings and to allow recirculation of the fluid. Water flow over the ground surface shall be avoided as much as possible.

5. RECORDS AND BOREHOLE LOGS

The Engineer shall record on standardized borehole log forms such portions of the several categories of data outlined hereinafter.

The Contractor shall allow sufficient time for the Engineer to record all relevant information during coring operations and before coring resumes after retrieval of the core.

Each and every log of core boring shall record the following information:

- 1) Contract Name
- 2) Date of starting and completing boreholes
- 3) Location of site by name
- 4) Borehole number (to conform to the number assigned on the Drawings or as provided by Engineer)
- 5) Names of the Contractor, Inspector and drilling crew
- 6) Sheet number and total number of log sheets for each bore hole
- 7) Type and size of core bit used
- 8) Diameter of bore hole
- 9) Procedure used for maintaining an open borehole
- 10) Depth to top of groundwater
- 11) Weather conditions
- 12) Description of rock encountered:
 - a. Continuity of rock: Weathered, broken, jointed, shattered, cavernous, , etc.
 - b. Physical features: porous, dense, colour, strength, structure, etc.

- 13) Percent of recovery (REC), which equals length of recovered core divided by the length of rock cored.
- 14) Rock quality designation (RQD), which equals combined length of pieces four inches or more in length divided by the length of the rock core run, expressed as a percentage.
- 15) Top and bottom elevation of all voids, cavities, and soft seams encountered in the rock
- 16) Description of any conditions requiring use of casing, and depth thereof
- 17) Description of any unusual conditions encountered in advancing the borehole, which will supplement the core record and further document the nature and extent of fracturing or voids such as:
 - a. Tool drops or rapid rates of advancement which could indicate the presence of voids, soft zones or highly weathered rock.
 - b. Decreased drilling rates or lack of advancement which could indicate very hard rock conditions.
 - c. Blocking off or plugging of the core barrel which could indicate highly fractured rock conditions.

6. HANDLING, IDENTIFICATION, STORAGE AND TRANSPORTATION OF ROCK CORES

6.1 Core handling

The Engineer shall be responsible for correct storage of the cores in the core boxes, and the recording of all pertinent information during coring operations and labelling of cores in the core boxes. The Contractor shall provide the necessary assistance to the Engineer, as and when requested:

- All rock cores shall be carefully handled to avoid breakage and to ensure their proper identification and to preserve mating across fractures and fracture-filling materials.
- All rock cores shall be placed in suitable core boxes (see item 6.2 below) in the exact order of their removal from the bore hole.
- Cores shall be placed in the core boxes from left to right, top to bottom. When the upper compartment of the core box is filled, the next lower compartment shall be filled (and so on until the box is filled).
- Breaks in a rock core that occur during or after the rock core is transferred to the core box shall be refitted and marked with three short parallel lines across the fracture trace to indicate a mechanical break.
- No breaks shall be made to the core to fit the core into the core box.
- Core losses shall be marked in the correct position (i.e., not at the end of the run) with a clearly labelled wooden spacer block of the same length as the core loss. The block shall be marked "core loss" and the core loss depth interval given.
- Additional blocks (stabilizers) shall be used to prevent core moving within partly filled core box partitions.
- Samples from more than one borehole shall not be packed in the same core box.

6.2 Core boxes

The Contractor shall provide new wooden core boxes, as shown in Figure 1 and specified below, in sufficient quantities to store all cores collected under this contract.

- Core boxes shall be rigid and strong enough for packaging, air freight shipping and longterm storage of the rock cores.
- · Core boxes shall be of uniform size.
- Core boxes shall have hinged lids, with the hinges on the upper side of the box.
- Core boxes shall have latches and/or lockable lids to secure the lids in the closed position, to prevent accidental opening of the lid and core distribution/loss during handling, shipment, and storage. Additional security may be provided with screws

- Core boxes shall have handles to assist with transportation
- Core boxes shall have suitable partitions or divider strips spaced to suit the different core sizes and to prevent the possibility of any section of core becoming dislocated from its proper sequence.

The Contractor shall ensure that core boxes are kept off the ground and dry while at the Site.

6.3 Core Box Marking

The Engineer shall be responsible for the recording, using indelible paint, the following identifying data on each core box:

- On the outside of the lid: Contract Name, Location of Site, Bore Hole Number, Date, and Box Number (e.g., #5 of 10); (see Figure 2).
- On the inside of the lid: Contract Name, Bore Hole Number, Date, the top and bottom depth
 of each section of core (a.k.a. run), the percentage of Recovery (REC), Rock Quality
 Designation (RQD), Box Number, Sketch of Location of Cores within the core box
- On the Front and/or Back Face: Contract Name, Bore Hole Number, the top and bottom depth of each section of core (a.k.a. run), and Box Number.
- On at least one of the end faces: Contract Name, Bore Hole Number, Run # and the Box Number.
- Runs and calculations of each REC and RQD shall not exceed five (5) feet.

6.4 Core Box Storage and Handling

The Contractor shall stack filled core boxes on pallets in layers of alternating directional pattern.

- Stack boxes four wide and not more than eight high on each pallet.
- · No stacking of pallets shall be allowed.

The Contractor shall protect the stacked filled core boxes with tarpaulin (with edge grommets) to protect the top and sides from the weather and secured with polypropylene rope, laced through the grommets and fastened tightly.

6.5 Transport Of Core Boxes

The Employer shall be responsible for the transport of the cores, suitably packed and identified as specified in these specifications, from the Site to Grand Cayman and/or any other location for geologic interpretation and testing.

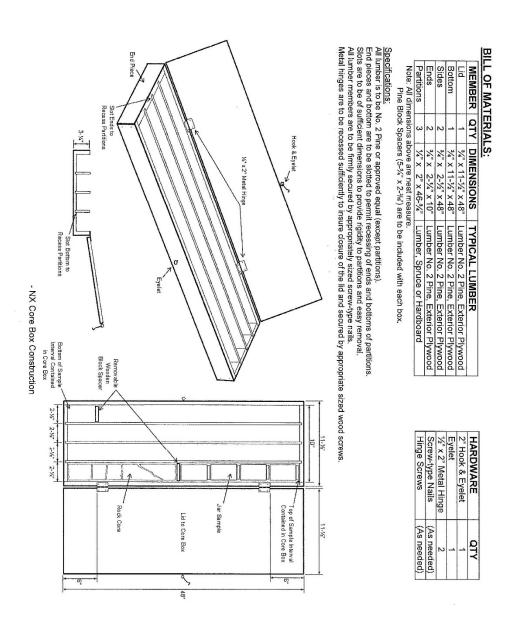


Figure 1: Typical Core Box Construction

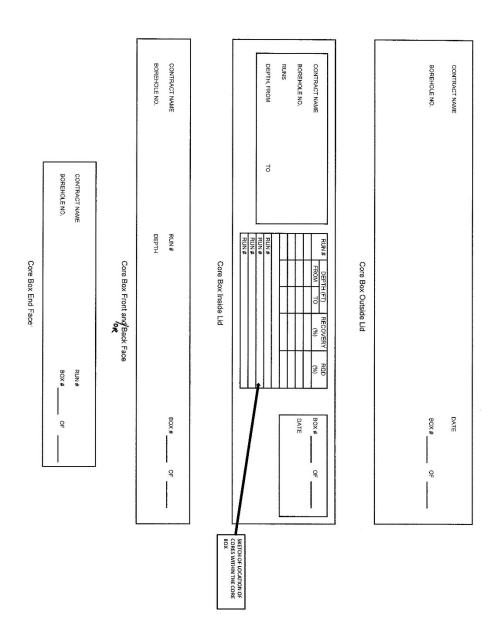


Figure 2: Typical Core Box Labelling

APPENDIX A: BACKGROUND INFORMATION

1. Introduction

This document provides background information on the contract to install two (2) fully cored 450ft deep pilot wells at the future Cayman Brac Water Works, located on the Bluff on Block 104A Parcel 288. The objective of these pilot wells is to provide site specific geological information for the design of the abstraction and disposal wells for the future Reverse Osmosis plant at the Cayman Brac Water Works.

2. Site location and description

The general location of the Cayman Brac Water Works is shown in figure 1. The site is located on the west side of Ashton Rutty Drive, north of the Quincentennial Park. The site is characterized by well-developed karst features such as heavily weathered and jagged sharp rocks, fissures, cracks and sinkholes. Elevation of the site is approximately 70ft above mean sea level with variations of plus or minus 5ft. Photos of the site prior and after clearing and filling are included in figure 2 and 3 respectively.

3. Geology

A general overview of the Geology of the Cayman Islands is available through the YouTube link of a 2014 presentation by Dr. Brian Jones, Professor Geology at the University of Alberta (https://www.youtube.com/watch?v=96cRzMdLdl4). The paper Geology of the Cayman Islands, published in 1994 by Dr. Brian Jones in the book The Cayman Islands: Natural History and Biogeography, editors M.A. Brunt and J.E. Davies is another source of a general overview of the geology of the Cayman Islands. A copy of this paper is included at the end of this appendix. The geological map of Cayman Brac is included in Figure 4.

The following description of the geology at the Cayman Brac Water Works is based on Dr. Brian Jones' extensive work in the Cayman Islands and more specifically on a 200ft deep exploratory well that was drilled at the Jennifer Bay Quarry in 2003. Refer to Figure 5 for the location of the Jennifer Bay Quarry in relation to the Cayman Brac Water Works and Figure 6 for a general view of the quarry. Figure 7 shows the geological succession of the well drilled in Jennifer Bay Quarry. The quarry is located along Major Donald Drive, approximately half a mile south of the Cayman Brac Water Works. The elevation of the land surface around the quarry is approximately 60 ft above mean sea level. The boundary between the Cayman Formation and the Brac Formation is located at approximately 215 ft below the land surface. The well in the quarry was drilled to 200 ft depth from the quarry floor, which was approximately 50 ft below the land surface. The well penetrated approximately 35 ft of the Brac Formation. Well cuttings for geological interpretation were collected from this well, but no core samples were collected. There were no major cavities encountered during the drilling of the well.

4. Pilot wells - conceptual model

Figure 8 presents the conceptual geological model of the proposed pilot wells at the Cayman Brac Water Works. Assuming that the geology at the site is similar to the Jennifer Bay Quarry, the Cayman Formation overlays the Brac Formation from the surface to about 215 ft depth.

Based on experience in Grand Cayman and evident by caves at the boundary of the Cayman Formation and Brac Formation at the eastern part of Cayman Brac, water flow at the formation boundary is predominantly horizontal. Also based on experience in Grand Cayman, the top 50 ft of the Cayman Formation and the top 50 ft of the Brac Formation are expected to have limited vertical permeability, which will potentially provide a good separation between the abstraction and

discharge zones. Sections below the top 50 ft of each formation tend to have higher porosities and higher permeabilities, which make them potential zones for abstraction or discharge. Selection of the zones for abstraction and discharge also needs to take account of a possible thin fresh water lens at sea level that should not be affected during drilling operations or by long term abstraction of saline feedwater and discharge of brine from the Reverse Osmosis plant.

The conceptual model, which takes the above factors into account places the abstraction zone in the 150ft - 215ft depth range (80ft - 145ft below mean sealevel) in the base of the Cayman Formation and the discharge zone below the 50ft top section of the Brac Formation. i.e. deeper than 265ft (over 195ft below mean sealevel). To get sufficient geological context and to consider other options in the event the conceptual model is deficient, the pilot wells should be drilled about 200ft - 250ft into the Brac Formation, thus approximately 450ft total depth (380ft below mean sealevel).

5. Challenges for the installation of pilot wells

There is a possibility that there are caves at the site, caves are present within half a mile from the site such as the large cave visible at the entrance to the Quincentennial Park located south of the site and the Nani cave located south-west of the site. Caves may present challenges for the installation of the pilot wells. Geological fieldwork in Cayman Brac has shown that caves can occur almost anywhere in the sequence, but no model has been developed to predict the pattern to the distribution of caves. As a consequence, it is not possible to predict whether caves will be encountered during the installation of the pilot well

Although there is no officially mapped fresh water lens in the area, residents close to the Cayman Brac Water Works do use wells that yield fresh water; it is important that the installation of the pilot wells do not affect this source.

6. Drilling methods

Good core recoveries are essential to provide sufficient material for geological interpretation and porosity and permeability testing. The coring method previously employed by drilling companies for Water Authority projects employed a combination of drilling and coring with an air rotary drilling rig. This method is adequate to core wells to about 200ft depth, but becomes more challenging and time consuming in deeper wells as after each core the drilling rods and core barrel have to be removed from the well to facilitate reaming of the well. Core recoveries decrease with depth when this method is employed and the risk of collapse of the well increases with depth.

Therefore, the wireline coring method is the specified drilling method for this contract.

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NOTE: Under no circumstances should the user of this map assume that the information provided is complete or correct. Anyone planning any field work must notify the respective Agency to identify the locations of their underground plant. No digging should take place until the Agency has marked its underground plant. The Agency will in no event be liable for any incidental, consequential or indirect damages arising from the information contained in this document, however caused. **SOURCE: WWW.CAYMANLANDINFO.KY**

Figure 1. Location of Cayman Brac Water Works



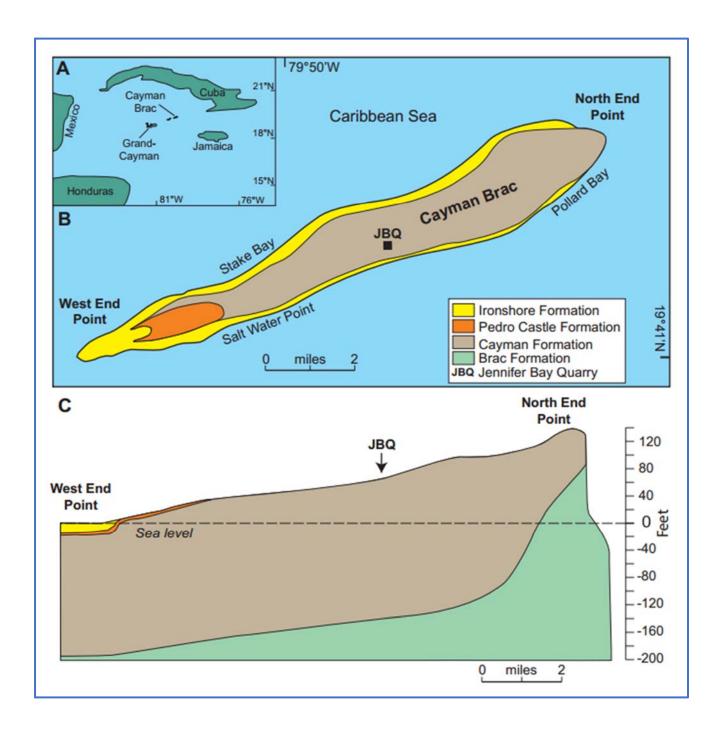


Figure 2. General view of the Cayman Brac Water Works prior to the site being cleared and filled in



Figure 3. General view of the Cayman Brac Water Works after the site was cleared and filled in









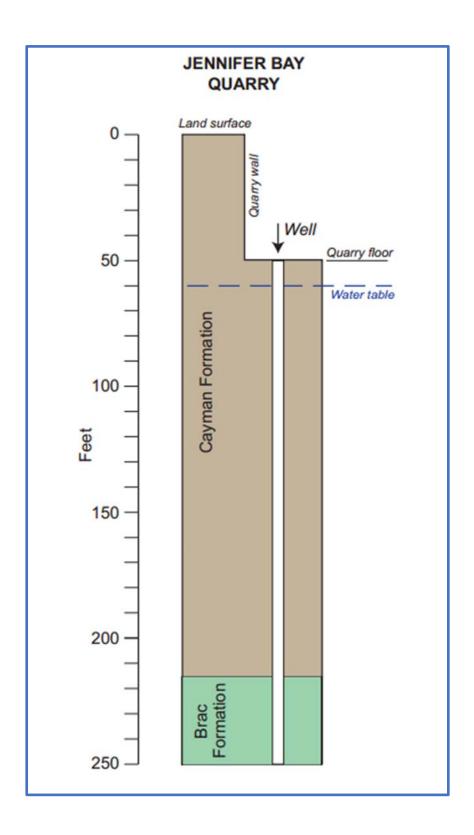
NOTE: Under no circumstances should the user of this map assume that the information provided is complete or correct. Anyone planning any field work must notify the respective Agency to identify the locations of their underground plant. No digging should take place until the Agency has marked its underground plant. The Agency will in no event be liable for any incidental, consequential or indirect damages arising from the information contained in this document, however caused. **SOURCE: WWW.CAYMANLANDINFO.KY**

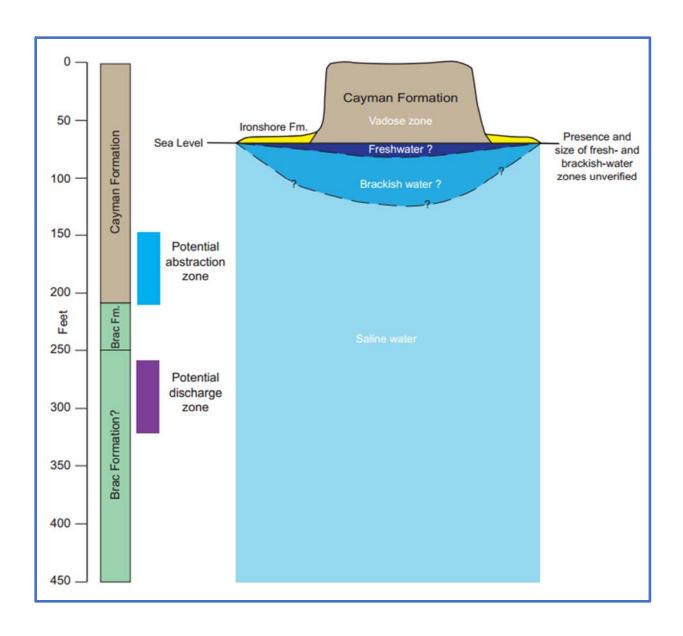
Figure 5. Location of Jennifer Bay Quarry and Cayman Brac Water Works

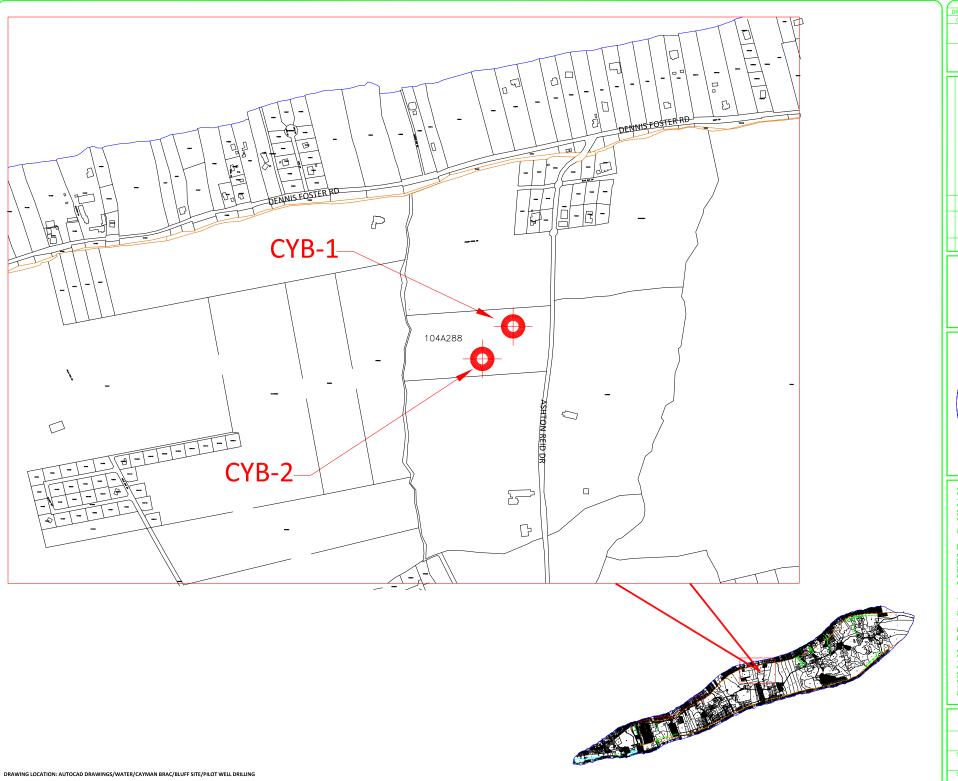




Figure 6. General view of Jennifer Bay Quarry







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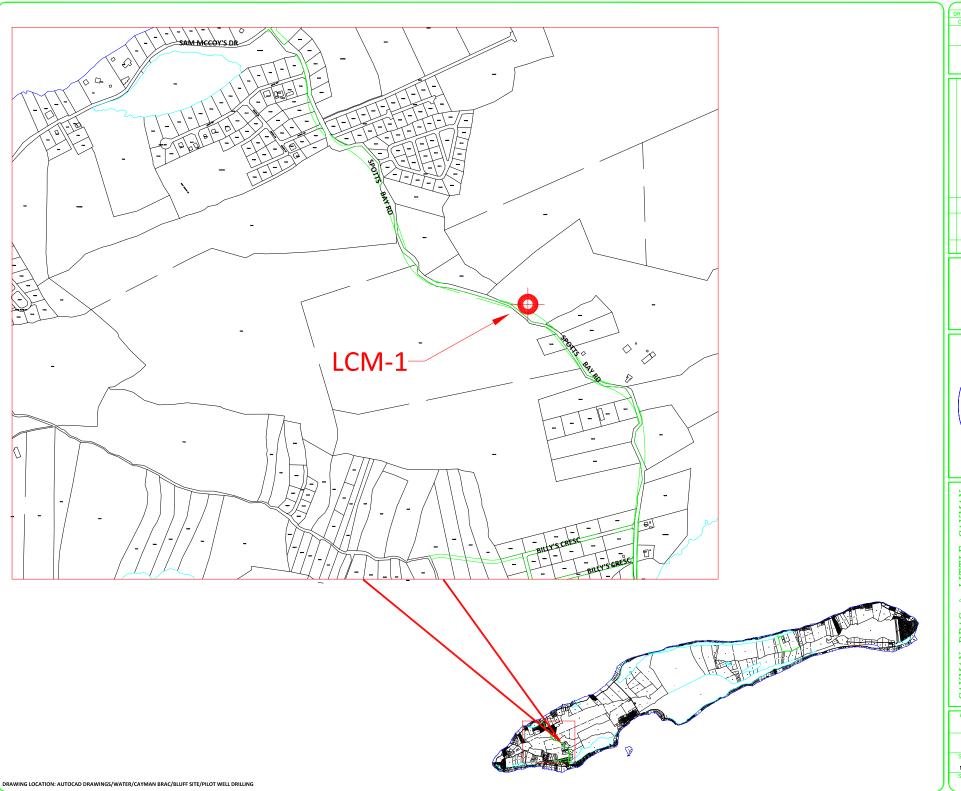
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GENERAL CONDITIONS

SHORT FORM of Contract

RULES FOR ADJUDICATION

NOTES FOR GUIDANCE

First Edition 1999 ISBN 2-88432-024-5



FOREWORD

These Conditions of Contract have been prepared by the Fédération Internationale des Ingénieurs-Conseils (FIDIC) and are recommended for engineering and building work of relatively small capital value. However, depending on the type of work and the circumstances, the Conditions may be suitable for contracts of greater value. They are considered most likely to be suitable for fairly simple or repetitive work or work of short duration without the need for specialist sub-contracts.

The main aim has been to produce a straightforward flexible document which includes all essential commercial provisions and which may be used for all types of engineering and building work with a variety of administrative arrangements. Under the usual arrangements for this type of contract, the Contractor constructs the Works in accordance with design provided by the Employer or by his representative (if any). However, this form may also be suitable for contracts which include, or wholly comprise, contractor-designed civil, mechanical and/or electrical works.

In addition, the Employer has a choice of valuation methods. Furthermore, although there is no reference to an impartial Engineer, the Employer may appoint an independent Engineer to act impartially, should he wish to do so.

The form is recommended for general use, though modifications may be required in some jurisdictions. FIDIC considers the official and authentic text to be the version in the English language.

The intention is that all necessary information should be provided in the Appendix to the Agreement, the latter incorporating the tenderer's offer and its acceptance in one simple document. The General Conditions are expected to cover the majority of contracts. Nevertheless, users will be able to introduce Particular Conditions if they wish, to cater for special cases or circumstances. The General Conditions and the Particular Conditions will together comprise the Conditions governing the rights and obligations of the parties.

To assist in the preparation of tender documents using these Conditions, Notes for Guidance are included. These Notes will not become one of the documents forming the Contract. Finally, applicable Rules for Adjudication are also included.

The attention of users is drawn to the FIDIC publication "Tendering Procedure", which presents a systematic approach to the selection of tenderers and the obtaining and evaluation of tenders.

ACKNOWLEDGEMENTS

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The preparation was carried out under the general direction of the FIDIC Contracts Committee comprising John B Bowcock (Chairman), Consulting Engineer, UK; Michael Mortimer-Hawkins, SwedPower, Sweden; Axel-Volkmar Jaeger, Schmidt Reuter Partner, Germany; and KB (Tony) Norris (Special Adviser), Consulting Engineer, UK.

Drafts were commented on by the following persons and organisations: Mushtaq Ahmad, NESPAK, Pakistan; Peter Batty, Post Buckley International, USA; Nael G Bunni, Consulting Engineer, Ireland; Kathryn Josephine T. dela Cruz, Construction Industry Authority of the Philippines; Michael Dudley, UNOPS; Hans Enhörning, ABB Asea Brown Boveri Ltd, Switzerland; Mark Griffiths, Griffiths & Armour, UK; Geoffrey F Hawker, Consulting Engineer and Barrister, UK; Adam K Heine, Consulting Engineer, Poland; HS Kwong, Secretary for Works, Hong Kong; Jan Cees Overbosch/Evert Jan Wijers, DHV Beheer BV, The Netherlands; Marek Rdultowski, Cosmopoli Consultants, Poland; J G Rees, Binnie Black & Veatch, UK; Asian Development Bank; European Bank for Reconstruction and Development; Inter-American Development Bank; International Association of Dredging Companies; Inter-Pacific Bar Association; Organisme de Liaison Industries Métalliques Européennes ("ORGALIME"); and The World Bank. Acknowledgement of reviewers does not mean that such persons or organizations approve the wording of all clauses.

FIDIC wishes to record its appreciation of the time and effort devoted by all the above.

The ultimate decision on the form and content of the document rests with FIDIC.

CONTENTS

	Agreement
	Offer
	Acceptance
	Appendix
	General Conditions
1	GENERAL PROVISIONS
1.1	Definitions The Contract Persons Dates, Times and Periods Money and Payments Other Definitions
1.2 1.3	Interpretation Priority of Documents
1.4 1.5	Law Communications
1.6	Statutory Obligations
2	THE EMPLOYER
2.1 2.2 2.3 2.4	Provision of Site Permits and Licences Employer's Instructions Approvals
3	EMPLOYER'S REPRESENTATIVES
3.1 3.2	Authorised Person Employer's Representative
4	THE CONTRACTOR
4.1 4.2 4.3 4.4	General Obligations Contractor's Representative Subcontracting Performance Security

EDIC (99)

5	DESIGN BY CONTRACTOR 3
5.1 5.2	Contractor's Design Responsibility for Design
6	EMPLOYER'S LIABILITIES4
6.1	Employer's Liabilities
7	TIME FOR COMPLETION
7.1 7.2 7.3 7.4	Execution of the Works Programme Extension of Time Late Completion
8	TAKING-OVER
8.1 8.2	Completion Taking-Over Notice
9	REMEDYING EFFECTS
9.1 9.2	Remedying Defects Uncovering and Testing
10	VARIATIONS AND CLAIMS
10.1 10.2 10.3 10.4 10.5	Right to Vary Valuation of Variations Early Warning Right to Claim Variation and Claim Procedure
11	CONTRACT PRICE AND PAYMENT
11.1 11.2 11.3 11.4 11.5 11.6 11.7	Valuation of the Works Monthly Statements Interim Payments Payment of First Half of Retention Payment of Second Half of Retention Final Payment Currency Delayed Payment
12	DEFAULT 8
12.1 12.2 12.3 12.4	Default by Contractor Default by Employer Insolvency Payment upon Termination
13	RISK AND RESPONSIBILITY
13.1 13.2	Contractor's Care of the Works Force Majeure

14	INSURANCE9
14.1 14.2 14.3	Extent of Cover Arrangements Failure to Insure
15	RESOLUTION OF DISPUTES
15.1 15.2 15.3	Adjudication Notice of Dissatisfaction Arbitration
INDEX .	11
	Particular Conditions13
	Rules for Adjudication15
	Notes for Guidance
	Notes

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General Conditions

General Provisions

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1.1		
Definitions	In the (Contract as defined below, the words and expressions defined shall have the ng meanings assigned to them, except where the context requires otherwise:
The Contract	1.1.1	"Contract" means the Agreement and the other documents listed in the Appendix.
	1.1.2	"Specification" means the document as listed in the Appendix, including Employer's requirements in respect of design to be carried out by the Contractor, if any, and any Variation to such document.
	1.1.3	"Drawings" means the Employer's drawings of the Works as listed in the Appendix, and any Variation to such drawings.
Persons	1.1.4	"Employer" means the person named in the Agreement and the legal successors in title to this person, but not (except with the consent of the Contractor) any assignee.
	1.1.5	"Contractor" means the person named in the Agreement and the legal successors in title to this person, but not (except with the consent of the Employer) any assignee.
	1.1.6	"Party" means either the Employer or the Contractor.
Dates, Times and Periods	1.1.7	"Commencement Date" means the date 14 days after the date the Agreement comes into effect or any other date agreed between the Parties.
	1.1.8	"day" means a calendar day.
	1.1.9	"Time for Completion" means the time for completing the Works as stated in the Appendix (or as extended under Sub-Clause 7.3), calculated from the Commencement Date.
Money and Payments	1.1.10	"Cost" means all expenditure properly incurred (or to be incurred) by the Contractor, whether on or off the Site, including overheads and similar charges, but does not include profit.
Other Definitions	1.1.11	"Contractor's Equipment" means all apparatus, machinery, vehicles, facilities and other things required for the execution of the Works but does not include Materials or Plant.
	1.1.12	"Country" means the country in which the Site is located.
	1.1.13	"Employer's Liabilities" means those matters listed in Sub-Clause 6.1.
	1.1.14	"Force Majeure" means an exceptional event or circumstance: which is beyond a Party's control; which such Party could not reasonably bayon

provided against before entering into the Contract; which, having arisen, such Party could not reasonably have avoided or overcome; and, which is not substantially attributable to the other Party.

- 1.1.15 "Materials" means things of all kinds (other than Plant) intended to form or forming part of the permanent work.
- 1.1.16 "Plant" means the machinery and apparatus intended to form or forming part of the permanent work.
- 1.1.17 "Site" means the places provided by the Employer where the Works are to be executed, and any other places specified in the Contract as forming part of the Site.
- 1.1.18 "Variation" means a change to the Specification and /or Drawings (if any) which is instructed by the Employer under Sub-Clause 10.1.
- 1.1.19 "Works" means all the work and design (if any) to be performed by the Contractor including temporary work and any Variation

1.2

Interpretation

Words importing persons or parties shall include firms and organisations. Words importing singular or one gender shall include plural or the other gender where the context requires.

1.3

Priority of Documents

The documents forming the Contract are to be taken as mutually explanatory of one another. If an ambiguity or discrepancy is found in the documents, the Employer shall issue any necessary instructions to the Contractor, and the priority of the documents shall be in accordance with the order as listed in the Appendix.

1.4

Law

The law of the Contract is stated in the Appendix.

1.5

Communications

Wherever provision is made for the giving or issue of any notice, instruction, or other communication by any person, unless otherwise specified such communication shall be written in the language stated in the Appendix and shall not be unreasonably withheld or delayed.

1.6

Statutory Obligations

The Contractor shall comply with the laws of the countries where activities are performed. The Contractor shall give all notices and pay all fees and other charges in respect of the Works.

The Employer

2.1

Provision of Site

The Employer shall provide the Site and right of access thereto at the times stated in the Appendix.

2.2

Permits and Licences

The Employer shall, if requested by the Contractor, assist him in applying for permits, licences or approvals which are required for the Works.

2

2.3 Employer's Instructions The Contractor shall comply with all instructions given by the Employer in respect of the Works including the suspension of all or part of the Works.

2.4

Approvals

No approval or consent or absence of comment by the Employer's representative shall affect the Contractor's obligations.

Employer's Representatives

3.1

Authorised Person

One of the Employer's personnel shall have authority to act for him. This authorised person shall be as stated in the Appendix, or as otherwise notified by the Employer to the Contractor.

3.2

Employer's Representative

The Employer may also appoint a firm or individual to carry out certain duties. The appointee may be named in the Appendix, or notified by the Employer to the Contractor from time to time. The Employer shall notify the Contractor of the delegated duties and authority of this Employer's representative.

The Contractor

General Obligations

The Contractor shall carry out the Works properly and in accordance with the Contract. The Contractor shall provide all supervision, labour, Materials, Plant and Contractor's Equipment which may be required. All Materials and Plant on Site shall be deemed to be the property of the Employer.

4.2

Contractor's Representative The Contractor shall submit to the Employer for consent the name and particulars of the person authorised to receive instructions on behalf of the Contractor.

4.3

Subcontracting

The Contractor shall not subcontract the whole of the Works. The Contractor shall not subcontract any part of the Works without the consent of the Employer.

4.4

Performance Security

If stated in the Appendix, the Contractor shall deliver to the Employer within 14 days of the Commencement Date a performance security in a form and from a third party approved by the Employer.

Design by Contractor

5.1 Contractor's Design

The Contractor shall carry out design to the extent specified, as referred to in the Appendix. The Contractor shall promptly submit to the Employer all designs prepared by him. Within 14 days of receipt the Employer shall notify any comments or, if the design submitted is not in accordance with the Contract, shall reject it stating the reasons. The Contractor shall not construct any element of the permanent work designed by him within 14 days after the design has been

submitted to the Employer or where the design for that element has been rejected. Design that has been rejected shall be promptly amended and resubmitted. The Contractor shall resubmit all designs commented on taking these comments into account as necessary.

5.2

Responsibility for Design The Contractor shall remain responsible for his tendered design and the design under this Clause, both of which shall be fit for the intended purposes defined in the Contract and he shall also remain responsible for any infringement of any patent or copyright in respect of the same. The Employer shall be responsible for the Specification and Drawings.

Employer's Liabilities

6.1 Employer's Liabilities

In this Contract, Employer's Liabilities mean:

- a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies, within the Country,
- b) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, within the Country,
- c) riot, commotion or disorder by persons other than the Contractor's personnel and other employees, affecting the Site and/or the Works,
- d) ionising radiations, or contamination by radio-activity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radio-active toxic explosive, or other hazardous properties of any explosive nuclear assembly or nuclear component of such an assembly, except to the extent to which the Contractor may be responsible for the use of any radio-active material,
- e) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds,
- f) use or occupation by the Employer of any part of the Works, except as may be specified in the Contract,
- g) design of any part of the Works by the Employer's personnel or by others for whom the Employer is responsible, and
- h) any operation of the forces of nature affecting the Site and/or the Works, which was unforeseeable or against which an experienced contractor could not reasonably have been expected to take precautions.
- i) Force Majeure,
- j) a suspension under Sub-Clause 2.3 unless it is attributable to the Contractor's failure,
- k) any failure of the Employer,
- physical obstructions or physical conditions other than climatic conditions, encountered on the Site during the performance of the Works, which obstructions or conditions were not reasonably foreseeable by an experienced contractor and which the Contractor immediately notified to the Employer,
- m) any delay or disruption caused by any Variation,
- n) any change to the law of the Contract after the date of the Contractor's offer as stated in the Agreement,
- o) losses arising out of the Employer's right to have the permanent work executed on, over, under, in or through any land, and to occupy this land for the permanent work, and
- p) damage which is an unavoidable result of the Contractor's obligations to execute the Works and to remedy any defects.

Time for Completion

7.1

Execution of the Works

The Contractor shall commence the Works on the Commencement Date and shall proceed expeditiously and without delay and shall complete the Works within the Time for Completion.

7.2

Programme

Within the time stated in the Appendix, the Contractor shall submit to the Employer a programme for the Works in the form stated in the Appendix.

7.3

Extension of Time

Subject to Sub-Clause 10.3, the Contractor shall be entitled to an extension to the Time for Completion if he is or will be delayed by any of the Employer's Liabilities.

On receipt of an application from the Contractor, the Employer shall consider all supporting details provided by the Contractor and shall extend the Time for Completion as appropriate.

7.4

Late Completion

If the Contractor fails to complete the Works within the Time for Completion, the Contractor's only liability to the Employer for such failure shall be to pay the amount stated in the Appendix for each day for which he fails to complete the Works.

Taking-Over

8.1

Completion

The Contractor may notify the Employer when he considers that the Works are complete.

8.2

Taking-Over Notice

The Employer shall notify the Contractor when he considers that the Contractor has completed the Works stating the date accordingly. Alternatively, the Employer may notify the Contractor that the Works, although not fully complete, are ready for taking over, stating the date accordingly.

The Employer shall take over the Works upon the issue of this notice. The Contractor shall promptly complete any outstanding work and, subject to Clause 9, clear the Site.

Remedying Defects

9.1

Remedying Defects

The Employer may at any time prior to the expiry of the period stated in the Appendix, notify the Contractor of any defects or outstanding work. The Contractor shall remedy at no cost to the Employer any defects due to the Contractor's design, Materials, Plant or workmanship not being in accordance with the Contract.

The cost of remedying defects attributable to any other cause shall be valued as a Variation. Failure to remedy any defects or complete outstanding work within a reasonable time of the Employer's notice shall entitle the Employer to carry out all necessary work at the Contractor's cost.

9.2

Uncovering and Testing

The Employer may give instruction as to the uncovering and/or testing of any work. Unless as a result of any uncovering and/or testing it is established that the Contractor's design, Materials, Plant or workmanship are not in accordance with the Contract, the Contractor shall be paid for such uncovering and/or testing as a Variation in accordance with Sub-Clause 10.2.

Variations and Claims

10.1 Right to Vary

The Employer may instruct Variations.

10.2

Valuation of Variations

Variations shall be valued as follows:

- at a lump sum price agreed between the Parties, or a)
- where appropriate, at rates in the Contract, or b)
- in the absence of appropriate rates, the rates in the Contract shall be used as C) the basis for valuation, or failing which
- at appropriate new rates, as may be agreed or which the Employer considers d) appropriate, or
- if the Employer so instructs, at daywork rates set out in the Appendix for which e) the Contractor shall keep records of hours of labour and Contractor's Equipment, and of Materials used.

10.3

Early Warning

A Party shall notify the other as soon as he is aware of any circumstance which may delay or disrupt the Works, or which may give rise to a claim for additional payment. The Contractor shall take all reasonable steps to minimise these effects.

The Contractor's entitlement to extension to the Time for Completion or additional payment shall be limited to the time and payment which would have been due if he had given prompt notice and had taken all reasonable steps.

10.4

Right to Claim

If the Contractor incurs Cost as a result of any of the Employer's Liabilities, the Contractor shall be entitled to the amount of such Cost. If as a result of any of the Employer's Liabilities, it is necessary to change the Works, this shall be dealt with as a Variation.

10.5

Variation and Claim Procedure

The Contractor shall submit to the Employer an itemised make-up of the value of Variations and claims within 28 days of the instruction or of the event giving rise to the claim. The Employer shall check and if possible agree the value. In the absence of agreement, the Employer shall determine the value.

Contract Price and Payment

11.1

Valuation of the Works

The Works shall be valued as provided for in the Appendix, subject to Clause 10.

11.2

Monthly Statements

The Contractor shall be entitled to be paid at monthly intervals:

- a) the value of the Works executed,
- b) the percentage stated in the Appendix of the value of Materials and Plant delivered to the Site at a reasonable time.

subject to any additions or deductions which may be due.

The Contractor shall submit each month to the Employer a statement showing the amounts to which he considers himself entitled.

11.3

Interim Payments

Within 28 days of delivery of each statement, the Employer shall pay to the Contractor the amount shown in the Contractor's statement less retention at the rate stated in the Appendix, and less any amount for which the Employer has specified his reasons for disagreement. The Employer shall not be bound by any sum previously considered by him to be due to the Contractor.

The Employer may withhold interim payments until he receives the performance security under Sub-Clause 4.4 (if any).

11.4

Payment of First Half of Retention

One half of the retention shall be paid by the Employer to the Contractor within 14 days after issuing the notice under Sub-Clause 8.2.

11.5

Payment of Second Half of Retention

The remainder of the retention shall be paid by the Employer to the Contractor within 14 days after either the expiry of the period stated in the Appendix, or the remedying of notified defects or the completion of outstanding work, all as referred to in Sub-Clause 9.1, whichever is the later.

11.6

Final Payment

Within 42 days of the latest of the events listed in Sub-Clause 11.5 above, the Contractor shall submit a final account to the Employer together with any documentation reasonably required to enable the Employer to ascertain the final contract value.

Within 28 days after the submission of this final account, the Employer shall pay to the Contractor any amount due. If the Employer disagrees with any part of the Contractor's final account, he shall specify his reasons for disagreement when making payment.

11.7

Currency

Payment shall be in the currency stated in the Appendix.

11.8

Delayed Payment

The Contractor shall be entitled to interest at the rate stated in the Appendix for each day the Employer fails to pay beyond the prescribed payment period.

Default

12.1 Default by Contractor

If the Contractor abandons the Works, refuses or fails to comply with a valid instruction of the Employer or fails to proceed expeditiously and without delay, or is, despite a written complaint, in breach of the Contract, the Employer may give notice referring to this Sub-Clause and stating the default.

If the Contractor has not taken all practicable steps to remedy the default within 14 days after the Contractor's receipt of the Employer's notice, the Employer may by a second notice given within a further 21 days, terminate the Contract. The Contractor shall then demobilise from the Site leaving behind Materials and Plant and any Contractor's Equipment which the Employer instructs in the second notice is to be used until the completion of the Works.

12.2

Default by Employer

If the Employer fails to pay in accordance with the Contract, or is, despite a written complaint, in breach of the Contract, the Contractor may give notice referring to this Sub-Clause and stating the default. If the default is not remedied within 7 days after the Employer's receipt of this notice, the Contractor may suspend the execution of all or parts of the Works.

If the default is not remedied within 28 days after the Employer's receipt of the Contractor's notice, the Contractor may by a second notice given within a further 21 days, terminate the Contract. The Contractor shall then demobilise from the Site.

12.3

Insolvency

If a Party is declared insolvent under any applicable law, the other Party may by notice terminate the Contract immediately. The Contractor shall then demobilise from the Site leaving behind, in the case of the Contractor's insolvency, any Contractor's Equipment which the Employer instructs in the notice is to be used until the completion of the Works.

12.4

Payment upon Termination

After termination, the Contractor shall be entitled to payment of the unpaid balance of the value of the Works executed and of the Materials and Plant reasonably delivered to the Site, adjusted by the following:

- a) any sums to which the Contractor is entitled under Sub-Clause 10.4,
- b) any sums to which the Employer is entitled,
- c) if the Employer has terminated under Sub-Clause 12.1 or 12.3, the Employer shall be entitled to a sum equivalent to 20% of the value of those parts of the Works not executed at the date of the termination.
- d) if the Contractor has terminated under Sub-Clause 12.2 or 12.3, the Contractor shall be entitled to the Cost of his suspension and demobilisation together with a sum equivalent to 10% of the value of those parts of the Works not executed at the date of termination.

The net balance due shall be paid or repaid within 28 days of the notice of termination.

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Risk and Responsibility

13.1

Contractor's Care of the Works

The Contractor shall take full responsibility for the care of the Works from the Commencement Date until the date of the Employer's notice under Sub-Clause 8.2. Responsibility shall then pass to the Employer. If any loss or damage happens to the Works during the above period, the Contractor shall rectify such loss or damage so that the Works conform with the Contract.

Unless the loss or damage happens as a result of an Employer's Liability, the Contractor shall indemnify the Employer, the Employer's contractors, agents and employees against all loss or damage happening to the Works and against all claims or expense arising out of the Works caused by a breach of the Contract, by negligence or by other default of the Contractor, his agents or employees.

13.2

Force Majeure

If a Party is or will be prevented from performing any of its obligations by Force Majeure, the Party affected shall notify the other Party immediately. If necessary, the Contractor shall suspend the execution of the Works and, to the extent agreed with the Employer, demobilise the Contractor's Equipment.

If the event continues for a period of 84 days, either Party may then give notice of termination which shall take effect 28 days after the giving of the notice.

After termination, the Contractor shall be entitled to payment of the unpaid balance of the value of the Works executed and of the Materials and Plant reasonably delivered to the Site, adjusted by the following:

- any sums to which the Contractor is entitled under Sub-Clause 10.4, a)
- the Cost of his suspension and demobilisation, b)
- C) any sums to which the Employer is entitled.

The net balance due shall be paid or repaid within 28 days of the notice of termination.

14.1 Extent of Cover

The Contractor shall, prior to commencing the Works, effect and thereafter maintain insurances in the joint names of the Parties:

- a) for loss and damage to the Works, Materials, Plant and the Contractor's Equipment,
- b) for liability of both Parties for loss, damage, death or injury to third parties or their property arising out of the Contractor's performance of the Contract, including the Contractor's liability for damage to the Employer's property other than the Works, and
- C) for liability of both Parties and of any Employer's representative for death or injury to the Contractor's personnel except to the extent that liability arises from the negligence of the Employer, any Employer's representative or their employees.

14.2 Arrangements All insurances shall conform with any requirements detailed in the Appendix. The policies shall be issued by insurers and in terms approved by the Employer. The Contractor shall provide the Employer with evidence that any required policy is in force and that the premiums have been paid.

All payments received from insurers relating to loss or damage to the Works shall be held jointly by the Parties and used for the repair of the loss or damage or as compensation for loss or damage that is not to be repaired.

14.3

Failure to Insure

If the Contractor fails to effect or keep in force any of the insurances referred to in the previous Sub-Clauses, or fails to provide satisfactory evidence, policies or receipts, the Employer may, without prejudice to any other right or remedy, effect insurance for the cover relevant to such default and pay the premiums due and recover the same as a deduction from any other monies due to the Contractor.

Resolution of Disputes

15.1 Adjudication

Unless settled amicably, any dispute or difference which arises between the Contractor and the Employer out of or in connection with the Contract, including any valuation or other decision of the Employer, shall be referred by either Party to adjudication in accordance with the attached Rules for Adjudication ("the Rules"). The adjudicator shall be any person agreed by the Parties. In the event of disagreement, the adjudicator shall be appointed in accordance with the Rules.

15.2

Notice of Dissatisfaction

If a Party is dissatisfied with the decision of the adjudicator or if no decision is given within the time set out in the Rules, the Party may give notice of dissatisfaction referring to this Sub-Clause within 28 days of receipt of the decision or the expiry of the time for the decision. If no notice of dissatisfaction is given within the specified time, the decision shall be final and binding on the Parties. If notice of dissatisfaction is given within the specified time, the decision shall be binding on the Parties who shall give effect to it without delay unless and until the decision of the adjudicator is revised by an arbitrator.

15.3

Arbitration

A dispute which has been the subject of a notice of dissatisfaction shall be finally settled by a single arbitrator under the rules specified in the Appendix. In the absence of agreement, the arbitrator shall be designated by the appointing authority specified in the Appendix. Any hearing shall be held at the place specified in the Appendix and in the language referred to in Sub-Clause 1.5.

INDEX OF SUB-CLAUSES

	Sub-Clause	Page
Adjudication Approvals Arbitration Arrangements, Insurance Authorised person	15.1 2.4 15.3 14.2 3.1	10 3 10 10 3
Communications Completion Contractor's Care of the Works Contractor's Design Contractor's Representative Currency	1.5 8.1 13.1 5.1 4.2 11.7	2 5 9 3 3 7
Default by Contractor Default by Employer Definitions Delayed Payment	12.1 12.2 1.1 11.8	8 8 1 7
Early Warning, Claims Employer's Instructions Employer's Representative Employer's Liabilities Execution of the Works Extension of Time Extent of Cover, Insurance	10.3 2.3 3.2 6.1 7.1 7.3 14.1	6 3 4 5 9
Failure to Insure Final Payment Force Majeure	14.3 11.6 13.2	10 7 9
General Obligations, Contractor	4.1	3
Insolvency Interim Payments Interpretation	12.3 11.3 1.2	8 7 2
Late Completion Law	7.4 1.4	5 2
Monthly Statements	11.2	7
Notice of Dissatisfaction	15.2	10
Payment upon Termination Performance Security Permits and Licences Priority of Documents	12.4 4.4 2.2 1.3	8 3 2 2
© FIDIC 1999		11

Programme	7.2	5
Provision of Site	2.1	2
Remedying Defects	9.1	5
Responsibility for Design	5.2	4
Retention, First Half	11.4	7
Retention, Second Half	11.5	7
Right to Claim	10.4	6
Right to Vary	10.1	6
Statutory Obligations	1.6	2
Subcontracting	4.3	3
Taking-Over Notice	8.2	5
Uncovering and Testing	9.2	6
Valuation of the Works	11.1	7
Valuation of Variations	10.2	6
Variation and Claim Procedure	10.5	6

Particular Conditions

Note

It is intended that the Short Form of Contract will work satisfactorily without any Particular Conditions. However, if the requirement of the project makes it desirable to amend any Clause or to add provisions to the Contract, the amendments and additions should be set out on pages headed Particular Conditions. Care should be taken with the drafting of such Clauses especially in view of the high priority given to the Particular Conditions by Sub-Clause 1.3.

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